

# Livestream Studio<sup>TM</sup> User Manual

For use with Livestream Studio<sup>™</sup> version 3.1.85

Published on February 23, 2016. For the most recent manual version, visit <u>livestream.com/studio/manual</u>

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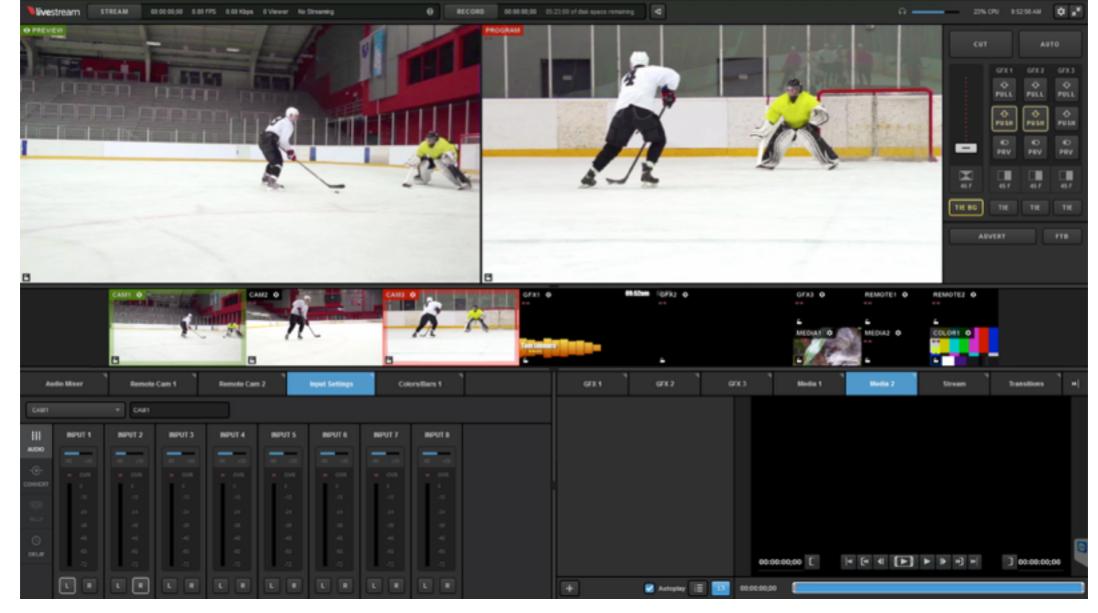
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## Getting started with Livestream Studio

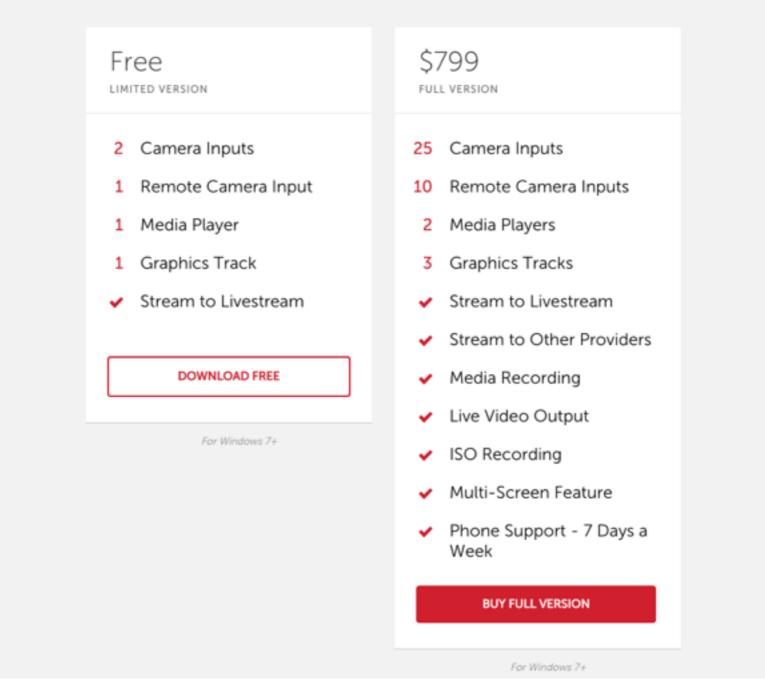
Software features





- Livestream Studio is a live
- production switcher that enables
- multi-camera switching and
- mixing in other elements while
- recording and streaming live.

#### Studio Software Pricing



The features available depend on whether you are using Livestream Studio's free version or paid version, detailed here and on <u>livestream.com/studio/software</u>.

**live**stream

Getting started with Livestream Studio

Hardware specifications





Livestream Studio currently runs only on Windows 64-bit systems with Microsoft DirectX End-User Runtime 10 or better.



Minimum hardware specifications for running Livestream Studio:

- **CPU**: Quad-core Intel® i7 2nd generation
- Motherboard: Intel® X77 chipset motherboard
- GPU: NVIDIA GeForce 210 GPU
- **RAM**: 8GB RAM DDR3 1333 MHz
- HDD: 500GB free (7200RPM/SSD preferred)

Optimal hardware specifications for running Livestream Studio:

- **CPU**: 6 core Intel® i7 2nd generation
- Motherboard: Intel® X79 chipset
- GPU: NVIDIA ® GeForce GT 620
- **RAM**: 8-16GB DDR3 1333MHz
- HDD: 500GB free (7200RPM/SSD preferred)



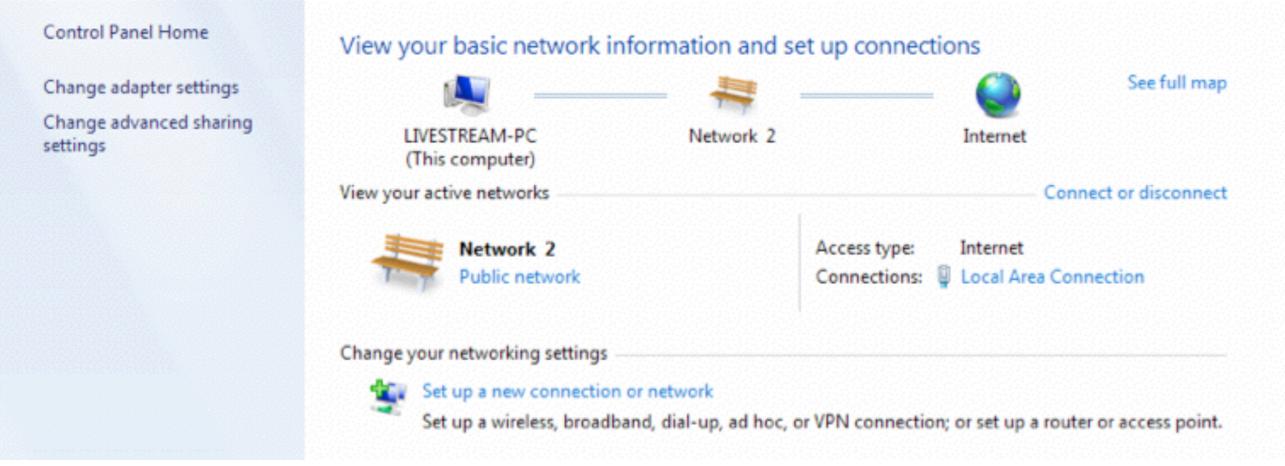
It is possible to run Livestream Studio on a laptop that meets these specifications. However, laptops typically have fewer USB 3.0 and Thunderbolt ports, which gives you fewer inputs.



## Getting started with Livestream Studio

Internet connection





If you intend to use Livestream Studio to stream, you will also need to consider your Internet connection, specifically your available upload speed.

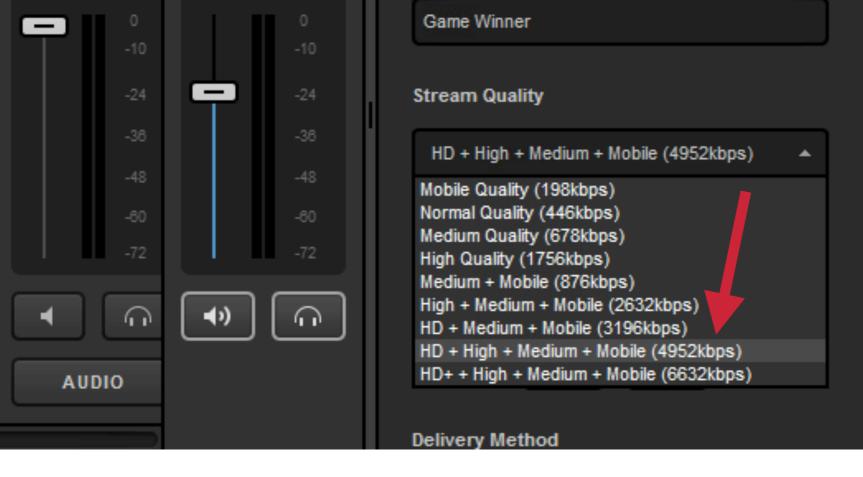




For best results, use a network dedicated to only your system, connected via Ethernet.

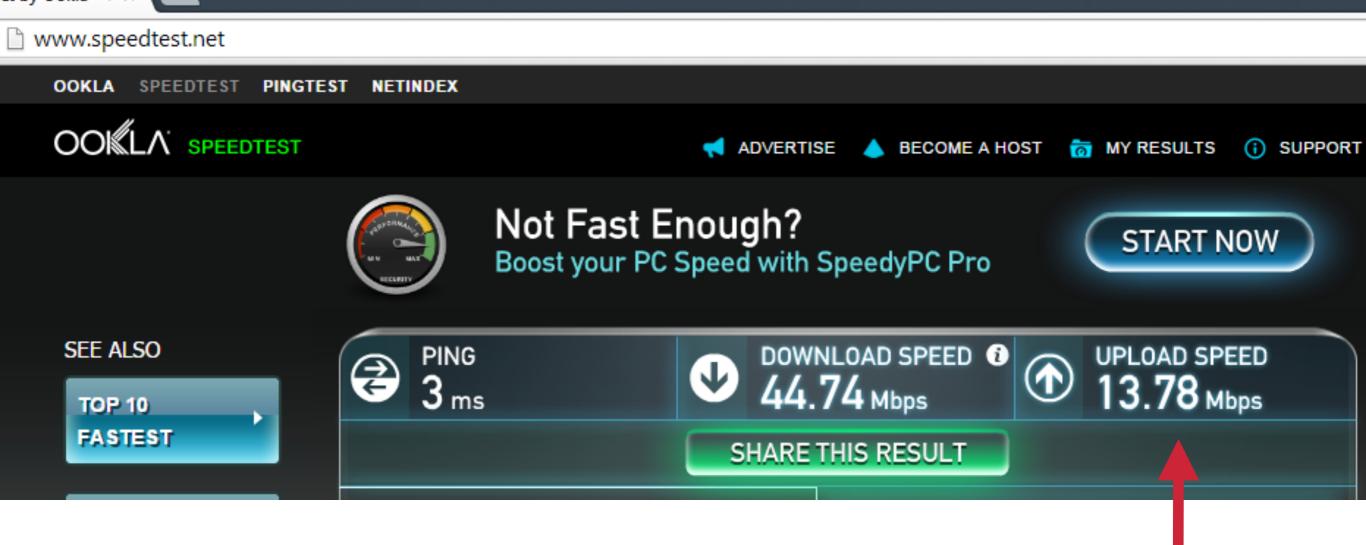
Note: Livestream Studio hardware products do **not** include a built-in Wi-Fi receiver. You will need a USB Wi-Fi adapter or 3G/4G USB modem if Ethernet is not available.





It is recommended that you have an upload speed at least twice as fast as the bitrate at which you wish to stream to help avoid issues related to local bandwidth fluctuation.





Check your upload speed at <u>www.speedtest.net</u>. We recommend running multiple tests if your bandwidth fluctuates.



Your network should also have the following Firewall ports open to incoming and outgoing communication (in order of importance):

- TCP 1935
- TCP 80
- TCP 443
- UDP 53\*\*

\*\*Many corporate and academic networks' security policies will block this port, as it provides DNS.

## Getting started with Livestream Studio

Selecting cameras





The next step is to add cameras to your setup. Most producers will use two to five direct camera inputs, depending on their needs.







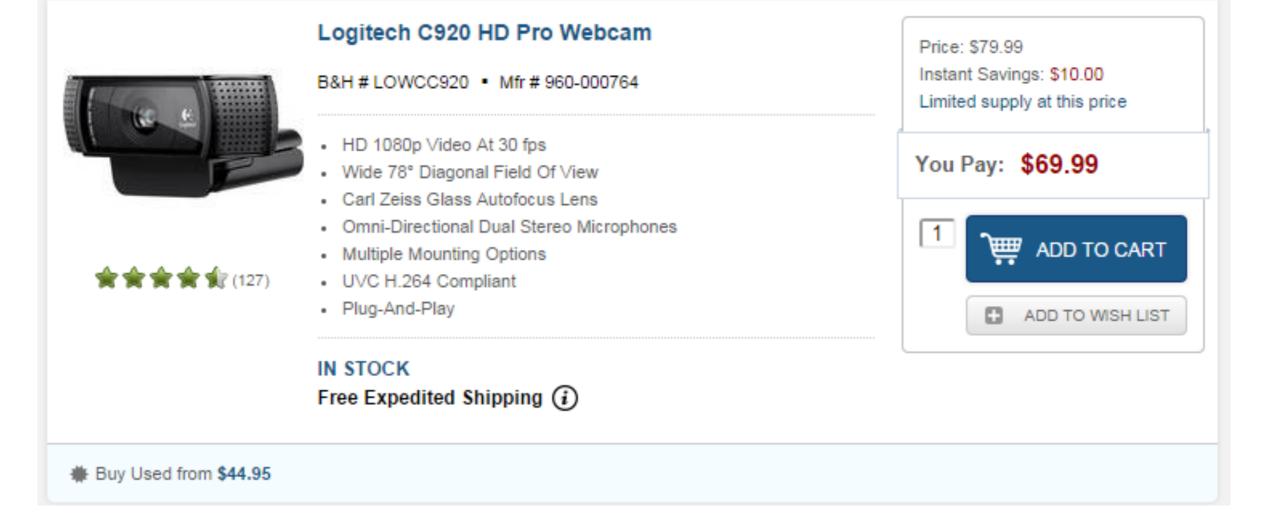
Livestream Studio is compatible with USB webcams, consumer HDMI camcorders, and high-end SDI cameras via certified Blackmagic Design capture devices.





One recommended webcam is the Logitech HD Pro Webcam c920, which can connect to your computer directly via USB 2.0.





Webcams typically cost less than \$100 and are good for showing a single headshot or a static wide shot. However, they have short cables and cannot produce true HD quality video.







Consumer HDMI cameras can also work with Livestream Studio when connected via a Blackmagic Design capture device with an HDMI input.





#### Canon XA10 HD Professional Camcorder

IN STOCK	You Pay: \$1,499.00
Free Expedited Shipping (2)	1 ADD TO CART ADD TO WISH LIST
	<ul> <li>Shop Used Dept. from \$1,199.95</li> <li>Essential Kits</li> </ul>
	\$ Trade-in your gear for cash
atings: 🚖 🚖 🚖 🎲 262 rev	iews 📮 write a review
roduct Highlights	
1/3" CMOS Sensor	<ul> <li>10x HD Zoom Lens</li> </ul>

HDMI cameras range in size and cost. Panasonic camcorders can cost less than \$200, whereas the popular Canon XA10 is typically around \$1,500.





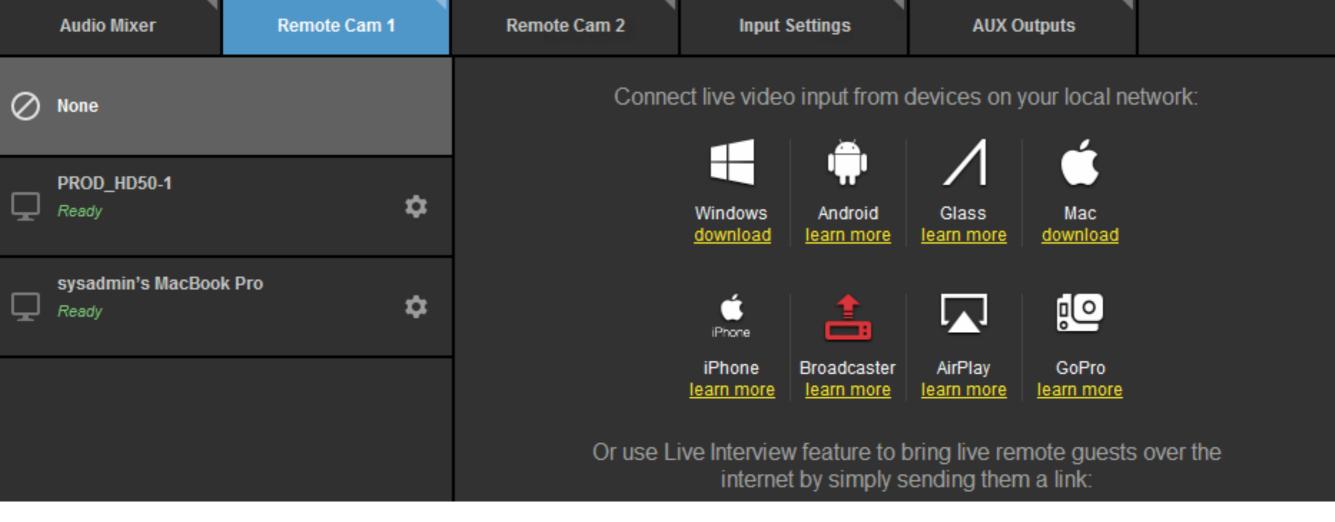
These cameras produce a true HD quality image. However, they are not ideal for long distances, as consumer HDMI cables are rarely longer than 10-15 feet.





A workaround for a long-distance HDMI camera is connecting it to Livestream Broadcaster Pro on the same local network and using it as a remote camera source.





This setup will introduce some input latency and the picture quality will be diminished compared to plugging into Livestream Studio directly.



Professional SDI cameras work very well if your needs mean that cameras must be far away from Livestream Studio. SDI cables can be as long as you need and still produce true HD quality video.







#### Sony HXR-NX3 NXCAM Professional Handheld Camcorder

NCLUDES Sony AC Adapter / Twin Charger and NP FREE Battery Kit	-F970 Info-Lithium VALUE \$218.00
3&H # SOHXRNX3 = Mfr # HXR-NX3	
N STOCK	You Pay: \$3,099.00
Free Expedited Shipping (1) 6 months No Payments	1 ADD TO CART

- Shop Used Dept. from \$2,795.00
- Essential Kits
- \$ Trade-in your gear for cash

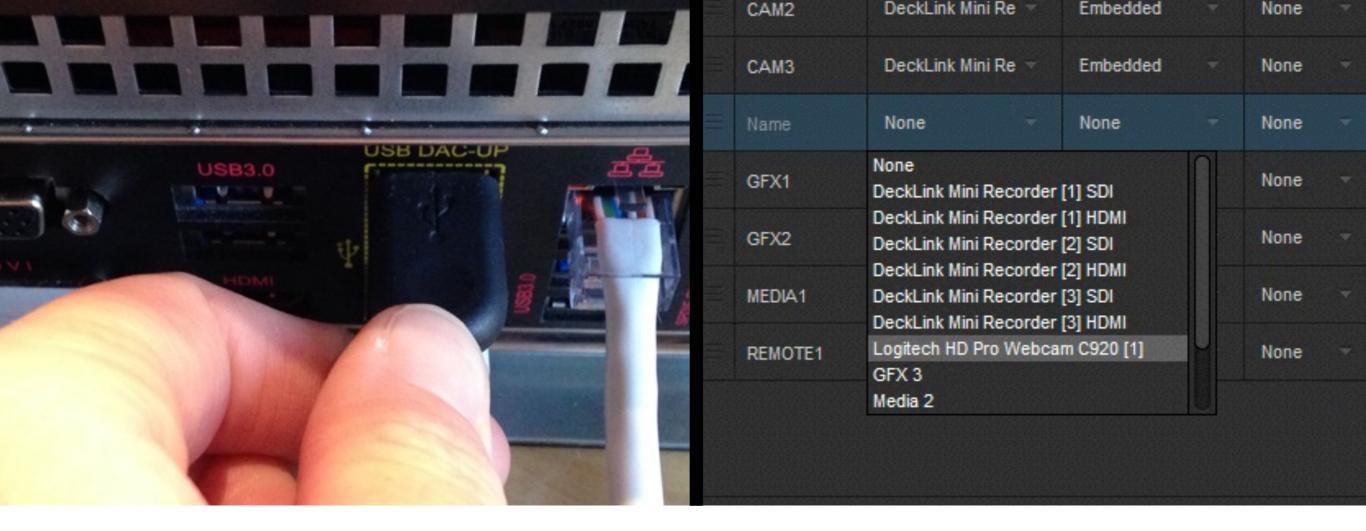
The benefits that come with using an SDI camera can be costly. For example, the Sony NXCAM Professional Camcorder is over \$3,000.



## Getting started with Livestream Studio

Connecting cameras to your system





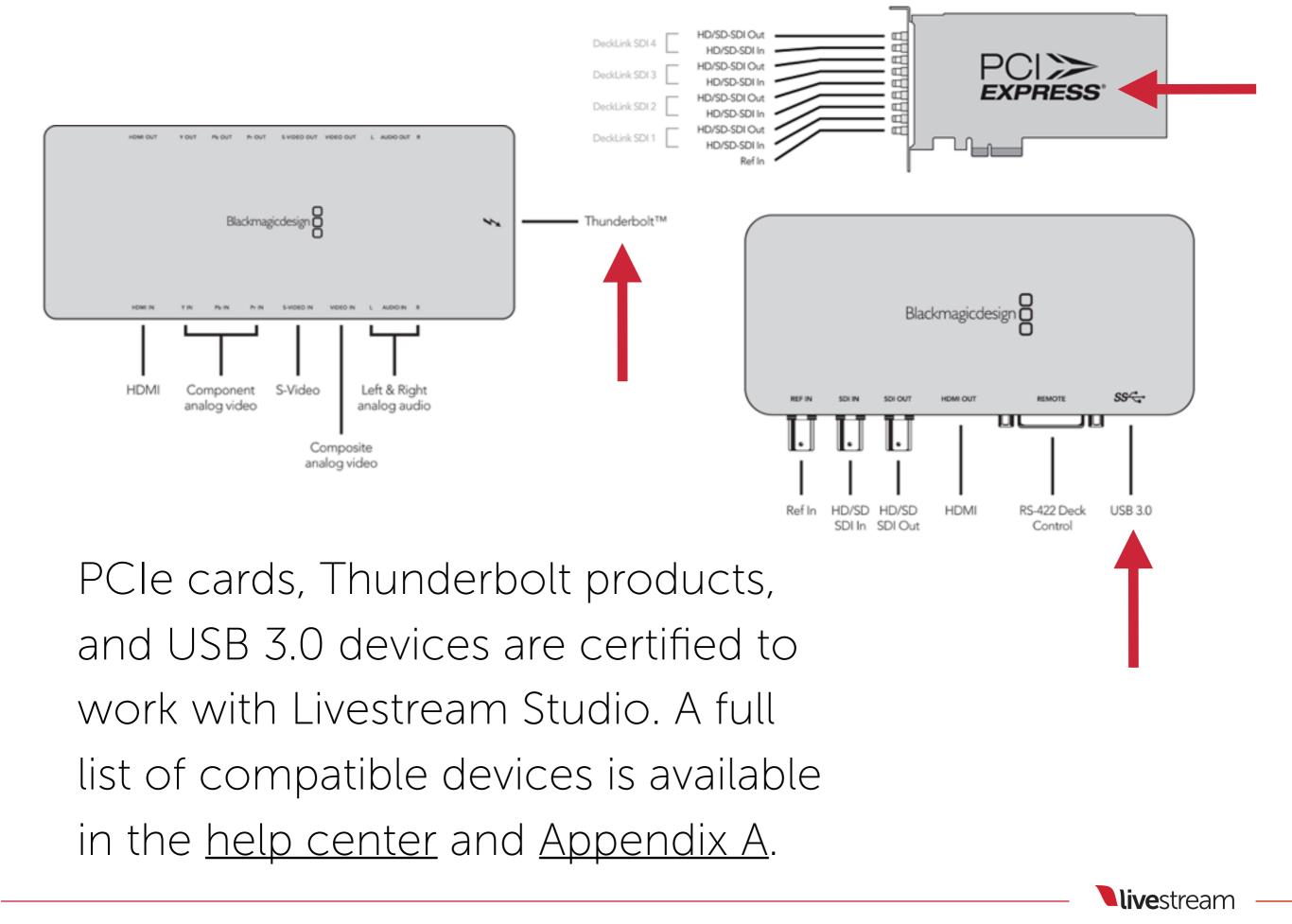
Livestream Studio should recognize any USB webcam once its drivers are automatically installed by Windows.





For other cameras, you will need a Blackmagic Design capture device in order for Livestream Studio to recognize the input.

Note: HD31, HD51, HD510, HD550, and HD1710 all have Blackmagic cards and drivers pre-installed.





#### Please note that **no** Blackmagic USB 2.0 capture device is compatible with Livestream Studio.



Connect the capture device to your computer if the device is not already installed.



			Search by model	Q
	ATEM Live Production	ATEM Camera &		
Fusion	Switchers	Studio Converters	Disk Recorders	Capture and Playback

Go to <u>http://</u> <u>www.blackmagicdesign.com/</u> <u>support</u>. To install the device's drivers, click on 'Capture and Playback.'



Software Update       11 Aug 2015         Desktop Video 10.4.3       This software update adds Windows 10 support for all Desktop Video products including DeckLink, UltraStudio and Intensity as well as general performance and stability enhancements. Read more         Image: Mac OS X       Image: Windows	Desktop Video Manual This instruction manual includes information for installation and setup of all Blackmagic Design desktop video products including DeckLink, UltraStudio and Intensity models. Download Mac OS X, Windows & Linux	Blackmagic Design @Blackmagic_News       11 Sep 2015         New DeckLink Quad 2. Get 8 independent 3G-SDI capture and playback channels in the one PCIe card! Only \$995
Developer SDK 11 Aug 2015 De Atop Video 10.4.3 SDK Mis SDK provides developer support for Desktop Video 10.4.3 that allows updating of hardware control and software interfaces for Desktop Video products. Mac OS X Windows Control Science Control Scie	Support Note       07 May 2015         Windows PCIe System Requirements         This support note identifies minimum Windows system requirements when installing PCIe based video capture and playback with Desktop Video products.         Read More       Windows	Blackmagic Design @Blackmagic_News       02 Sep 2015         New Desktop Video Update 10.5. Provides support for UltraStudio 4K Extreme as well as general performance improvements.       11
Software Update 14 Jul 2015 Desktop Video 10.4.2 This software update adds support for the new DeckLink 4K Pro for capture and playback via Dual Link 12G-SDI in SD_HD_Ultra HD and 4K DCI up to 2160p601 Also	Support Note       03 Dec 2014         Windows Thunderbolt System       Requirements         This support note identifies minimum Windows system       requirements when installing Thunderbolt based video	Blackmagic Design 13 Jul 2015 Blackmagic_News DeckLink 4K Pro now shipping! Get PCIe capture and playback card with Dual Link 12G-SDI for SD, HD, Ultra HD and 4K DCI for only \$595

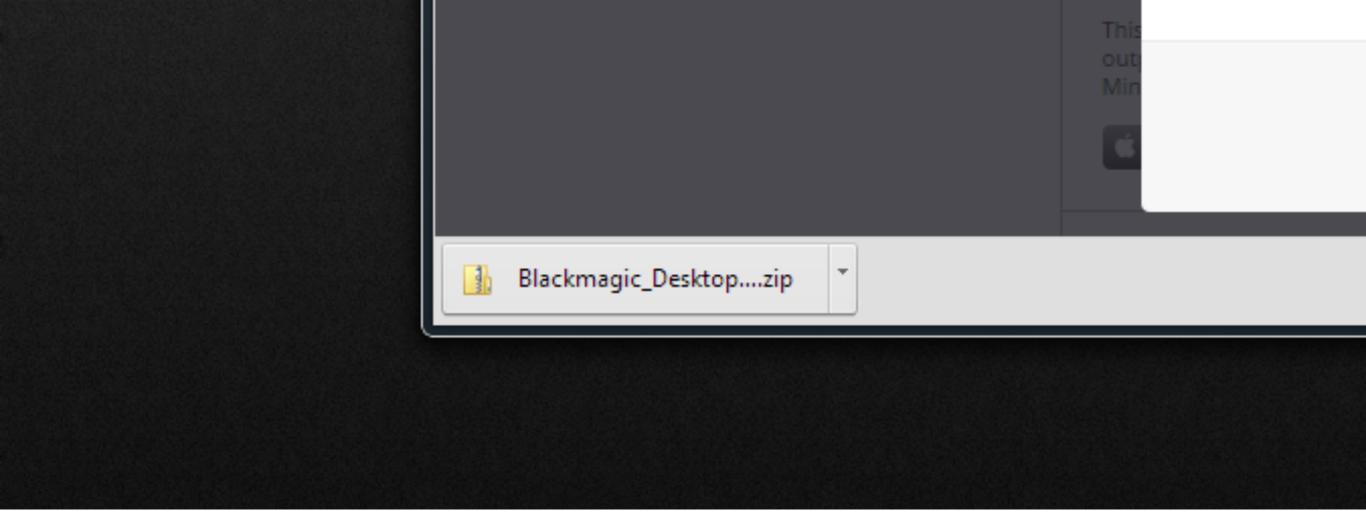
'Desktop Video' is the device driver that you will need. Click the 'Windows' button under the corresponding version to start the download.

Note: At this time, we recommend downloading Desktop Video version **10.4.3**.

Company			Tell us how you use th	is Blackmagic Product
Email*				
Phone*				
Country*	United States	•	Which features should	we add?
City*				
State*				

You will be prompted to register your device, which is not required. If you wish to skip registration, click 'Download Only' in the bottom left corner.





When the download completes, open the .zip file and follow the simple on-screen steps to install. Once installation is complete, restart your computer.





Now that the drivers are installed, turn on your cameras and connect them to your Blackmagic devices.

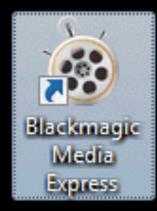
Pictured: Blackmagic UltraStudio SDI (left), Blackmagic DeckLink Mini Recorders (right)





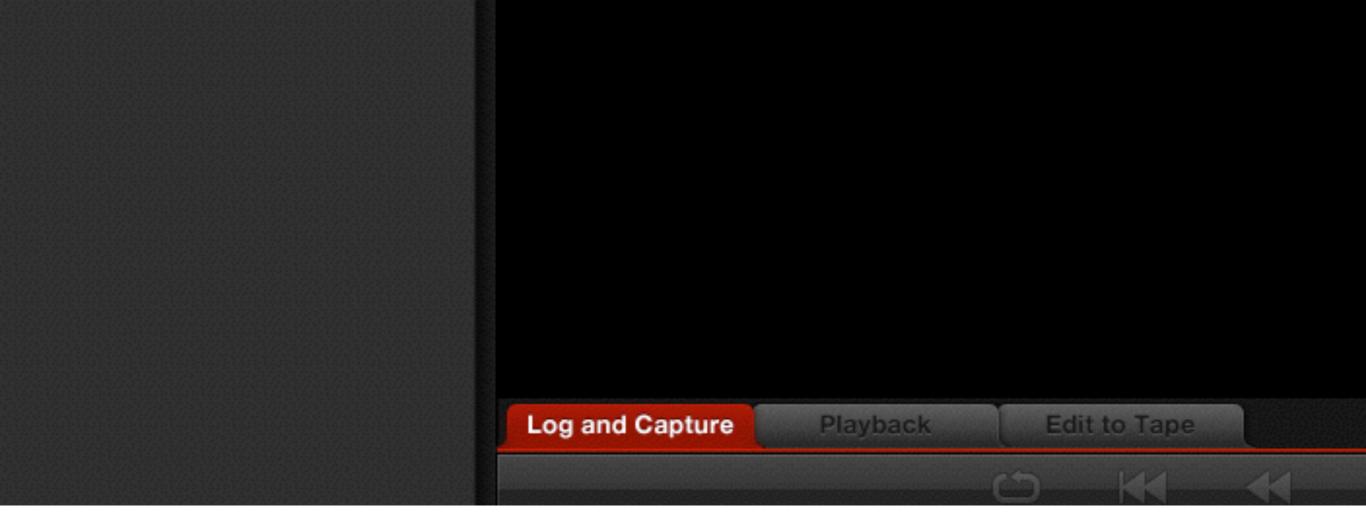


Livestream Studio



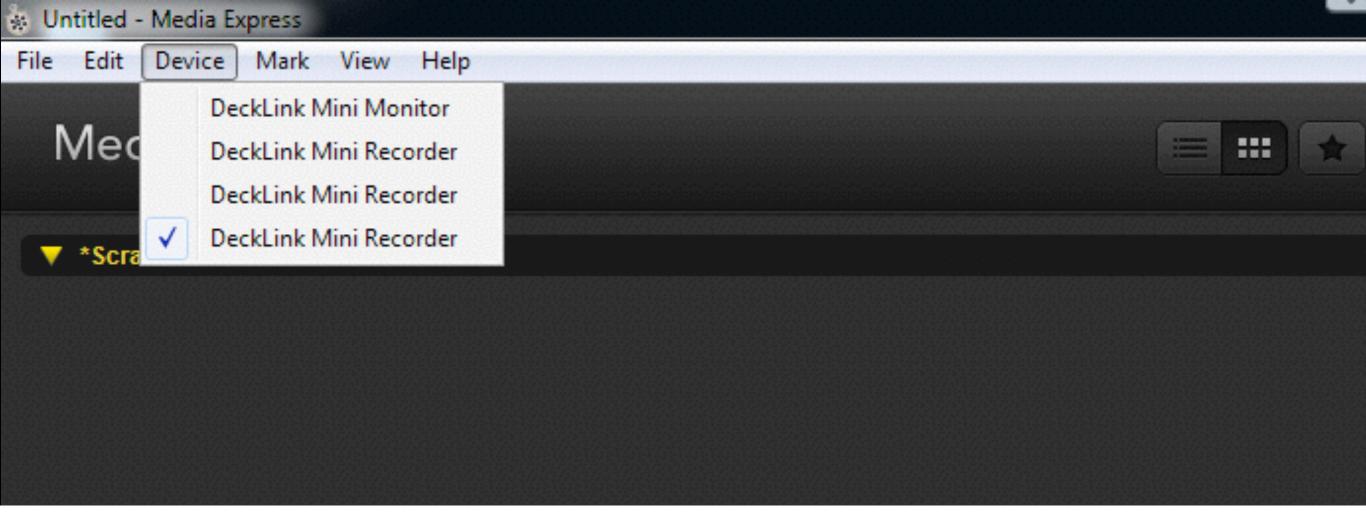
To check that your system is receiving a video in through the device, open Blackmagic Media Express.





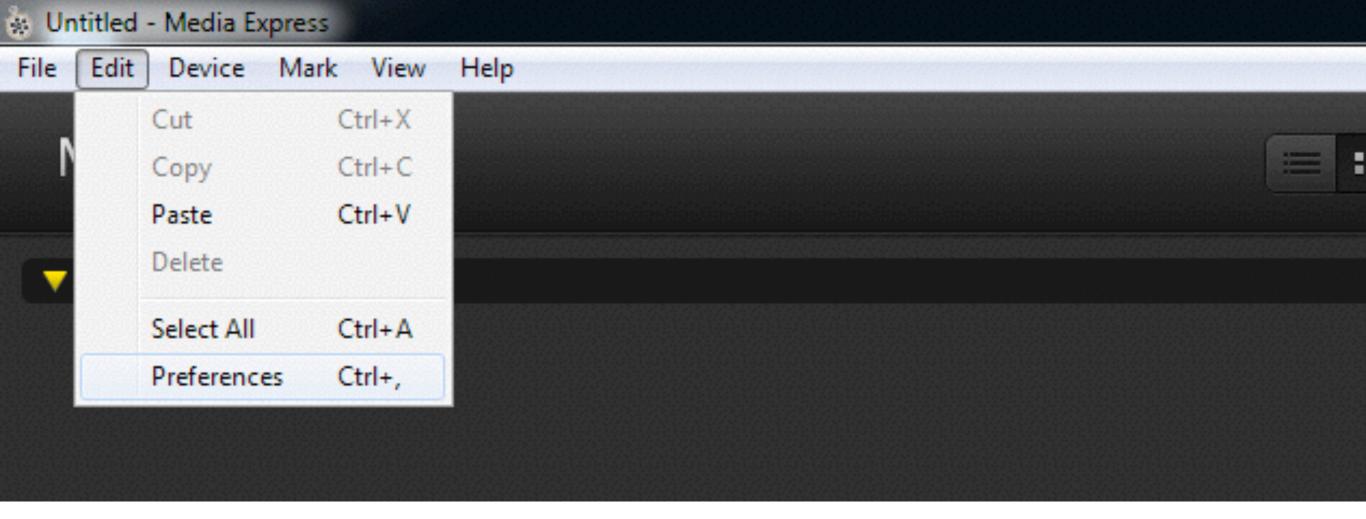
## Click on the '**Log and Capture**' tab underneath the player.





## Select the device you want to check on the 'Devices' menu.





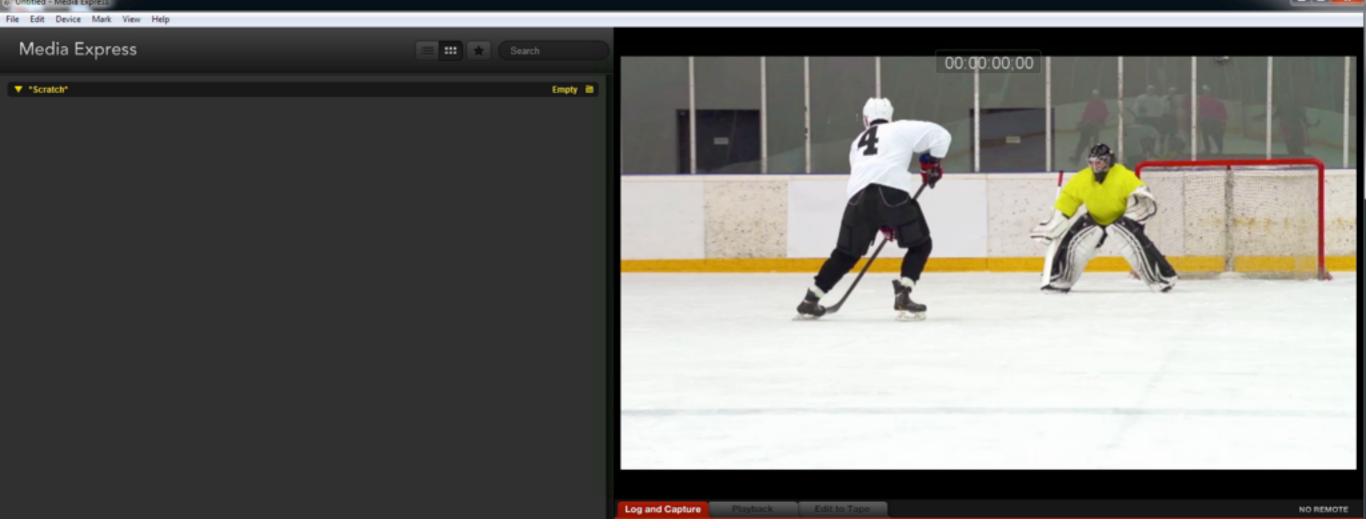
## Next, go to 'Edit' and select the 'Preferences' menu.



Project Video Format:	HD 1080i 59.94
Capture File Format:	NTSC NTSC 23.98 PAL NTSC Progressive PAL Progressive
	HD 1080p 23.98 HD 1080p 24
When capturing DPX files, use	HD 1080p 25 HD 1080p 29.97 HD 1080p 30
Capture audio and video to:	HD 1080i 50 HD 1080i 59.94
	HD 1080i 60 HD 720p 50
Capture still frames to:	HD 720p 59.94 HD 720p 60

Under 'Project Video Format,' select the format your camera is outputting, then click 'OK' at the bottom of the window.





Your video signal should now appear in the Media Express player, confirming that you have a video signal coming into your system.

### Installing and launching Livestream Studio





If you purchased a Livestream Studio hardware product, Livestream Studio software is pre-installed on your unit.



## Studio Software

Live Production Switcher Software

DOWNLOAD FREE

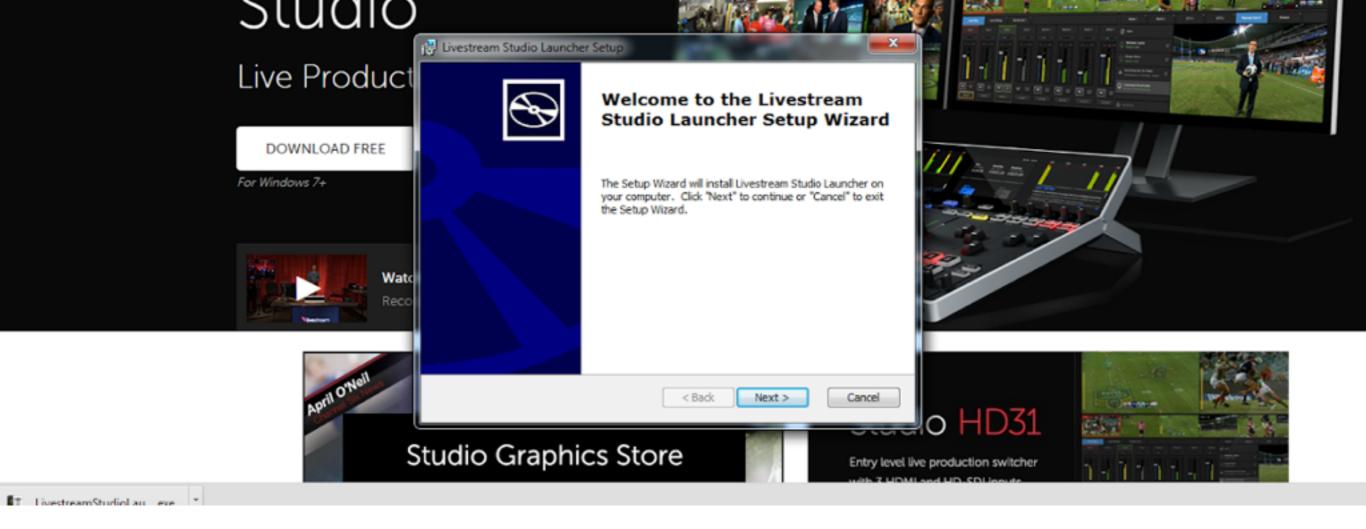
BUY FULL VERSION

For Windows 7+

The software can be downloaded onto any Windows 64-bit system from <u>livestream.com/studio</u> by clicking on the 'Download Free' button.

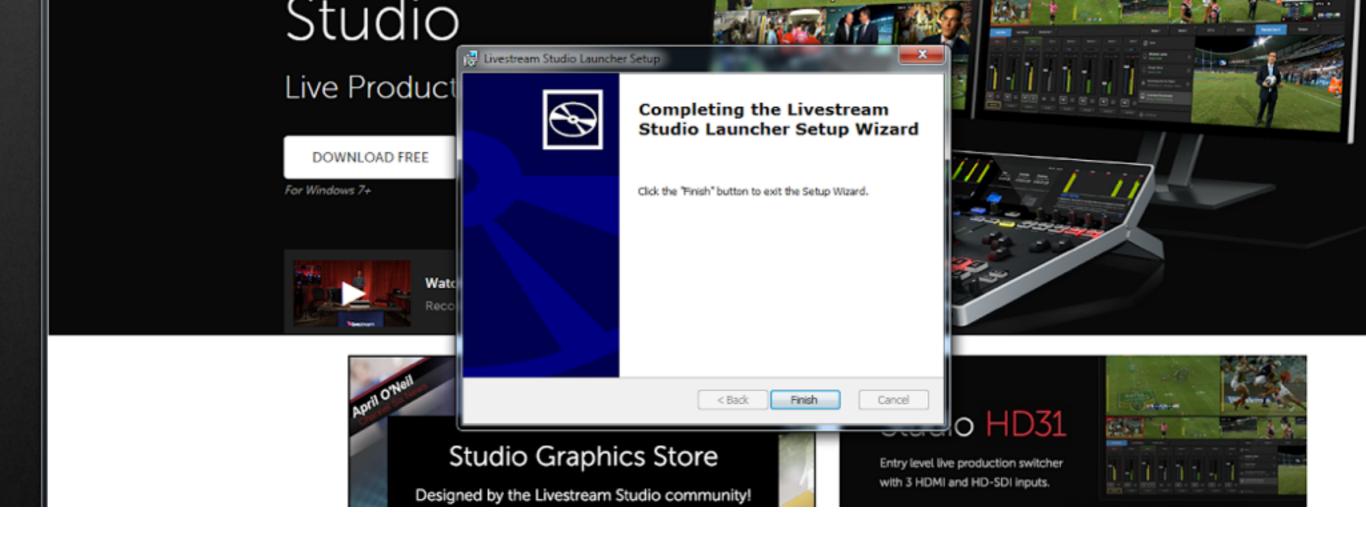


**live**stream

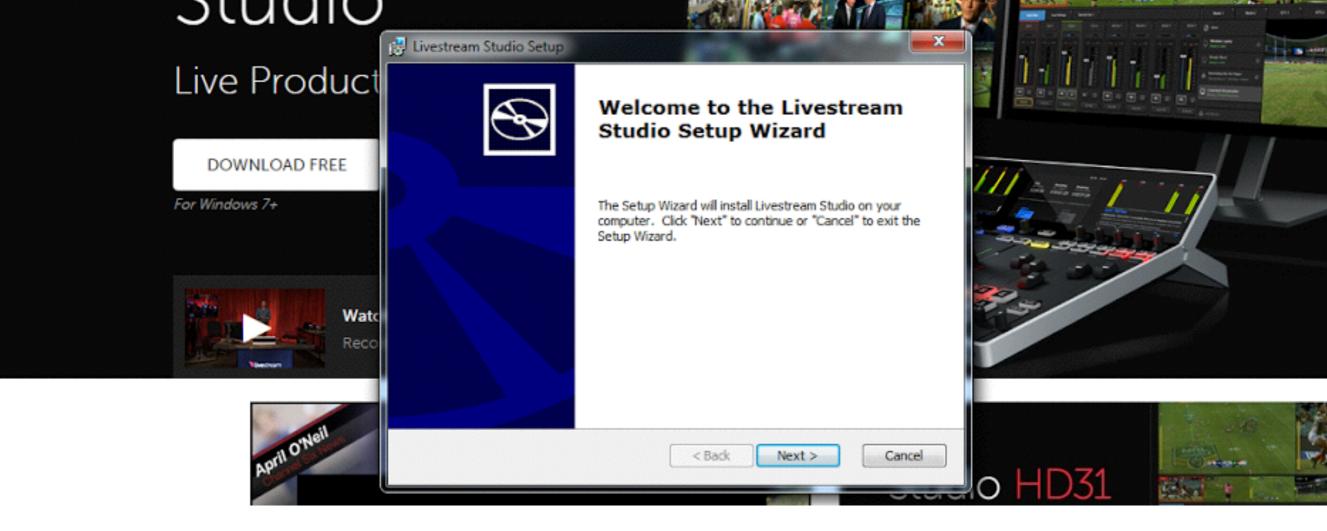


Once the download completes, click on the installer file and run it. It will bring you to the installation wizard for the Livestream Studio Launcher.





#### Follow the on-screen steps to complete the installation process, then click 'Finish' in the wizard.



The Livestream Studio Launcher will open and prompt you to install the software via another installation wizard.





When the installation is finished, the most recent version of Livestream Studio will launch on your system.





Please note that if you download the software onto your own system, the full features will not be available unless the purchased USB dongle is plugged in.





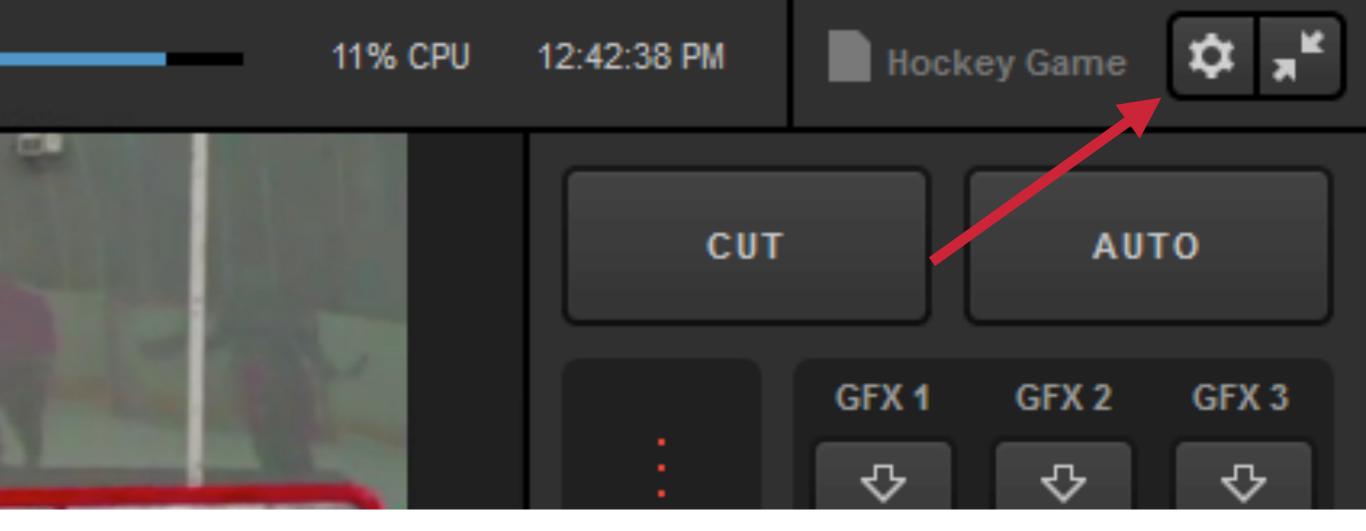
Be sure to plug the dongle into a USB 2.0 port (black), **not** a USB 3.0 port (blue).

Note: The HD31, HD51, HD510, HD550, and HD1710 all have internal dongles and they do not need an external USB dongle.

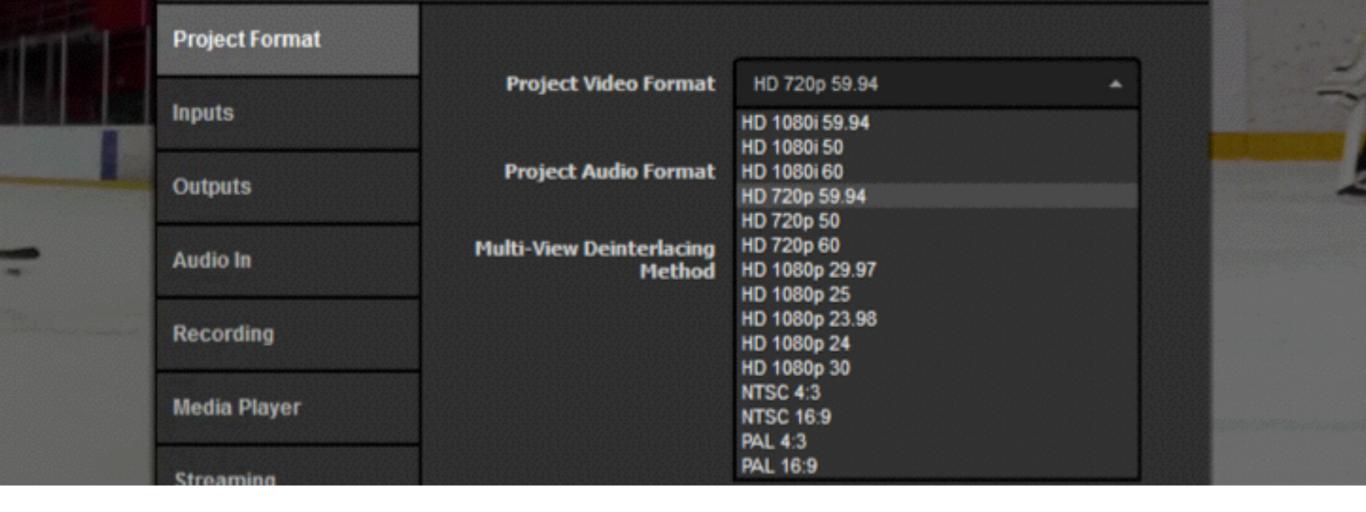
# Adding and formatting your video inputs

Setting project format





In the upper right corner of Livestream Studio, you will see a small gear wheel button. Click on it to access Livestream Studio settings.



The first tab is '**Project Format**.' Here you have a wide variety of HD broadcast quality formats to choose from by default.

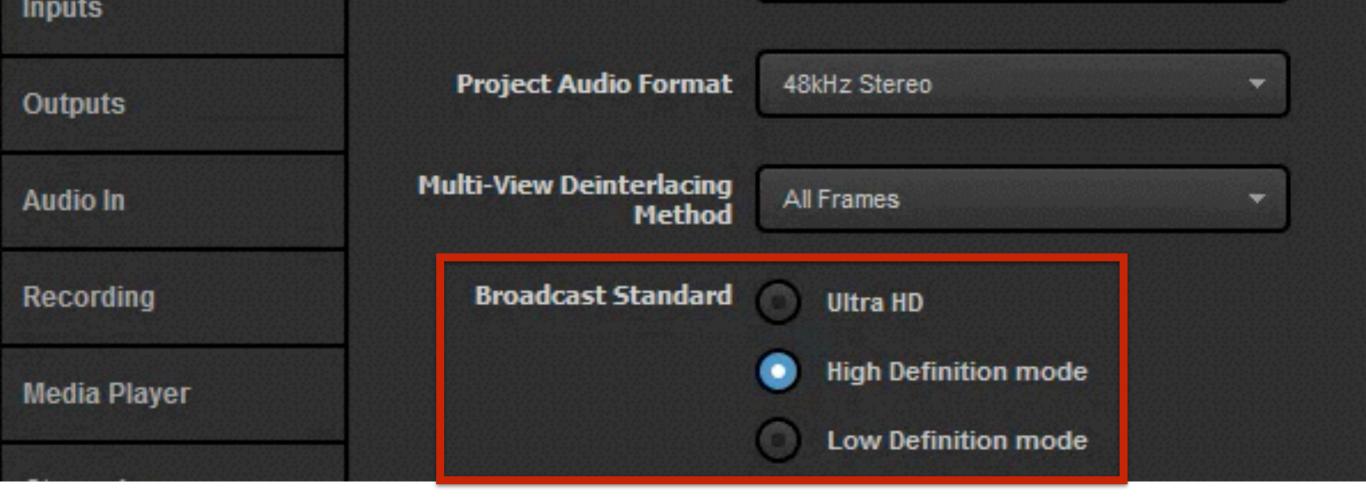


Inputs		HD 1080i 59.94 HD 1080i 50	
	Project Audio Format	HD 1080i 60	
Outputs		HD 720p 59.94	
		HD 720p 50	
Audia In	Multi-View Deinterlacing	HD 720p 60	
Audio In	Method	HD 1080p 29.97	
		HD 1080p 25	
Depending		HD 1080p 23.98	
Recording		HD 1080p 24	
		HD 1080p 30	
Madia Dlavar		NTSC 4:3	
Media Player		NTSC 16:9	
		PAL 4:3	
Ctrooming		PAL 16:9	
Streaming		And a state of the state of the	

If you are planning to stream, either a 1080p or 720p format will produce the best quality, as they eliminate the need to de-interlace.

Note: All formats will be true broadcast quality when recording and sending video out.

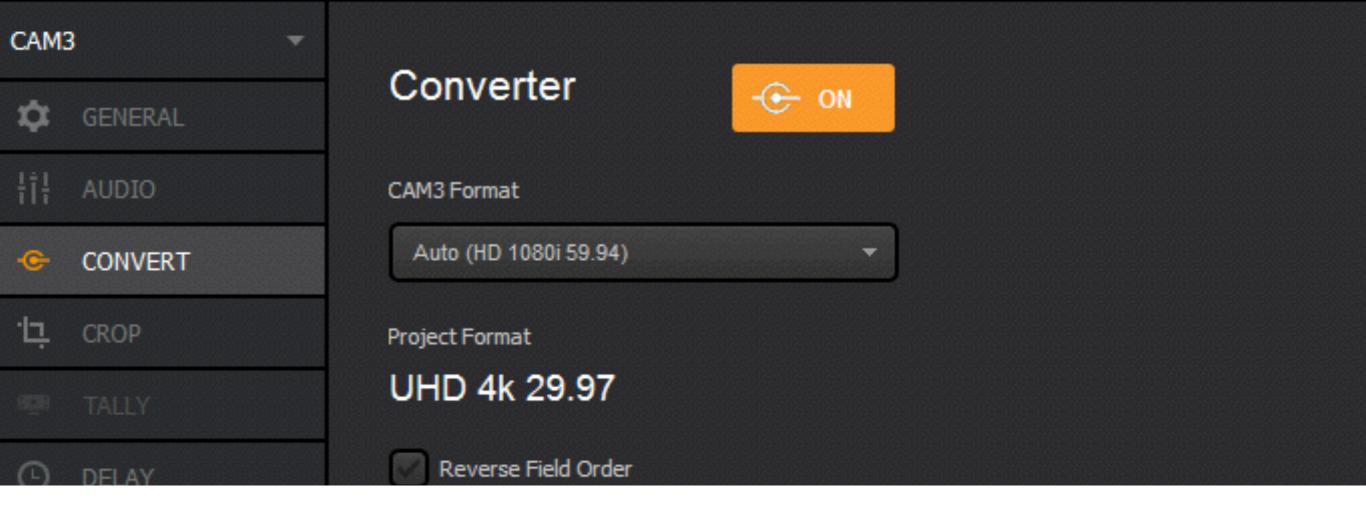
**live**stream



Further down in the menu, there is an option for Broadcast Standard. High Definition is selected by default, but Ultra HD and Low Definition mode give Livestream Studio more flexibility with other setups.

Project Format		
	Project Video Format	UHD 4k 29.97
Inputs		UHD 4k 29.97 UHD 4K 25
Outputs	Project Audio Format	UHD 4K 25 UHD 4K 23.98 UHD 4K 24
Audio In	Multi-View Deinterlacing Method	All Frames
Recording	Broadcast Standard	O Ultra HD

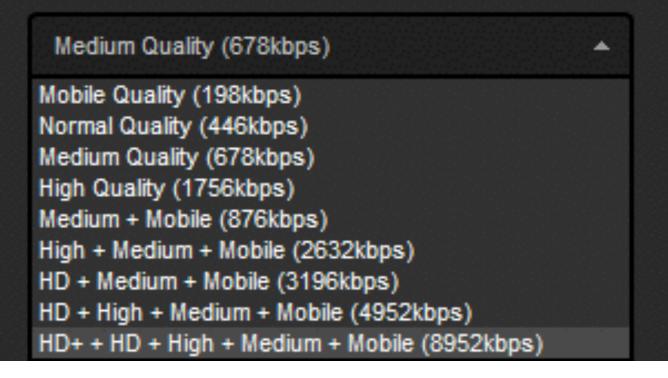
Selecting 'Ultra HD' will allow you to choose a 4K format as your project format. This means that your internal processing, recording and output via blackmagic device will be done in a 4K format.



Any camera sources that are not in 4K can be converted under the '**Input Settings**' tab. Please note that using the converter may increase your CPU usage.



#### Stream Quality



While your outputs and ISO recordings will be in your selected project format, streams to Livestream cannot be sent at a higher resolution than 720p. Streams to Twitch and YouTube can reach up to 1080p.

**live**stream

	Settings: Project Format		CANCEL SAVE			
	Project Format					
-		Project Video Format	480p 30		*	
	Inputs		480p 30 480p 29.97			
	Outputs	Project Audio Format	480p 25 432p 30 432p 29.97			
	Audio In	Multi-View Deinterlacing Method	432p 25 360p 30 360p 29.97			
	Recording	Broadcast Standard	360p 25 NTSC 4:3 NTSC 16:9			
	Media Player		PAL 4:3 PAL 16:9			
	Streaming	Note: Low Definition Mode is of auto-downscale to Low I				
	Multi-Screen	above.		ujust the setting	3	

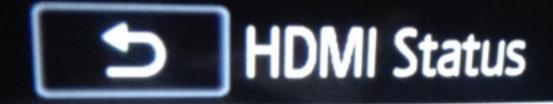
Selecting 'Low Definition mode' provides lower standard definition project formats, which are ideal for use on low performance computers and laptops.

Input Settings	Audio Mixer	Remote Cam 1	Remote Cam 2	
CAM1 -				
🔅 GENERAL	Converter	- ON	Тір	
¦†¦ AUDIO	CAM1 Format		converter. You can try	quality please avoid using a changing your project format
CONVERT	Auto (HD 720p 59.94)	-	format of the incoming	ect Format tab or change the g source to match your project
'Ё, СКОР	Project Format		format.	
TALLY	480p 29.97			
🕒 DELAY				

#### Any HD input sources will convert to the selected project format automatically.

	Emily Knox 👻 🚰 Penalty Shot 👻	Open event [
lease avoid using a g your project format at tab or change the to match your project	Stream Title Game winnter	
	Stream Quality	
	480p Quality (1128kbps) Delivery Method	
	Bonded network	
	Standard	
	Settings	
	Notify Followers	

In the streaming module, you will only be able to stream in a resolution equal to your selected project format regardless of which streaming provider you use, in order to limit CPU demand.



Video Output HDMI 1920×1080p

> Audio Output 2ch PCM

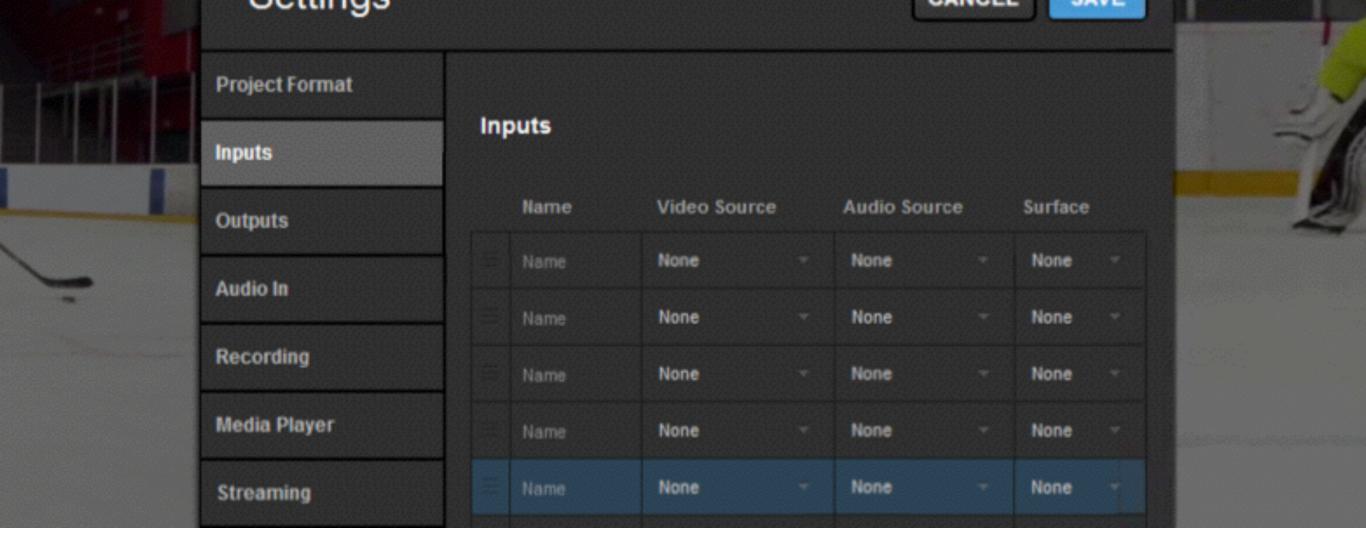
Check each camera's settings to ensure that they all match each other as well as your project format. This will keep your CPU usage low.



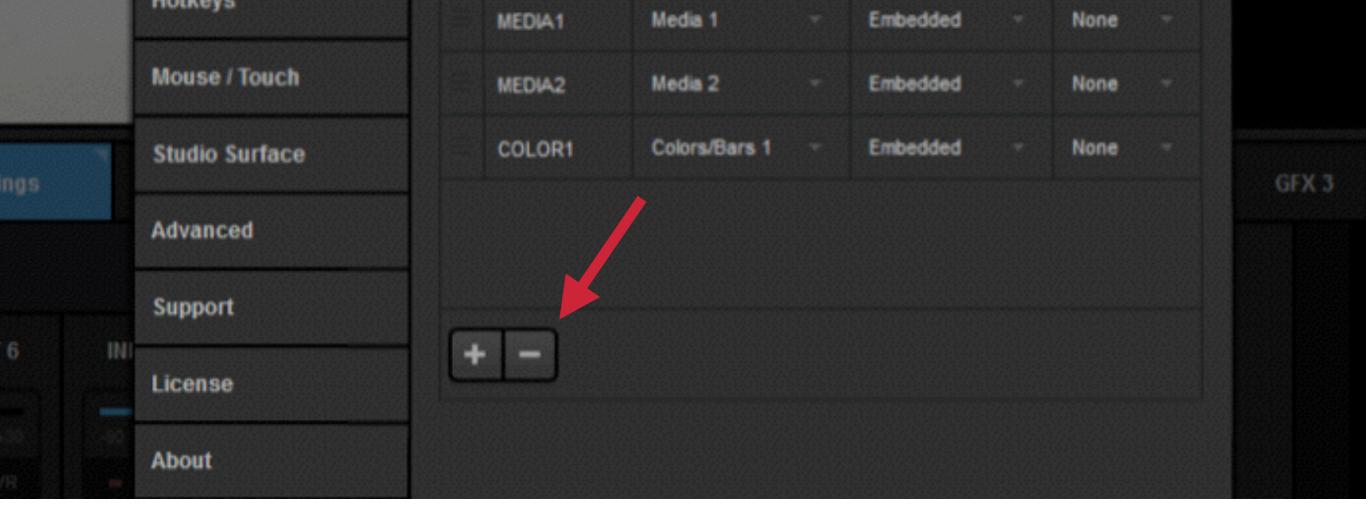
Adding and formatting your video inputs

Configuring input sources





The next tab in Settings is '**Inputs**.' This is where you can choose every input source to use in your production, including graphics overlays, media, remote cameras, etc.



Notice that on the bottom left corner of the window, there are '+' and '-' buttons. These allow you to add or remove inputs.



Inputs						
Outputs	Name	Video Source	Audio Source	Surface		
	CAM1	DeckLink Mini Re 👻	Embedded *	None		
Audio In	CAM2	None	111 001			
Recording	CAM3	DeckLink Mini Recorder DeckLink Mini Recorder DeckLink Mini Recorder	[1] HDMI			
Media Player	GFX1	DeckLink Mini Recorder	[3] SDI			
Streaming	GFX2	DeckLink Mini Recorder Screen 1: DELL U24121 Colors/Bars 2				
Multi-Screen	GFX3	GFX 3 -	Disabled ~	None	-	
	1005 DE 1599 GEGENERAS					

#### Start on the **Video Source** column. Click on the dropdown menu to select your source.

Recording		CAM3	DeckLink Mini Re		Embedded		None	Ŧ	
Media Player		GFX1	None DeckLink Mini Reco	rder [	(1) SDI				
Streaming	GFX2 DeckLink Mini Recorder [1] HDMI DeckLink Mini Recorder [2] SDI DeckLink Mini Recorder [2] HDMI								
 Multi-Screen		GFX3	DeckLink Mini Recorder [3] SDI DeckLink Mini Recorder [3] HDMI						
Ad Insertion		REMOTE1	Screen 1: DELL U24 Colors/Bars 2	412M					
		REMOTE2	Remote Cam 2		Embedded		None		
Hotkeys		MEDIA1	Media 1		Embedded		None		

One source you will notice is the name of your computer's display. Select this to add a local screen capture as an input.

Note: This feature was designed for systems with multiple monitors connected. Please note that local screen capturing will increase CPU usage.

livestream

ording	CAM3	DeckLink Mini Re	Embedded	None
a Player	GFX1	GFX 1	Disabled	None
aming	GFX2	GFX 2	Disabled	None
-Screen	MEDIA1	Media 1	Embedded	None
sertion	REMOTE1	Remote Cam 1	Embedded	None

The video source is also where you choose which graphics overlay channels, media bins, remote camera sources, and color sources you are using.



Inputs	Inputs			
Outputs	Name	Video Source	Audio Source	Surface
Audio In	CAM1	DeckLink Mini Re -	Embedded -	None -
Audio In	CAM2	DeckLink Mini Re 👻	Embedded	INVIIC
Recording	САМЗ	DeckLink Mini Re 👻	Embedded	None -
Media Player	GFX1	GFX 1 T	Disabled ~	None -
Streaming	GFX2	GFX 2	Disabled	None -

Next, move on to the **Audio Source** column. For each input, you can choose where the audio is coming from based on what is available for that source (embedded, analog, etc.).

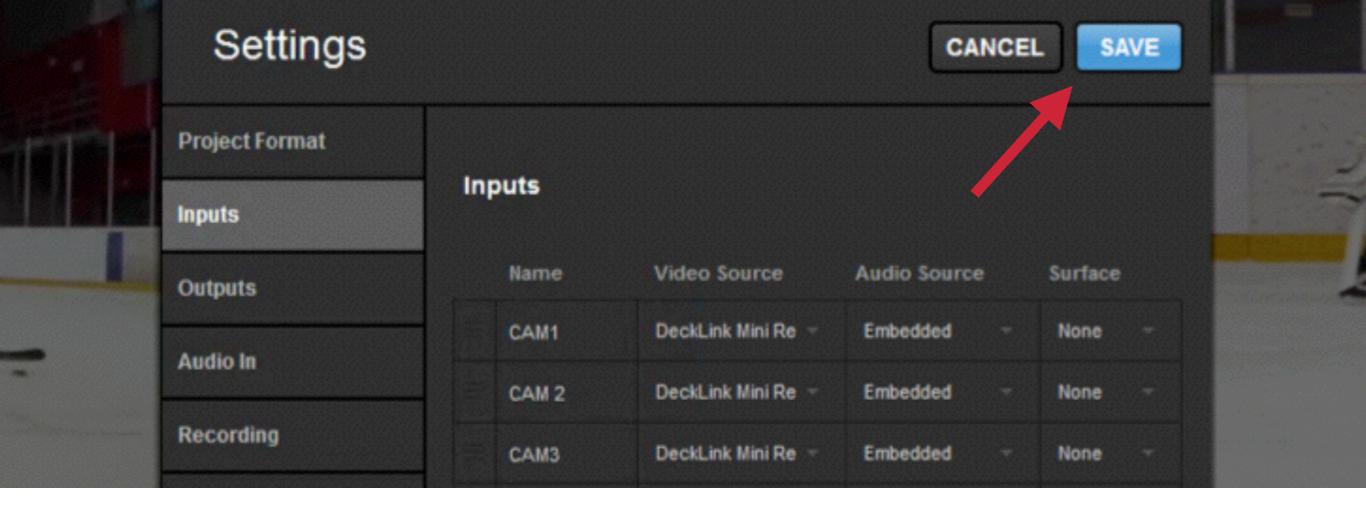
inputs					
Outputs	Name	Video Source	Audio Source	Surface	
Audio Inc.	CAM1	DeckLink Mini Re 👻	Embedded -	None	
Audio In	BIL	DeckLink Mini Re 👻	Embedded 👻	None -	
Recording	САМЗ	DeckLink Mini Re 👻	Embedded -	None 👻	
Media Player	GFX1	GFX 1 💎	Disabled	None -	
Streaming	GFX2	GFX 2	Disabled	None -	
Multi-Screen	GFX3	GFX 3	Disabled -	None -	

You will notice that under the **Name** column, your sources are labeled automatically. If you want to use your own names, click on that source's name and type in your preferred name for that source.



	input	5					
Player	Na	ame	Video Source	Audio Sou	urce	Surface	
ning	≡ c,	AM1	DeckLink Mini 🔻	Embedded	Ŧ	Core Mor -	
creen	C,	AM2	DeckLink Mini 🔻	None Core Module 1			
ertion	C/	AM3	DeckLink Mini 🔻	Core Module 1 Core Module 1	- Track	3	
	— C/	AM4	DeckLink Mini 📼	Core Module 1 Core Module 1			
S							

If you have a Studio Surface connected to your system, you can assign the tracks under the **Surface** column. If you do not have Studio Surface, your only option will be 'None.'



When you have finished setting your output and desired inputs, press 'Save' in the upper right corner.



You should now see your camera sources and other video sources available in Livestream Studio.



# Adding and formatting your video inputs

Inputs calibrator

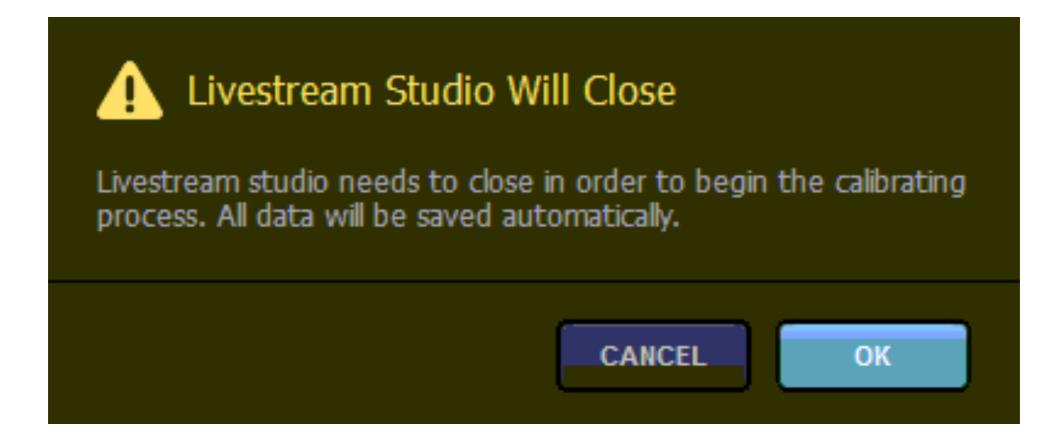
**live**stream

Support	
License	
About	
	Note: If your HDMI / SDI inputs are not in the correct order, you can configure them in the <u>Livestream Inputs Calibrator.</u>

If you are using a Livestream Hardware unit (e.g. HD51, HD550, etc.) and your inputs do not appear to be in the correct order, there is a tool to fix this. Go back into Settings and click the '**Inputs**' tab. At the bottom of the menu, there is a note that links to the Livestream Inputs Calibrator.

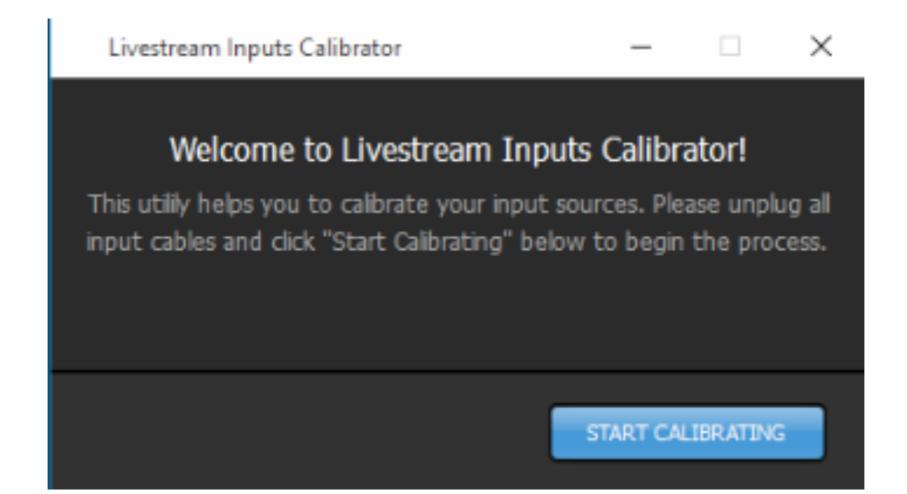
83

**live**stream



Clicking the link will pop up a notification that Livestream Studio will need to close to proceed. Click 'OK.'





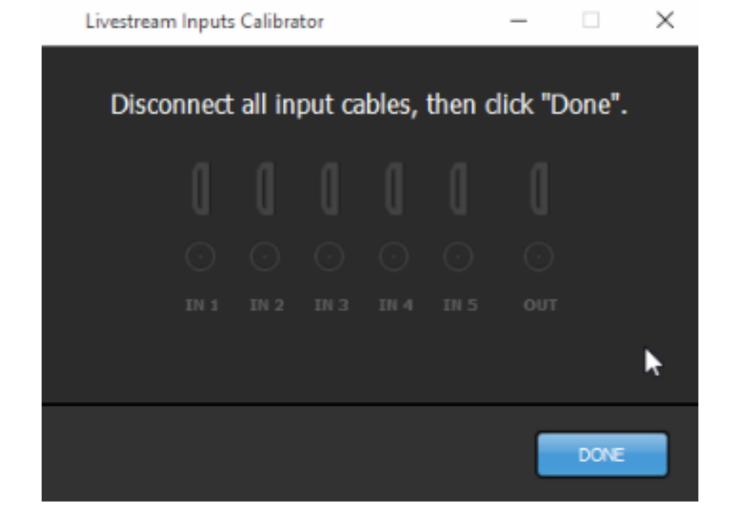
When Livestream Studio closes, a new window will pop up that will prompt you to unplug all of your cameras from all of your Blackmagic Design devices. After you do this, click 'Start Calibrating.'



Livestream Inputs Calibrator		_		$\times$
Select prefered input	type and o	lick "I	vext"	
O HDMI	🗿 SDI			
			NEXT	×.

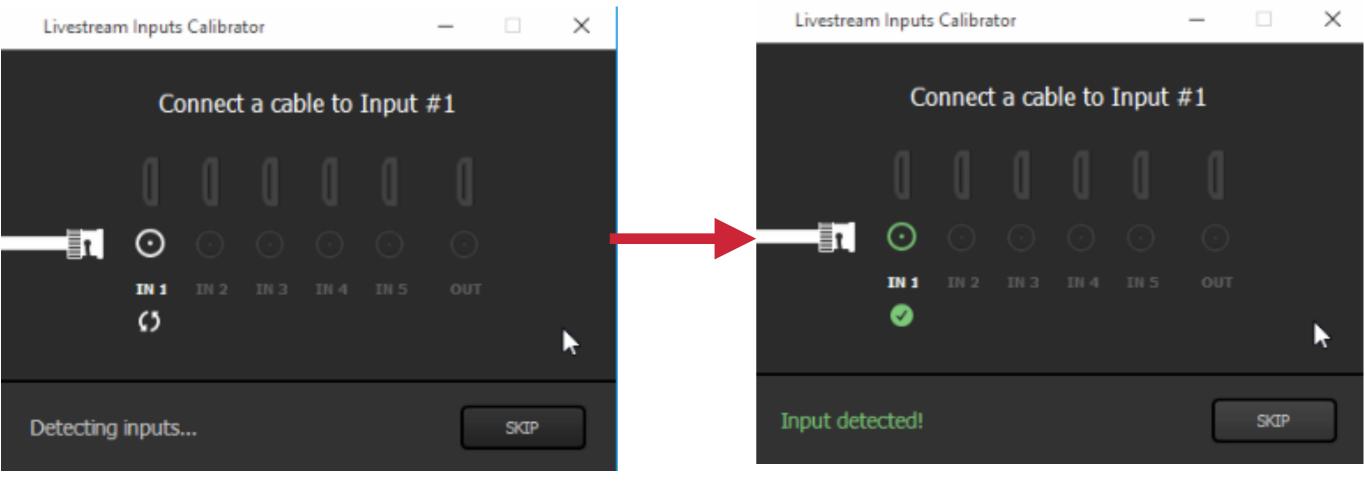
Select your preferred input type, either HDMI or SDI. You will only need one camera for this process, so if you are alternating input types, choose the one that you are using more of; the calibration will still work. Then click 'Next.'





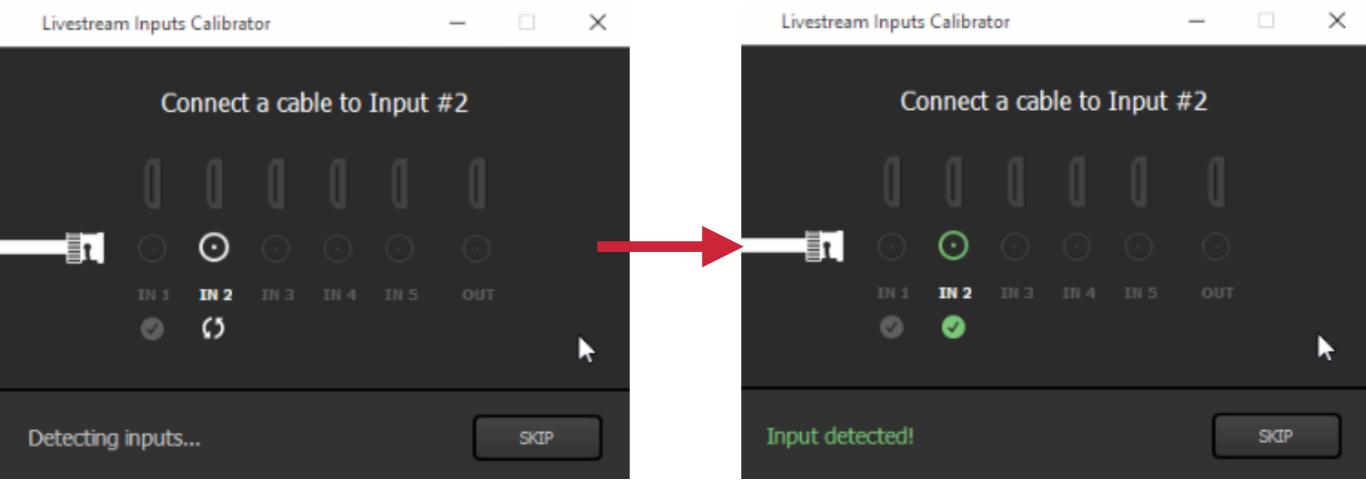
If you have not disconnected all of your cables yet, do so now, then click 'Done.'



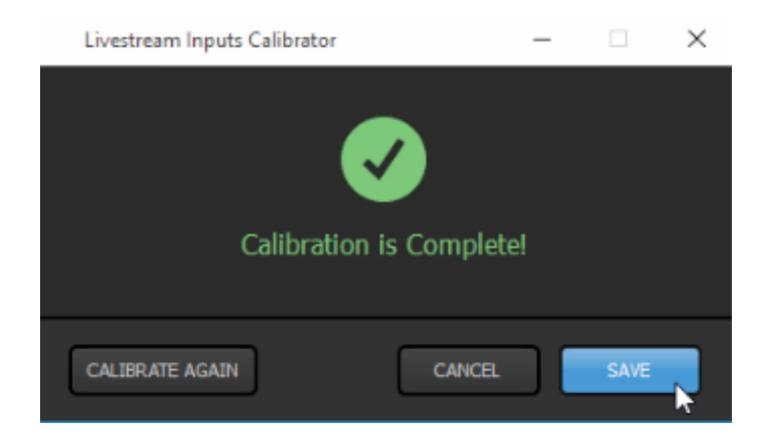


Connect a camera to 'IN 1' on your system. The calibrator will indicate when it has detected it and completed calibrating it.





The calibrator will automatically prompt you to move to the next input. Unplug your camera from 'IN 1' and plug it into 'IN 2.' Repeat this for all five Blackmagic Design cards.



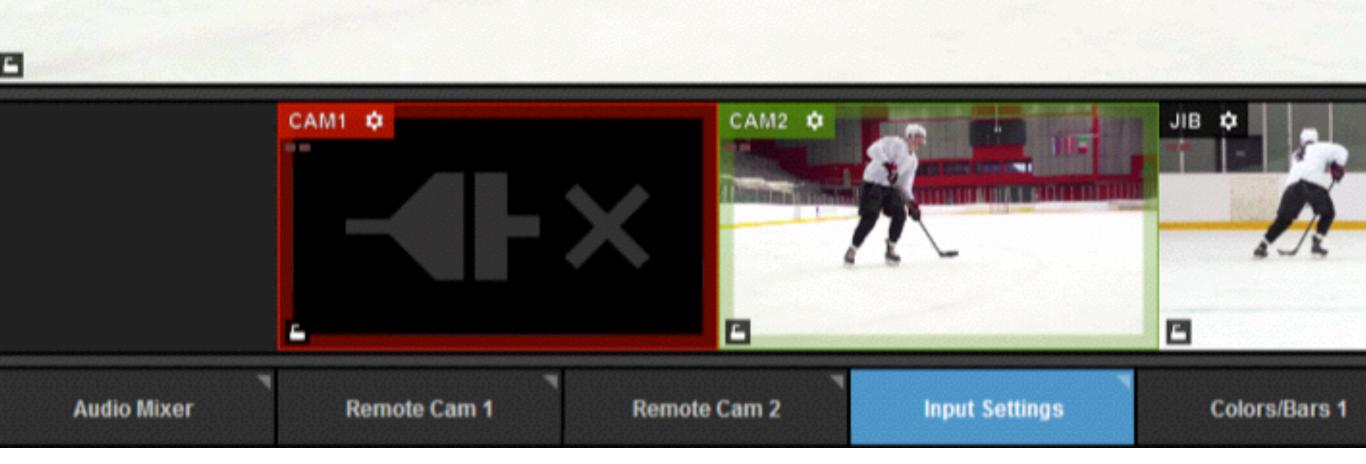
After you have gone through all inputs, the calibrator will inform you that calibration is complete. Click 'Save' and Livestream Studio will reopen with your inputs in the proper order.

**Note**: Calibration is project-based. If you create a new project, you may need to calibrate your input sources again.

# Adding and formatting your video inputs

Video input troubleshooting





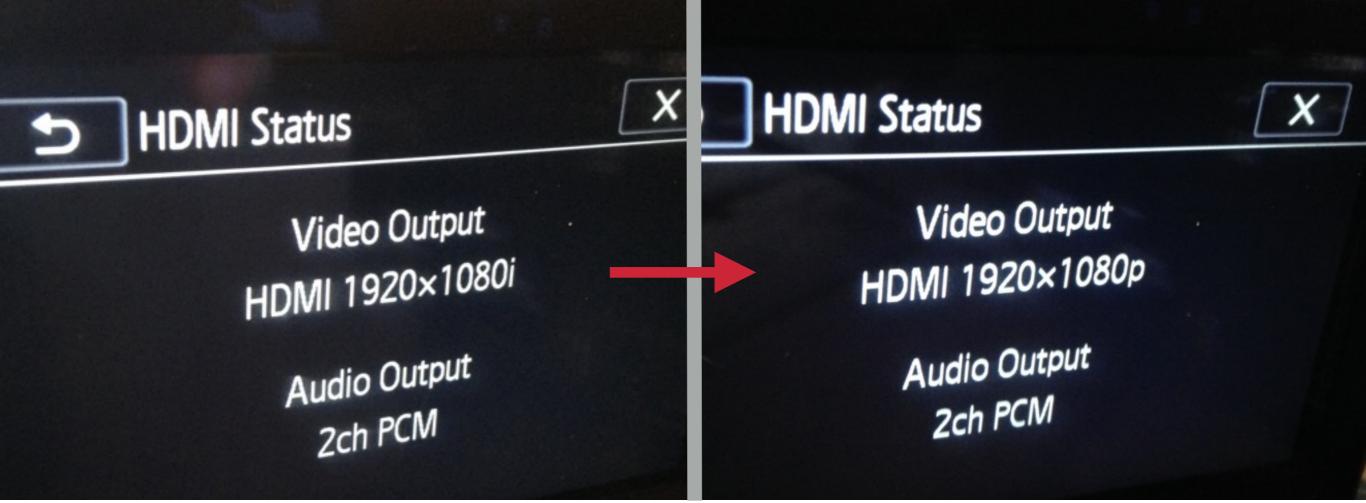
If a video source's signal is missing, the likely cause is that input's format does not match the Project Format setting.



	[
Project Video Format:	HD 1080i 59.94 👻
Capture File Format:	NTSC NTSC 23.98 PAL NTSC Progressive PAL Progressive HD 1080p 23.98 HD 1080p 24
When capturing DPX files, use	HD 1080p 25 HD 1080p 29.97 HD 1080p 30
Capture audio and video to:	HD 1080i 50 HD 1080i 59.94 HD 1080i 60
Capture still frames to:	HD 720p 50 HD 720p 59.94 HD 720p 60

One way of troubleshooting is closing Livestream Studio and confirming the format in Blackmagic Media Express.





The best practice is to change the format at the source to match the Project Format setting.

**live**stream

		٥		1	6			8
	Audio Mixer	٦	Remote Cam 1	Remote	Cam 2	Input Settings		
CAM	1	*		Neme				
\$	GENERAL		Input Source	Name				
	AUDIO		Input Source Name					
ψ	CONVERT		CAM1					
τ	CROP							

If you have a camera or other video source that cannot match your project format (e.g., webcam, laptop, etc.), you can find a workaround on the '**Input Settings**' tab.

Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings	
CAM1		NI		
CAM1	Input Source	Name		
CAM2	Input Source Name			
CAM3	CAM1			
·口, CROP				
SPEC TALLY				

From the dropdown menu, select the source that you need to adjust, then navigate to the '**Convert**' tab on the left.



Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings	
CAM1 ~				
🔅 GENERAL	Converter	- OFF	Тір	
¦†¦ AUDIO	CAM1 Format		converter. You can try	quality please avoid using a changing your project format
CONVERT	Auto (HD 720p 59.94)	· · · · · · · · · · · · · · · · · · ·	format of the incoming	ect Format tab or change the source to match your project
·녀. CROP	Project Format		format.	
	HD 720p 59.94			
C DELAY				

This is the **any-to-any converter**. Use the dropdown menu to select the format your video source is outputting: the format may be auto-detected.



CAM1 -		<b>O</b> and <b>a</b> a		
\$	GENERAL	Converter	-Œ- ON	
	AUDIO	CAM1 Format		
ø	CONVERT	Auto (HD 720p 59.94)	•	
ij	CROP	Project Format		
		HD 1080i 59.94	4	
⊡	DELAY	1 Show Tips		

When you select the correct format, the convert button will turn orange and say 'ON.' You will also see your video signal in Livestream Studio.





Take caution in using the converter. It will increase your CPU usage and decrease image quality and motion accuracy. Only use the converter when necessary.



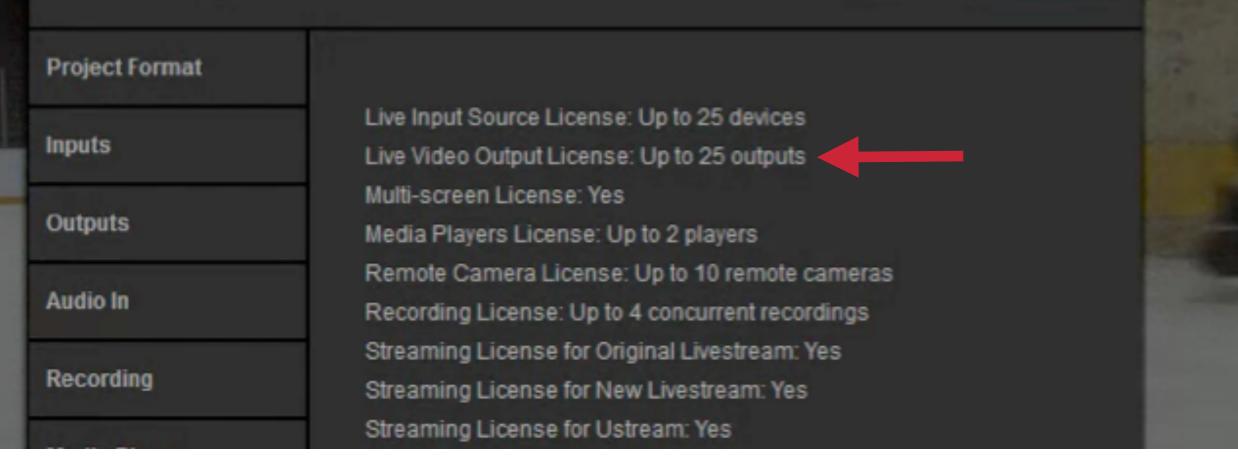
#### Configuring video outputs



#### Settings: License

CANCEL

SAVE



If you have multiple Blackmagic devices that can output, you can send up to 25 video signals separately to different sources such as monitors, projectors, etc.

Recording		DeckLink Mini Monitor - SDI	Program (Dirty)	
Media Player				
Streaming				
Multi-Screen				
Ad Insertion				
Hotkeys	+			

# Navigate to the '**Outputs**' tab in settings and first select which device will be used to output.

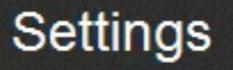
Recording		DeckLink Mini Monitor - SDI	Program (Dirty)	
Media Player				
Streaming				
Multi-Screen				
Ad Insertion				
Hotkevs	+			

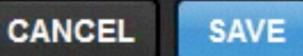
## Click the '+' button to add another output device.



		Device		Camera	
Recording		DeckLink Mini Monitor - SDI		Program (Dirty)	
Media Player		Intensity Shuttle - HDMI		Program (Dirty)	
				Program (Dirty)	
Streaming				Program (Clean)	
otroating				CAM1	
				CAM2	
Multi-Screen				CAM3	
				CAM4	
				CAM5	
Ad Insertion				GFX1	
	+			GFX2	
Hotkeys	L			GFX3	

Next, select which source will be output through each device. You can output your Program feed or any other input source (e.g., CAM1).





Project Format		
Inputs	Outputs	
Outputs	Number of AUX Mixes	
	0	
Audio In	Device	Camera

## When you have finished setting your output(s), click 'Save.'



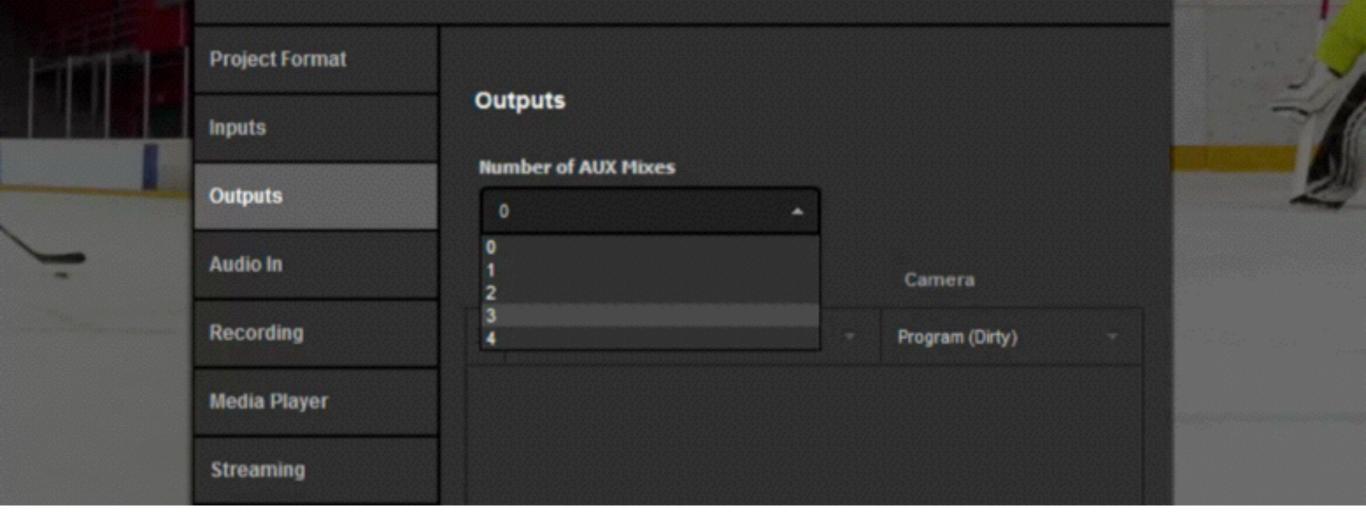


You will now see the selected source(s) being sent to your monitor, projection system, etc.



#### Setting auxiliary outputs





Another feature under '**Outputs**' is the ability to choose to have up to four auxiliary output mixes. This can be helpful for changing picture-in-picture and output sources (monitors, projectors, etc.).

	Inputs	Outputs		
	Outputs	Number of AUX Mixes		Ø
-	Audio In	Device	Camera	
	Recording	DeckLink Mini Monitor - SDI	Program (Dirty)	
	Media Player		Program (Dirty) Program (Clean) AUX 1	
	Streaming		AUX 2 AUX 3	
	Multi-Screen		CAM1 CAM2 JIB	
Participant III.	Ad Insertion		GFX1 GFX2	

You can set any output to use an auxiliary source in the '**Outputs**' menu if you intend to change the sources shown to your onsite viewers.

Audi	io Mixer	Remote Cam 1	Remote Cam 2	Input Settings	AUX Outputs	G
AUX 1	CUT AUTO 45 F	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	
AUX 2	CUT AUTO 45 F	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	
AUX 3	CUT	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	

When you set your auxiliary outputs, you should see an '**AUX Outputs**' tab appear in the lower right section.



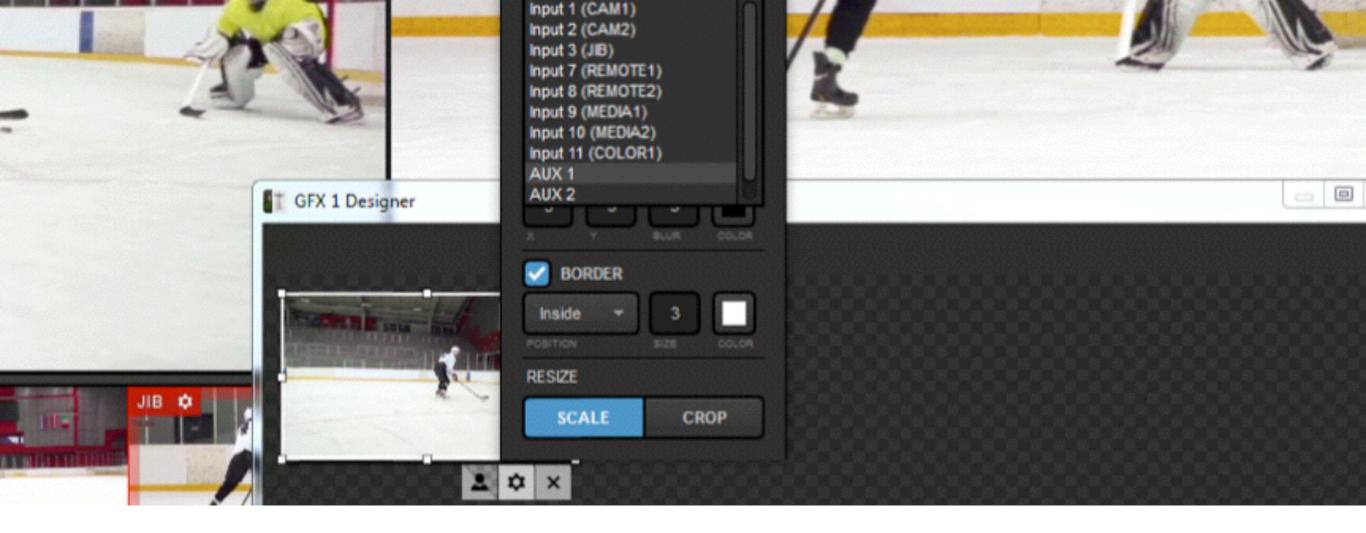
Input Settings	AUX Outp	outs		GFX 1	GFX 2	GFX 3	Media 1	Media 2
GFX2 ~	GFX3 🗸	MEDIA1	STREAM OUT					
0 +10 D dB == OVR	0 +10 0 dB == OVR	0 +10	0 dB == 0VR	Browse Graphics S	Store 🖸			-
0 -10	-10	0	0	Import Layer	>		April O'N	veil p
-14	-14	-10 -14 -24	-10 -14 -24	RSS	۳		April O'R Channel Six I	NEWS
-38	-38	-38	-38	Google	8		Studio G	ranhice
-48	-48	-48	-48	Twitter	Y		Lower thirds, T	
-60	-60	-80	-80	Clock	0		designed by th	
-72	-72	-72	-72	Timer .CSV over HTTP	© :≡		Browse Graphi	ics 🔸
			<u>م</u> (م	New Layer	+			
AUDIO	AUDIO	AUDIO		+				

To utilize this with your picture-inpicture graphics, go to a Graphics tab (e.g., 'GFX 1') and create a new layer.

te Cam 2					
3 MED					
	Layer 1	▼ +T + ■ + ■	+■◀ +≣	<b>ව</b> ් 🗌	
3 MEDI	A1 MEDIA2 REI	NOTE1 REMOTE2	Auto-Loop Setting 30 second inte	gs erval between new items	

The GFX Designer will open. Click on the 'Video' button to bring a video source into your graphics layer.





Click on the dropdown menu to change any settings, including your video source. Note that AUX sources are now among your options.

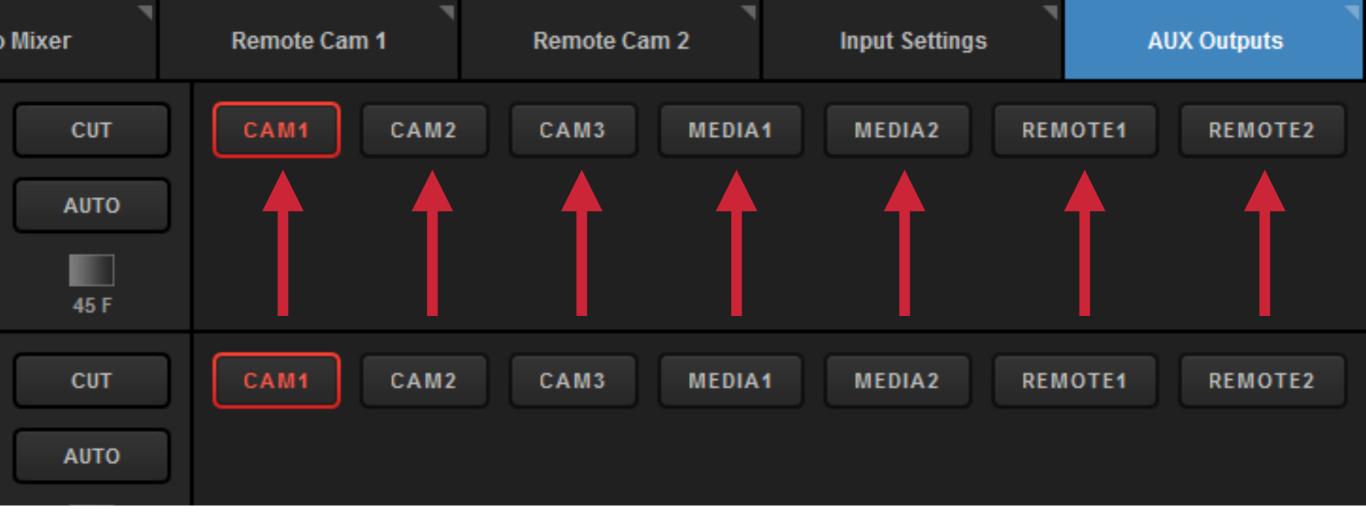


When you have finished setting your video source in the graphics layer, close out of the GFX Designer and make sure that layer is visible.

Audi	io Mixer	Remote Cam 1	Remote Cam 2	Input Settings	AUX Outputs	GFX 1
AUX 1	CUT AUTO 45 F	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	
AUX 2	CUT AUTO 45 F	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	
	СИТ	CAM1 CAM2	CAM3 MEDIA1	MEDIA2 REMOTE1	REMOTE2	

# Navigate to the 'AUX Outputs' tab of the AUX source you are using.



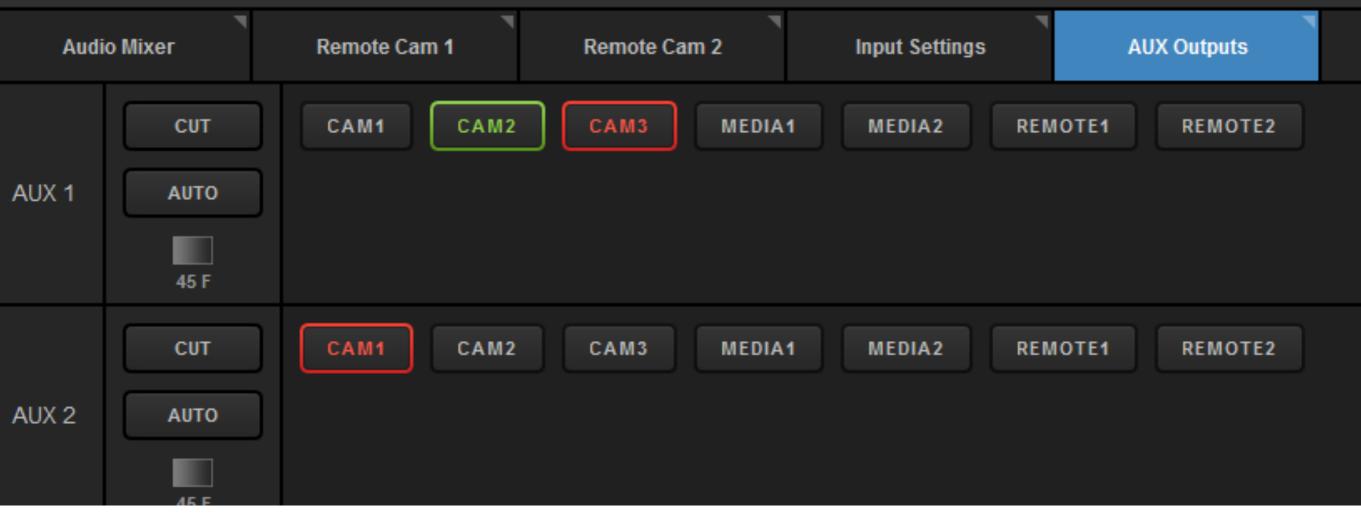


Here you can select which of your inputs you want to see in the AUX output. You can choose among camera inputs, media sources, and remote cameras.

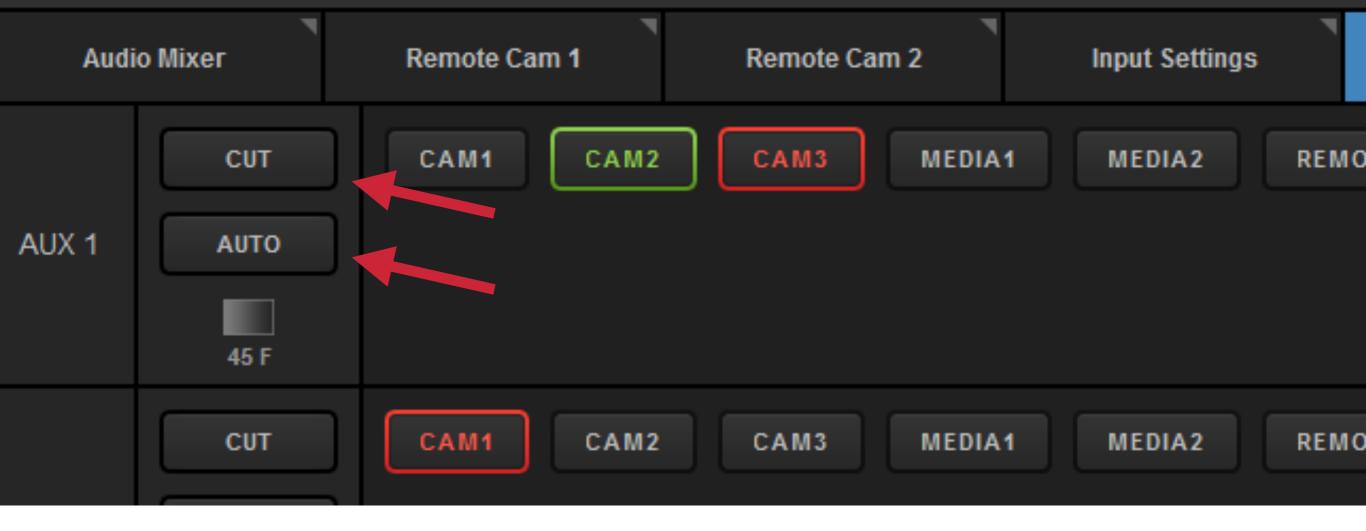


Push the graphics channel to Program to allow you and your viewers to see it.



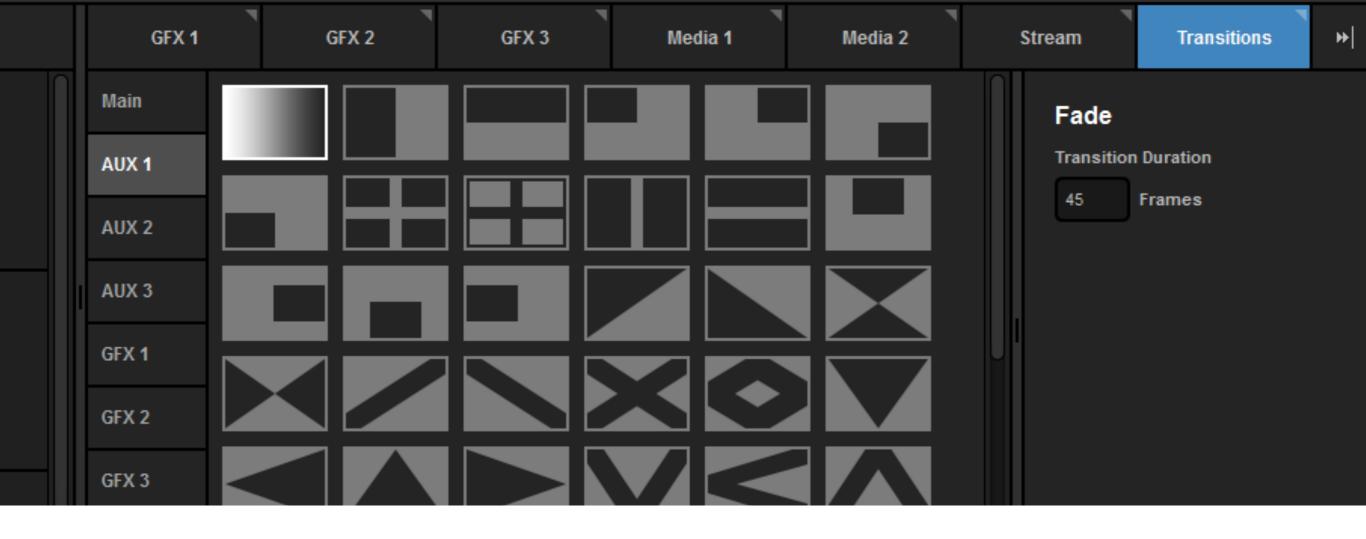


To change the source in your graphics overlay, go back to the 'AUX Outputs' tab and click on the desired source. That source will turn green, indicating that it is being previewed.



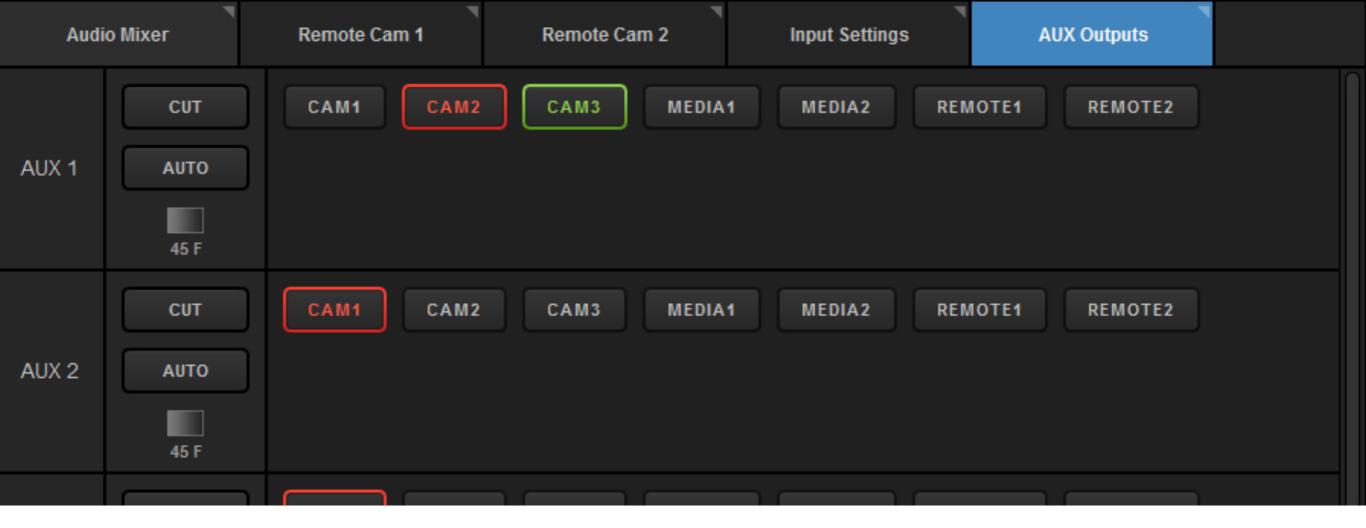
To switch sources, use either the 'Cut' or 'Auto' button to the left.

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Note that if you click on the transition type under 'Auto,' you can choose both the type and speed of the transition used for each AUX source.





Click a transition control and the 'AUX Outputs' tab will indicate that the new source is being pushed through that auxiliary source by highlighting that source in red.



You will also see the change in your graphics overlay in Preview and Program.



### Multi-view

User interface





Livestream Studio includes a multi-view that allows you to see all of your video sources and graphics overlays in one display.



	Inputs	This feature allows you to extend your multiview on multiple external computer screens. To activate, make sure that a secondary display is connected and recognized by Windows. In addition, please make sure that in Windows >> Control Panel >> Appearance and Personalization >>	-
	Outputs	Display >> Screen Resolution >> Multiple displays setting is set to "Extend these displays" and not "Duplicate these displays"	2
-	Audio In	Signable Primary Screen Multi-View	
	Recording	Two Rows of Tabs Mode (High Screen Resolution is Required)	
	Media Player		
	Streaming		
	Multi-Screen		
	Adjunction		11:34am

If you are not seeing your full multi-view, go to the '**Multi-Screen**' tab in settings, and check 'Enable Primary Screen Multi-View,' then click 'Save.'

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At the top of this multi-view are two larger monitors, which are called Preview (left) and Program (right).





Preview is where you would typically review any video source or graphics overlay prior to transitioning it to your recording and/or stream.



Program is the content that is currently showing in your recording and/or stream; it is what your viewers are currently watching.





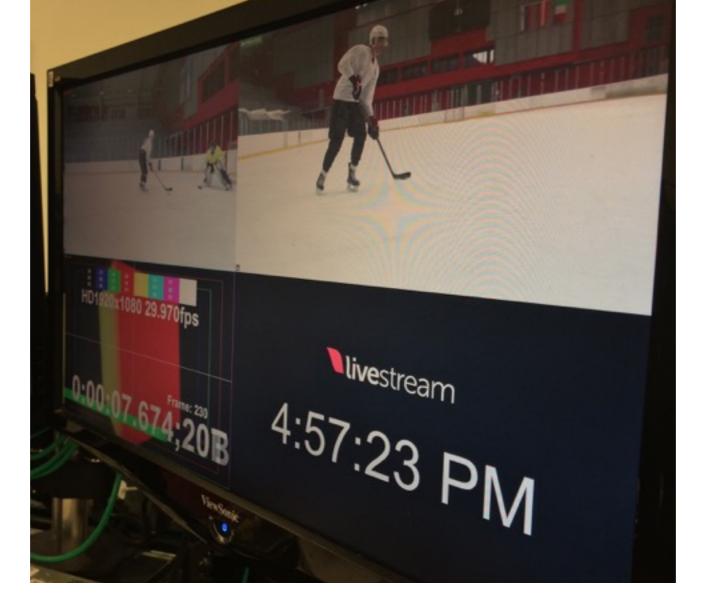
Below Preview and Program is an arrangement of smaller monitors with every camera input, graphics overlay channel, media bin, remote camera, and color source that you are using.



#### Multi-view

External multi-view





If you have a second monitor connected to your system, you have the option of displaying all or part of your multi-view by using your system's graphics card.



Change the appearance of your displays

	Detect Identify	]
Display:	2. DELL U2311H 🔻	
Resolution:	1920 × 1080 (recommended)	
Orientation:	Landscape	
Multiple displays:	Extend these displays 🔹	

First, check your computer's display settings in Control Panel. In 'Screen Resolution,' go to the Multiple displays menu and select 'Extend these displays.'

Note: Different Windows operating systems may display slightly different options.

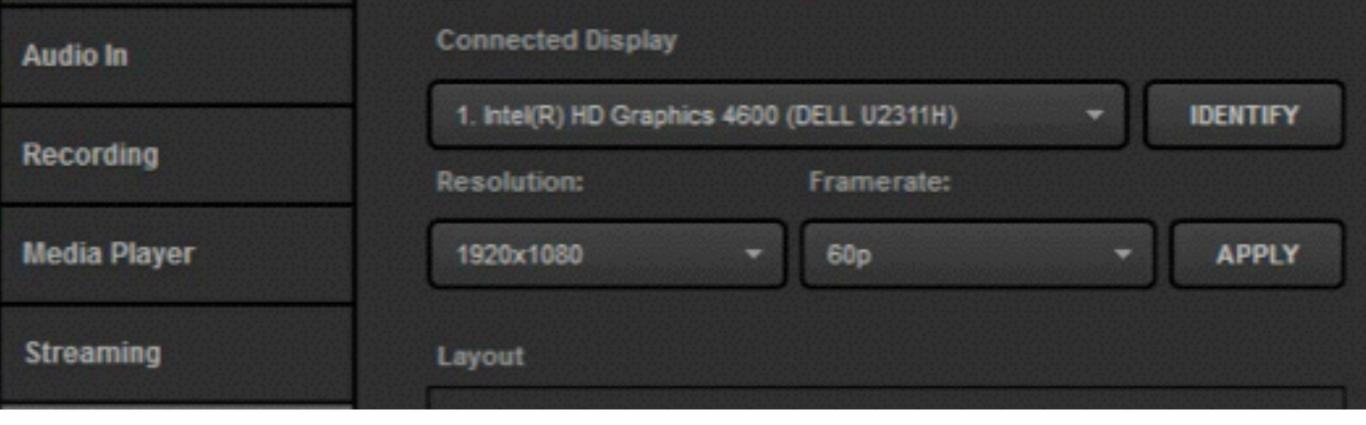
	Settings	CANCEL SAVE
	Project Format	Enable Primary Screen Multi-View
	Inputs	Two Rows of Tabs Mode (High Screen Resolution is Required)
	Outputs	Connected Display
	Audio In	1. NVIDIA GeForce GT 520 (Screen 1: VX2239 SERIE! - IDENTIFY
	Recording	Resolution: Framerate: 1920x1080 T 60p T APPLY
	Media Player	Layout
	Streaming	DISABLE DISABLE
CAM 3 🌣 Margaria	Multi-Screen	CAM5 ¢

In Livestream Studio, go to settings and click on the 'Multi-Screen' tab. With the second monitor connected, you will notice it looks different from before.

THE OW	Project Format	<ul> <li>Enable Primary Screen Multi-View</li> <li>Two Rows of Tabs Mode (High Screen Resolution is Required)</li> </ul>
	Outputs	Connected Display
	Audio In	1. NVIDIA GeForce GT 520 (Screen 1: VX2239 SERIE! ▲       IDENTIFY         1. NVIDIA GeForce GT 520 (Screen 1: VX2239 SERIES)       IDENTIFY         Resolution:       Framerate:
	Recording	1920x1080 - 60p - APPLY
	Media Player	Layout

You should see your display listed in the 'Connected Display' dropdown menu. Select the display and click 'Identify.'





#### Select the resolution and frame rate at which you want Livestream Studio's multi-view to output.



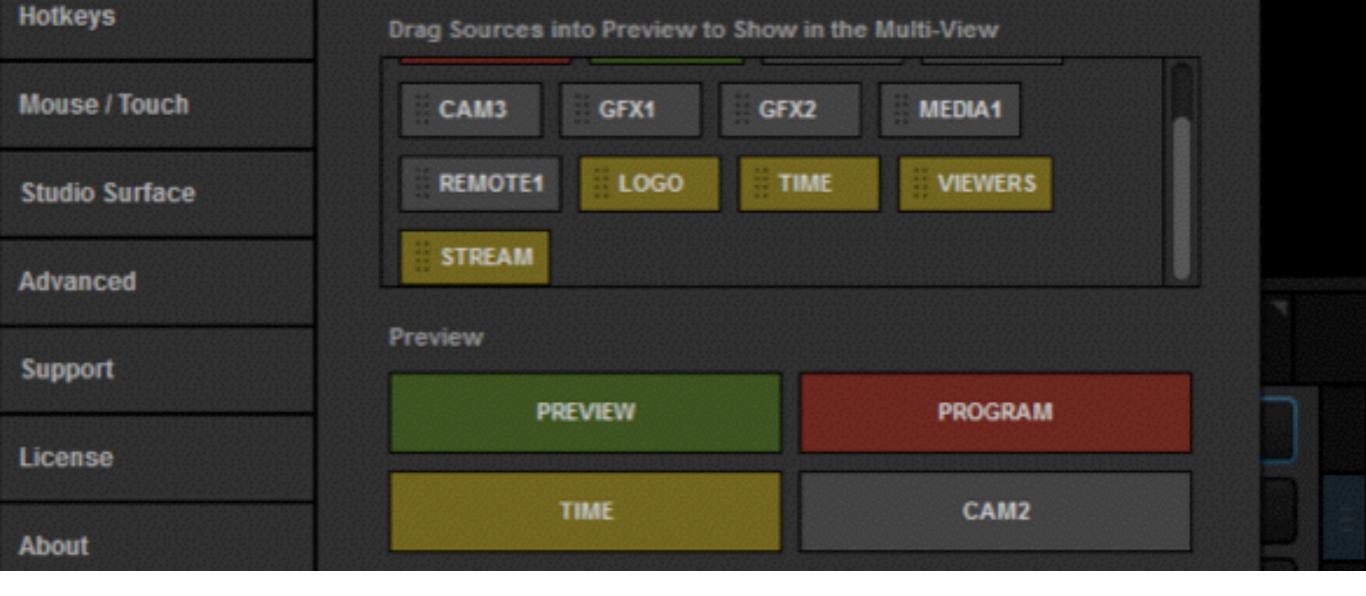
Media Player	1920x1080 * 60p * APPLY
Streaming	Layout
Multi-Screen	DISABLE
Ad Insertion	
Hotkeys	Drag Sources into Preview to Show in the Multi-View
Manage I Tanah	

Next, determine which layout you want to use in your external display.



Mouse / Touch	PROGRAM	CAM1
Studio Surface	E CAM3	12 III MEDIA1
Advanced	I REMOTEI	ME
Support	Preview	
License	PREVIEW	PROGRAM
About	TIME	CAM2

Below the layout selection, use your mouse to drag and drop each video source you want to see into the appropriate box below.



In addition to video sources, you can include a logo, time of day, viewer count, and stream status.



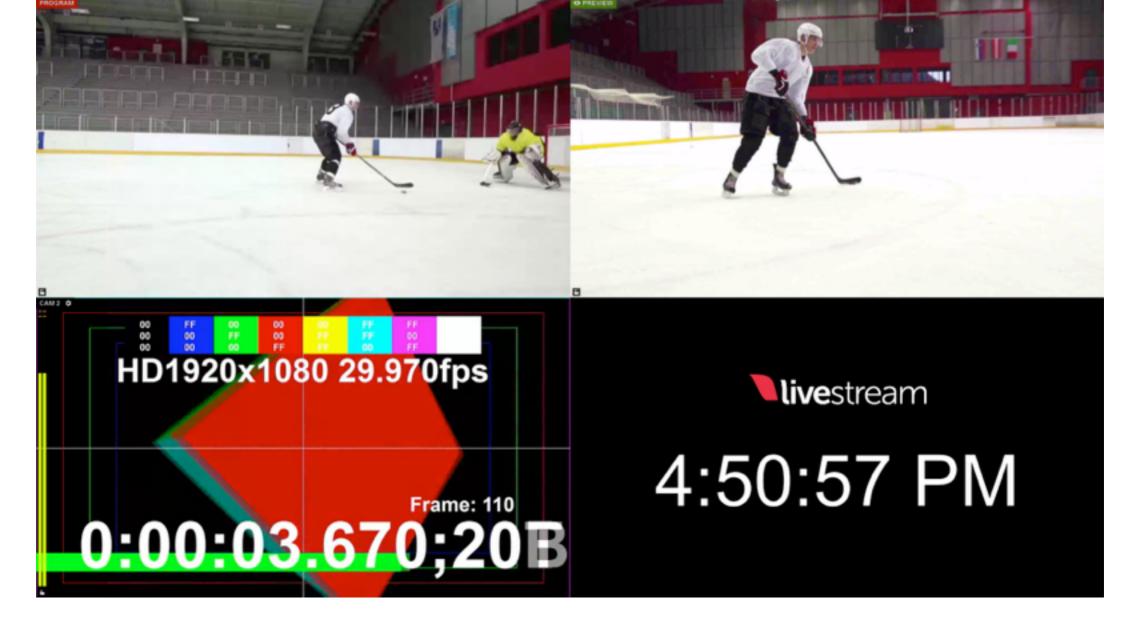
If you drag a logo into your external multi-view, click on it to be given the option to upload a logo image.



	Advanced			
	Support	Preview		
	License	PREVIEW	PROGRAM	
	About	GFX2	CAM2	
ase avoid usir		Show Audio Levels Overlays Show Warning Overlays	Show Screen Overlays Allow Mouse on Multi-View	
your project for ange the form project format				

Underneath the multi-view preview, you will see options for showing or hiding specific overlays on the multi-view and for whether you want to allow your mouse onto that display.





When you have set your multiview to your desired preferences, click 'Save.' You will see the multiview appear on your external monitor.

## Switching video sources

Mouse / Touch

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To put any of your sources into Preview, hover over the source in the multi-view with your mouse, and simply click it.







That source will now be in the Preview monitor, and you should notice a green border around it in the multi-view.

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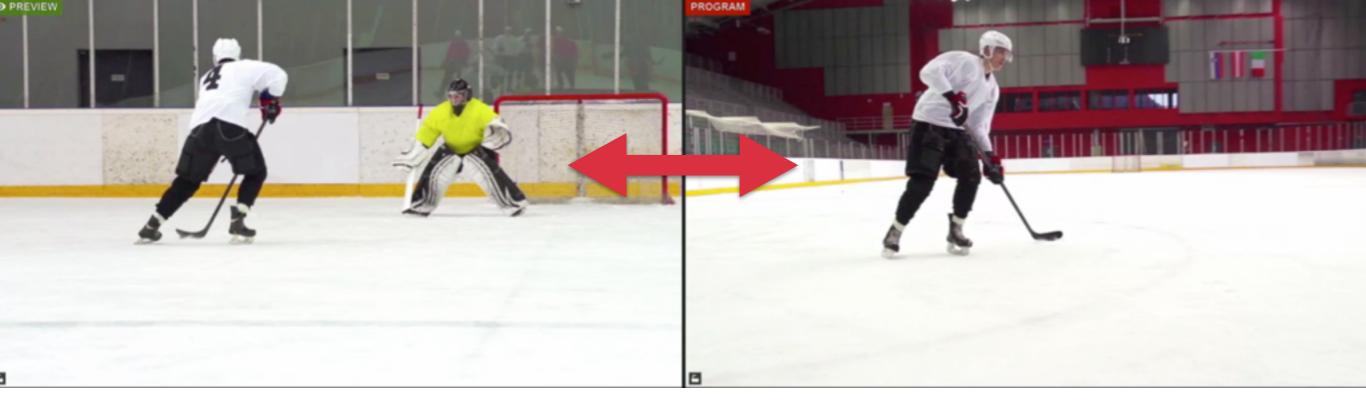
If you want to put a source directly into Program without previewing it, hover your mouse over it in the multi-view and right-click it.





That source will now be in Program and will have a red border surrounding it in the multiview.





You can also double-click on the Preview monitor, which will automatically transition that source into Program.



livestream

2 And	Project Format	to finalization and the dama			
	Inputs	Left click on multiview	PREVIEW     Auto PROGRAM		
2	Outputs	(	Cut PROGRAM		
	Cultura	(	Nothing		
	Audio In	Right click on multiview	PREVIEW		
and the second se	Recording	(	Auto PROGRAM		
	Media Player		Cut PROGRAM		
	Streaming		Auto PROGRAM     Cut PROGRAM		
CAM 3	Multi-Screen		Nothing	12:07pm	GFX3
	Ad Insertion	r	RESET TO DEFAULT		
77	Hotkeys	L	REALT TO DEINGET		E MEDIA:
6 L C	notkeys				
	Mouse / Touch				- 12

To adjust how sources are put into Preview and Program using your mouse, navigate to the '**Mouse / Touch**' tab in settings. Select the desired actions, then click 'Save.'



## Switching video sources

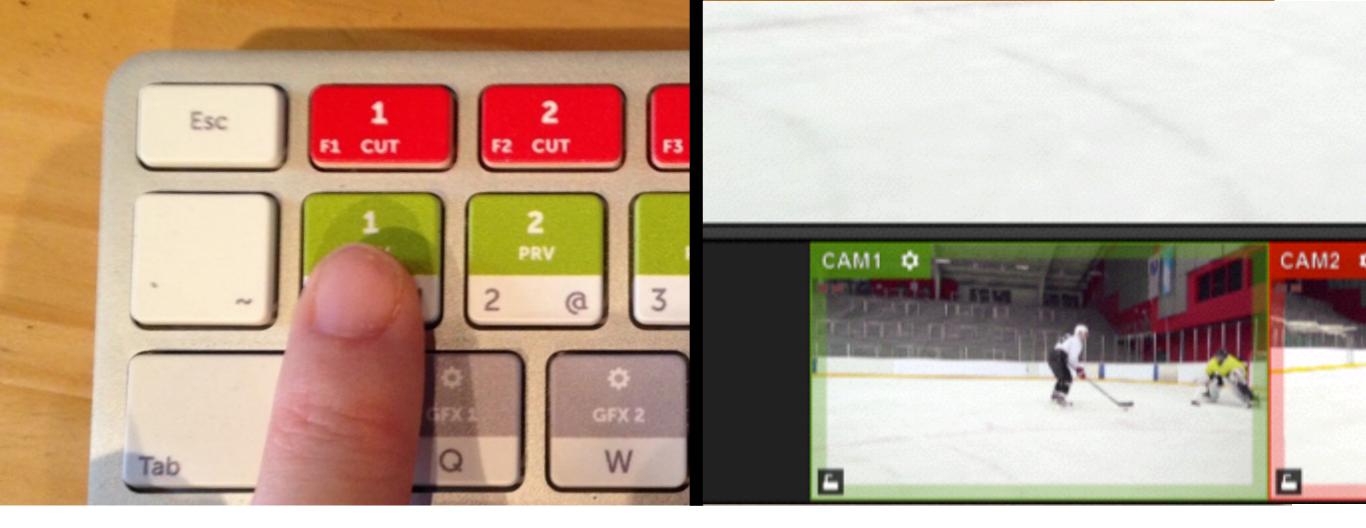
Hot keys





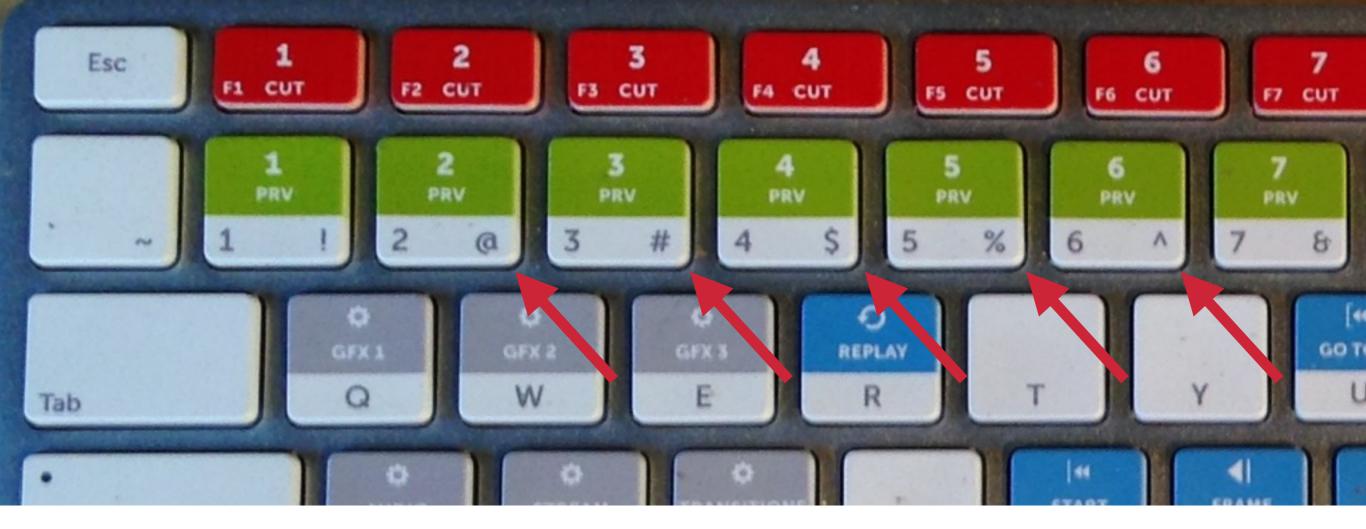
You can also use the Livestream Studio keyboard or any standard keyboard to control actions in Livestream Studio.





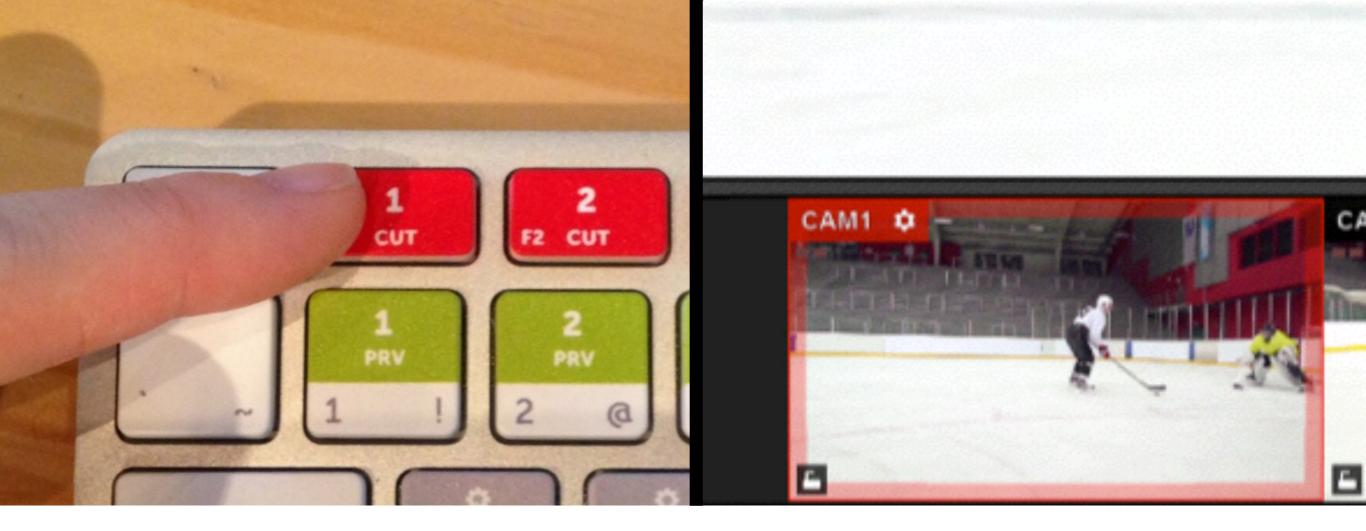
By default, pressing the 1 key will put your first input source into Preview.





Pressing 2 puts the second source in Preview, 3 puts the third source in Preview, and so forth.





Similarly, to put your first input source directly into Program, press the F1 key on your keyboard.





F2 will put the second source into Program, F3 the third source, and so forth.



-	Inputs	RESET TO DEFAULTS	
2	Outputs	Preview Source 1 1	
	Audio In	Preview Source 2 2	
	Recording	Preview Source 3 3	
	Media Player	Preview Source 4 4	
	Streaming	Preview Source 5 5	
M2 ¢	Multi-Screen	Preview Source 6 6	12:21pm GFX3 ✿
	Ad Insertion	Preview Source 7 7	
11	Hotkeys	Preview Source 8 8	MEDIA1 O

You can customize your keyboard controls by going to the '**Hot Keys**' tab in Livestream Studio settings. Click 'Save' when done.



## Switching video sources

Transition Controls





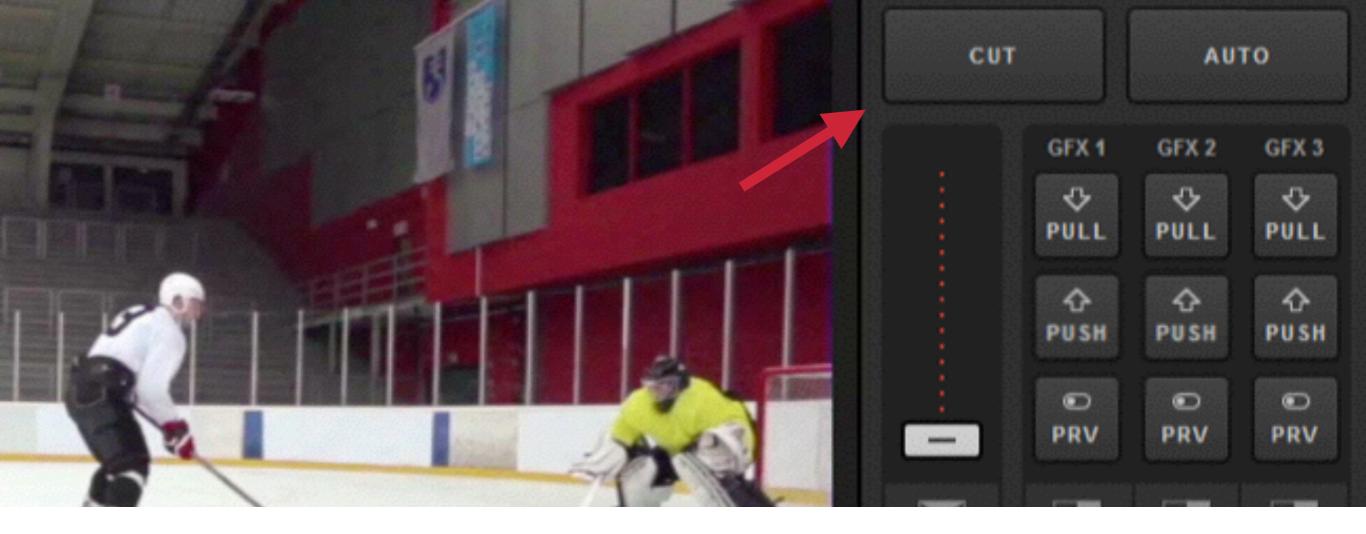
A standard multi-camera production typically involves putting a source into Preview, then using a transition control to switch it into Program.





Livestream Studio's transition controls can be found in the upper right corner of the software interface.





One transition is Cut, which switches Preview and Program immediately with no overlap occurring between them. Clicking the 'Cut' button activates this transition.





Another commonly used transition is Dissolve, which is an overlapping crossfade between the changing sources.





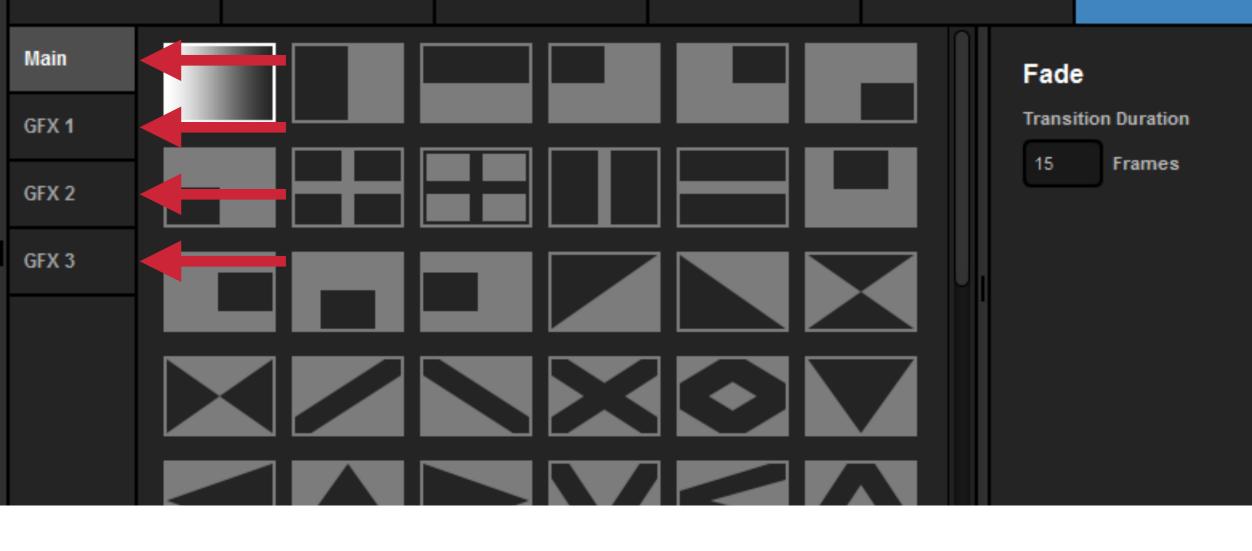
Finally, a Wipe is an animated transition where the Preview source overlays the Program source during the switch.



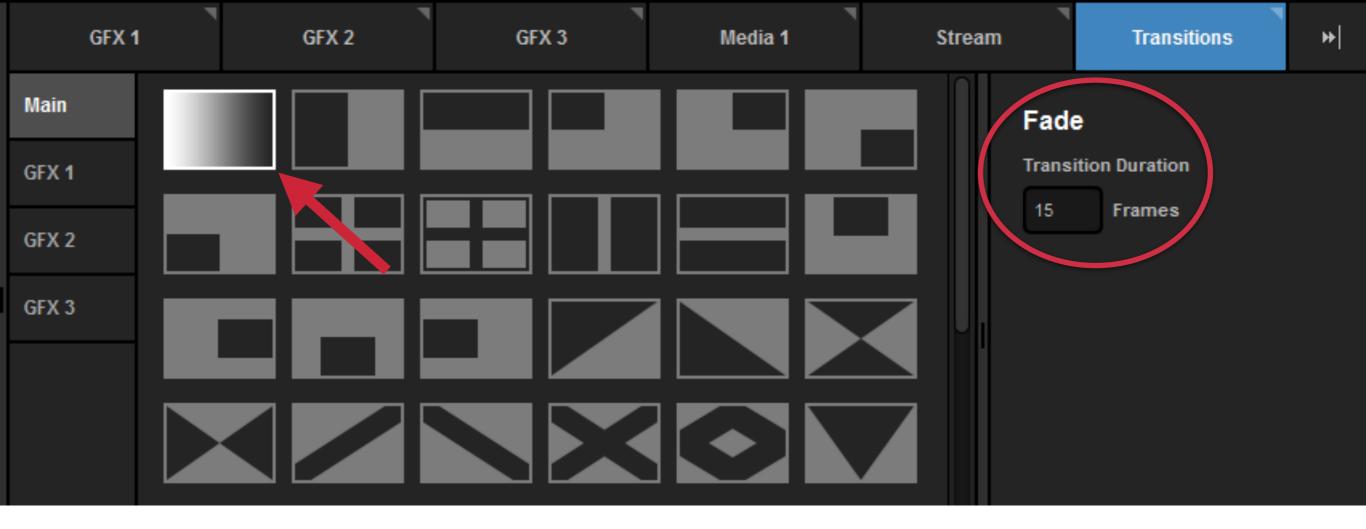
GFX 1	1	GFX 2	Г (	GFX 3	Media 1	Stream	Transitions	++
Main						Fad	e	
GFX 1							ition Duration	
GFX 2						15	Frames	
GFX 3								

In Livestream Studio, you can configure fades and wipes under the '**Transitions**' tab in the lower right corner.





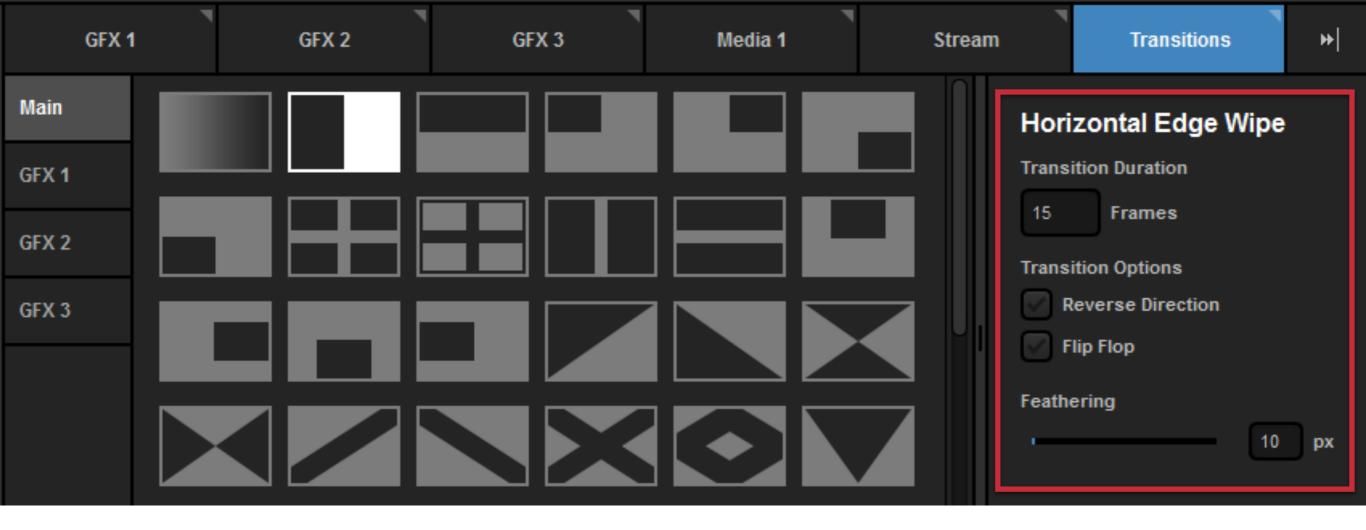
You will notice on the left side that you can choose to set a transition for both your main mix (i.e., any source in Preview) and each individual graphics overlay channel.



Fade is the first option in the menu, which is the dissolve transition. When you select it, you can set the amount of time you want an automatic transition between sources to last.

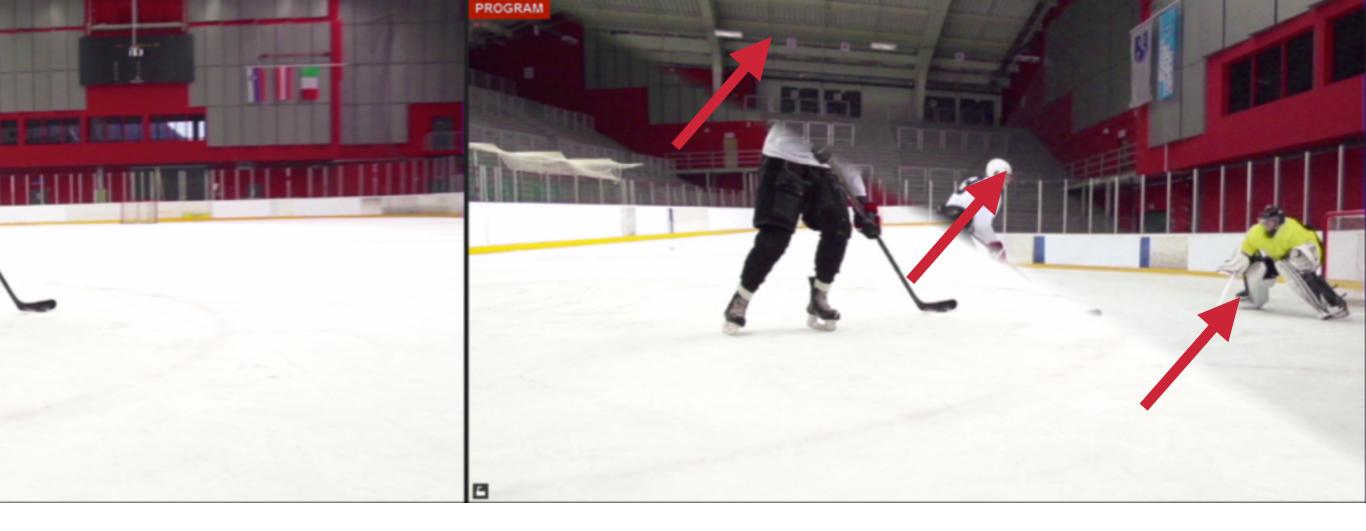


You can also double-click the duration time under the transition controls to change the speed of any automatic transition quickly.



The rest of the options in this menu are different kinds of wipes. Selecting one will show additional settings on the right.





'Reverse Direction' will push the wipe in the opposite direction that it moves by default.







'Flip Flop' will alternate the wipe between the default direction and the reverse direction.



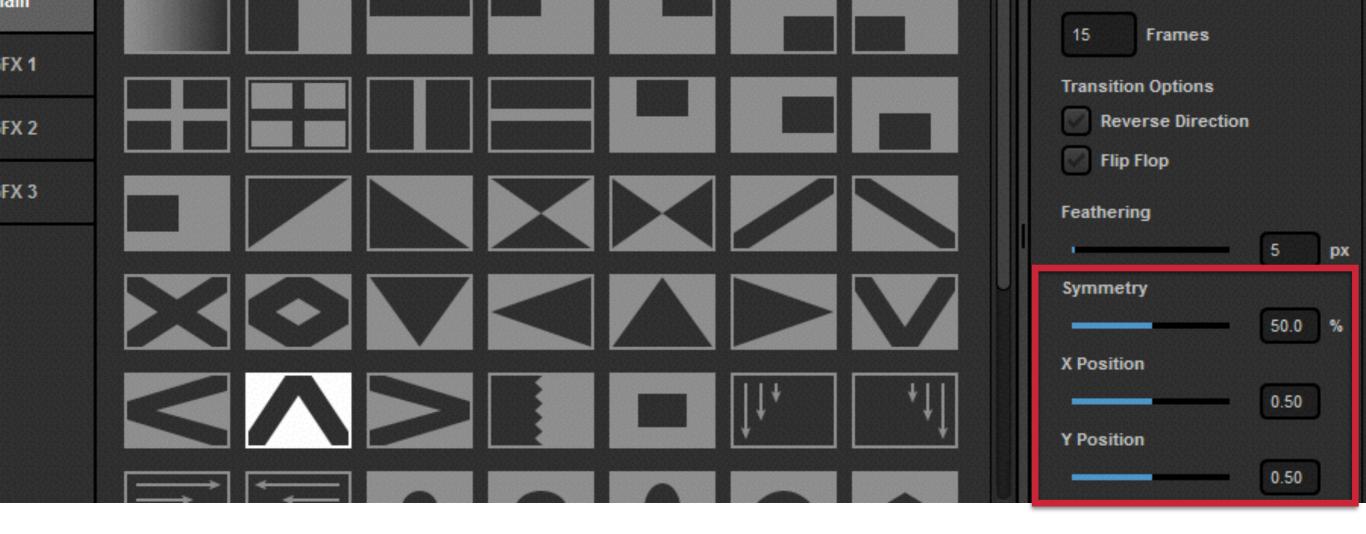


0 рх

100 px

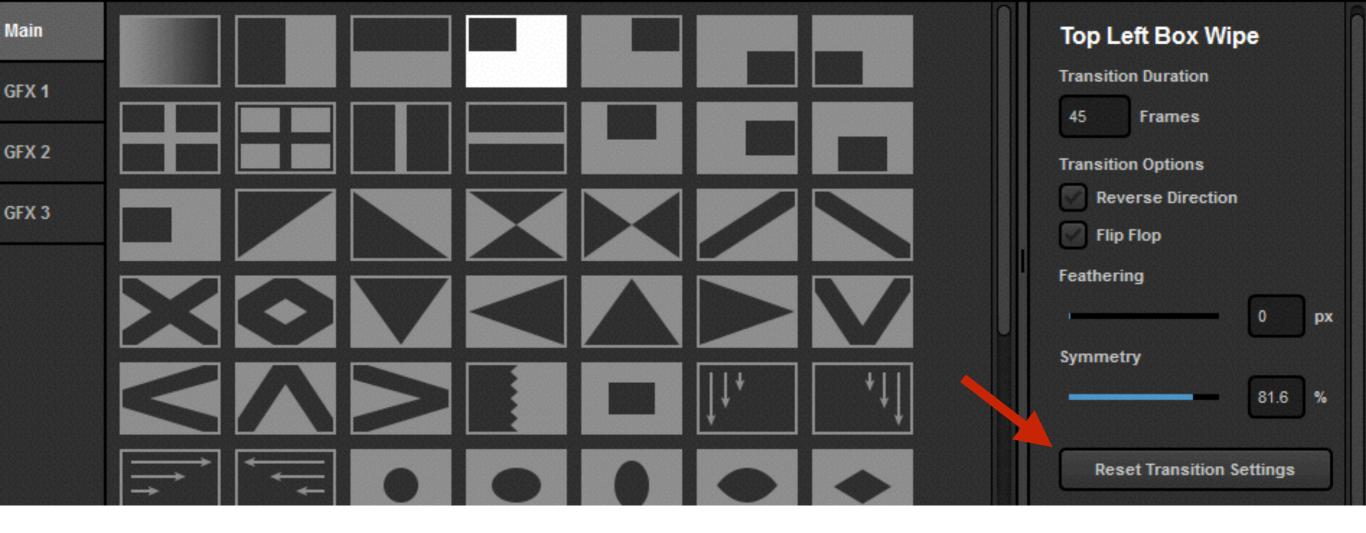
Feathering allows you to determine how hard or soft the edge of the wipe animation will be, in pixels. The more pixels you cover, the more faded the line will be.





Some wipes also have options for adjusting their positions and appearance on the screen when they are used.





If you have adjusted your settings but want to start over, press 'Reset Transition Settings' to return that transition back to its default settings.



To activate an automatic transition, click '**Auto**' in the upper right corner.





#### The sources will then switch based on the duration you set for that transition.





You can always employ a manual transition by clicking and dragging the virtual T Bar below the transition buttons. This allows you to control the speed of that transition.





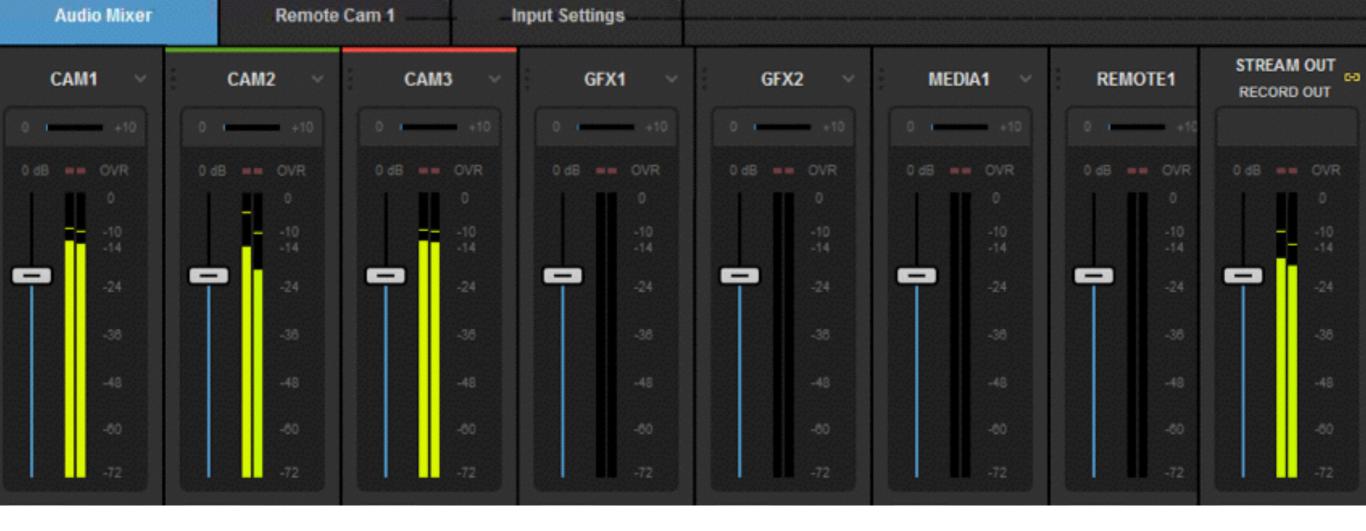
By default, you can also press 'Enter' on your keyboard to cut between sources, while pressing the spacebar will activate an auto-transition.



### Audio workflow

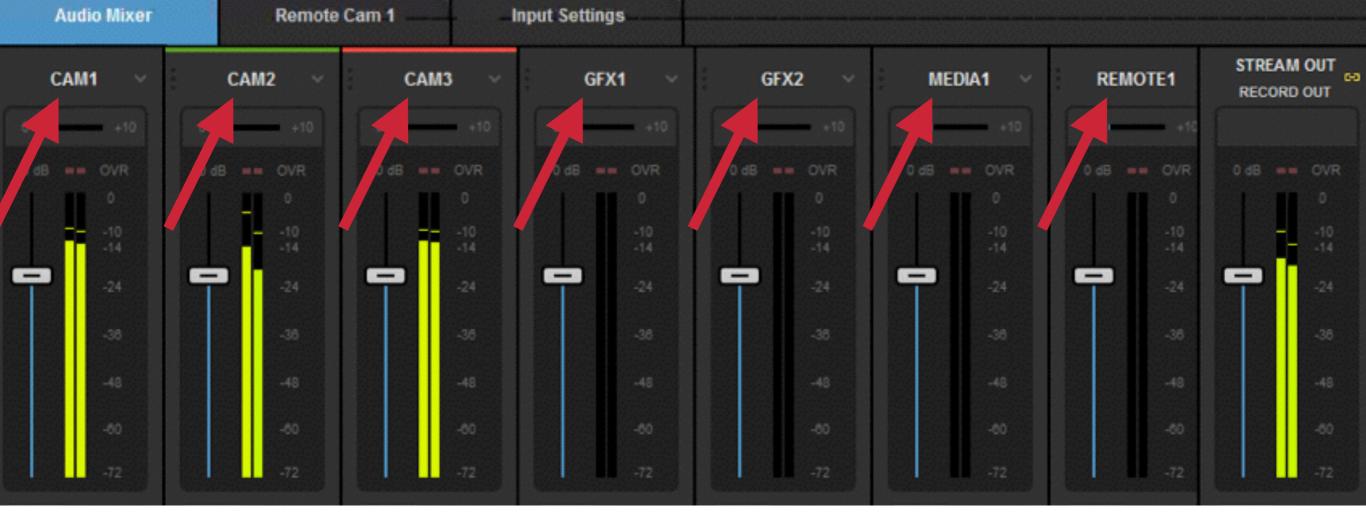
Configuring audio sources





Livestream Studio's built-in audio mixer can be found in the lower left corner of the interface.





Each input source will have a corresponding audio source that you can monitor and adjust.



ITE	Settings			CANCEL	SAVE		
	Project Format	Name	Audio Source		Surface		
	Inputs	Harre	Audio source		autiace		
	Outputs					13	
	Audio In					-	
	Recording						
	Media Player						
	Streaming						

You may have a separate audio mixer or a microphone can connect to your system directly via USB or line-in. You use the '**Audio In**' tab in settings to control the audio.

Audio In			382
Recording			
Media Player			
Streaming			
Multi-Screen			
Ad Insertion			
Hotkeys			
Mouse / Touch	+ -		

# Press the '+' button at the bottom of the window to add an audio source.



	Settings			CANCE	SAVE	
	Project Format	N	Audia Bauraa		Burdense	
	Inputs	Name	Audio Source None		Surface None ~	
	Outputs		None Microphone (2- USB PnP So	und Device)		Ø
~	Audio In					
	Recording					
	Media Player					

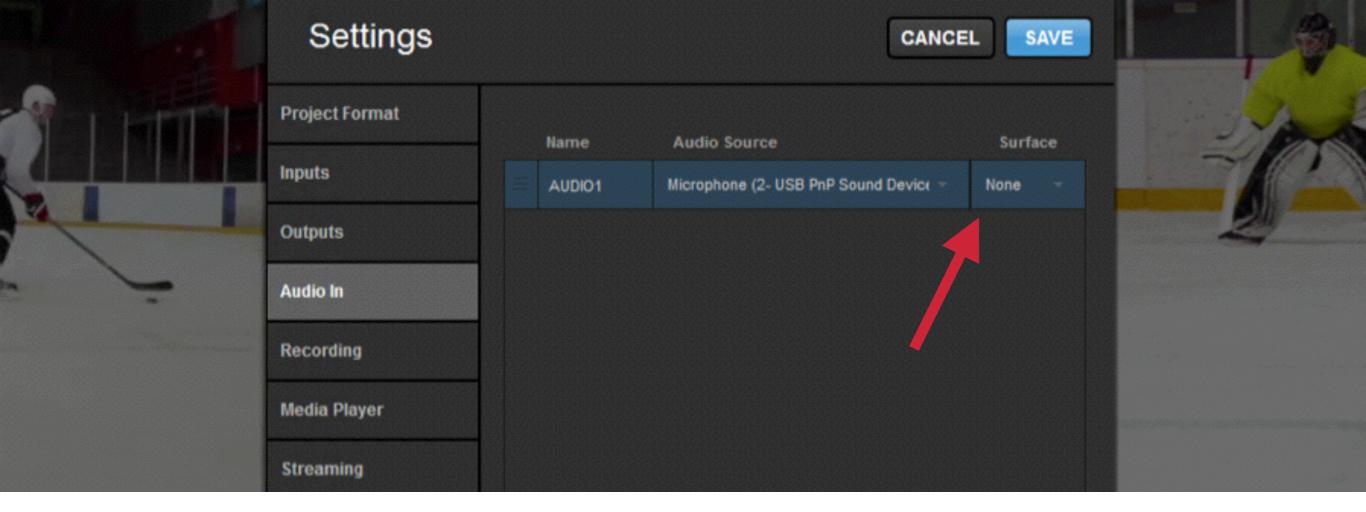
## Under 'Audio Source,' click the dropdown menu to select your source.

Note: Windows will need to have that device's drivers installed in order for Livestream Studio to recognize it.

	Settings		CAN	CEL		-
	Project Format		A		1. 1. 20	A B
	Inputs	Name AUDIO1	Audio Source Microphone (2- USB PnP Sound Device -	Surface None -		2
	Outputs				Ľ	
-	Audio In					
	Recording					
	Media Player					
	Streaming					

Livestream Studio will automatically label the source (e.g., 'AUDIO1'). Click on the name if you wish to change it.





This source can also be assigned to a track on Studio Surface if you have one connected. Otherwise, 'None' will be the only option available.



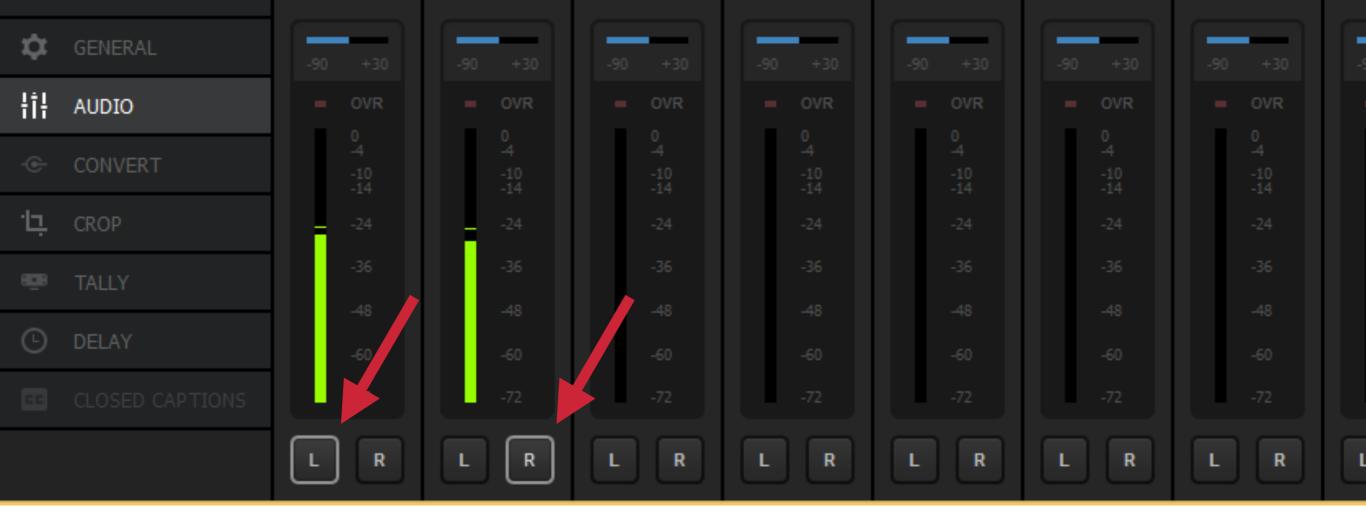
Click 'Save' in settings. You should now see your audio source included with your other sources in the Audio Mixer.



Audio Mixer	Input Setti	ngs	AUX Outputs					
-	INPUT 1	INPUT 2	INPUT 3	INPUT 4	INPUT 5	INPUT 6	INPUT 7	INPUT 8
GENERAL	-90 +30	-90 +30	-90 +30	-90 +30	-90 +30	-90 +30	-90 +30	-90 +30
AUDIO	= OVR	= OVR	= OVR	= OVR	= OVR	= OVR	= OVR	= OVR
CONVERT	0 -4 -10 -14		0 -4 -10 -14					0 -4 -10 -14
CROP	-24	-24	-24					-24
TALLY	-36	-36	-36					-36
	-48	-48	-48					-48
DELAY	-60	-60	-60	-60	-60	-60	-60	-60
CLOSED CAPTIONS	-72	-72	-72	-72	-72	-72	-72	-72

In the Audio section under the '**Input Settings**' tab, you can see all audio channels that are coming into your input source.





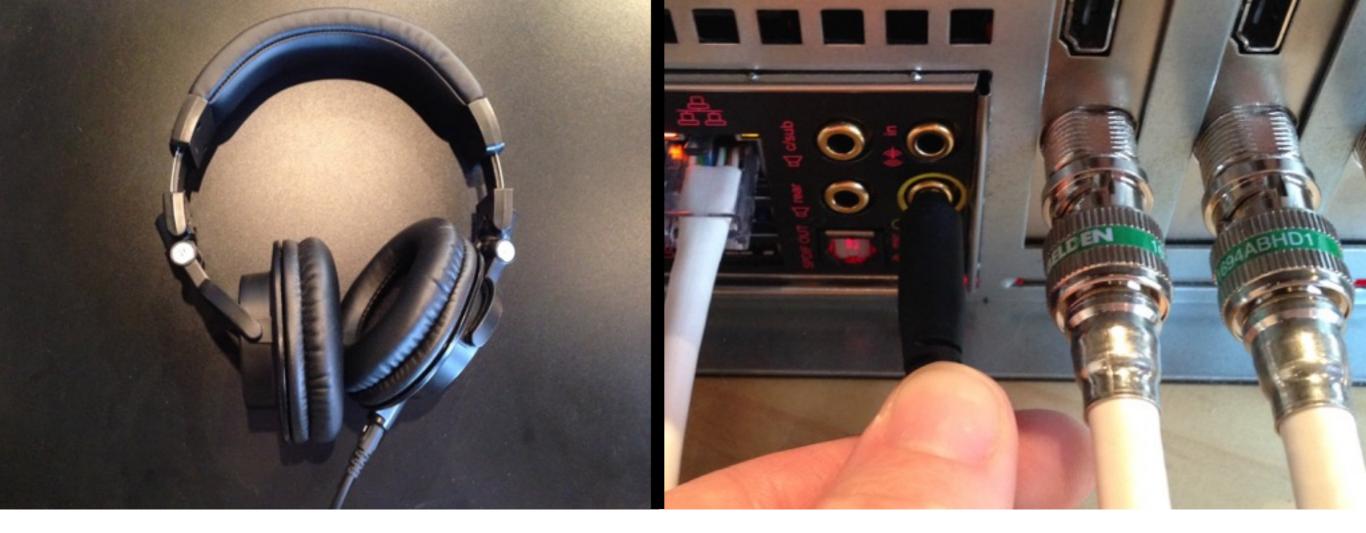
Use the 'L' (left) and 'R' (right) buttons under each channel to select where you want each channel of audio to be heard.

Note: Most setups typically have two channels per source, but Studio can accept up to eight per source.

# Audio workflow

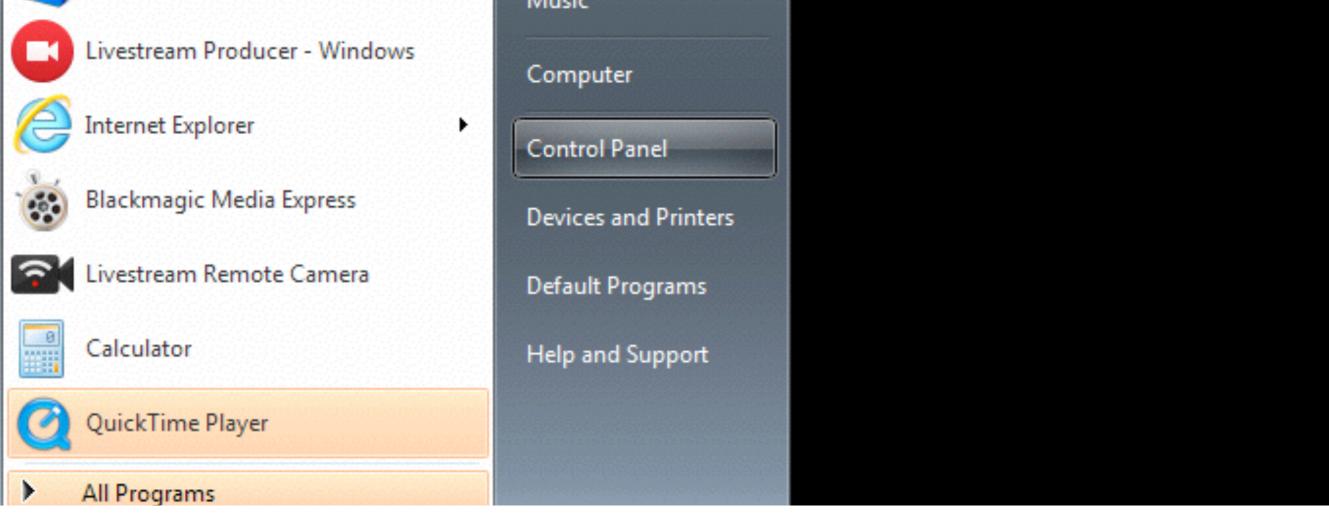
Audio monitoring





In order to mix your audio effectively, you need to be able to hear it. Start by plugging headphones or speakers into the headphone jack on your system.





You may not hear any audio right away, even if you see audio levels. If so, go to your Windows Control Panel.



#### ivestream tudio Beta

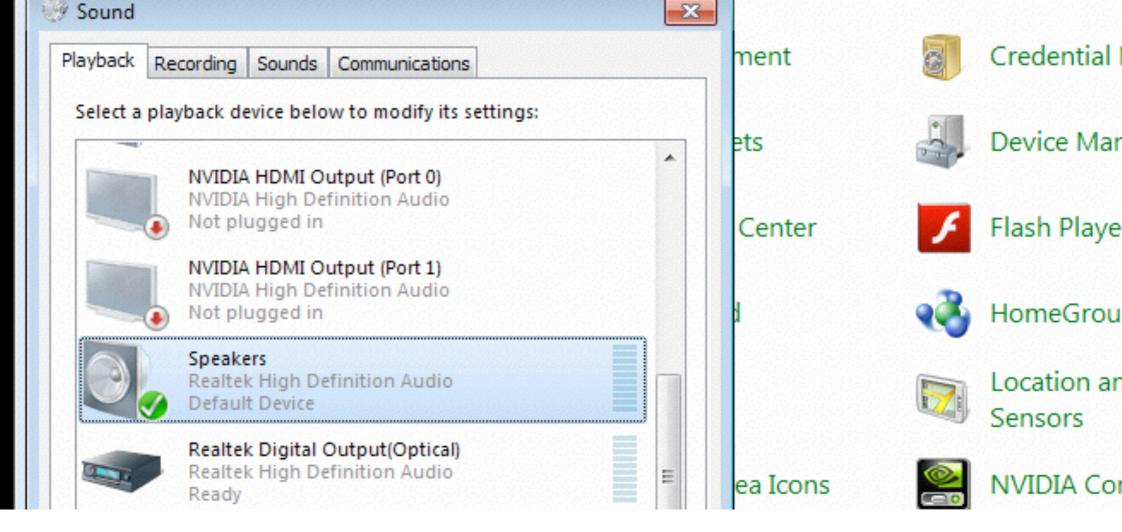


ivestream udio Bet...



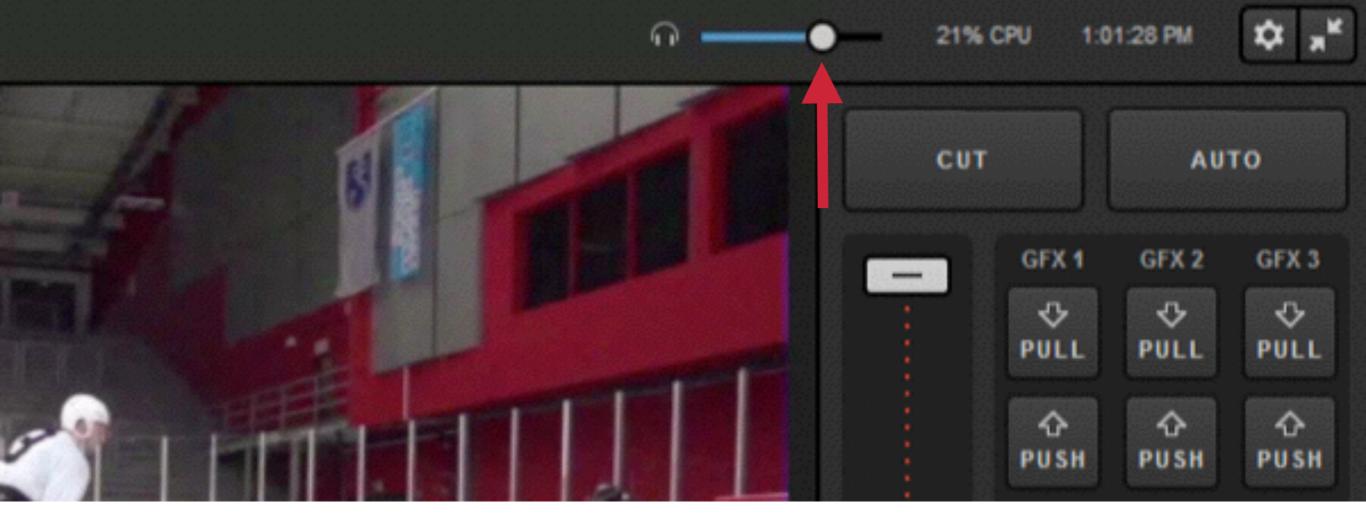
emote ...





In Sound settings, look for 'Speakers - RealTek High Definition Audio.' Select that source, click 'Set as Default,' then click 'OK.'

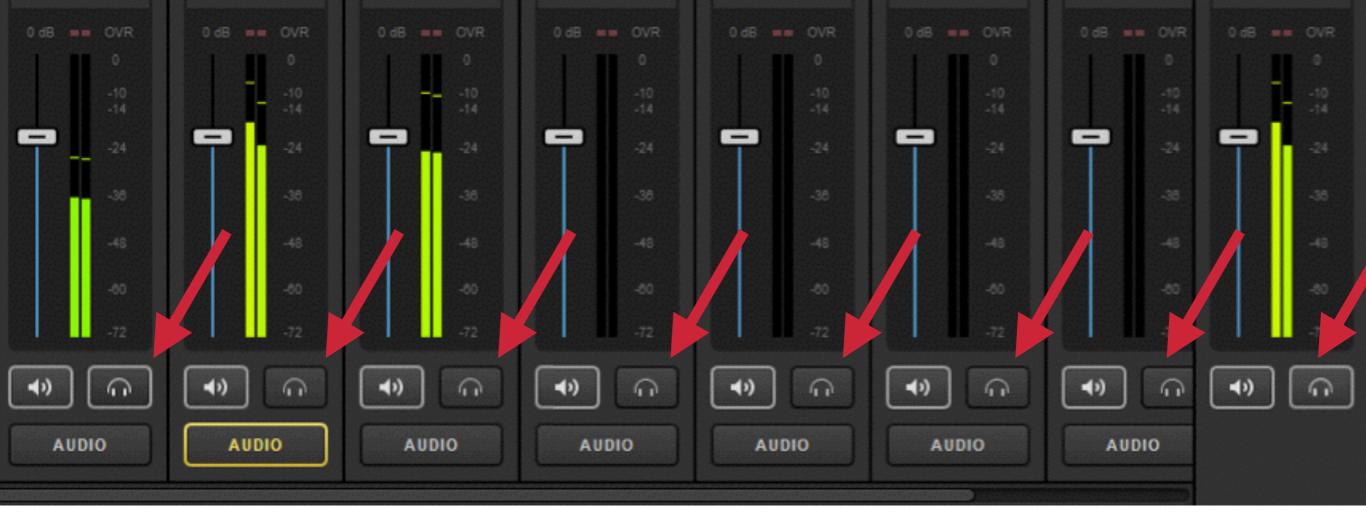




In Livestream Studio, check the headphone volume meter in the upper right and adjust the level to the desired volume.

Note: This does not affect audio levels of the inputs, Preview, or Program.



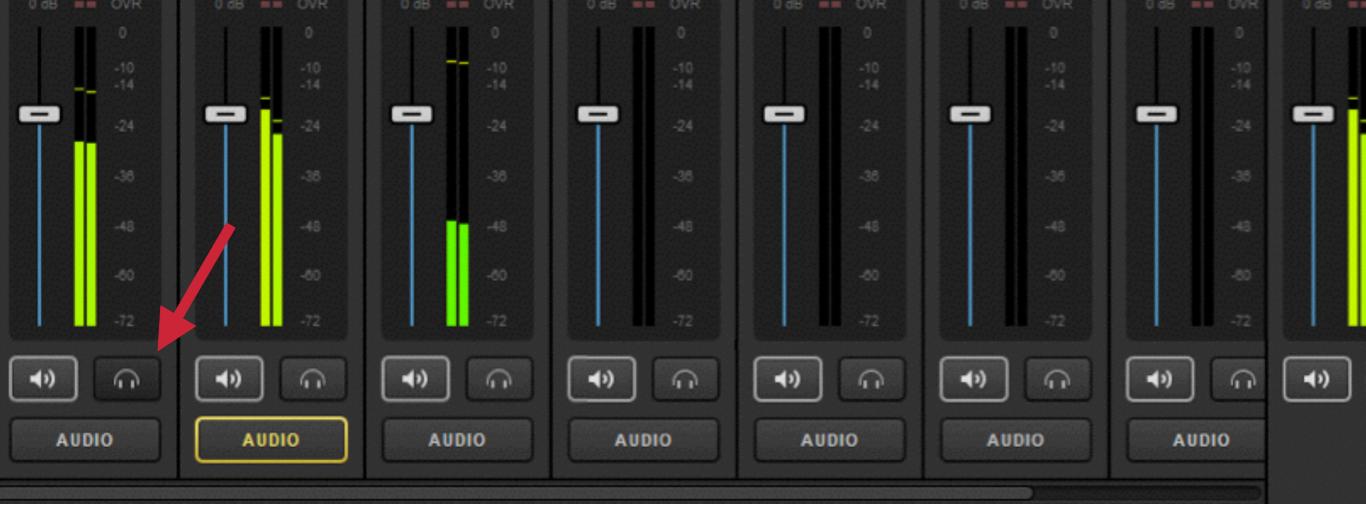


You will know which sources you are hearing in your headphones by checking the Audio Mixer. The bottom of each source has a headphone button.



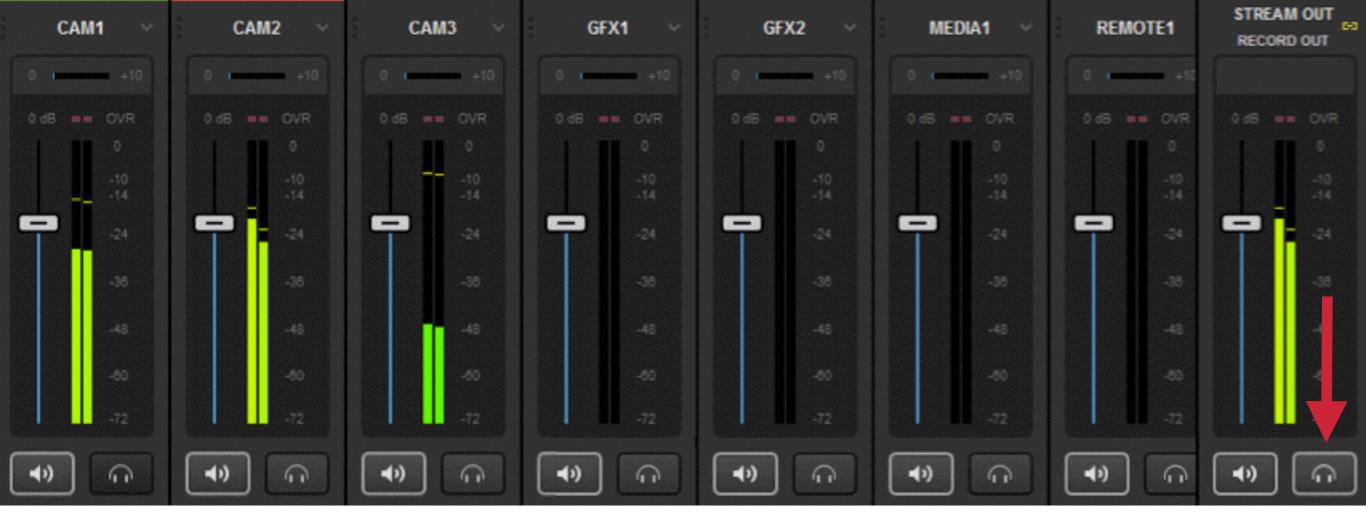
Any headphone button with a white border is currently being heard in your headphones. You can monitor as many sources at any given time as you need.





Click on the headphone button to stop monitoring the corresponding source.





This also applies to monitoring Program audio, which is typically represented by 'Record Out' or 'Stream Out.'



# Audio workflow

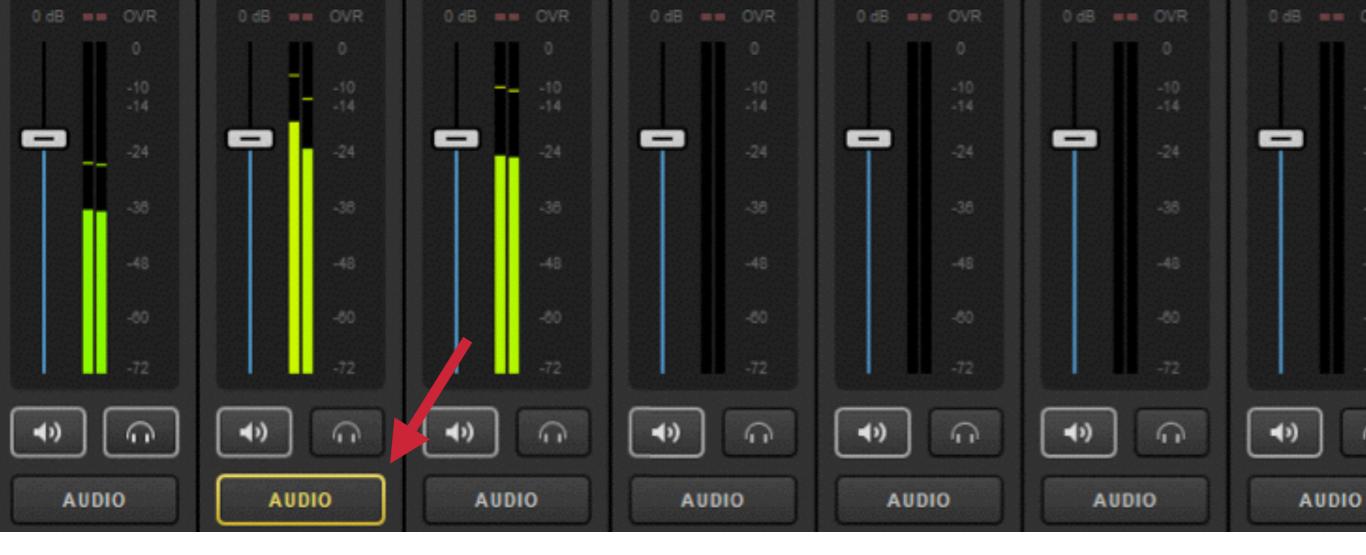
Using audio controls



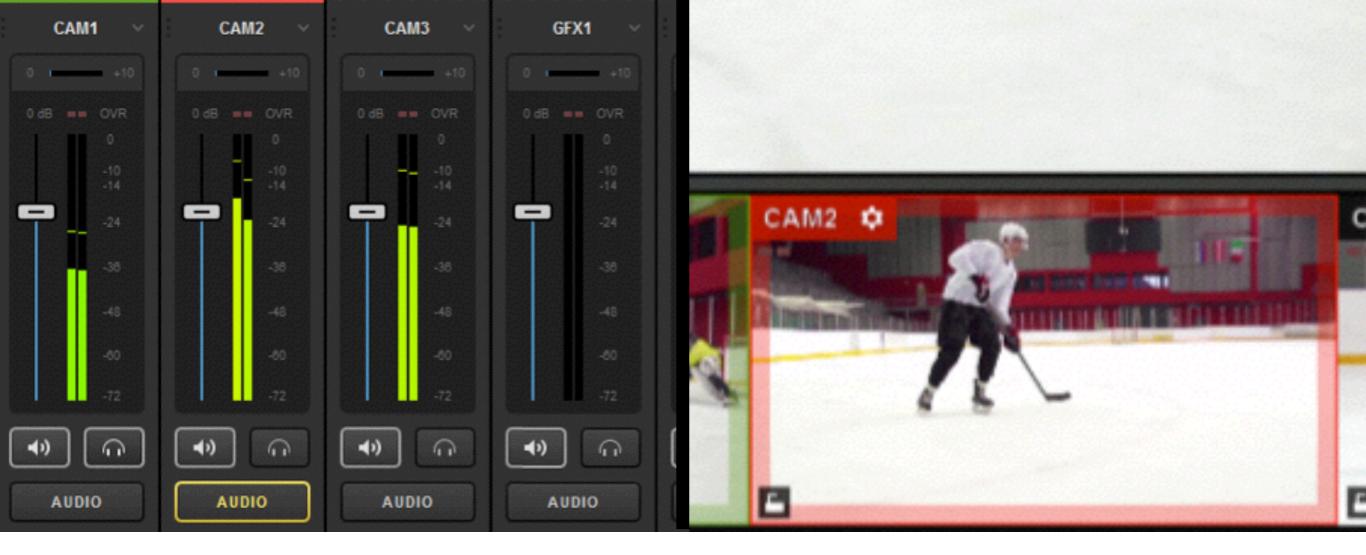


For each audio source in the Audio Mixer, you can see that source's levels, as well as a corresponding fader, speaker button, and 'Audio' button.





When switching sources, you may notice the 'Audio' buttons highlighted yellow as you make the transitions.



This indicates that the audio source is heard in Program because its corresponding video input is in Program. It is not heard when the video input is not in Program.





If there is a particular audio source you want outputting to Program at all times, click the 'Audio' button, and it will turn red.





This locks that input source's audio into Program. Even if you continue switching video sources, you will still hear that audio source.





Click the 'Audio' button again to disable the locking. What you hear will revert to the default setting of following the video source into and out of Program.





If there is a particular source's audio that you do not want to hear at any point, click on the corresponding speaker button.





The button should go from white to black, and the levels will fade from green to gray. This indicates that the source is muted.

Note: Muted sources can still be monitored through headphones as long as the headphone button is activated.

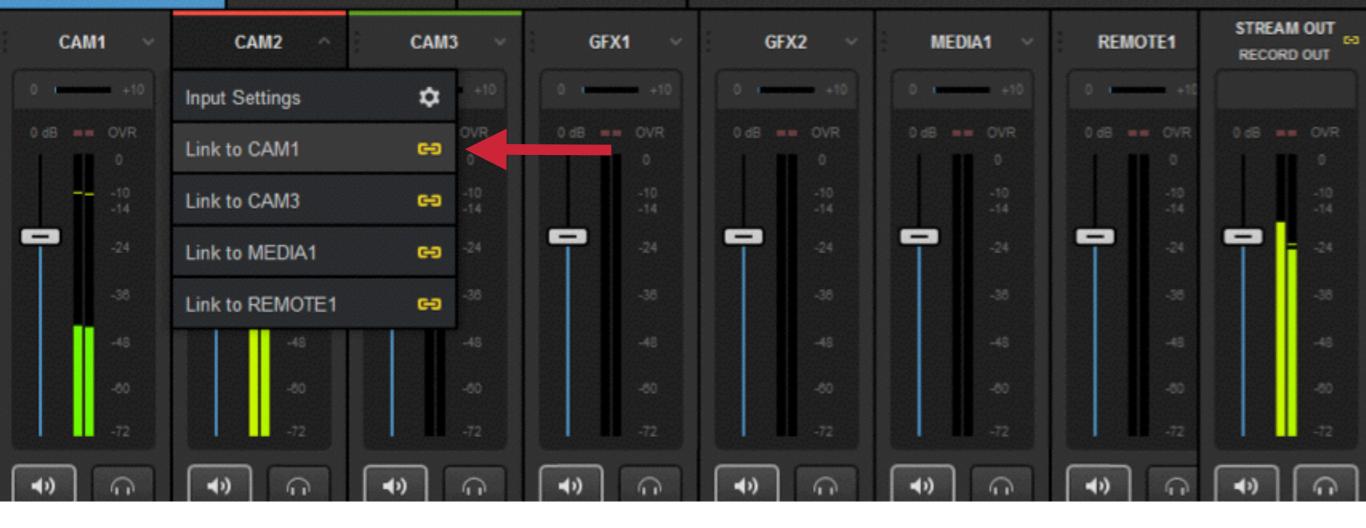


You can turn off muting for any source by clicking its speaker button again.

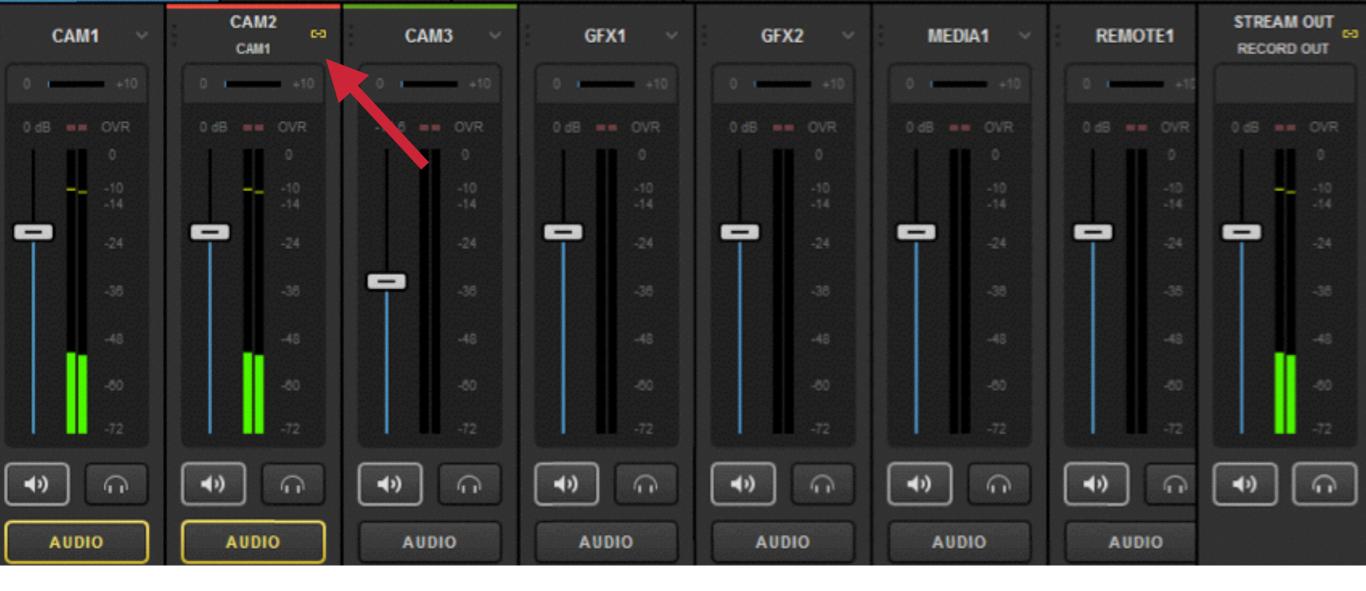




You can also link audio sources to each other. For example, if you have all audio coming from CAM1, you may want to link other cameras to that source for seamless transitions.



Click on the name of the source at the top of the audio module. You will notice you have the option to link to any other input source.



Linking an input will cause the linked source to override the audio that had been coming in. The mixer will indicate which source's audio is being heard.

**live**stream

CAM1 ~	CAM2 CAM1	CAM3 CAM1	GFX1 🗸	GFX2 🗸	MEDIA1 ~	REMOTE1	STREAM OUT RECORD OUT
0 +10	0 +10	+10	0 +10	0 +10	0 +10	0 +10	
0 dB == OVR	0 dB == OVR	0 dt == OVR	2 dB == OVR	0 dB == OVR	0 dB == OVR	0 dB == 0VR	0 dB == OVR
0	0	•	0	0	0	0	
-10 -14	-10 -14	-10 -14	-10 -14		-10 -14	-10 -14	-10 -14
-24	-24	-24	-24	-24	-24	<b>–</b> 31	- 24
-35	-36	-36	-35	-36	-36	-35	-35
-48	-48	-48	-48	-48	-48	-45	-46
-60	-80	-50	-50	-60	-60	-80	-40
-72	-72	-72	-72	-72	-72	-72	-72
•						<b>(</b> )	•
AUDIO	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO	

You can link multiple inputs to one audio source for smooth transitions.

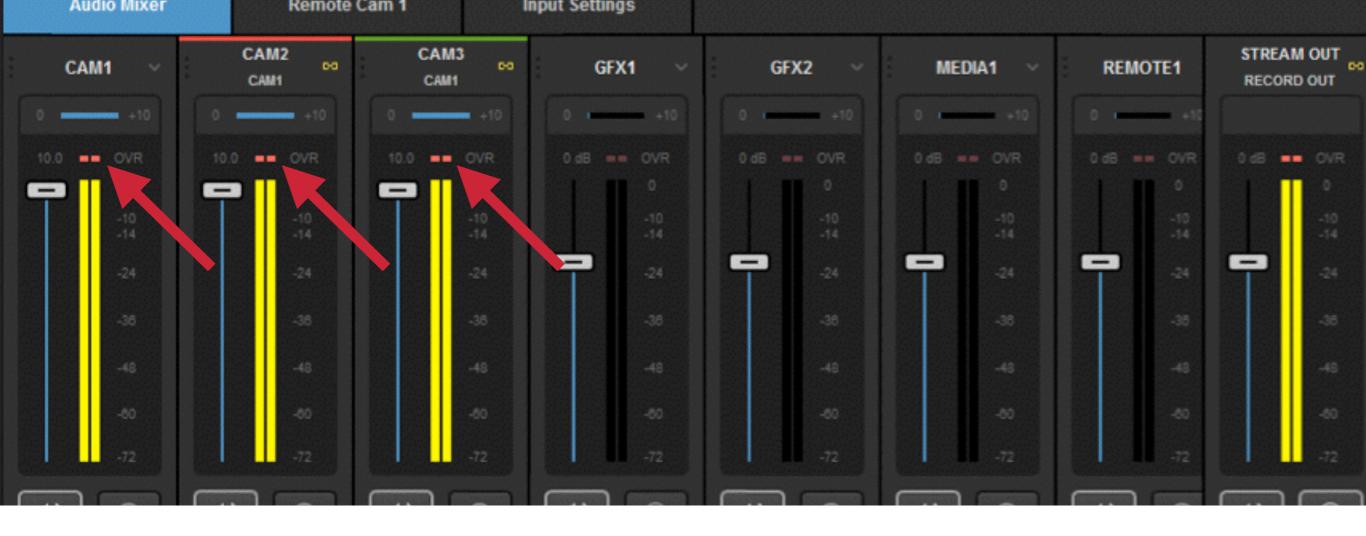


Most producers link 'Record Out' and 'Stream Out' together for consistent Program audio across all output sources. Those two sources cannot be linked to any other source.

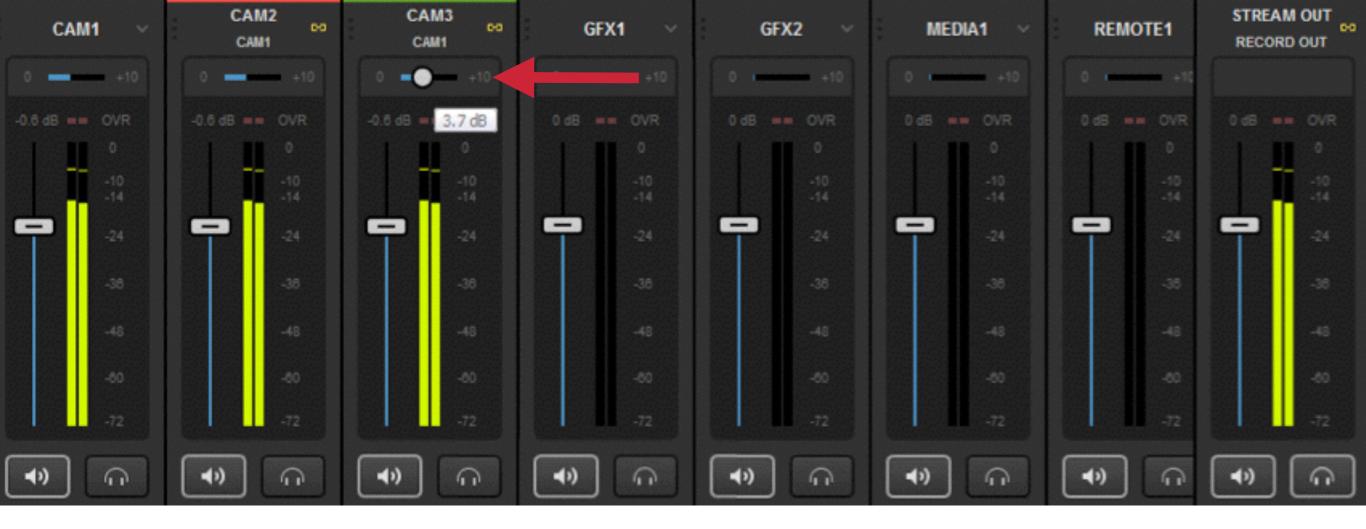
**live**stream



To adjust the levels of any audio source, click and drag the corresponding fader for that source.



If audio levels are too high, the mixer's OVR meter for any overmodulating source will blink red.



You can also adjust the gain of each source by clicking and dragging the small gain meter above that source's level meter.



Recording settings

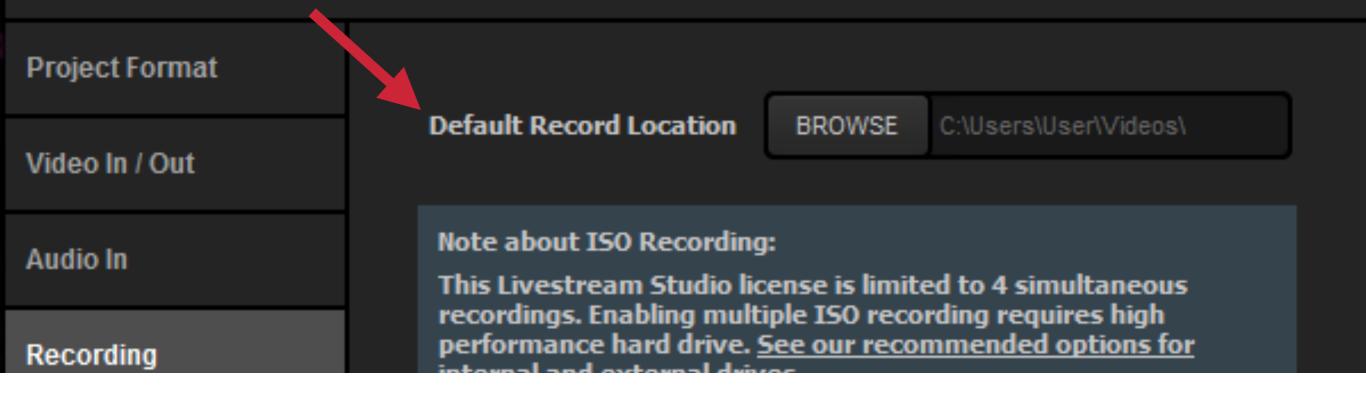


Livestream Studio	11/20/2012 4:45 PM	File folder
Sample Videos	7/14/2009 1:32 AM	File folder
Transcoding	5/8/2013 11:31 AM	File folder
🗃 Program Dirty - 2014.02.19 13.46.21	3/18/2014 1:26 PM	MP4 Video
Program Dirty - 2014.08.21 08.45.22	8/21/2014 8:45 AM	Video Clip
Program Dirty - 2014.08.21 09.09.05	8/21/2014 9:09 AM	Video Clip
Program Dirty - 2014.09.10 11.26.29	9/10/2014 11:26 AM	Video Clip
Program Dirty - 2014.09.10 11.26.56	9/10/2014 11:26 AM	Video Clip
	111	

Livestream Studio's record option allows you to produce up to four high-resolution recordings, saved as Motion JPEG .AVI files with uncompressed audio.

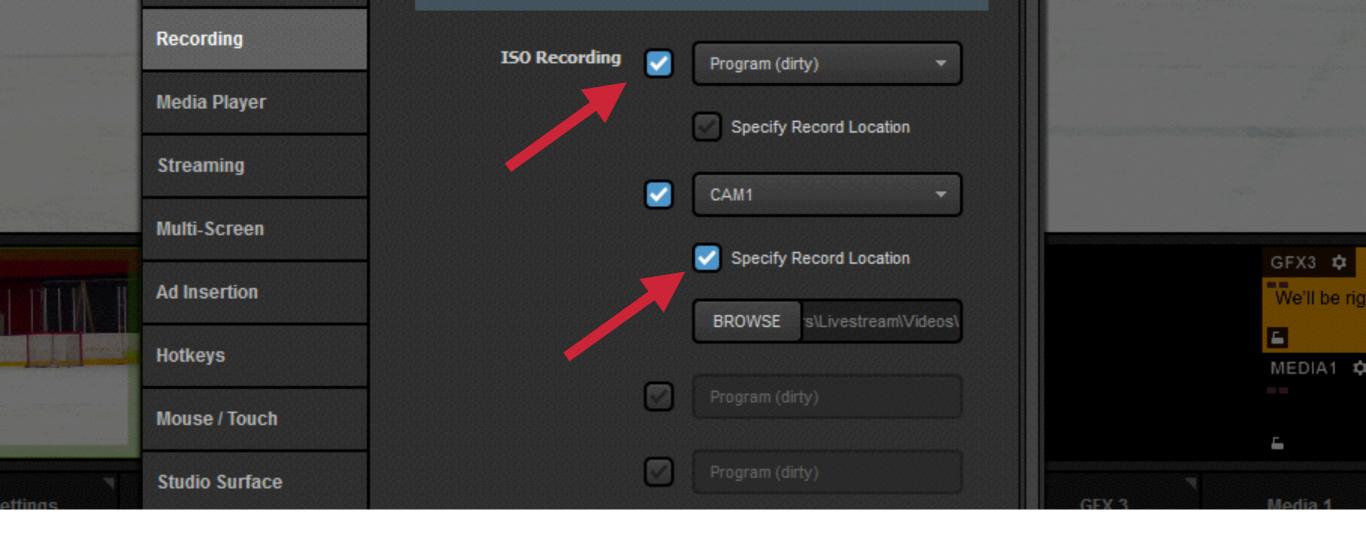
### Settings: Recording





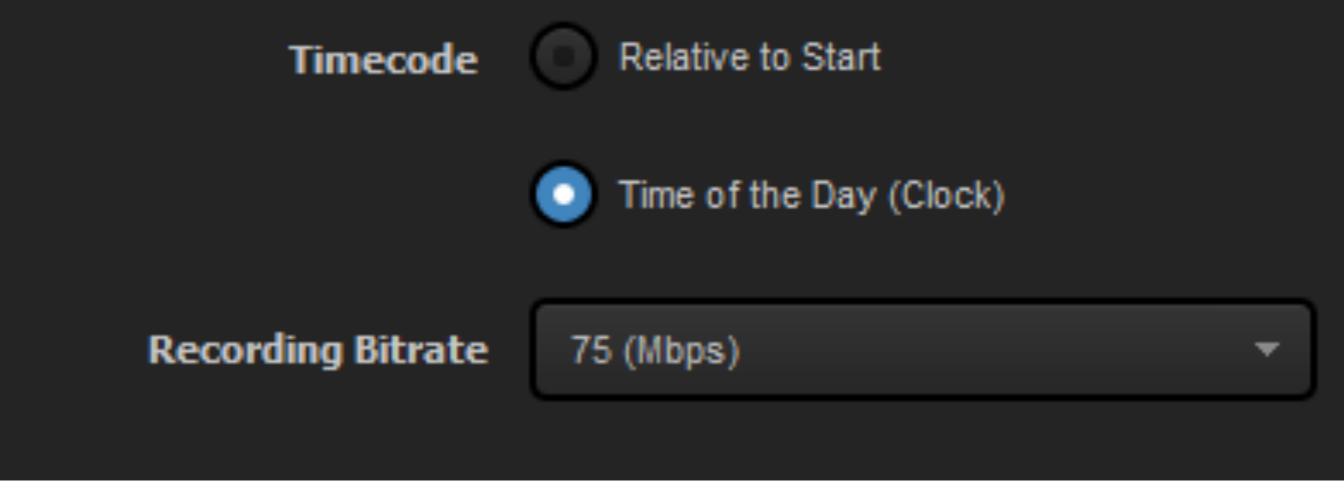
In settings, go to the '**Recording**' tab. Set the location where you want your recordings to be saved.



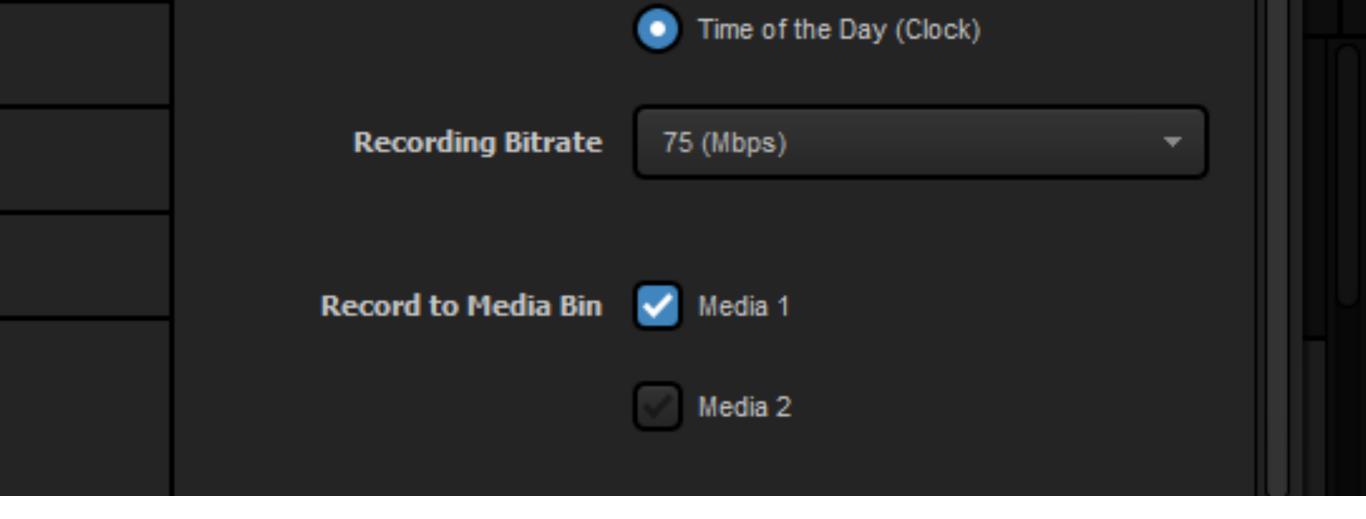


Set which source(s) you want to record and specify if you want to save the file in a particular location.

Note: 'Program (dirty)' includes graphics overlays. 'Program (clean)' records Program with no graphics overlays.

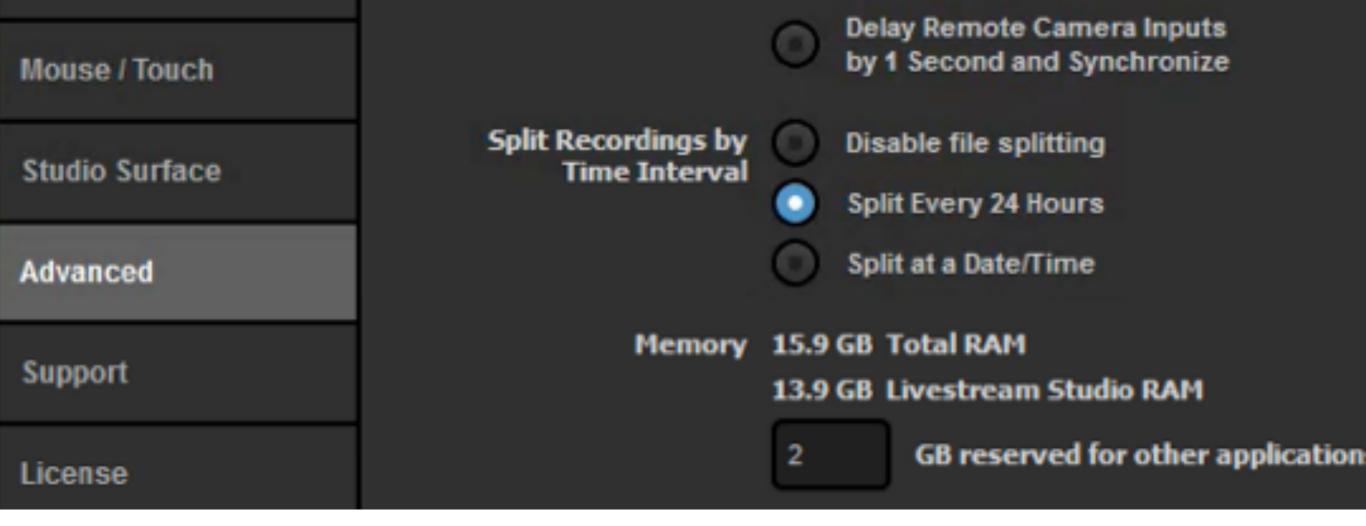


Choose a timecode type and the bitrate of your recording. A higher bitrate will produce a higher quality recording, but also requires more hard drive storage.

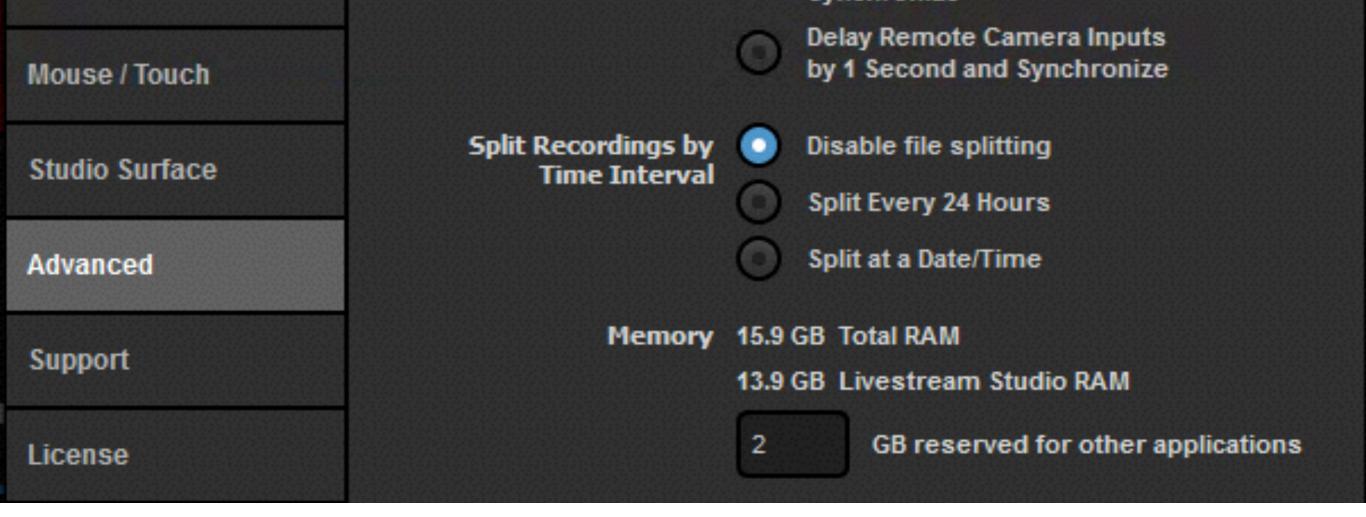


You may want to use a source for basic replay during your production or export clips of your recording as an .mp4. If so, make sure the recording is going into one or both media bin(s).



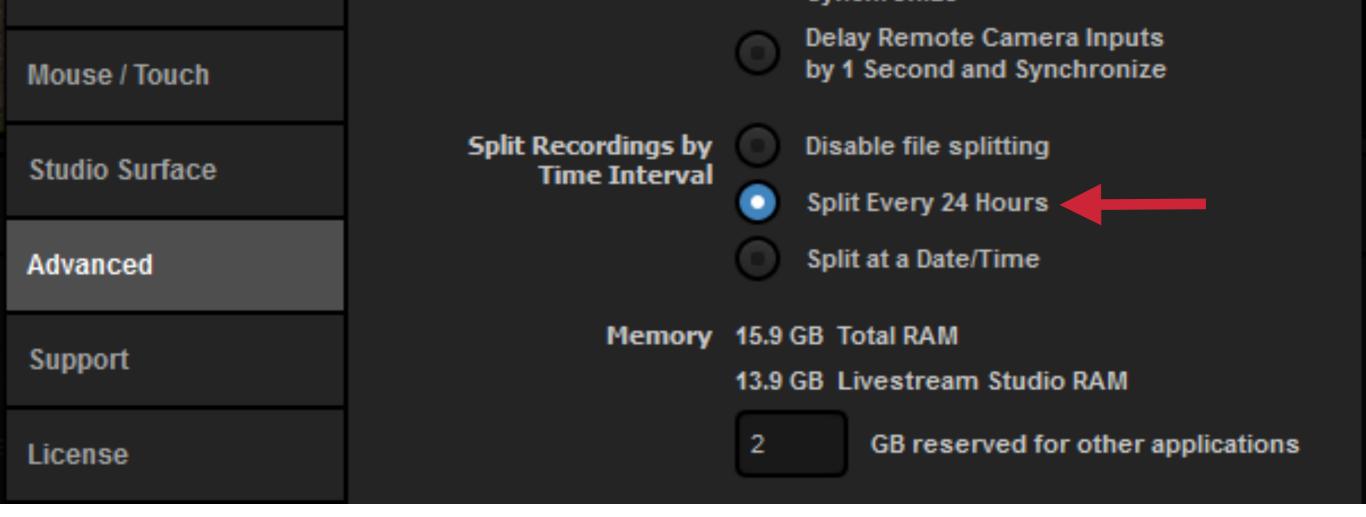


Next, navigate to the '**Advanced**' tab and scroll down to 'Split Recordings by Time Interval.' Here, there are three options for how long recordings will be saved.



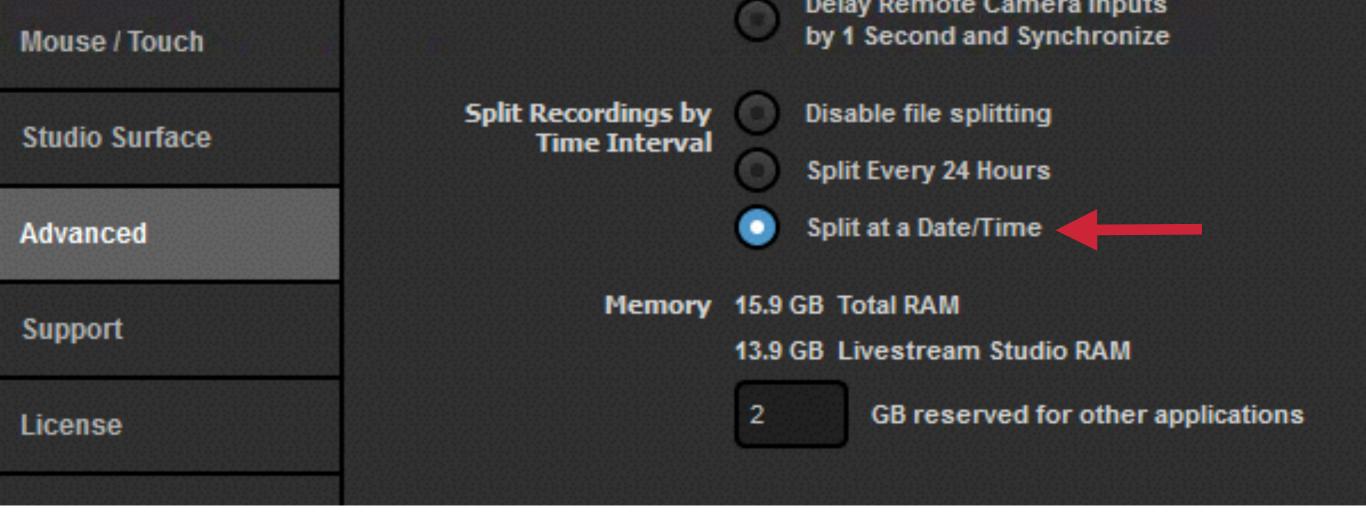
The first is 'Disable file splitting,' which means that all recordings produced by Livestream Studio will stay together as one file.



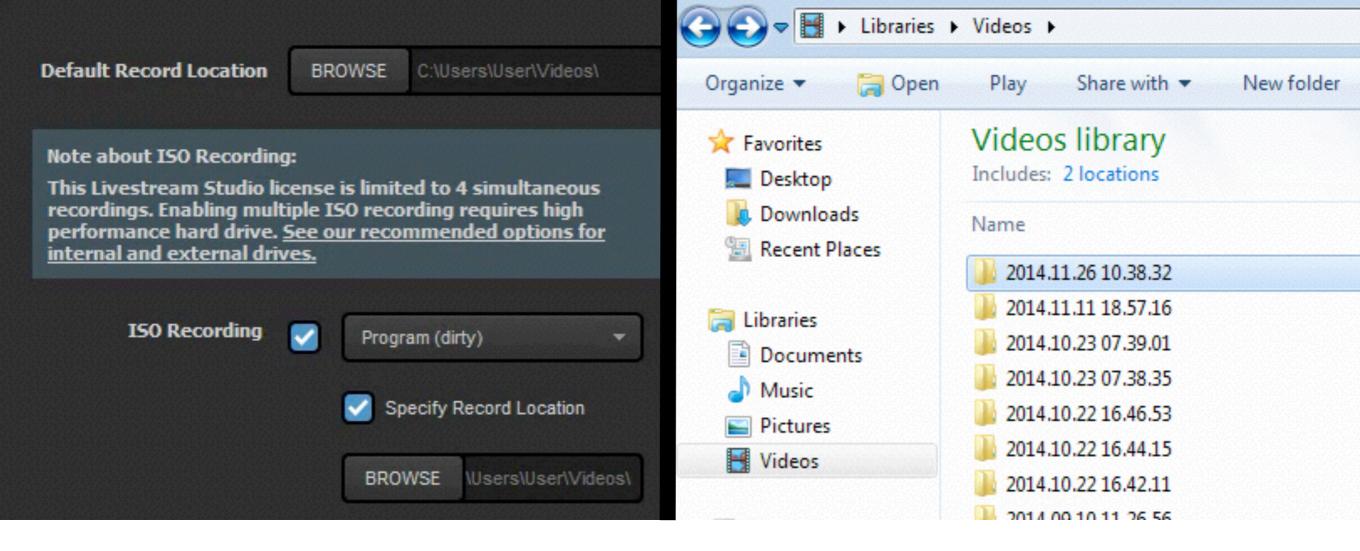


'Split Every 24 Hours' will create a new recording file after recording has been active for 24 hours.



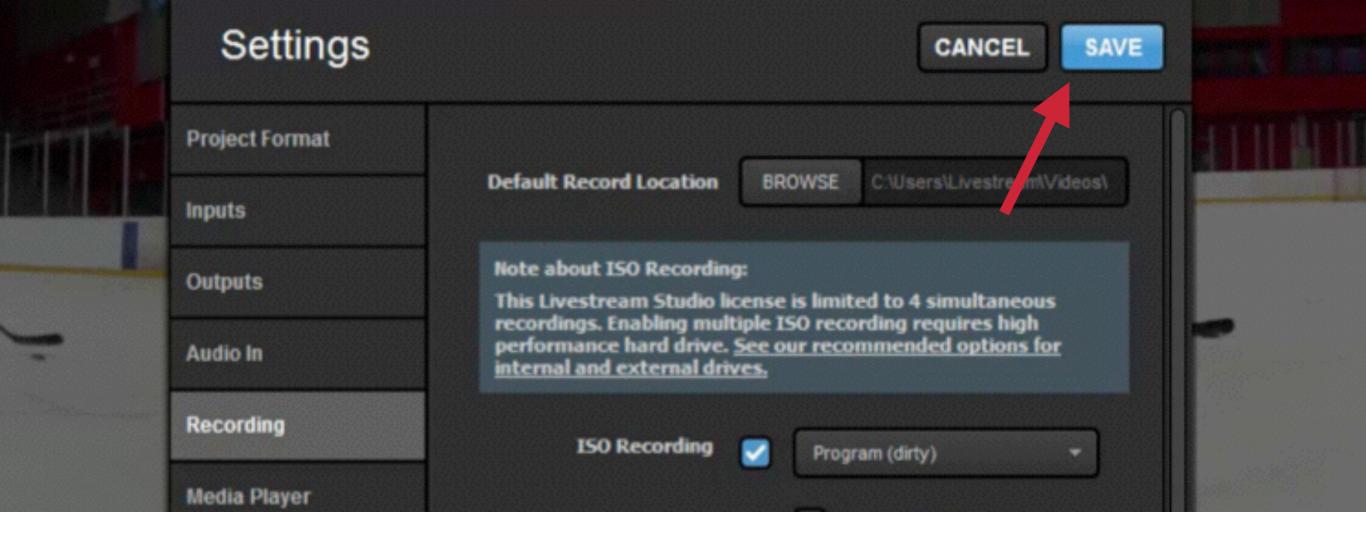


'Split at a Date/Time' will prompt Livestream Studio to restart the recording at midnight (your local time), regardless of what time the recording started.



# All recorded files will appear in whichever location you specified in settings.

Note: This feature applies to both high-resolution ISO recordings as well as the H.264 recording that is created when streaming.



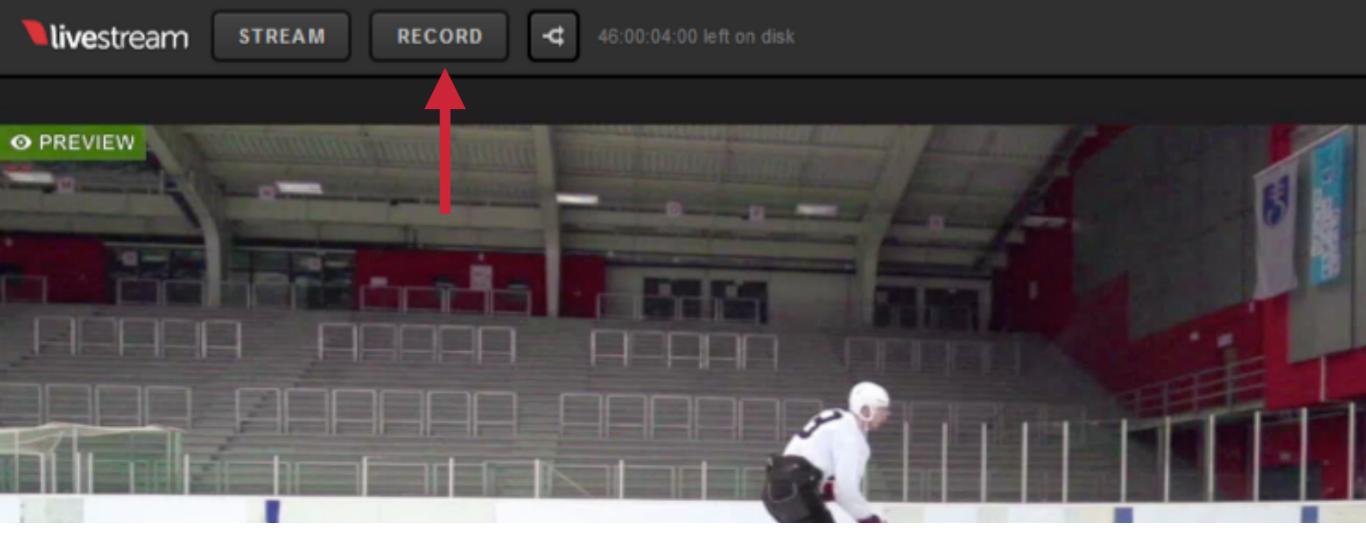
When your recording settings are configured the way you want them, click 'Save.'





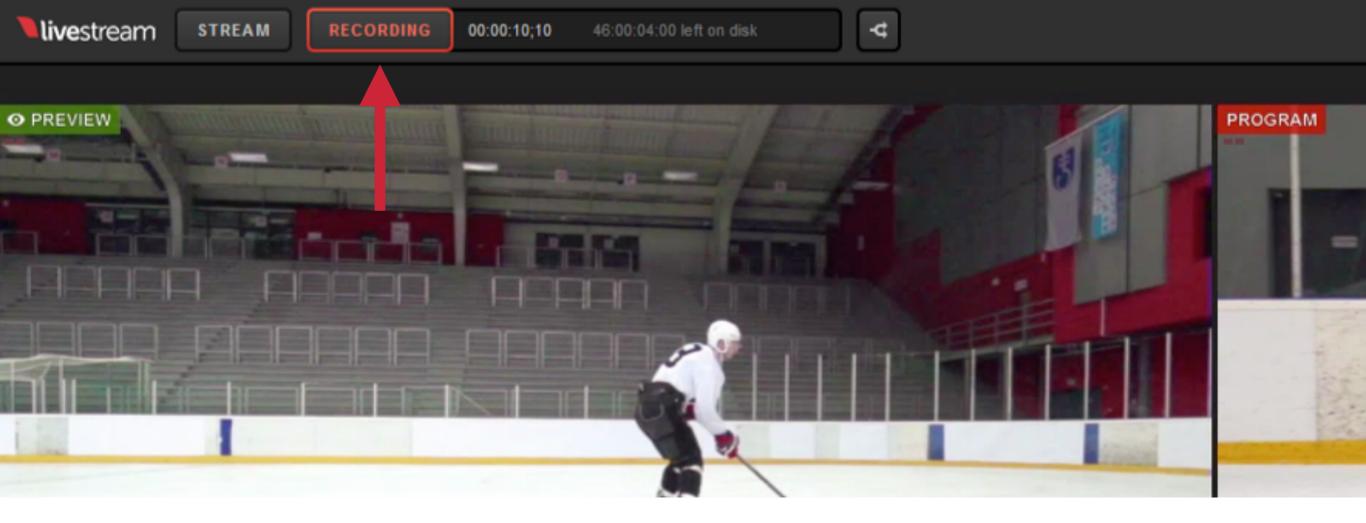
Starting and stopping your recording





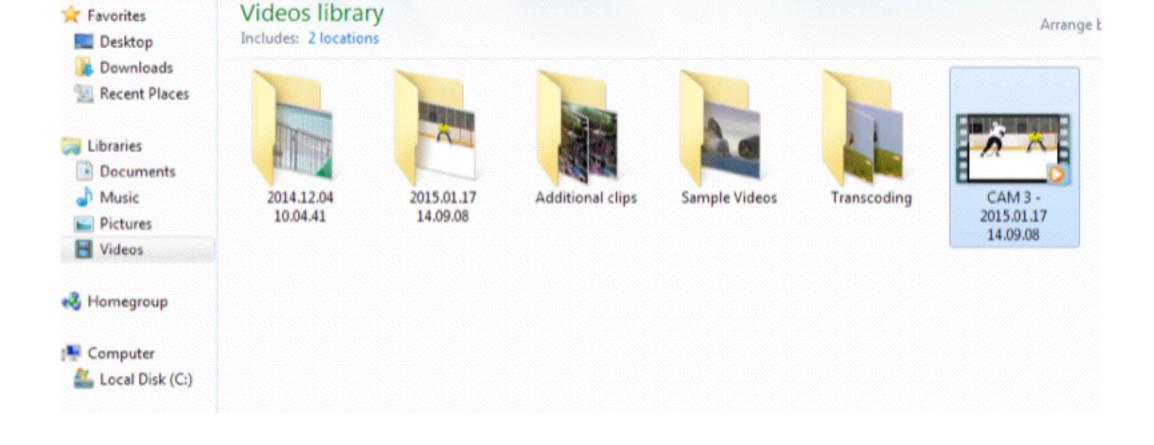
To begin your high resolution recording(s), press 'Record' at the top left of Livestream Studio.





The 'Record' button will turn red and change to 'Recording.' You can also track your recording time and hard drive space.





When you are ready to stop recording, press the 'Recording' button at the top of the interface. All recorded files will be located where you specified in the Recording settings.



# Streaming

Using Livestream



HELP LOG I

GET STARTED

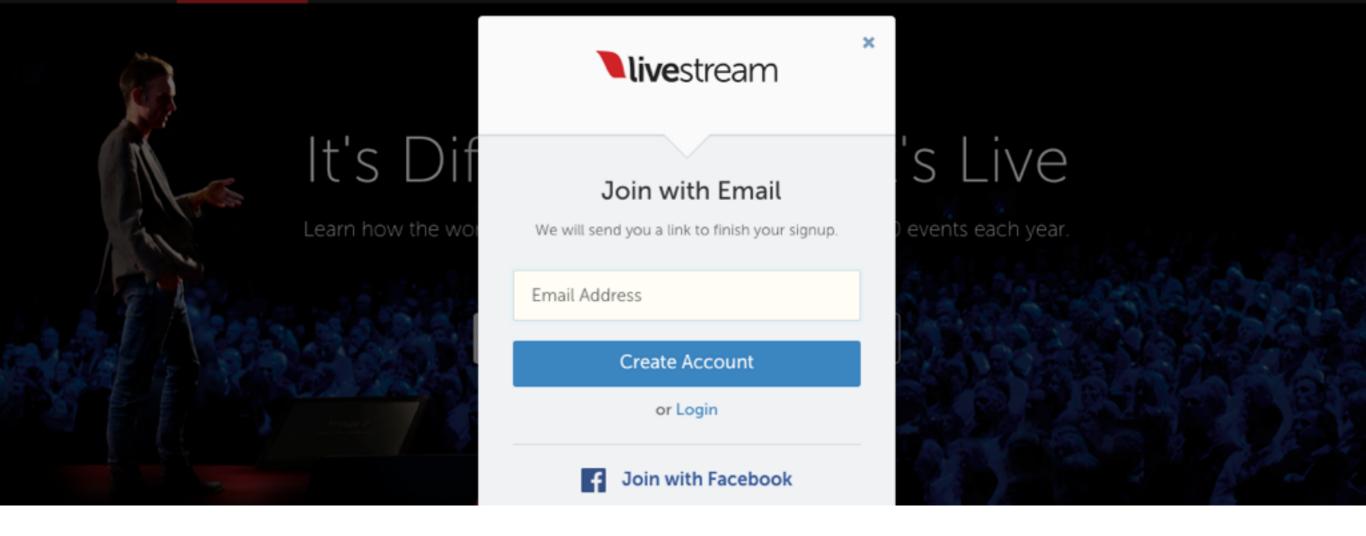
The easiest way to stream from Livestream Studio is with the Livestream platform. To get started, go to <u>livestream.com</u> and click 'Log in.'



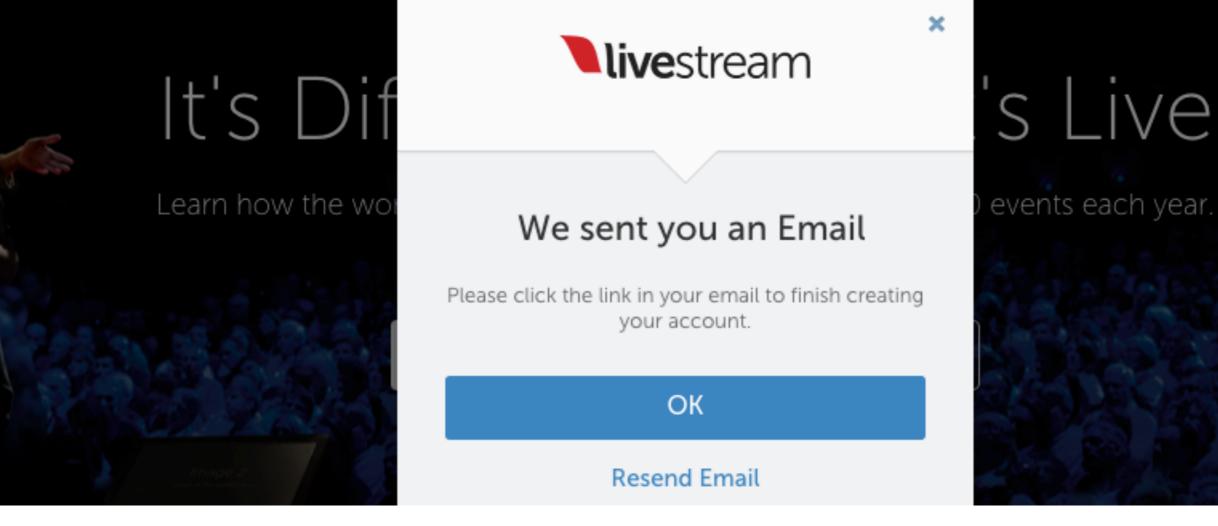
		livestream	
T	lt's Dif	Login to Your Account	's Live
All and	Learn how the wor	Email Address	) events each year.
	S 2 3 3 3	Password	
		Login	
		Forgot password? Join Livestrean  Login with Facebook	

If you do not already have a Livestream account, click 'Join Livestream.'



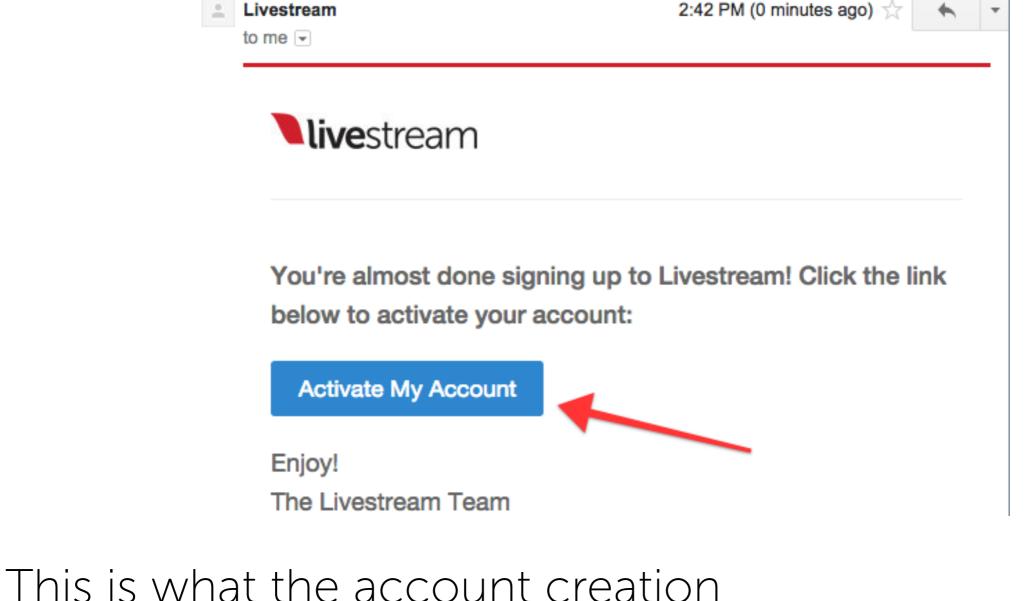


Type in your email address and click 'Create Account.' You can also join by connecting your Facebook account.



If you use an email address, you will be prompted to check your email.

**live**stream



email will look like. It comes from <u>notifications@livestream.com</u>. Click the blue 'Activate My Account' button to continue.



### **Create Your Account**

1 F	-ull Name		
o• F	Password		
	Create Account		
	or Login		

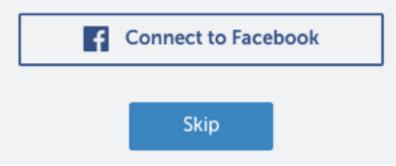
# Type in your name and create a password for your account. Then click 'Create Account.'





#### Find Friends to Follow

Connect your Facebook account to find friends already using Livestream.



You will be given the option to connect your Facebook account, which allows you to find friends on Livestream. You may skip this step if you wish.



WHAT IS LIVESTREAM?	HELP	
My Account & Events		>
Settings		>
Create Event		>
Find Friends		>
Social Sharing	0	OFF
Upgrade		>
Analytics		>
😃 Logout		

Now that your account is created, you need to create an event. Click the image placeholder in the upper right corner and select 'Create Event.'



## Create Event ×

Tell us more about your event



_	81		ε.	e n	κ.
		E 1		-	

Name of your event

#### Location

Venue name or address		
Starts	All times in EDT	
04/21/2015	11:37 AM 🔹	
Ends	All times in EDT	
04/21/2015	12:37 PM 🔻	
Contii	nue	

A small window will pop up prompting you to give your event a name, location and time. Fill in the information, then click 'Continue.'



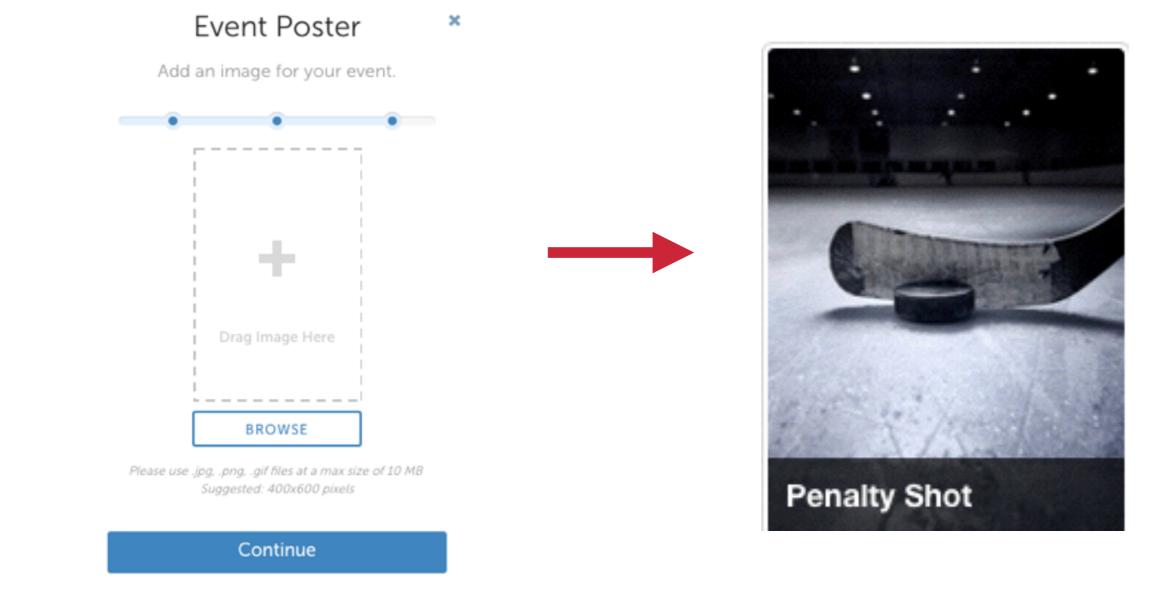
## What's it about? \*

Classifying your event will make it easier to find.

Continue	
English	Ŧ
Language	
Select Type	Ŧ
Event Type	Optional
Select Category	Ŧ
Event Category	
•	

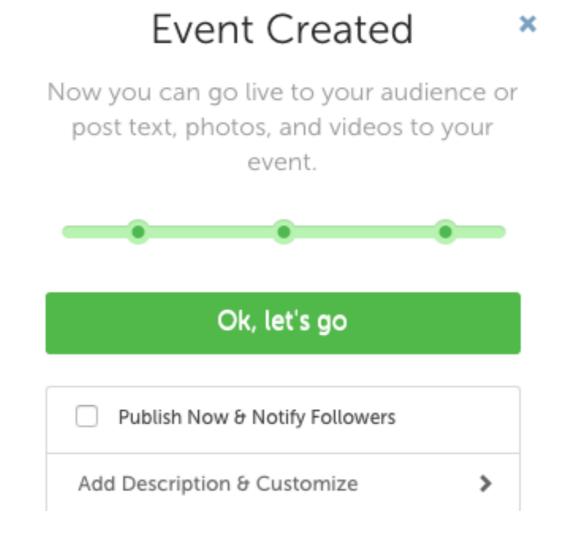
Next, select your event category, type and language. This will make it easier for viewers to find your event.





The next step is to upload a poster image for your event page to help brand your event.





Your event has been created. You can now publish the event page and notify any Livestream followers. You may also continue making any changes.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	*
Livestream					←] Cha	ange Provider	🔲 Log

#### Log In to Livestream

Use your Livestream account to log in

Password		Email address
	2	Password
LOG IN & CONTINUE		LOG IN & CONTINUE

In Livestream Studio, click on the '**Stream**' tab. By default, Livestream will be the first provider option. Enter your account credentials and click 'Log In & Continue.'

**live**stream

Livestream 2	←] Change Provider	Log
Stream Title		
Enter a title for your stream		
Stream Quality		
Medium Quality (678kbps)		
Votify Followers		
Advanced Settings		

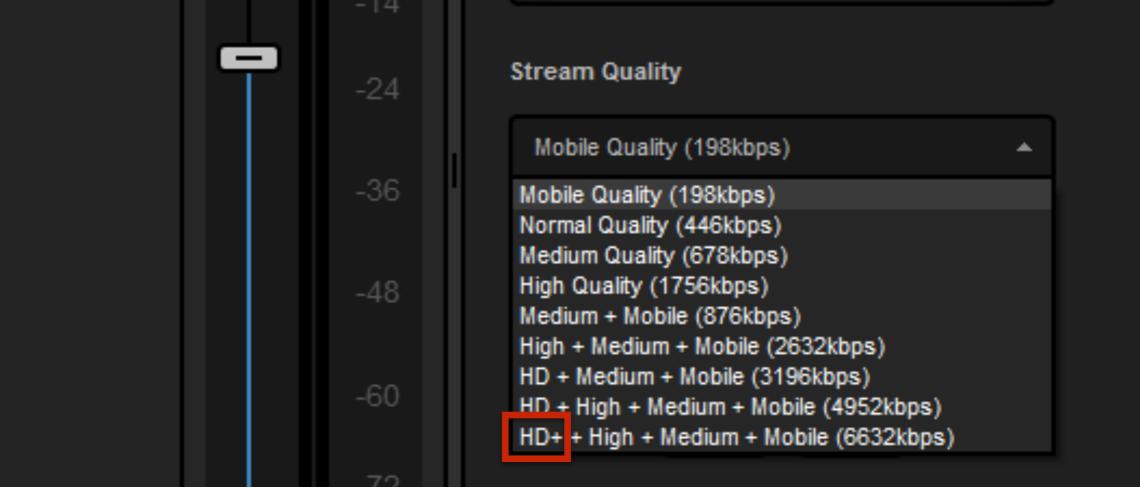
GO LIVE

Test Event

www.livestream.com/accounts/4509833/emilytest2

Once logged in, you will see the option to give your stream a title, select a quality, and notify your followers.





You will notice an additional quality available in the stream quality menu, **HD+ + High + Medium + Mobile**. The new 'HD+' quality streams 720p at 4 mbps, which helps reduce video pixelation in streams with more activity (e.g. sports).



Livestream 1	←] Change Provider	Log
Stream Title	Yoga on the Roof	
Stream Quality	Test Event Buddy and Buttons	~
Medium Quality (678kbps) 🔻	Ice Hockey	
Advanced Settings	Skyline Create New Event	Ľ
GOLIVE		Test Event 4

On the bottom right corner of the module, you can see which event you are set to stream to. Click on the title to select a different event or create a new one.

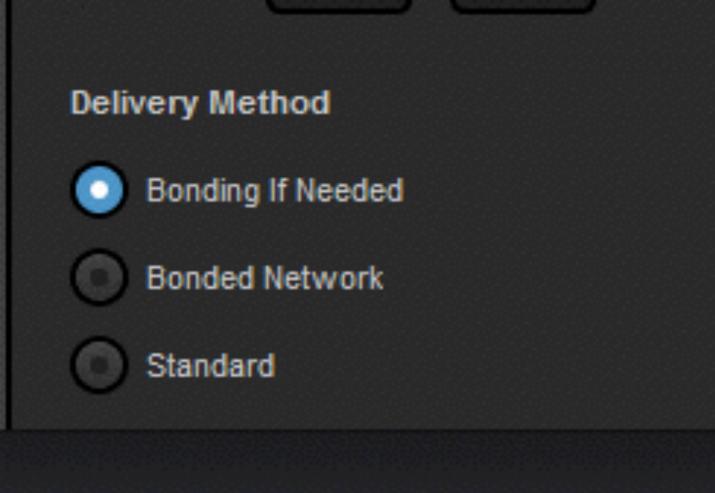
Enter a title for your stream			
Stream Quality			
Medium Quality (678kbps)	*		
🗹 Notify Followers			
Advanced Settings			
COLIVE			
GO LIVE			www.livestr

For more options, click on 'Advanced Settings' underneath the 'Notify Followers' checkbox.



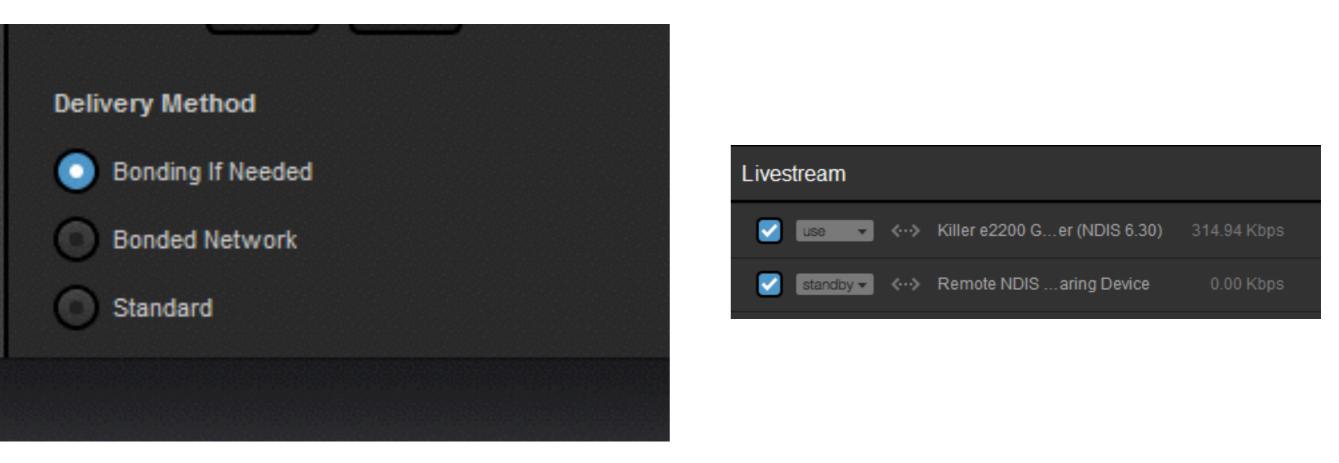
Livestream	← Change Provider Log
Hide Advanced Settings	
Aspect Ratio	
16:9	
4:3	
Custom 16 : 9	
Delivery Method	
Bonding if needed	
Bonded networks	
GOLIVE	Penalty Shot ▼ www.livestream.com/accounts/4509833/events/3744269

You can adjust your aspect ratio if needed and choose your delivery method.



You have three network options for how your stream can be delivered: 'Bonding If Needed,' 'Bonded Network,' or 'Standard.'



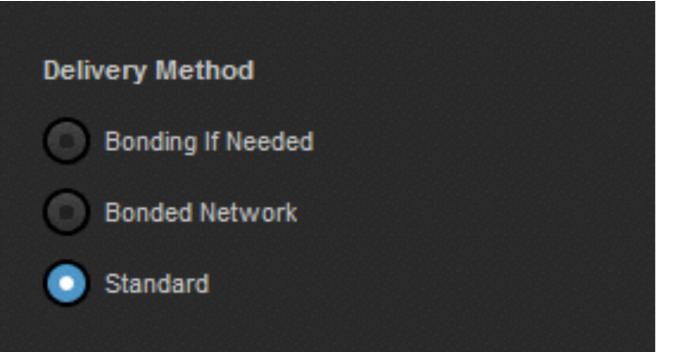


'Bonding If Needed' will allow you to pick Primary and Backup connections. This means that if your Primary connections fail, your Backup connections will push the stream out.



Delivery Method	00:00:08;44 29.56 FPS 76.07 Kbps 1 Viewer	Perfect Streaming
Bonding If Needed	Network Dashboard	
Bonded Network	Remote NDIS ng Device #2 47.59 Kbps	Perfect Streaming
Bolided Network	Intel(R) I210 Connection #2 50.66 Kbps	Perfect Streaming
Standard	✓ <··> Intel(R) I210 ork Connection	Network cable unplugged

'Bonded Network' will allow you to choose which networks will be used and distribute the stream across all networks as evenly as possible.



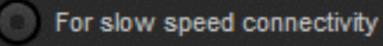
Network Dashboard				
۲	<b>«··</b> »	Intel(R) I210 Connection #2	108.86 Kbps	
	<b>«··</b> »	Intel(R) I210 ork Connection		

'Standard' will send your stream through only one selected network. This option should be selected if you intend to use Livestream Studio as a backup encoder.





#### **Bonded Network Optimization**



For fast speed connectivity

#### **Network Dashboard**

Intel(R) I210 ... Connection #2 0.00 Kbps

<--> Intel(R) I210 ... ork Connection

At the bottom of the module, you will see your bonded network optimization options, if you selected 'Bonded if Needed' or 'Bonded Network.'

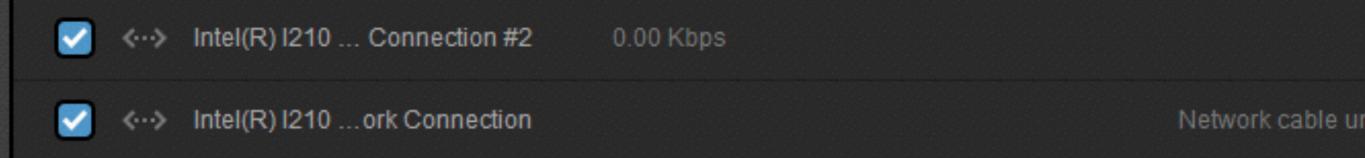
**live**stream

#### **Bonded Network Optimization**

For slow speed connectivity

For fast speed connectivity

#### **Network Dashboard**



'For fast speed connectivity' should be selected if you have a faster, reliable upload speed.



#### **Bonded Network Optimization**

For slow speed connectivity

For fast speed connectivity

#### Network Dashboard

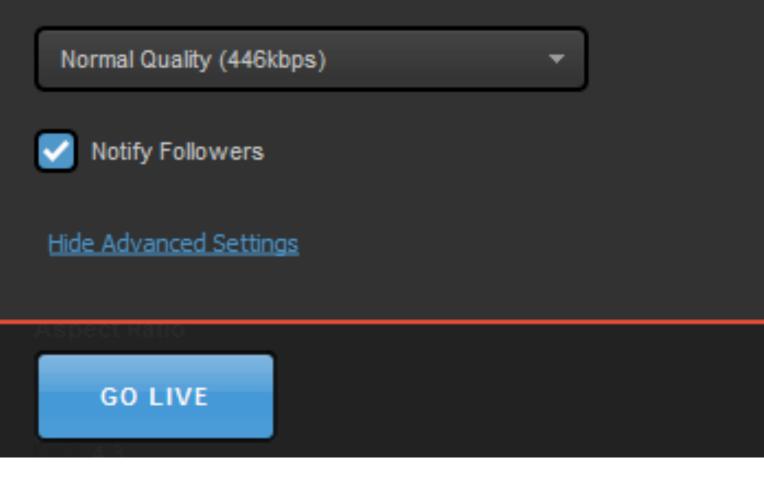
⟨···⟩ Intel(R) I210 ... Connection #2
 0.00 Kbps

<--> Intel(R) I210 ... ork Connection

'For slow speed connectivity' sends less Forward Error Correction (FEC) overhead and fewer FEC packets, allowing for a more efficient recovery and delivery time. This is ideal for slower connections.

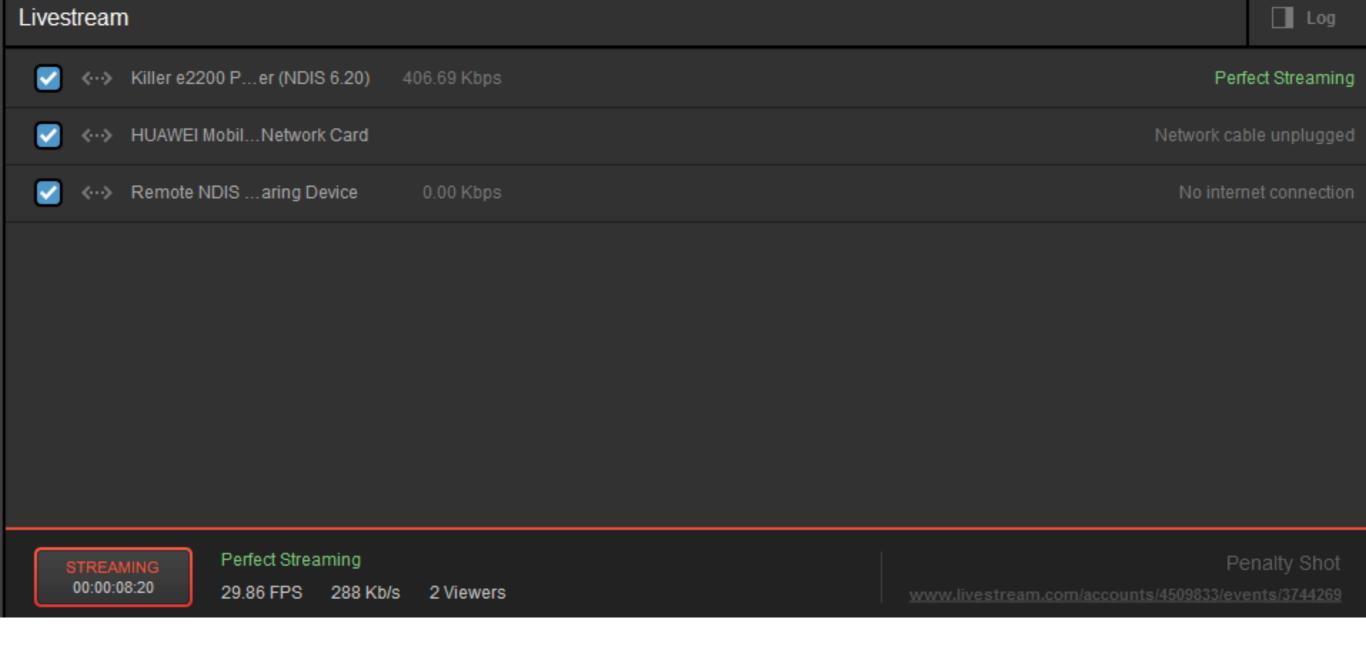


#### Stream Quality



When you have finished configuring these streaming settings, you can go live by clicking the 'Go Live' button.



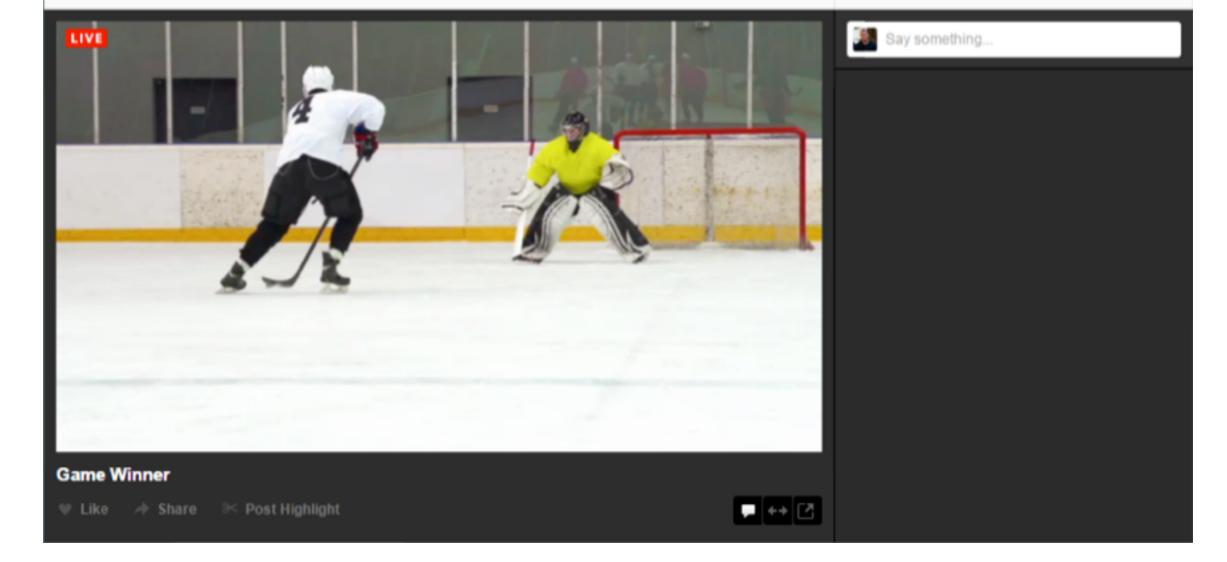


Once live, the Stream module will show your network status at the top with your streaming status (time, framerate, bitrate, and viewer count) at the bottom.

**live**stream

Livestream	Log	± 亩
Server Killer e2200 Per (NDIS 6.20) 89.41 Kbps Perfect Streaming	12:32pm EST Video broadcasting is starting Establishing	
Vetwork cable unplugged Network Card	connection with server.	
✓ ↔ Remote NDIS aring Device 0.00 Kbps No internet connection	12:32pm EST H.264 recording started	
	Perfect Streaming - 12:3 EST	2pm
STREAMING 00:00:25:04       Perfect Streaming       Penalty Shot         29.97 FPS       215 Kb/s       2 Viewers       www.live.stream.com/accounts/4509833/events/3744269		

Click 'Log' on the upper right corner of the module to see a more detailed log of what actions or issues are occurring during your broadcast and when they occur. You can click 'Log' again to hide it.

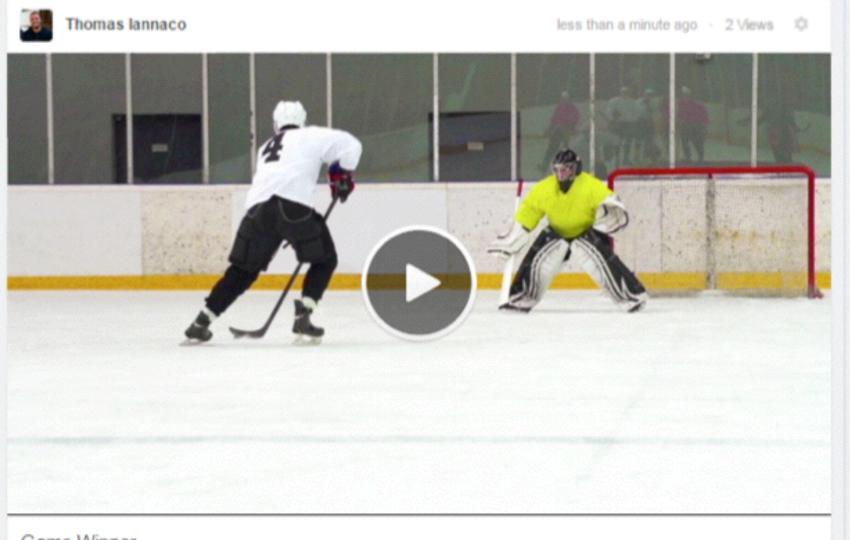


The live player will immediately appear at the top of your event page. It takes about 30 seconds for the stream to load.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	*
Livestream					[	Log	r 旦
	e recording of your broadd will allow visitors on your					12:32pm EST Video broadcasting is starting Establishing connection with server. 12:32pm EST H.264 recording started. Perfect Streaming - 12:32 EST 12:34pm EST H.264 recording stopped (2015.09.04 12.32.18@1 bps.mp4).	2pm <b>1</b>

Click the 'Streaming' button to stop your stream. You will have the option to save and post your broadcast, save a draft, or delete it without posting it.



Game Winner

Selecting 'Publish' will make the video clip available for immediate playback for any viewers who missed the live event.

**live**stream

① 1 Post

E 1 Video

Livestream 2	←] Change Provider	Log
Stream Title		
Enter a title for your stream		
Stream Quality		
Medium Quality (678kbps)		
Votify Followers		
Advanced Settings		
GOLIVE		Test Event

After choosing which action to take with your archived stream, you will be brought back to your event's streaming settings in the module.

	GFX 1	٦	GFX 2	GFX 3	Media 1	Media 2	Stream
60	Livestream	1					←] Change
	Stream Title	Emily	y Knox				
R	Game Winner	Open	n Profile Page	2			
	Stream Qualit	Open	Account Settings	2			
	Normal Quali.	Log (	Dut	_			
	🗹 Notify Follo	wers					
	Advanced Sett	in <u>as</u>					

At any point, you can view your profile page, account settings, or log out of your Livestream account in Livestream Studio by clicking the profile icon next to 'Livestream.'

## Streaming

Using other streaming providers



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	° ≯
Livestream					t⊒ ci	ange Provider	🔲 Log
Stream Title							
Enter a title for your	stream						
Stream Quality		_					
Normal Quality (446)	(bps)	-					
Notify Followers							
Hide Advanced Settin	<u>lgs</u>						

If you use a different streaming provider, click 'Change Provider' in the upper right corner of the module.

Select provider:	Livestream 🔺	CANCEL
	Livestream	
Stream Title	Original Livestream	
Fotos o Killo fotos unas	Youtube	
Enter a title for your	Ustream	
Ctracer Quality	Stream To File	
Stream Quality	RTMP	
Normal Quality (446)	Zixi	
	Twitch	
🖌 Notify Followers		
Hide Advanced Settin	<u>)QS</u>	

On the upper left of the module, a dropdown menu will appear with all your options. Highlight your provider, then click 'Select.'

Stream Title Enter a title for your stream Stream Quality Medium Quality (678kbps)	Original Livestream	← Change Provider	Log
Medium Quality (678kbps)			
	Medium Quality (678kbps)		

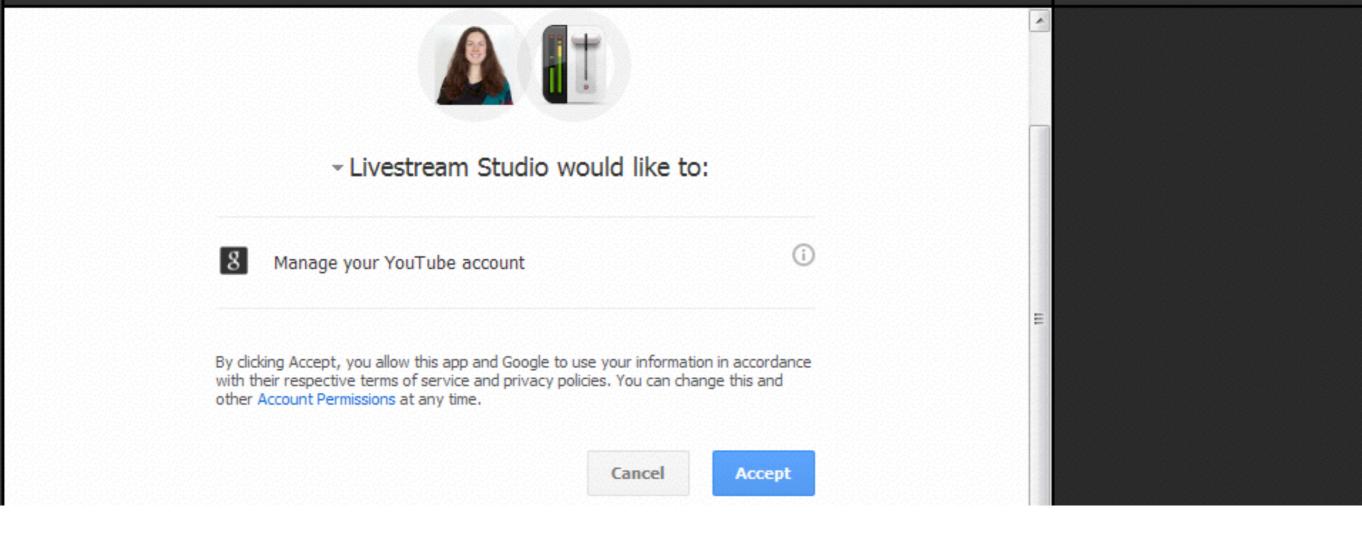


The next option, Original Livestream, has a very similar streaming interface as Livestream.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream
Original Livestrea	am 🔟				
Stream Title Enter a title for your a Stream Quality Medium Quality (678)					
Advanced Settings					

To log out of your Original Livestream account, click the profile icon next to 'Original Livestream.'



## YouTube Live will require you to log in through Google and authorize Livestream Studio to access your account.





🕂 Change Provider 🛛 🗌 Log

#### Stream Quality

480p Quality (1128kbps)

Advanced Settings

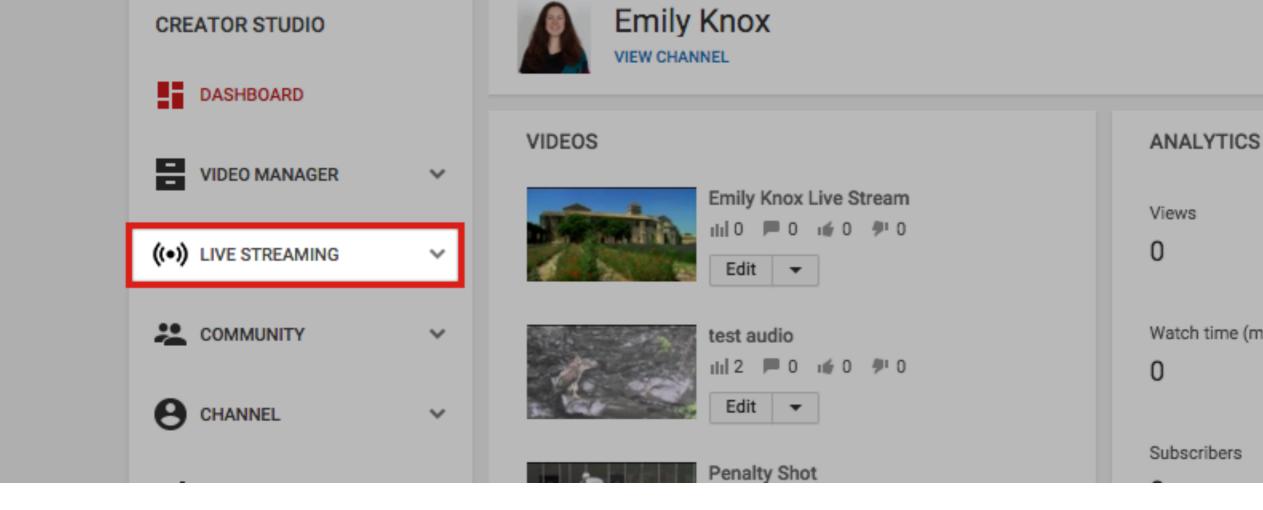
Penalty Shot ▼ ttps://www.youtube.com/watch?v=5qJQB9cVIV8

The streaming module in YouTube Live offers a very similar interface as the Livestream streaming module.



		Upload 🗘 🌒
Trending	Subscriptions	
		Emily Knox 0 subscribers Creator Studio
		OTHER ACCOUNTS
		Emily Knox
		Add account Sign out

In a browser, go to your YouTube account and click on your profile image in the upper right corner to enter your Creator Studio.



In the menu on the left, select 'Livestream Streaming.'



CREATOR STUDIO DASHBOARD		OFFLINE @	Still h
VIDEO MANAGER	~		
((•)) LIVE STREAMING		This stream is	
Stream now BETA Events		OFFLINE	
	~		
	~		

There will be two options: 'Stream Now (Beta)' and 'Events.'

**live**stream

This live stream is public. To create an unlisted or private stream	, schedule an event.
	Advanced settings
ENCODER SETUP	
Server URL rtmp://a.rtmp.youtube.com/live2	
Server URL rtmp://a.rtmp.youtube.com/live2 Stream name/key	

The 'Stream Now (Beta)' option can only be done via the RTMP section of Livestream Studio's 'Stream' module. Scroll to the bottom of the page to get the RTMP URL and Stream Key.



CREATOR STUDIO	Events 0
DASHBOARD	Actions - View: Upcoming -
VIDEO MANAGER V	
((•)) LIVE STREAMING	
Stream now BETA	
Events	
COMMUNITY V	You don't have any upcoming events. Schedule a new event.
CHANNEL ~	

It is recommended to use the 'Events' workflow. Click this option on the left, and either select a preexisting event or create a new one.

CRE	ATOR STUDIO		Info and Set	ttings	Ingestion Settings	Cards	Live Control Room	
	DASHBOARD		Hockey Gar	me				
8	VIDEO MANAGER	~						
((•))	LIVE STREAMING		Main Camera 🖌	Add a Cam	iera			
	Stream now BETA		Thumbnail					
	Events						ggested: 1280x720) since the in , GIF, BMP, or PNG file. Maximun	_
*	COMMUNITY	~		Bro	wse			

After creating or selecting your event, go to 'Ingestion Settings' and select 'Main Camera.'



Hockey (	Game
----------	------

Main Came	era Add a Camera
Thumbna	Please upload as large an image as possible (suggested: 1280x720) since the image will also be used as the preview image when your event is embedded on other sites. You can upload a JPG, GIF, BMP, or PNG file, Maximum file size is 2MB.
Select a r	maximum sustained bitrate of your encoder * range that corresponds to the maximum sustained output your encoder provides. ingestion et a bitrate 8000 Kbps - 6000 Kbps (1080p) 500 Kbps - 4000 Kbps (1080p) 500 Kbps - 2000 Kbps (480p) 400 Kbps - 1000 Kbps (360p) 800 Kbps - 700 Kbps (240p)

Select the highest quality and bitrate you want to use under 'Basic Ingestion.' Your settings should auto-save. Otherwise, click 'Save Changes' in the upper right corner.



Back in Livestream Studio, select your event (bottom right corner) and select the same quality you chose in the YouTube Live configuration.

Change Provider

Log

**Stream Quality** 

720p Quality (2628kbps) 🔹

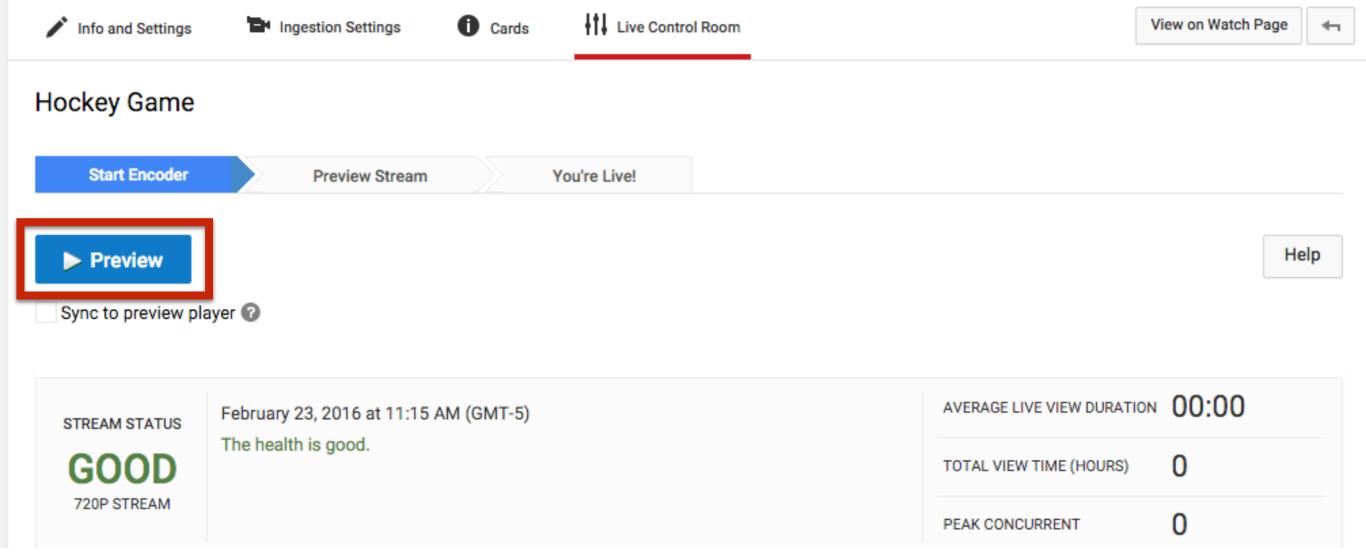
Advanced Settings



Penalty Shot 
https://www.youtube.com/watch?v=R0kYt-UchUQ

Press the 'Go Live' button to start sending the signal to YouTube. Note that per YouTube's workflow, it will not be live immediately.





Back in YouTube, navigate to the Live Control Room. After some time (typically less than a minute), YouTube will indicate that your stream is ready to be previewed. Click the 'Preview' button to load the stream preview.

### Hockey Game

Start Encoder	Preview Stream		You're Live!					
Start Stream	aing							Help
Sync to preview p								
STREAM STATUS	February 23, 2016 at 11:15	AM (GMT-5)				AVERAGE LIVE VIEW DURATION	00:00	
GOOD	The health is good.					TOTAL VIEW TIME (HOURS)	0	
720P STREAM					PEAK CONCURRENT	0		

Wait a few more seconds and YouTube will be ready to take your stream live. Click the 'Start Streaming' button to start broadcasting your stream to your YouTube event.

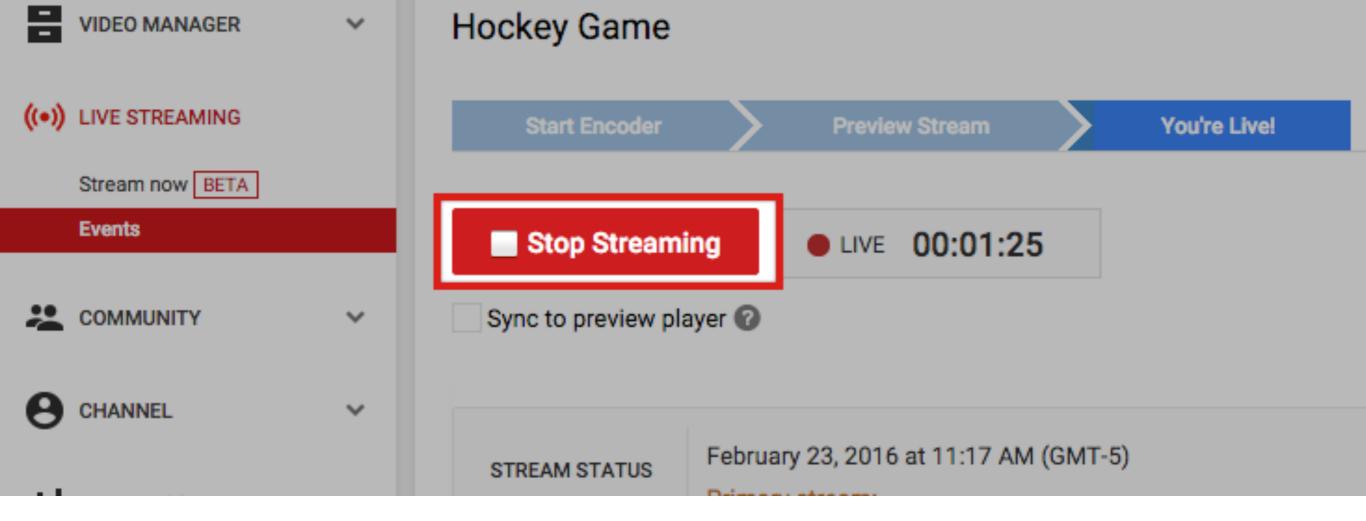


Please stand by. 10:57

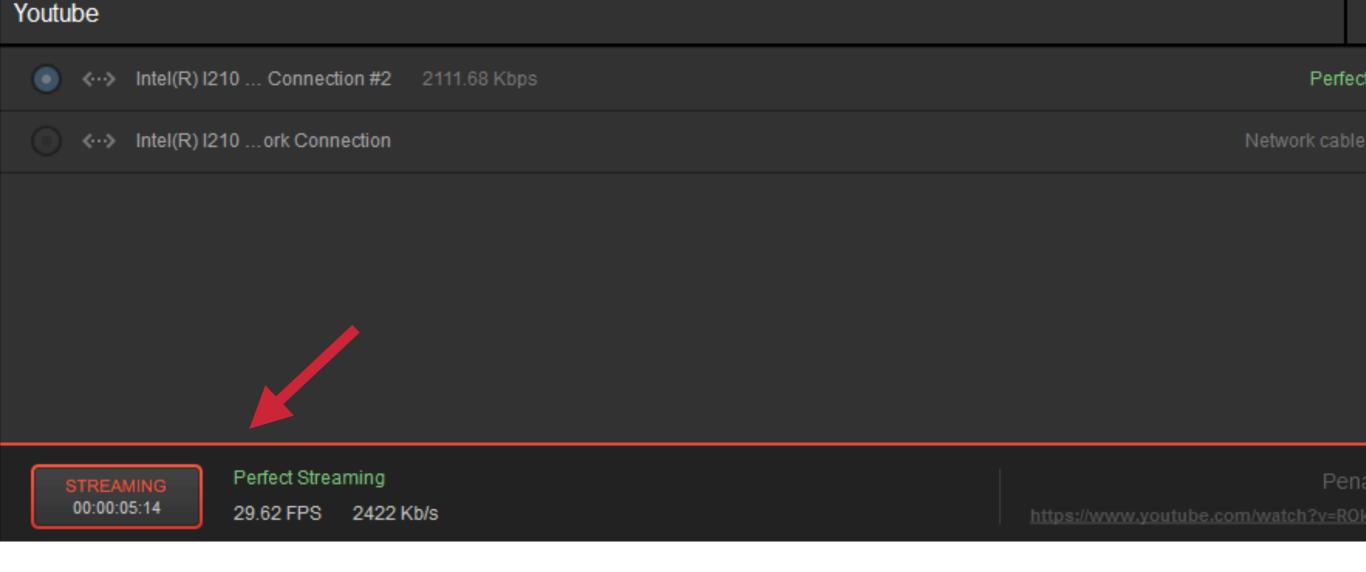
PUBLIC VIEW

The YouTube player will soon switch from the countdown clock to showing your stream from Livestream Studio.



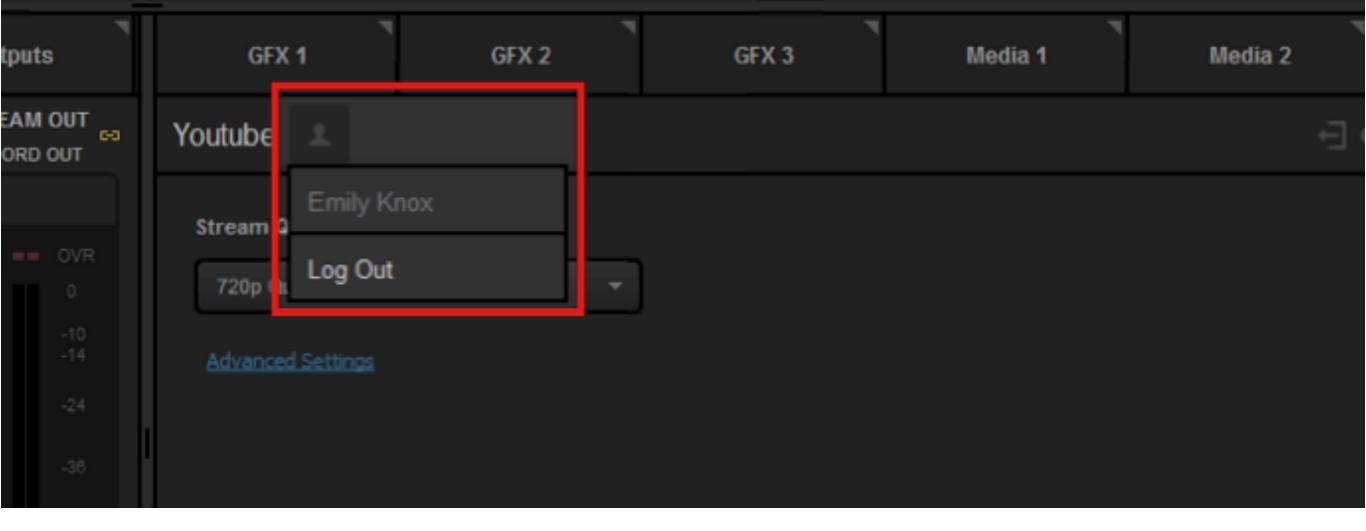


When you are ready to finish broadcasting your event, go back to your Live Control Room and click 'Stop Streaming.'



Your event is now over, and you can press the red 'Streaming' button in Livestream Studio to stop sending your signal to YouTube.

**live**stream



If necessary, you can click the person icon in the 'Stream' module and click 'Log Out' to log out of your YouTube account.

Authorize Livestream Studio to use your account?	:	II
Log In Sign Up		
Username		
Password		
Log In Cancel		Ŧ

Livestream Studio has a similar integration with Twitch. Enter your Twitch account information and click 'Log In.'



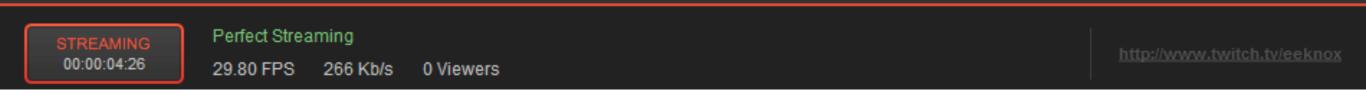
I WITCH	← Change Provider	Log
Stream Quality 480p Quality (1128kbps)		
Game Name		
Enter the name of your game		
Stream Title Penalty Shot		
GOLIVE	http://www.twite	<u>ch.tv/eeknox</u>

# Set your quality, game name, and stream title.

Hide Advanced Settings
Aspect Ratio
16:9
<b>4</b> :3
Custom 16 : 9
Ingestion List
EU: Amsterdam, NL 👻
Archive
Broadcast archived automatically only if it is configured in account settings
Don't archive broadcast

Clicking 'Advanced Settings' will allow you to configure further settings, such as ingestion location, archive settings, and aspect ratio.

Twitch		Log
●	142.10 Kbps	Perfect Streaming
	0.00 Kbps	No internet connection
Sierra Wireletwork Adapter		Network cable unplugged



Click 'Go Live' when you are ready to start broadcasting. Livestream Studio will indicate that the stream has started and display your streaming status. When you are ready to finish streaming, click the 'Streaming' button.



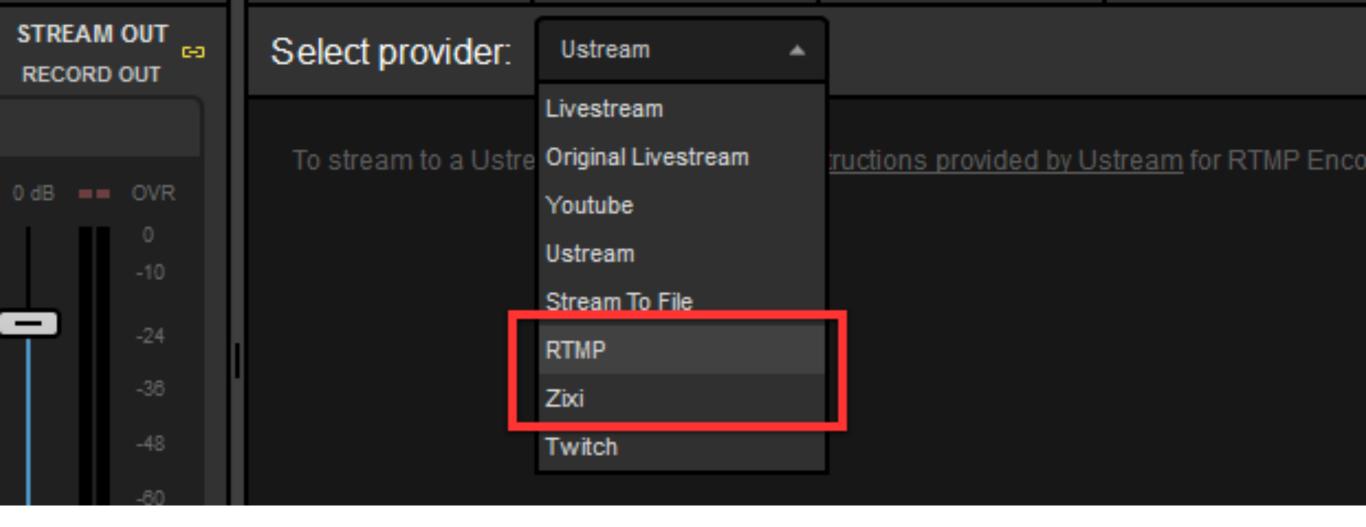
		GFX 1 GFX 2		GFX 3	Media 1
	STREAM OUT	Twitch			
+10		Eeknox Stream			
VR )	0 dB == OVR 0	480p Open Account Dashboard	Ľ		
10 14	-10 -14	Log Out Game I			
24	-24	Hockey			

When you are not streaming, you can click the profile icon next to 'Twitch' to view your Twitch account dashboard or log out of your account from Livestream Studio.

-		6		6	6	
GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions
Ustream					←] Cha	ange Provider
To stream to a Ustre	am account, use the <u>ins</u>	structions provided by U	I <u>stream</u> for RTMP Encod	ers in conjunction with th	ne Livestream Studio <u>RT</u>	<u>MP Server functionality</u> .

To stream to Ustream, follow the linked instructions from Ustream to access your account's RTMP URL.





The next two streaming options are RTMP and Zixi, which have very similar interfaces.



RTMP

← Change Provider 🛛 🚺 Log

**live**stream

Quality				
quanty				Delete 🗙
Medium 🔻 🗘	Resolution:	1280 x 720 px	Bitrate:	2320 Kb/s
Mobile 🔻 🌣	Stream Name		RTMP URL	
HD - 🌣				
Custom 🔻 🌣	OPEN FMLE XML			Show Quality Settings
🕂 Add Quality				
GO LIVE				

293

Both streaming options allow for selecting up to four preset bitrates for streaming at. Click the corresponding gearwheel to import or type in your RTMP or Zixi URL and stream name. RTMP

← Change Provider

Log

Quality				Delete 🗙
Custom 🔻 🌣	Resolution:	512 x 288 px	Bitrate:	446 Kb/s
Custom 🔻 🌣	Stream Name		Name	
Custom 👻 🌣			Custom	
Custom 🔻 🜣	RTMP URL			
🕂 Add Quality			OPEN FMLE XML	J
GO LIVE	Show Quality Settings			
GULIVE				

You can also create up to four custom bitrates for streaming to your RTMP or Zixi server. Click 'Add Quality' to do so. RTMP

⊣

Log

Quality	Width	Height	
Custom 🔻 🗘	512	288	
	Video Bitrate	Audio Sample Rate	
Custom 🔻 🌣	350	44100 👻	
Custom 🔻 🜣	Audio Bitrate		
Custom 👻 🌣	96 🔻		
	H.264 Encoding Profile		
🕂 Add Quality	Baseline		U
Advanced Settings	Main		
Advanced Sectings	💿 High		

Each custom setting will require you to set the resolution, video and audio bitrates, audio sample rate, and encoding profile.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	` <b>≯</b>
RTMP					←] Cha	ange Provider	Log
Quality				Dele	ete 🗙		ſ
Medium 🔻	🗘 Resolution:	1280 x 720	<b>) px</b>   Bitrate:	2320 K	b/s		
Mobile 🔻	🌣 Stream Name		RTMP URL				
HD 🔻	\$						
Custom 🔻	¢ OPEN FMLE	XML		Show Quality Sett	ings		
🕂 🛛 Add Quality							

Any quality can be deleted from the module by clicking 'Delete' in the upper right corner.



UT 😁 JT	RTMP	← Change Provider	🔲 Log
DVR	Hide Advanced Settings		
0	RTMP User Agent		
10 14	FMLE/3.0 -		
-24	Aspect Ratio		
36	16:9		
48 60	<ul> <li>4:3</li> <li>Custom 16 : 9</li> </ul>		
72	Network Dashboard		
n	Killer e2200 Ger (NDIS 6.30) 0.00 Kbps		Ok

Further down in the module is where you can open 'Advanced Settings.' Here you can set your aspect ratio. For RTMP, you will need to select the user agent that your server supports.

		GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	s	₩		
	AM OUT	Zixi					Ţ Ch	←] Change Provider 🔲				
C		FEC Overhead										
0 dB	== OVR 0	30										
	-10 -14	FEC Packet Size										
-	-14 -24	30										
	-38	Latency										
	-48	500										
	-80	Delivery Method								ľ		
		Bonding if needed	ł									
	-72	Bonded networks	3									
<b>(</b> )		Standard										

Zixi users will see the option to set the FEC overhead, FEC packet size and latency under their 'Advanced Settings.'

GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream					
Stream To File										
MP4 File Save Locati BROWSE ers\Live	ion estream HD31\Videos\									
Stream Quality High Quality (1756kb	ops) 🔻									
Advanced Settings										

Another option, 'Stream to File,' allows you to encode an .mp4 file to your hard drive without the need to stream live.



	T Select MP4 File Location		<b>_</b>	<u>-</u>	45 F
	OO □ H + Libraries + Videos +	✓ <sup>4</sup> → Search Videos		ρ	TIE BG
	Organize 🔻 New folder		= • 0		_
	<ul> <li>Favorites</li> <li>Desktop</li> <li>Downloads</li> <li>Google Drive</li> <li>Recent Places</li> </ul>			* E	ADVER
	<ul> <li>□ Libraries</li> <li>□ Documents</li> <li>□ Music</li> <li>□ Pictures</li> <li>□ Videos</li> </ul>				MEDIA1 ¢
-	Nomegroup			-	
	Folder:				-
ettings		Select Folder	Cancel	at	Stream

Click 'Browse' to select where the file will be saved. By default, the .mp4 file will save to your Videos folder.



	High Quality (1756kbps) 🔻	
I	Hide Advanced Settings	
	Aspect Ratio	
Ш	16:9	
	4:3	
	Custom 16 : 9	
Ш	Choose Encoding Profile	
Ш	Baseline	
	Main	
	O High	Ľ
	ENCODE	

Choose the bitrate for your stream. You can click 'Advanced Settings' to set your aspect ratio and encoding profile.

Note: Selecting 'Custom Quality' will prompt you to choose your resolution, video & audio bitrate, and audio sample rate.

**live**stream

#### Stream To File

MP4 File Save Location		
BROWSE ers\Livestream HD31\Videos\		
Stream Quality		
High Quality (1756kbps) 🔻		
Advanced Settings		
ENCODE		

When you are ready to start your recording, click 'Start Encode.'

**live**stream

#### Stream To File

IP4 File Save Location

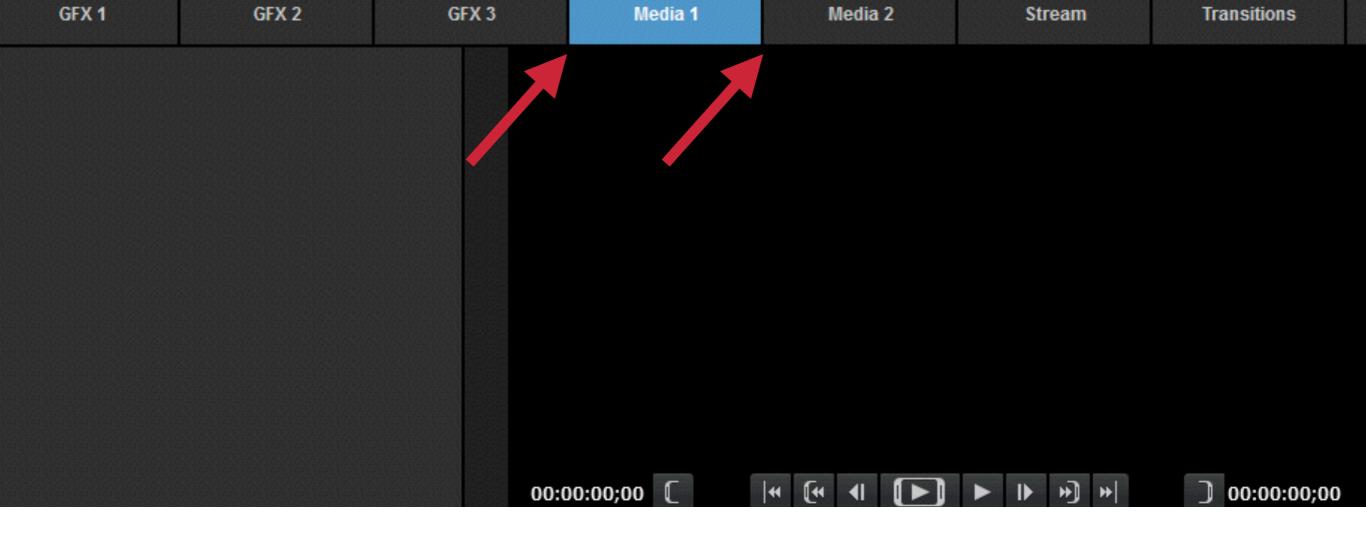
BROWSE ers\Lives	stream HD31\Videos\			
tream Quality				
High Quality (1756kbp				
<u>Advanced Settings</u>				
ENCODING 00:00:10:20	Perfect Streamin 29.81 FPS 37	ng 77 Kb/s		2015.10.05 07.06.59@1756kbps.mp4 <u>C:/Users/Livestream HD31/Videos</u>

The module and the streaming log will indicate that the encoding has started. The name of the file will be displayed in the bottom right corner. Click 'Encoding' to stop the recording.

## Media Playback

Configuring settings





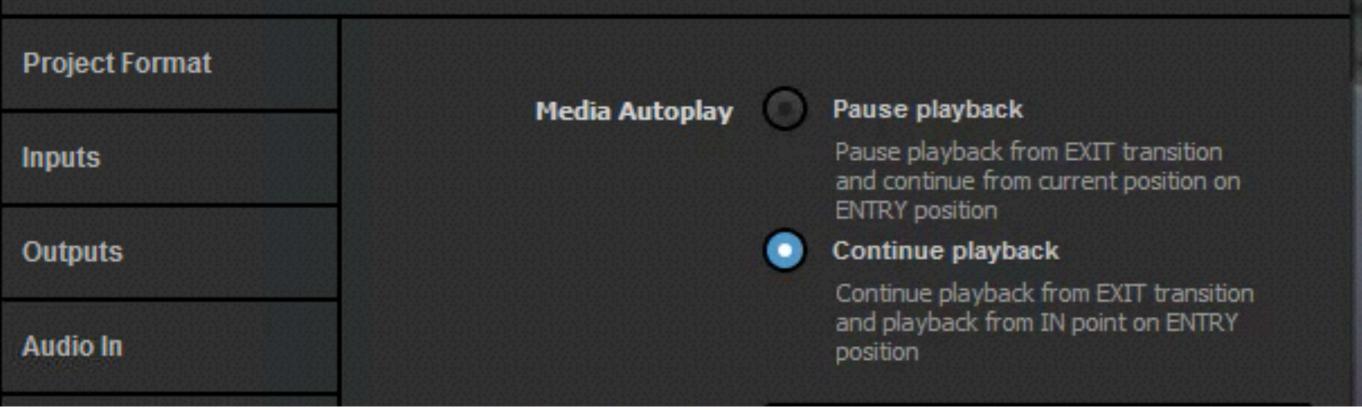
Livestream Studio includes up to two media bins that allow you to include pre-recorded videos in your production.



Settings		CANCEL	
Project Format			Va BD
Inputs	Media Autoplay	Pause playback     Pause playback from EXIT transition     and continue from current position on     ENTRY position	P
Outputs		O Continue playback	The states
Audio In		Continue playback from EXIT transition and playback from IN point on ENTRY position	
Recording	Transcoder Files Location	BROWSE s\Livestream\Videos\Transcoding\	
Media Player	Transcoding Cache	300 GB	
Streaming	Transcoding Bitrate	75 (Mbps) 🔻	
Streaming	Basic Replay	10 seconds before current timestamp	

### In settings, go to the '**Media Player**' tab to configure settings for your media bins.

### Settings



'Media Autoplay' allows you to choose if a video will either pause or continue playing when a media source is transitioned out of Program. It also determines whether the video will continuing playing from its current location ('Pause') or start from the beginning of the IN point ('Continue').

**live**stream

Audio in		position	
Recording	Transcoder Files Location	BROWSE rs\Livestream\Videos\Transcoding\	
Media Player	Transcoding Cache	300 GB	
Streaming	Transcoding Bitrate	75 (Mbps) 🔻	
Sucanning	Basic Replay	10 seconds before current timestamp	
Multi-Screen		When the Basic Replay shortcut key is pressed	
Ad Insertion		("R"), set a new in-point of the current recording using the above setting.	
	Export Location	BROWSE C:\Users\Livestream\Videos\	

'Transcoder Files Location' is where any transcoded videos (i.e., videos you bring into your media bin) will be saved. You can bring those videos into a media bin again without transcoding.

Augio in		position		
Recording	Transcoder Files Location	BROWSE	rs\Livestream\Videos\Transcoding	
Media Player	Transcoding Cache	300 G	B	
Streaming	Transcoding Bitrate	75 (Mbps)	-	
Streaming	Basic Replay	10 seco	onds before current timestam	р
Multi-Screen			c Replay shortcut key is pressed	
Ad Insertion		("R"), set a new using the abov	w in-point of the current recording e setting.	
	Export Location	BROWSE	C:\Users\Livestream\Videos\	

'Transcoding Cache' lets you control the amount of data stored in the transcoding folder before files are deleted.



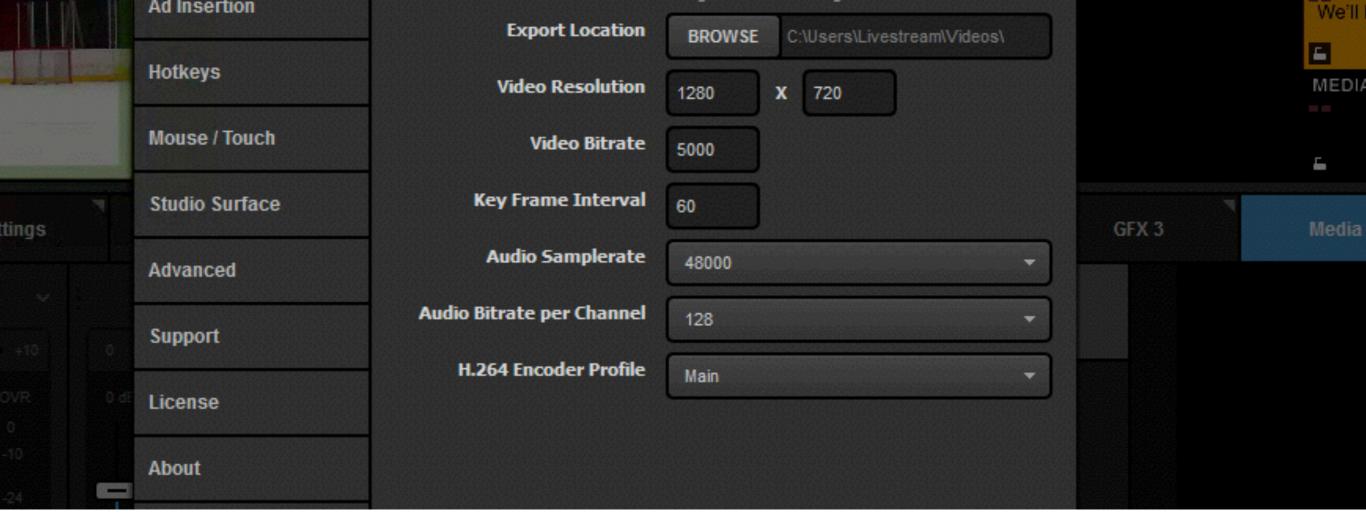
Audio in		position
Recording	Transcoder Files Location	BROWSE rs\Livestream\Videos\Transcoding\
Media Player	Transcoding Cache	300 GB
Streaming	Transcoding Bitrate	75 (Mbps) 🔻
,	Basic Replay	10 seconds before current timestamp
Multi-Screen		When the Basic Replay shortcut key is pressed ("R"), set a new in-point of the current recording
Ad Insertion		using the above setting.
	Export Location	BROWSE C:\Users\Livestream\Videos\

'Transcoding Bitrate' determines the bitrate to which the videos are transcoded. Higher bitrates will have higher resolution but also create larger files.

Recording	I ranscoder Files Location	BROWSE "s\Livestream\Videos\Transcoding\	
Media Player	Transcoding Cache	300 GB	
Streaming	Transcoding Bitrate	75 (Mbps) 🔻	
	Basic Replay	10 seconds before current timestamp	
Multi-Screen		When the Basic Replay shortcut key is pressed ("R"), set a new in-point of the current recording	GFX
Ad Insertion		using the above setting.	We'l
	Export Location	BROWSE C:\Users\Livestream\Videos\	
Hotkeys	Video Resolution	1280 X 720	MED
Mouse / Touch	Video Bitrate	5000	<u> </u>

'Basic Replay' lets you tell Livestream Studio how far back from the current timestamp to set an In point. The Out point will be set to the current timestamp.

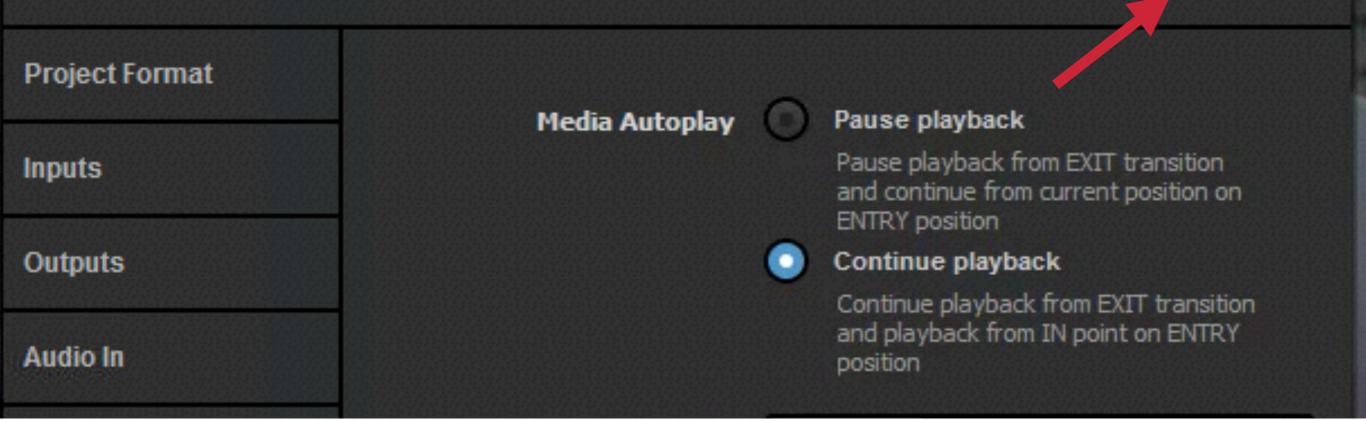




You can export videos or portions of videos from your media bin. You can choose their export location and settings here.



### Settings



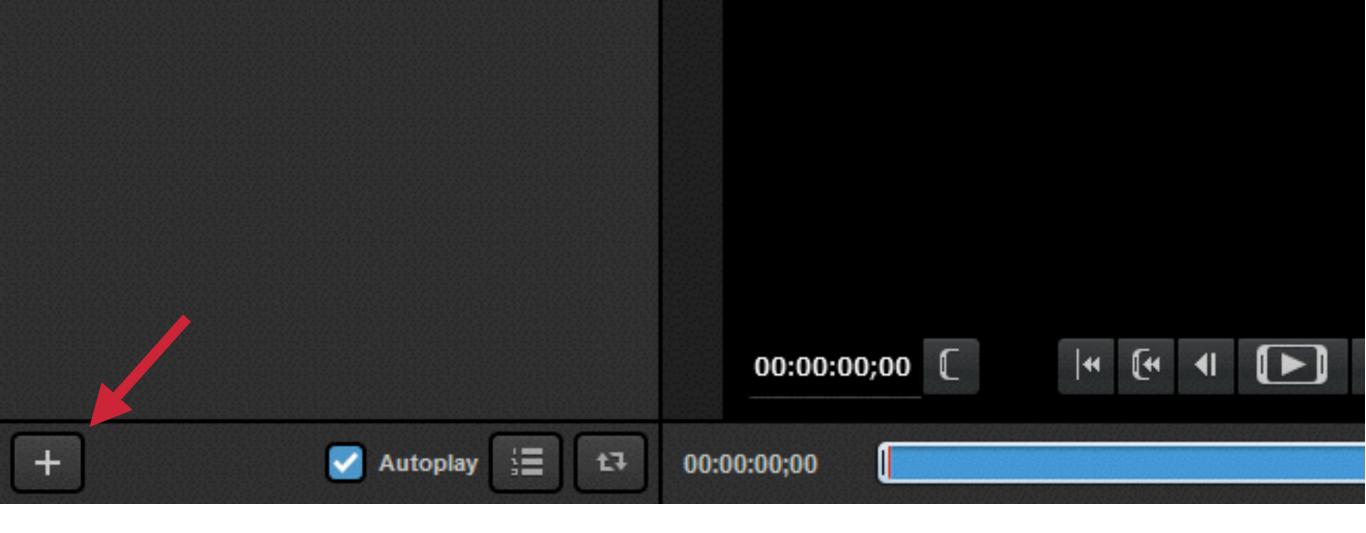
When your media bin settings are configured to your liking, click 'Save.'



## Media Playback

Importing video clips

**live**stream



To add a video clip, press the '+' button in the bottom left of the media bin.



Desktop	Includes: 2 locations							
<ul> <li>Downloads</li> <li>Recent Places</li> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Homegroup</li> </ul>	2014.12.04 10.04.41	2015.01.17 14.09.08	Additional clips	Sample Videos	Transcoding	2015.01.17 14.39.49@1756kb ps	2015.01.17 15.01.58@2628kb ps	
IN Computer	2015.01.17 14.09.08							
두 Network								
File n	ame: CAM 3 - 2015.01.1	7 14.09.08				• Media files (*.avi	*.wmv *.asf *.r 💌	
						Open 🔻	Cancel	

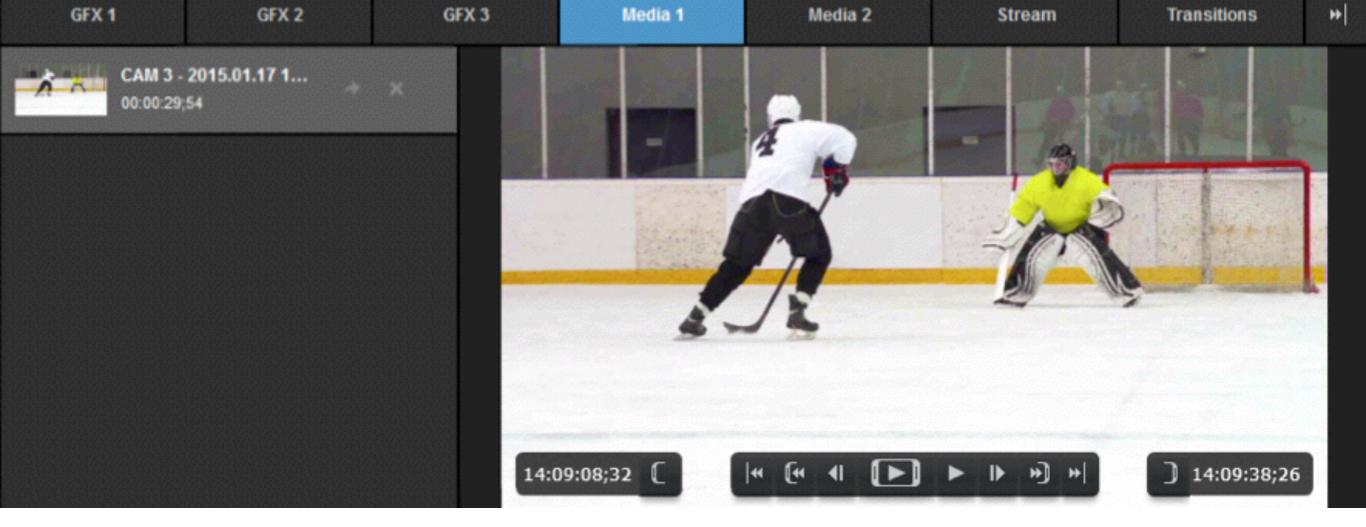
```
This will allow you to browse
your computer for the desired
video. When you find the video
you want to import, click 'Open.'
```

Note: See <u>Appendix B</u> for supported video formats.

	GFX 1 GFX 2	GFX 3	Media 1	Media 2	Strea
8	16.28% CAM 3 - 2015.01.17 1 Transcoding	×			

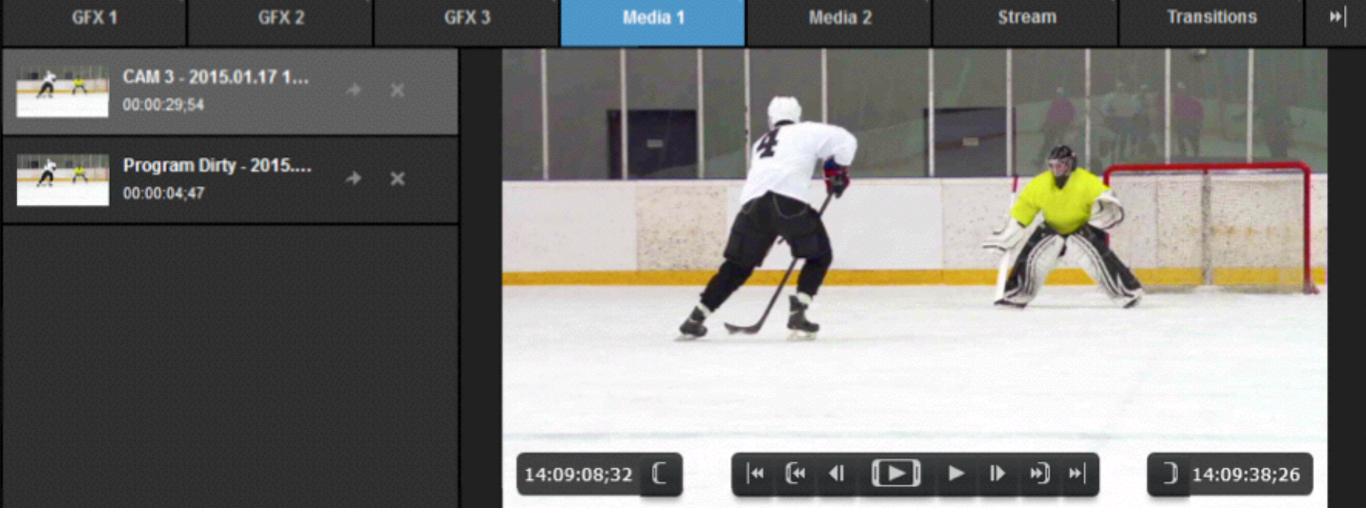
The video will begin transcoding in the media bin. Keep in mind that the longer the video is, the longer it will take to transcode.





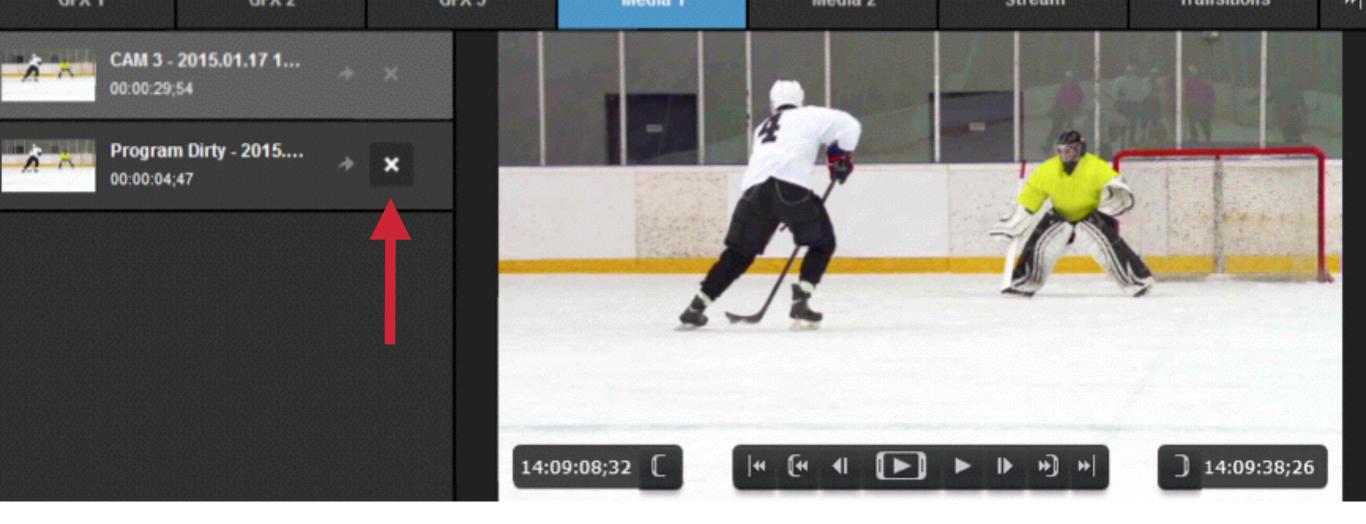
When the video has finished transcoding, you will be able to play it back in the media bin in Livestream Studio.





In addition to any clips you import, active recordings will also appear at the bottom of your media bin if you selected that option in settings. You can view them as they are recording.





320

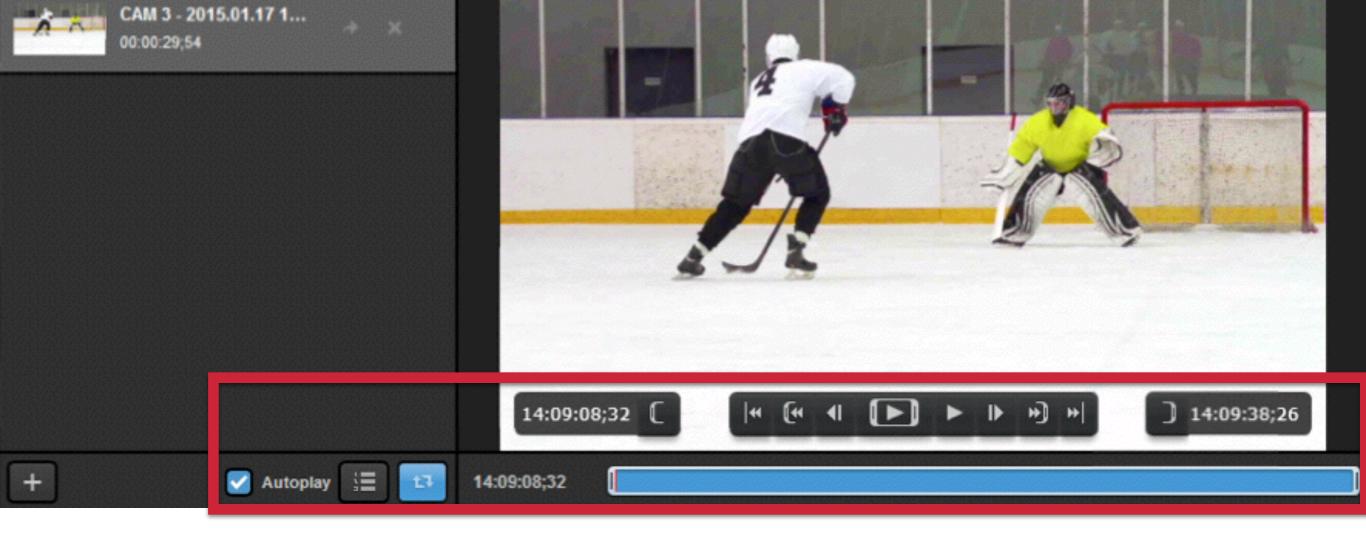
**live**stream

To delete a video from your bin, click the 'X' to the right of the video name. This will not delete any files from your computer's hard drive.

# Media Playback

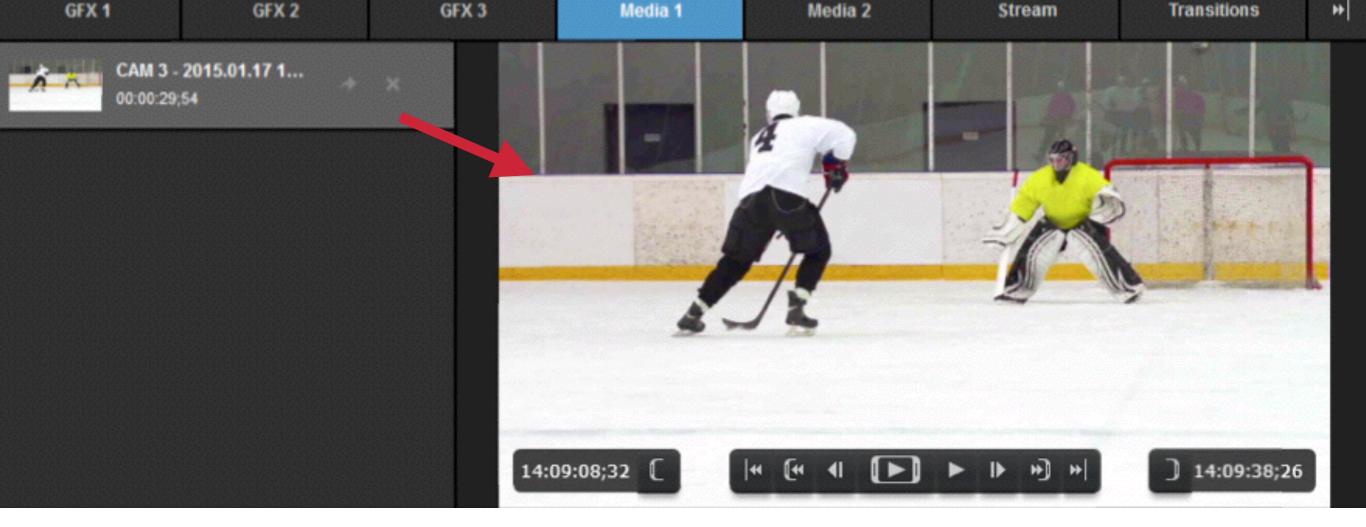
Controls and options



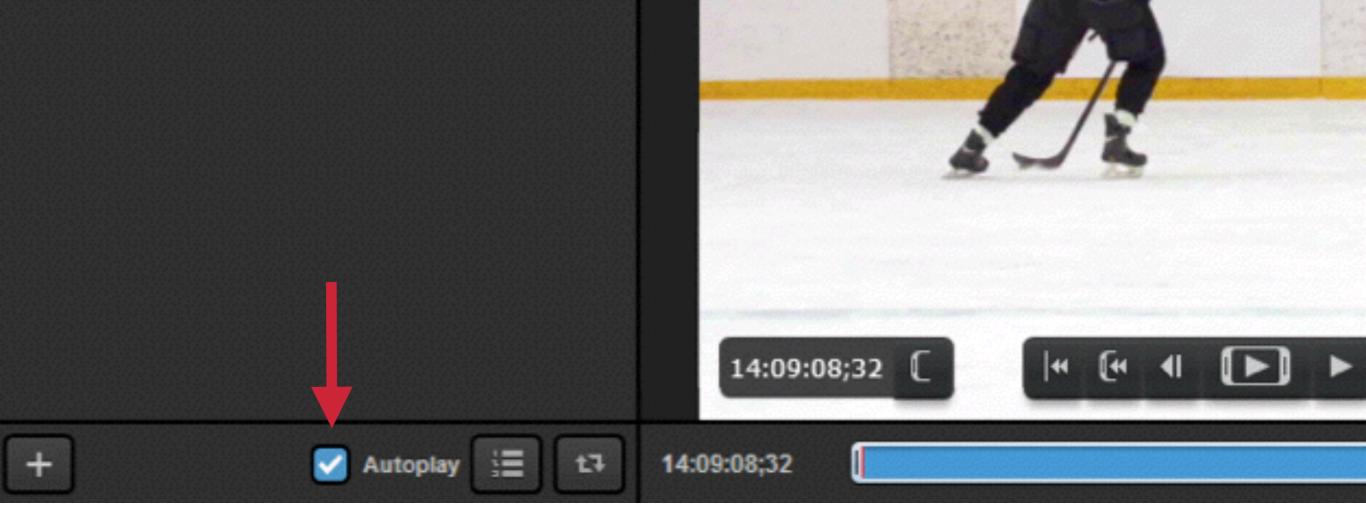


Each media bin comes with a variety of controls and options for playing back your clips.

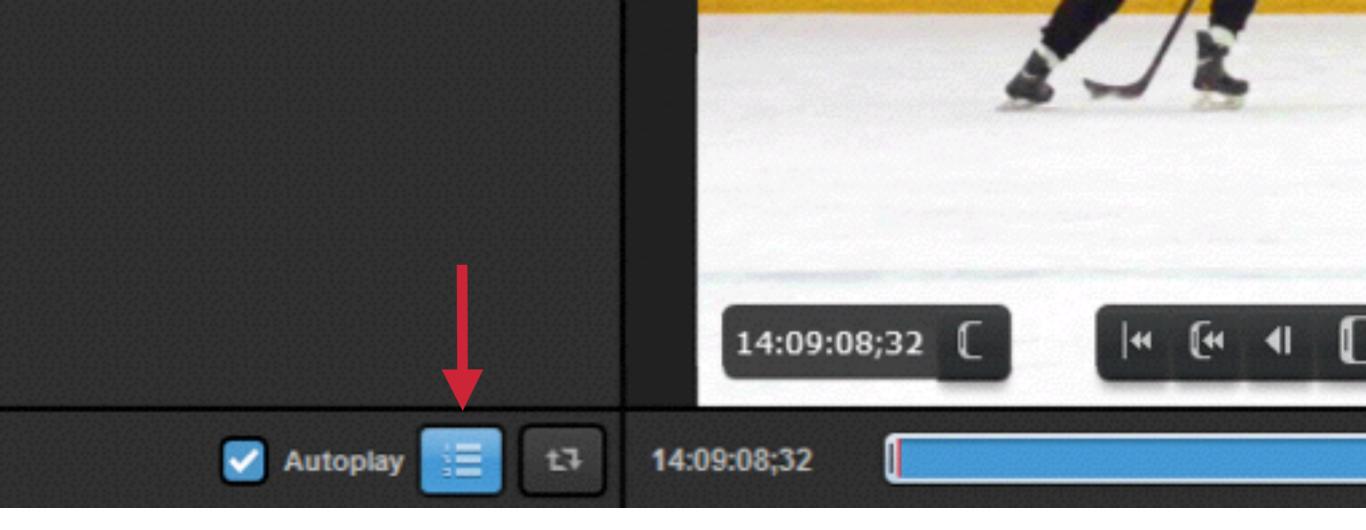




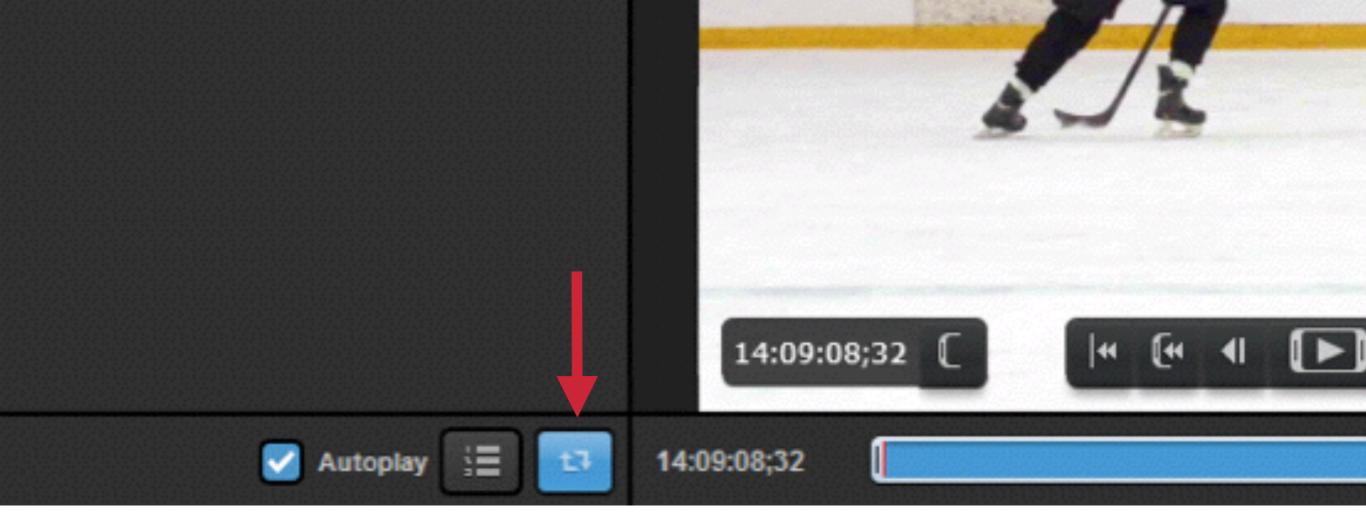
To queue a clip in your media bin, simply click on it with your mouse to highlight it. It will also appear in the player to the right.



Checking 'Autoplay' will tell Livestream Studio to start playing the queued video when the media bin source is taken into Program.

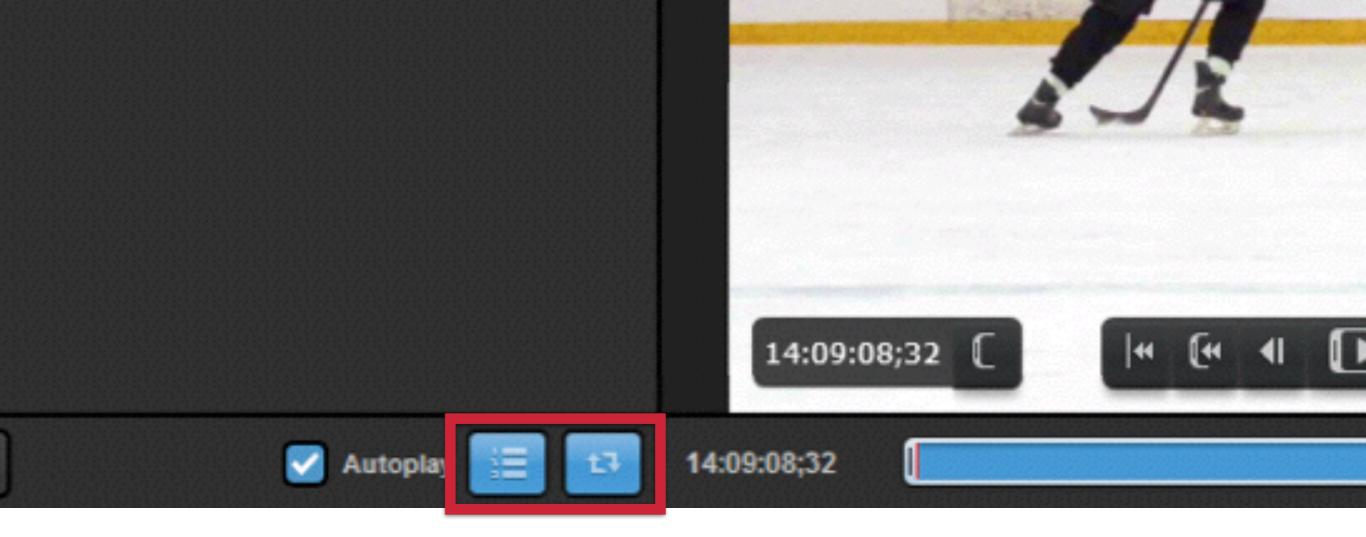


If you have multiple videos that you want to play back-to-back, select the 'play as list' button. When one video ends, the next one will start playing immediately.



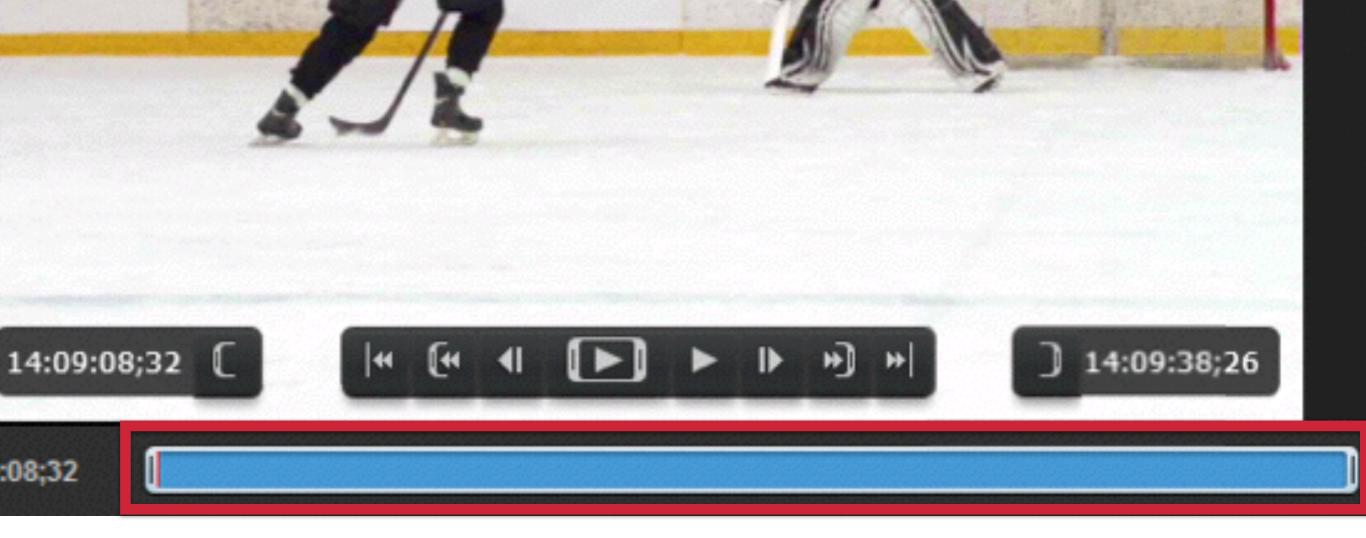
If you have one clip that you want to repeat, select the 'loop' button.





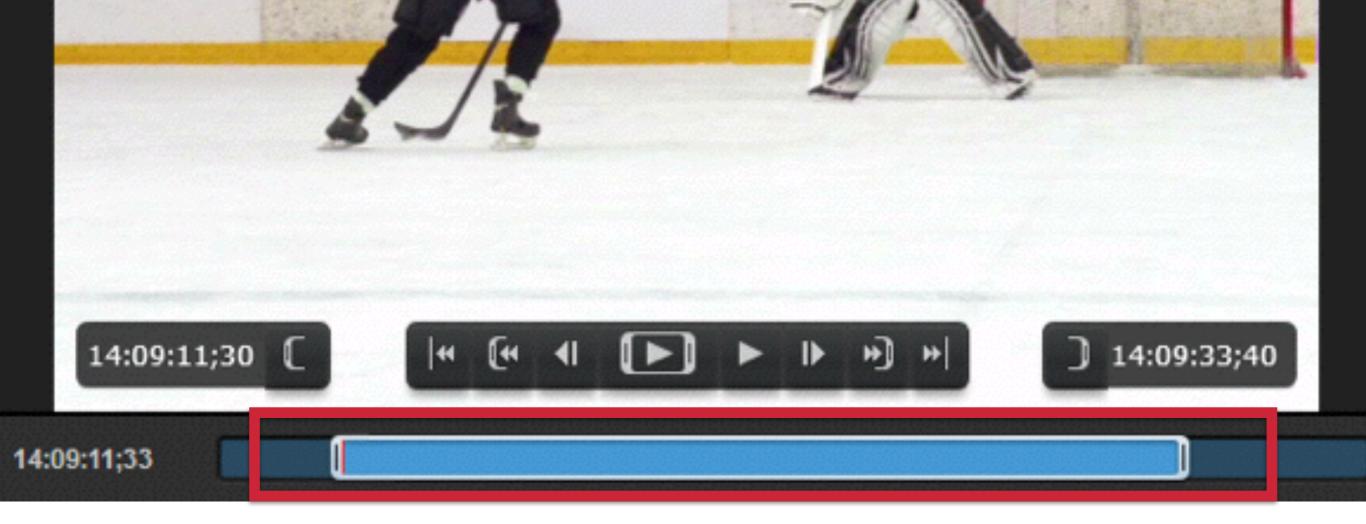
If you highlight both 'play as list' and 'loop,' the media bin will playback all videos in order and then loop back to the first clip when the last one has finished.





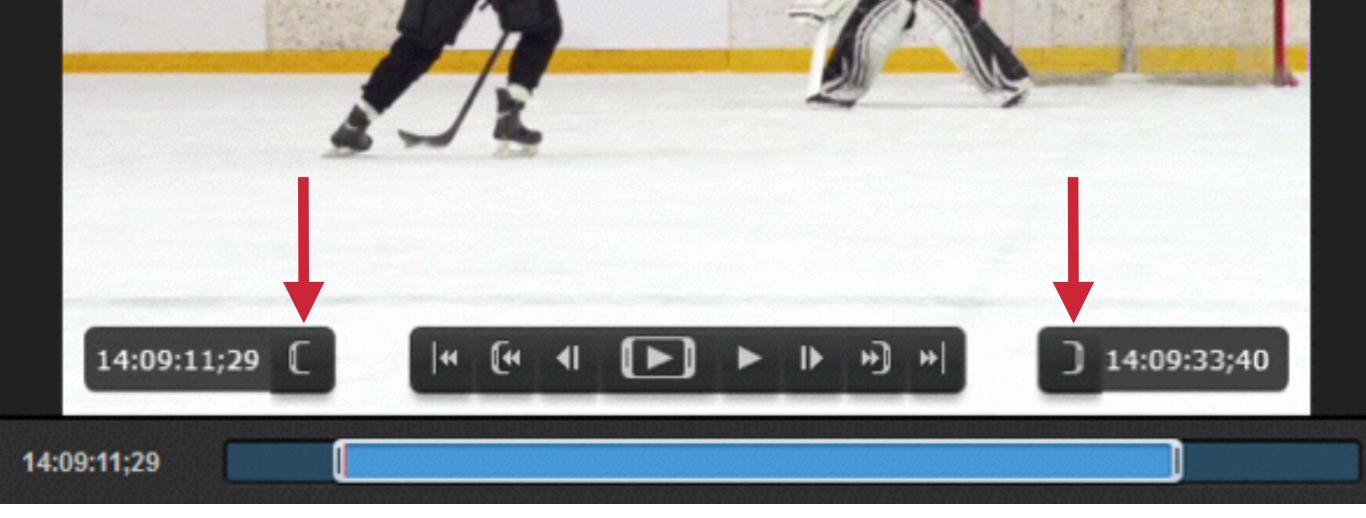
Under the player to the right is a blue timeline where you can track playback of your clip. Use your mouse to drag the red cursor to any point within the clip.





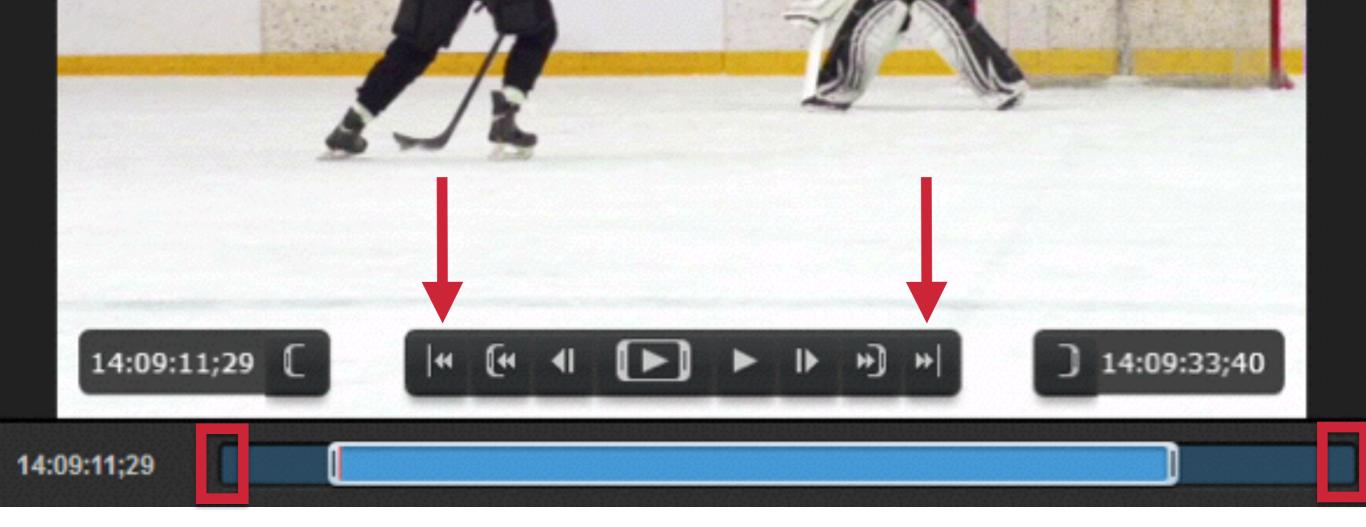
With your mouse, you can drag and drop both ends and set In and Out points if you want to playback only a portion of your clip.





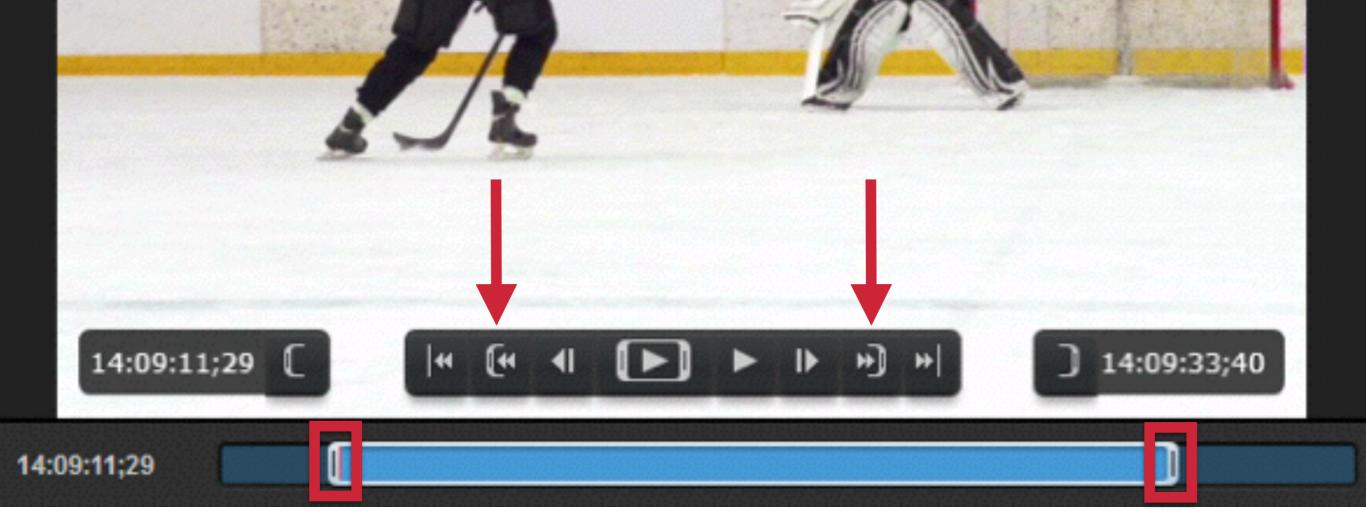
You can also set In and Out points by dragging the scrubber to the desired point and pressing the corresponding In or Out bracket button above the timeline.





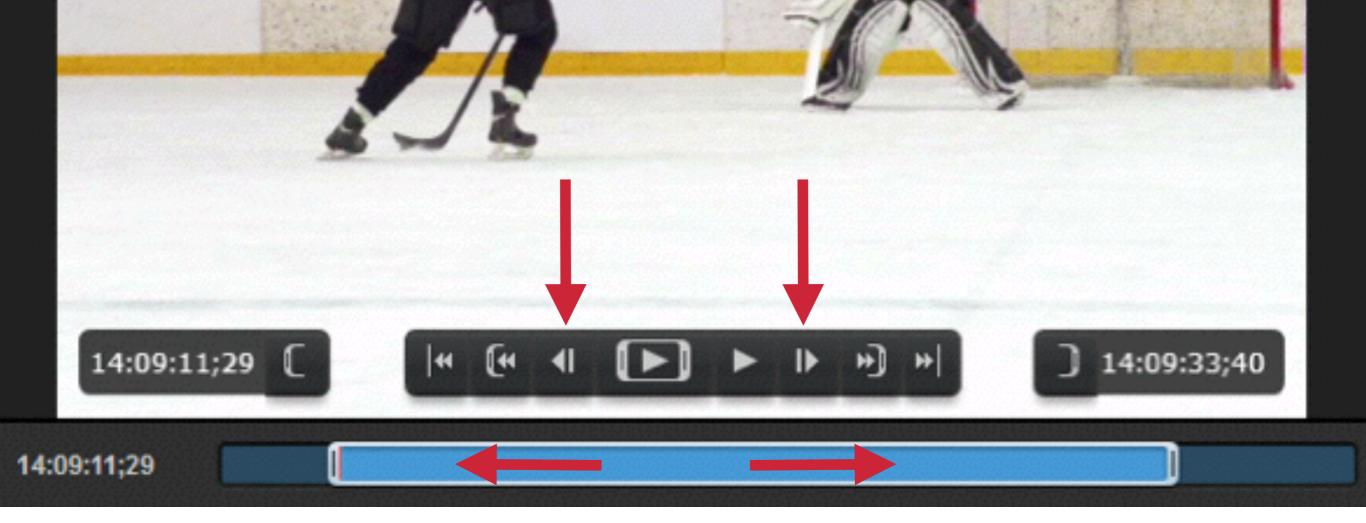
The first and last buttons jump the clip to the beginning of the full clip, regardless of whether there are set In and Out points.





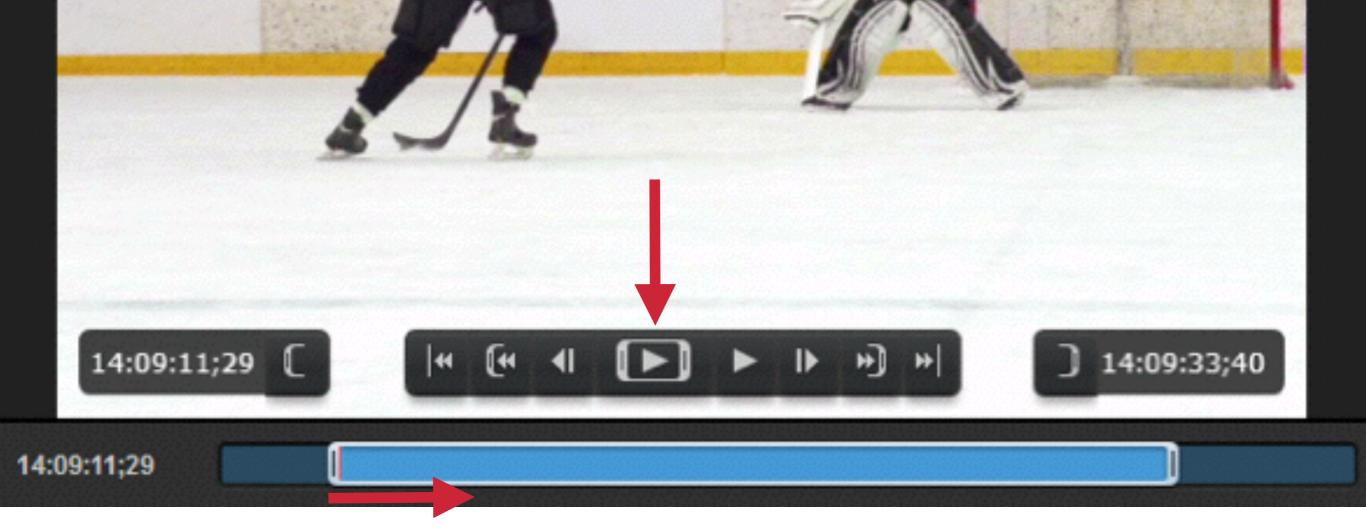
The next pair of controls in will jump to the beginning and end, respectively, of the clip's set In and Out points.





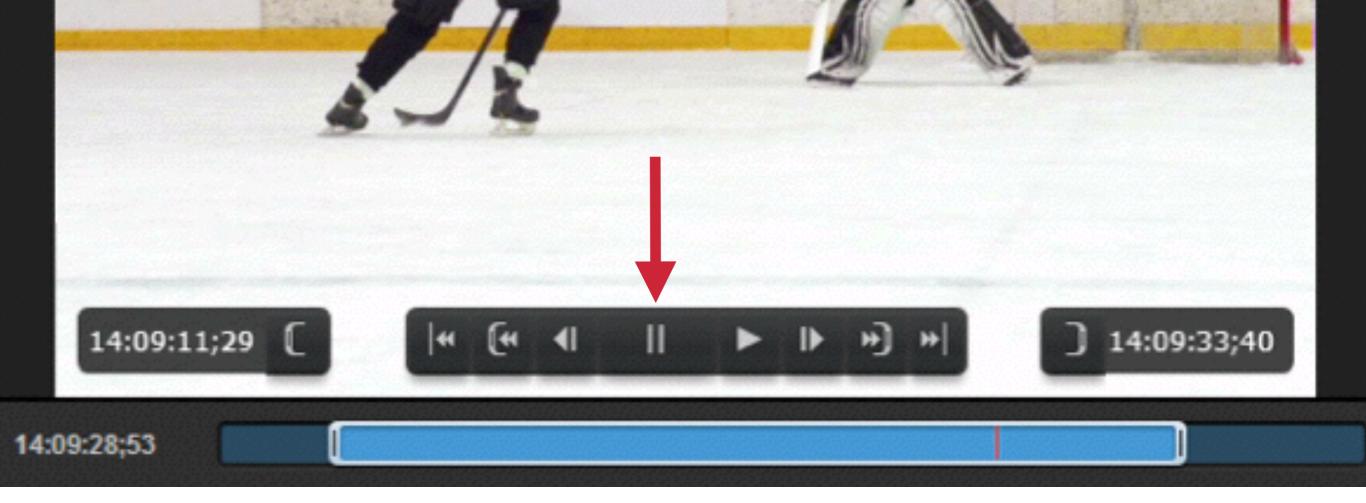
The next pair of controls can jog your clip forward and backward, respectively, frame by frame.





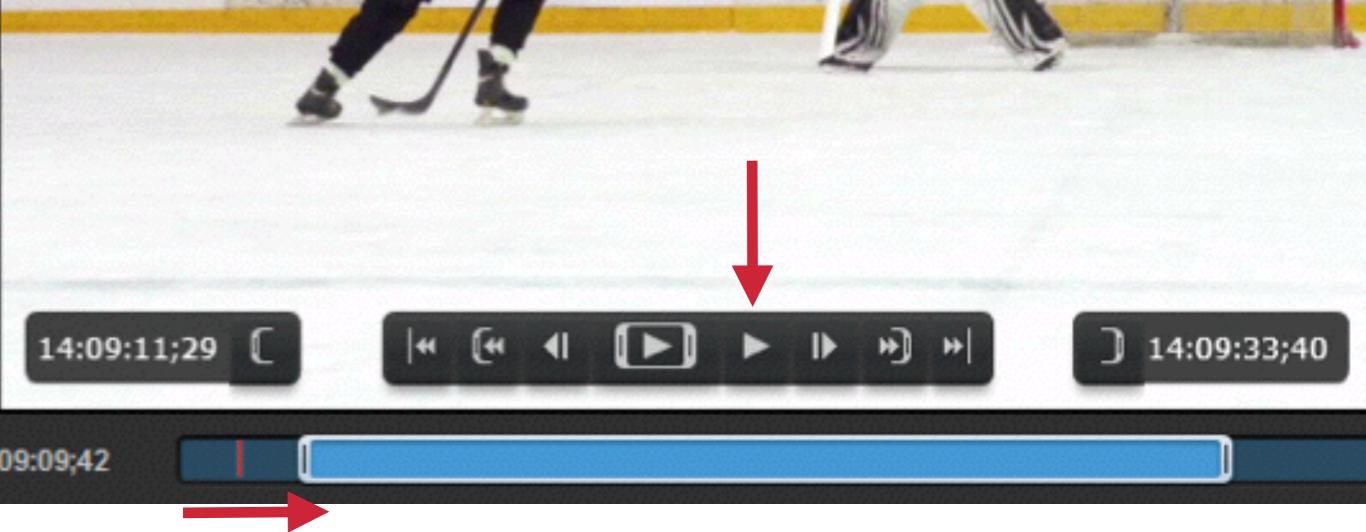
The play control surrounded by brackets will play the clip starting from the In point and finishing at the Out point.





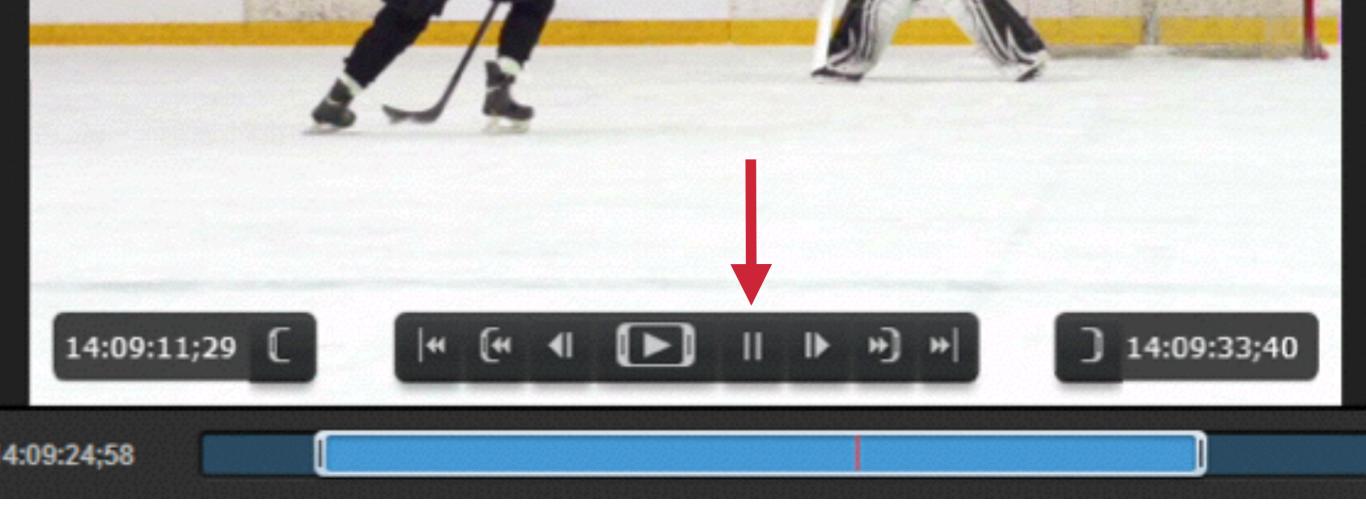
When clicked, this play button will turn into a pause button, allowing you to stop playback at any point.

**live**stream



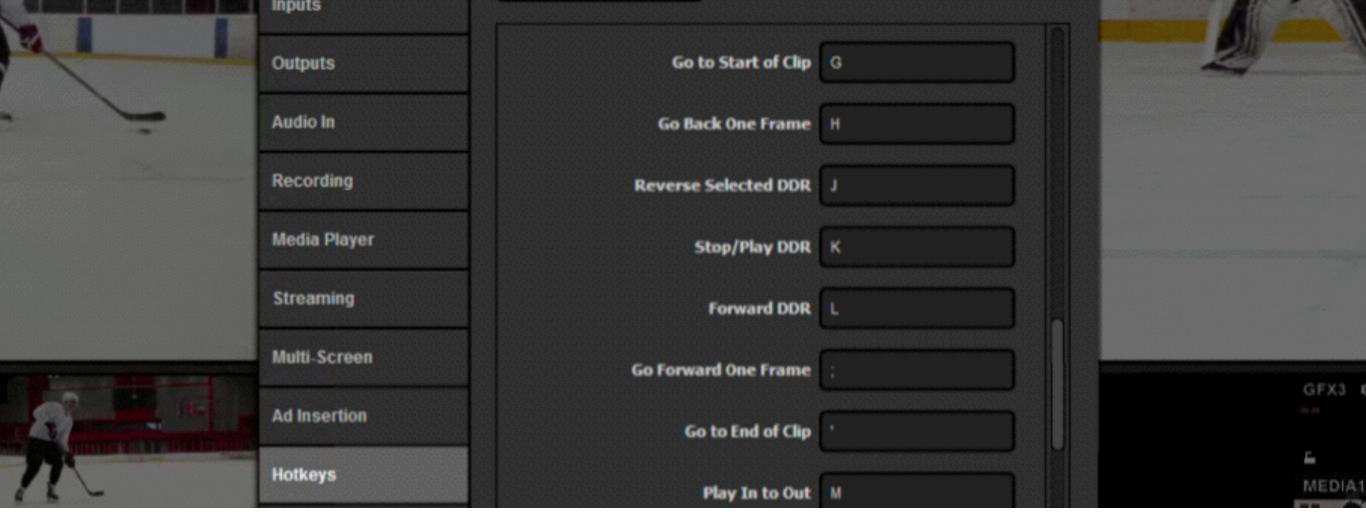
Next, you can play back the full video from wherever the scrubber is located by using this play control.





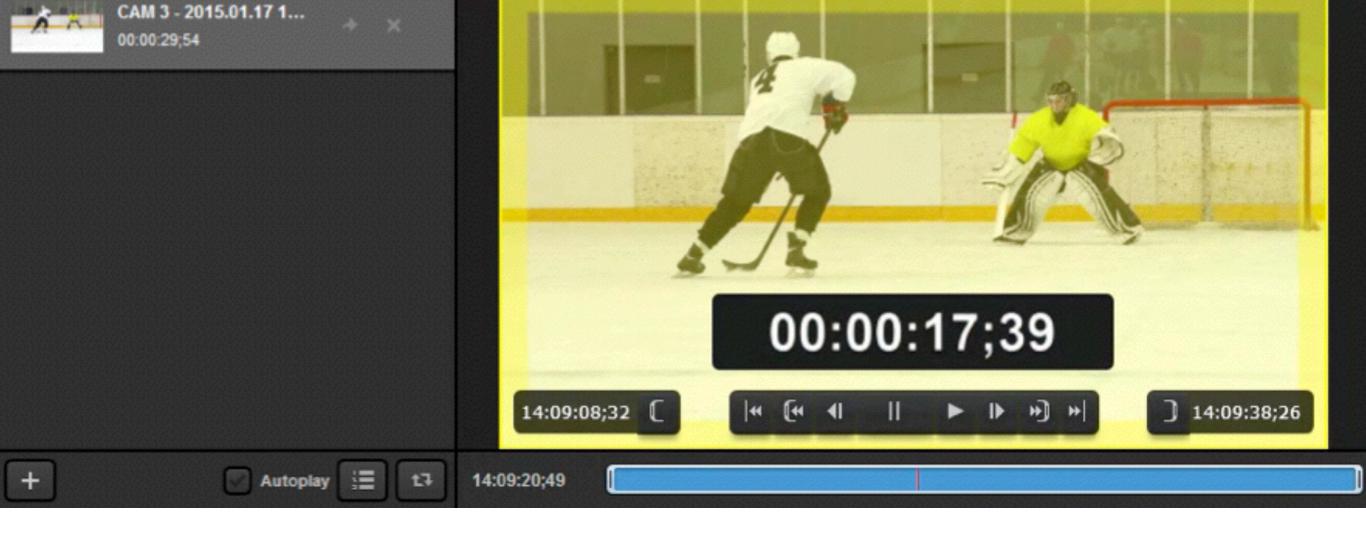
This play button also turns into a pause button when the clip is playing back.



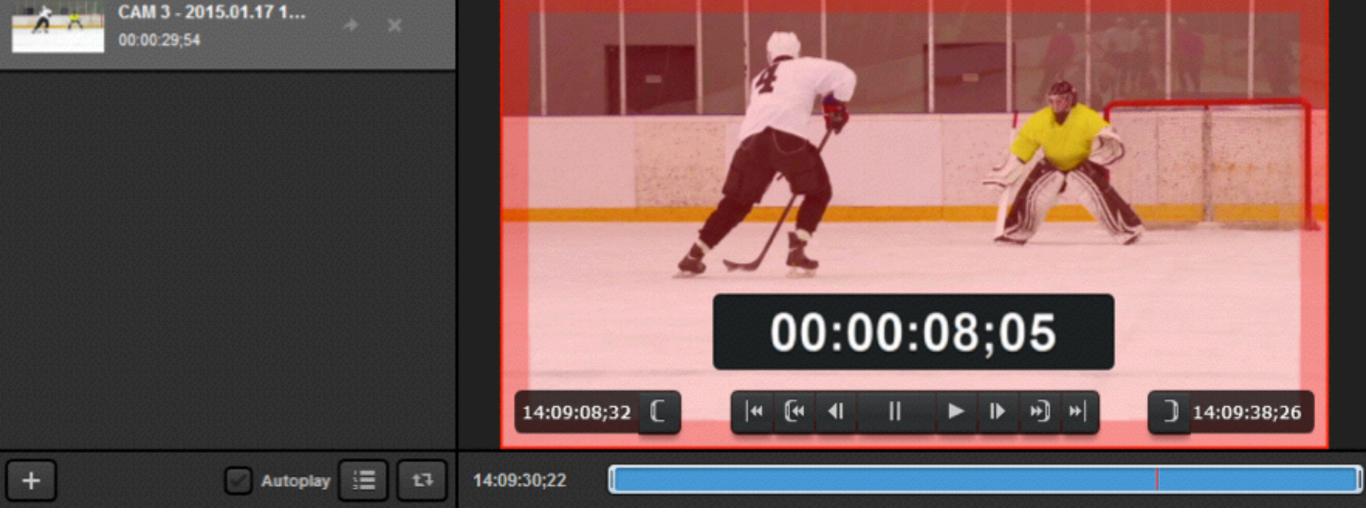


These controls all have hot keys assigned to them. Check your settings to see what they are by default or change them to your preference.



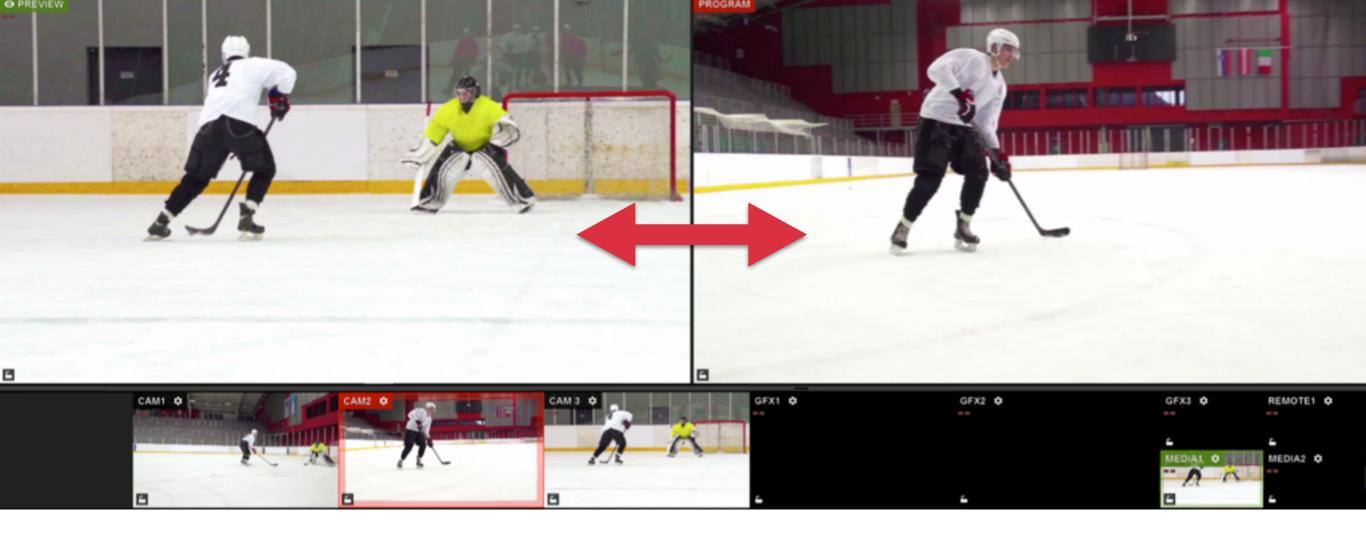


When playing back the last clip of a playlist or any clip that is not looping, Studio will give warning indicators as you are near the end of a clip. Yellow indicates 20 seconds or less are remaining.



When the media bin player turns red, that indicates 10 seconds or less are remaining.





When the clip reaches the end, it will automatically transition to the source in Preview.

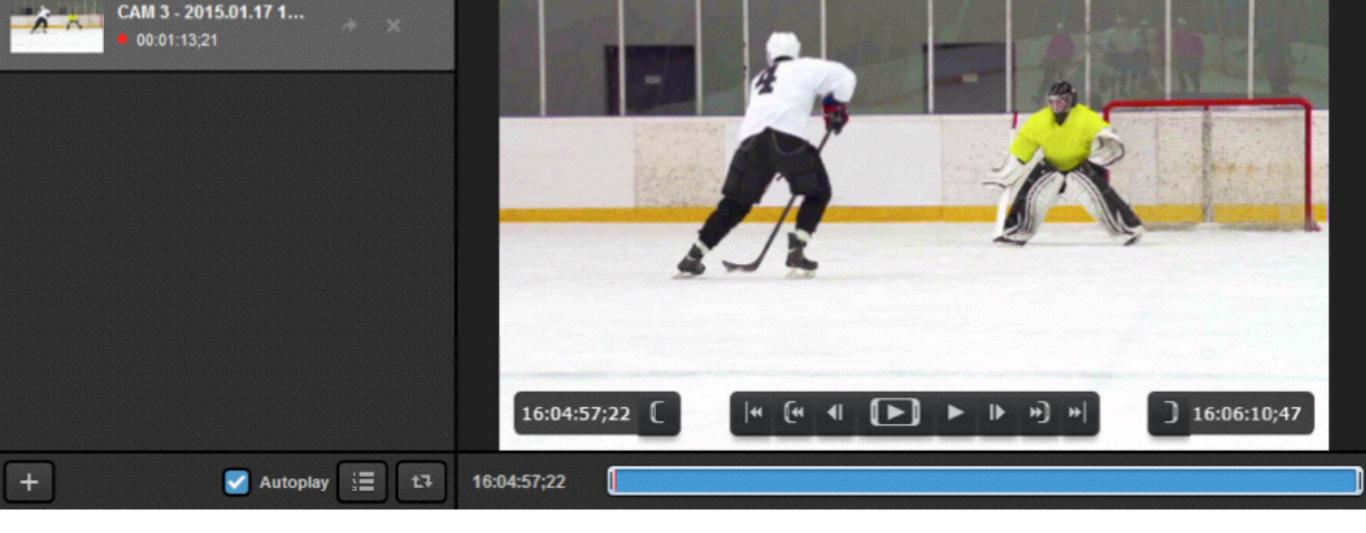
Note: This functionality will only work if 'Autoplay' is checked. It is recommended to have 'TIE BG' selected so that the video sources switch.



## Media Playback

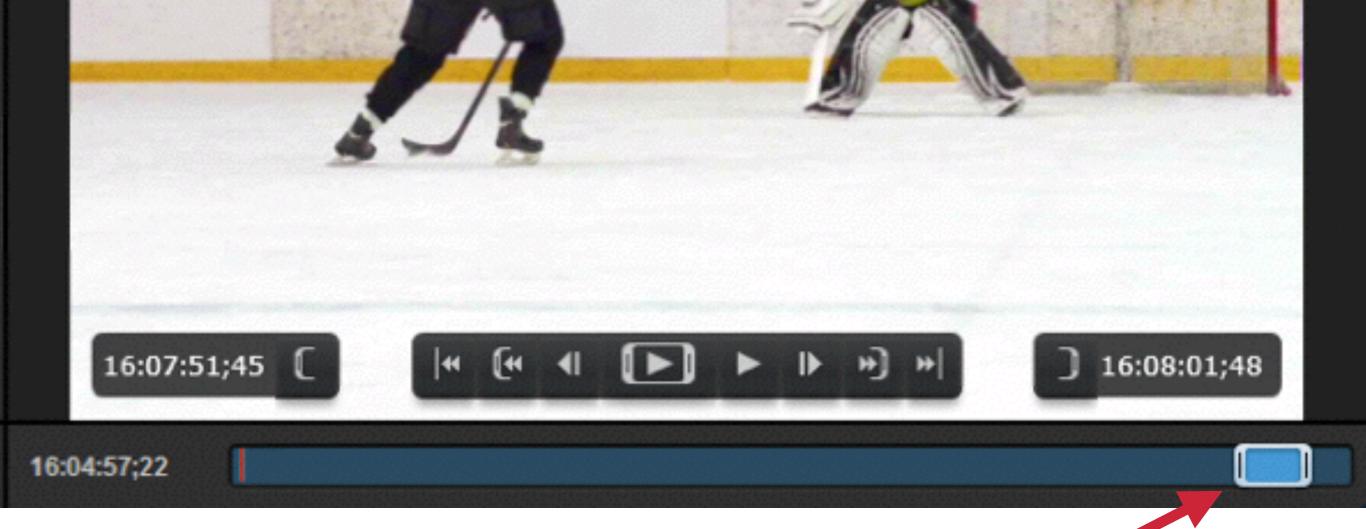
Replay functionality





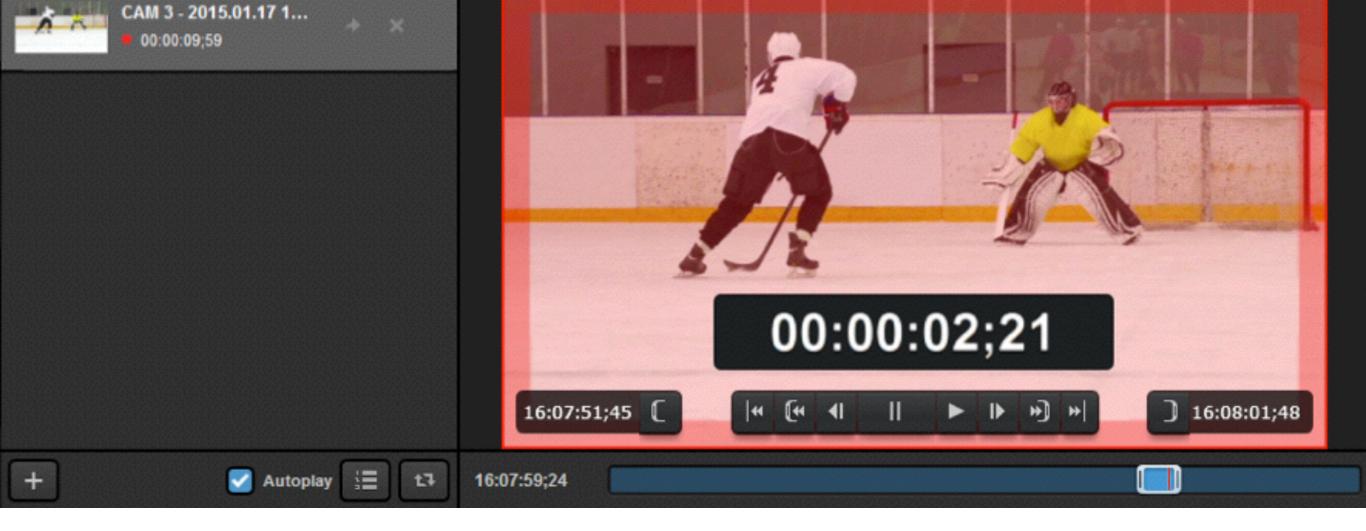
When you start recording and have recordings set to go to your media bin, you will see the recorded files populate in the media bin immediately.





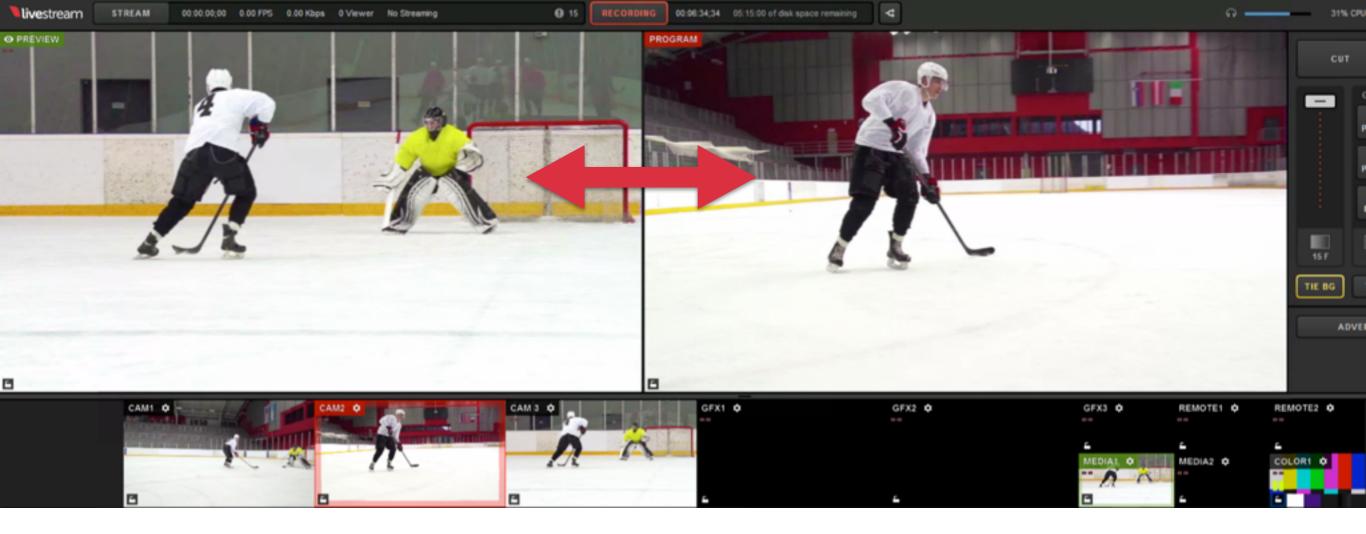
By default, pressing 'R' on the keyboard will set an In point for the previous 10 seconds, and an Out point for the current timestamp.





When you bring that media source into Program, it will start playing that 10 second segment and will give a countdown for how much time is left.





When the clip reaches its Out point, it will automatically switch to the Preview source, using the previous transition type you used (Cut or Auto).

Note: Be sure to keep 'TIE BG' selected and 'Autoplay' checked.

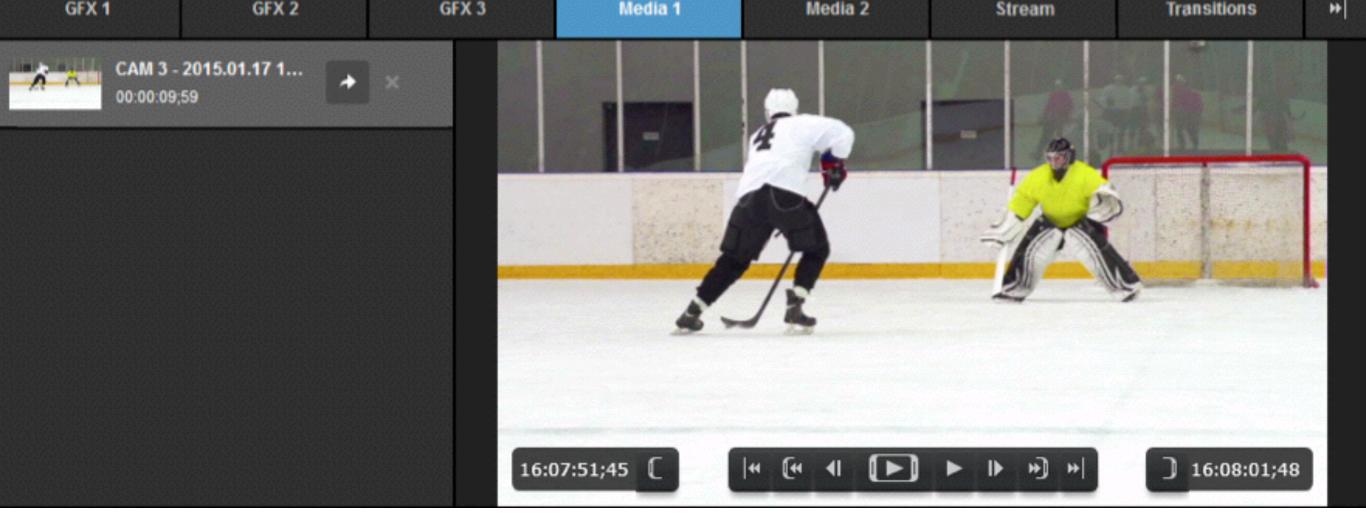
Streaming	Transcoding Cache	300 GB				
Multi-Screen	Transcoding Bitrate	75 (Mbps)	-			
	Basic Replay	10 seconds before current timest	amp			
Ad Insertion		When the Basic Replay shortcut key is pressed ("R"), set a new in-point of the current recording				
Hotkeys		using the above setting.				
	Export Location	BROWSE C:\Users\Livestream\Videos\				
Mouse / Touch	Video Resolution	1280 X 720				

The default setting for the amount of time your replay covers can always be adjusted in under the 'Media Player' tab in settings.

## Media Playback

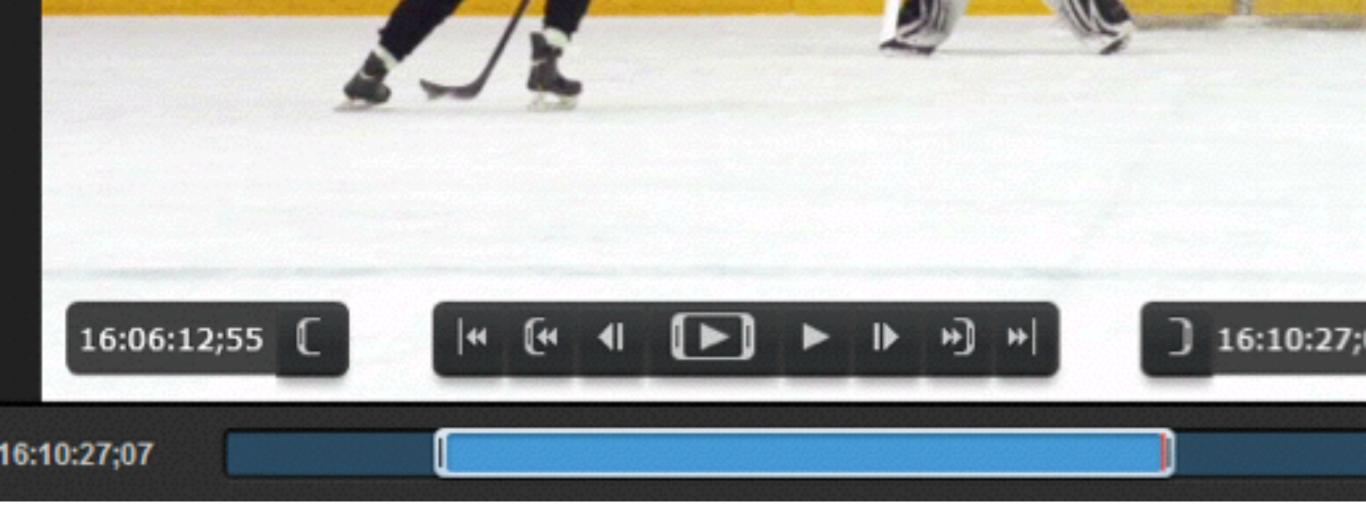
Exporting media





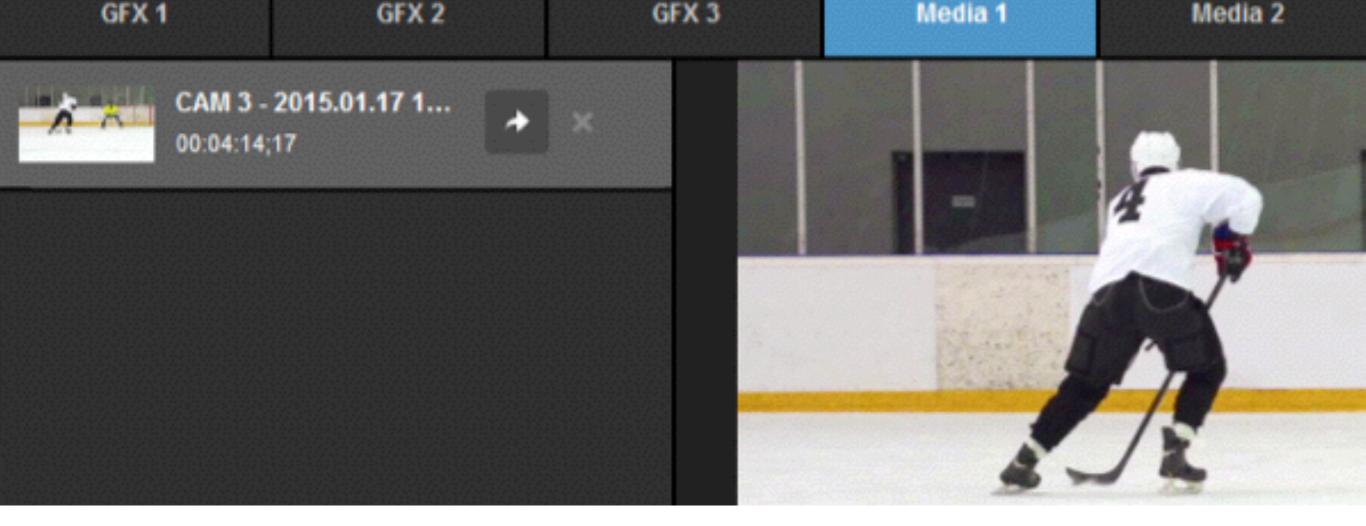
The media bin has an export tool that permits turning any part of your clips into its own H.264 .mp4 file on your system. First, select a video you want to export.





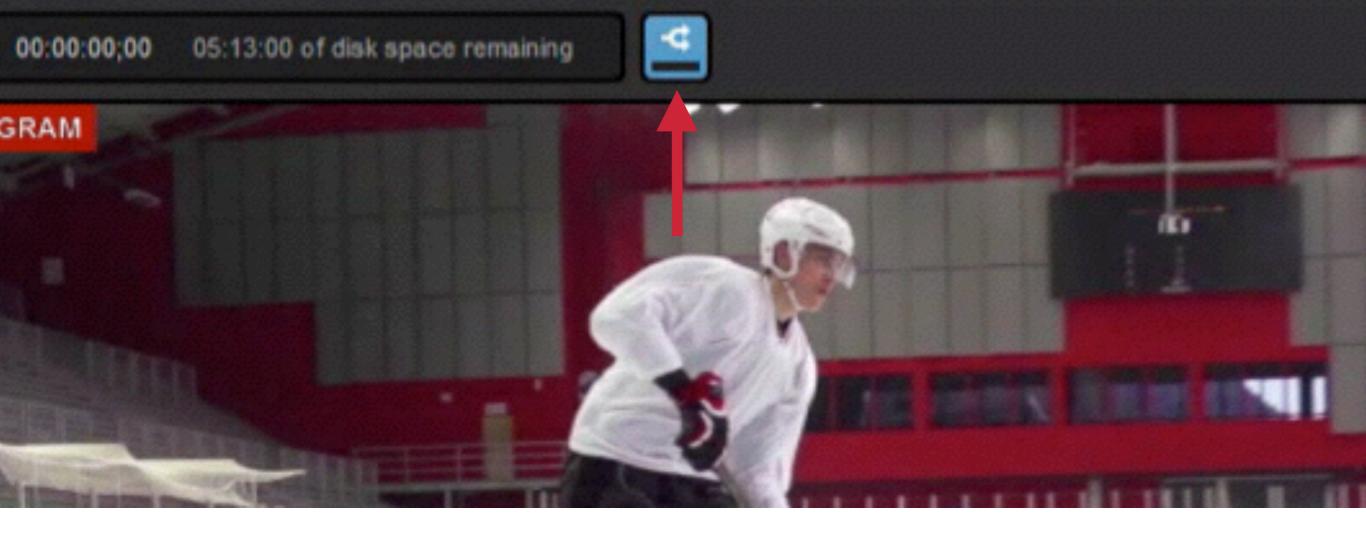
Set In and Out points for your clip. If you want to export the full video, make sure the brackets enclose the entire timeline.





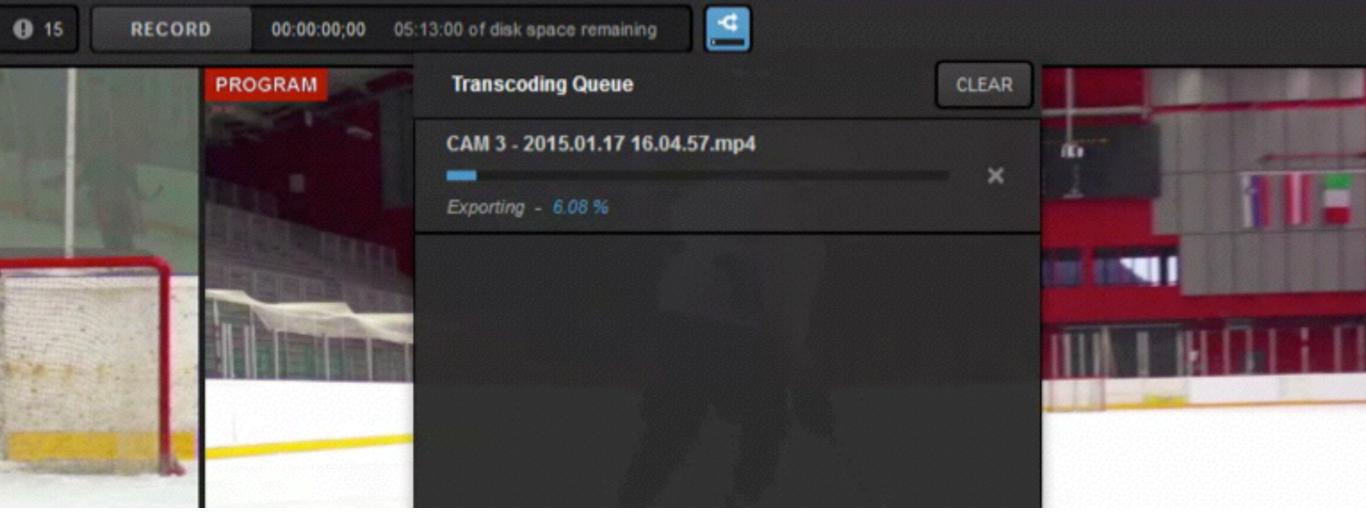
When you are ready to export your clip, click on the arrow icon next to the video's name.





The double arrow button at the top of the interface turn blue and show a small progression bar as your clip is exporting.





Click on the button to view your transcoding queue. This will tell you how much time is left in your clip and the status of any other transcoded or exported video.



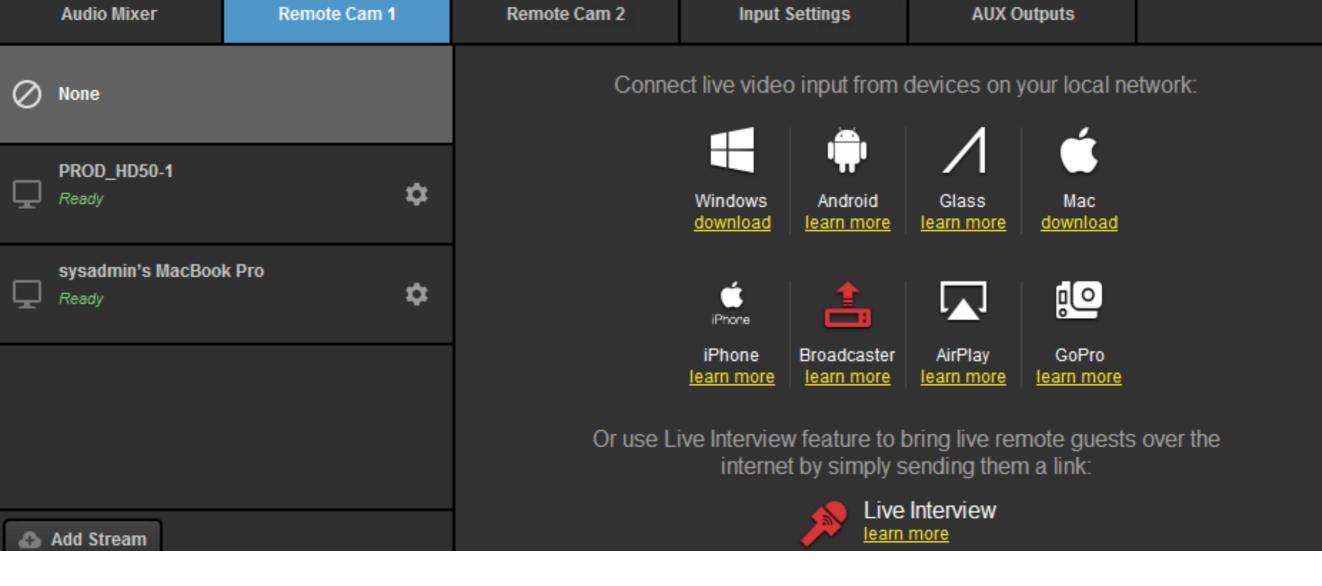
## Adding remote cameras

Remote Desktop Client for Windows

1	mouoorrouon		GFX3	GFX 3	Disabled	None		
	Studio Surface		MEDIA1	Media 1	Embedded	None		
	Advanced		COLOR1	Colors/Bars 1	Embedded	None		
	Cupport		REMOTE1	Remote Cam 1	Embedded	None		GFX
	Support		REMOTE2	Remote Cam 2	Embedded	None		
	License	6						
0 dF	About	+						
ę								

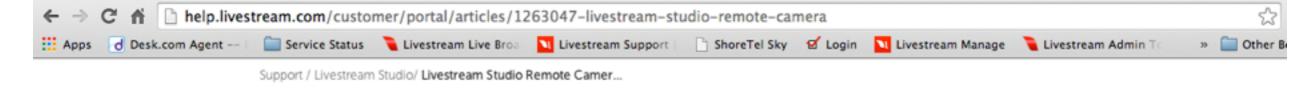
Livestream Studio includes up to 10 remote camera modules that can be added in the '**Inputs**' tab in settings.





The remote camera modules will appear in the lower right corner.





## Livestream Studio Remote Camera

Last updated on Sep 25, 2014 09:19AM EDT



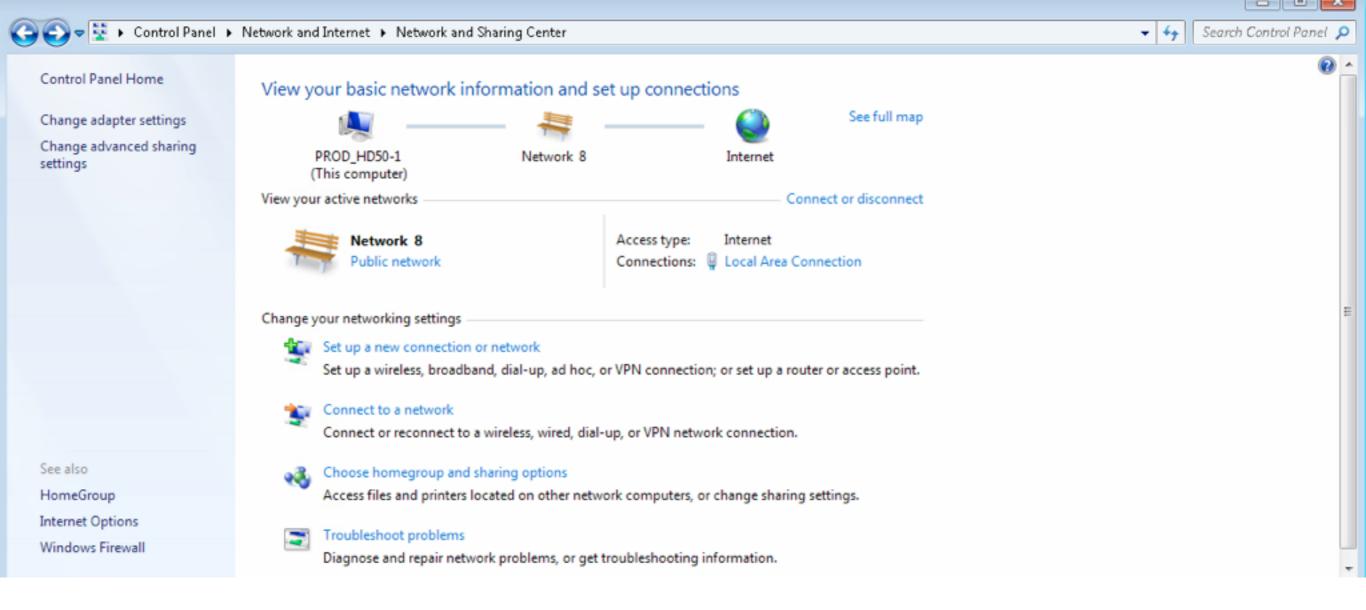
Starting with Livestream Studio™ version 1.4, users have the option of using a remote desktop on the same local network as a source. There also the option of adding an existing New Livestream broadcast as a

source.

Remote Desktop Client for Windows Click here to download

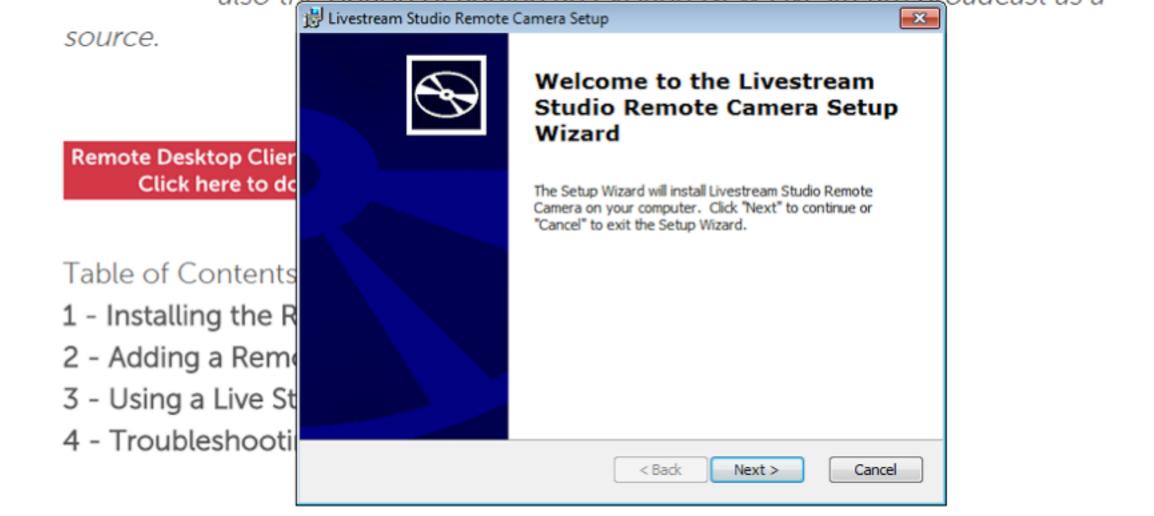
One option is a Windows desktop that is connected to the same network as Livestream Studio. Download the Remote Desktop Client software on that computer from the Livestream <u>Help Center</u>.



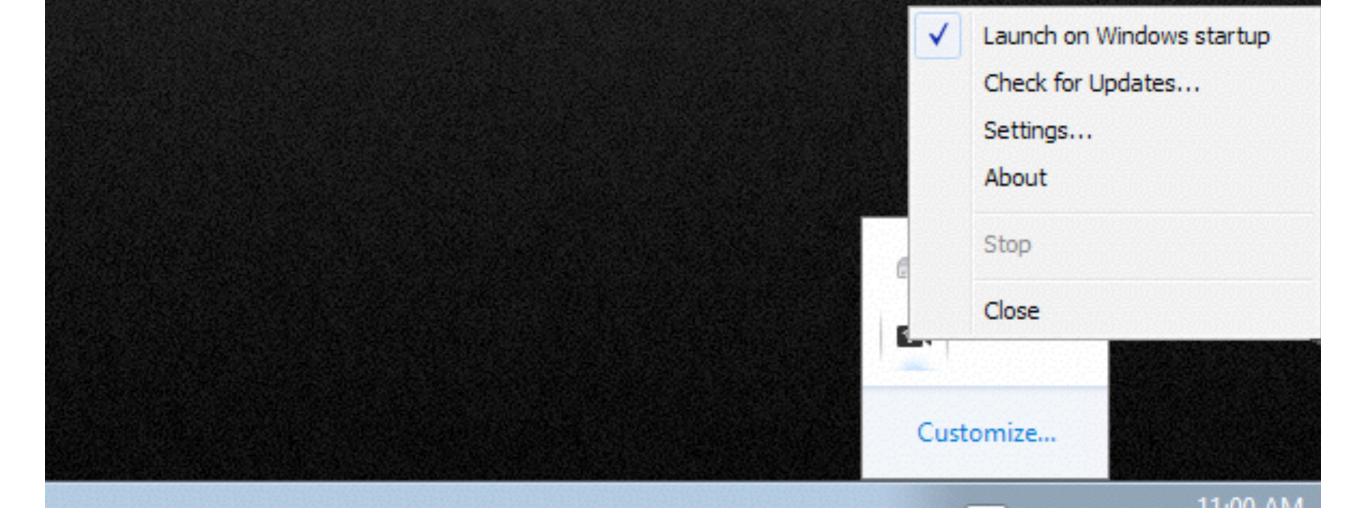


In order for the Windows remote camera to work, your remote computer must be connected to the same network as your Livestream Studio system.





Open the downloaded file and follow the on-screen steps to run the installation wizard, then click 'Finish.'

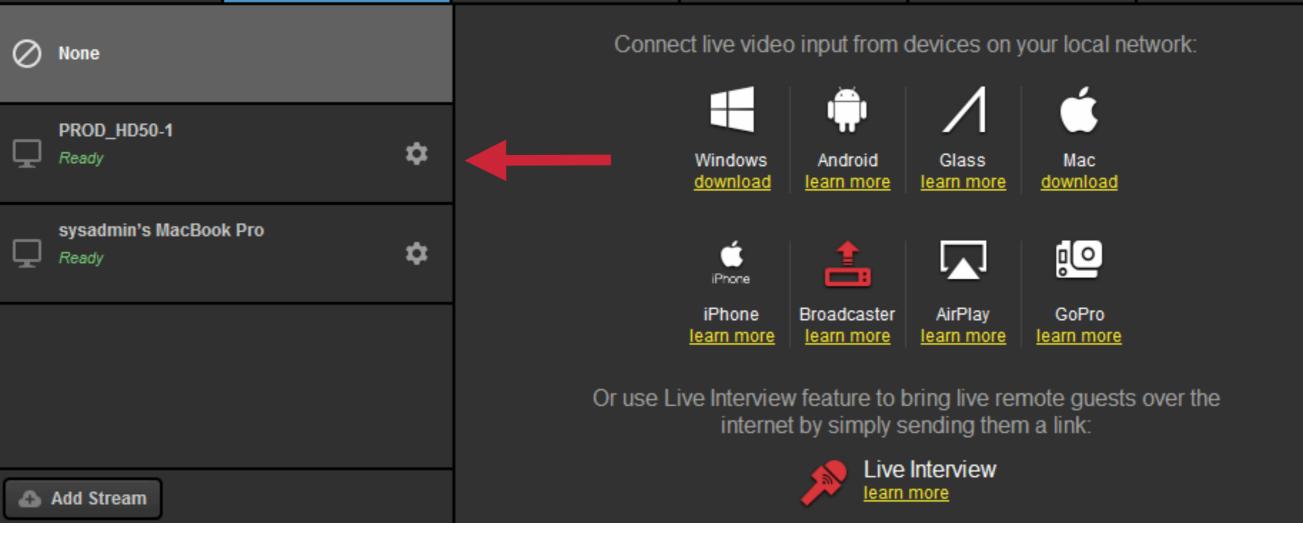


Remote Camera will launch in the background of your PC. Right-click on the icon in the bottom toolbar and click 'Settings.'

Livestream	Remote Camera Settings	CANCEL SAVE		
Computer Name	Remote PC			
	Slackmagic - DeckLink SDI Quad [1]	SHOW SETTINGS		
	Slackmagic - DeckLink SDI Quad [2]	SHOW SETTINGS		
	Slackmagic - DeckLink SDI Quad [3]	SHOW SETTINGS		
	Slackmagic - DeckLink SDI Quad [4]	SHOW SETTINGS		
	Slackmagic - DeckLink Studio 2	SHOW SETTINGS		
	Desktop - VX2239 SERIES		n	
	Desktop - VX2450 SERIES			
Encoder Quality	D HD 1080p			
	<ul> <li>HD 720p</li> <li>SD 480p</li> </ul>			
Encoder Framerate	Half-speed FPS (30p)			
	Full-speed FPS			

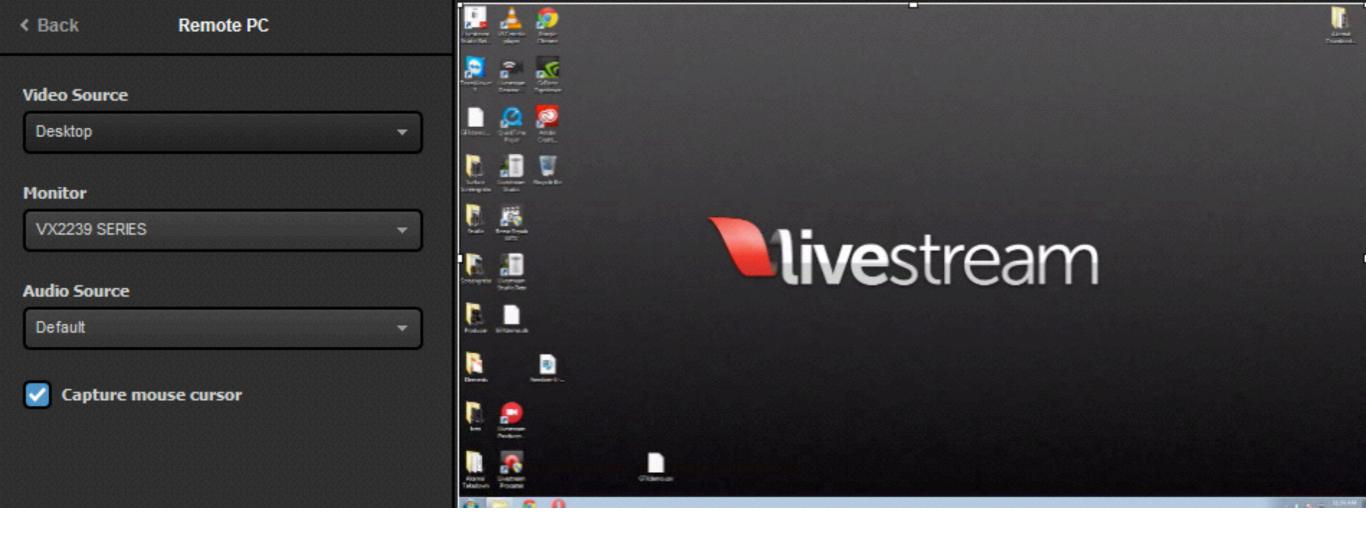
Here you can adjust your remote camera's name as well as set your video and audio signals from every source going into that PC.





Back in Livestream Studio, under the Remote Cam tab, you should see your PC listed as a source, assuming that computer is on the same network.



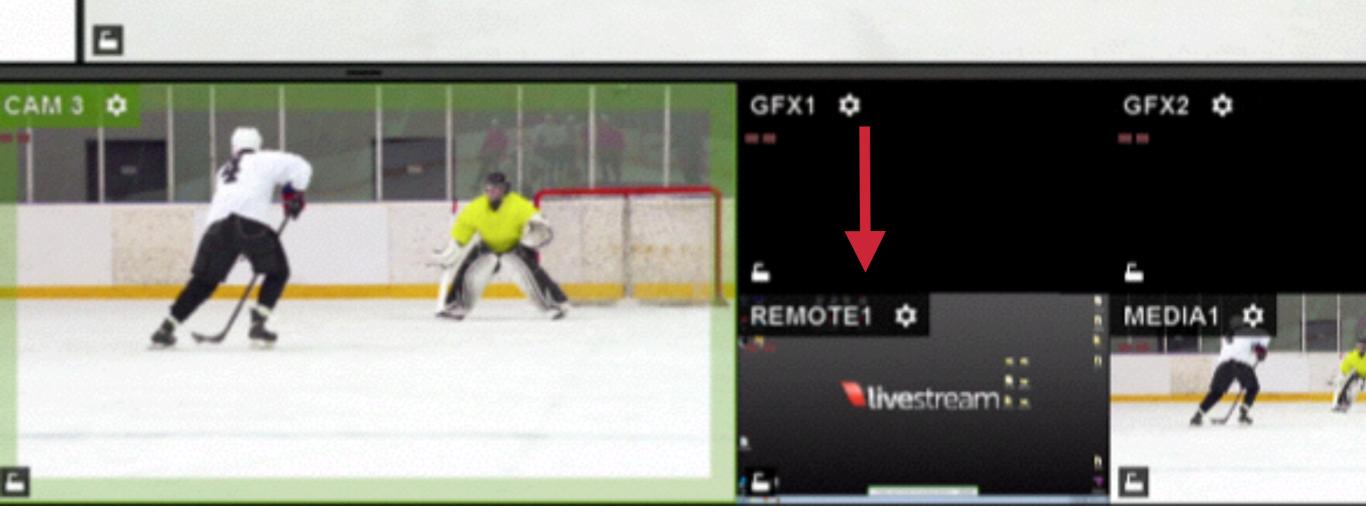


Click on the gearwheel to select the video source (if you have more than one such as desktop, webcam, etc.), audio source, and other settings depending on the source.





You can crop the source within a matching aspect ratio if you want to show only part of the image. Use your mouse to drag and drop the border in the module on the right side.



Remote camera will be in your multi-view and can be transitioned into Preview and Program the same way as other sources. Expected latency is one second or less.



# Adding remote cameras

Remote Desktop Client for Mac





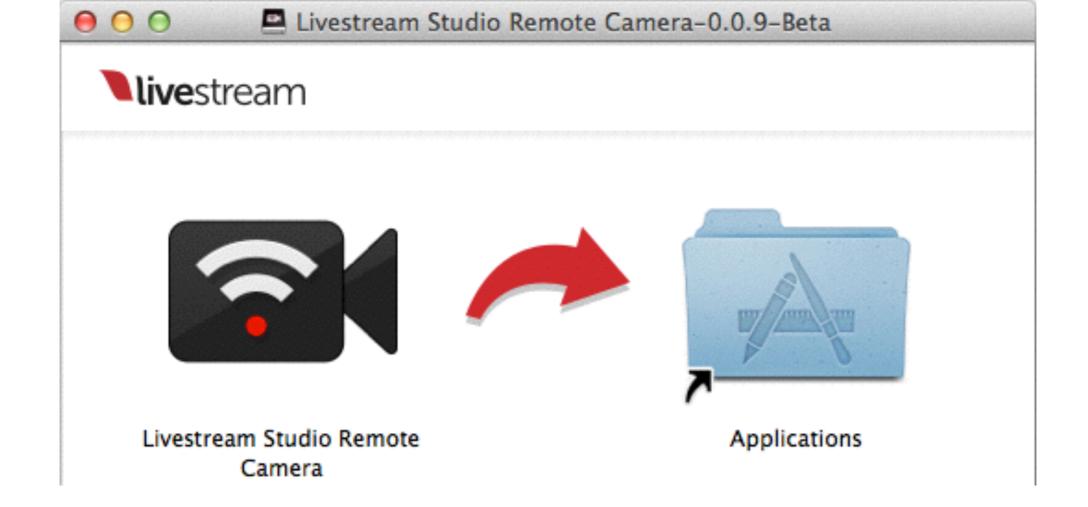


#### <u>Click here</u> to download Livestream Studio Remote Desktop Client for Mac OS X.



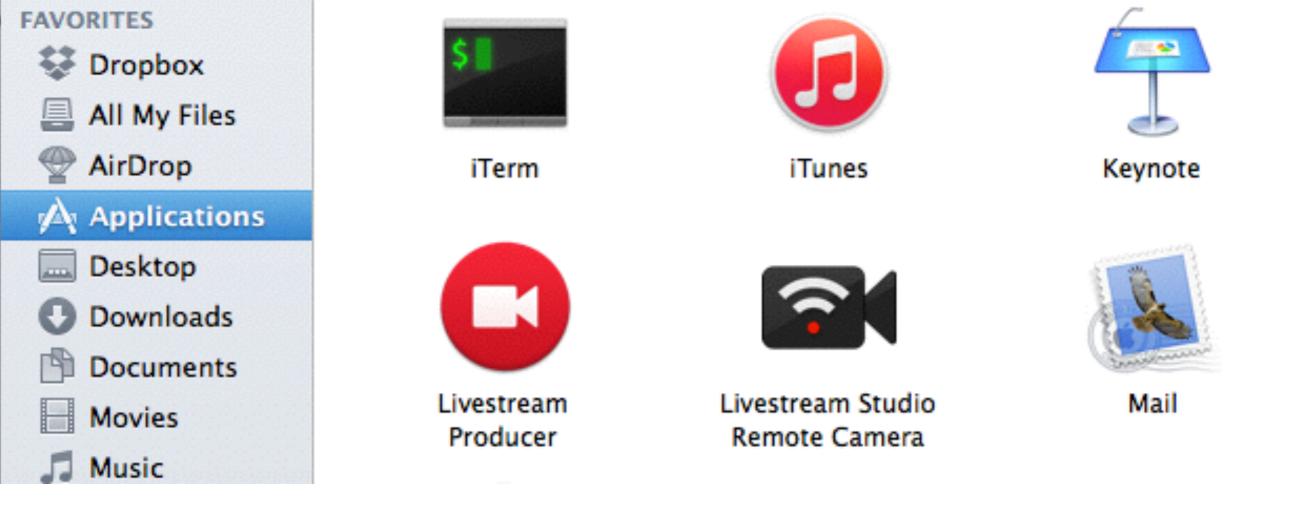


Double-click the Livestream Studio Remote Camera Beta.dmg file in Finder to start the installer.

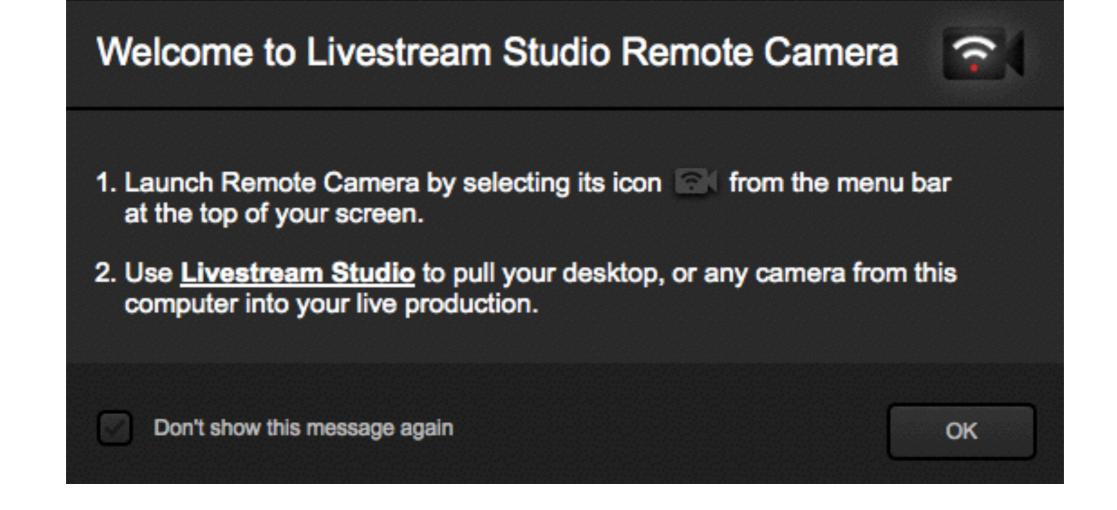


### Drag the Livestream Studio Remote Camera into the Applications folder.





Go to the Applications folder and double-click the Livestream Studio Remote Camera to open the application.

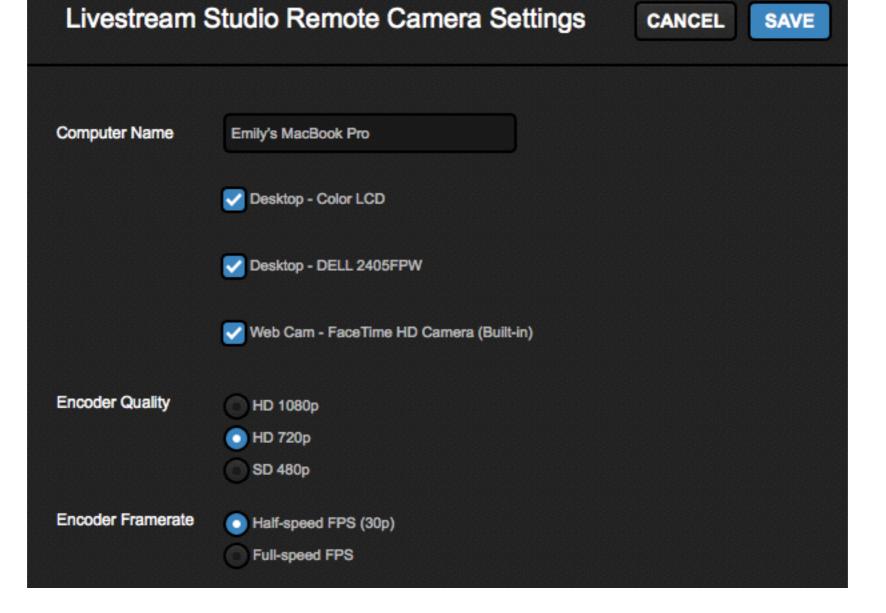


This window will pop up, indicating that the remote camera icon will appear on the menu bar at the top of your screen. You can choose to prevent this message from appearing again.

🔤 AI 1 🕲 🐺 🖯 🚱 🗊 💁
✓ Launch on startup Check for Updates
Settings
Download Audio Redirector About
Stop
Close

```
When the Remote Client is
running, you can click the icon
and click 'Settings' to make further
adjustments to your remote
camera source.
```



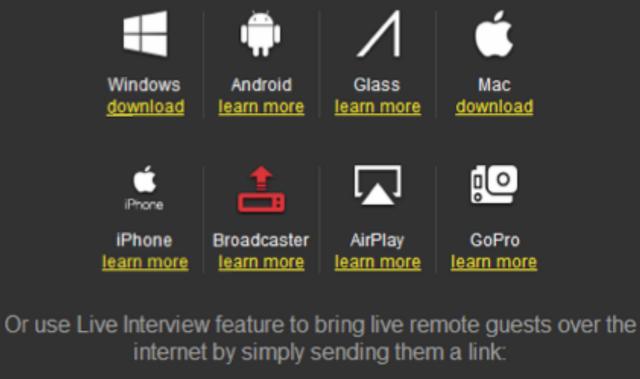


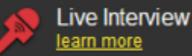
Here, you can change your computer's name (as it appears in Livestream Studio), what sources will be available, and the resolution and framerate the video signal will stream over your network to Livestream Studio.

Support	C	+ -				
Advanced						
Studio Surface		REMOTE2	Remote Cam 2	Embedded	None	
Studio Surface		REMOTE1	Remote Cam 1	Embedded	None	
Mouse / Touch		MEDIA2	Media 2	Embedded	None	
Hotkeys		MEDIA1	Media 1	Embedded	None	

Once the application is installed and running on your Mac, be sure your Livestream Studio and Mac systems are connected to the same network. Then add a remote camera source in the 'Inputs' menu.

Ţ	PRODHD500313 Ready	\$
Ţ	PROD_HD50-1 Remote Camera agent is already transmitting to another Studio	\$
1	Broadcaster-Pro-01603 Remote Camera agent is already transmitting to another Studio	\$
₽	Emily's MacBook Pro Ready	\$
4	Add Stream	

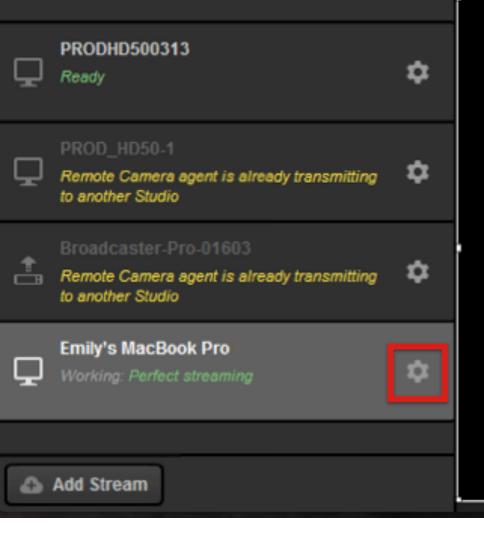




In the Remote Camera module, look for your Mac in the list of remote sources, and click it to activate.







Emily's MacBook Pro



Your first video source will appear. Click the gearwheel in the selection menu to access more settings.

Video Source	e Finder
Desktop 👻	
Monitor	1
Color LCD 👻	
Audio Source	
LivestreamDesktopAudioCapture 👻	
Capture mouse cursor	
	The second



Here, you can change which video and audio sources are being shown from your Mac. If you select a desktop monitor, you can also choose to hide or show the mouse cursor.



	<b>A</b> 1	۲	÷	0	95	٩
C S D	aunch heck f ettings ownlo bout	for U s	pdat	tes	directo	or
S	top					
C	lose					

Please note the application will run in the background of your Mac system until you close it, which you can do by clicking the icon in the menu bar and selecting 'Close.'



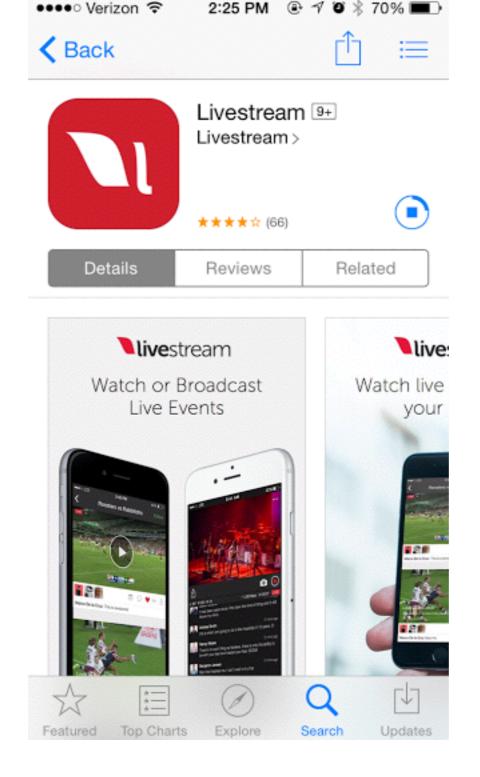
## Adding remote cameras

iOS devices

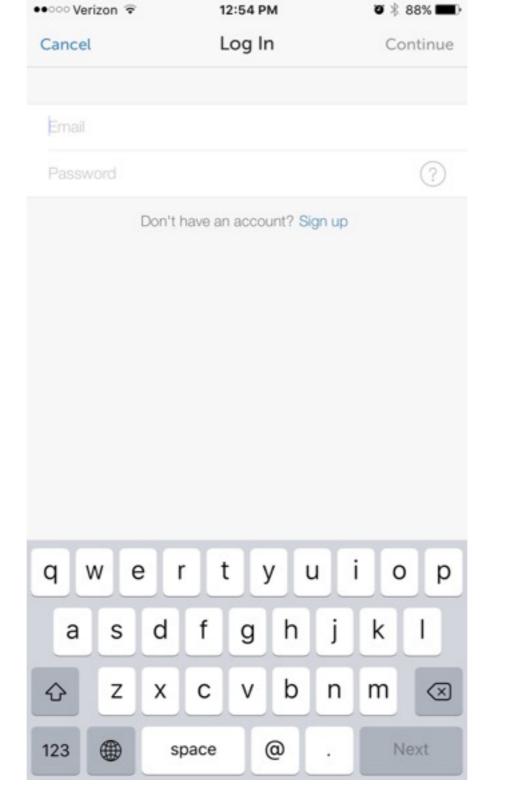


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Settings	Wi-Fi	
Wi-Fi		
<ul> <li>Is-office</li> </ul>		<b>₽ 奈 (i</b> )
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Livestream	GoPro3	<b>₽</b> ╤ (j)
ls-guest		<b>₽ 奈 (i</b> )
studio1		<b>≜ 奈 (ì</b>
Other		

In order for the remote camera to work, the iOS device must be connected to the same network as your Livestream Studio system.

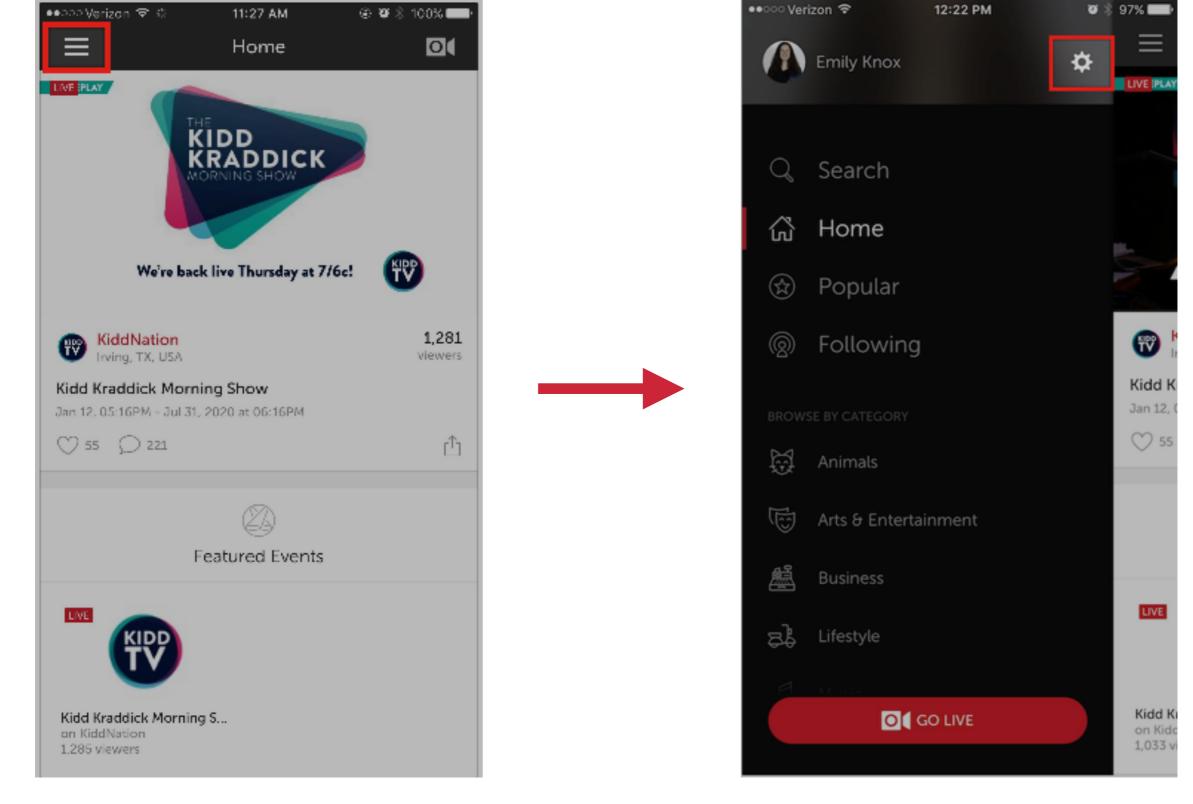


To use the camera from an iOS device, install the Livestream app from the App Store on your device.



Launch the Livestream app and log in to your account.



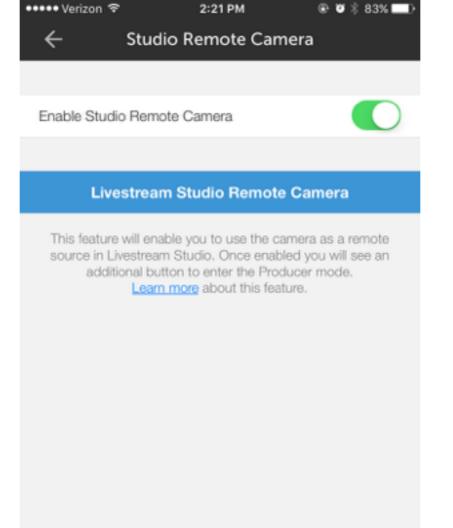


# Tap the menu icon in the upper right corner, then tap the gearwheel.

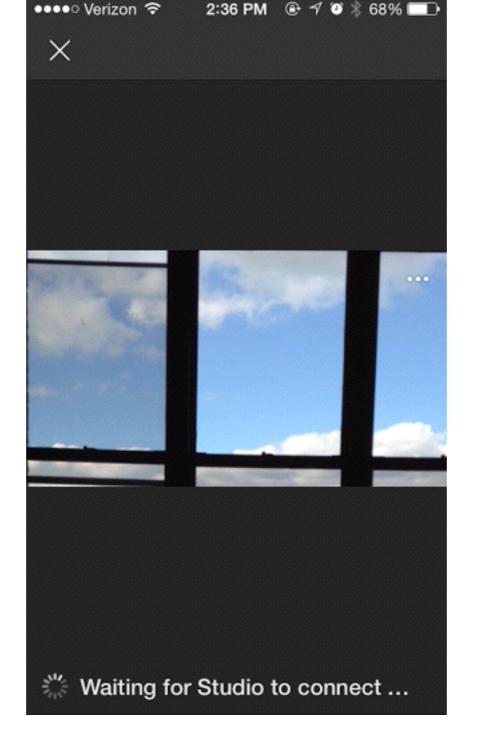
●○○ Verizon 🗢	12:23 PM	o 🕸 97% 🔜
≡	Settings	
Edit Profile		>
Change Password		>
Connected Accourt	nts	>
Media		>
Playback Options		>
Auto-Notify Follow	ers	>
Livestream Broadc	aster	>
Studio Remote Ca	mera	>
Leave Feedback		
Livestream Terms	of Service	
Open Source Licer	nses	>

Logout

Tap the menu icon in the upper right corner, then tap the gearwheel.

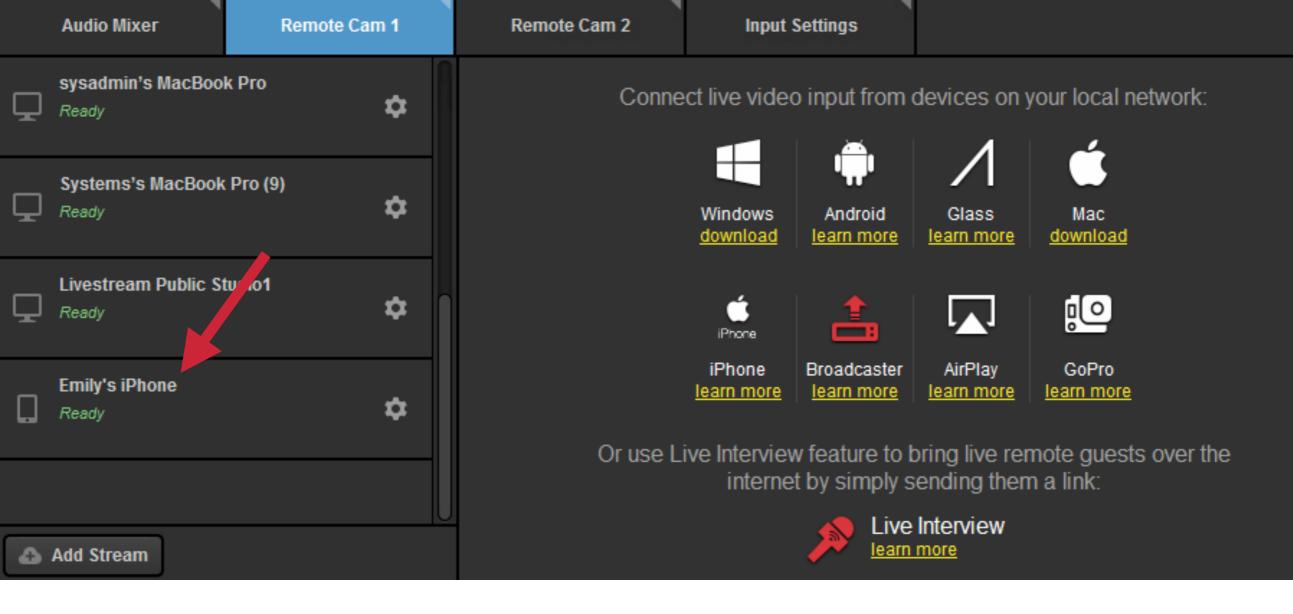


When 'Enable Studio Remote Camera' is enabled, a blue 'Livestream Studio Remote Camera' button will appear. Press it to open the camera.

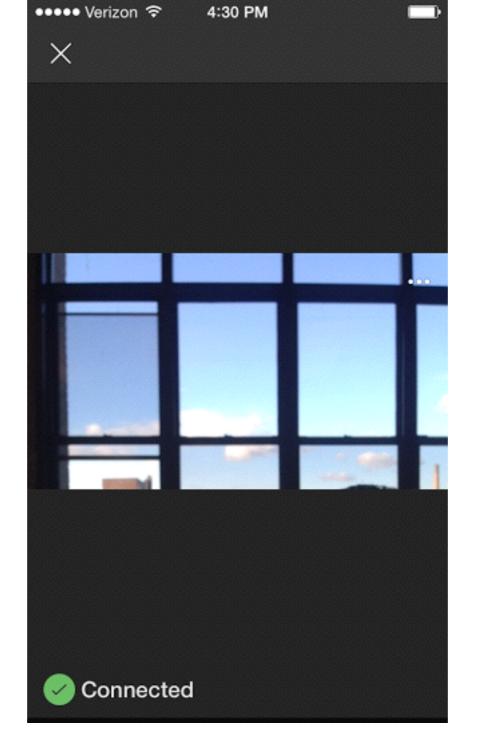


Your camera will open and the app will show "Waiting for Studio to connect..."

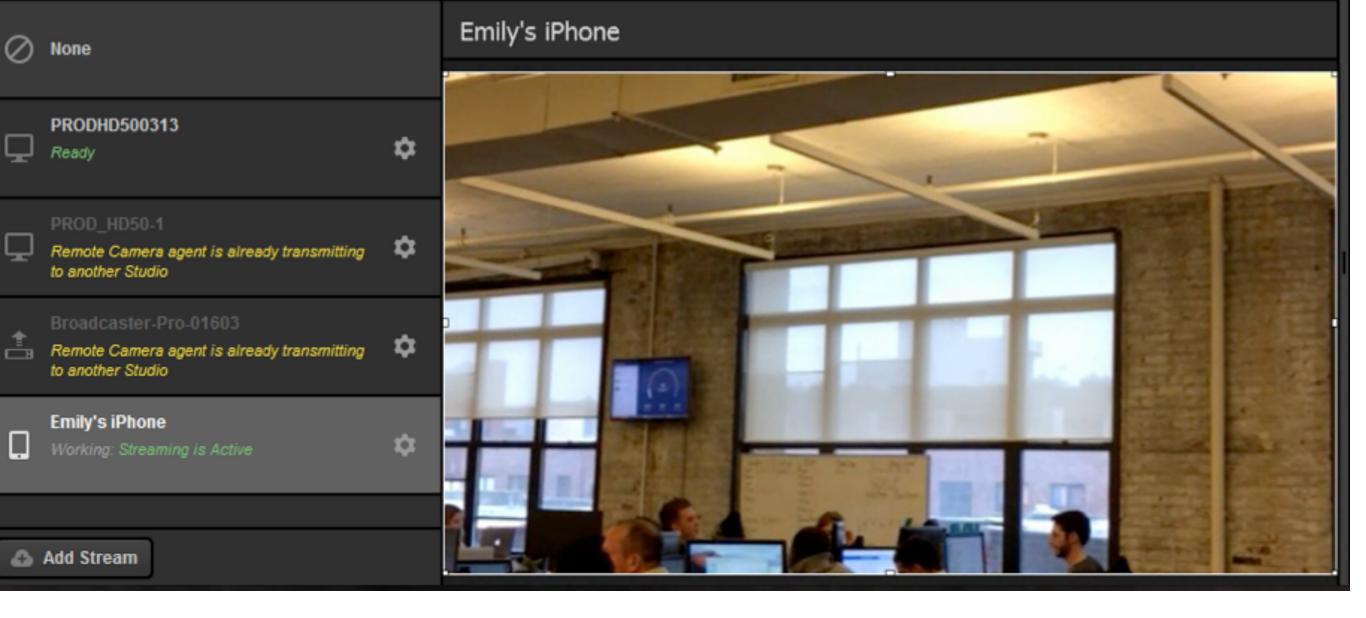




Look in the remote camera module in Livestream Studio. You should see your iOS device appear in the list of remote cameras. Click it to connect.



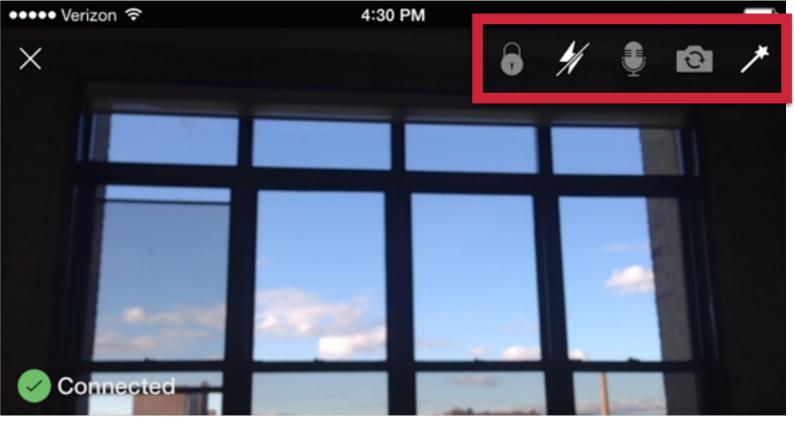
Your iOS device will indicate that Livestream Studio has connected.



Your camera's image will also appear in Livestream Studio. Expected latency is one second or less.





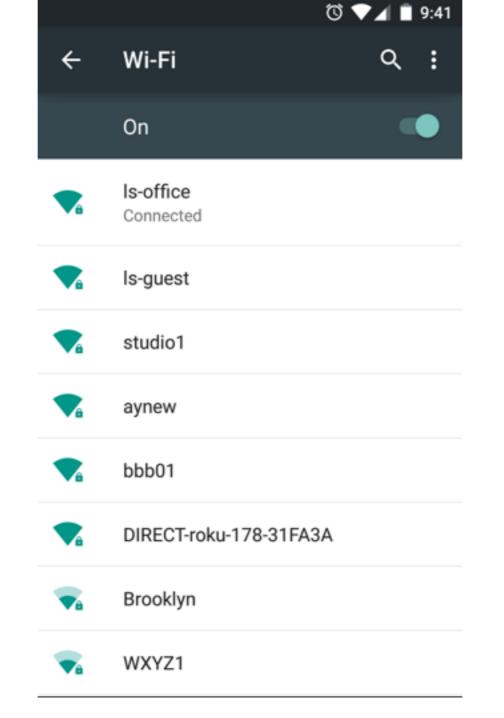


The iPhone app allows you to use the camera in either portrait or landscape mode. Both will give additional options in the upper right corner.

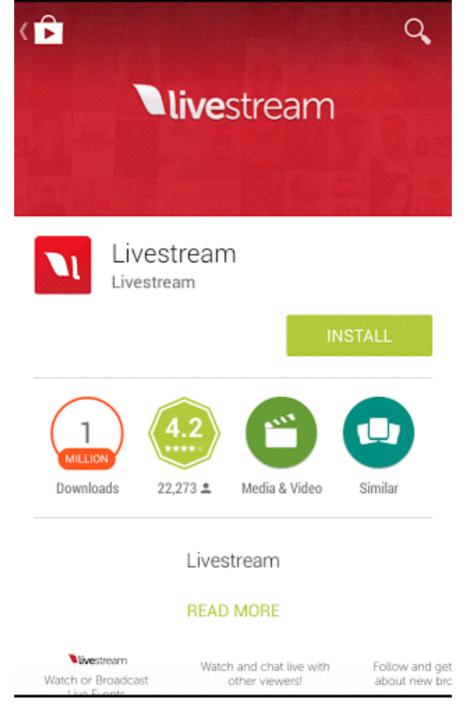
# Adding remote cameras

Android devices

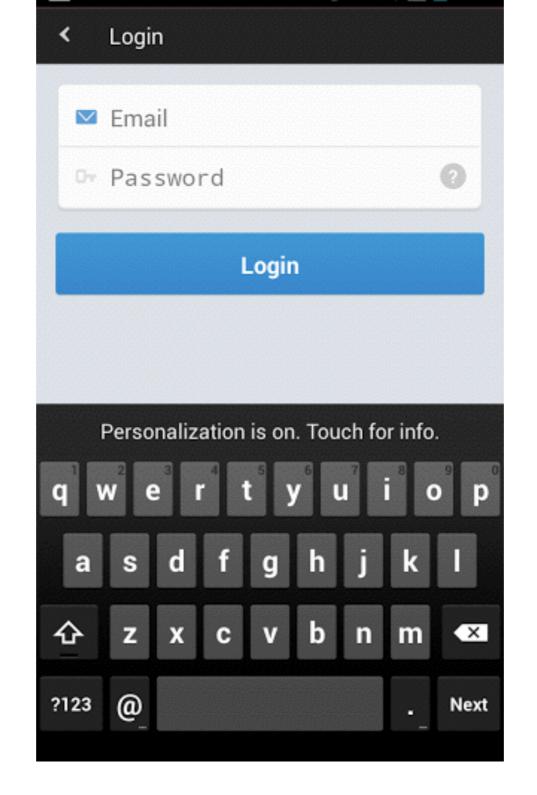




For remote camera to work in Livestream Studio, your Android device must be connected to the same network as your Livestream Studio system.

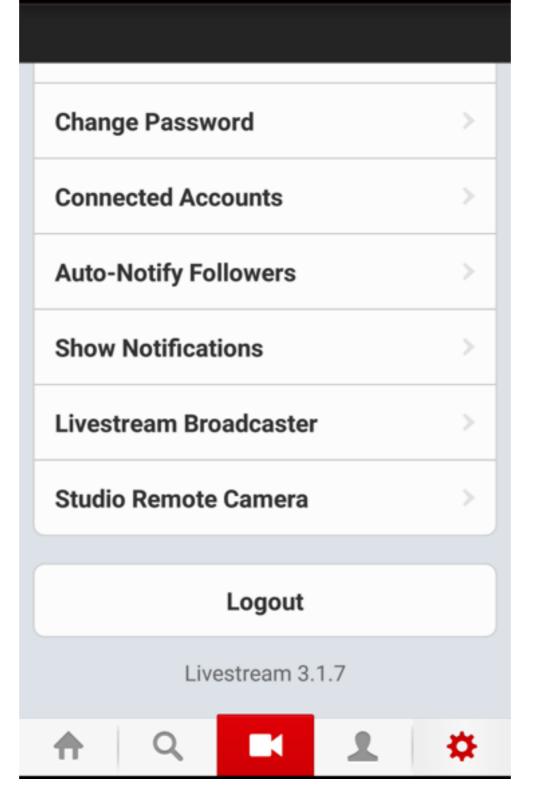


Using an Android device as a remote camera works very much like an iOS device. Download the Livestream app from Google Play.

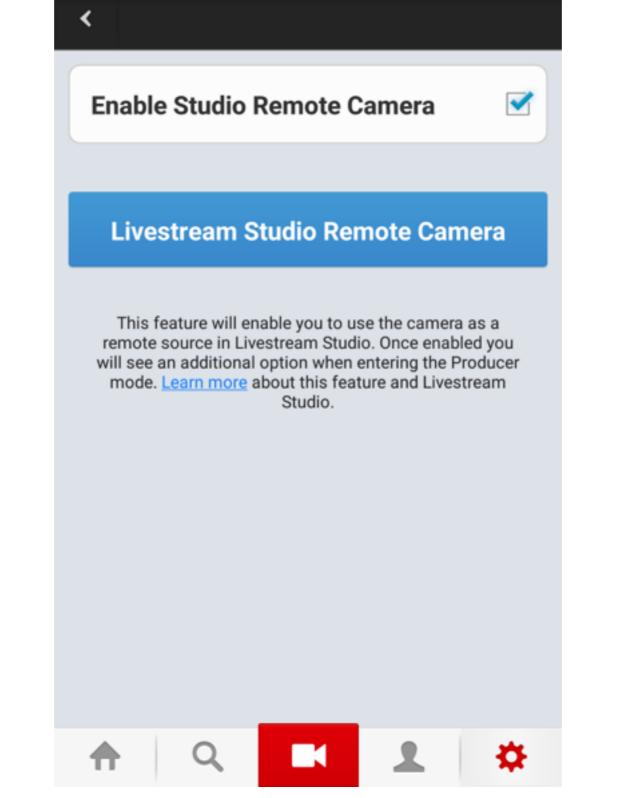


Launch the app and log in to your Livestream account.

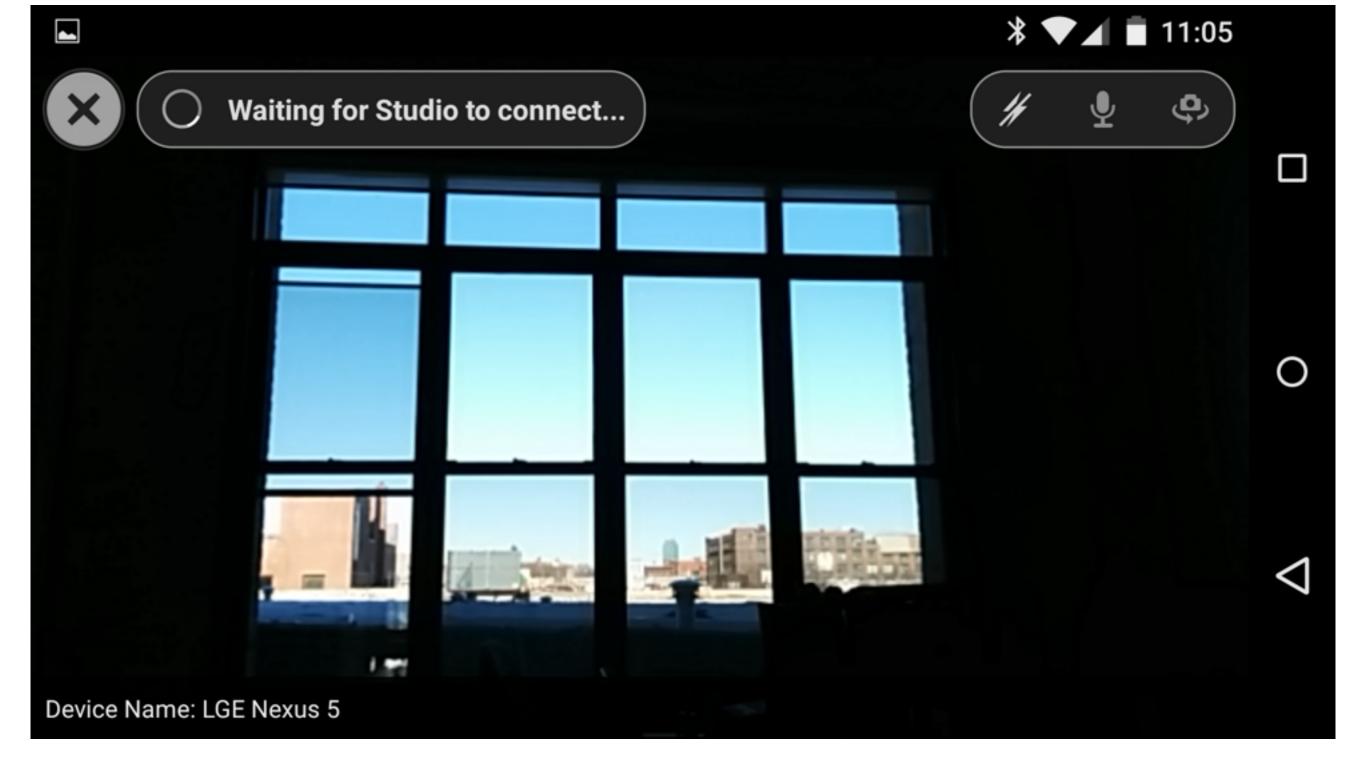




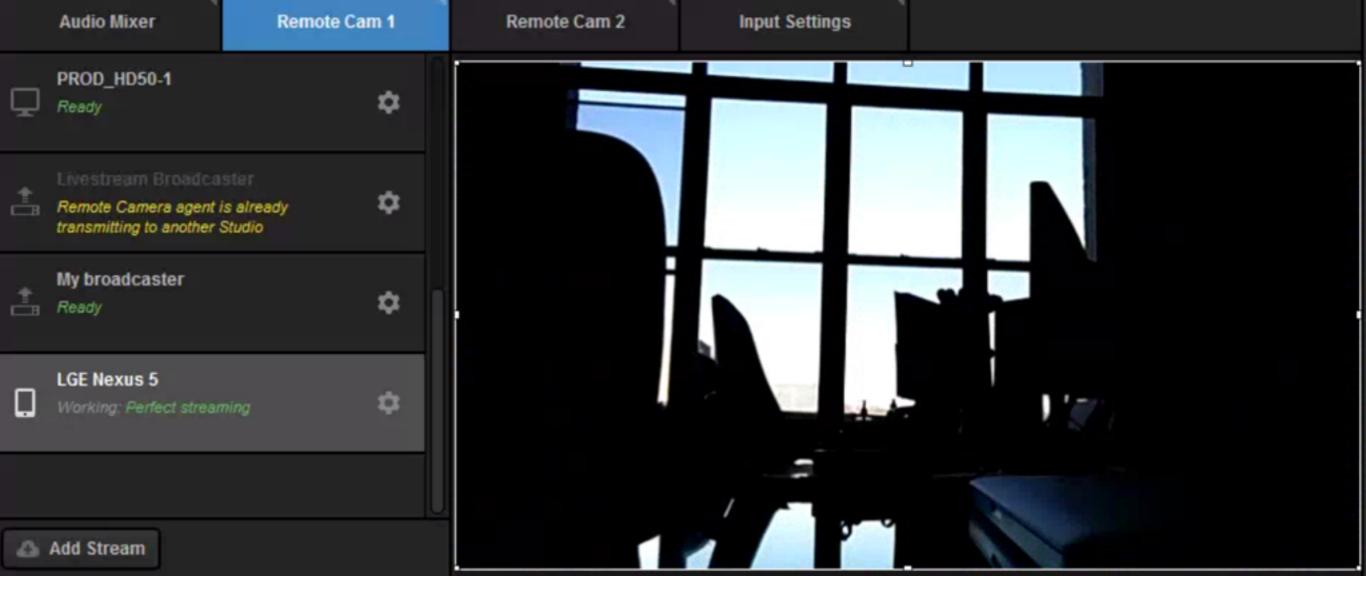
Press the gearwheel on the bottom right to access settings, then press Studio Remote Camera.



Check 'Enable Studio Remote Camera,' then click the blue 'Livestream Studio Remote Camera' button.

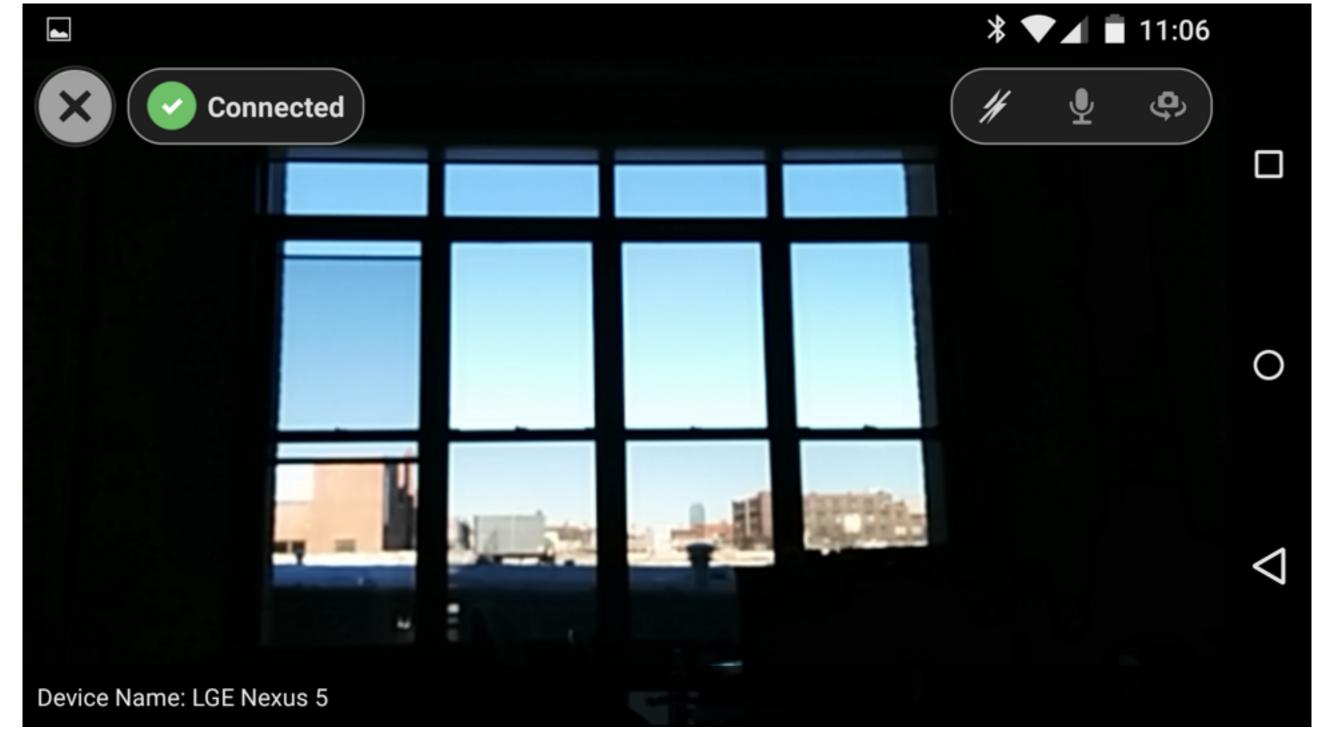


The camera will open and will show that it is attempting to connect to Livestream Studio.

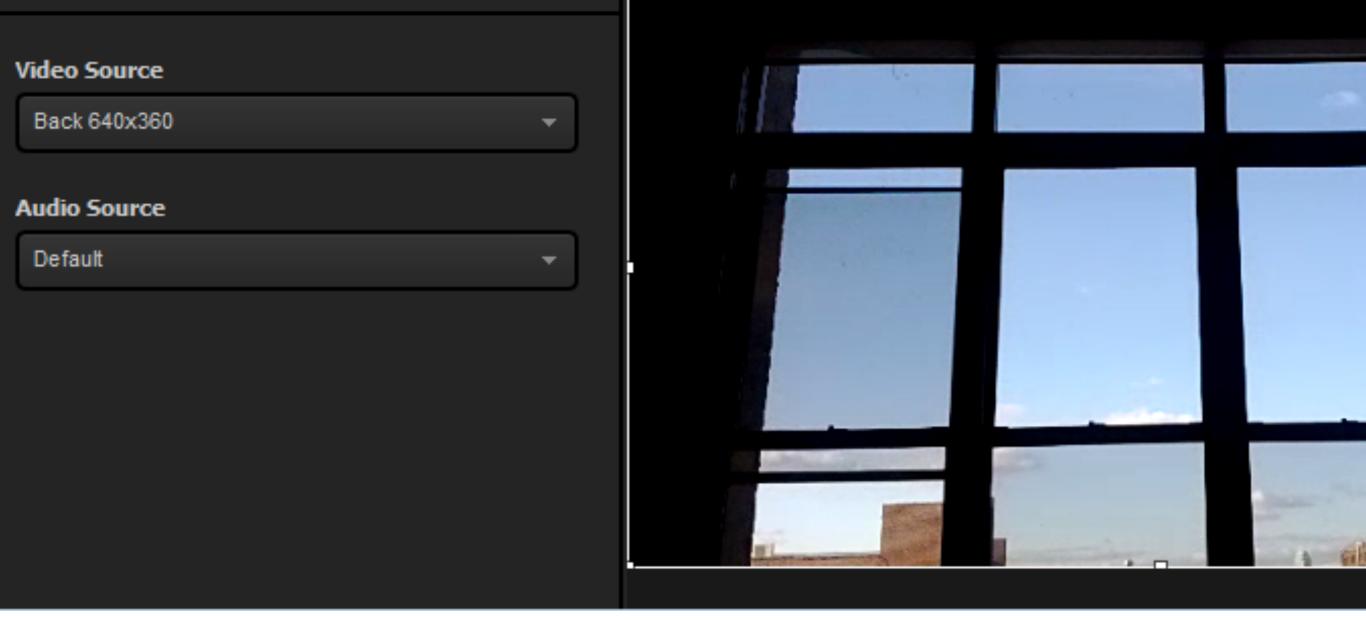


In Livestream Studio, your Android device should appear under the Remote Camera module. Click on it to activate.

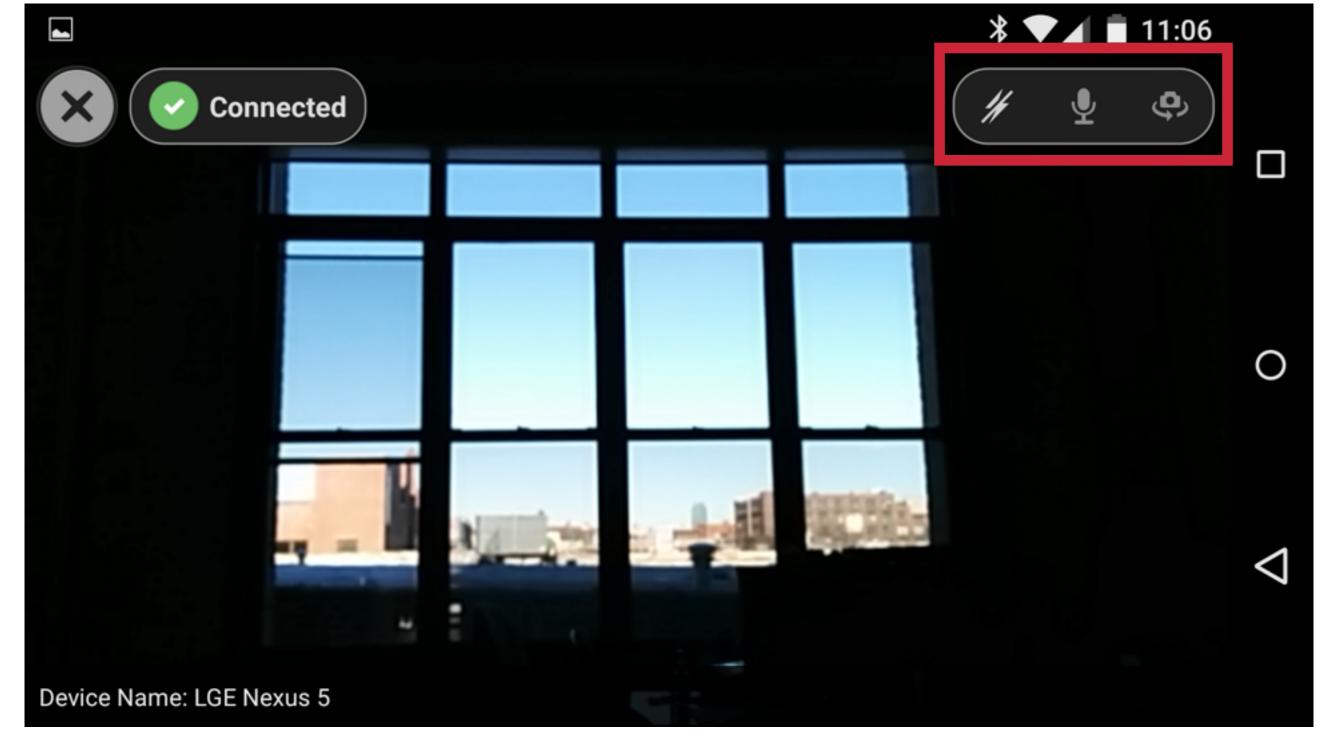




In addition to seeing the camera in Livestream Studio, the Livestream Android app will indicate that it has connected.



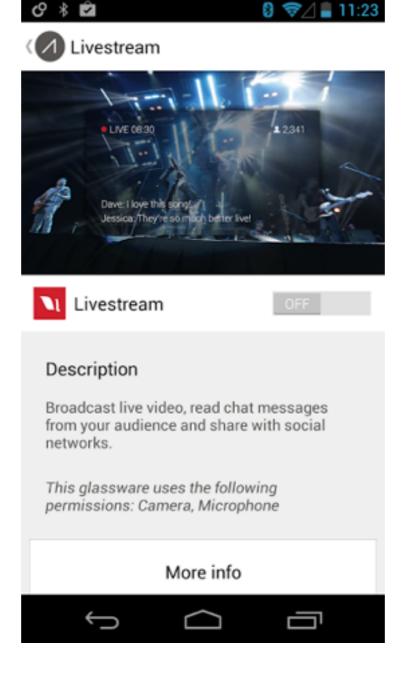
Clicking the gearwheel next to your device in the remote camera module will allow you to switch which of the device's cameras to use and choose an audio source.



The upper right corner of the Android screen allows you to turn on your flash, mute your microphone, or switch the device's cameras.

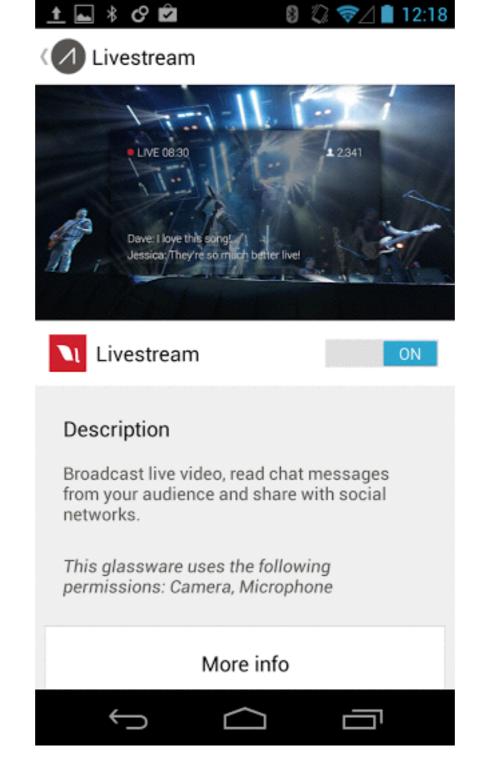
## Adding remote cameras

Google Glass



To use a Google Glass as a remote camera, go to Google Glassware in the Glass mobile app or <u>www.google.com/myglass</u> to ithe Livestream app on Google Glass.



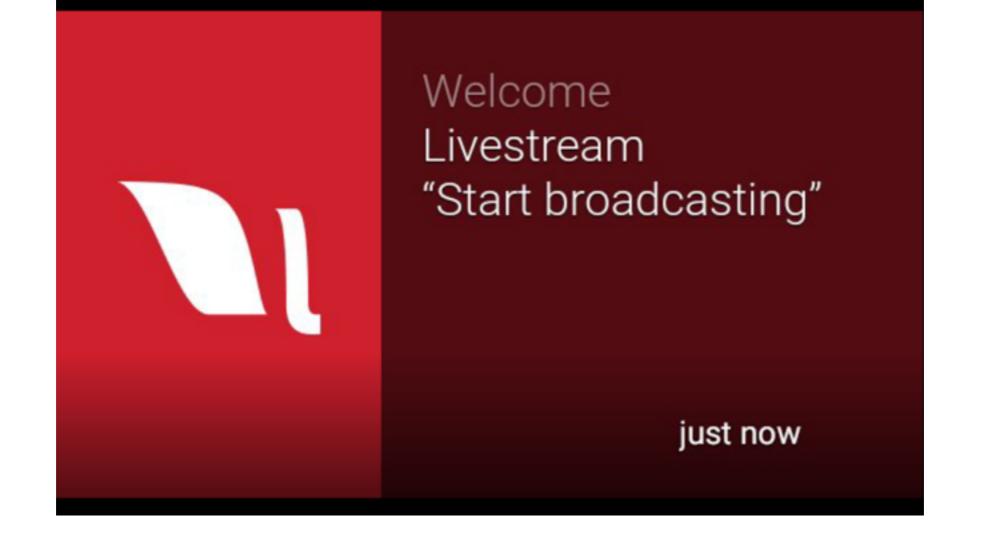


Toggle the switch to 'On' to install the Livestream Glassware.

ଓ 🖿	∦ 🖻 🛛 🕴 💱 🖉 🔒 11:23
< <b>C</b>	<b>live</b> stream
Q.	Login with Facebook
1	or
	Email Address
	Password
	Login
	Forgot password
	Don't have an account?
1	Join Livestream
	Close
	f G G

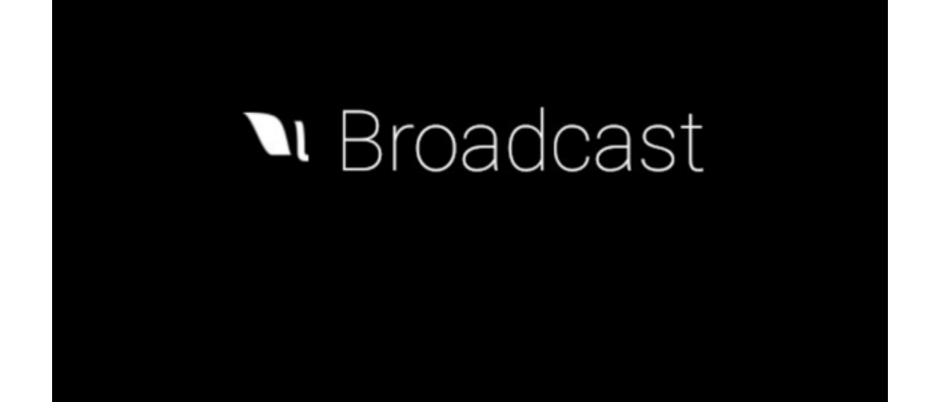
You will then be prompted to log in to your Livestream account. This allows Google Glass to recognize your events.





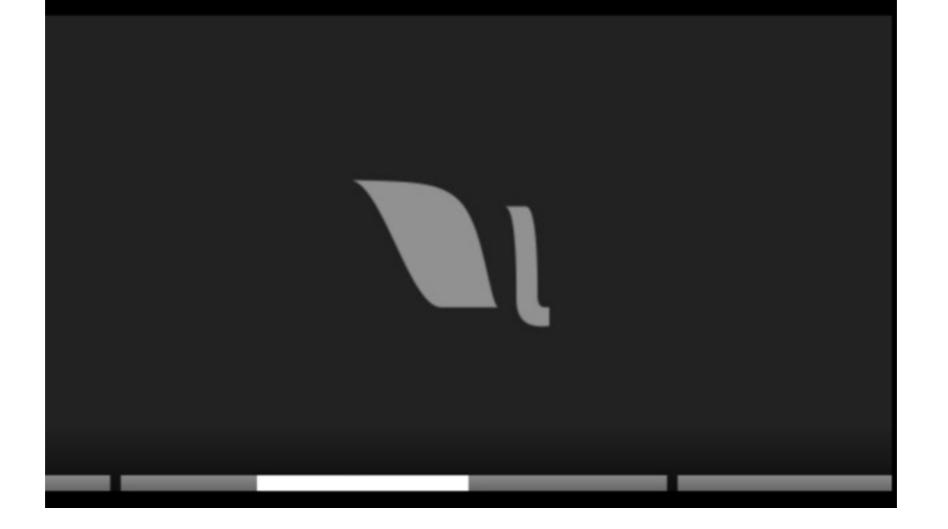
Open the app on Google Glass by saying, "Ok Glass, start broadcasting" or swipe to the Livestream app from the main screen and tap the side of the Glass.





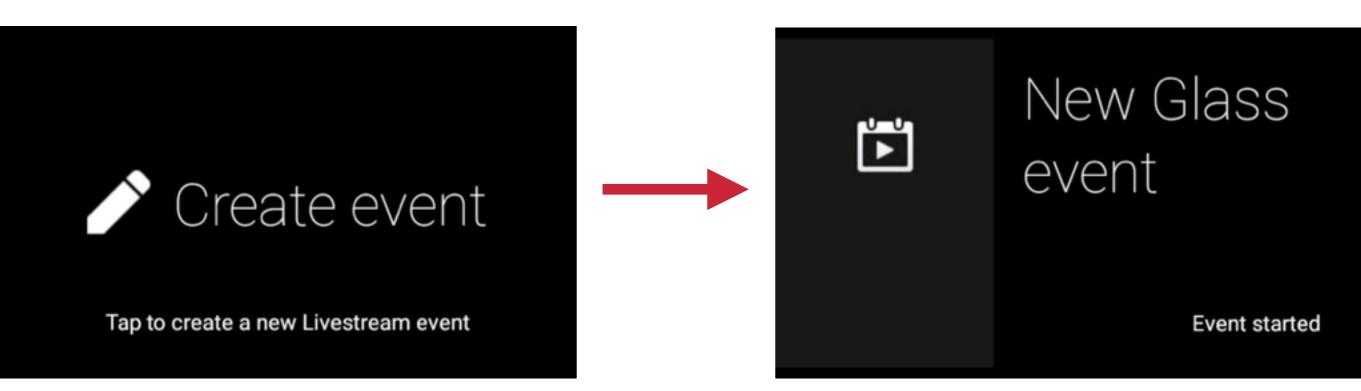
'Broadcast' will appear. Tap again to enter the application.





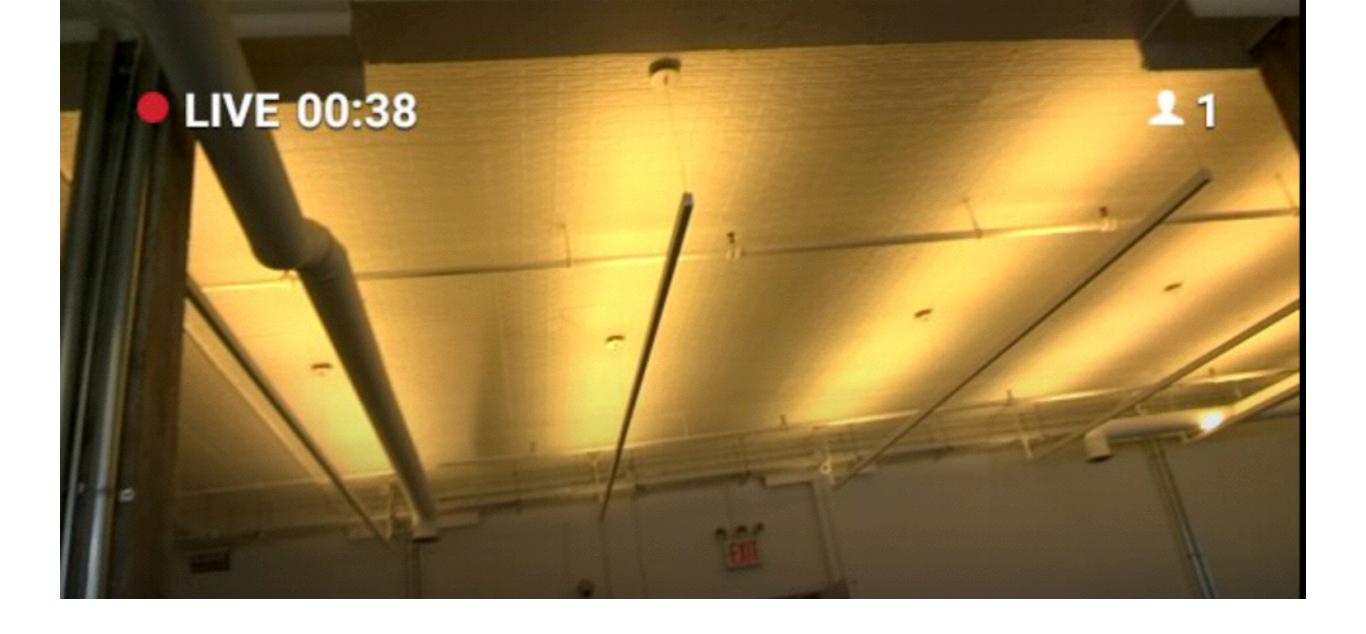
If left untouched, the app will start streaming to your most recent event. Tap the Glass before the load bar finishes to be brought to the event selection menu.





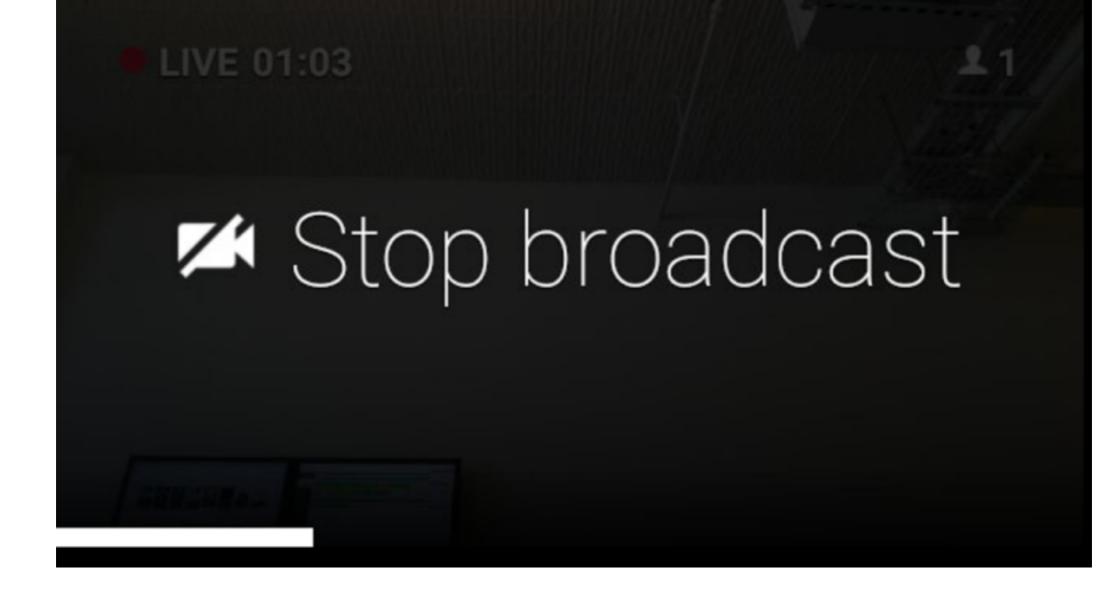
## Swipe left and right to select your events or select 'Create event' to make a new event from Glass.





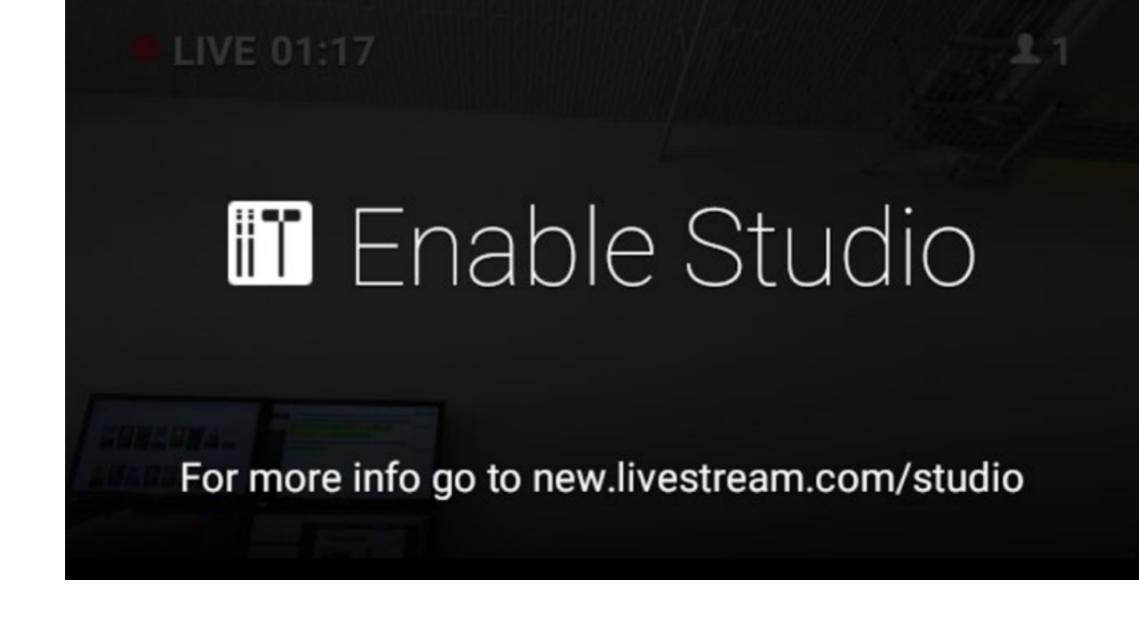
## Tap the desired event to start streaming.





When you are live, tap the Glass to be brought to additional options (the first being 'Stop Broadcast').





Swipe all the way to the right, then tap on the Glass when you see 'Enable Studio.'

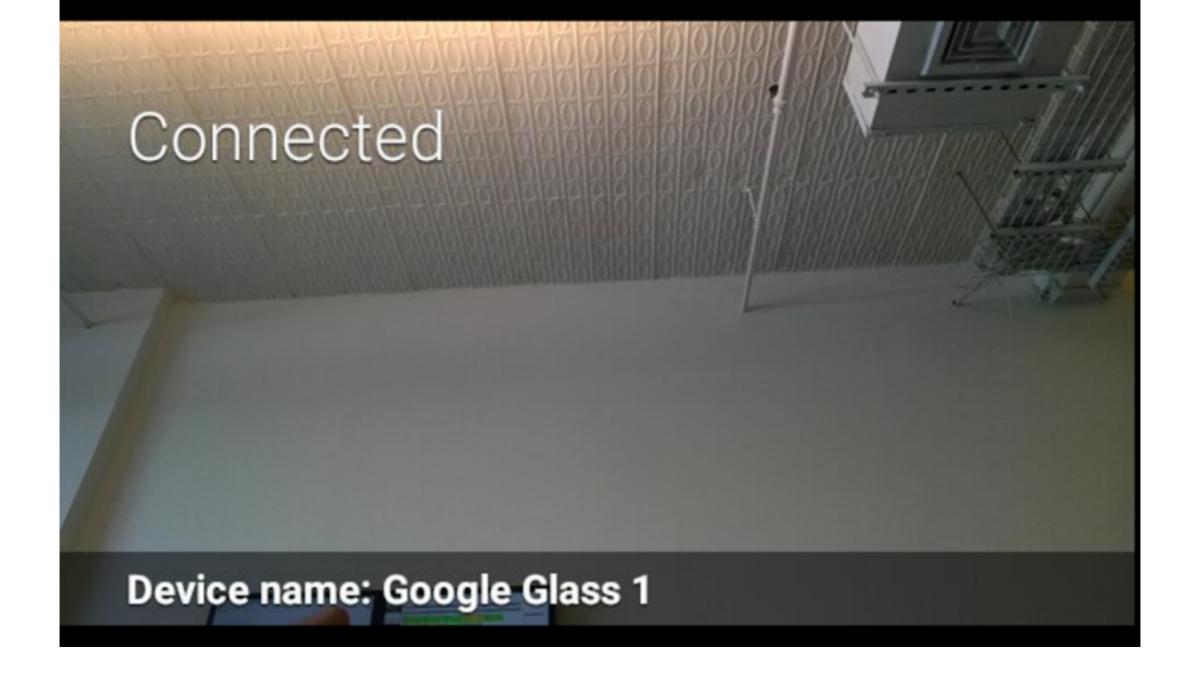




Entering this mode will allow any Livestream Studio on the same wireless network to use your camera as a remote video source. To learn more visit new.livestream.com/studio/remote-cams

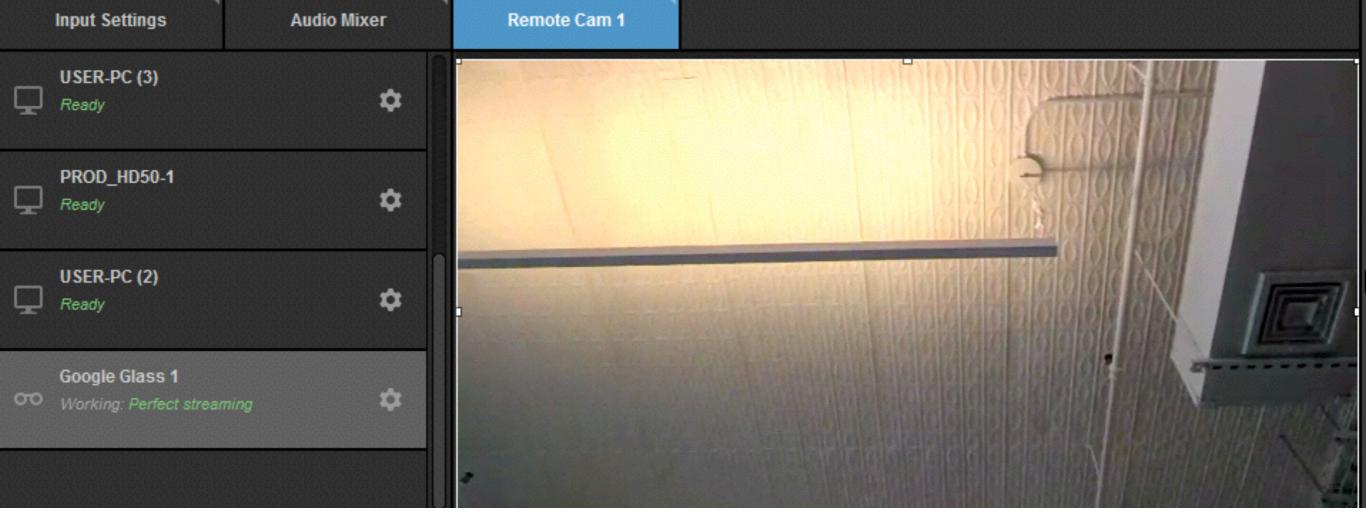
Tap to continue

You will be brought to this notification screen, which notes that Glass should be on the same network as Livestream Studio in order to be recognized. Tap to continue.

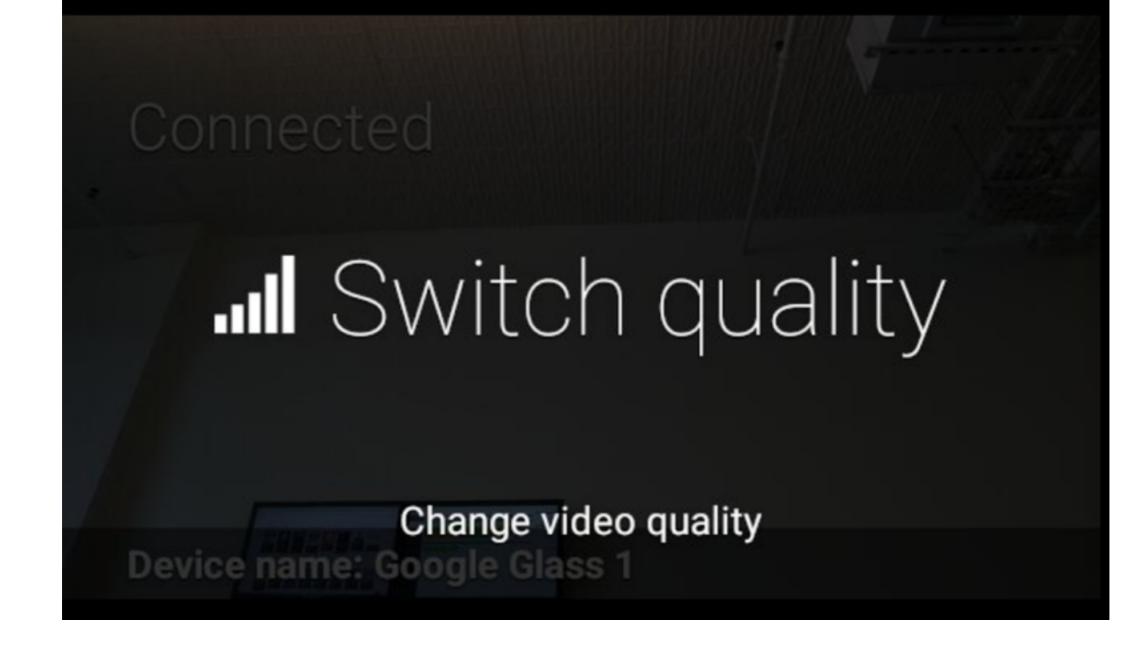


Glass will wait for a Livestream Studio on the same network to connect and indicate when it has connected.

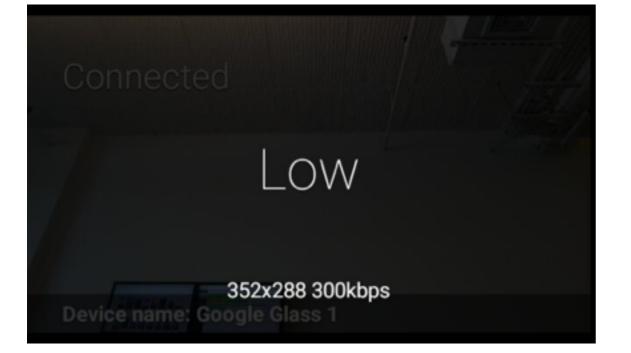


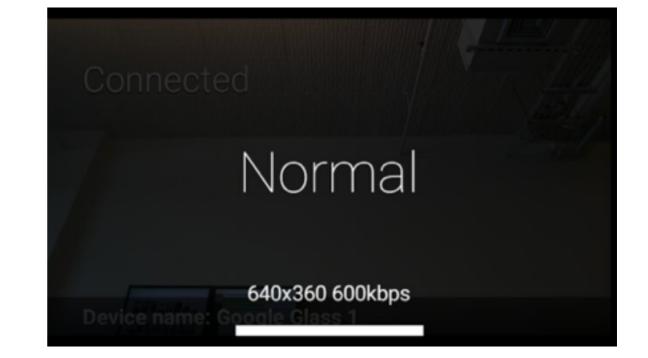


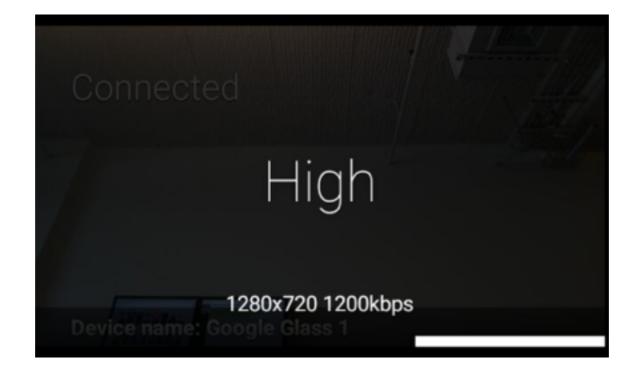
Once connected to Livestream Studio, Glass will appear as a remote camera source. Click on it to activate it in the module.



If you tap on the side of the Glass, the first option you will see is 'Switch Quality,' allowing you to adjust the video quality sent to Livestream Studio.

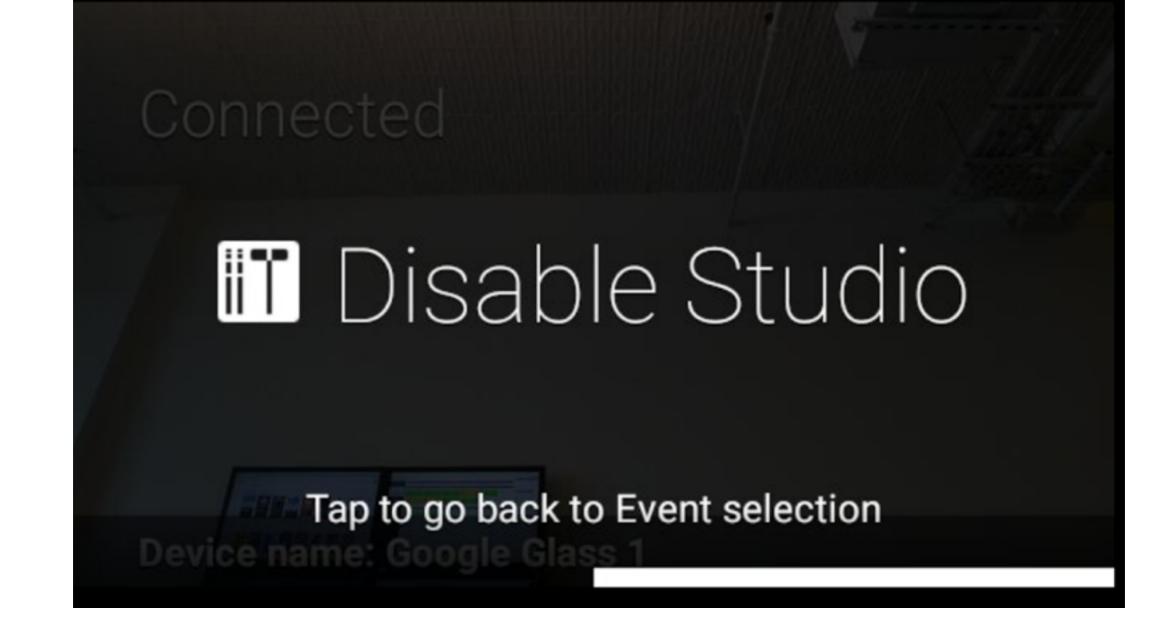






Tapping that option will give you three options: low, normal, and high.



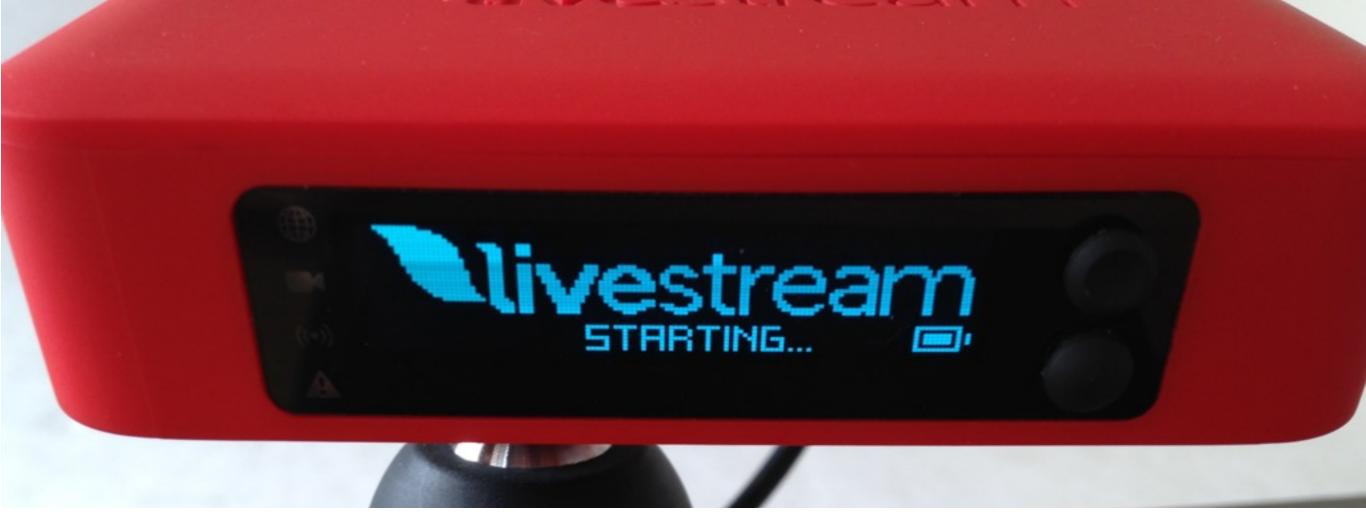


If you swipe to the right from 'Switch Quality,' you will see 'Disable Studio,' allowing you to remove the Glass from Studio and stream to events again.

## Adding remote cameras

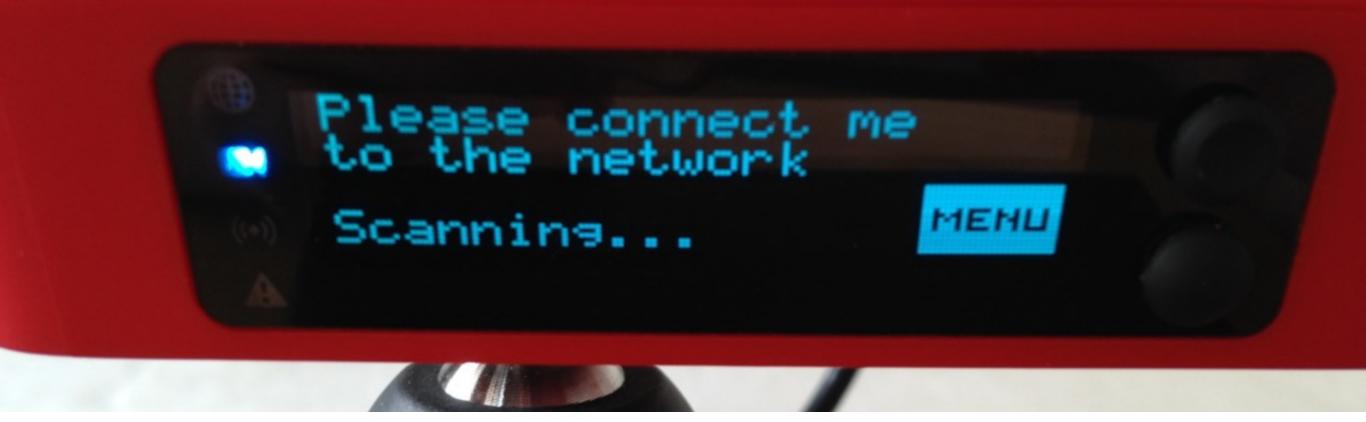
Livestream Broadcasters





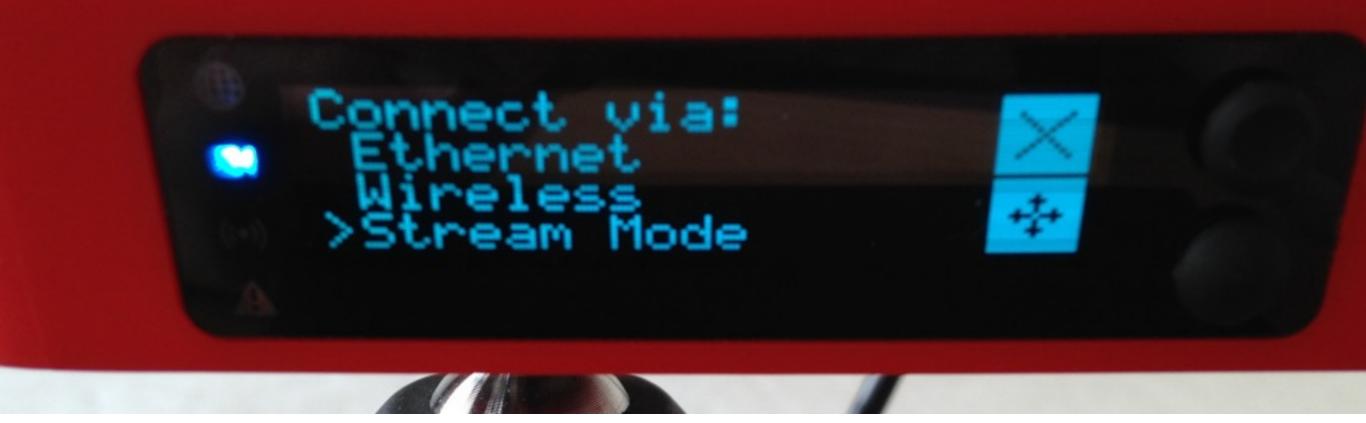
A camera connected to Livestream Broadcaster can also be a remote camera in Livestream Studio. Start by powering on the device.





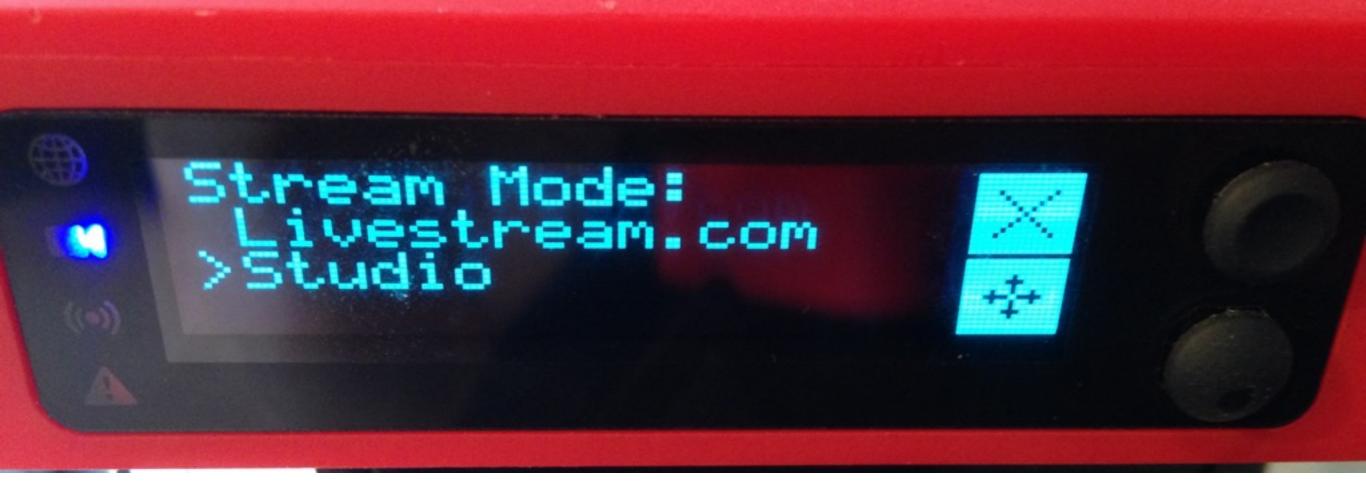
When Livestream Broadcaster attempts to connect, press the joystick on the bottom to access the menu.





Use the joystick to toggle down to 'Stream Mode,' then press it in to access that menu.





Under this menu, toggle to Studio, then press the joystick in to select it.

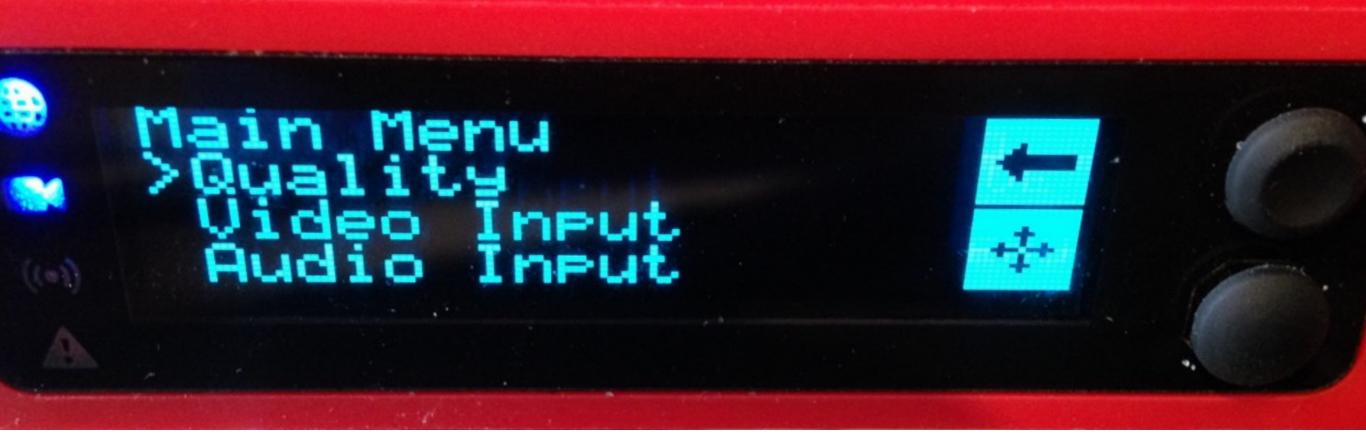


After switching to Studio mode, connect Livestream Broadcaster to the same network that your Livestream Studio is connected to.

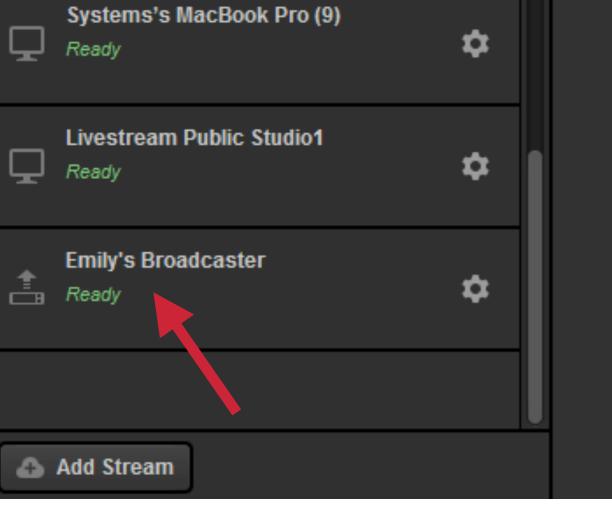


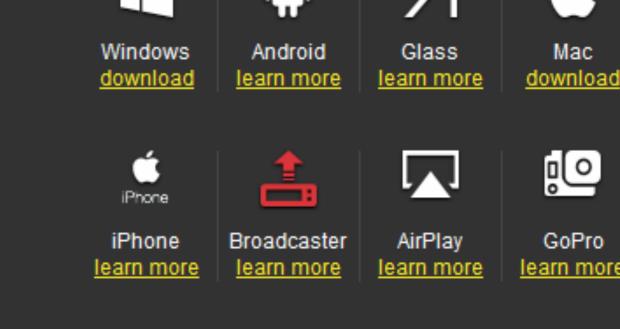


Once Livestream Broadcaster is connected, you will be brought to the main display indicating if Livestream Studio is connected and the quality the stream is set for.

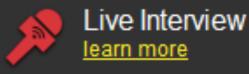


Push the bottom joystick to get to the main menu in Livestream Broadcaster. Use the joystick to toggle between the different options and settings.





Or use Live Interview feature to bring live remote gues internet by simply sending them a link:



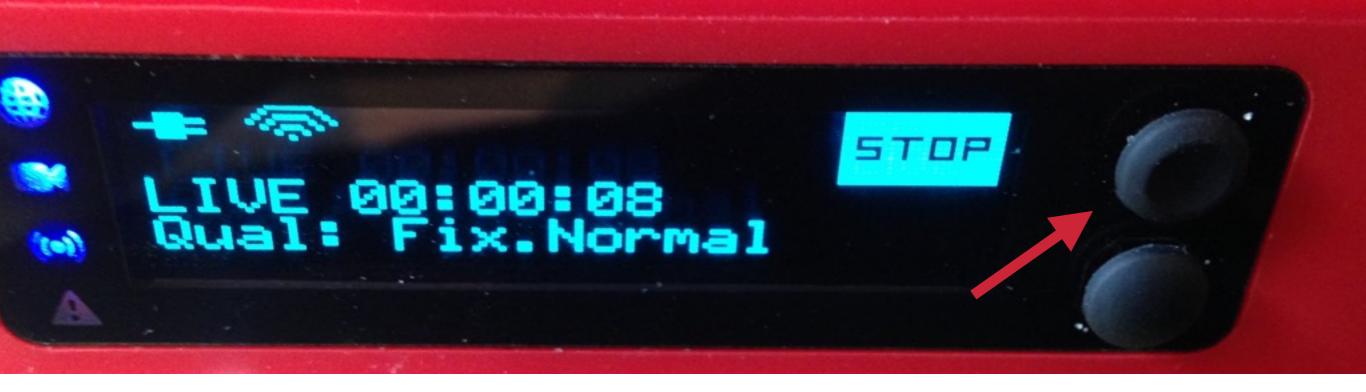
In Livestream Studio, the remote camera should appear in the module. Click on it to see the video signal.





Livestream Broadcaster will indicate that it has started streaming at the selected quality.

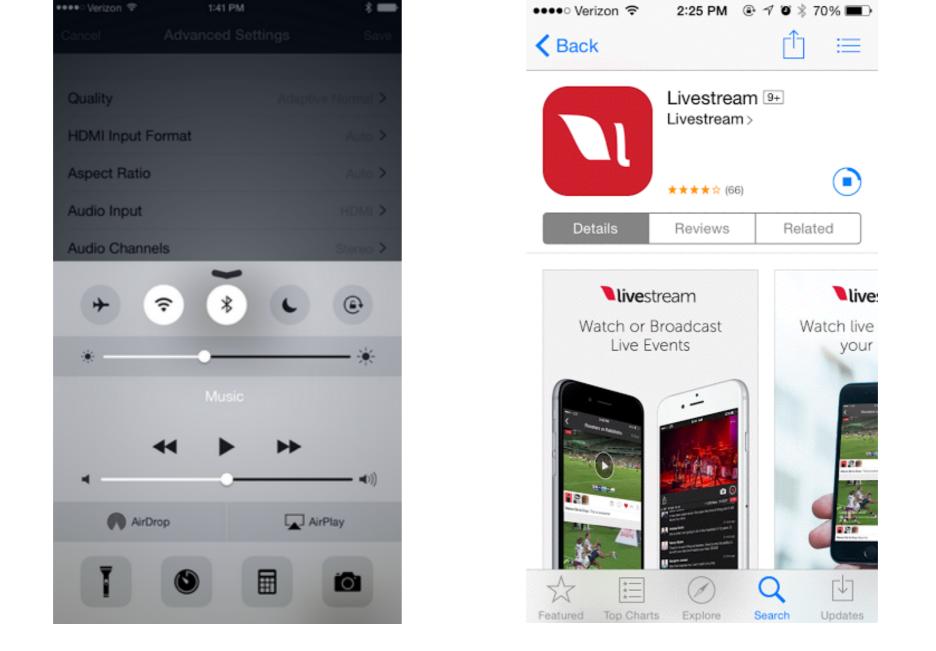




429

**live**stream

To stop the stream from Livestream Broadcaster to Livestream Studio, you can either press the button next to 'Stop' on the device, or deselect it in Livestream Studio.



If you are using a Broadcaster mini, the connecting process is slightly different. First, activate WiFi and Bluetooth on your mobile device, and that the Livestream mobile app is installed.

•••• Verizon 🗢		1:32 PM	* 📥	
<b>&lt;</b> Se	ettings	Wi-Fi		
	Wi-Fi			
~	BCSTR-Mini-5G		a 🗢 🚺	
СНО	OSE A NETWORK	and the second sec		
	bbb01		<b>≜ ≈ ()</b>	
	Broadcaster-mini	-00102	<b>≜ ≈ ()</b>	
	DIRECT-roku-178	3-31FA3A	<b>€ 奈 ()</b>	
	ls-guest		<b>a ≈ (i</b> )	
	ls-office		<b>€ ≈ ()</b>	
	studio1		ê <del>?</del> ()	
	Other			
Ask to Join Networks			$\bigcirc$	
Known networks will be joined automatically. If no known networks are available, you will have to manually select a network.				

Go into your device's WiFi settings and connect to your desired network (i.e., the network your Studio system is connected to).



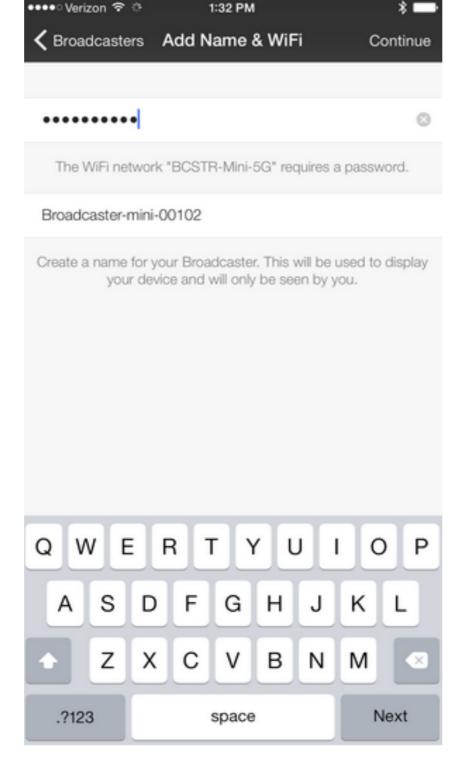
••••• Verizon マ い 1:31 PM	-
Settings	
Edit Profile	>
Change Password	>
Connected Accounts	>
Media	>
Auto-Notify Followers	>
FTP Camera Import	>
Livestream Broadcaster	>
Studio Remote Camera	>
Logout	
Livestream 3.8.8-52-gf16d94e	
G Q 🖬	•

Go into the Livestream app and select the gear wheel on the bottom right to access your settings. From here, select the 'Livestream Broadcaster' option.

••••• Verizon 夺	1:31 PM	* 📥
Cancel	Broadcasters	?
Broadcaster mini NEW IN 2015		******
Broadcaster-mini-00 Ready to Pair	102	* >
Broadcaster		and Survey
1.2 Offline		1. Second and the
1.2 Official Connected		$\checkmark$ >
1.2 test Offline		1.
1.2.0 Ethernet Offline		A.

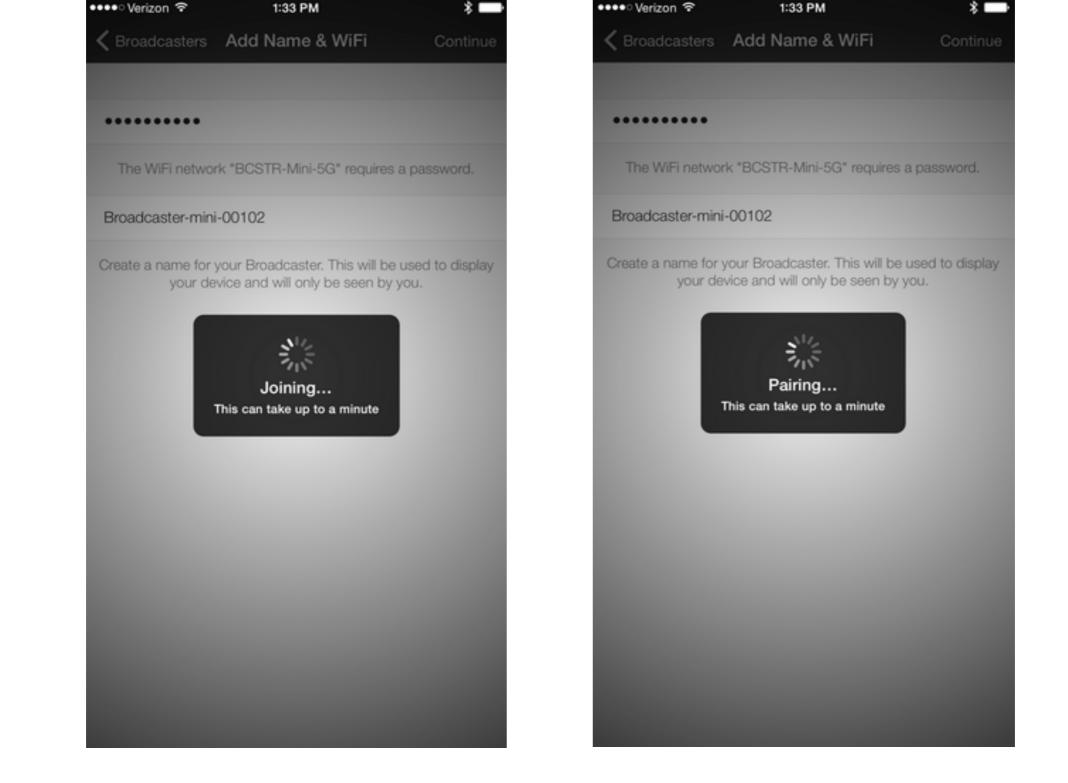
Your Broadcaster mini will appear as 'Ready to Pair.' Click it to begin the pairing process.

**live**stream



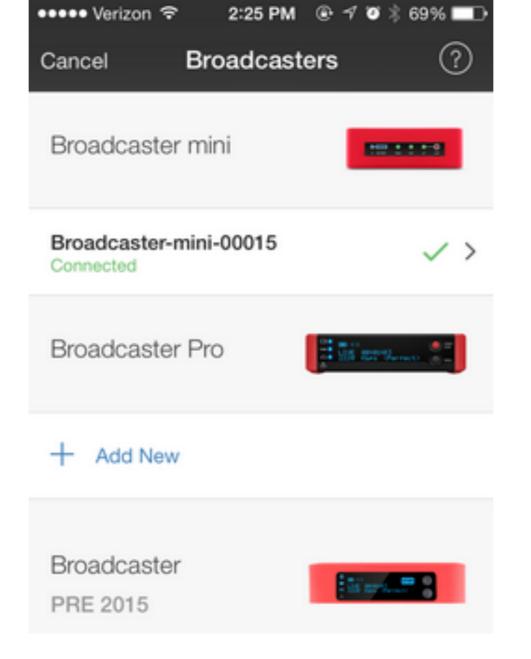
If you are on a secure network, you will be prompted to enter the password.

**live**stream



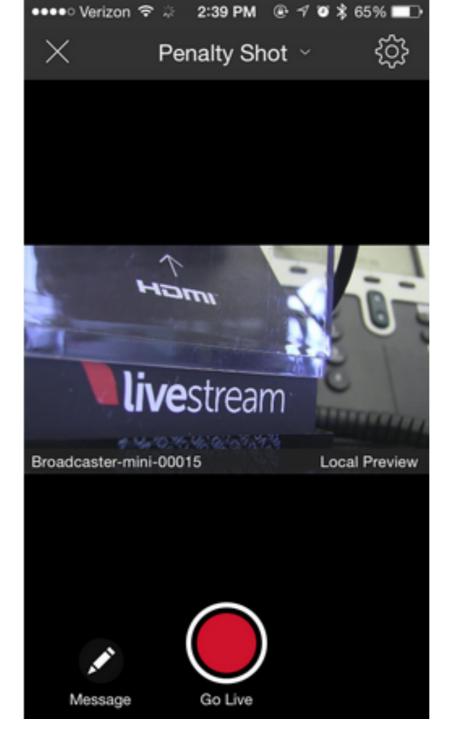
The Broadcaster mini will take about a minute to connect and pair to your account.





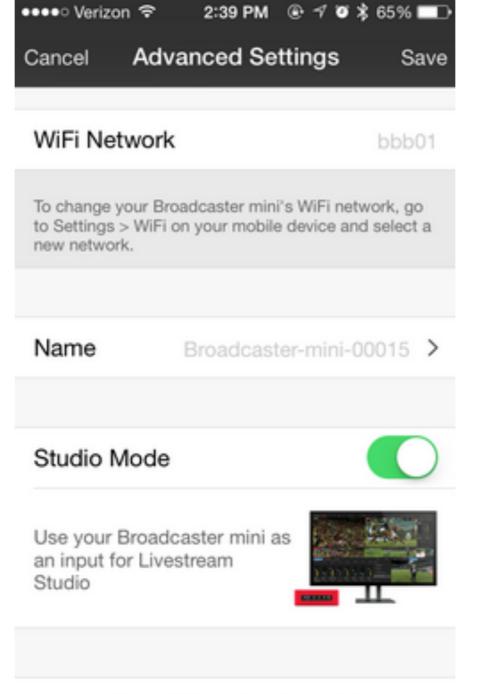
## Once it has paired, select your Broadcaster mini from the Broadcasters menu.

**live**stream



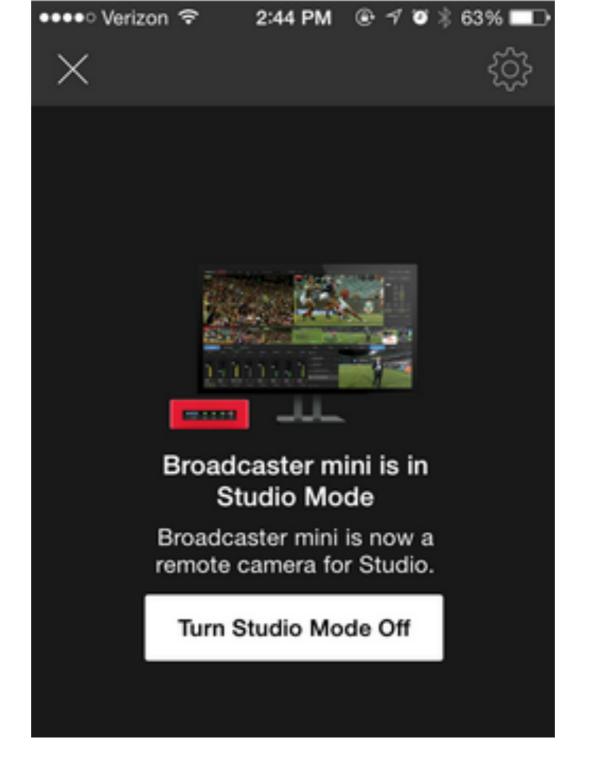
It will open the camera view finder. Click on the gearwheel in the top right corner to access settings.

**live**stream

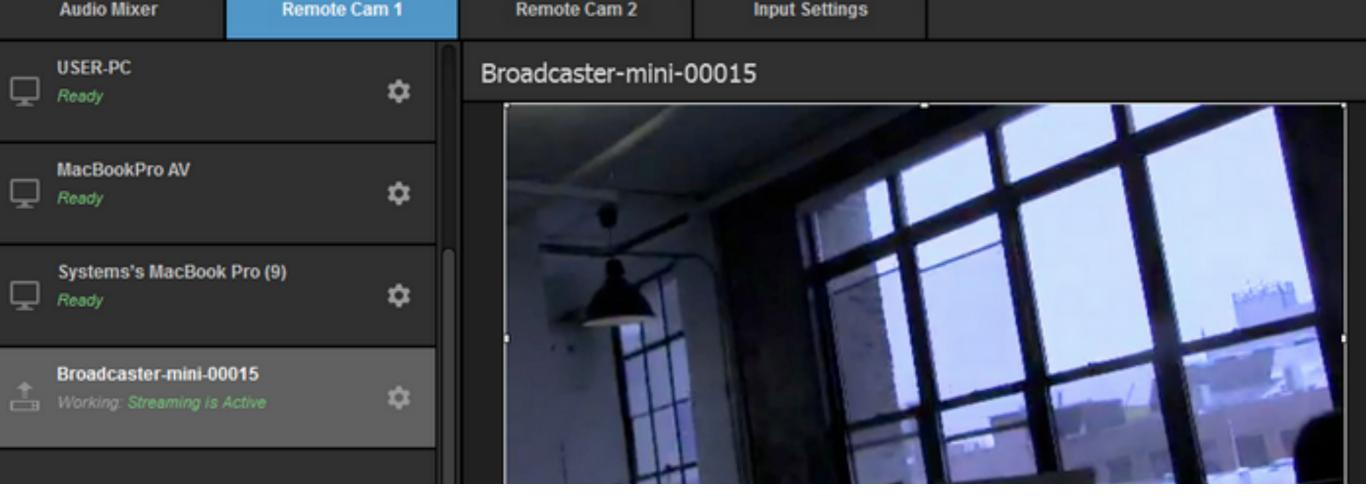


Reset Broadcaster mini

Scroll down and you will see Studio Mode. Toggle the switch on (green) to enable Studio Mode. Then click 'Save' in the upper right corner.

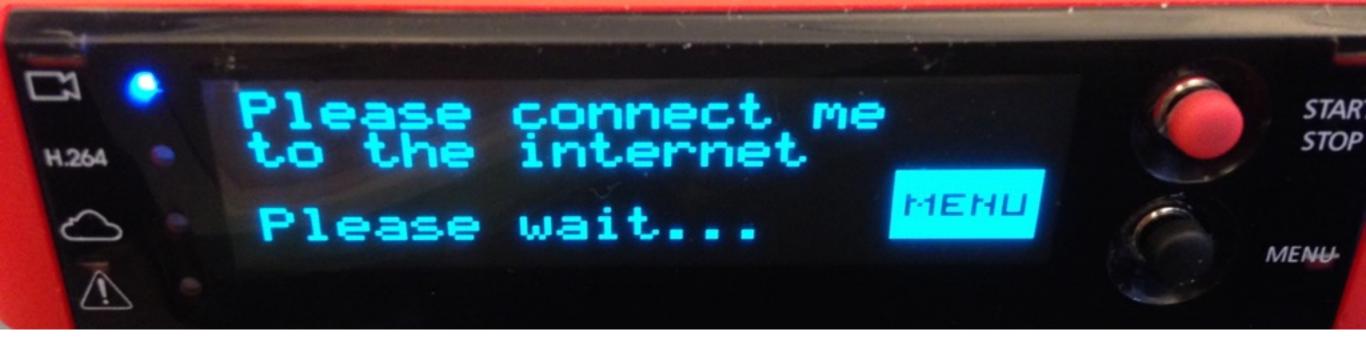


The mobile app will indicate that your Broadcaster mini is in Studio mode.



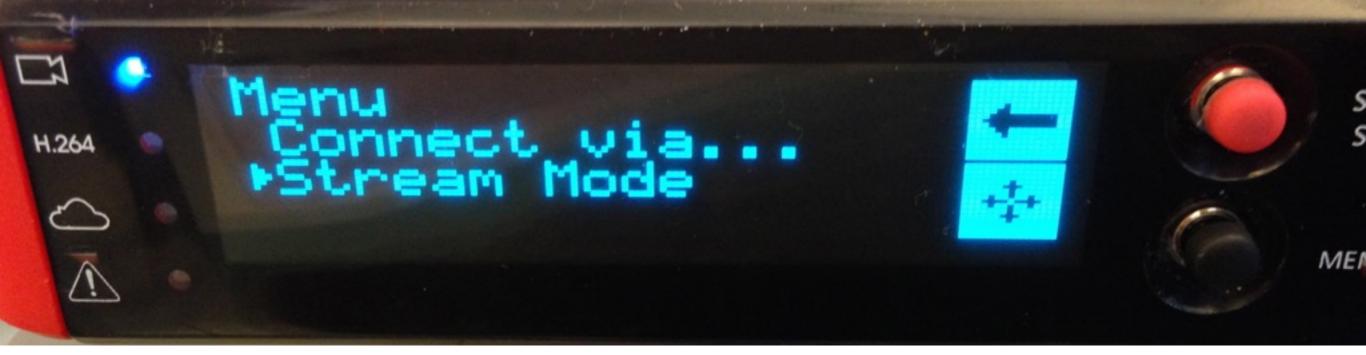
In Livestream Studio, your Broadcaster mini will appear in the list of remote cameras. Click on it to preview your camera source.





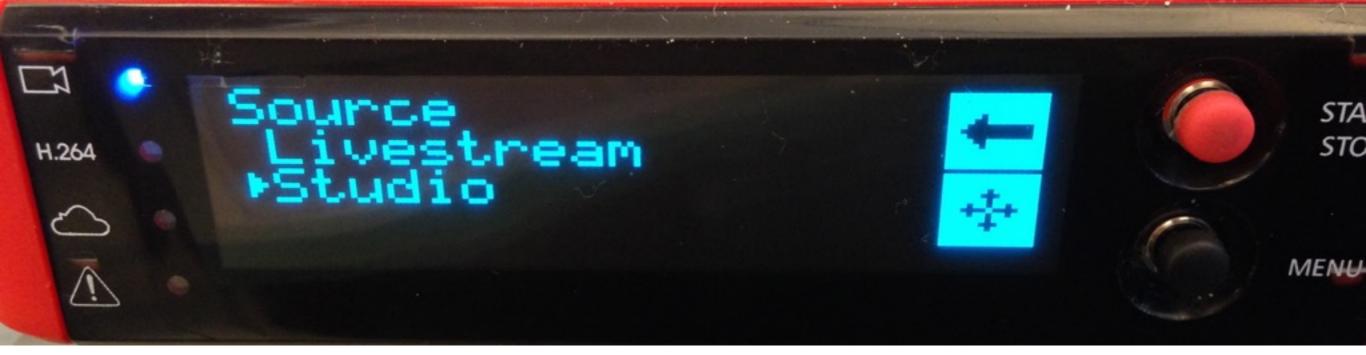
To bring a Broadcaster Pro into Livestream Studio, power on the device and use the bottom Menu joystick to connect it to the same network that your Livestream Studio system is connected to.





# After connecting it, push in the joystick to enter the menu and select 'Stream Mode.'





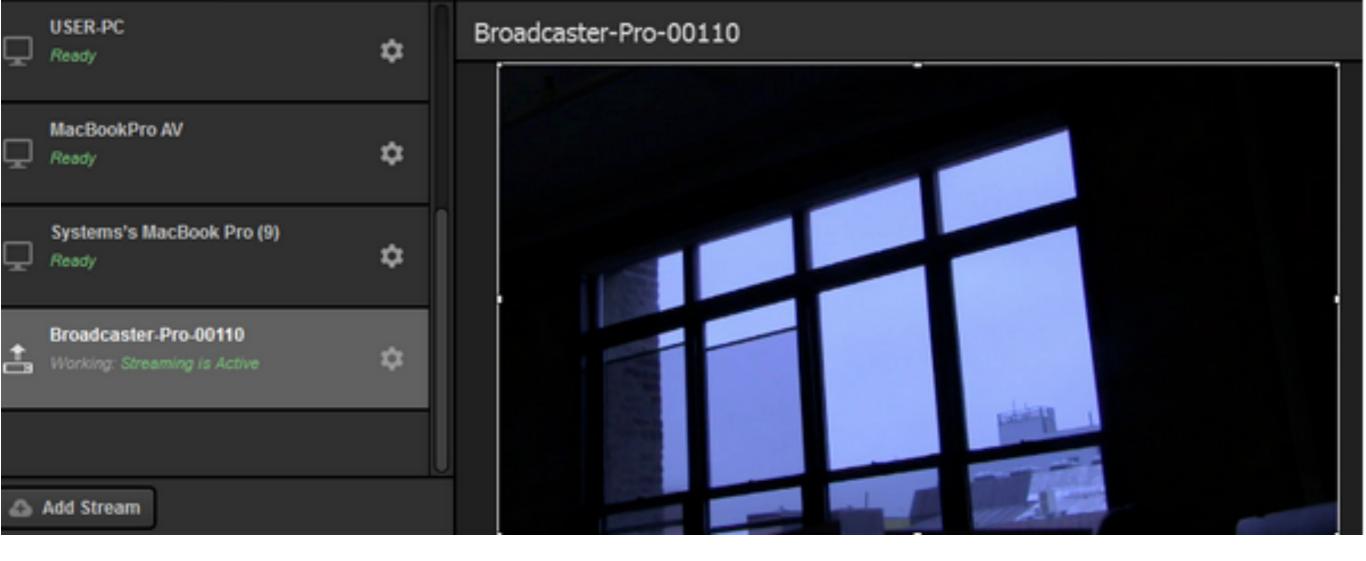
#### Toggle the joystick to 'Studio.'





#### The Broadcaster Pro will indicate that it is connected and ready to send its signal to Livestream Studio.





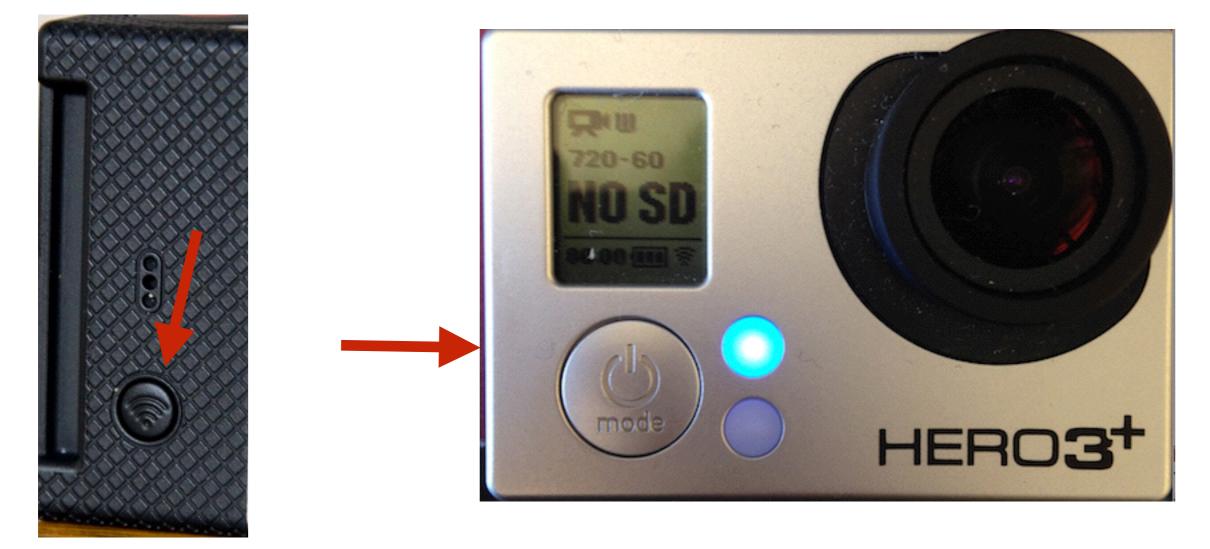
In Livestream Studio, you will see your Broadcaster Pro appears as a source under the Remote Camera module. Click on it to preview it.



### Adding remote cameras

GoPro cameras

**live**stream



To connect a GoPro Hero 3 or 4 as a remote camera, first enable the Wi-Fi on the camera by pressing the Wi-Fi button the side of the camera.

Note: GoPro Hero 4 will have lower latency (less than 1 second) than GoPro Hero 3 (1-2 seconds).

**live**stream



If your Livestream Studio system does not have a built-in Wi-Fi receiver\*, you can purchase a USB receiver, such as TP-LINK TL-WN727N 150Mbps, and plug it in to a USB port or a USB hub.

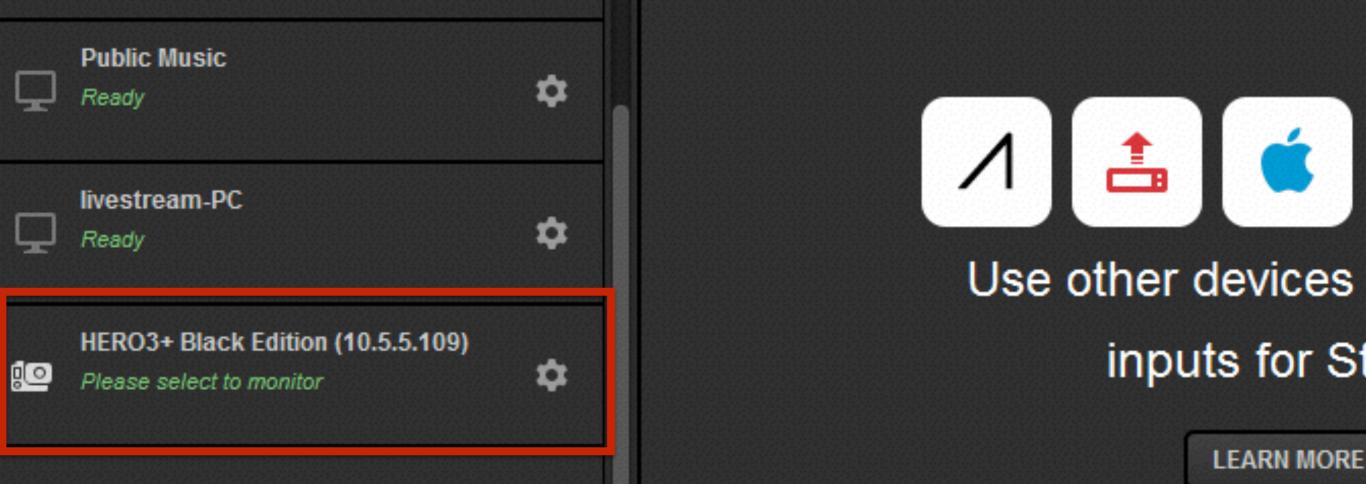
\*Livestream Studio hardware products (HD31/HD51/HD510/HD550/ HD1710) do **not** include built-in Wi-Fi receivers.



<b>N</b>	_ 💐	See full map
USER-PC (This computer)	Multiple networks	Internet
View your active networks		Connect or disconnect
Network 5 Public network	Access type: Connections:	Internet Local Area Connection 2
goprosupport Home network	Access type: HomeGroup: Connections:	No Internet access Ready to create Wireless Network Connection 4 (goprosupport)

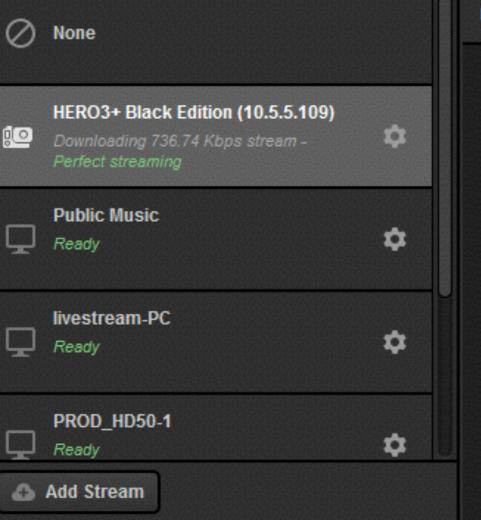
Check your system's network settings to ensure that Wi-Fi is enabled and connected to your GoPro camera.





Once your system recognizes the GoPro's Wi-Fi, the GoPro will appear as a source in your remote camera modules.





#### HERO3+ Black Edition (10.5.5.109)



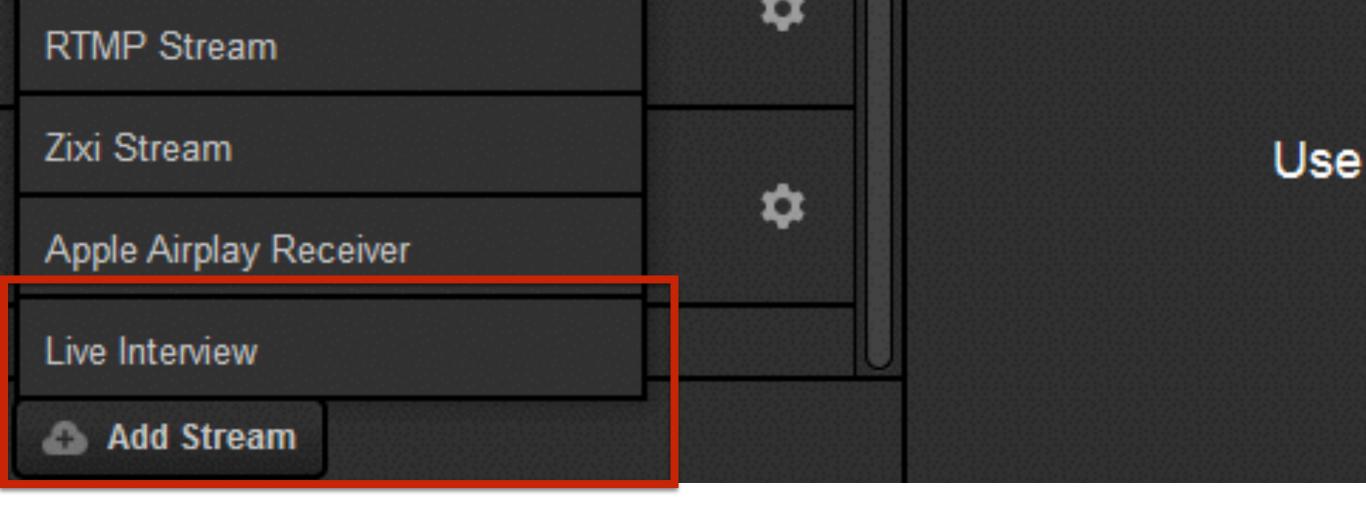
Select the GoPro to activate it. You can then switch it into Program as desired.



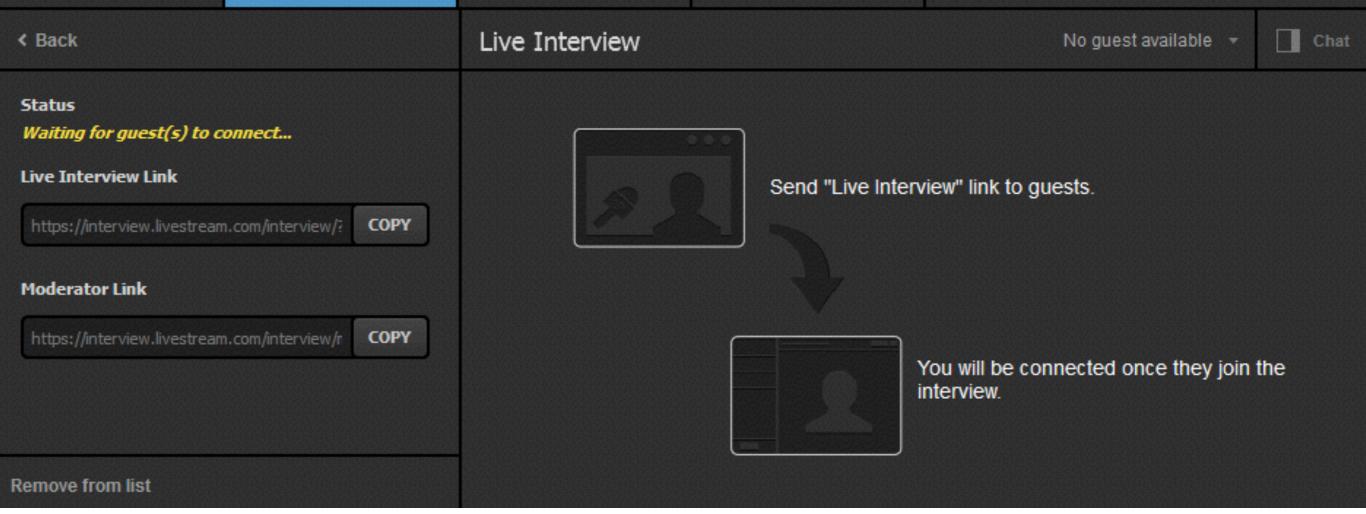
### Adding remote cameras

Live interview



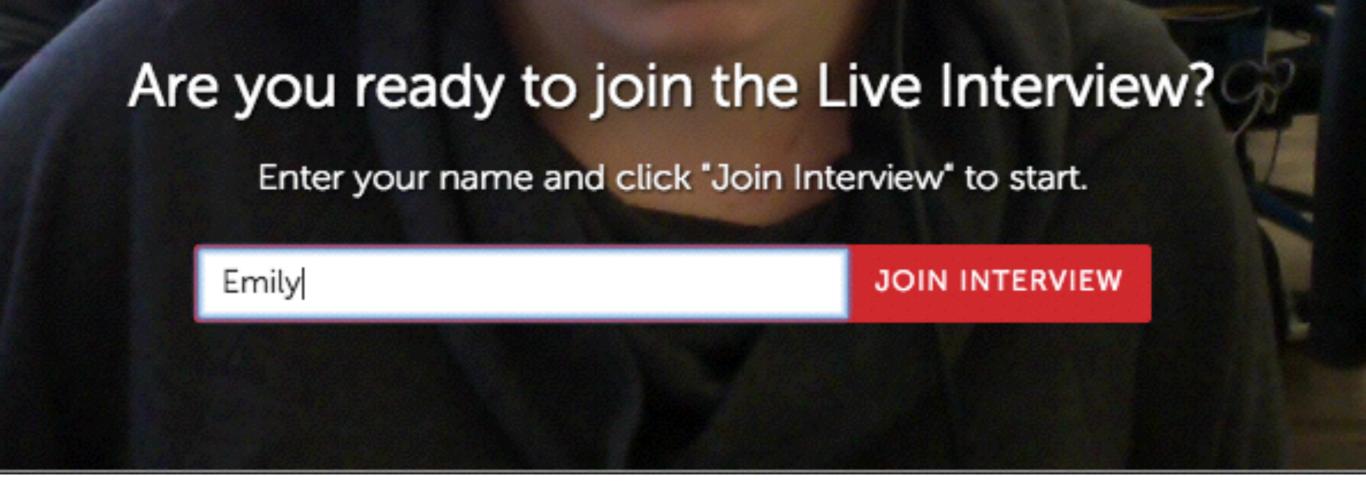


The Live Interview feature is available under the remote camera tab. To add it as a source, click 'Add Stream,' then 'Live Interview.'

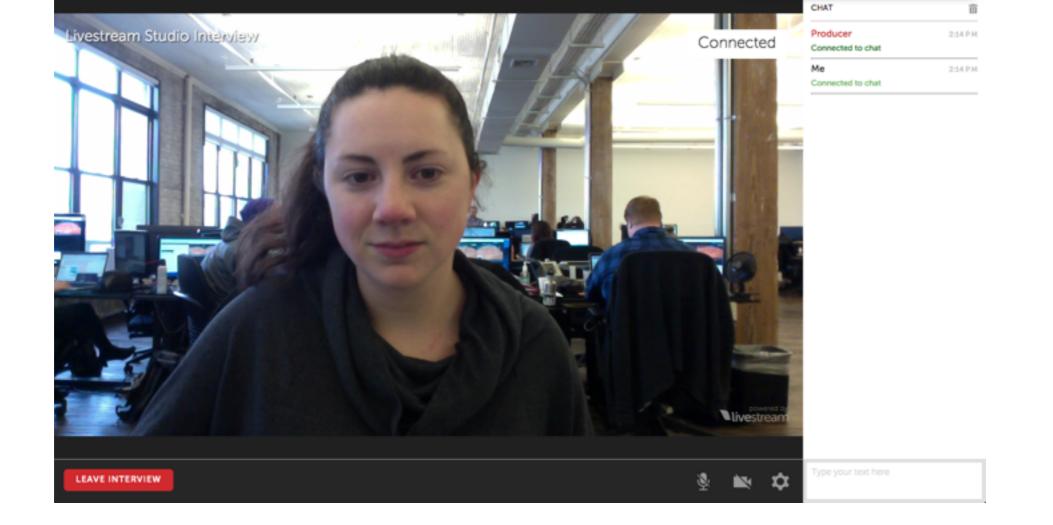


You will be provided two URLs: a Live Interview Link and a Moderator Link. Press the 'Copy' button to copy the corresponding URL to your clipboard and provide the Live Interview URL to your guest.





When the guest opens the provided Interview URL in Google Chrome, a prompt will ask for a name and to and allow the camera and microphone to be accessed. When these simple steps are finished, the guest can click 'Join Interview.'



The guest will continue to see the camera feed, but will also see that a connection has been established and that an internal chat can be accessed.



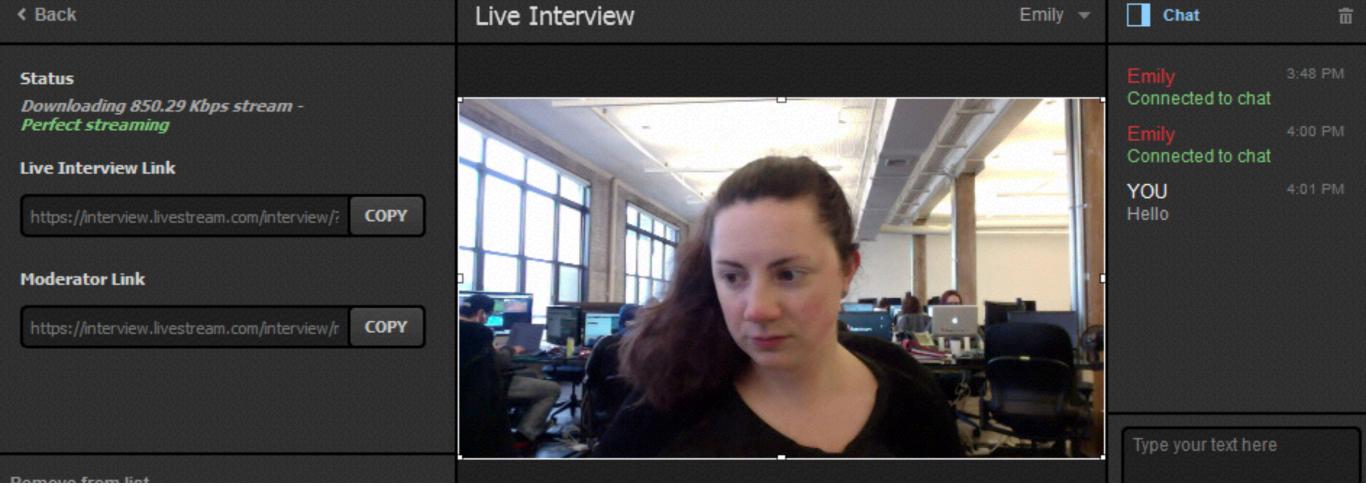
< Back	Live Interview	Select guest (1) 🔻	Chat	Ō
Status <i>Please, select guest from the list</i> Live Interview Link	No interviewees selected Please select guest from the list.		Connected to chat	:12 PM :12 PM
https://interview.livestream.com/interview/?       COPY         Moderator Link          https://interview.livestream.com/interview/r       COPY				
Remove from list			Type your text here	

You will also see this chat in Livestream Studio, allowing you to communicate with the guest.

Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings			
< Back		Live Interview		Select guest (1) 🔺	Chat	目
Status <i>Please, select guest from the list</i> Live Interview Link		No interviewees selected		None	Connected to chat	4:12 PM
		Please select guest from the list.	Emily	4:12 PM		
https://interview.livestream	n.com/interview/? COPY				YOU Hello	4:12 PM
Moderator Link						
https://interview.livestream	n.com/interview/r COPY					

You can bring in the guest's camera by clicking the dropdown in the upper right corner of the module and clicking the guest's name.





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**live**stream

After clicking the name, you can use the guest's camera as a remote camera source, which you can switch to whenever you are ready.



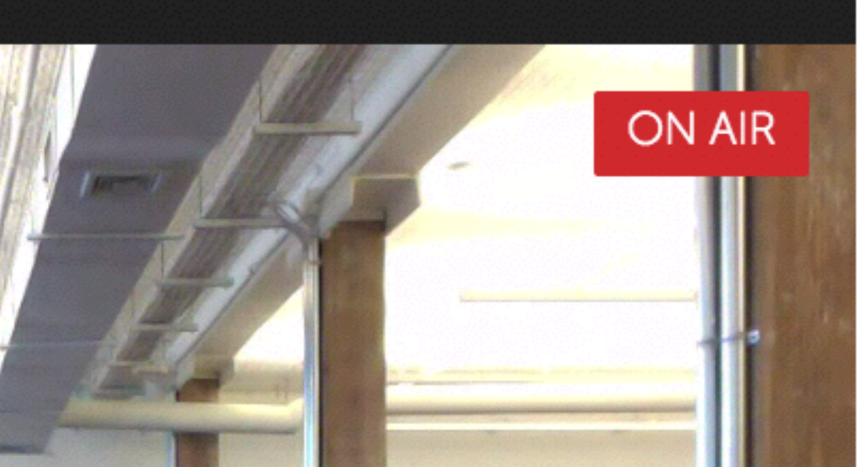
The guest's view will change to seeing his/her camera in the lower left corner and a larger view of what is currently in Program. The guest will also hear Program audio.





CHAT	亩		
Producer	2:14 P M		
Connected to chat			
Me	2:14 P M		
Connected to chat			
Producer	2:19 P M		
Hello			

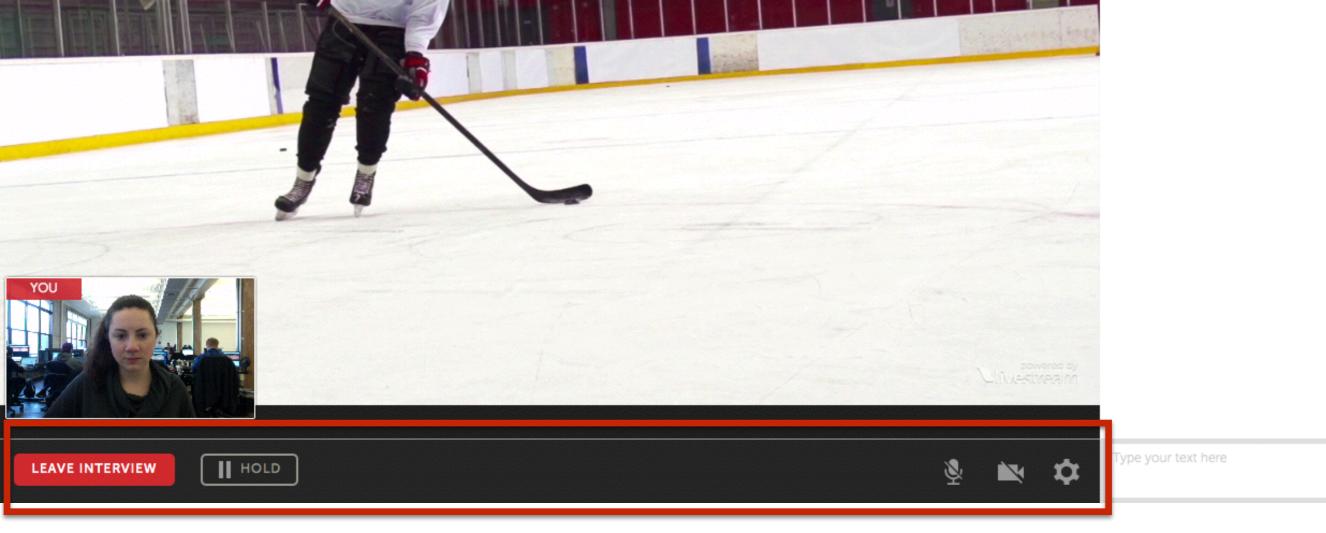
When the guest's camera is selected, he/she will see a 'Preview' notification in the upper right hand corner of the screen.



2:14 P M
2:14 P M
2:19 P M
,

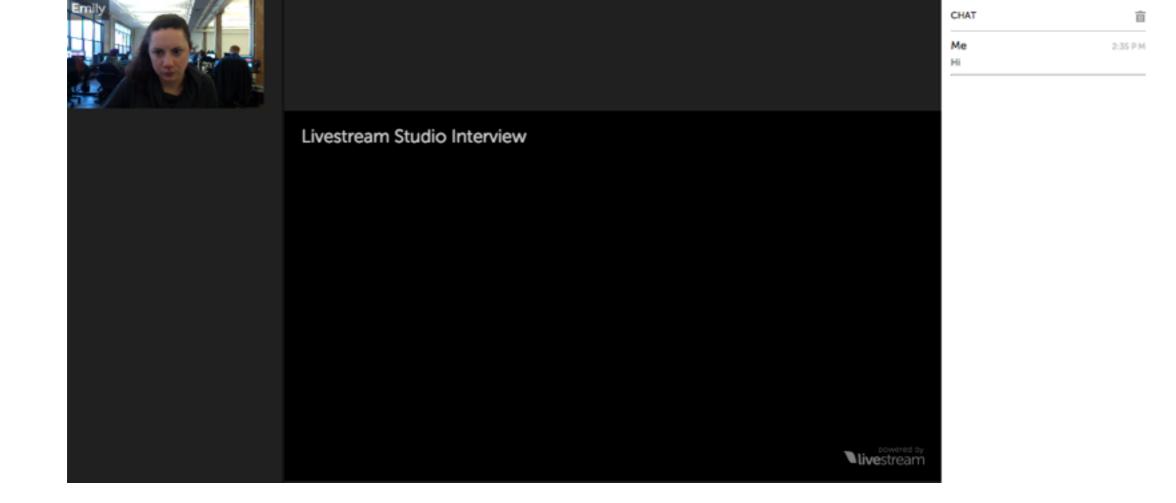
When the guest's camera is switched into Program, the guest will see a red 'On Air' notification in the upper right corner.

Note: The guest will hear all other Program audio but by default, will not hear guest audio.



The guest has controls at the bottom of the screen that allow the guest to mute his/her microphone or stop the guest video from sending. The gearwheel will allow the guest to change video and audio sources.

livestream

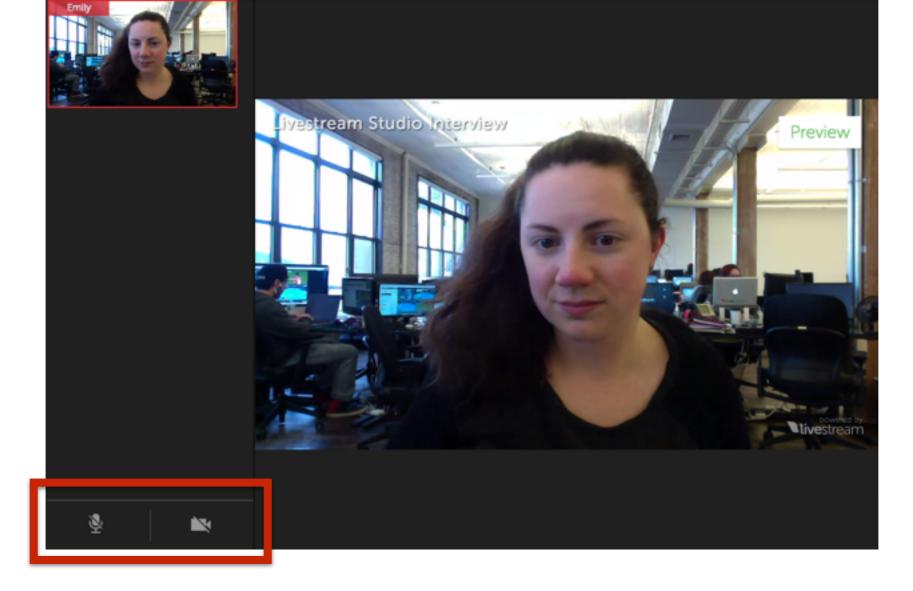


The moderator URL can be given to someone who can choose between different guests' sources. The moderator's camera will not be shown, but the moderator will be able to hear audio from all connected interviewees.

	Live Interview 1 No Users ~	Chat	
9e75-dd8509feda46 COPY	Define settings to activate this stream Please, select interviewee's from the list	YOU Hello	2:19 PM
		Moderator Connected to chat	2:33 PM
9e75-dd8509feda46 COPY		Emily Connected to chat	2:34 PM
		Emily Connected to chat	2:35 PM
		Moderator Hi	2:35 PM

The moderator is also connected to the chat to communicate with all guests and the producer.





The moderator can also mute and pause selected guests' camera sources by using the controls on the bottom left of the screen.

### Adding remote cameras

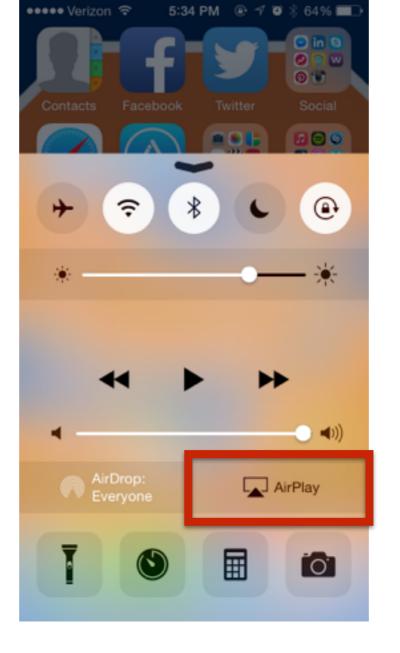
Apple Airplay Receiver





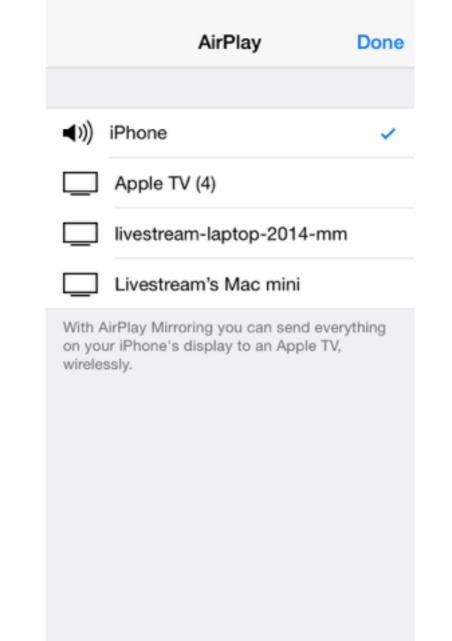
Another remote camera option is the ability to bring in any Apple device that includes Apple Airplay. To do so, click 'Add Stream,' then 'Apple Airplay Receiver.'





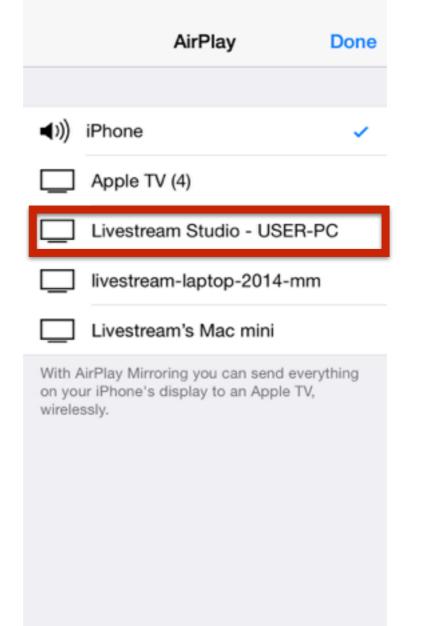
Livestream Studio will prompt you to turn on AirPlay on your iOS device. On an iPhone, this can be done by swiping up from the bottom of the screen.





When you press the AirPlay icon, a menu will appear on your iPhone prompting you to select a source.





Livestream Studio will indicate your system's name; select that from the menu.

	AirPlay	Done
<b>∢</b> )))	iPhone	
	Apple TV (4)	
	Livestream Studio - USE	ER-PC 🗸
	Mirroring	
	livestream-laptop-2014-	·mm
	Livestream's Mac mini	
	irPlay Mirroring you can send Ir iPhone's display to an Apple Issly.	

## When you select it, enable mirroring.

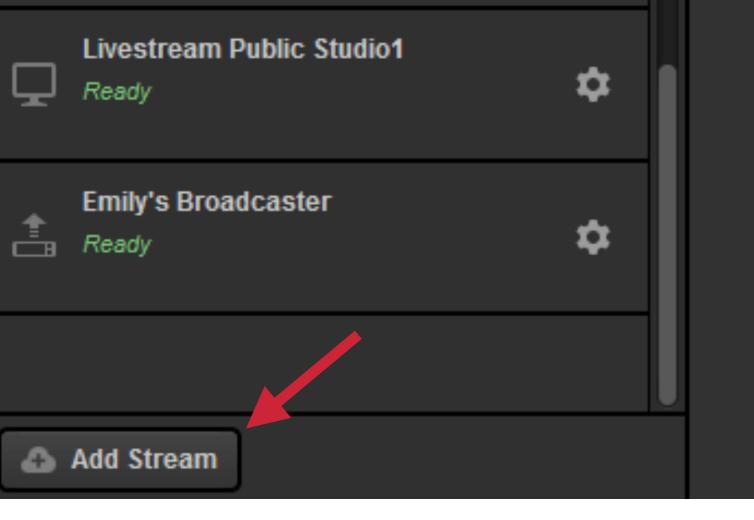
< Back	Livestream Studio - USER-PC	
Status Downloading 227.32 Kbps stream - Perfect streaming	AirPlay Done	
Name	<ul> <li>IPhone</li> <li>Apple TV (2)</li> </ul>	
Livestream Studio - USER-PC	Livestream Studio - I7M-PC	
	Livestream Studio - USER-PC 🗸	
	Mirroring C	
	MacBookPro AV	
	MacBookPro AV Ex	
	With AirPlay Mirroring you can send everything on your iPhone's display to an Apple TV, wirelessly.	
Remove from list		

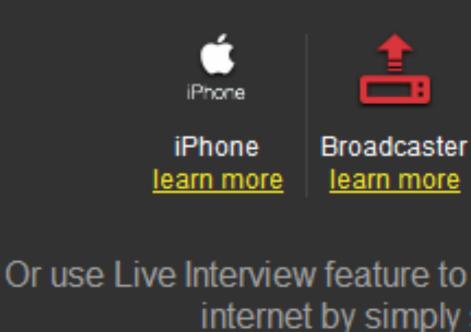
After a few seconds, your device's screen will appear as a remote camera source, which you can then switch into Livestream Studio as desired.

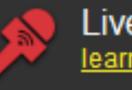
## Adding remote cameras

Other streams



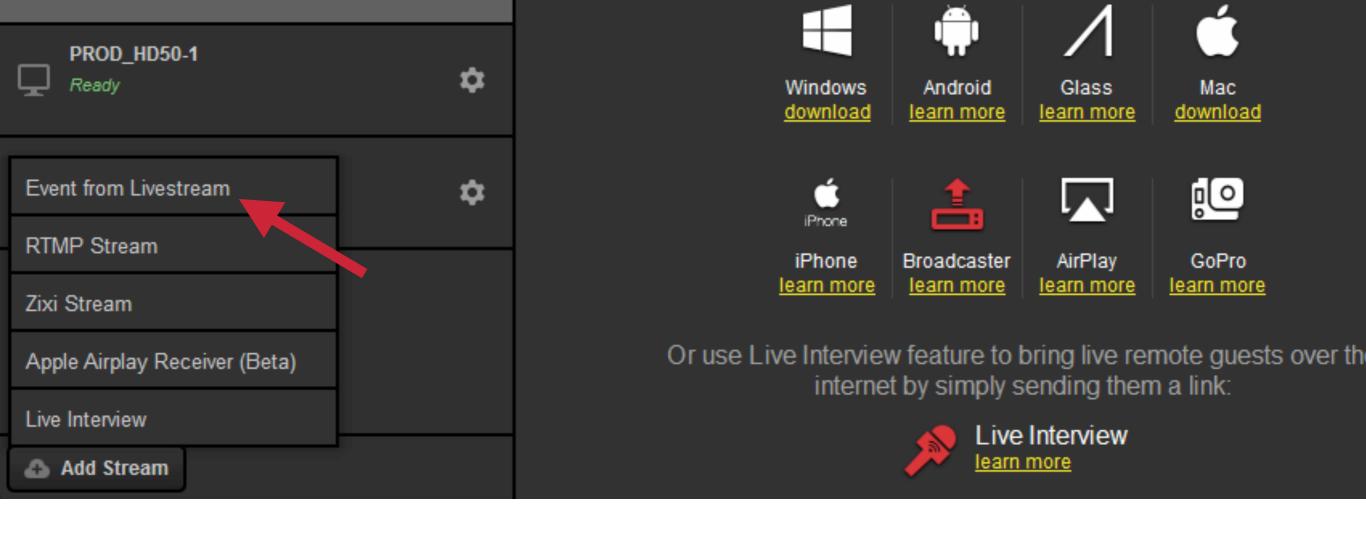






If you have a camera streaming in another location, you can pull that stream into your Livestream Studio as a remote camera source by clicking 'Add Stream.'





Clicking this will give you three options. Start with 'Event from new.livestream.com.'

Email Address		
Password		
Login	Remember Me	
Remove from list		

Setup your Livestream account in settings

You will see an option to log in. You should use a different Livestream account from one you may be using to stream from Livestream Studio.



#### Status

Auto event mode - No live event now polling for new live event

#### Select Event

Highest

Closest to

Auto 
When "auto" is selected Livestream Studio
will select the most recently live event.
Bitrate Selection

Livestream Studio will automaticaly download the highest bitrate quality

0

Kbps

this event is streaming.

### Auto event mode - No live event now polling for new live event

Once you are logged in, Livestream Studio will start polling for any live events on your account. You can also select a specific event to take a stream from.



#### **Bitrate Selection**



### Highest

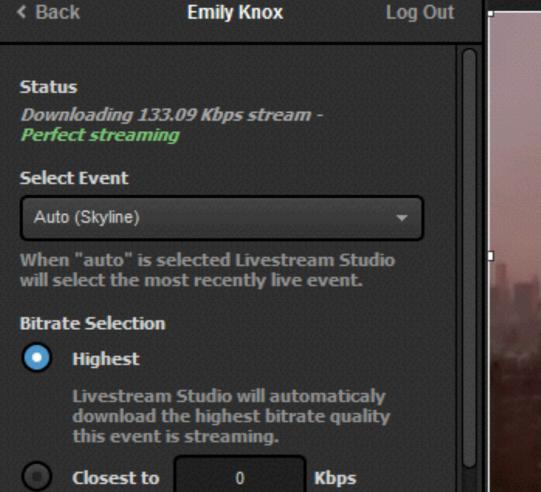
Livestream Studio will automaticaly download the highest bitrate quality this event is streaming.

# Closest to 0 Kbps

bitrate his event is streaming and download the bitrate closest to the number you type in the field above.

You also have the option to have Livestream Studio take in the highest bitrate possible or as close to a specific bitrate as possible.

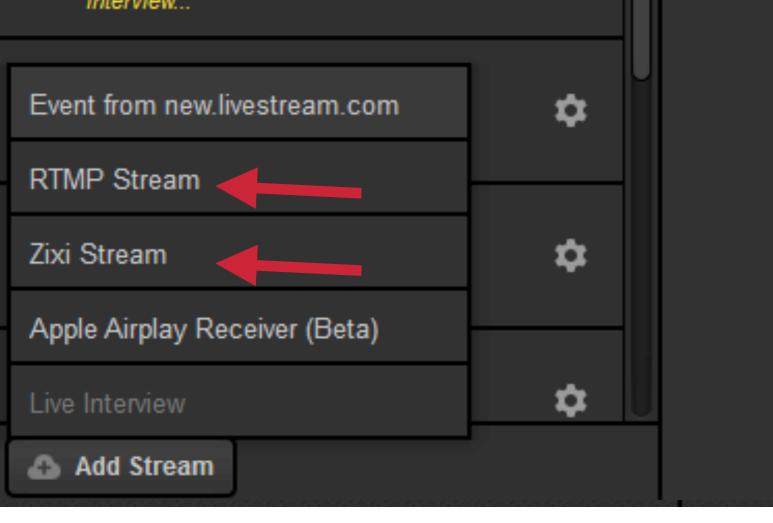


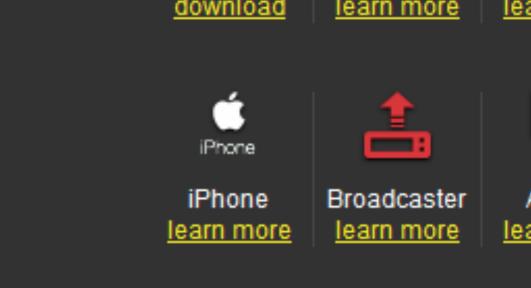




When you go live on that Livestream account from a separate encoder, the stream will appear in the module; you should expect a delay of about ten seconds.







Or use Live Interview feature to bring internet by simply send



You can also pull in an RTMP or Zixi stream. Click 'Add Stream' and select which one you are using.



< Back	RTMP Player 1
Status <i>Please, enter a RTMP stream URL</i> Stream Url	Define Stream URL to activate this stream. Fill in the Stream URL text box in settings.
Name RTMP Player 1	
Remove from list	

Enter the appropriate playback URL for accessing the stream into the text box in the module, then press Enter.

Status Downloading 111.32 Kbps stream - Perfect streaming	
Stream Url	
rtmp://cp86438.live.edgefcs.net/live/livestream6_2 74@41365	
Name	IJ
Remove from list	

### RTMP Player 1



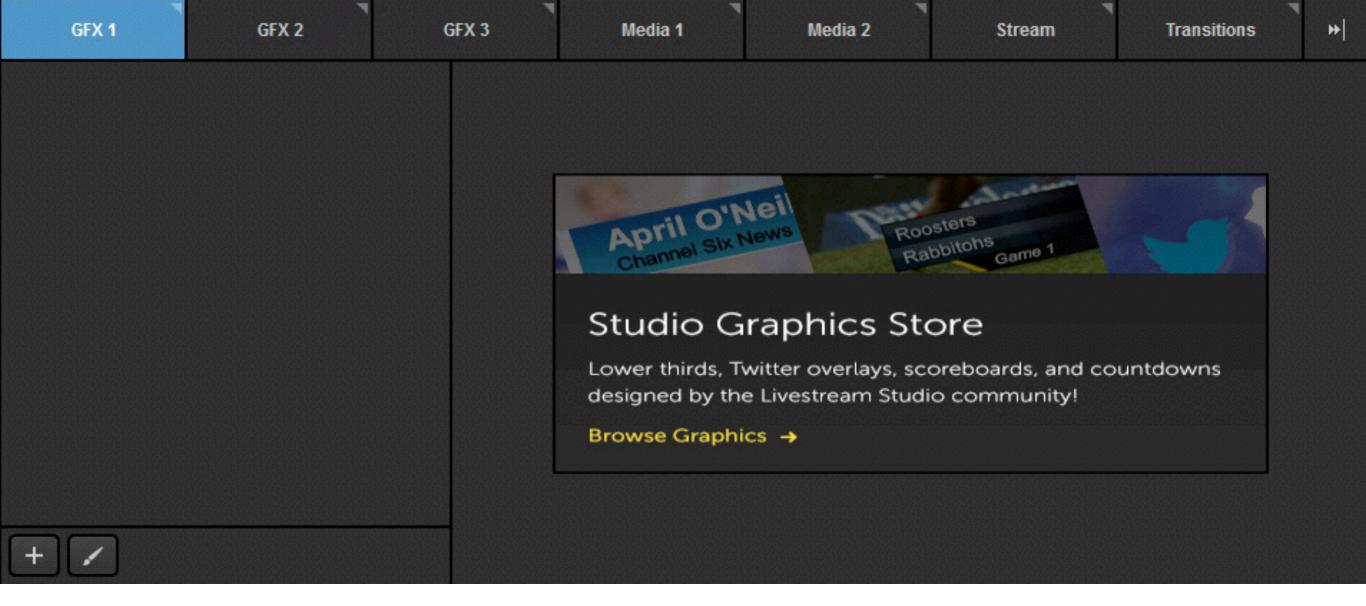
The stream will appear in the remote camera module. Expected latency will vary depending on connectivity strength, but will likely hover around ten seconds.

**live**stream

## Adding graphics overlays

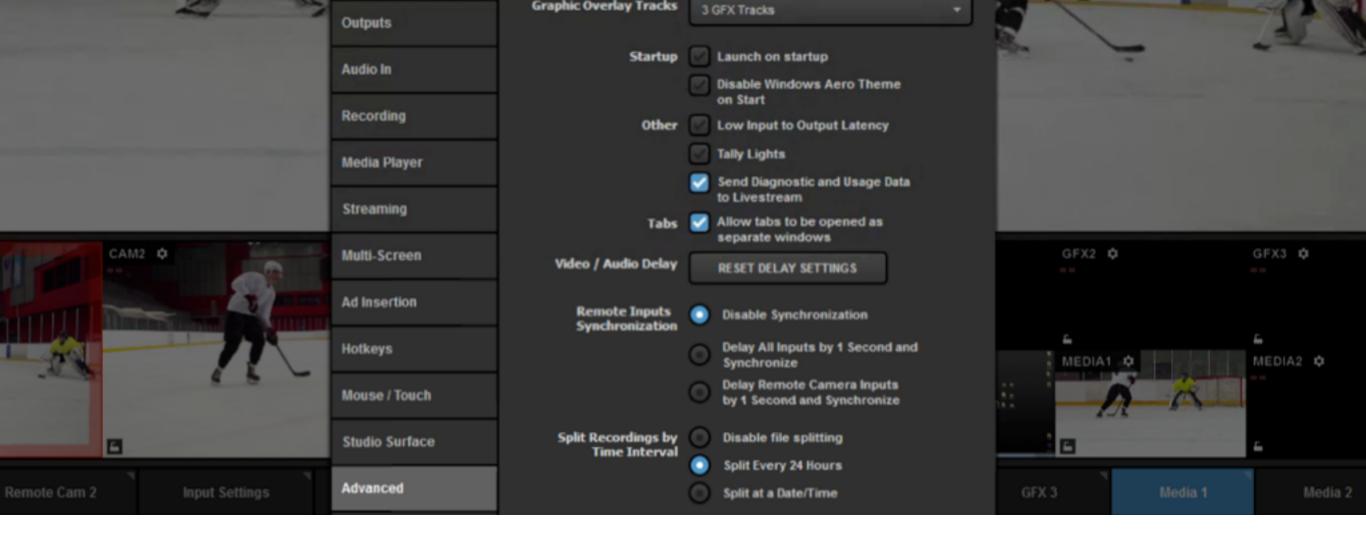
Activating graphics overlay channels

**live**stream



Livestream Studio gives you the option to use three graphics overlay channels, all of which can include multiple layers of static or data-driven graphics.





To ensure you have the desired number of graphics overlay channels available, go to your settings and navigate to the Advanced tab.



- Vr	Settings		CANCEL	
- AR	Project Format			
TAC	Inputs	Crossfade Audio on Cut	5 Frames	
2	Outputs	Graphic Overlay Tracks	3 GFX Tracks	17
	Audio In	Startup	1 GFX Track 2 GFX Tracks 3 GFX Tracks	
	Recording	Other	on Start  Low Input to Output Latency	
	Media Player		Tally Lights Send Diagnostic and Usage Data	
	Streaming	Tabs	Allow tabs to be opened as	
			separate windows	

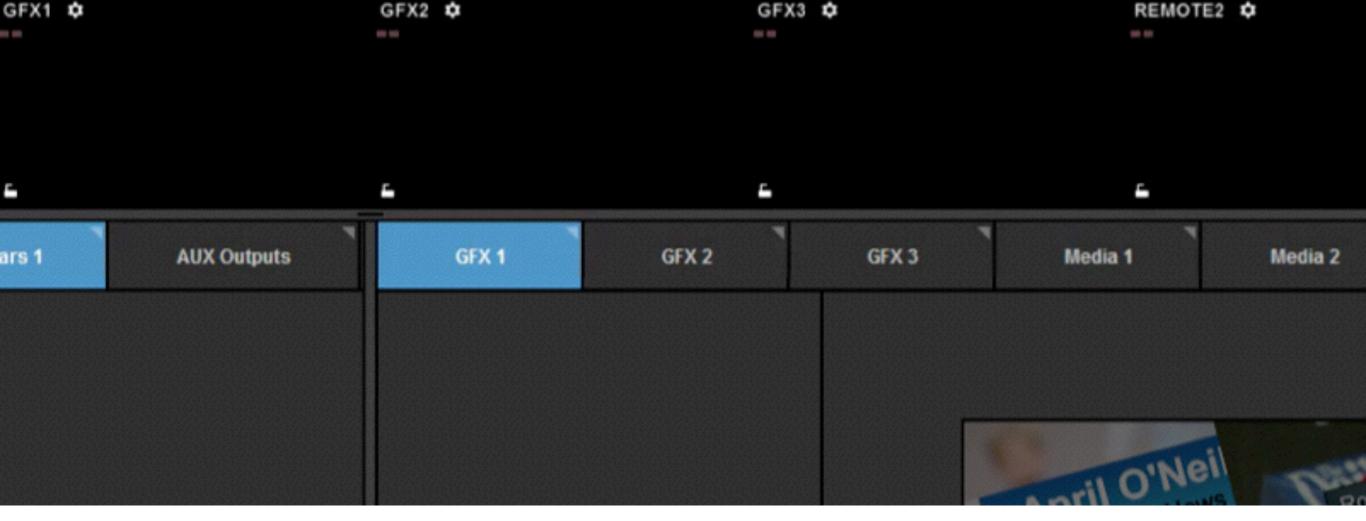
The second option is 'Graphic Overlay Tracks.' This is where you select the number of GFX tabs you want available to you in the Livestream Studio interface.

**live**stream

	Audio In	CAM2	DeckLink Mini Re 👻	Embedded		None		
	Recording	CAM 3	DeckLink Mini Re 👻	Embedded	Ŧ	None		
Sandar Station managements	Media Player	GFX1	GFX 1 🗢	Disabled	-	None		
	Streaming	GFX2	GFX 2 ÷	Disabled		None		
	Multi-Screen	GFX3	GFX 3 -	Disabled		None		GFX2
		REMOTE2	Remote Cam 2 -	Embedded		None		
A CHINESE	Ad Insertion	REMOTE1	Remote Cam 1 -	Embedded		None		<u>-</u>
1	Hotkeys	MEDIA 1	Media 1 -	Embedded		None		MEDI

In the '**Inputs**' tab, add your GFX channels as video sources if you wish to see them in your multi-view. This is especially helpful if you are using picture-in-picture.





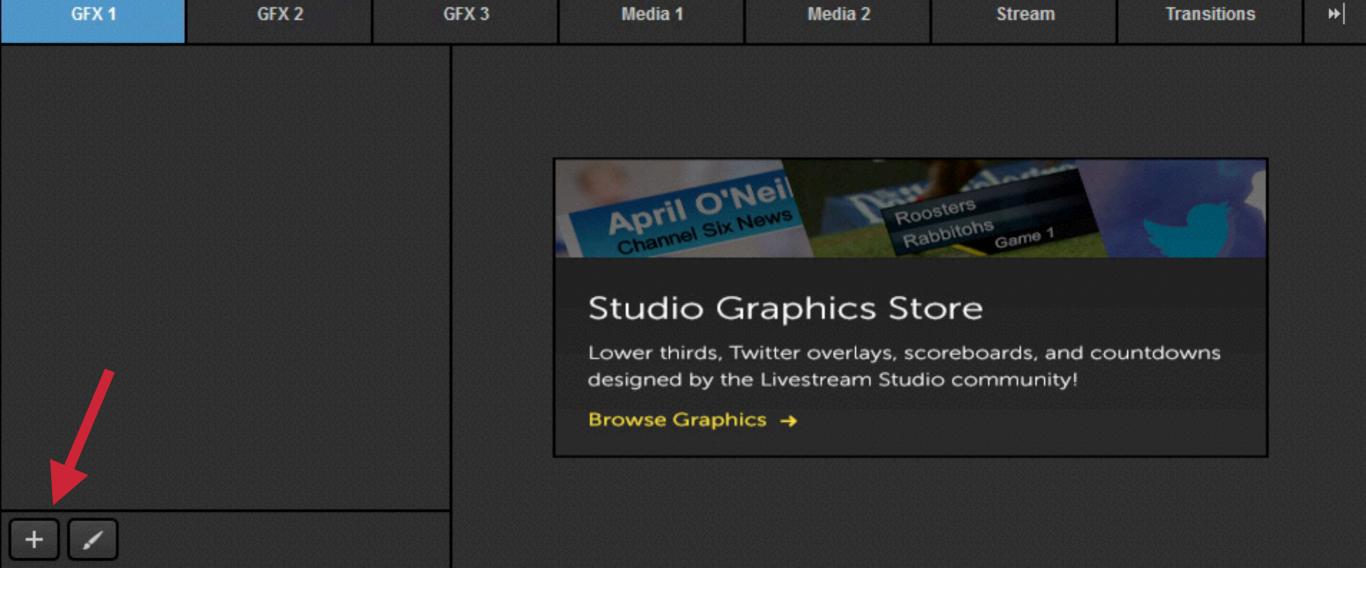
After saving your settings, you will see the desired number of GFX channels and any GFX channels added to your multi-view.



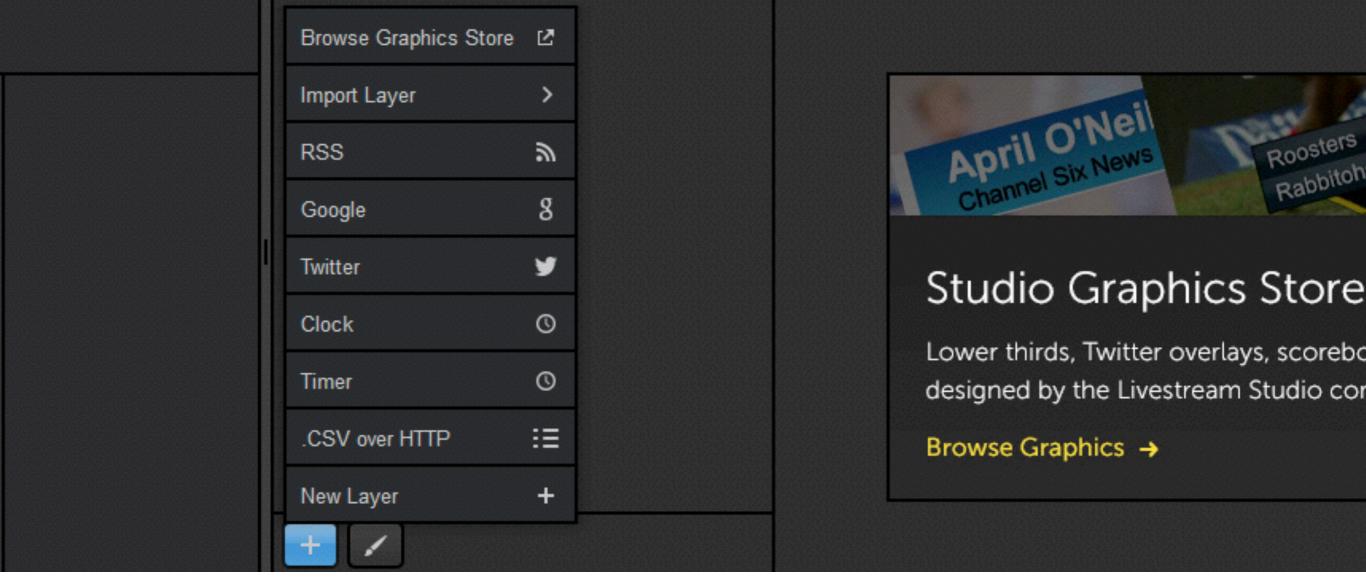
## Adding graphics overlays

Adding and designing a new layer

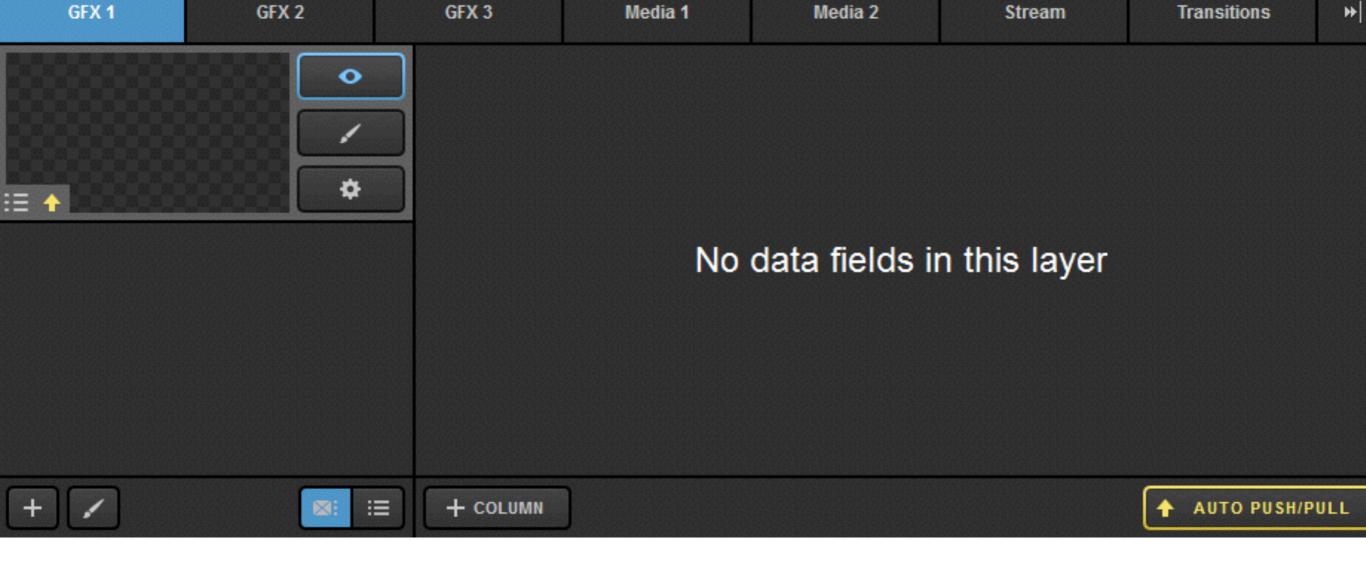




The first step in adding graphics overlays to the GFX channel is adding a layer. Press the '+' button to get started.

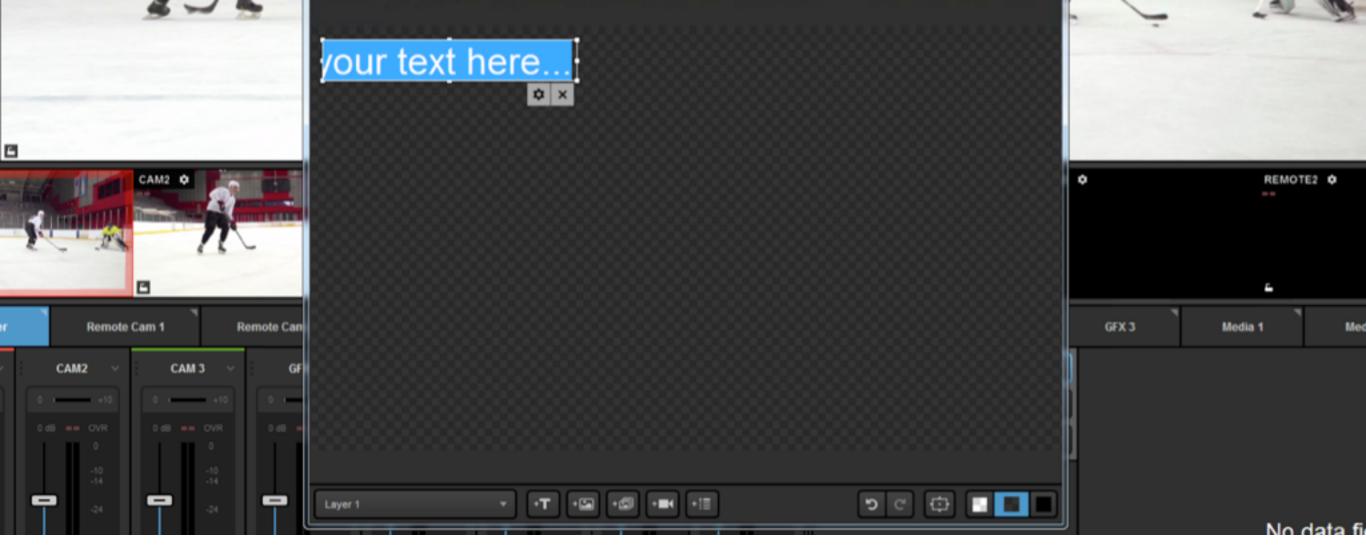


Many options will pop up. To get started, select 'New Layer' at the bottom of the list.



The layer will appear on the left side of the module. Click either paintbrush button to enter the GFX designer to build your graphic.





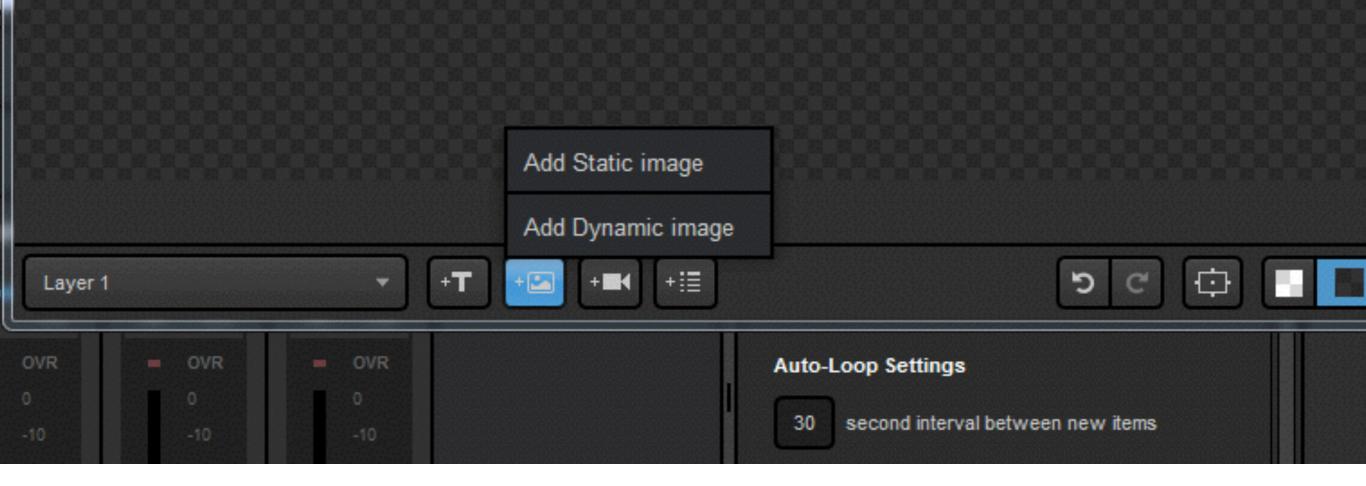
# Clicking the '+T' button will add static text to your graphics layer.



	your text here ◎ ×	
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AM 3 ~ GF +10 0 + 0 +0 dB = 0 -10 -14	BORDER   Outside   POENTION   DOUTSIDE     POENTION     POENTION	
-14	Layer 1 → +T + = + = + = + = > C ⊕ =	

Click the attached gearwheel button for editing options (font, size, color, etc.)

**live**stream



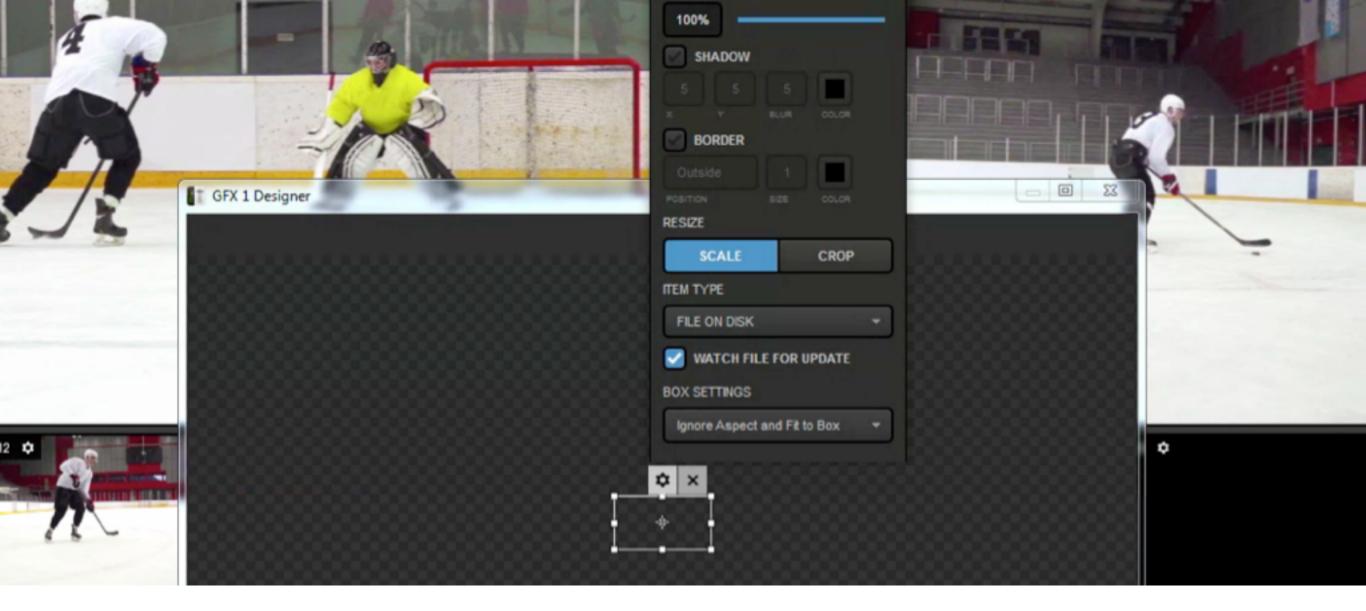
The next button allows you to add either a static or dynamic image to your graphics layer.





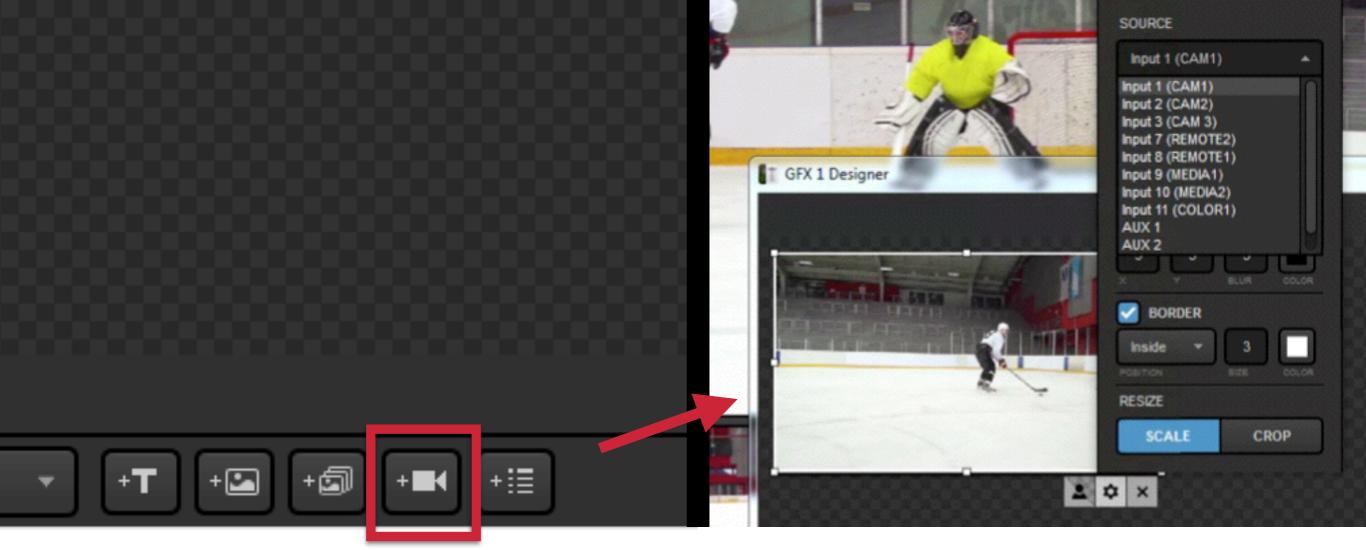
A static image is any image file you can import, which will always be visible when that graphics layer is also visible. The image will not change.

**live**stream



A dynamic image will change if the hosted file is also changed. In the designer, you choose the file where it is located and its dimensions.

**live**stream

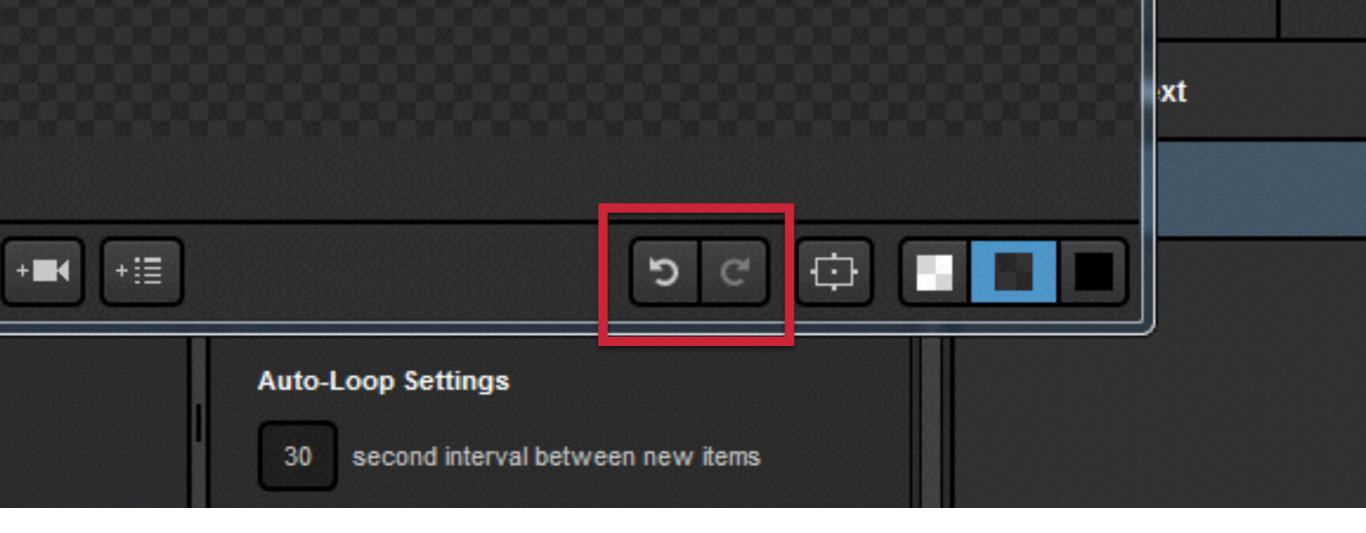


The next option you can add is a video source. Clicking this will allow you to choose which video source you want to include in your graphics channel, place it, size it, etc.



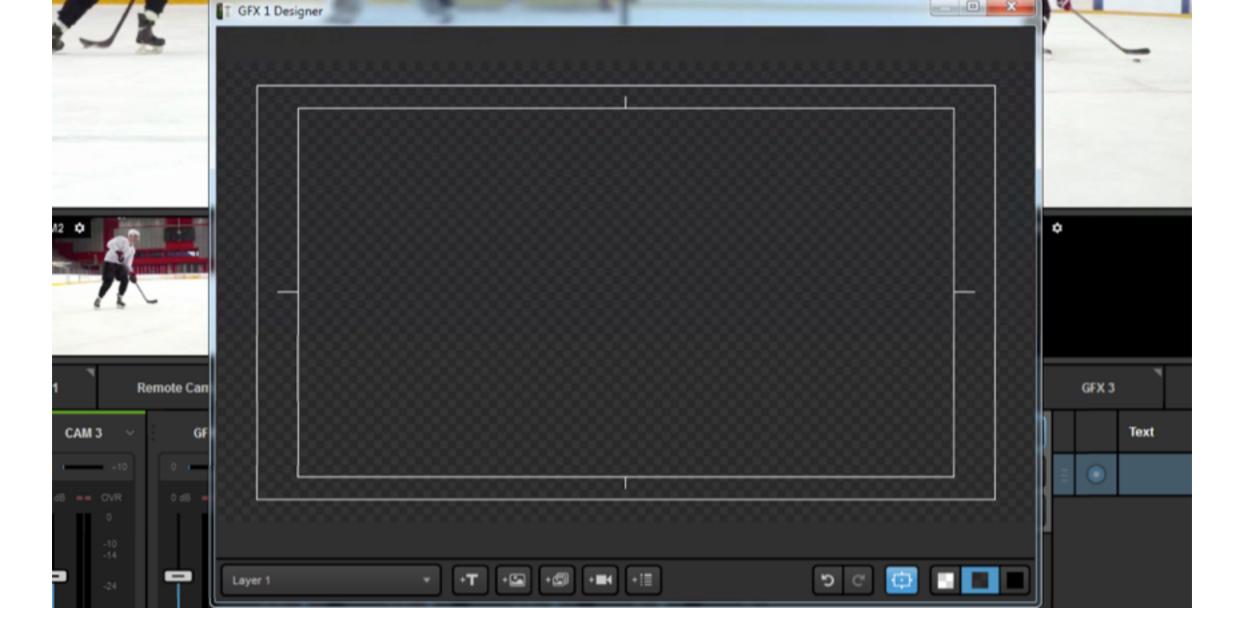


The following button allows you to add text or image data fields. Here is where you set where assets will be, their sizes, font colors, etc. The content of those fields is added in a later step.

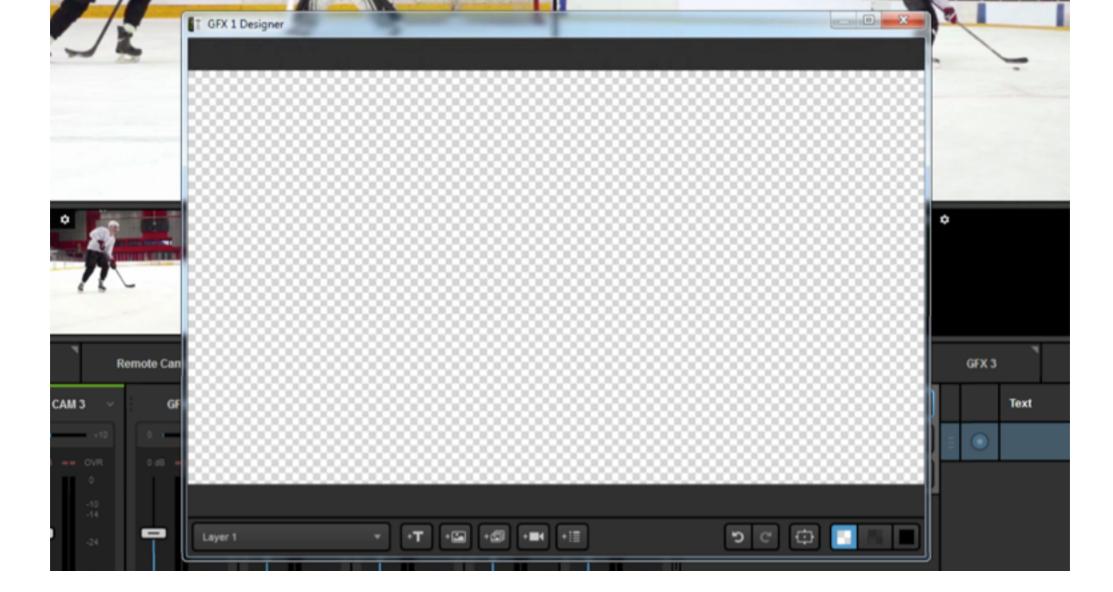


### Further to the right, the two arrow buttons are for 'Undo' and 'Redo.'



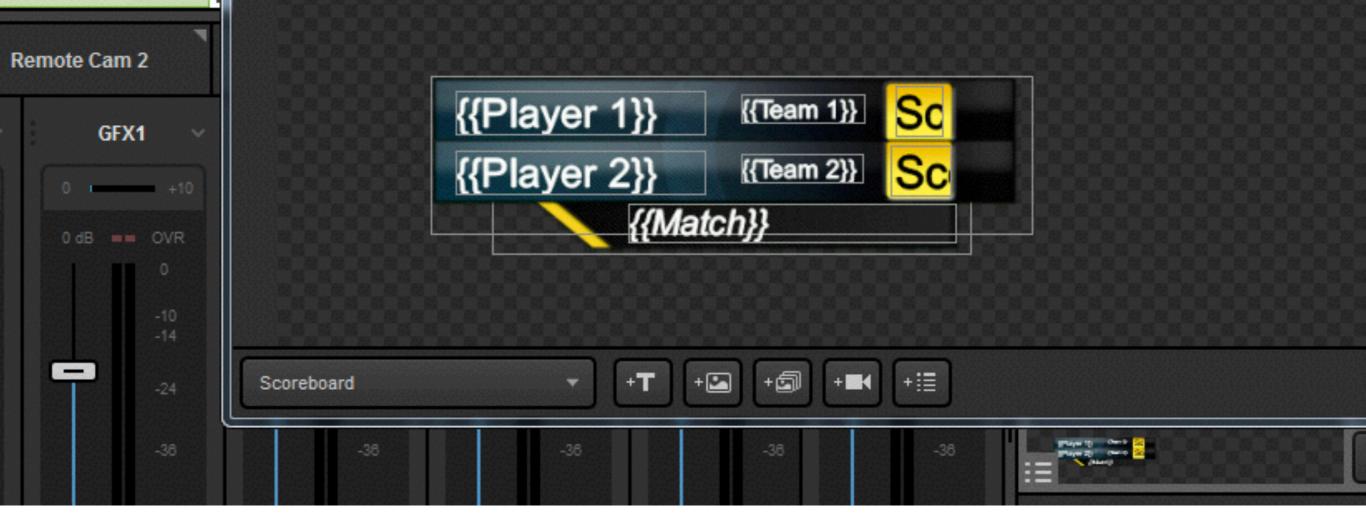


The next button will provide you with a box identifying the title safe (inner box) and action safe (outer box) areas. This lets you know that your graphics will not be cut off the screen.



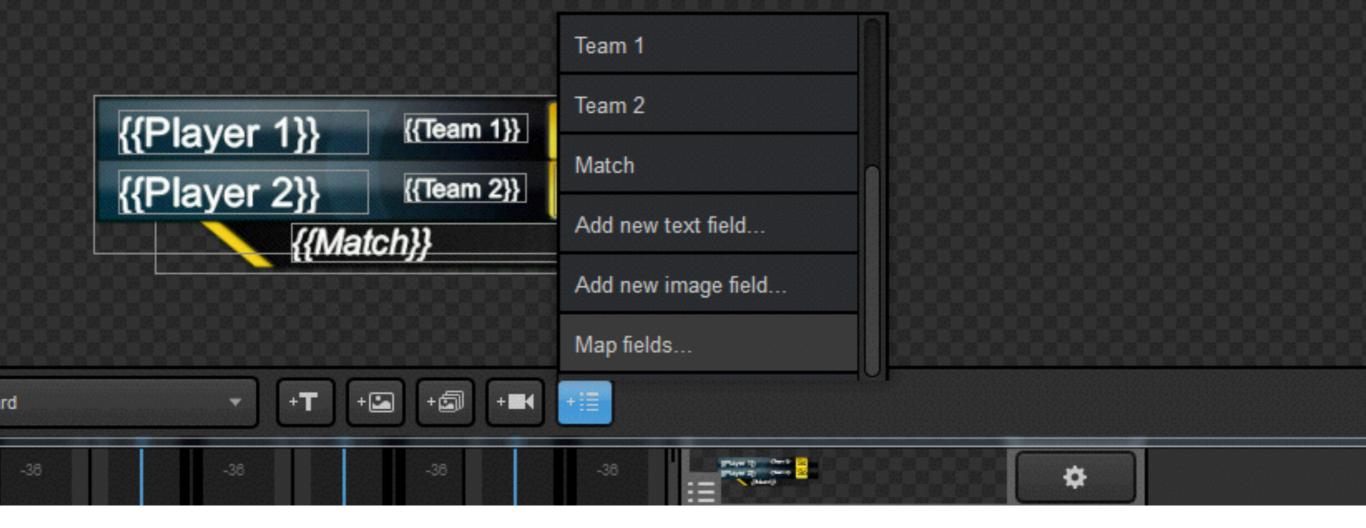
The next three buttons allow you to change how the GFX Designer displays transparency. This has no impact on the appearance of your graphics overlays.





Once you have your graphic designed, you may decide you want to switch where some of your data fields are located.





To do this, click on the list icon in the GFX Designer. You will notice an option to 'Map fields...'



3		Please Map Text Fiel	ds ×	
			None -	
CAM2 0			m None *	
A A A A A A A A A A A A A A A A A A A		Player 1	None -	
emote Cam 1 Remote Cam 2			In None -	
✓ CAM3 ✓ GFX1 ✓ ≤10 0 → ≤10 0 → ≤10	{{Player 1} {{Player 2}	Team 2	None +	
		Main Board		
	Scoreboard +		CANCEL MAP	

This window will pop up, allowing you to move data from one field to another field.

Note: Text fields can only be mapped to text fields; image fields can only be mapped to image fields.

	P2 Score	None	
	Player 1	None	
	Player 2	None P1 Score P2 Score Player 1 Player 2	
(Distor 1)	Team 1	Player 2 Team 1 Team 2 Match	
{{Player 1} {{Player 2}	Team 2	None -	
	Main Board	None -	
		CANCEL MAP	
Scoreboard +			

Use the dropdown menus to select where fields should be mapped to. When you are done, click the 'MAP' button.



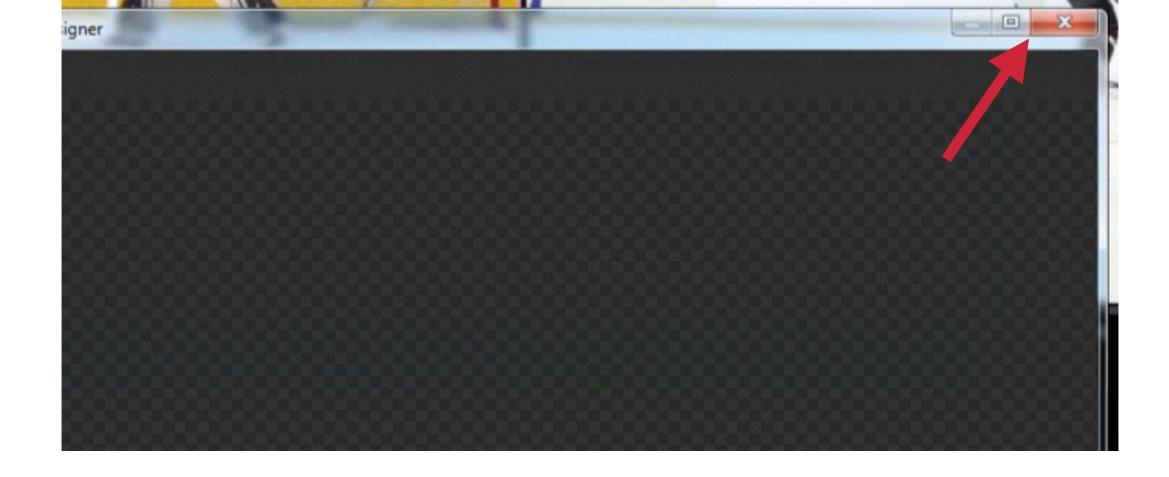


The fields will remap immediately, which you will notice in the GFX Designer.





Right clicking on your content in the designer allows you to undo and redo actions, move content between layers, copy, paste, etc.



When you are done designing your graphics overlay, close out of the designer by clicking the 'X' button in the upper right corner.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Iransitions	*
	•	Na	ime		Title		
({Hame)}							
+ /		E + ROW	+ COLUMN			🔶 AUTO PUSH/P	ULL

You can re-enter the designer by clicking on any paintbrush button in the graphics overlay module.





If you hover your mouse over your GFX layer, you will notice a name appear at the top of the image. Double-click the text to rename this GFX layer.



GFX 1	GFX 2	GFX 3	Media 1	Media 2	Stream	Transitions	*
	•	Nar	ne		Title		
	\$						
+ /	<b>X:</b> :=	+ ROW	+ COLUMN			🔶 AUTO PUSH/P	ULL

You can adjust other settings for that graphics layer by clicking the gear wheel button. The settings shown will change based on the type of graphics overlay being used.

< Back Lower Third : Yello Delete		Name ~	Title ~
Auto-Loop	≡ ⊙		
START AUTO-LOOP			
Auto-Loop Settings			
10 second interval between new items			
Start from beginning once end is reached			
Remove item from list after shown			
Auto-Loop Direction			
Top-to-bottom			
	<b>C</b>		

Most GFX layer settings will be related to your data fields. If you added a text or image field, a column for each should have been created to the right, which you can rename.

K Back Lower Third : Yello Delete		Name	Title	
Auto-Loop	•			
START AUTO-LOOP				
Auto-Loop Settings				
10 second interval between new items				
Start from beginning once end is reached				
Remove item from list after shown				
Auto-Loop Direction		Add Text Type Column		
Top-to-bottom		Add Image Type Column		
+ 🖌 🛛 🔤	+ ROW	+ COLUMN		AUTO PUSH/PULL

You can also add a column by clicking '+ COLUMN' underneath where the data populates and add that asset in the GFX Designer.

< Back Lower Third : Yello Delete			Name	Title	
Auto-Loop	HE	$\odot$	Tom lannaco	Producer Support	
START AUTO-LOOP					
Auto-Loop Settings					
10 second interval between new items					
Start from beginning once end is reached					
Remove item from list after shown					
Auto-Loop Direction					
Top-to-bottom					
Bottom-to-top					

In the one row that appears, you can add content to those fields by clicking in the cell. You can then type any desired content into a text field.



<ul> <li>Favorites</li> <li>Desktop</li> <li>Downloads</li> <li>Recent Places</li> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Homegroup</li> <li>Computer</li> <li>Local Disk (C:)</li> <li>Network</li> </ul>	Pictures libra Includes: 2 locations	Sample Pictures		Arrange by: Folder	•
File na	me:		•	*.jpg *.jpeg *.png *.bmp Open 🔽 Canc	▼ cel

Double-clicking an image field will allow you to browse your computer for an image to put in that image field.

	< Back Lower Third : Yello Delete		Name	√ Title	
	Auto-Loop	=	Tom lannaco	Producer Support	
	START AUTO-LOOP				
	Auto-Loop Settings				
	10 second interval between new items				
	Start from beginning once end is reached				
	Remove item from list after shown				
	Auto-Loop Direction				
	Top-to-bottom				
C	+ 🖊 📧 🗉	+ R0			🔶 AUTO PUSH/PUL

Click the adjacent radio button to highlight it blue. This will make that row of data visible when that layer is shown in Preview or Program.



Back Lower Third : Yello Delete		Name	Title	
Auto-Loop	=	Tom lannaco	Producer Support	
START AUTO-LOOP				
Auto-Loop Settings				
10 second interval between new items				
Start from beginning once end is reached				
Remove item from list after shown				
Auto-Loop Direction				
Top-to-bottom				
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To use the same graphics overlay template for different information or data, click '+ ROW' on the bottom.

< Back Lower Third : Yello Delete			Name 🗸	Title
Auto-Loop	III	۲	Tom lannaco	Producer Support
START AUTO-LOOP	ALL STR	0	Penalty Shot	New York, N.Y
Auto-Loop Settings         10       second interval between new items         Image: Start from beginning once end is reached         Image: Remove item from list after shown				
Auto-Loop Direction Top-to-bottom				
+ 🖊 🛛 🔤		+ ROW	+ COLUMN	AUTO PUSH/PULL

Fill in the data cells with the information you want to use for those text or image fields.



< Back Lower Third : Yello Delete		Name	∽ Title	
Auto-Loop	≡ ⊙	Tom lannaco	Producer Support	
START AUTO-LOOP		Penalty Shot	New York, N.Y.	
Auto-Loop Settings				
10 second interval between new items				
Start from beginning once end is reached				
Remove item from list after shown				
Auto-Loop Direction				
Top-to-bottom				
+ /	+ R0			AUTO PUSH/PULL

## Click the corresponding radio button to make that row of data visible in your graphics layer.

Back Lower Third : Yello Delete			Name ~	Title
Auto-Loop		0	Tom lannaco	Producer Support
START AUTO-LOOP	111	٢	Penalty Shot	New York, N.Y.
Auto-Loop Settings		0		
10 second interval between new items		0		
Start from beginning once end is reached Remove item from list after shown	ш	$\odot$		
Auto-Loop Direction	HI	0		
Top-to-bottom	111	0		
+ 🖌 🛛 🔤 🗉	C	+ ROW	+ COLUMN	AUTO PUSH/PULL

You can add as many rows and columns as necessary for any given graphics overlay layer.



START AUTO-LOOP		0	Tom lannaco	Producer Support
Auto-Loop Settings	ш	۲	Penalty Shot	New York, N.Y.
10 second interval between new items	11	0		
Start from beginning once end is reached	ш	0		
Remove item from list after shown	III.	$\odot$		
Auto-Loop Direction Top-to-bottom	Ш	0		
Bottom-to-top	ш	0		
Auto-Loop Starting Item				
Start from top/bottom     Start from selected list item				
Start Hom selected list tem				

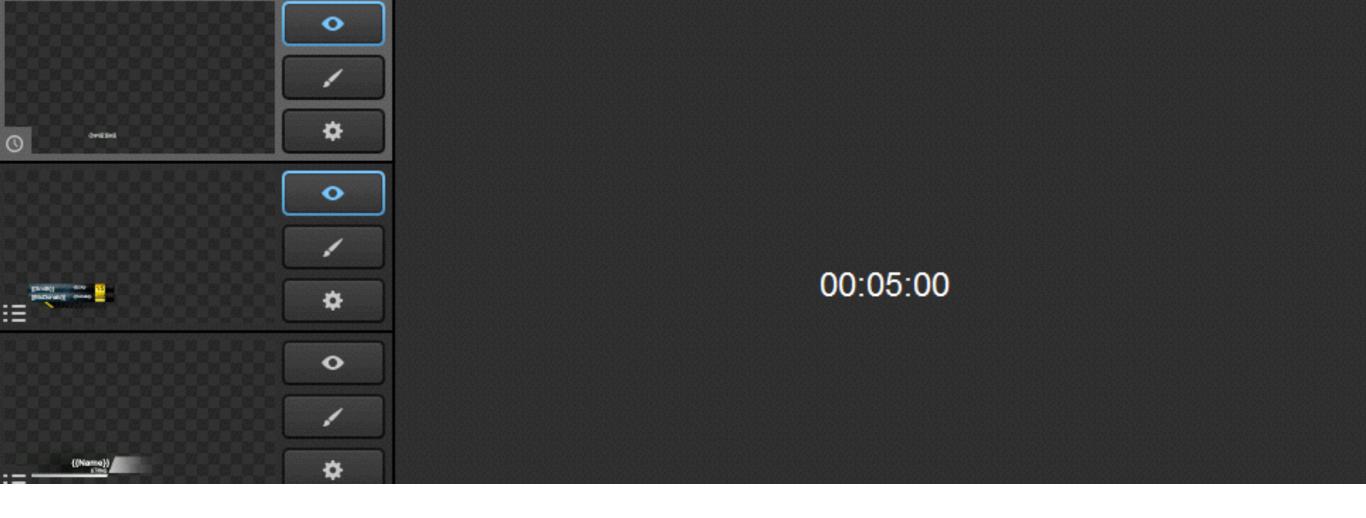
The settings allow you to loop your data content automatically. You can change the interval between switches, whether the loop re-starts, if rows are kept, and what direction the loop moves.



## Adding graphics overlays

Grouping graphics layers





Up to three layers within one graphics overlay channel can now be grouped together. To do so, create and design your layers as you normally would.



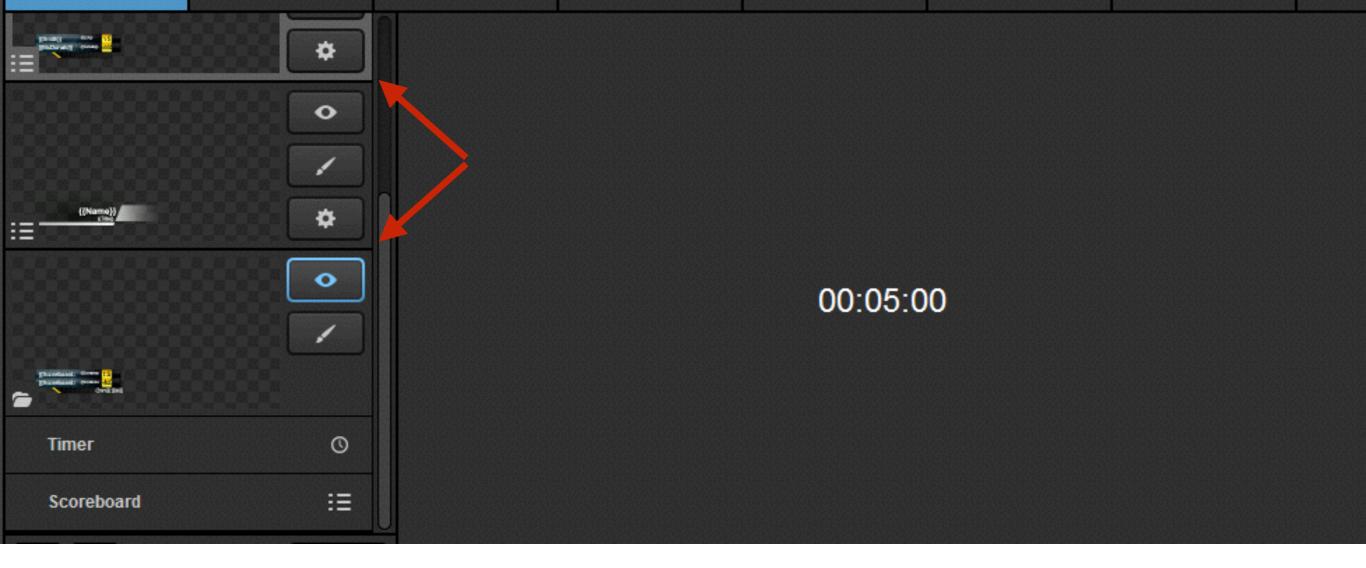
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	/	∎	0	0	Smith	McDonald	USA
G ****	*						
	•						
	/						
	*						
	•						
	/						
((Nama))	\$						

Hold down the Shift or CTRL keys on your keyboard and select which layers you want to group together by clicking them.

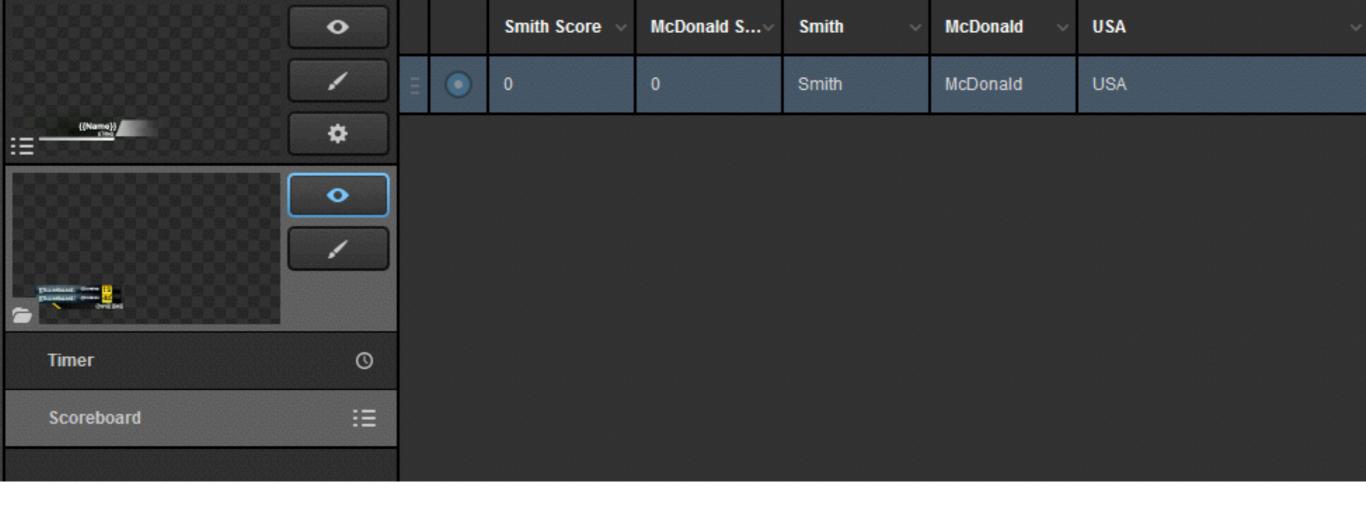


	GFX 1	GFX 2	By Copying	Media 1	Me	edia 2	Stream
and a second		Create Group >	By Moving	e 🗸 McDonald	Score 🗸	Smith 🗸	McDonald
		Delete selected	∃ ③ 0	0		Smith	McDonald
	©	\$					
		•	]				
Sector-call		\$					

Once you have selected up to three layers, right click on your mouse. You will see the option to create a group, followed by 'By Copying' and 'By Moving.'



'By Copying' will make a copy of all selected layers in that graphics channel, in addition to the individual layers. This allows you to use those layers separately as well as in a group.



'By Moving' will merge the two layers into a group without making a copy. This is ideal when you only intend to use those graphics simultaneously, thus reducing clutter within the graphics overlay channel.



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	Lower Third : White G	radient	≣			Smith Score 👻	McDonald S~	Smith 🗸	
	🗁 Group 1		•	111	$\circ$	0	0	Smith	
	Timer		O						
	Scoreboard		:=						
I									

If you prefer to use the list view mode in the graphics overlay channels, you can depict where groups are by the folder icon next to the group name.



((Nama)) :=	*	
Group 1		00:05:00
Timer	0	
Scoreboard	∷≡	
+		

## You can rename the group by double-clicking it.

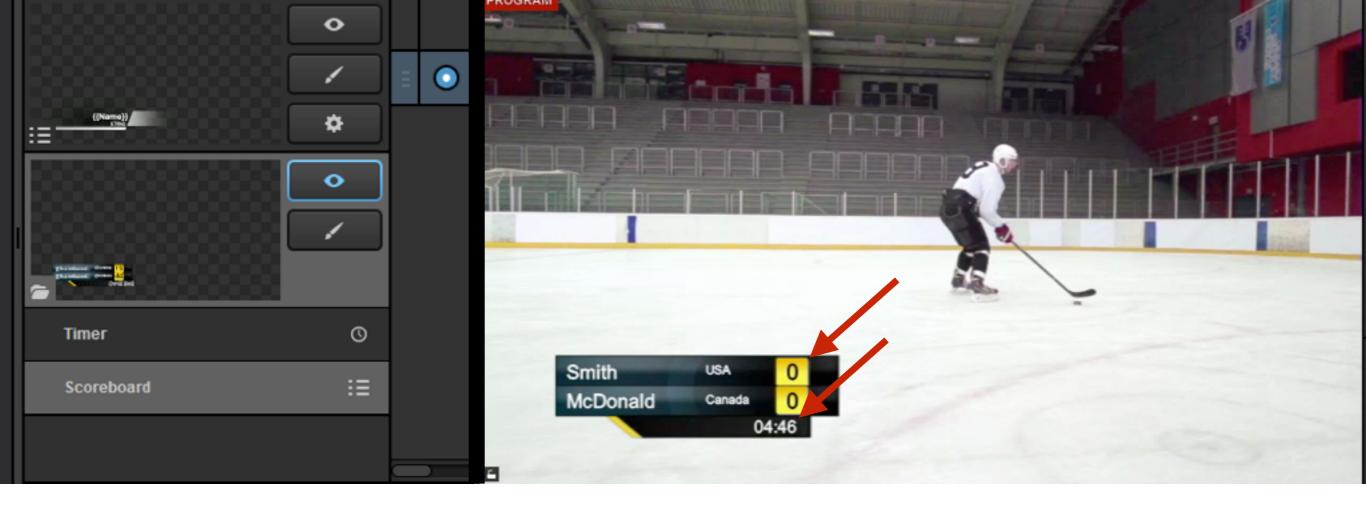


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8	{{Scoreboard: {{Scorebos 1:S		-
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		e v	McDonald S~
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convert		J	

The paintbrush button will take you to the designer where both layers are combined, allowing you to make any needed appearance changes.

Timer O Scoreboard	Thumburd The IS Plantage Trans		
Scoreboard	Timer	0	
	Scoreboard	\$	

Below the group is a list of each layer within the group. You can still configure the individual settings for each layer below by clicking the appropriate gearwheel.



Using groups will allow you to reduce the number of layers that need to be made visible by the user within one graphics channel. Making the group visible will make all included layers visible.



## Adding graphics overlays

Exporting and importing layer templates

**live**stream

AUX	( Outputs	GFX 1	GFX 2		GFX 3		Media 1	Media 2	Stream
		Lower Third : Yellow E	Boxes			Name		Ý	Title
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0 -4 -10 -14	0 -4 -10 -14	I	Export to	>	0	Ed Yea	alu		Event Co-Founder
-24	-24		Convert	>	0	Kristin	McCue		Co-Host
-38	-38		Delete	×					
-48	-48								
-60	-80								
-72	-72								

If you know you will need this graphic and data again, you can save time later by exporting it as an .lsgfx file. Right-click on the layer and select 'Export to...'



			Name	~ <b>!</b>
			= 💿 Tom lannaco	Р
{(Name)}	Duplicate	D	Danalty Chat	N
	Copy / Move	>	File	
	Export to	>	File (with dynamic images)	E
	Convert	>	Ed Yealu	E
	Delete	×	Kristin McCue	с

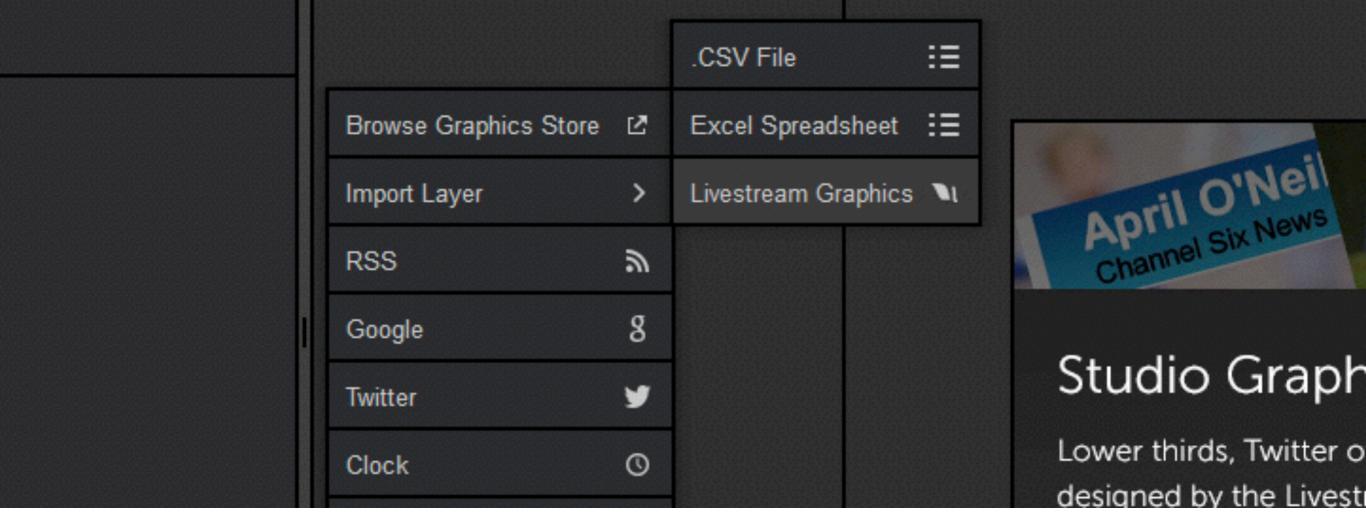
Select 'File' or 'File (with dynamic images).' The latter should be selected if you have image fields or dynamic images in your designed graphics layer that you want to be saved within the exported file.



O PREVIEW	Organize 🔻 Ne	w folder						80 <b>•</b>	0				
	☆ Favorites	-	Name	Date modified Type	Si	ze							
	Nesktop			No items match you	r search.					Statement of the local division of the local			
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	Documents	-											
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	Computer												
	🚢 Local Disk (C:)												
	Sa Network	-											
	File name:	Lower T	'hird Yellow Boxes						•				
•	Save as type:	*.lsgfx							•				
						_							
	Hide Folders						Save	Cancel			GFX2 ¢		c
					statement in succession of	-	The second s						

Your system's browse window will open, where you can choose where to save your graphics template and name it.





Once that is done, you can import your .lsgfx file by clicking the '+' button, then selecting 'Import Layer,' followed by 'Livestream Graphics.'



PREVIEW	Organize 🔻 New fold	ler				iii • 🔟 🔞	
	🔆 Favorites	Name	Date modified	Туре	Size		
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	Downloads						
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Your system's browse window will appear, where you can find your saved .lsgfx file. Select it and click 'Open.'

**live**stream

GFX 1	GFX 2	1	GFX 3	Media 1 Media 2	Stream	Transitions
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		Ш	٢	Tom lannaco	Producer Support	
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		Ш	0	Amanda Vicari	Event Co-Founder	
		Ш	0	Ed Yealu	Event Co-Founder	
			0	Kristin McCue	Co-Host	

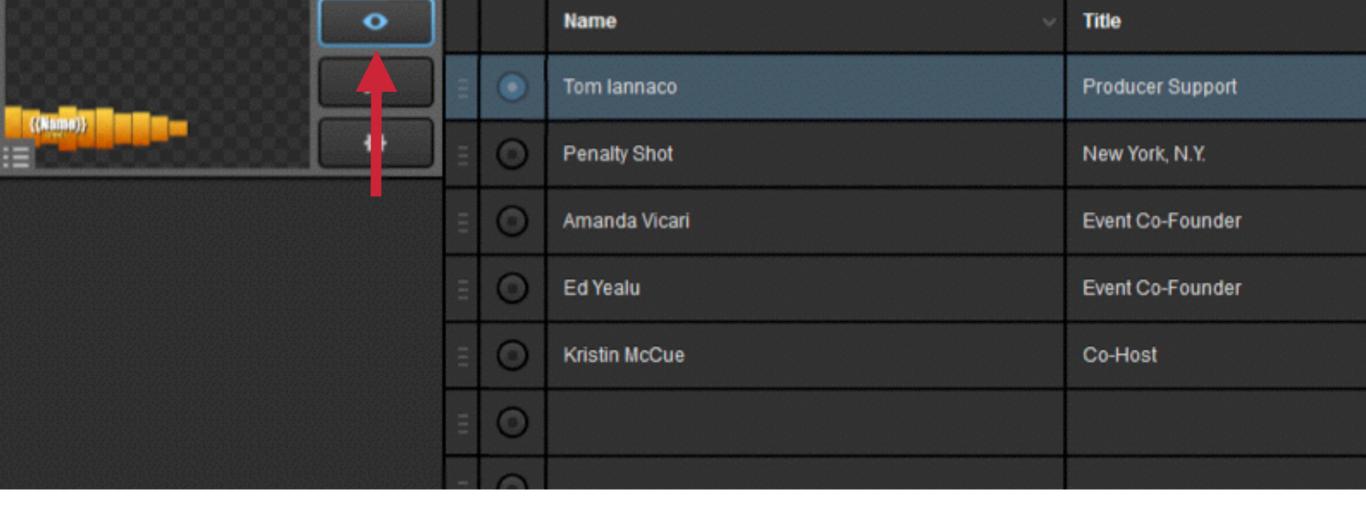
The file will load in your graphics overlay channel for you to use and edit as needed.



### Adding graphics overlays

Pushing and pulling graphics overlays

**live**stream



Now that your graphic is designed and configured, you can start adding it to your production. First, make sure your layer is visible by clicking the eyeball icon. It should be highlighted blue.

Lower Third : Yellow Boxes	•			Name v	Title
	/	III	$\bigcirc$	Tom lannaco	Producer Support
((Nama))) :≡	٠	HI	0	Penalty Shot	New York, N.Y.
	•	111	0	Amanda Vicari	Event Co-Founder
	/	III	0	Ed Yealu	Event Co-Founder
0	\$	111	0	Kristin McCue	Co-Host
	•	111	0		
	/		0		

If you have multiple layers in your graphics overlay channel, highlight the eye icon of any layer that you want to be visible; more than one layer can be visible at a time.



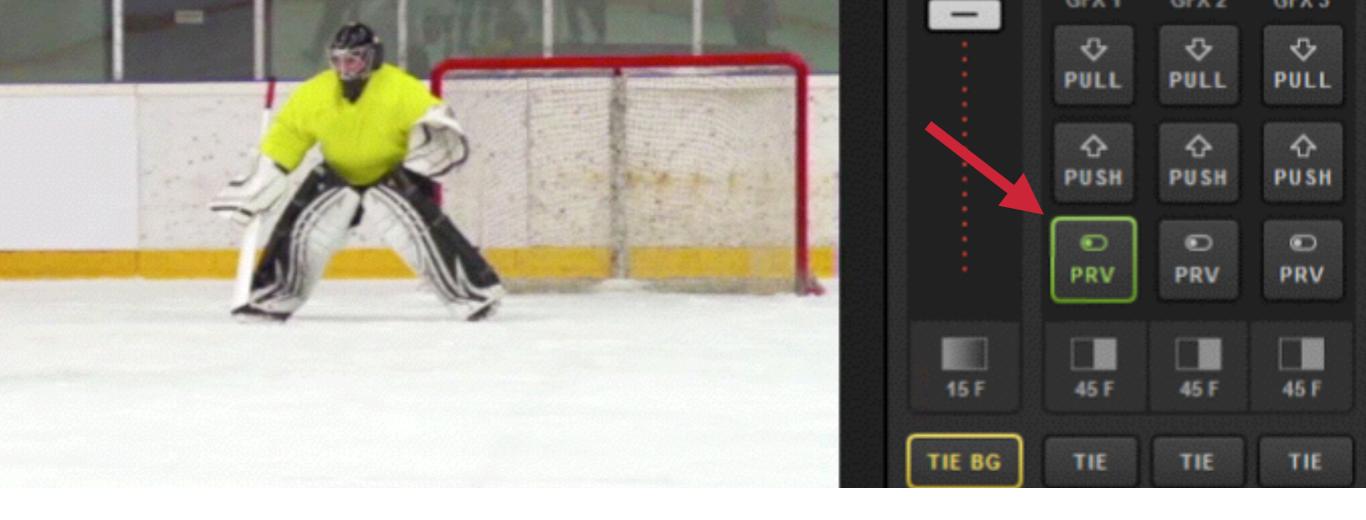
Lower Third : Yellow Boxes	:≣•			Name	Title	
Layer 1	i≣∙			Tom lannaco	Producer Support	
Layer 2	∷≡	111	0	Penalty Shot	New York, N.Y.	
Clock	O	111	0	Amanda Vicari	Event Co-Founder	
		111	0	Ed Yealu	Event Co-Founder	
			0	Kristin McCue	Co-Host	
		111	0			
			$\odot$			
+ /	⊠: :≡		+ ROW	+ COLUMN	AUTO PUSH/F	

Please note that if you have multiple layers in one module, you can click the display buttons on the bottom to show your layers in list mode to manage them more easily.



Lower Third : Yellow Boxe	* / •			Name	Title
Layer 1	:≣ <b>•</b>		0	Tom lannaco	Producer Support
Layer 2	∷≡	111	٢	Penalty Shot	New York, N.Y.
Clock	0	Ш	0	Amanda Vicari	Event Co-Founder
		111	0	Ed Yealu	Event Co-Founder
			0	Kristin McCue	Co-Host
		111	0		
			$\odot$		
+ /	⊗: ≔		+ ROW	+ COLUMN	AUTO PUSH/PI

You can still access settings, the GFX Designer, and change visibility for each layer when using this view.



If you want to put a graphics overlay channel in Preview before pushing it to Program, click the corresponding 'PRV' button in the upper right corner of the interface.





You should now see the visible layers of your graphics overlay channel in Preview.





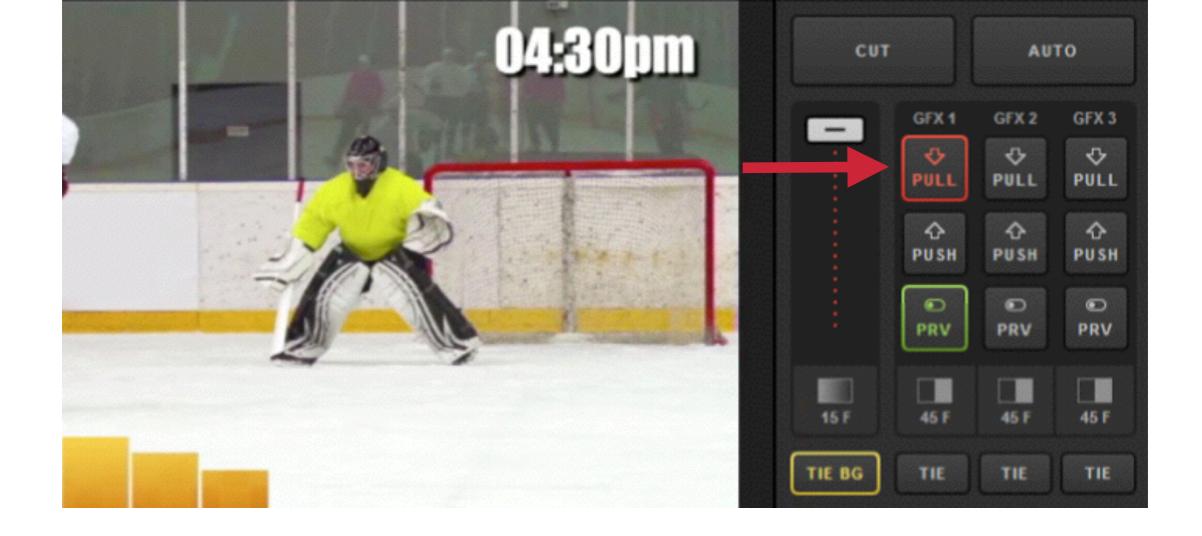
You should also notice the yellow 'PUSH' button flashing. Click it to bring your graphics overlays into Program.





### Your visible layers are now seen in both Preview and Program.





This is also indicated by 'PUSH' no longer flashing and the 'PULL' button turning red.



	•			Name	Title ~
	/	Ш	0	Tom lannaco	Producer Support
	٠	ш	0	Penalty Shot	New York, N.Y.
64:30pm			$\overline{\mathbf{O}}$	Amanda Vicari	Event Co-Founder
	_	111	$\odot$	Ed Yealu	Event Co-Founder
0	*	ш	$\odot$	Kristin McCue	Co-Host
	•	III	$\odot$		
		10	0		

Now try making a change to your graphics overlay channel, such as changing a layer's visibility or selecting a different row of data in a currently visible layer.





# You will notice the change is visible in Preview but is not yet seen in Program.



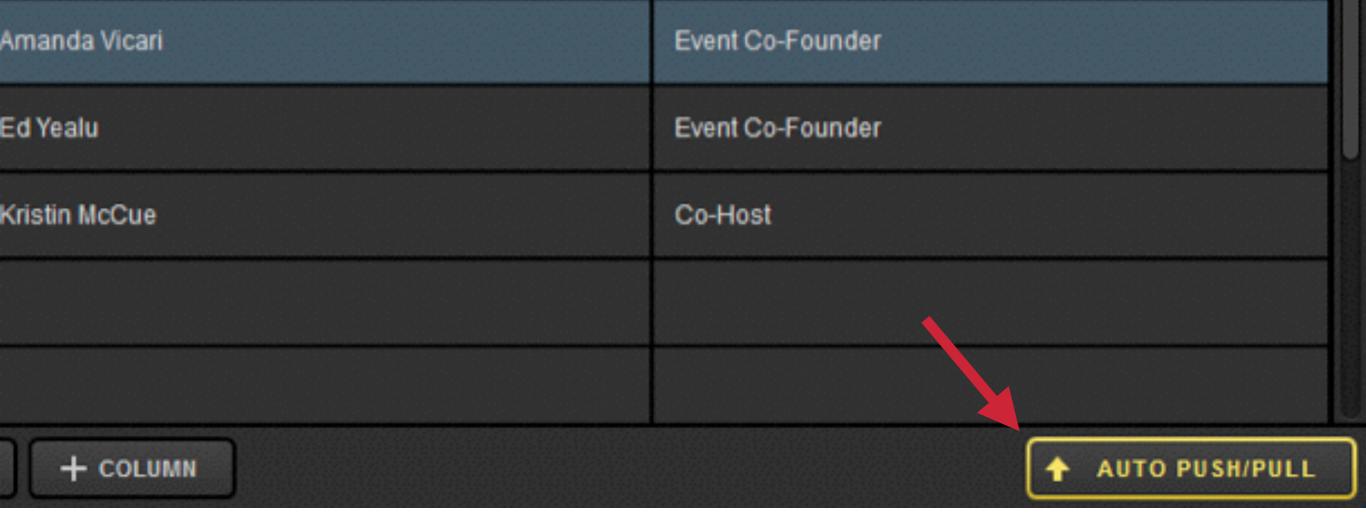


The 'PUSH' button has also started flashing again. This means that Livestream Studio has detected a change in that GFX channel and is ready to change it in Program. Click it when you are ready to show the change to viewers.



# You should now see the change reflected in both Preview and Program.





For each layer, you have the option to have every change automatically pushed to Program immediately by selecting the 'AUTO PUSH/PULL' button on the bottom right.





Please note that if the graphics overlay is not yet in Program, you will need to push it manually by clicking 'PUSH' in the upper right corner.



PROGRAM	CUT		AUT	го
	-	GFX 1	GFX 2	GFX 3 PULL
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#131jm	•	E	$\bigcirc$	manda Vicari	Event Co-Founder
		1	Θ	Ed Yealu	Event Co-Founder
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	•	Ξ	0		
	$\leq$	Ξ	0		
+ /	8: :≡		+ ROW	+ COLUMN	AUTO PUSH/PULL

To remove a visible graphics overlay quickly while 'AUTO PUSH/PULL' is enabled, simply click on the highlighted radio button of the visible row.

PROGRAM	СШТ		AU	то
		GFX 1 PULL PULL PUSH	GFX 2 PULL PULL PUSH	GFX3 PULL PULL
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4430jm	•		$\odot$	Amanda Vicari	Event Co-Founder
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+	8: :=		+ ROW	+ COLUMN	AUTO PUSH/PULL

559

Now the graphic has been removed from Program and the radio button has faded in the graphics module to indicate this.



**live**stream



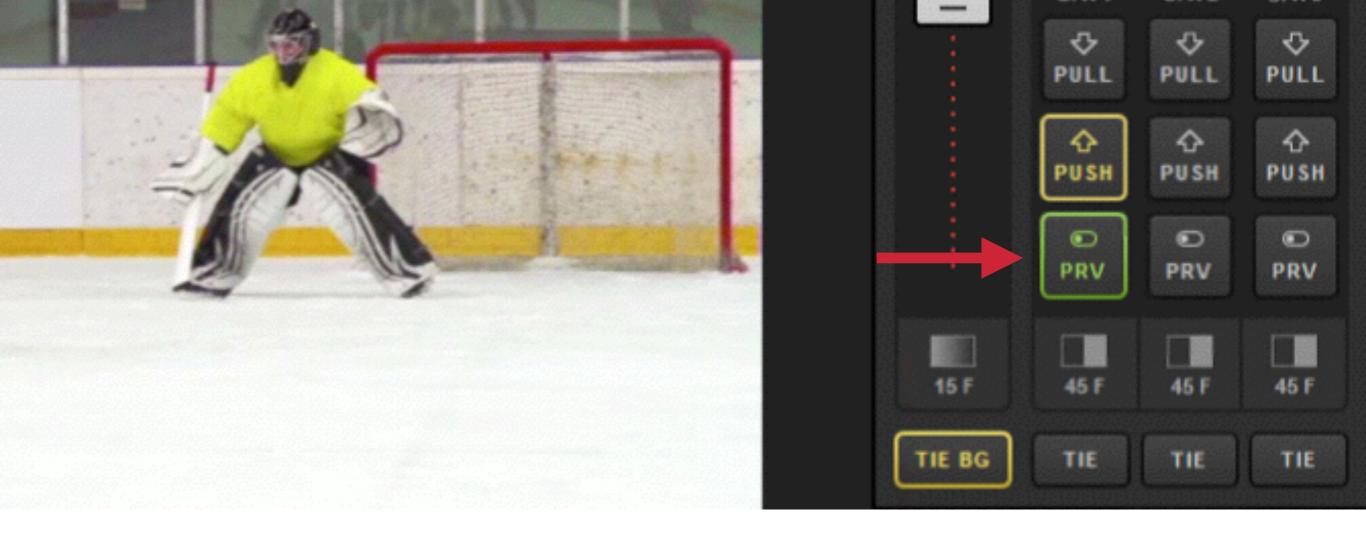
Click the red 'PULL' button that corresponds to that channel to remove everything from that graphics overlay channel from Program.





Doing so will remove that graphics overlay from Program, but you will still see it in Preview if the 'PRV' button is still selected.





To remove a graphics overlay from Preview, click the corresponding green 'PRV' button.





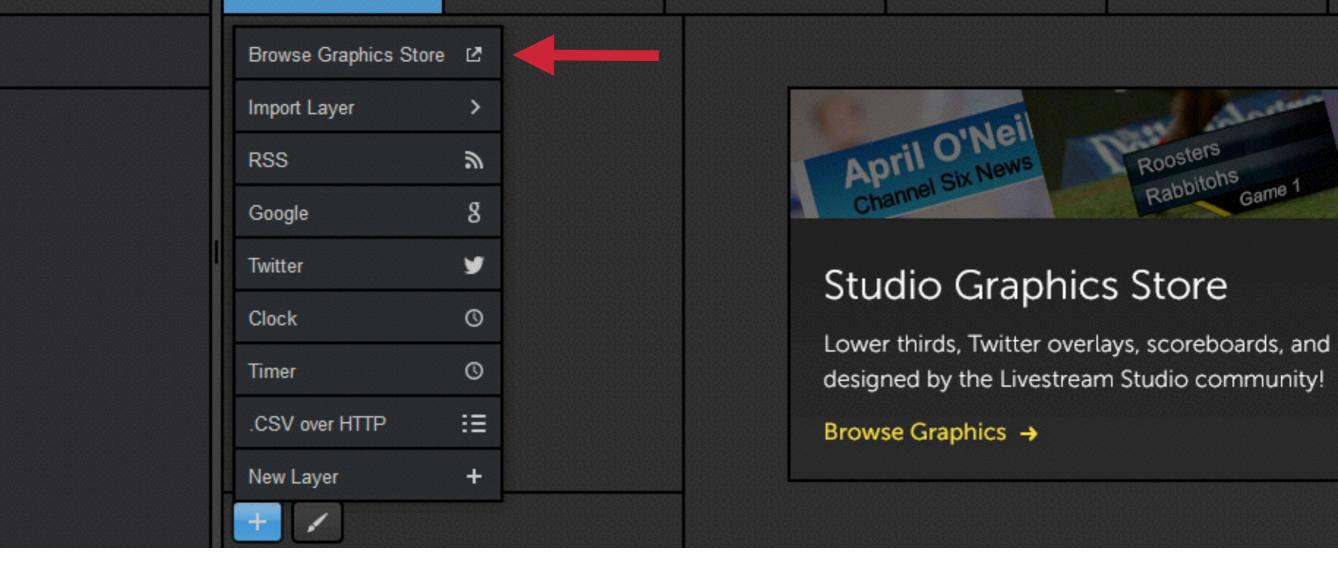
# You should no longer see your graphics overlay in either Preview or Program.



### Adding graphics overlays

Importing a layer: Livestream Graphics

**live**stream



Livestream's <u>Graphics Store</u> has numerous templates that can be downloaded and imported into Livestream Studio. Click 'Browse Graphics Store' to get started.





Lower Third: Black / Red Gloss

Free · Lower Third



Twitter: Bird Free · Twitter

Free · Sport Scoring

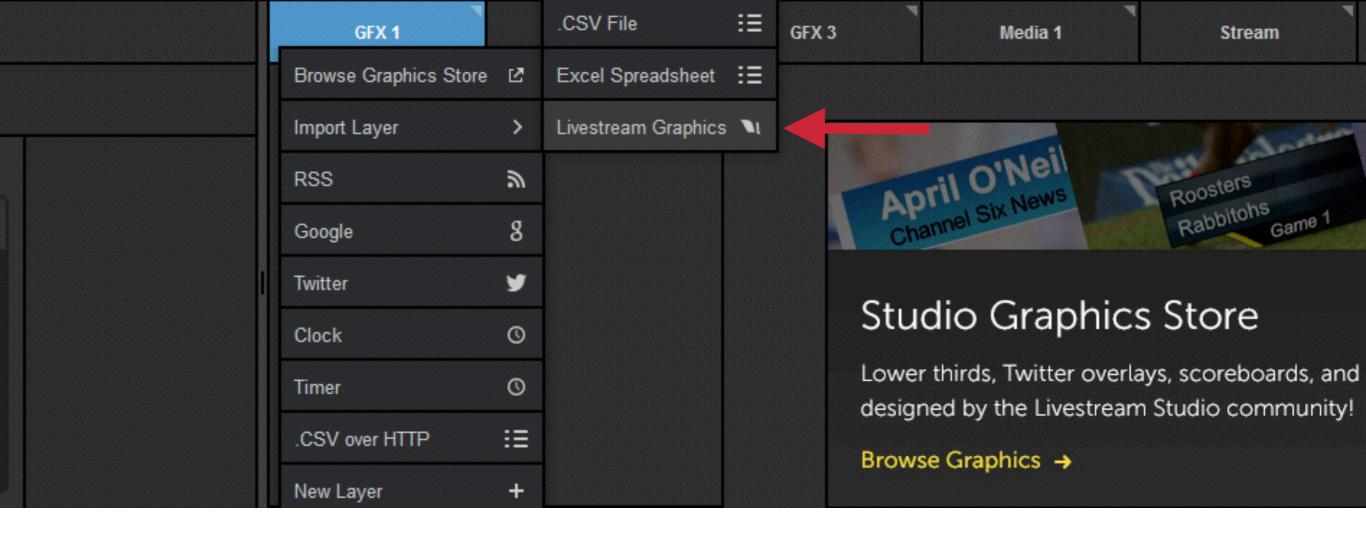


Twitter: Box

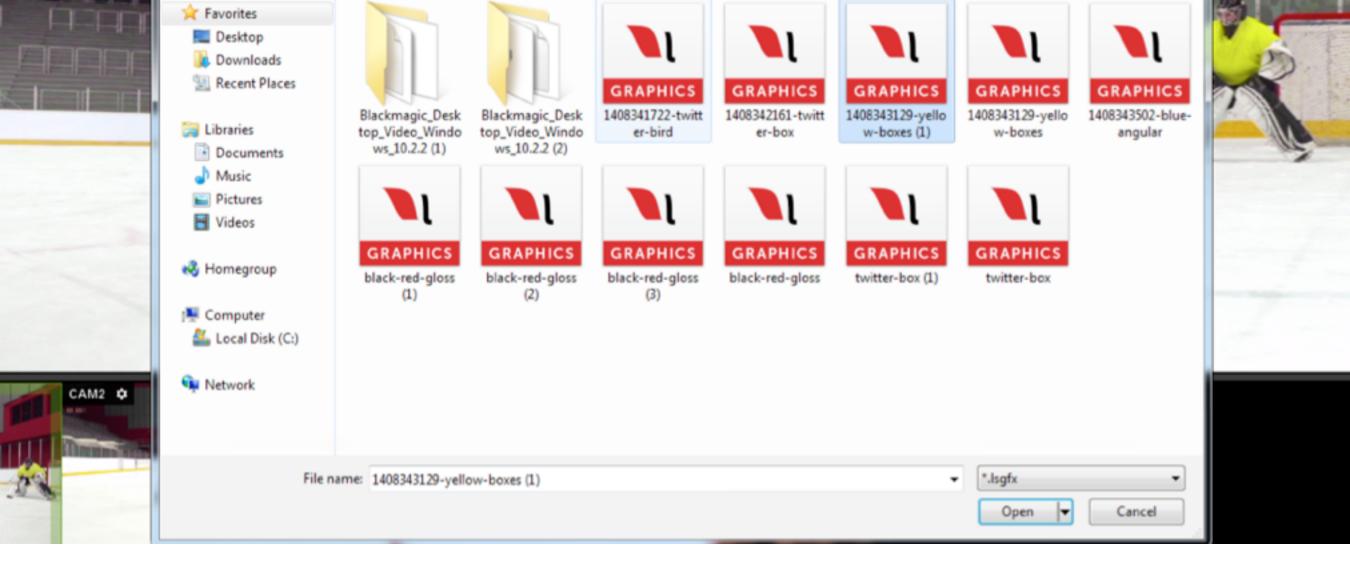


This will open your browser to the Studio Graphics Store. When you find a graphic you wish you use, click on the down arrow below the image to download it. Scoreboard: Tennis Free · Sport Scoring





An .lsgfx file will be downloaded onto your hard drive. To use the graphic in Livestream Studio, click the '+' button in the graphics overlay channel, then click Import Layer > Livestream Graphics.



Browse your computer for the .lsgfx file you just downloaded (this is typically found in the 'Downloads' folder on PC's). When you find the file, click 'Open.'



•			Name ~	Title ~
	111	0	Your name	Your title
\$	111	0	Another Name	Another title

The layer will appear in your graphics overlay channel. Click the gear wheel to enter its settings.



< Back Lower Third : Yello Delete			Name	Title	
Auto-Loop	Ш	0	Your name	Your title	
START AUTO-LOOP	Ш	0	Another Name	Another title	
Auto-Loop Settings					
10 second interval between new items					
Start from beginning once end is reached					
Remove item from list after shown					
Auto-Loop Direction					
Top-to-bottom					
Bottom-to-top					
	ſ	1			

For lower third graphics, there are two text type columns and two rows included by default.



If you open the GFX Designer, you will see clearly which text fields the two columns correspond to and can adjust them as necessary.



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Start from beginning once end is reached Remove item from list after shown		0			<u>ک</u>
Auto-Loop Direction					
Top-to-bottom					
Bottom-to-top					
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Just as with any manually built graphic, you can add as many columns for data fields or rows of content as necessary.

### Adding graphics overlays

Importing a layer: Excel spreadsheet



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3	Penalty Shot			New Y	New York, N.Y.						
4	Amanda Vicari			Event	Event Co-Founder						
5	Ed Yealu			Event	Event Co-Founder						
6	Kristin McCue			Co-Ho	Co-Host						
7											
							1				

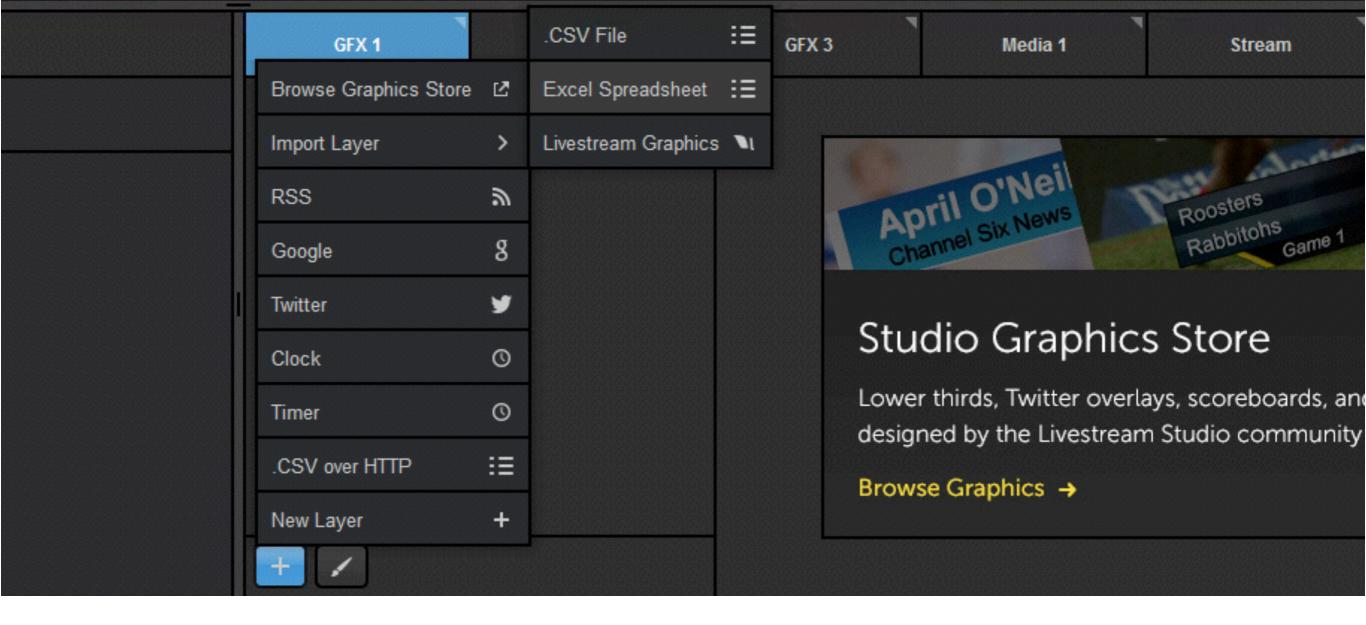
Rather than manually inputting your data in Livestream Studio, you can import all your data from an Excel (.xlsx) spreadsheet.



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4	Amanda Vicari	Event Co-Founder	http://img.n	http://img.new.livestream.com/events/00000000039									
5	Ed Yealu	Event Co-Founder	http://img.n	ew.livestream.com/events/0000	0000039								
6	Kristin McCue	Co-Host	http://img.n	ew.livestream.com/events/0000	0000039								
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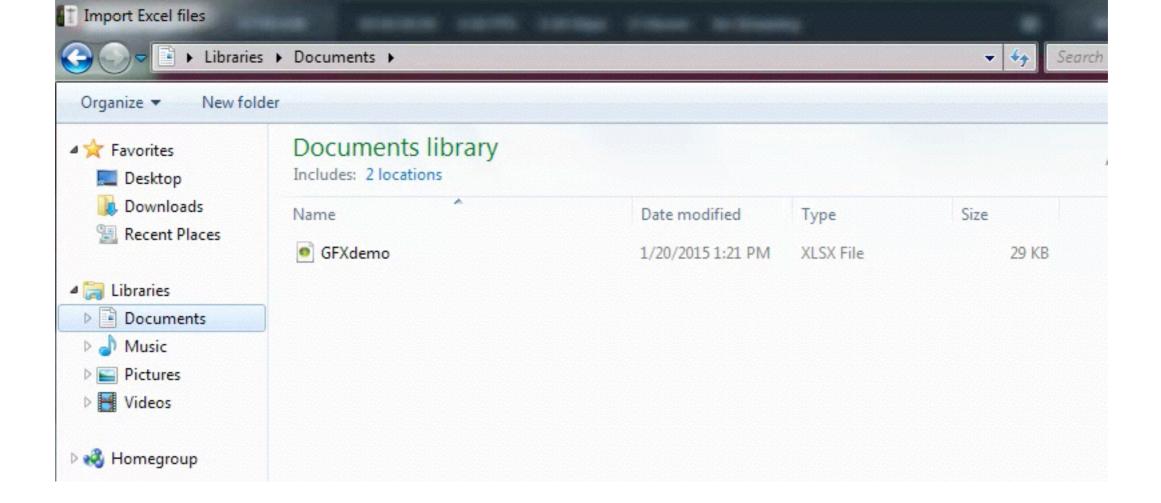
If you want to include images, make a column with the URLs where the images are hosted.





To get started, click the '+' button, then navigate to 'Import Layer.' Select 'Excel Spreadsheet.'

**live**stream



The browse window will appear, allowing you to select your .xlsx file and import it.



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			0	Amanda Vicari	Event Co-Founder	http://img.new.livestream.com/ev
		H	0	Ed Yealu	Event Co-Founder	http://img.new.livestream.com/ev
		Ш	0	Kristin McCue	Co-Host	http://img.new.livestream.com/ev
+	⊠: ∷≡					AUTO PUSH/PULL

The data from your spreadsheet will appear on the right side of the module. Click the gear wheel to enter its settings.

**live**stream

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Read only	1		H	0	Ed Yealu	Event Co-Founder
Auto-Loop				0	Kristin McCus	Co Host

Checking 'Watch file for update' will prompt Livestream Studio to make any changes to the data that are made in the original .xlsx file on your hard drive.



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BROWSE am\Documents\GFXdemo.xlsx		Н	0	Penalty Shot	New York, N.Y.	http://img.new.livestream.com/
Watch file for update		H	0	Amanda Vicari	Event Co-Founder	http://img.new.livestream.com
Excel Settings Use first row as column titles		111	0	Ed Yealu	Event Co-Founder	http://img.new.livestream.com/
Read only	and a second		0	Kristin McCue	Co-Host	http://img.new.livestream.com
Auto-Loop						
START AUTO-LOOP						

Checking 'Use first row as column titles' will change row A in your spreadsheet to be titles of the corresponding columns in the GFX layer.



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	Name	Title		[img] Photo
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0	Penalty Shot	New York, N.Y.		Hide in Surface
D	Amanda Vicari	Event Co-Founde	er	http://img.new.livestream.com/ev
Ð	Ed Yealu	Event Co-Founde	er	http://img.new.livestream.com/ev

Click on the name of any column to change the data type that is in the column (text or image).



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Read only			H	0	Kristin McCue	Co-Host	<mark>leter</mark>
Auto-Loop							
START	AUTO-LOOP						

If you want to be able to edit the information within Livestream Studio, uncheck 'Read Only.' Otherwise, changes can only be made in the original file.

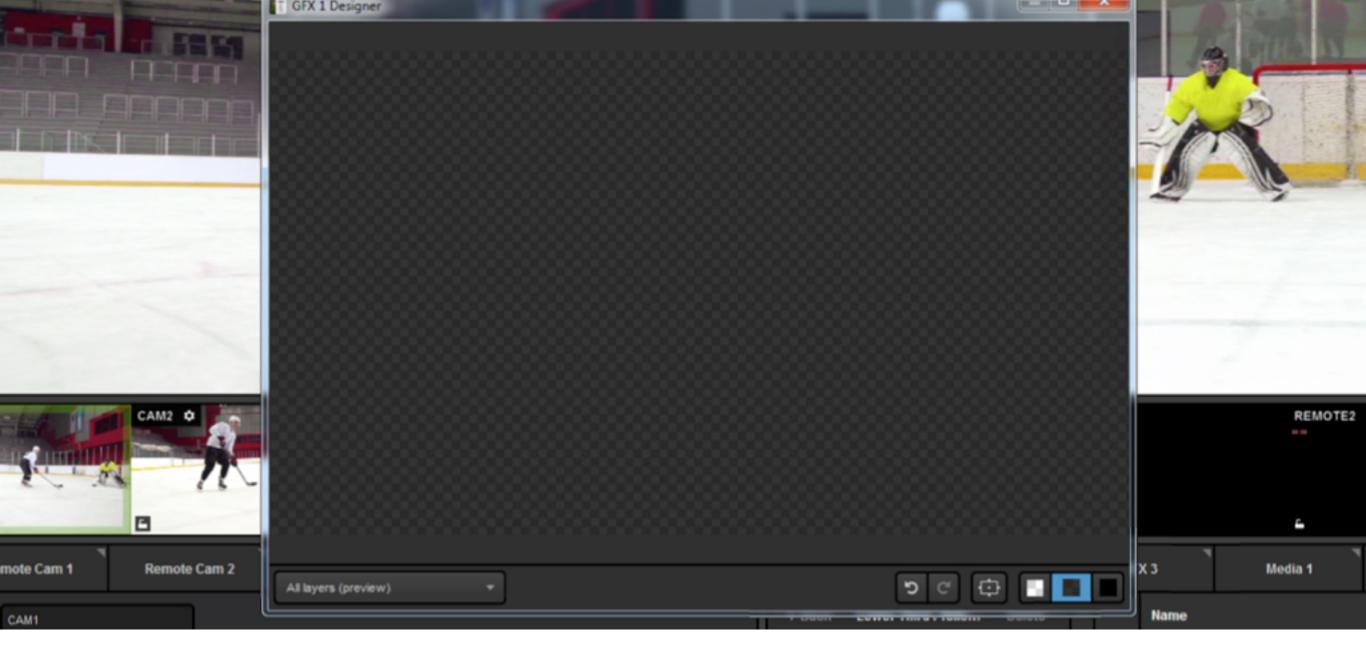
Note: Any edits made to in Livestream Studio will not change content in the original document.

**live**stream

Auto-Loop START AUTO-LOOP	111	۲	Tom lannaco	Producer Support
Auto-Loop Settings	111	0	Penalty Shot	New York, N.Y.
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Start from beginning once end is reached		$\odot$	Ed Yealu	Event Co-Founder
Remove item from list after shown		$\odot$	Kristin McCue	Co-Host
Auto-Loop Direction Top-to-bottom		0		
Bottom-to-top		0		
Auto-Loop Starting Item				
Start from top/bottom				
Start from selected list item				

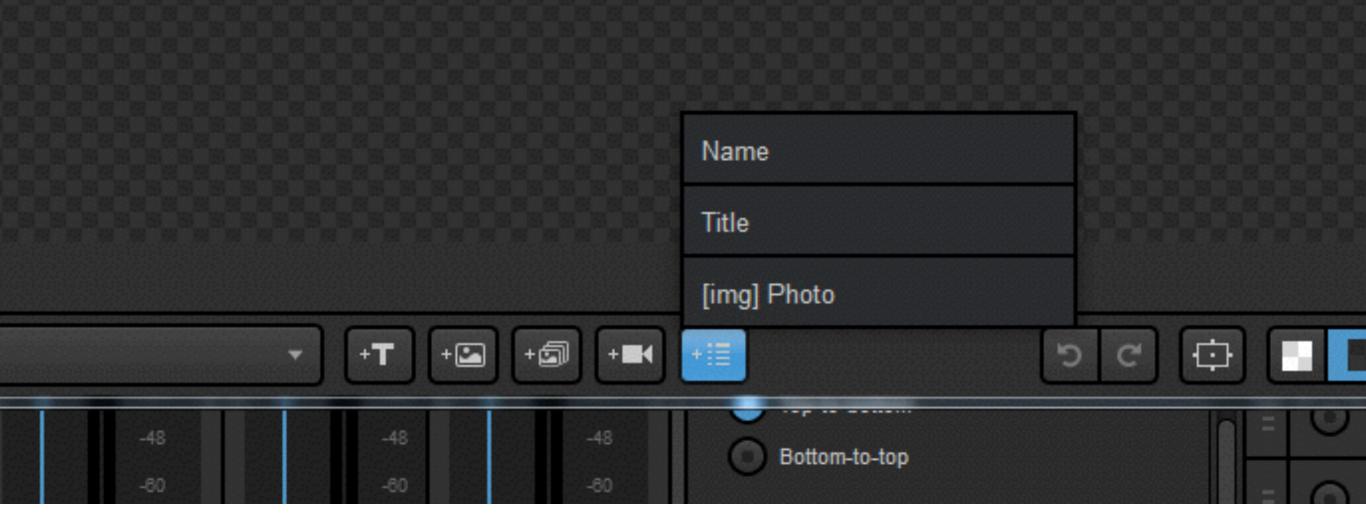
Scroll down to find your Auto-Loop settings, including interval between rows, direction, and starting point.





Next, click on the paintbrush icon at the bottom of the graphics module to enter the GFX Designer.

**live**stream



Select 'Excel' in the dropdown menu and click the list icon to insert your text and image fields into the designer.



From here, you can drag and drop each field to wherever you want it to be displayed.

**live**stream

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Click the gearwheel icon on each field to choose font, size, color, opacity, etc.





Feel free to add any additional elements to your graphics overlay using the other icons at the bottom of the designer.



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Close out of the GFX Designer when you have finished. To use the graphic, click 'Back' to view the layer module.

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Make sure the eye icon corresponding to that layer is highlighted blue, meaning that it is visible.



You can then click the associated 'PRV,' 'PUSH,' and 'PULL' buttons to utilize that graphics overlay.

**live**stream

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You can also use an .xlsx file as a Livestream Studio Certified Data Source (LSCDS). <u>Click here</u> to download the template (recommended).



```
Private Sub Worksheet_Change(ByVal Target As Range)
Dim rw As Range
Dim lastRow As Long
For Each rw In Target.Rows
If Cells.Item(1, Target.Column).Value = "PROGRAM" And UCase(rw.Value) = "ON" Then
lastRow = Cells(Rows.Count, Target.Column).End(xlUp).Row
For i = 2 To lastRow
If UCase(Cells(i, Target.Column).Value) = "ON" And i <> Target.Row Then
Cells(i, Target.Column).Value = "OFF"
End If
Next
End If
Next
End Sub
```

The provided template has the validation script built in. However, you can also add the above validation script to your own Excel document.



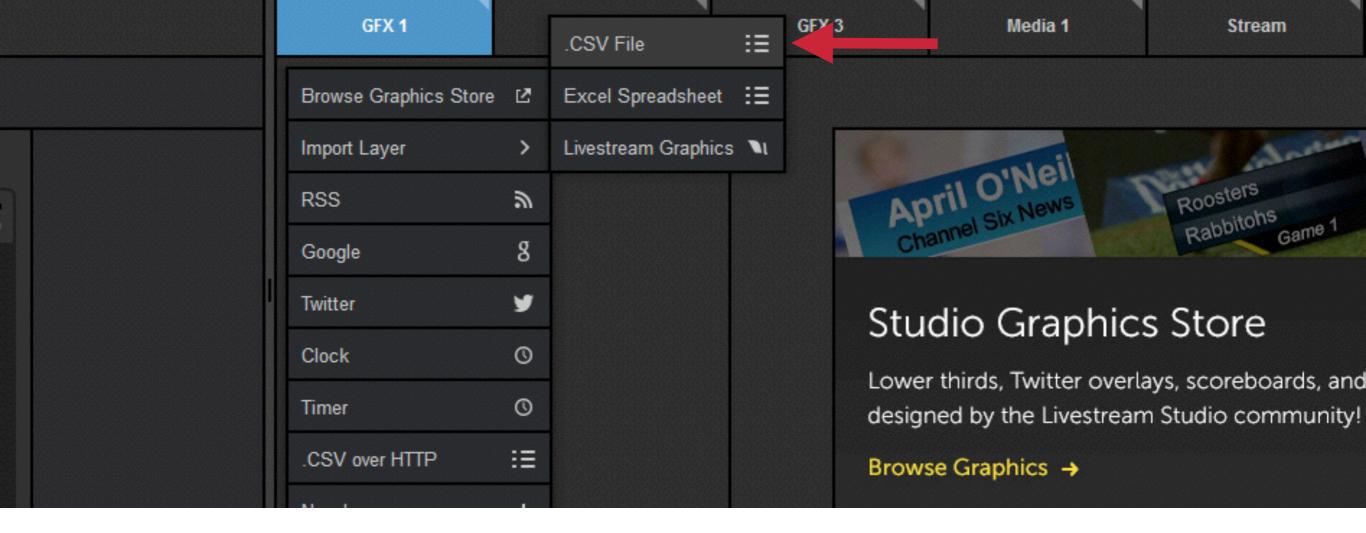
You should notice a small Livestream logo in your graphics layer, which indicates that Livestream Studio recognizes the file as an LSCDS.



## Adding graphics overlays

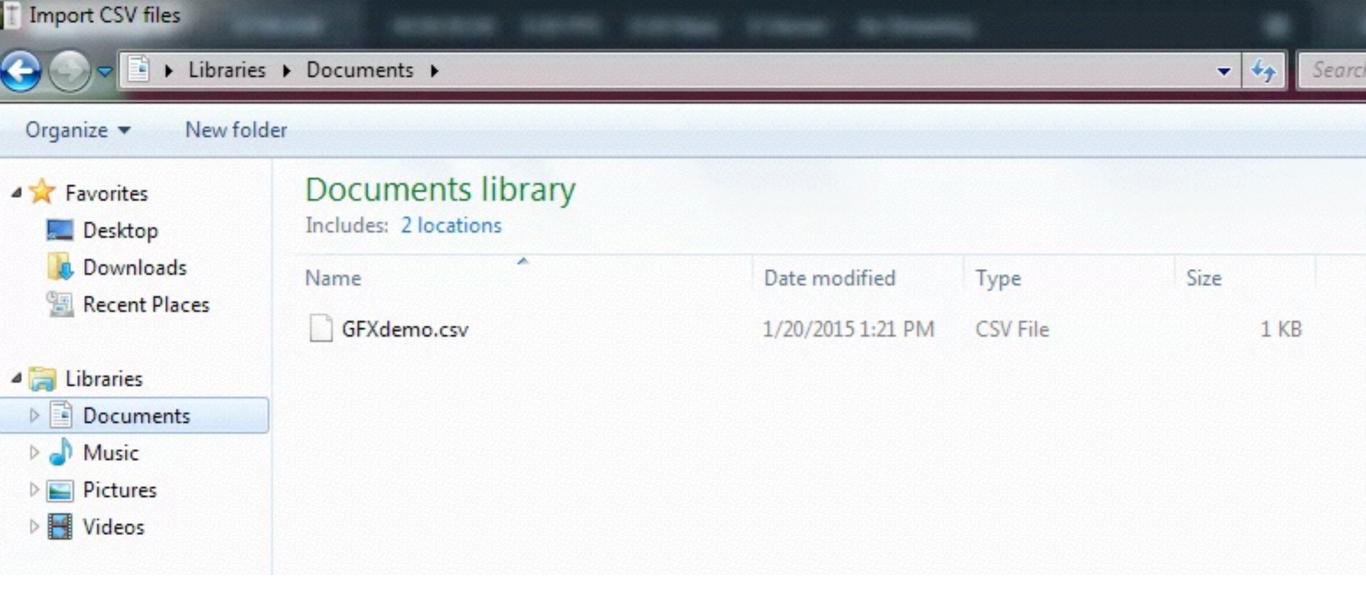
Importing a layer: .CSV file





Using a .CSV file as a data source for Livestream Studio is very similar to bringing in an Excel document. From 'Import Layer,' select '.CSV File.'





Browse your computer for the desired .CSV file, then open it.



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ie 🛧 😔	\$	111	0	Tom lannaco	Producer Suppo	rt htt	p://img.new.livestream.co	om/ev
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The data from your .CSV file will appear on the right side of the module. Click the gearwheel to enter its settings.



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Check 'Watch file for update' to prompt Livestream Studio to make any changes that are made to the original .CSV file on your hard drive.



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Vatch file for upo	late			0	Amanda Vicari	Event Co-Founder	http://img.new.lives
CSV Settings	column titles			0	Ed Yealu	Event Co-Founder	http://img.new.lives
Read only				0	Kristin McCue	Co-Host	http://img.new.lives
Separators							

Selecting 'Use first row as column titles' will have all fields in the first row of your document be the titles of the corresponding columns in Livestream Studio.



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If you want to be able to edit the information within Livestream Studio, uncheck 'Read Only.' Otherwise, changes can only be made in the original file.

Note: Any edits made in Livestream Studio will not change content in the original .CSV file.

**live**stream

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m\Documents\GFXdemo.csv			0	Penalty	/ Shot		New York, N.Y.		http://img.r	new.livestream.co	om/ev
or update			0	Amanda Vicari			Event Co-Found	er	http://img.new.livestream.com/ev		
w as column titles			0	Ed Yealu			Event Co-Founder		http://img.new.livestream.com/ev		om/ev
EO			$\odot$	Kristin	McCue		Co-Host		http://img.new.livestream.com/ev		

To see images in this GFX layer, the .CSV file must include URLs where the images are hosted.



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hot		New York, N.Y.			le in Surface		
Vicari		Event Co-Founde	er	http://i	mg.new.livestream.o	com/ev	

In order to see the images, click on the column's title to change it from a Text Column to an Image Column.



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Comma	-								

Changing that column to an image field will allow Livestream Studio to reference the URLs and see the images.



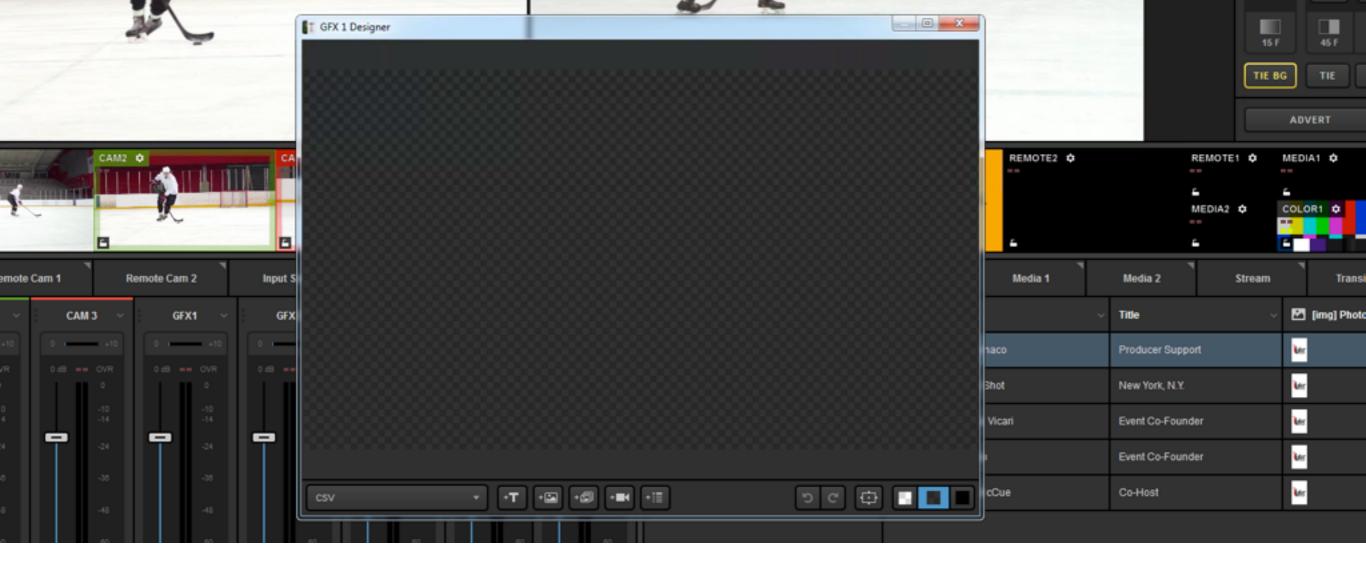
GFX 1	GFX 2	•		GFX 3	~	Media 1	Media 2	Stream		Trans
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Separators			III	$   \mathbf{O} $	Tom la	annaco	Producer Support		<b>i</b> der	
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Auto-Loop START AU	UTO-LOOP		111	0	Kristin	McCue	Co-Host		<b>U</b> der	

Further down in the settings, you can adjust the separators in the document as well as the character encoding (which is typically detected automatically).

Auto-Loop START AUTO-LOOP	E	۲	Tom lannaco	Producer Support
Auto-Loop Settings	ui -	0	Penalty Shot	New York, N.Y.
10 second interval between new items		0	Amanda Vicari	Event Co-Founder
Start from beginning once end is reached	111	0	Ed Yealu	Event Co-Founder
Remove item from list after shown	111	$\odot$	Kristin McCue	Co-Host
Auto-Loop Direction  Top-to-bottom	101	0		
O Bottom-to-top	101	0		
Auto-Loop Starting Item				
Start from top/bottom				
Start from selected list item				

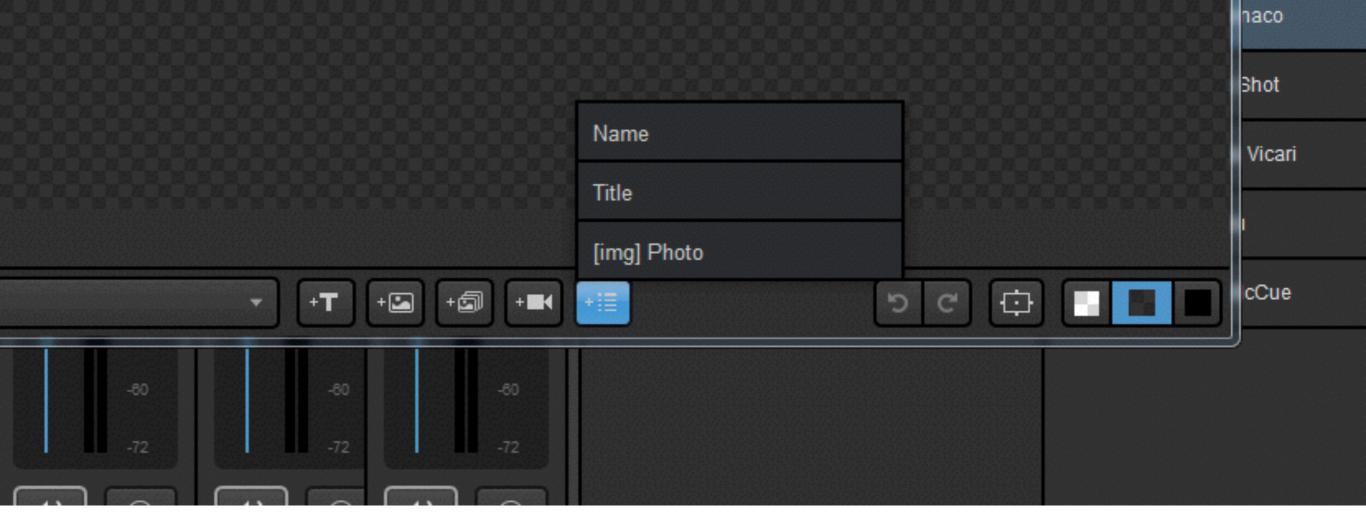
Scroll down further to find your Auto-Loop settings, including interval between rows, direction, and starting point.





Next, click on the paintbrush icon to enter the GFX Designer.

**live**stream



Select '.CSV' in the dropdown menu, then click the list icon to insert your columns.



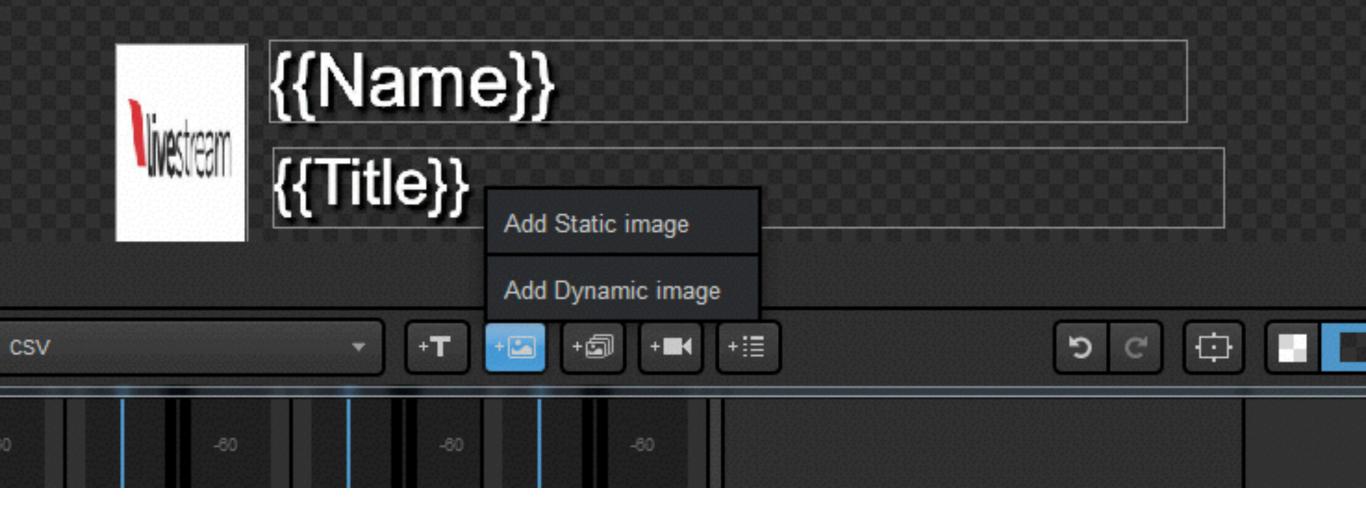
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		-80 -80 -80		

From here, you can drag and drop each field to wherever you want it to be displayed.



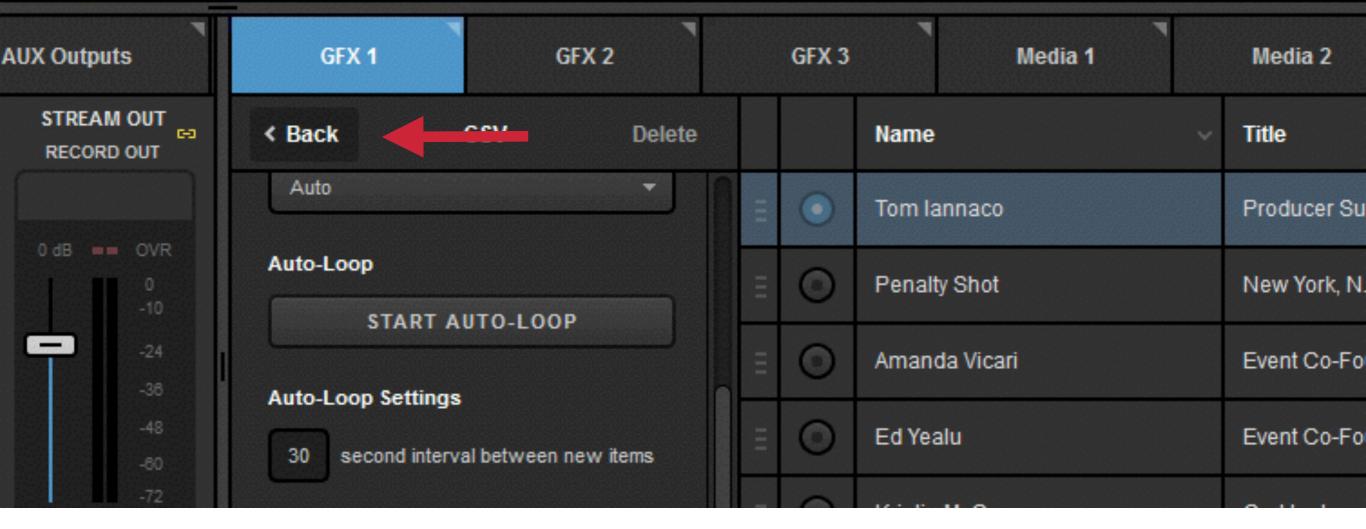
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{{Name}}		ļ	Shot		New York, N.Y.	

Click the gearwheel icon to choose font, size, color, etc. for each data field.



Feel free to add any additional elements to your graphics overlay using the other icons at the bottom of the GFX Designer.





Close out of the GFX Designer when you have finished designing your graphic. To use that graphic, click 'Back' to view the layer module.



-	GFX 1	GFX 2		GFX 3	Media 1	Media 2	Stream	-
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	:⊟ <mark>↑</mark> ♥		Ш	0	Penalty Shot	New York, N.Y.		<b>l</b> der
				0	Amanda Vicari	Event Co-Founder		<b>l</b> der
				0	Ed Yealu	Event Co-Founder		<b>l</b> der
				0	Kristin McCue	Co-Host		<b>L</b> der

Make sure the eye icon corresponding to that layer is highlighted blue, meaning that it is visible.



You can then click the associated 'PRV,' 'PUSH,' and 'PULL' buttons to utilize that graphics overlay.

**live**stream

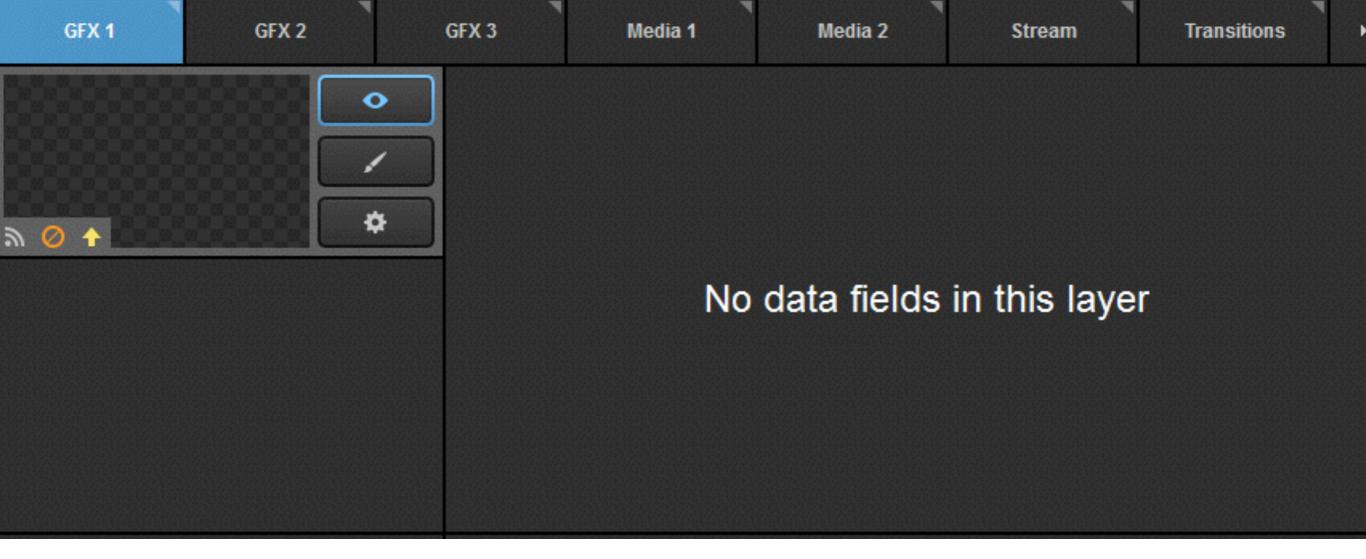
## Adding graphics overlays

RSS feeds



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-72	New Layer	+	
R	+		

If you want to include an RSS feed in your production, select 'RSS' from the graphics menu.



The RSS layer will appear in the graphics overlay channel. Click the gear wheel to enter its settings.



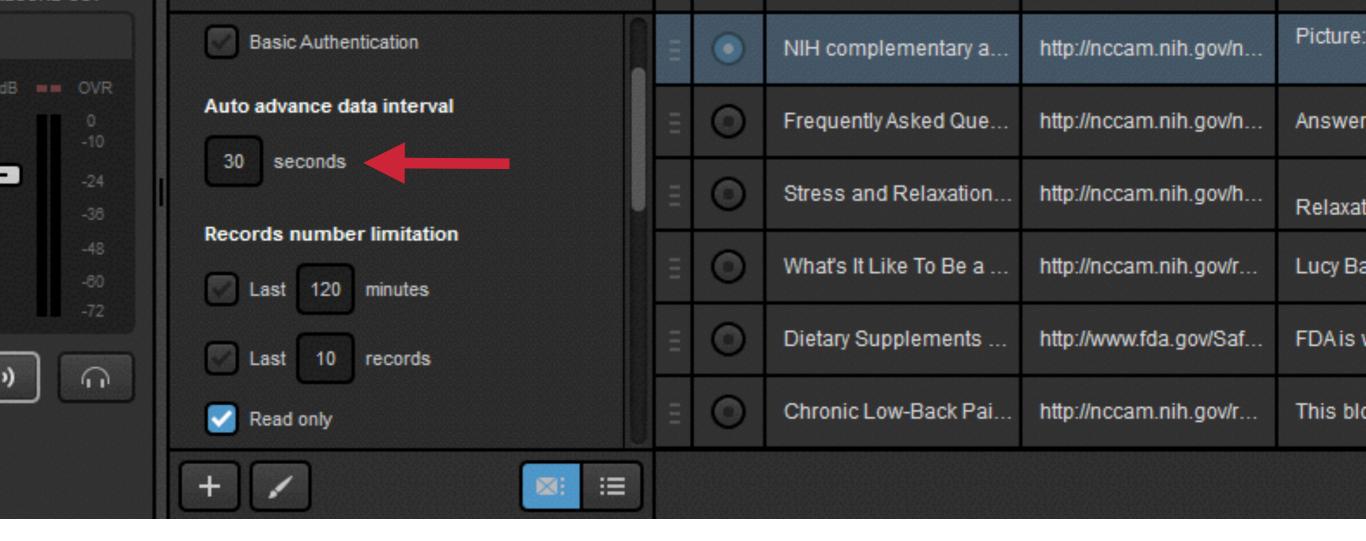
GFX 1	GFX 2	GFX 3	Media 1	Stream
< Back	RSS Delete			
RSS Feed URL   Image: Constraint of the sector of				<b>Jo data</b>

If access to your RSS feed requires authentication, check 'Basic Authentication' and enter your credentials.



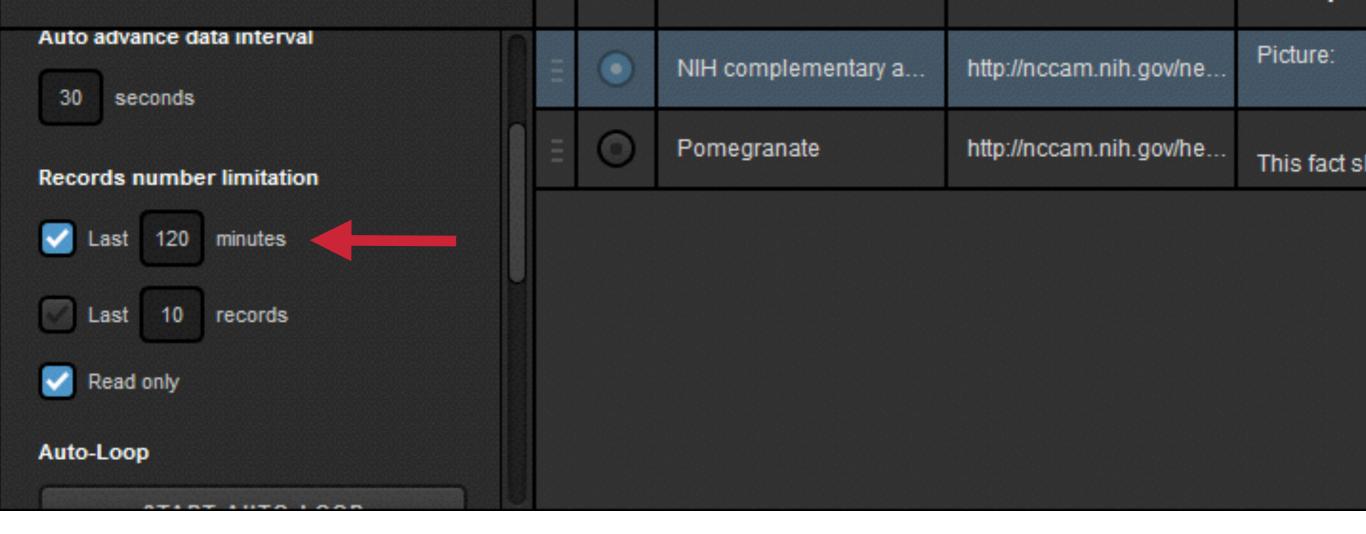
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http://nccam.nih.gov/rss/nccamfeed.xml	II	0	Frequently Asked Que	http://nccam.nih.gov/n	Answers to frequently	12/17/2014 2:08:59 PM
Basic Authentication	Ξ	0	Stress and Relaxation	http://nccam.nih.gov/h	Relaxation techniques	12/17/2014 4:11:58 PM
Auto advance data interval		0	What's It Like To Be a	http://nccam.nih.gov/r	Lucy Bauer holds a P	12/15/2014 6:08:05 PM
Records number limitation	H	0	Dietary Supplements	http://www.fda.gov/Saf	FDA is warning health	12/12/2014 8:01:42 AM
Last 120 minutes	H	0	Chronic Low-Back Pai	http://nccam.nih.gov/r	This blog post by NC	12/15/2014 9:33:57 AM
+ /						AUTO PUSH/PULL

When you enter the RSS URL, the data should populate on the right and give you access to further settings.



Set the time interval in seconds that you want Livestream Studio to look for new information from your RSS feed under 'Auto advance data interval.'



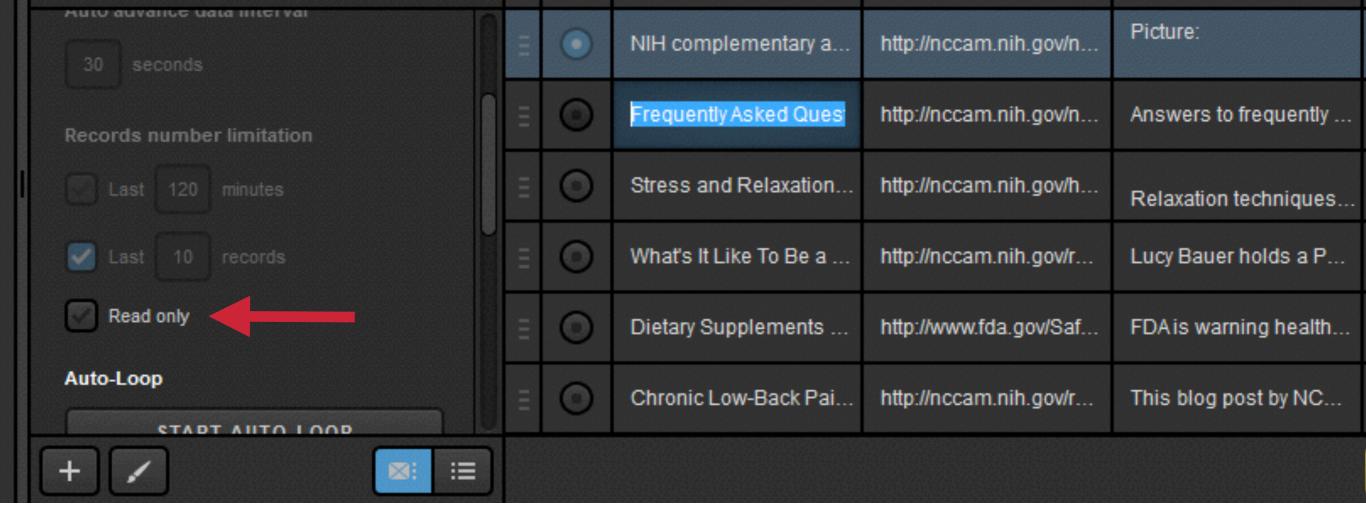


To control the number of posts from your RSS feed, you can choose to only include posts within a recent time frame.

Auto advance data interval	0	Ш	•	NIH complementary a	http://nccam.nih.gov/n	Picture:	12/18/2
Records number limitation		Ш	0	Frequently Asked Que	http://nccam.nih.gov/n	Answers to frequently	12/17/2
Last 120 minutes		HI	0	Stress and Relaxation	http://nccam.nih.gov/h	Relaxation techniques	12/17/2
Last 10 records		Ш	0	What's It Like To Be a	http://nccam.nih.gov/r	Lucy Bauer holds a P	12/15/2
Read only		Ш	0	Dietary Supplements	http://www.fda.gov/Saf	FDA is warning health	12/12/2
Auto-Loop		Η	0	Chronic Low-Back Pai	http://nccam.nih.gov/r	This blog post by NC	12/15/2
+ / 📧 🗉							🔶 AU

You can also limit Livestream Studio to pull only a certain number of most recent posts.





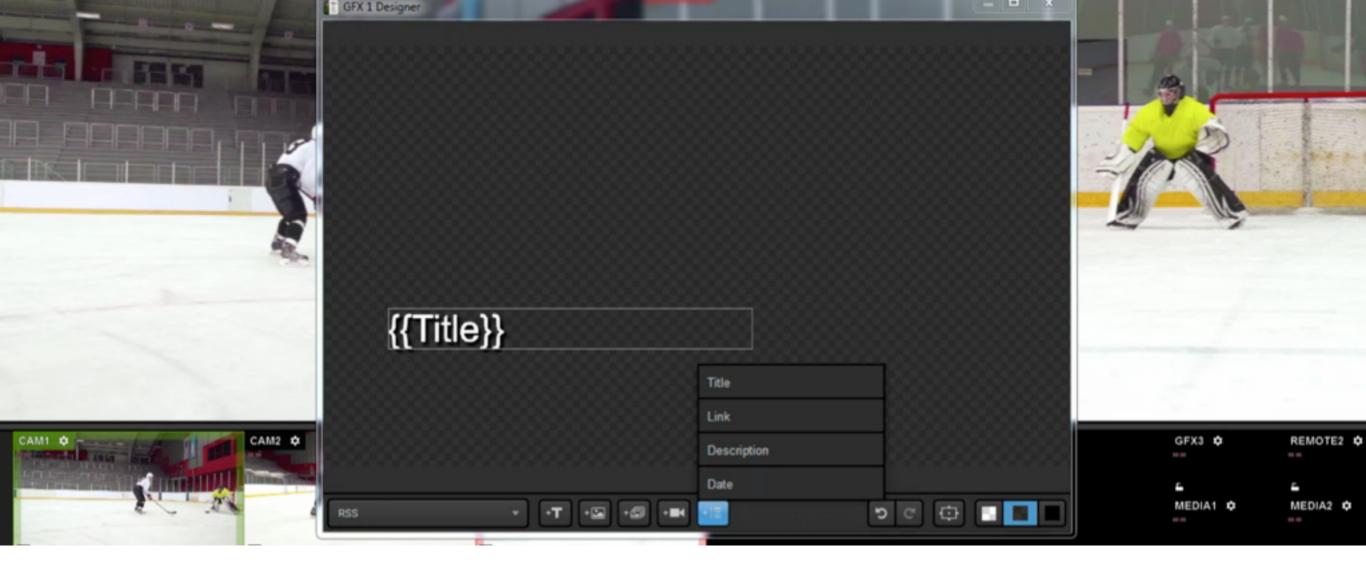
If you wish to edit any data within Livestream Studio, uncheck 'Read only.'

Note: Any edits made to data sources in Livestream Studio will not change content in the original source.

+10		Auto-Loop	Ш		NIH complementary a	http://nccam.nih.gov/n	Picture:	12/18/201
OVR 0	0 dB == OVR	START AUTO-LOOP	m	0	Frequently Asked Que	http://nccam.nih.gov/n	Answers to frequently	12/17/201
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-24 -36	-24 -38	Start from beginning once end is reached	III	0	What's It Like To Be a	http://nccam.nih.gov/r	Lucy Bauer holds a P	12/15/201
-48	-48	Auto-Loop Direction	Ш	0	Dietary Supplements	http://www.fda.gov/Saf	FDA is warning health	12/12/201
-60	-60	Top-to-bottom Bottom-to-top	Ξ	Ο	Chronic Low-Back Pai	http://nccam.nih.gov/r	This blog post by NC	12/15/201
-72	-72	Auto-Loop Starting Item	Ξ	0	Chronic low-back pai	http://nccam.nih.gov/n	Better research may h	12/11/201
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10			]					AUTC

At the bottom of the settings are the Auto-Loop options for this graphics layer.





Next, enter the GFX Designer, and select 'RSS' from the dropdown. Click the list icon to select your data fields.

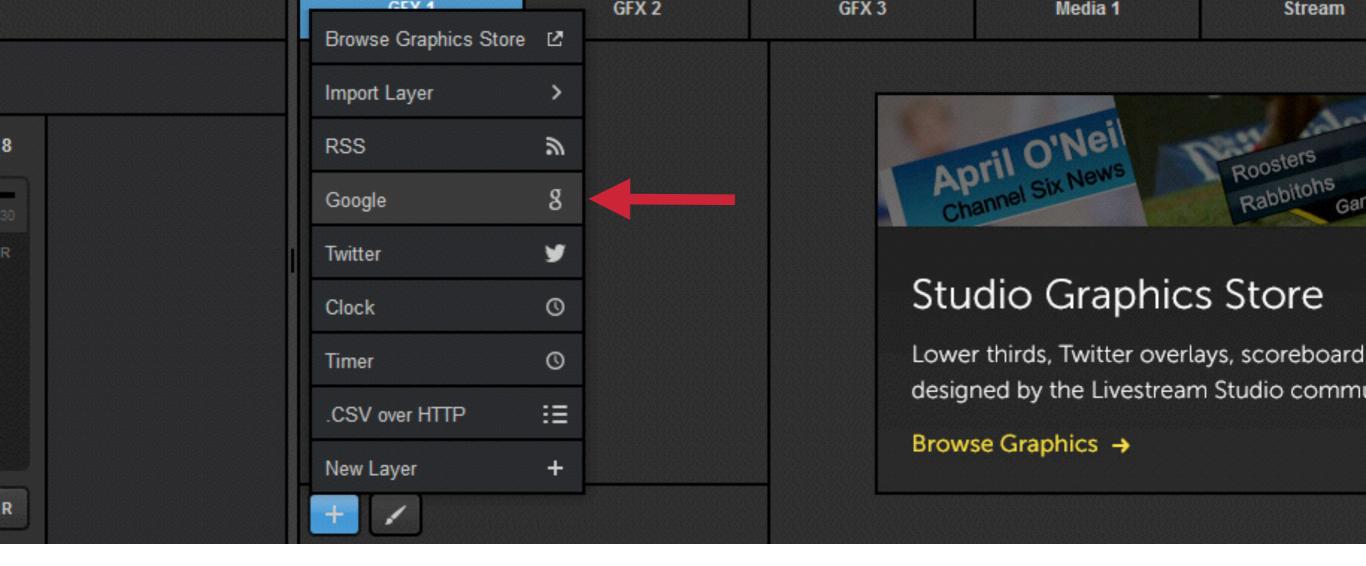
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		Ш	0	Stress and Relaxation	http	)://nccam.nih.gov/h	Relaxation techniques	12/17/2014 4:11:58	PM
		Ш	0	What's It Like To Be a	http	://nccam.nih.gov/r	Lucy Bauer holds a P	12/15/2014 6:08:05	РМ
		Ш	0	Dietary Supplements	http	://www.fda.gov/Saf	FDA is warning health	12/12/2014 8:01:42	АМ
		Ш	0	Chronic Low-Back Pai	http	://nccam.nih.qov/r	This blog post by NC	12/15/2014 9:33:57	AM
+ /								▲ AUTO PUSH/P	ULL

Close out of the GFX Designer and return to the layers module to make the layer visible. You can now include content from the RSS feed into your production via the graphics overlay controls.

## Adding graphics overlays

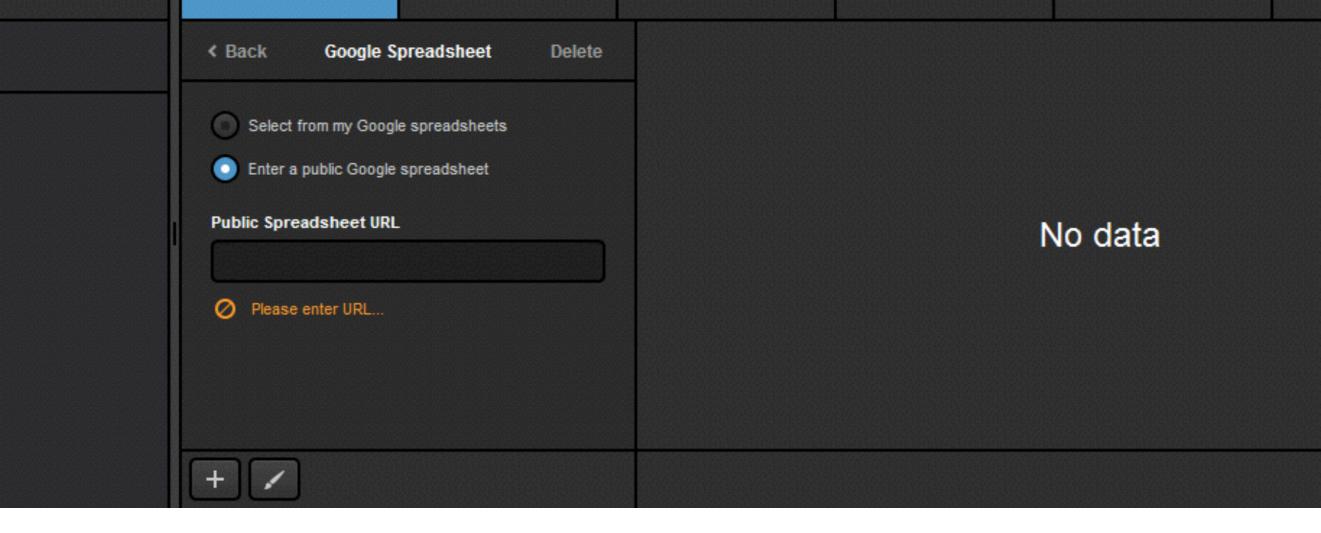
Google

**live**stream



To integrate information from a Google spreadsheet, select 'Google' from the graphics menu.





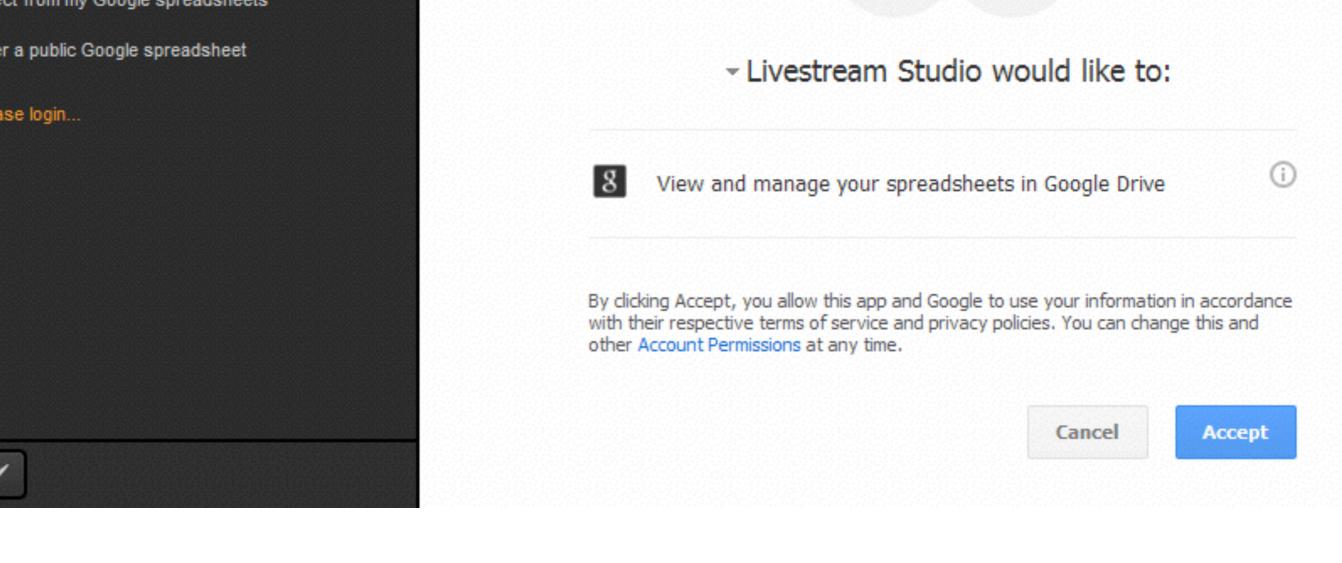
You do not need to log in if you select 'Enter a public Google spreadsheet.' Selecting this will allow you to enter the document's URL.



GFX 1	GFX 2	GFX 3	Media 1	Stream	Transitions	*
Back Google S Select from my Google	preadsheet Delete			oogle our Google Accoun	t	
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			Email			
			Password			
+ /				Sign in		

If you want to use your own private Google document, you will need to log in to a Google account to allow access to your Google drive.





The Google module will ask permission to view and manage your spreadsheets. Click 'Accept.'



< Back Select Spreadsheet			Column 1 ~	Column 2	
Penalty Shot Lower Thirds Author: tom.iannaco		۲	Name	Title	
Uploader Test Tracker	111	0	Tom lannaco	Producer Support	
Author: laura.marciano		0	Penalty Shot	New York, N.Y.	
Nightly Support Report Data Author: Jaura marciano		0	Amanda Vicari	Event Co-Founder	

Once you have access to your Drive, select the document with the information you want to include in your graphic. The selected document's data will populate on the right.

GFX 1	GFX 1 GFX 2		GF	X 3	Media 1		Media 2	Stream		Tran	
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LOG OUT		111	0	Amanda Vi	cari	E	Event Co-Founder		https://img.new.li		
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Use first row as co		ш	0	Kristin McC	tue .	С	Co-Host		https:	//img.new.li	

Once you select your spreadsheet, click the 'Back' button to access settings for this layer.



< Back Google Spreadsheet Delete			Column 1 🗸	Column 2
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START AUTO-LOOP		0	Ed Yealu	Event Co-Founder
Auto-Loop Settings	Ξ	0	Kristin McCue	Co-Host

You can always use a different spreadsheet in your Google Drive by clicking the 'Change' button.



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Auto-Loop	111	0	Ed Yealu	Event Co-Founder
START AUTO-LOOP	H	0	Kristin McCue	Co-Host
Auto-Loop Settings				

To turn your first row into column titles, check 'Use first row as column titles.'



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START AUTO-LOOP	111	$\odot$	Kristin McCue	Co-Host	https://img.new.livestream.com/ev			
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30 second interval between new items								
					AUTO PUSH/PULI			

Click on any column title to change the type of data included in that field (text or image).

**live**stream

< Back Google Spreadsheet Delete			Name	Title 🗸 🗸	lmage 🗸 🗸			
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Read only	111	0	Amanda Vicari	Event Co-Founder	https://img.new.livestream.com/eve			
Auto-Loop		0	Ed Yealu	Event Co-Founder	https://img.new.livestream.com/eve			
START AUTO-LOOP		0	Kristin McCue	Co-Host	https://img.new.livestream.com/eve			
Auto-Loop Settings 30 second interval between new items								
+ 🖌 💿 🔤					AUTO PUSH/PULL			

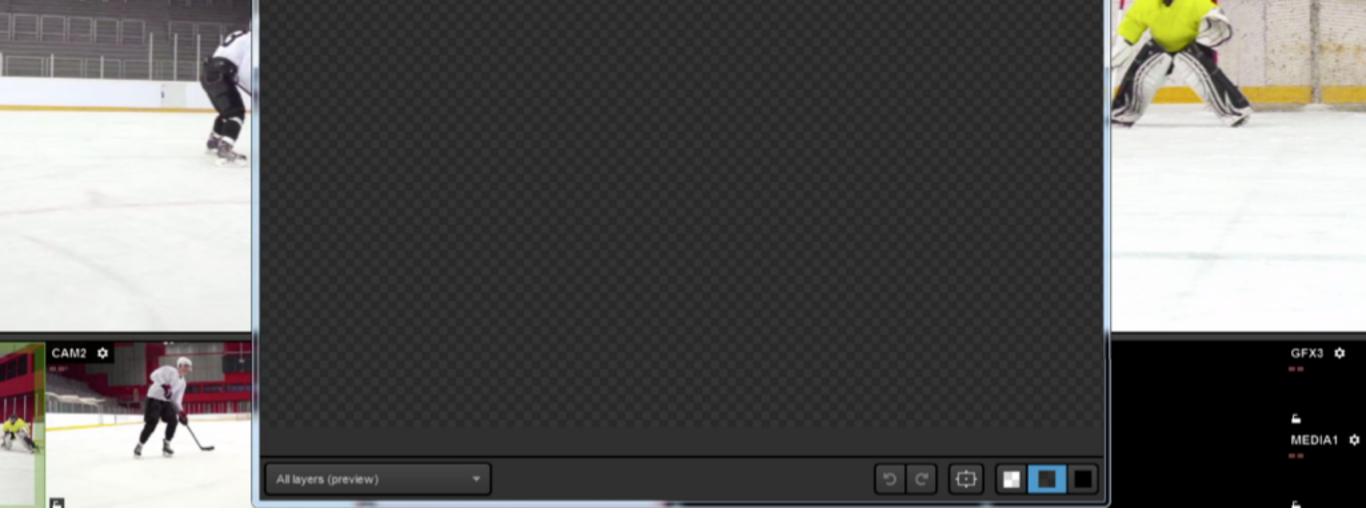
Uncheck 'Read only' if you want to be able to edit the information within Livestream Studio. Otherwise, changes can only be made in Google Docs.



START AUTO-LOOP			Tormannaco	Producer Support	naps.//ing.new
Auto-Loop Settings		0	Penalty Shot	New York, N.Y.	https://img.new
30 second interval between new items		0	Amanda Vicari	Event Co-Founder	https://img.new
Start from beginning once end is reached			Ed Yealu	Event Co-Founder	https://img.new
Auto-Loop Direction			Kristin McCue	Co-Host	https://img.new
Top-to-bottom					
Bottom-to-top					
Auto-Loop Starting Item					
Start from top/bottom					
Start from selected list item	U				

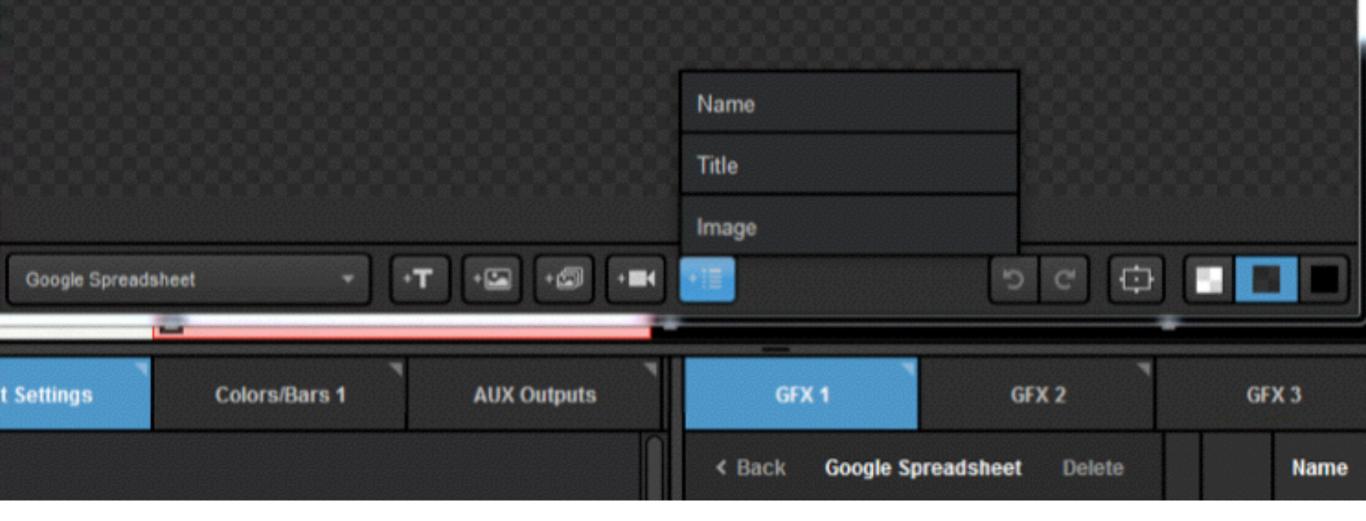
Scroll down further in the settings to configure your Auto-Loop preferences.





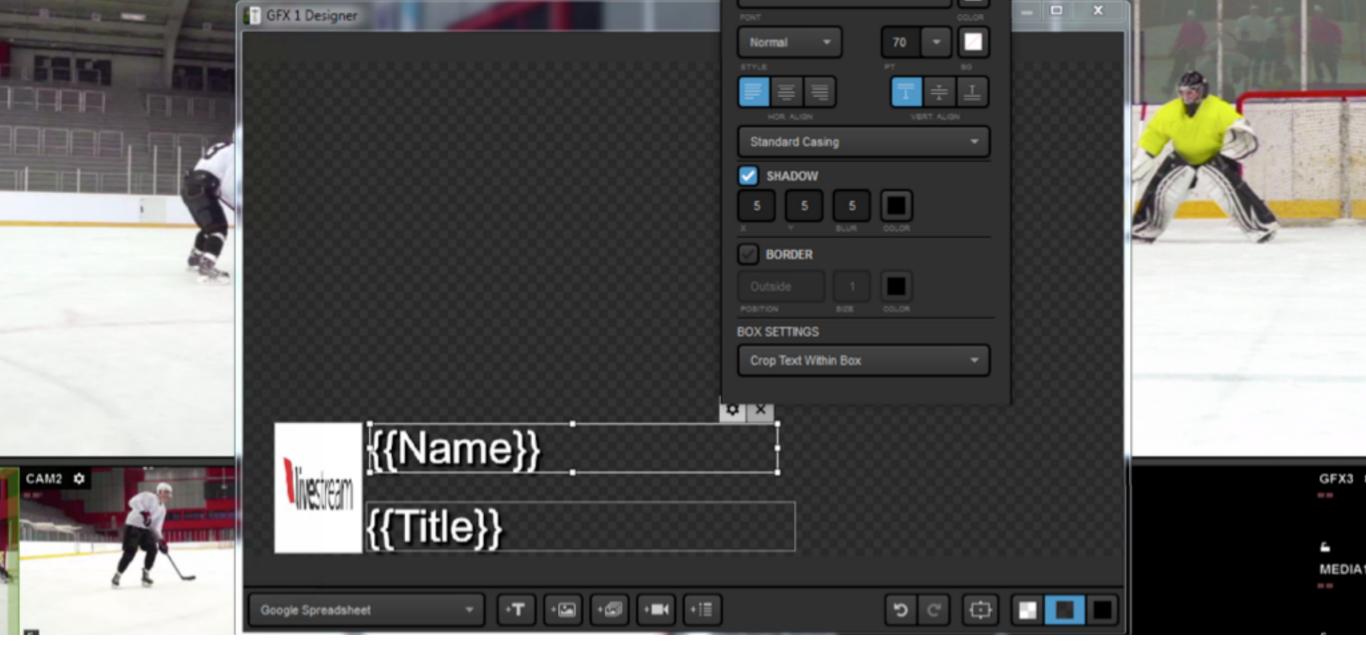
The next step is to start designing your graphic. Click on the paintbrush button to enter the GFX Designer.





In the Google Spreadsheet layer, click on the list icon to see your columns. Click on one to insert it into the GFX Designer.





Click on the gearwheel button to access more options for your font, colors, etc.



< Back Google Spreadsheet Delete			Name	Title		
Select from my Google spreadsheets	111	۲	Tom lannaco	Producer Support		
Enter a public Google spreadsheet		0	Penalty Shot	New York, N.Y.		
Logged in as tom.iannaco@livestream.com		0	Amanda Vicari	Event Co-Founder		
LOG OUT		0	Ed Yealu	Event Co-Founder		
Spreadsheet		0	Kristin McCue	Co-Host		
Penalty Shot Lower Thirds CHANGE	ER F					

Close out of the GFX Designer when you have finished. In the graphics overlay channel, click 'Back' in the upper right corner to return to the layer module.



GFX 1	GFX 2	GFX 3			Media 1	Media 2		
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		Ξ	0	Amanda Vio	cari	Event Co-Founder		
		Ξ	0	Ed Yealu		Event Co-Founder		

Make sure the Google spreadsheet layer is visible by selecting the eye icon. This will allow you to include information from your spreadsheet as a graphics overlay in Livestream Studio.



Livestream Studio Certified Datasource Sample By Studiolivestream 会会会会会 0 ratings Rate It Report abuse

Template of Google Spreadsheet for Livestream Studio integration.

Use this template Browse template gallery

PROGRAM	Text Column 1	[img]Image Column 1
ON	Data 1	https://www.google.com/images/srpr/logo11w.png
OFF	Data 2	https://www.google.com/images/srpr/logo11w.png
OFF	Data 3	
OFF	Data 4	
OFF	Data 5	
OFF	Data 6	
OFF	Data 7	
OFF	Data 8	
OFF	Data 9	

You can also configure your spreadsheet to push changes remotely by formatting it as a Livestream Studio Certified Data Source (LSCDS).A template for a Google spreadsheet that follows these parameters is available <u>here</u>.

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2	Tom lannaco	Producer Support	https:/	Spelling	nts/00000000039017f/81d29ef2-9					
3	Penalty Shot	New York, N.Y.	https:/	Opening	nts/00000000039017f/81d29ef2-9					
4	Amanda Vicari	Event Co-Founder	https:/	<ul> <li>Enable autocomplete</li> </ul>	nts/00000000039017f/81d29ef2-9 nts/00000000039017f/81d29ef2-9					
5	Ed Yealu	Event Co-Founder	https:/							
6	Kristin McCue Co-Host		https:/	Notification rules	nts/00000000039017f/81d29ef2-9					
7				Protect sheet						

If you want to turn an existing spreadsheet into an LSCDS, start in Google Docs by going to 'Tools,' then 'Script Editor.'

```
function onEdit(event)
var sheet = event.source.getActiveSheet();;
var cRow = event.range.getRow();
var program = sheet.getRange("A2:A");
var fRow = program.getRow();
var lRow = program.getLastRow();
if (event.range.getColumn()==1)
  var values = event.range.getValues();
  for (var i in values)
    var row = values[i];
    for (var j in row)
      {
       if (values[i][j]=="ON")
         for (var a = fRow; a \le lRow; a++)
           if (a!=cRow)
             sheet.getRange(a,1).setValue ("OFF");
          }
```

Enter the validation script above. It can also be found <u>here</u>, then save the script and name it.

⊞	Penalty Sh	ot Lower Thi	irds ☆ 🖿								
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1	PROGRAM	Name	Title	Image							
2		Tom lannaco	Producer Support	https://img.new.li	ivestream.com/eve	ents/000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_	170x2	
3		Penalty Shot	New York, N.Y.	https://img.new.li	https://img.new.livestream.com/events/0000000000000009017f/81d29ef2-972c-4e60-a0b2-e75968d3fa8						
4		Amanda Vicari	Event Co-Founder	https://img.new.li	ivestream.com/eve	ents/000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_	170x2	
5		Ed Yealu	Event Co-Founder	https://img.new.li	ivestream.com/eve	ents/000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_	170x2	
6		Kristin McCue	Co-Host	https://img.new.li	ivestream.com/eve	ents/000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_	170x2	
7											
8											
9											
10											

## Now you can start adding data to your sheet. You should have 'PROGRAM' in cell A1.



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2	ON	Tom lannaco	Producer S	upport	https://	img.new.l	ivestrea	am.com	/even	nts/00000	00000	39017f/8	1d29ef2-	972c-4e6	)-a0b2-	e75968	d3fa88
3	OFF	Penalty Shot	New York, I	N.Y.	https://	img.new.l	ivestrea	am.com	/even	nts/00000	00000	39017f/8	1d29ef2-	972c-4e6	)-a0b2-	e75968	d3fa88
4	OFF	Amanda Vicari	Event Co-F	ounder	https://	img.new.l	vestrea	am.com	/even	nts/00000	00000	39017f/8	1d29ef2-	972c-4e6	)-a0b2-	e75968	d3fa88
5	OFF	Ed Yealu	Event Co-F	ounder	https://img.new.livestream.com/events/00000000000039017f/81d29ef2-972c-4e60-					)-a0b2-	e75968	d3fa88					
6	OFF	Kristin McCue	Co-Host		https://	img.new.l	vestrea	am.com	/even	nts/00000	00000	39017f/8	1d29ef2-	972c-4e6	)-a0b2-	e75968	d3fa88
7	OFF																
8	OFF																
9	OFF																
10	OFF																

The remaining cells in the first column should say either 'ON' or 'OFF' as shown above. These represent the radio buttons in Livestream Studio's data module.



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f×	PROGRAM	Freeze columns							
	Α			Freeze 1 row	E	F	G	н	I.
1	PROGRAM	✓ Gridlines		Freeze 2 rows					
2	ON	<ul> <li>Protected ranges</li> </ul>		Freeze 3 rows	am.com/events/	/0000000003	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa
3	OFF	✓ Formula bar		Freeze 4 rows	am.com/events/	/0000000003	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa
4	OFF	All formulas	Ctrl+`	Freeze 5 rows	am.com/events/	/0000000003	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa
5	OFF				am.com/events/	/0000000003	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa
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7	OFF			Freeze 7 rows					
8	OFF	Compact controls	Ctrl+Shift+F	Freeze 8 rows					
9	OFF	Full screen							
10	OFF			Freeze 9 rows					
11	OFF			Freeze 10 rows					

In the 'View' menu, select 'Freeze rows' > 'Freeze 1 row,' and 'Freeze columns' > 'Freeze 1 column.' This will indicate column titles and row visibility in Livestream Studio.

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Tom lannaco												
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PROGRAM	Name	Title	[img]Image									
ON	Tom lannaco	Producer Support	https://img.new.l	livestream.com/eve	ents/000000000	39017f/81d29ef2-9	972c-4e60-a0b2-	e75968d3fa8				
OFF	Penalty Shot	New York, N.Y.	https://img.new.l	livestream.com/eve	ents/000000000	39017f/81d29ef2-9	972c-4e60-a0b2-	e75968d3fa8				
OFF	Amanda Vicari	Event Co-Founder	https://img.new.l	livestream.com/eve	ents/000000000	39017f/81d29ef2-9	972c-4e60-a0b2-	e75968d3fa8				
OFF	Ed Yealu	Event Co-Founder	https://img.new.l	livestream.com/eve	ents/000000000	39017f/81d29ef2-9	972c-4e60-a0b2-	e75968d3fa8				
OFF	Kristin McCue	Co-Host	https://img.new.l	livestream.com/eve	ents/000000000	39017f/81d29ef2-9	972c-4e60-a0b2-	e75968d3fa8				
OFF												
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Continue to add data to your spreadsheet as desired. If you want any column to be an image field, put '[img]' at the beginning of the name.



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f×	Tom lannaco									
	A	B	С		D	E	F	G	н	1
1	PROGRAM	Name	Title	[img]lma	age					
2	ON	Tom lannaco	Producer Support	https://ir	mg.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88
3	OFF	Penalty Shot	New York, N.Y.	https://ir	mg.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_
4	OFF	Amanda Vicari	Event Co-Founder	https://ir	mg.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_
5	OFF	Ed Yealu	Event Co-Founder	https://ir	mg.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_
6	OFF	Kristin McCue	Co-Host	https://ir	mg.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-	972c-4e60-a0b2-	e75968d3fa88_
7	OFF									
8	OFF									
9	OFF									
10	OFF									

Enter the URLs of the images in the column that you want Livestream Studio to reference.



#### Data validation

Cell range:	Sheet1!A2:A	
Criteria:	List of items \$	ON,OFF
On invalid data	a: 🔵 Show warnir	ng   Reject input
Appearance:	✓ Display in-cel	I button to show list
	Show help:	Click and enter a value from the list of items Reset
Save	Remove validation	Cancel

### In the 'Data' menu, click 'Validation' and enter the parameters shown above.



 $\times$ 

Text is exactly 🜲	ON	Format: Text Color:	Range:	х
		Background Color:	A:A	
Text is exactly 🜲	OFF	Format: Text Color:	Range:	x
		Background Color:	A:A	
Add another ru	le			

Highlight all of column A. Then, under 'Format,' click 'Conditional Formatting' and add the above rules.

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< Back Google Spr	readsheet Delete			Name		Title		🛃 Image
Spreadsheet Penalty Shot Lower Thir	ds CHANGE	ш	۲	Tom lanna	ico	Producer Sup	port	<b>L</b> er
Read only		111		Penalty Sh	iot	New York, N.Y	<u>t</u>	<b>L</b> er
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	0-LOOP	111	$\odot$	Ed Yealu		Event Co-Fou	nder	<b>Ler</b>
Auto-Loop Settings		111	$\odot$	Kristin Mc	Cue	Co-Host		<b>Ler</b>
30 second interval b	etween new items	111	0					В

When you have the necessary data in your spreadsheet, select it from your Google documents in Livestream Studio and leave it in 'Read only' mode.



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	•			Name	Title
		111	٢	Tom lannaco	Producer Support
8, 1 C	*	III		Penalty Shot	New York, N.Y.
		111		Amanda Vicari	Event Co-Founder
		m	0	Ed Yealu	Event Co-Founder
		111	$\odot$	Kristin McCue	Co-Host

You should notice a small green checkmark appear in the layer thumbnail, indicating that it is a Livestream Studio Certified Data Source.



f×	OFF						
	А	В	С	D	E	F	G
1	PROGRAM	Name	Title	[img]Image			
2	ON 🔻	Tom lannaco	Producer Support	https://img.new.li	vestream.com/ev	ents/000000000	39017f/81d29ef2-
3	OFF .	Penalty Shot	New York, N.Y.	https://img.new.li	vestream.com/ev	ents/000000000	39017f/81d29ef2-
4	OFF -	Amanda Vicari	Event Co-Founder	https://img.new.li	vestream.com/ev	ents/000000000	39017f/81d29ef2-
5	OFF	Ed Yealu	Event Co-Founder	https://img.new.li	vestream.com/ev	ents/000000000	39017f/81d29ef2-
6	OFF	Kristin McCue	Co-Host	https://img.new.li	vestream.com/ev	ents/0000000000	39017f/81d29ef2-
7	ON						
8	UFF						
9	OFF .	,					
10	OFF -	r					
11	OFF .	r					

Now if someone has your Google document open in a browser, they can change any 'OFF' field to 'ON.'



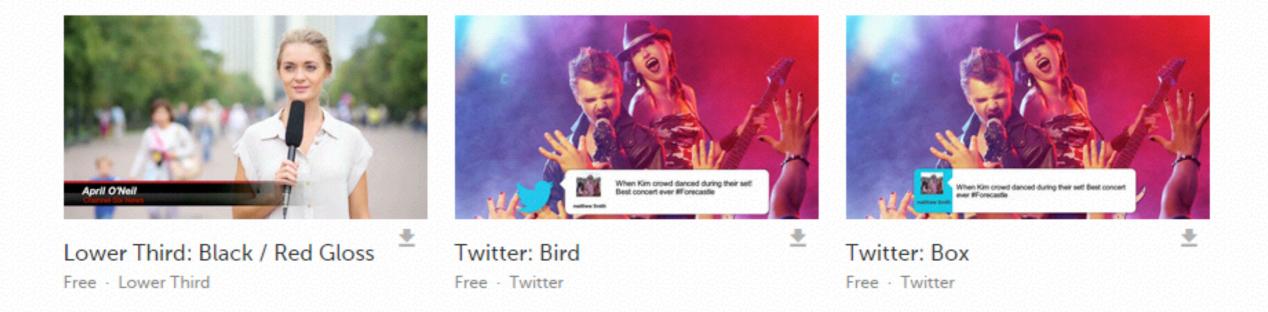
c	ON				GFX 3 Media 1			Media 1	Media
	Α	В	(				Nama		Title
	PROGRAM	Name	Title	L			Name		Title
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	OFF	Kristin McCue	Co-Host		111	۲	Ed Yealu		Event Co-F
	OFF .								
	OFF .					$\odot$	Kristin McCue		Co-Host

The 'ON' will turn red and the change will be reflected in the graphics module in Livestream Studio.

## Adding graphics overlays

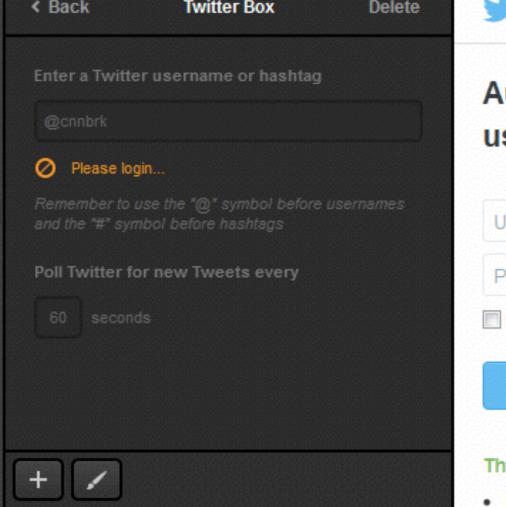
Twitter





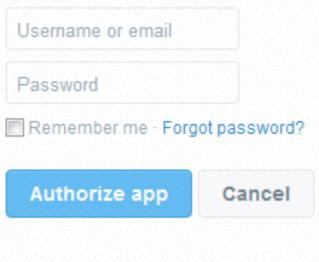
You can include a graphics layer of a Twitter feed. To get started, you may want to consider downloading a Twitter template from the Livestream Graphics Store.







#### Authorize Livestream Studio HD to use your account?



#### This application will be able to:

Read Tweets from your timeline

When you import the Livestream Graphic, you will be prompted to log in to a Twitter account. This is simply to authorize the Twitter application in Livestream Studio.



#### Livestream Studio HD

new.livestream.com/studio

Video switching software with graphic overlays and streaming capability.

	GFX 1	GFX	2		GFX 3		Media 1	Media 2	Stream	Transitions +>
			•			₽.~	Name v	Username 🗸 🗸	Tweet 🗸 🗸 🗸	Time Stamp 🗸 🔾
			/	Ш	0		cnnbrk	CNN Breaking News	Bus station bombin	12/22/2014 11:49:4
			\$	Ξ			cnnbrk	CNN Breaking News	New president for "	12/22/2014 11:23:5
				H	$\odot$		cnnbrk	CNN Breaking News	Pope Francis slam	12/22/2014 9:42:52
					$\odot$		cnnbrk	CNN Breaking News	NYPD commission	12/22/2014 9:06:48
				H	$\odot$		cnnbrk	CNN Breaking News	A driver rammed int	12/22/2014 7:57:13
					$\odot$	CNN CNN	cnnbrk	CNN Breaking News	Gunman called to.a	12/21/2014 8:56:29
U	+ /		⊠: :≡						[	▲ AUTO PUSH/PULL

The layer module will open with a default account. Click the gearwheel to enter the graphic's settings.

✓ Back Twitter Box	Delete	
Enter a Twitter username or hashtag   @livestream   Remember to use the "@" symbol before   Seconds   Log out   Pol Twitter for new Tweets every   0   seconds   Records number limitation		No data

Select a username or hashtag to poll. Keep in mind that you must include "#" in the front of hashtags and "@" in front of usernames. When you have typed in the desired asset, press Enter.

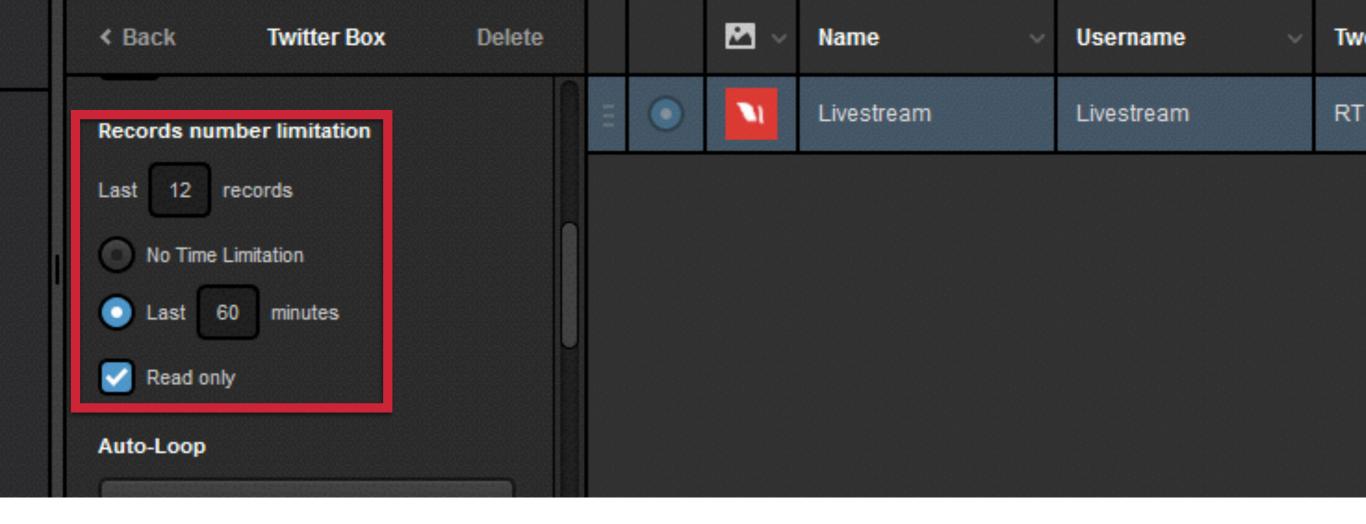


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< Back Twit	ter Box Delet	е		M	v Name v	Username	Tweet	TimeStamp	~ 0
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60 seconds			=	0	Livestream	Livestream	Our holiday "Bundle.	12/19/2014 4:35:0	98
Records number lim	itation		= 0	D 🚺	Livestream	Livestream	LIVE from @WTEN:	12/19/2014 2:17:5	j1
No Time Limitation			= 0	D 🚺	Livestream	Livestream	RT @theJeffAdams	. 12/19/2014 12:11:	:3
Last 120 minu	ites		= 0	D 🚺	Livestream	Livestream	RT @evelinechang:	12/19/2014 10:11:	5
Read only			= 0	0	Livestream	Livestream	@open_source_s	12/19/2014 10:06:	:1
+ 🗸								AUTO PUSH/PI	ULL

On the right, tweets from that username or hashtag will load on the right. Further settings will also become available to you on the left.

GFX 1	GFX 2	7	GFX 3	7	Media 1	Media 2
< Back Twitt	ter Box [	)elete		×	Name	Username v
Poll Twitter for new T	weets every			-	Livestream	Livestream
60 seconds			0	2	Livestream	Livestream
Records number limit	tation			2	Livestream	Livestream
No Time Limitation			0	-	Livestream	Livestream

You can select how often Livestream Studio should look for new tweets. Newer tweets appear at the top of the module.



You can also tell Livestream Studio how many tweets to look for within a certain time frame. Select 'Read Only' if you do not want to edit the tweets.

START AUTO-LOOP	ш		2	Livestream	Livestream	RT @brucierosch:	12/22/2014 11:32:0
Auto-Loop Settings	Ξ	Ο	2	Livestream	Livestream	Our holiday "Bundle	12/19/2014 4:35:08
5 second interval between new items	Ξ	Ο	2	Livestream	Livestream	LIVE from @WTEN	12/19/2014 2:17:51
Start from beginning once end is reached Remove item from list after shown	Ξ	Ο	2	Livestream	Livestream	RT @theJeffAdams	12/19/2014 12:11:3
Skip to newest	Ξ	Ο	2	Livestream	Livestream	RT @evelinechang:	12/19/2014 10:11:5
Auto-Loop Direction Top-to-bottom	Ξ	$\odot$	-	Livestream	Livestream	@open_source_s	12/19/2014 10:06:1
Bottom-to-top	Ξ	$\odot$	NI	Livestream	Livestream	RT @open_source	12/19/2014 10:02:3
Auto-Loop Starting Item Start from top/bottom	Ξ	Ο	-	Livestream	Livestream	RT @HofstraU: Mid	12/19/2014 9:10:26
Start from selected list item	=	0	<b>N</b> 1	Livestream	Livestream	LIVE NOW: The Ver	12/18/2014 4:31:01
+ 🖌 🛛 🔤						C	🛧 AUTO PUSH/PULL

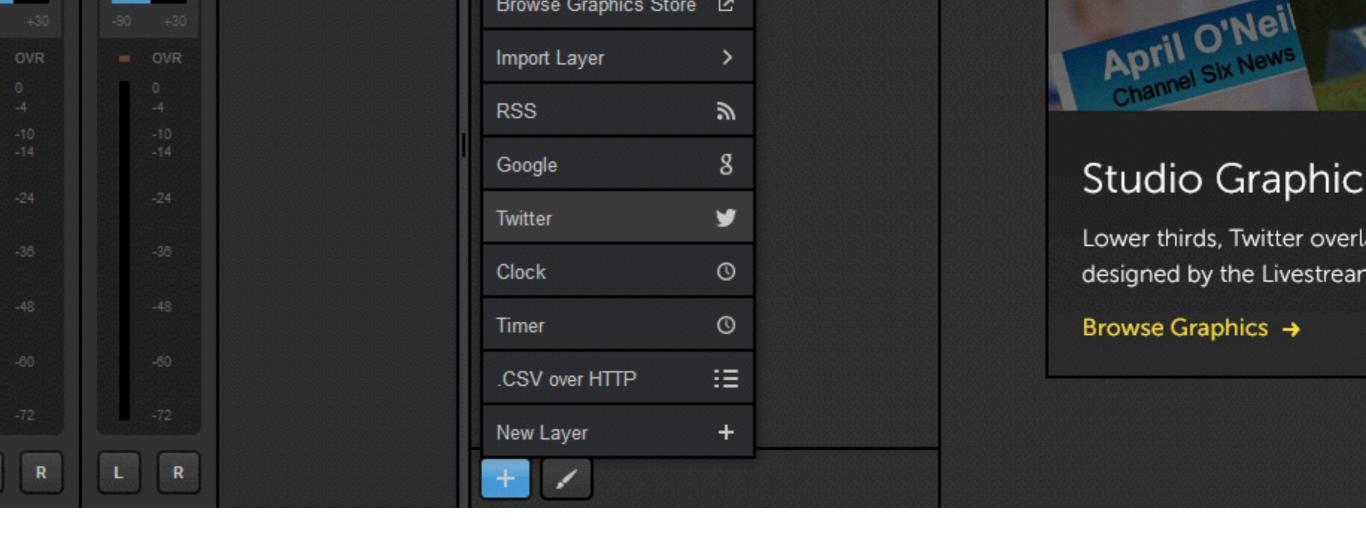
# Scroll down in the settings to configure any desired Auto-Loop options.





You can adjust the placement, font, size, and color of any of the data fields in the GFX Designer.

**live**stream



If you do not wish to use a Livestream Graphics template, you can also create your own by selecting 'Twitter' from the graphics menu.



	Avatar	
	Name	
	Username	
	Tweet	
	TimeStamp	
Twitter - + T + A + H	+=	ତ ୯ 🕀 🗖 🔳
-14 -14		
-24 -24	Poll Twitter for new Twee	ts every

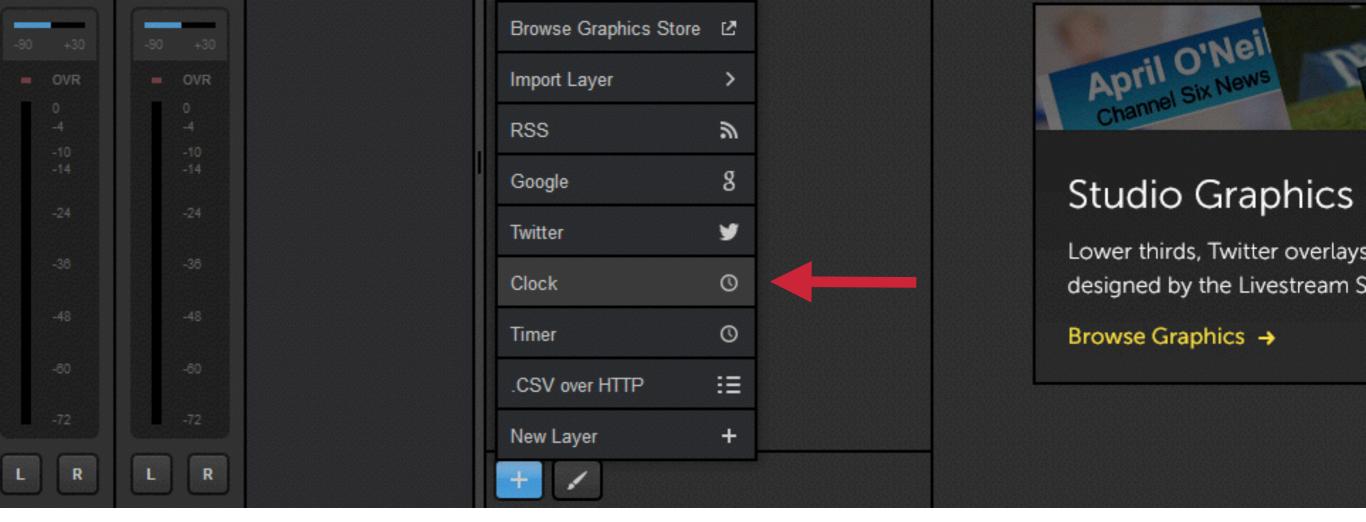
Follow the login steps as you did before, then open the GFX Designer. Click on the list button in the Twitter layer, and you can add any data field from Twitter such as the tweet, username, avatar, etc.



## Adding graphics overlays

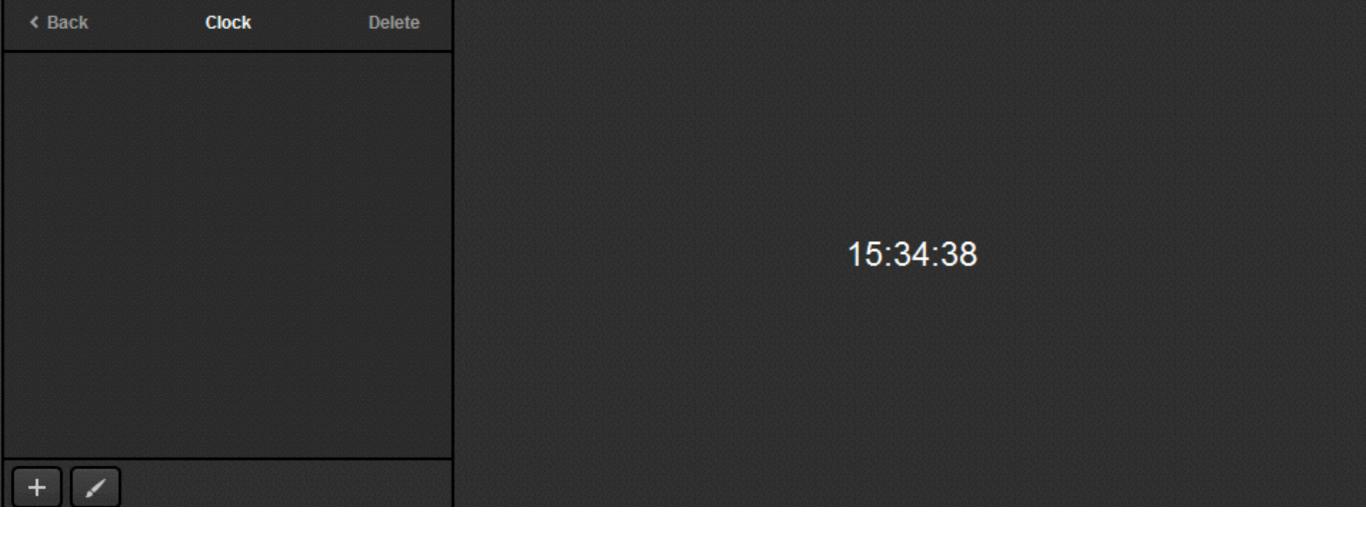
Clock





You may want to overlay a timeof-day clock into your production. This can be done by selecting the 'Clock' option in the graphics overlay channel.





This will add a clock layer to the graphics channel. Click on the paintbrush icon to open the GFX Designer for that layer.



		{{hh}}:{{mm}}:{{ss}} {{ap}} = 01:05:06 pm
		{{HH}}:{{mm}}:{{ss}} = 13:05:06
		{{hh}}:{{mm}}{{ap}} = 01:05am
		{{HH}}:{{mm}} = 13:05
		{{Day}}, {{Dx}} of {{Month}}, {{h}}:{{mm}} {{ap}} {{TZ}} = Monday, 3rd of April, 9:08
	Presets >	{{Day}}, {{Dx}} of {{Month}}, {{HH}}:{{mm}} {{TZ}} = Monday, 3rd of April, 21:08 F
	Time >	
	Frame >	
	Date >	
Clock • + T + 🖬 + 🖬	+=	

Click on the list icon for options of time fields to add. Consider checking the presets first to save the time needed to add individual fields.

	{{hh}}:{{mm}}{{a	ap}}		
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		SHADOW S S S S COLOR X Y SLUR COLOR		
		BORDER Outside 1 POSITION SIZE COLOR BOX SETTINGS Crop Text Within Box		GFX
11	Clock + T	·∞ ·∞ ·■ ·≡	ଅ ୯ 🕀 🔳 🔳	ME1

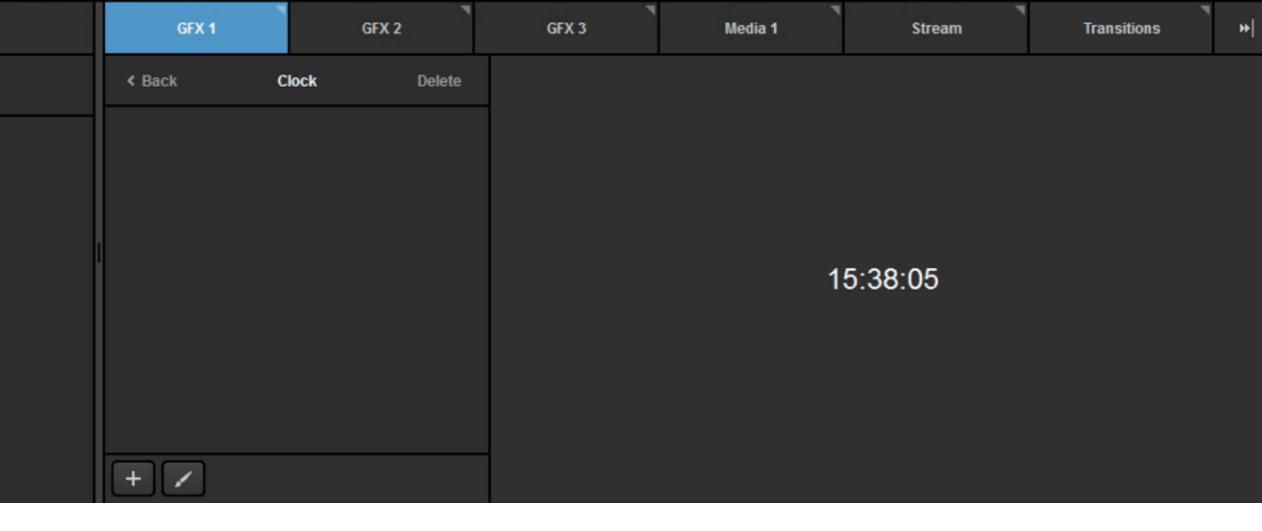
Once you have added the time fields you need, click the gearwheel button to change each one's font, size, color, etc.





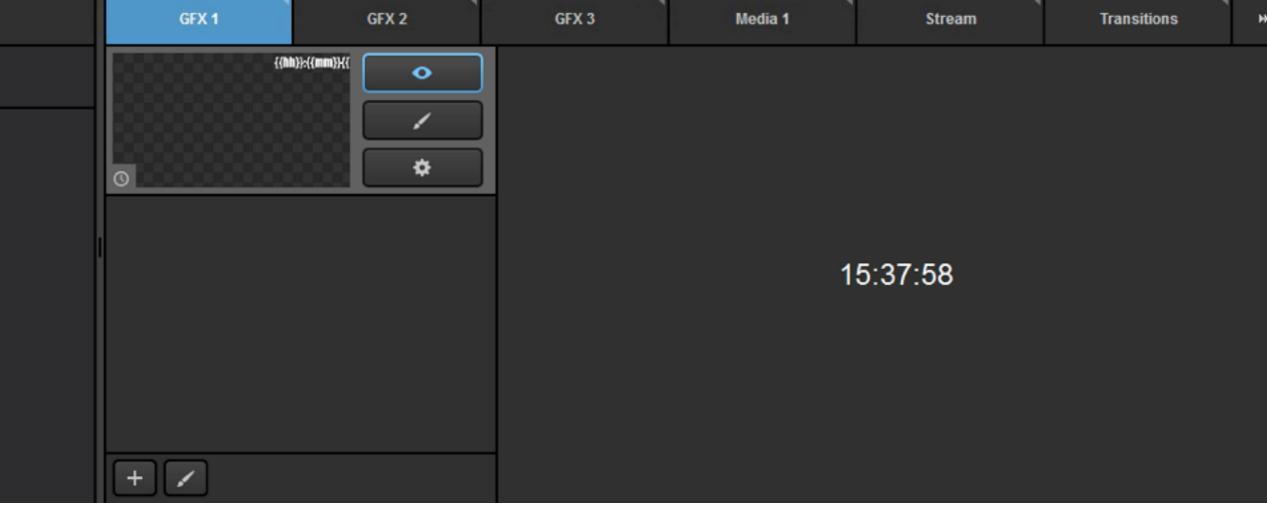
Drag and drop the clock to where you want to have it appear. When you are done designing the clock, close out of the GFX Designer.

**live**stream



There are no additional settings for the clock layer other than deleting it. Click 'Back' to return to the layer module.





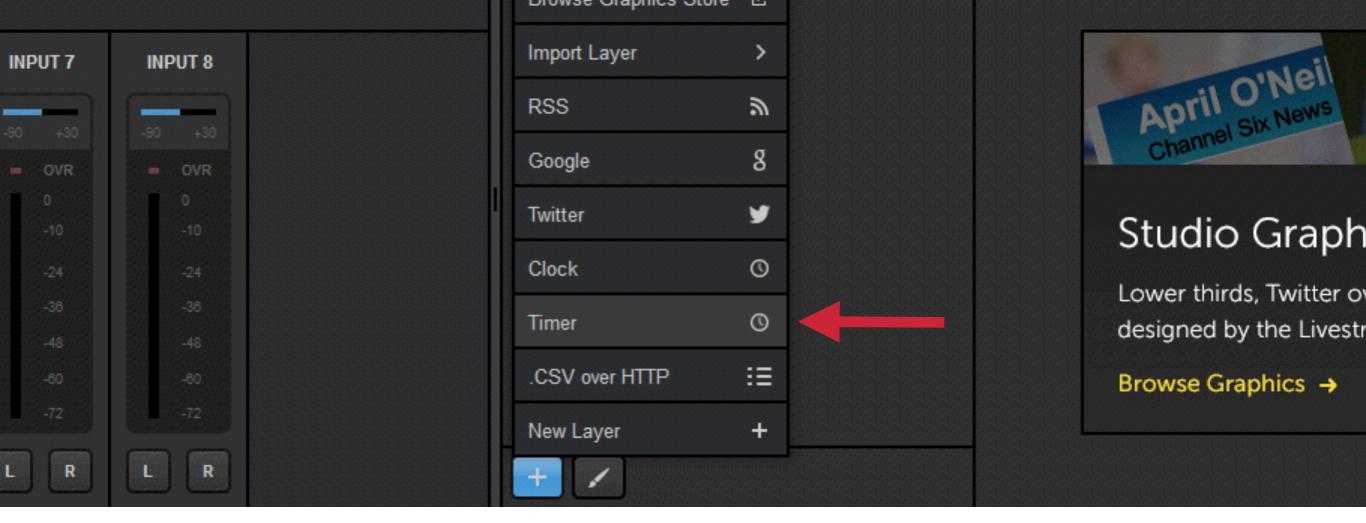
Click the eye icon to ensure the clock layer is visible when you want to include it in your production.



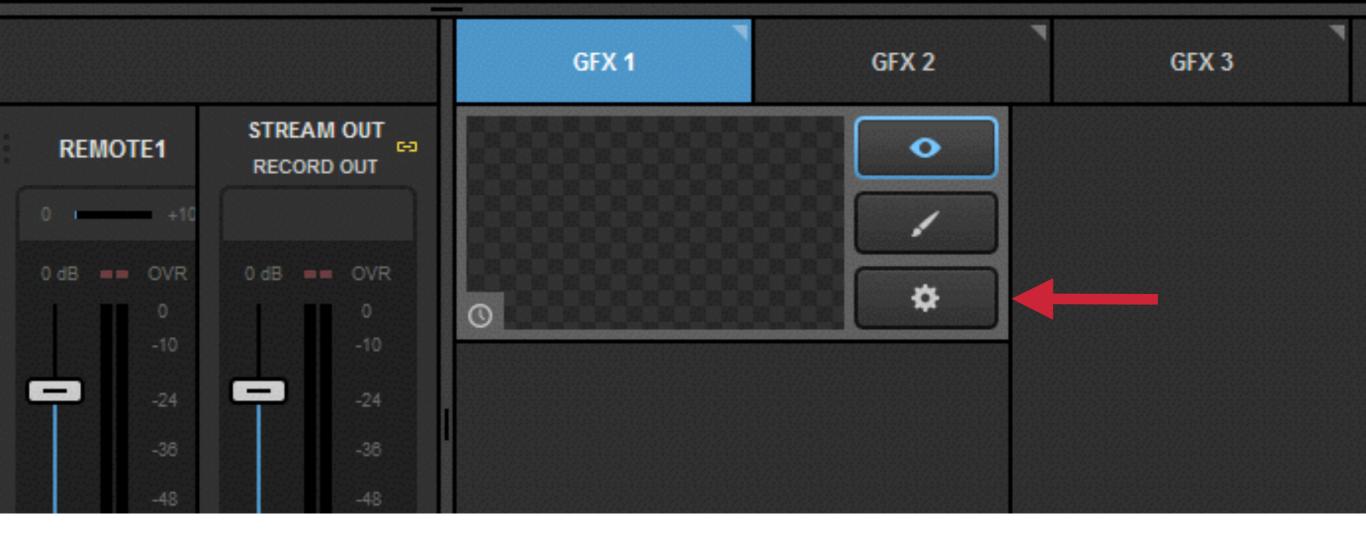
## Adding graphics overlays

Timer





To integrate a countdown or timer overlay into your production, select 'Timer' in the graphics overlay channel.

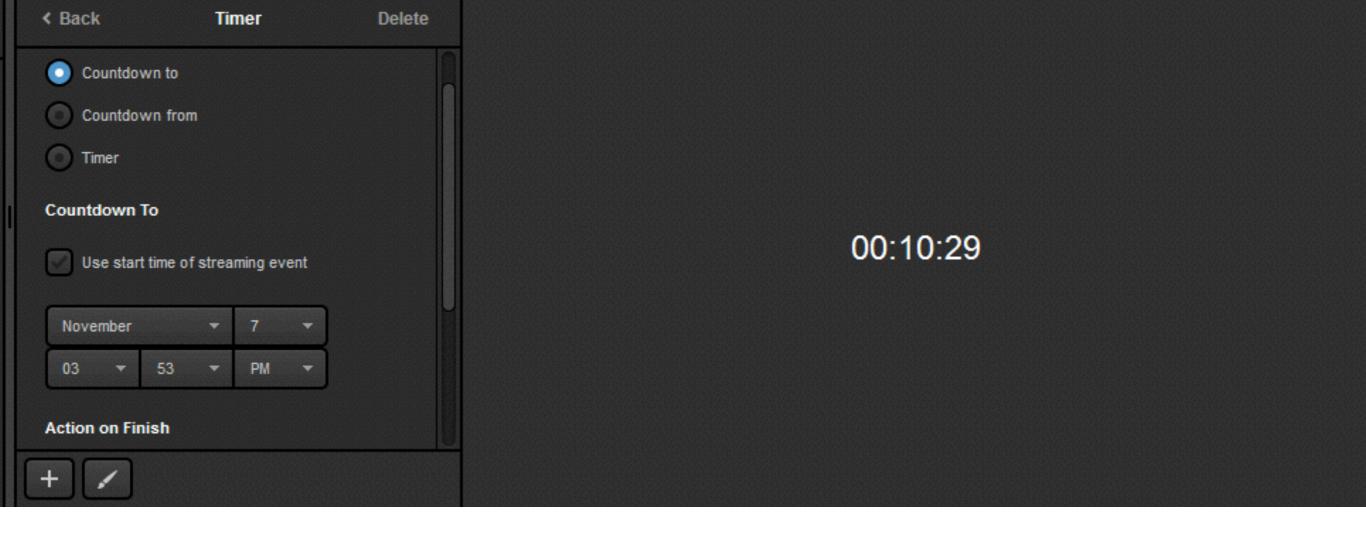


## Click the gear wheel icon to enter that layer's settings.

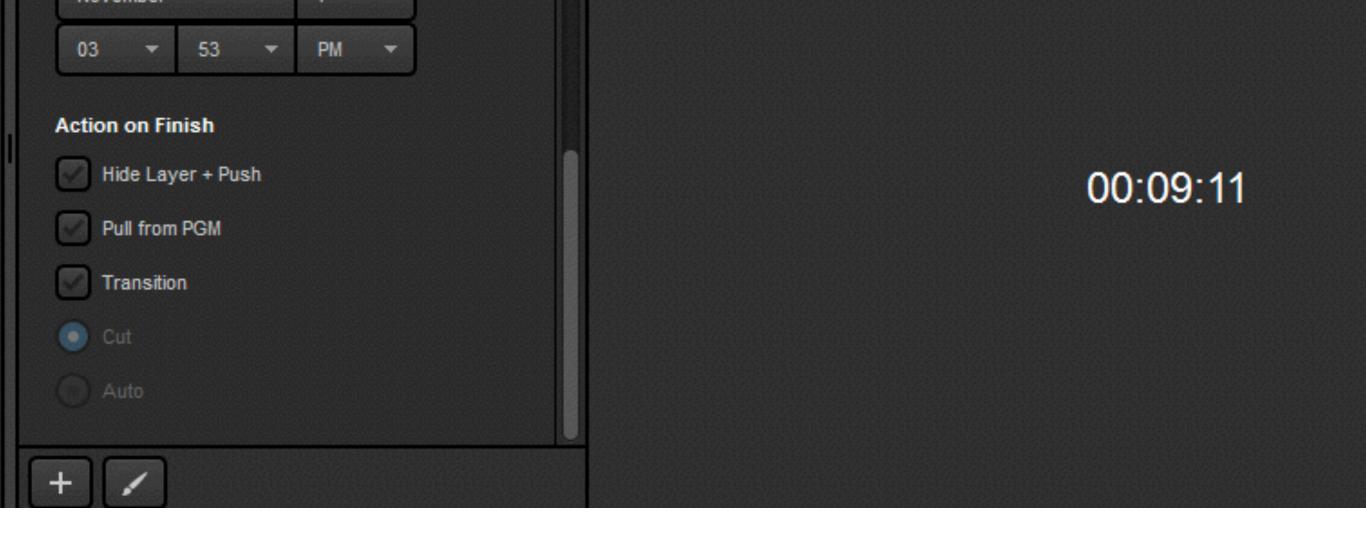
< Back	Timer	Delete
Count Type		Π
Countdown to		
Countdown from		
Timer		
Countdown To		
Use start time of	streaming event	
November	▼ 8 ▼	
03 🔻 41	▼ PM ▼	
+ /		

The settings for that layer will appear on the left side, with the reflected timer displaying on the right.

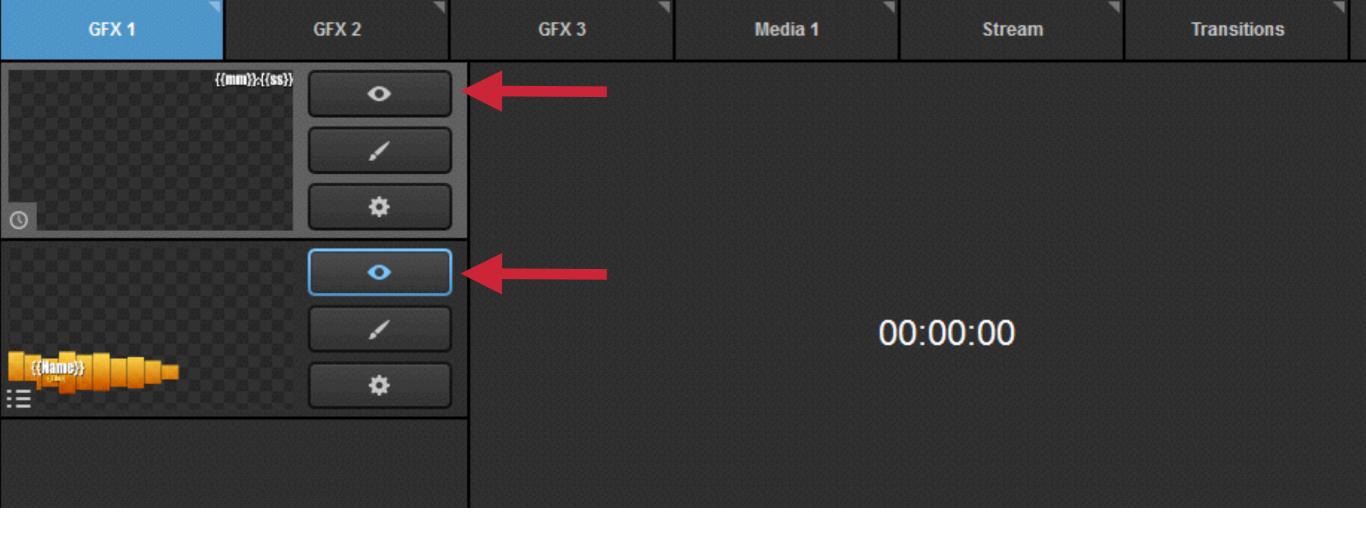




'Countdown to' allows you to set a specific time and date for when the countdown should end. The countdown will update on the right side.



Below the time/date setting are options for what the graphics overlay should do when the countdown completes.



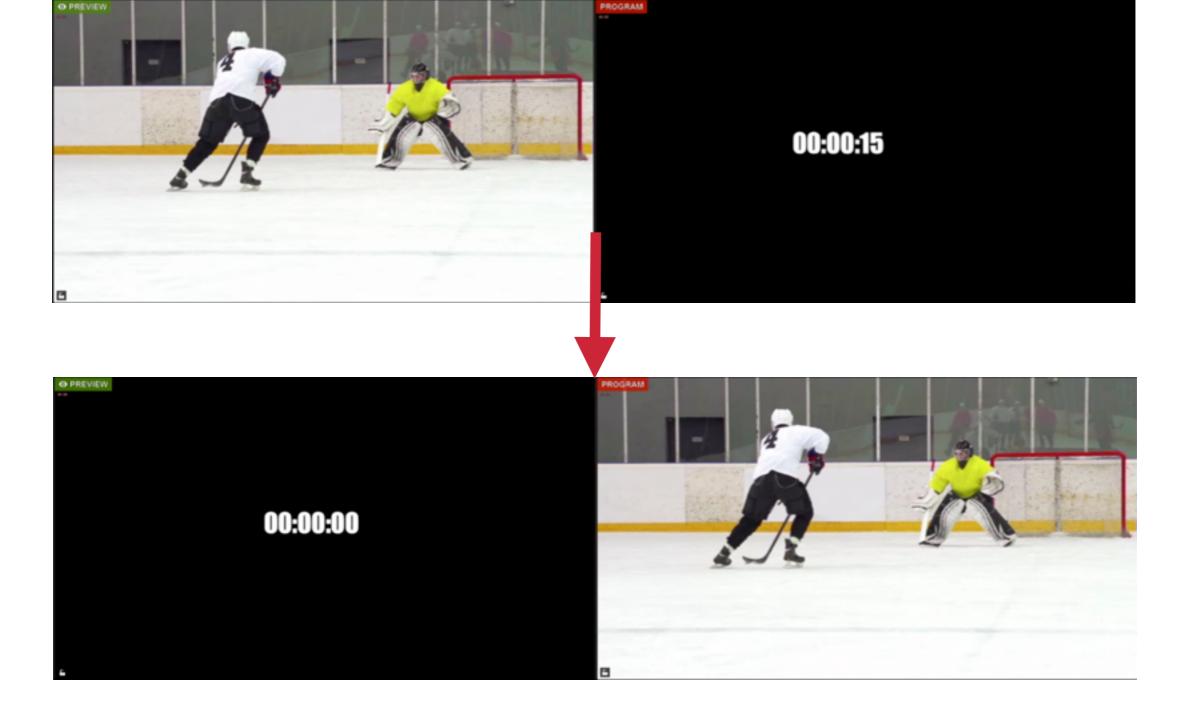
'Hide Layer + Push' will keep GFX 1 in Program, but remove the timer GFX layer from being visible. Other layers in GFX 1 will remain in Program.



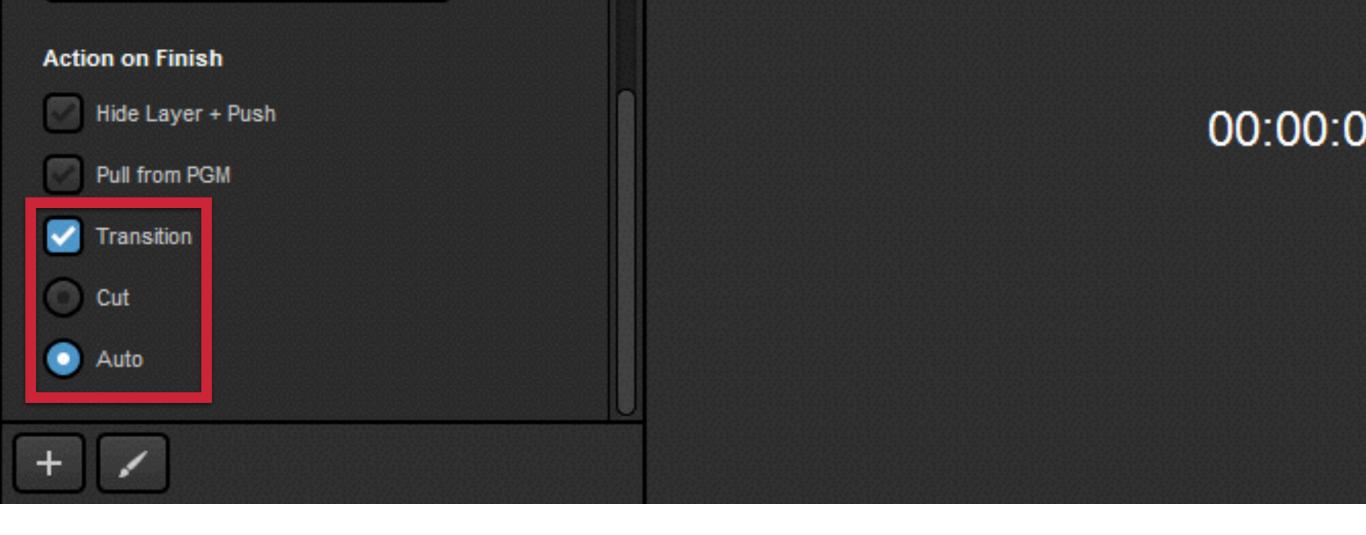


'Pull from PGM' will pull all layers under that GFX channel from Program when the countdown ends.





'Transition' can be used when the GFX channel is cued as a source (not an overlay). It will take the Preview source once the countdown ends.



The transition type can be selected in the settings for that GFX layer.

**live**stream



Leaving all options unchecked will keep the completed countdown graphic in Program.



	< Back	Timer	Delete
8	Count Type	to	Î
+30	O Countdown	from	
	Countdown From	m	
	Format		l l
	hh:mm:ss		
	00:00:10		
R	START	S	тор
	tte		

The next option is 'Countdown from,' where you set the time that the countdown will start.



+30		
OVR	O Timer	
)		
4	Countdown From	
4 10 14		
	Format	00
24	O hh:mm:ss	
38	O mm:ss	
48	00:00:10	
60	00.00.10	
72	START STOP	
R	+	

The format of this countdown can either be hours:minutes:seconds, or minutes:seconds.



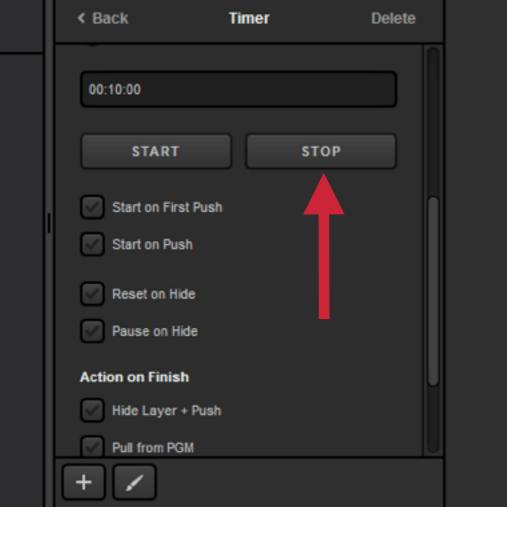
< Back	Timer	Delete
00:10:00		
START	s	тор
Start on First Push		
Start on Push		
<ul><li>Reset on Hide</li><li>Pause on Hide</li></ul>		

Type in the time you want to count down from. Clicking 'Start' will begin the countdown manually.



I	< Back	Timer	Delete
	00:09:51		
	PAUSE		STOP
	Start on First Pus	h	
ľ	Start on Push		
	Reset on Hide		
	Pause on Hide		
	Action on Finish		l
	💎 Hide Layer + Pus	h	
	Pull from PGM		
	<b>HC</b>		

Click 'Pause' if you want the countdown to stop but stay at the current time, allowing you to resume from that point.



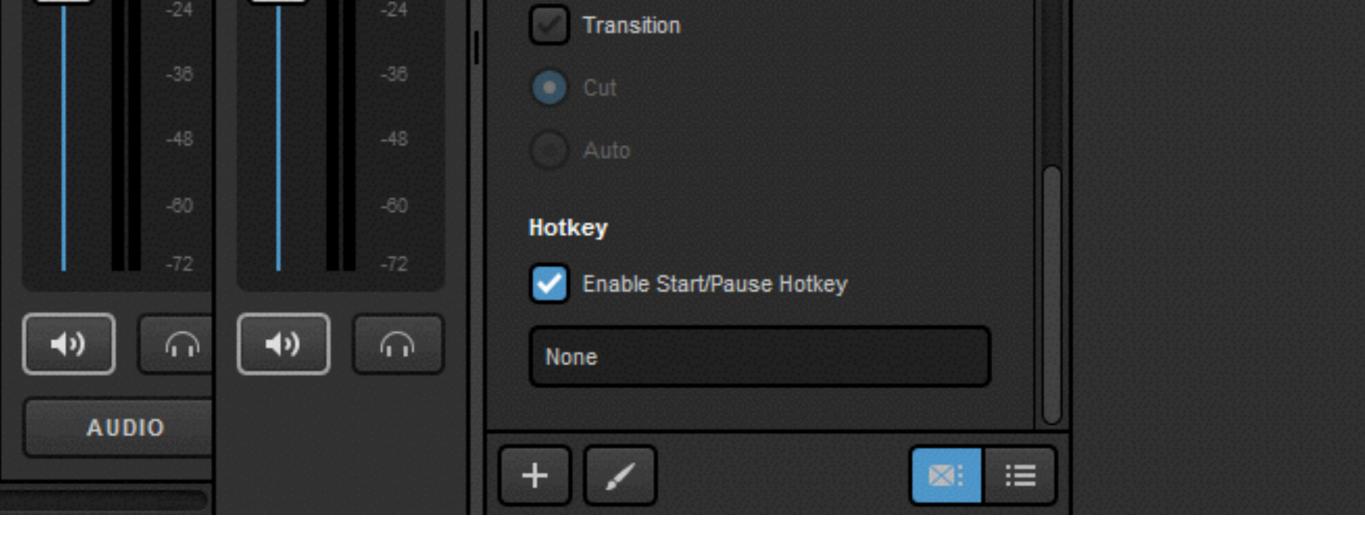


Clicking 'Stop' will both stop the countdown and reset it to the beginning.



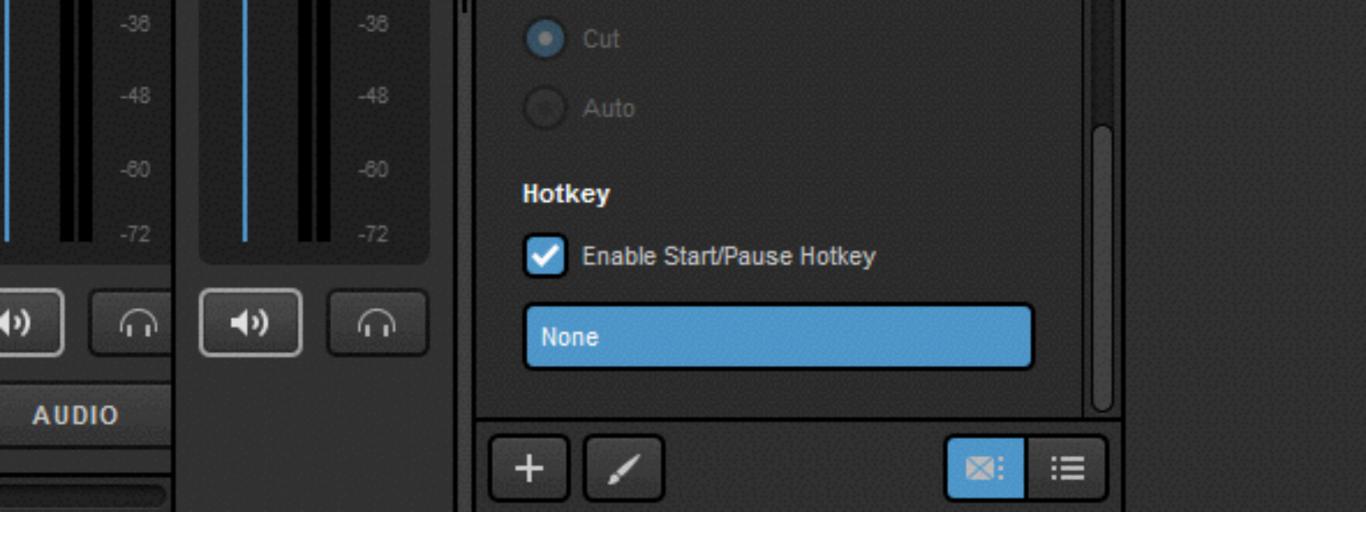
< Back	Timer	Delete		
Start on First Push				
Start on Push				
Reset on Hide				
Pause on Hide				
Action on Finish			0	0:10:00
Hide Layer + Push				
Pull from PGM				
Transition				
💿 Cut				
Auto				
+ /				

Below the Start and Stop options, there are options for what the clock should do when pushed, pulled, or finished.



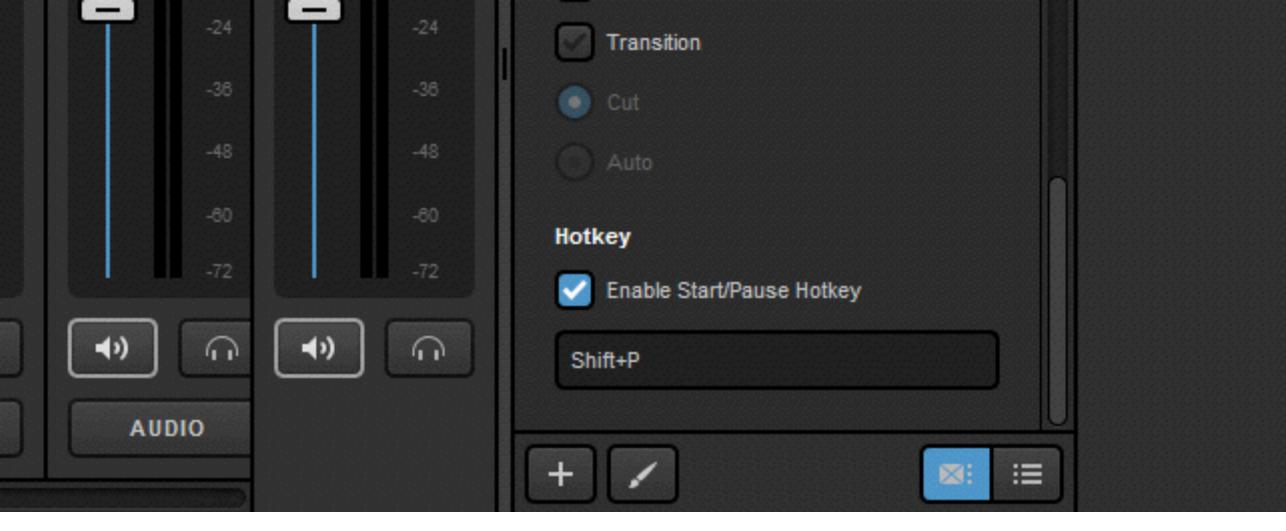
Scroll down further in the layer settings to find the hotkey option. Click the checkbox to enable it.





Click on the box that reads 'None.' This will highlight it blue.





Once it is blue, use the buttons on your keyboard to create a hotkey (e.g., Shift+P)

Note: It cannot be a hotkey command that already has an action in Livestream Studio assigned to it.



Now you can push your countdown graphic to Program like normal.



0 +10		Countdown From	
0 dB == OVR	0 dB == OVR	Format	
0 -10	-10	hh:mm:ss	
-14	-10 -14	O mm:ss	
-24	-24	C	
-36	-38	01:44	
-48	-48	START STOP	
-60	-60		
-72	-72	Start on First Push	
		Start on Push	

Instead of pressing the buttons in the GFX module, you can use your keyboard to quickly and easily pause and continue your clock.

< Back	Timer	Delete
Count Type		$\square$
Countdown to		
Countdown from		
Timer		
Timer Controls		
Format		
hh:mm:ss		μ
o mm:ss		
00:00:00		
+		
00:00:00		

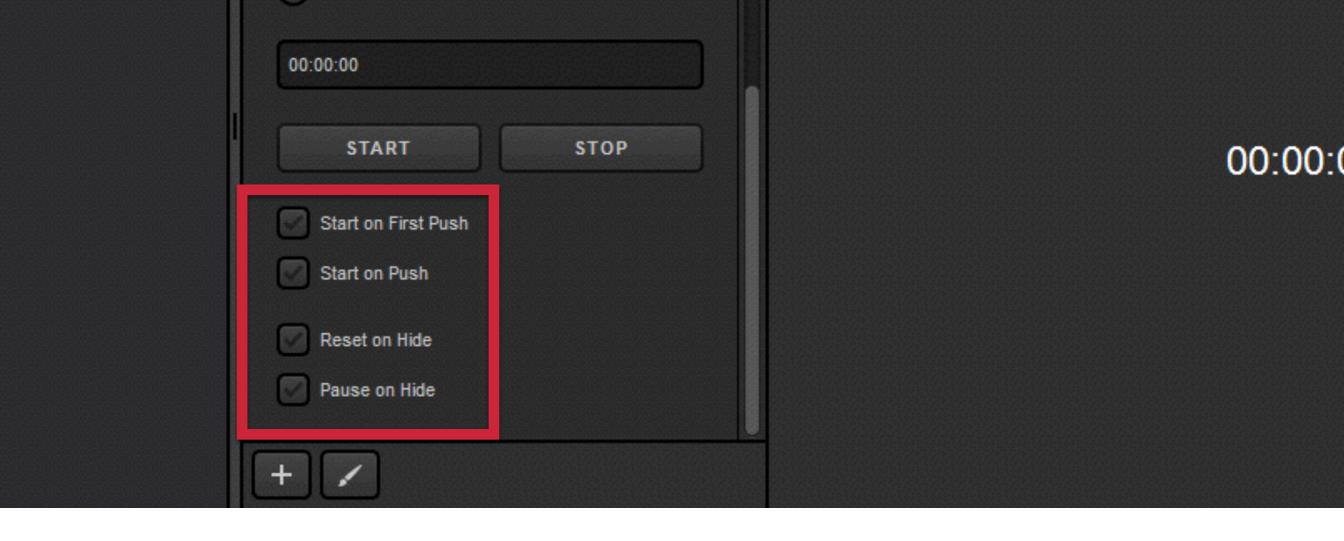
The last option for this layer is 'Timer,' which gives you a clock that counts up from zero.



	< Back Ti	ïmer	Delete
	Timer Controls		
	Format		
	hh:mm:ss		
	o mm:ss		
I	00:00:00		
	START	STOP	
	Start on First Push		

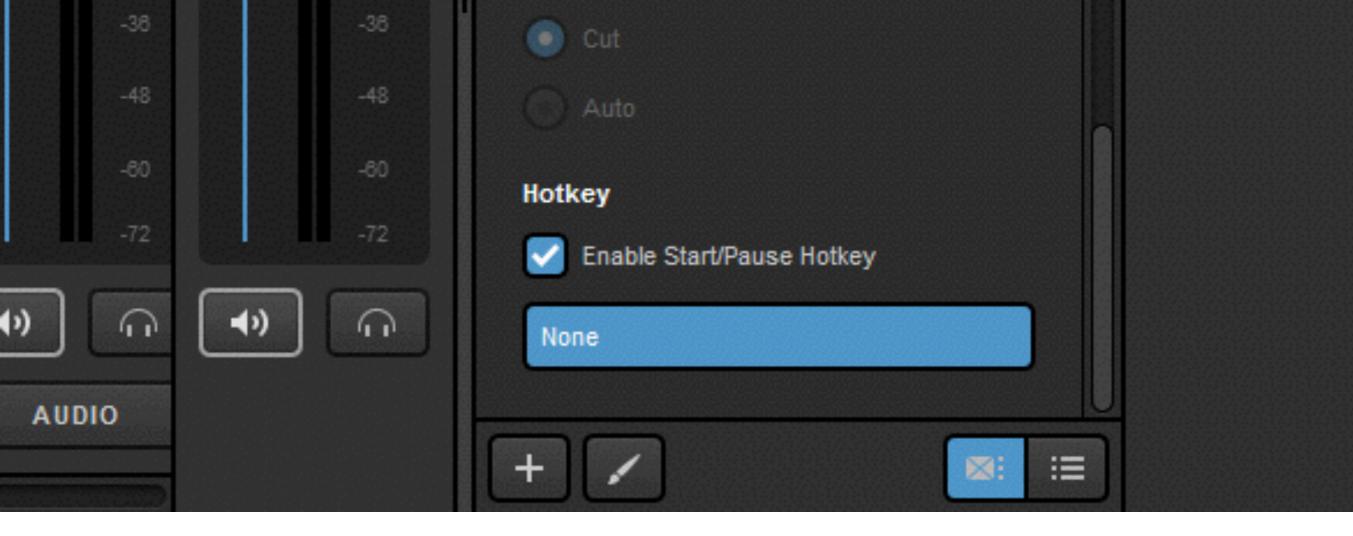
As with the 'Countdown from' option, you can set the format and start and stop the timer.





Below these controls are the actions the graphic will take when first pushed to and pulled from Program.





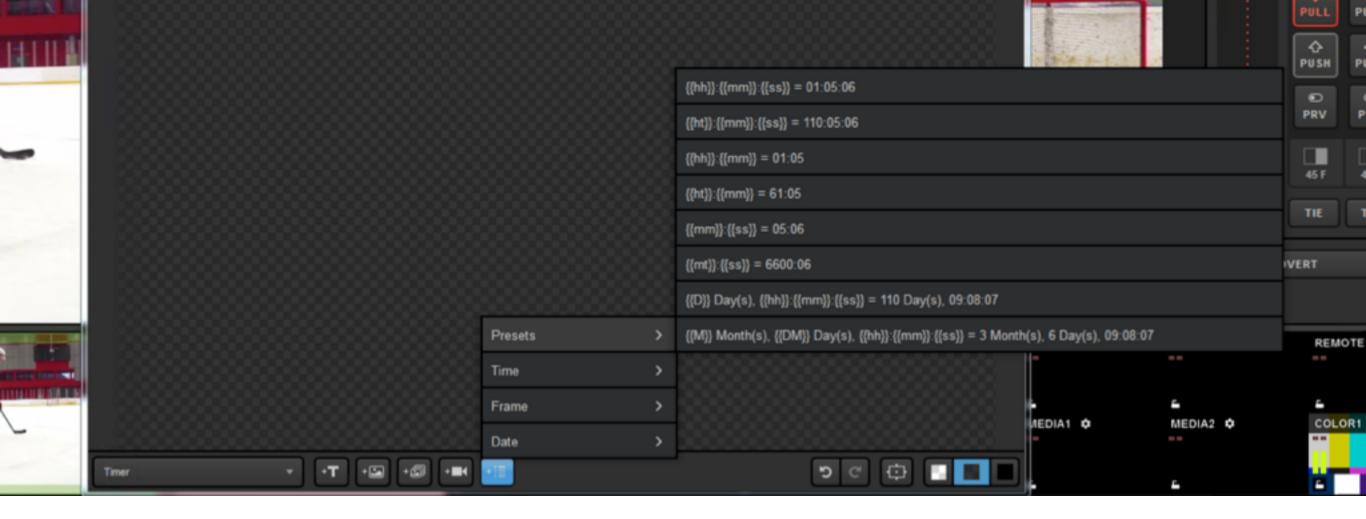
The Timer also includes the ability to add a hotkey command for pausing and resuming.





With any of the three options, be sure to click the paintbrush icon to enter the GFX Designer.





In the Timer layer, click on the list icon to add time fields. Check the presets first, as this may save time in designing the graphic.



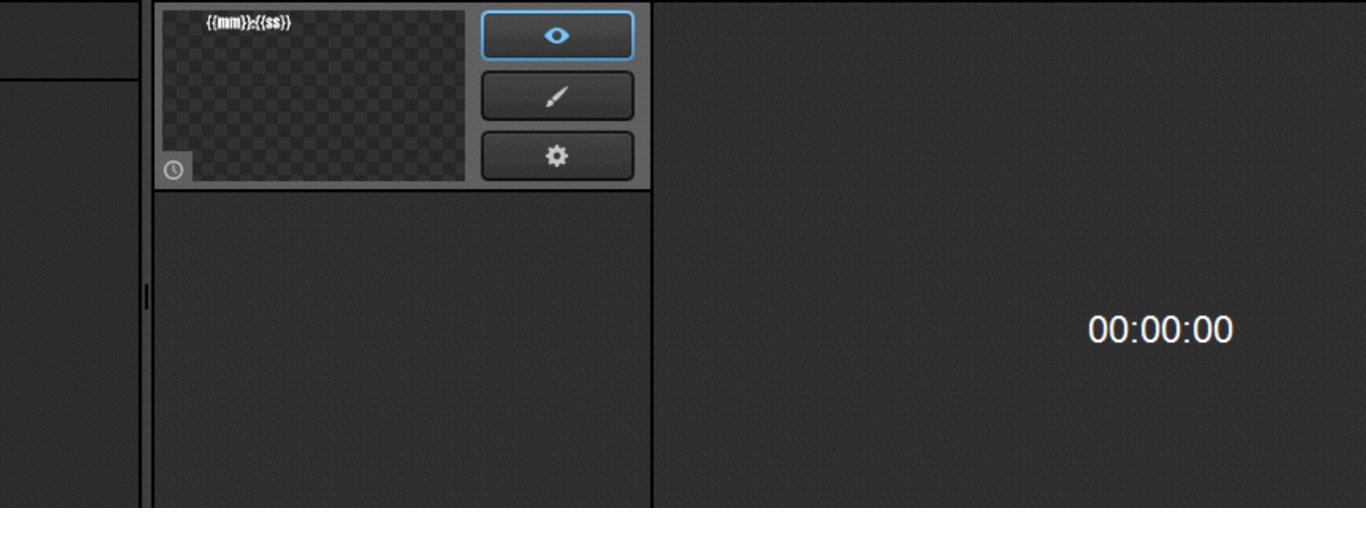
	I GFX 1 Designer	A STATE AND A STATE AND A
	{{mm}}:{{ss}}	19- Contraction of the second se
	Arial  FoxT FoxT FoxT FoxT FoxT FoxT FoxT FoxT	
CAM2 O	HOR AUGH HOR AUGH Standard Casing ↓ Standard Casing ↓ SHADOW 5 5 5 5 5	GFX3 ¢
	x v suur couor BORDER Outside 1 0000 BOSITION SUZE COUOR BOX SETTINGS	MEDIA1 ¢
1 Remote Cam 2	Timer * +T +S +S +H +E	1 Media 2

Click the gearwheel to customize how the clock looks.

GFX 1	GFX 2		GFX 3	Media
	Timer	Delete		
Format <ul> <li>hh:mm:ss</li> <li>mm:ss</li> </ul>				
00:00				
START	STOP			

When finished, close out of the GFX Designer, then click 'Back' in the graphics layer settings.





Your timer graphic can now be made visible and pushed to Program when desired.



## Adding graphics overlays

.CSV over HTTP



Import Layer	,	Γ	
RSS	٣		April O'Neil Channel Six News
Google	8		Channel Six News
Twitter	y		
Clock	0		Studio Graphics
Timer	O		Lower thirds, Twitter overlay
.CSV over HTTP	∷≡		designed by the Livestream S
New Layer	+		Browse Graphics →
+ /			

If you are hosting a .CSV file on a web server, you can use the data in Livestream studio by selecting '.CSV over HTTP.'

GFX 1	GFX 2	GFX 3	Media 1	Stream	Tran
< Back	CSV Delete				
URL			٢	<b>Jo data</b>	
+ /					

If your file requires authentication in order access it, check 'Basic Authentication' and enter your credentials.



GFX 1	GFX 2	GFX 3	Media 1	Stream	Transitions
< Back	CSV Delete				
URL com/LivestreamStudio/LSC Please enter URL Basic Authentication Auto advance data inter 30 seconds CSV Settings			N	lo data	
+ 🖍					🔶 AU

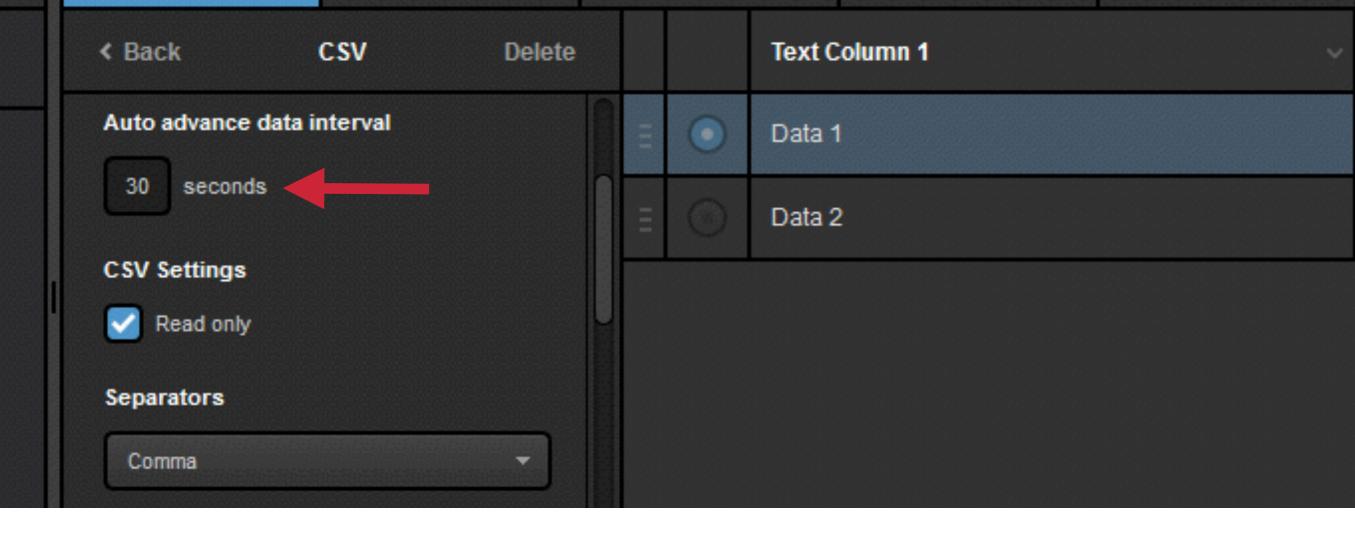
In the settings, input the URL where the .CSV file is located, then press 'Enter' on your keyboard.



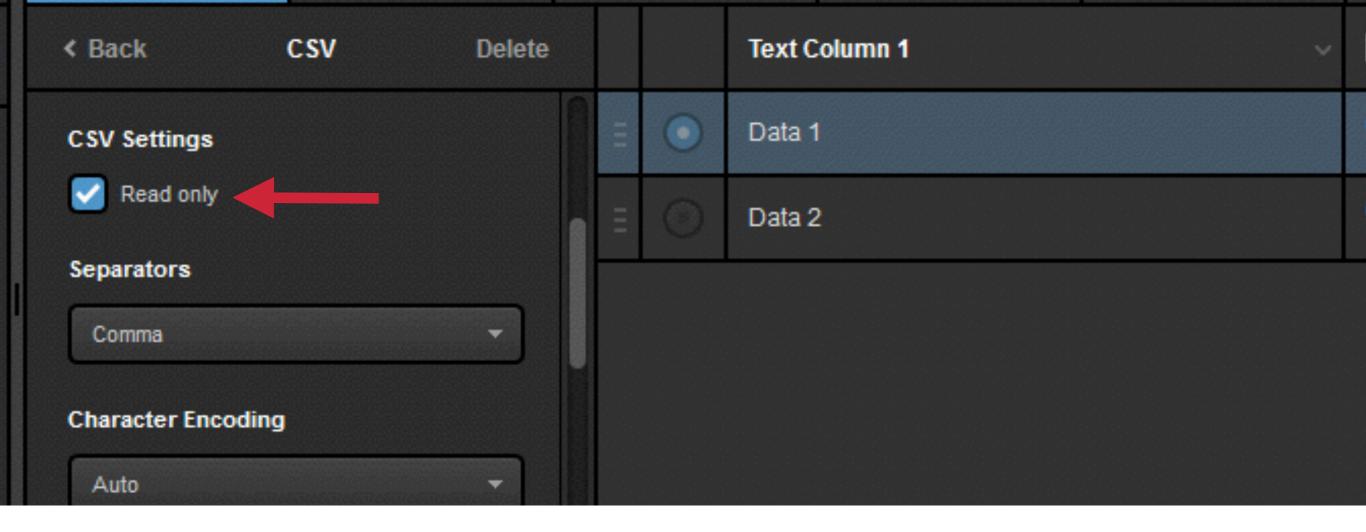
GFX 1 GFX 2	GFX 3	Media 1 Media 2	Stream Transitions >>
< Back CSV Delete		Text Column 1	🗸 🛃 Image Column 1 🗸 🗸 🗸
URL	•	Data 1	Google
http://cdn.livestream.com/LivestreamStudio/L		Data 2	Google
Basic Authentication			
Auto advance data interval			
30 seconds			
CSV Settings			
Read only			

Your data will populate on the right with further settings becoming available on the left.

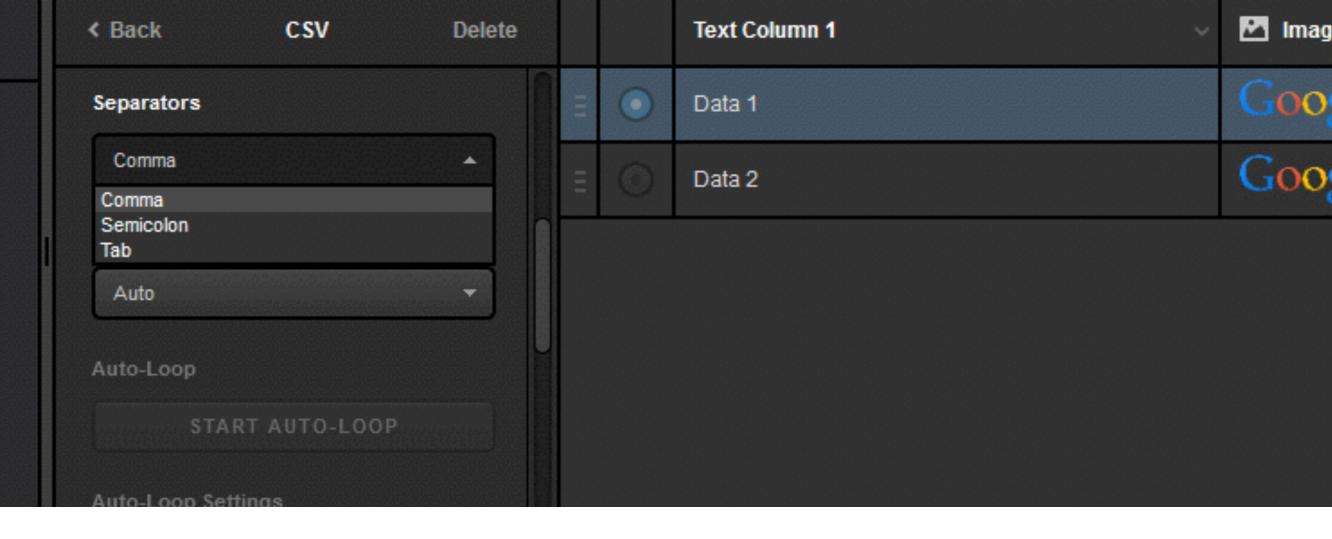




Set the amount of time in seconds that Livestream Studio should refresh and look for new data in your .CSV under 'Auto advance data interval.'



If you want to make changes to your .CSV via Livestream Studio, uncheck 'Read only.' Otherwise, leave it checked.



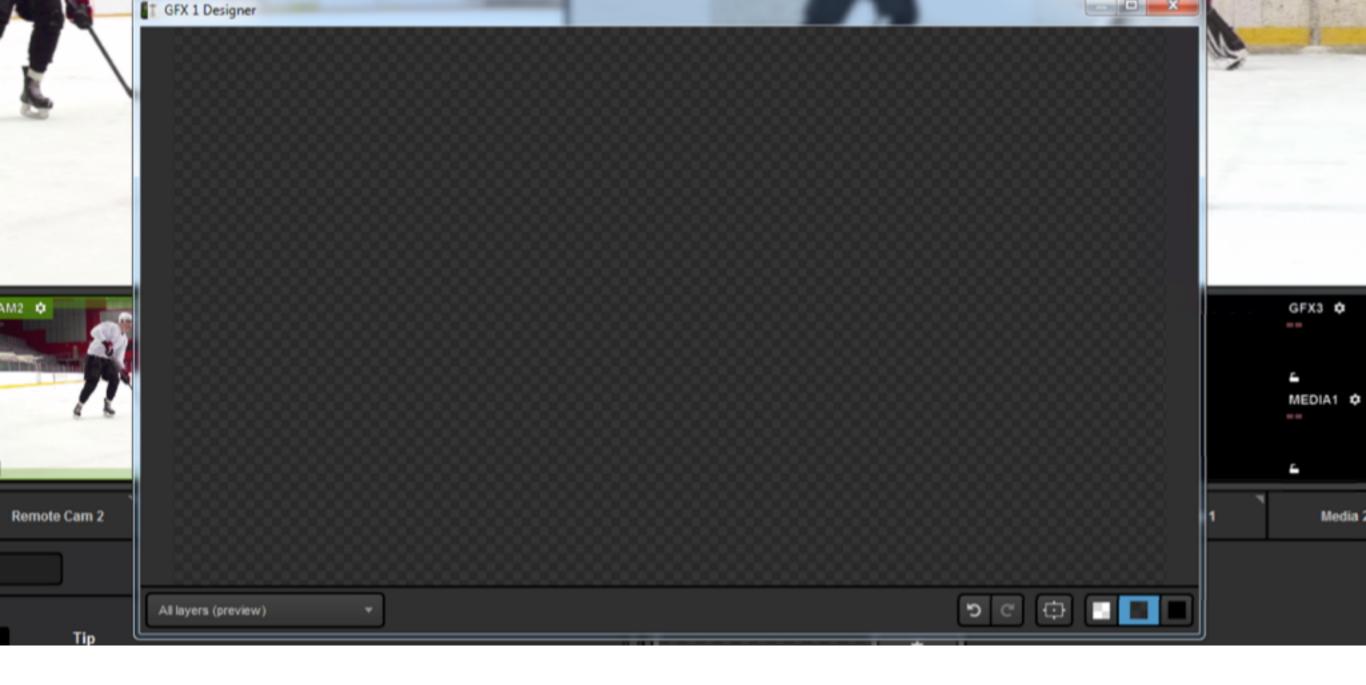
Scroll down to tell Livestream Studio what your column separators are and the types of characters being used (typically auto-detected).



Auto-Loop	-	$\odot$	Data 1	Google
START AUTO-LOOP	E H	0	Data 2	Google
Auto-Loop Settings				
30 second interval between new items				
Start from beginning once end is reached				
Auto-Loop Direction				
Top-to-bottom				
Bottom-to-top				
Auto-Loop Starting Item				
Start from top/bottom				
Start from selected list item	U			

At the bottom are your Auto-Loop settings if you want Livestream Studio to rotate through your .CSV data.





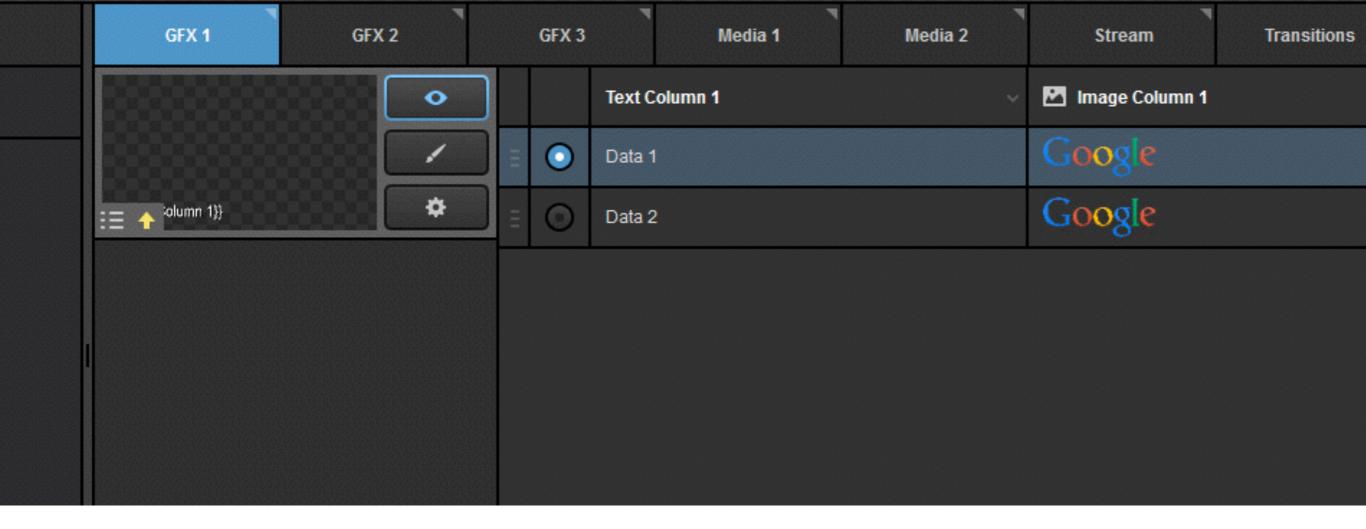
To design the graphic, click the paint brush icon to enter the GFX Designer.

**live**stream

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												Media 1
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) +30	-90						1	Fext Column 1			ata 2	
OVR	-						I	mage Column 1				
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	e	-14		14	-14					<u>.</u>	9	
			4	24				Auto-Loop Direction				
			4	36				Top-to-bottom				
-48		-48		48	-48			Bottom-to-top Auto-Loop Starting Item				

Select the 'CSV' layer from the dropdown and design your graphic as desired.





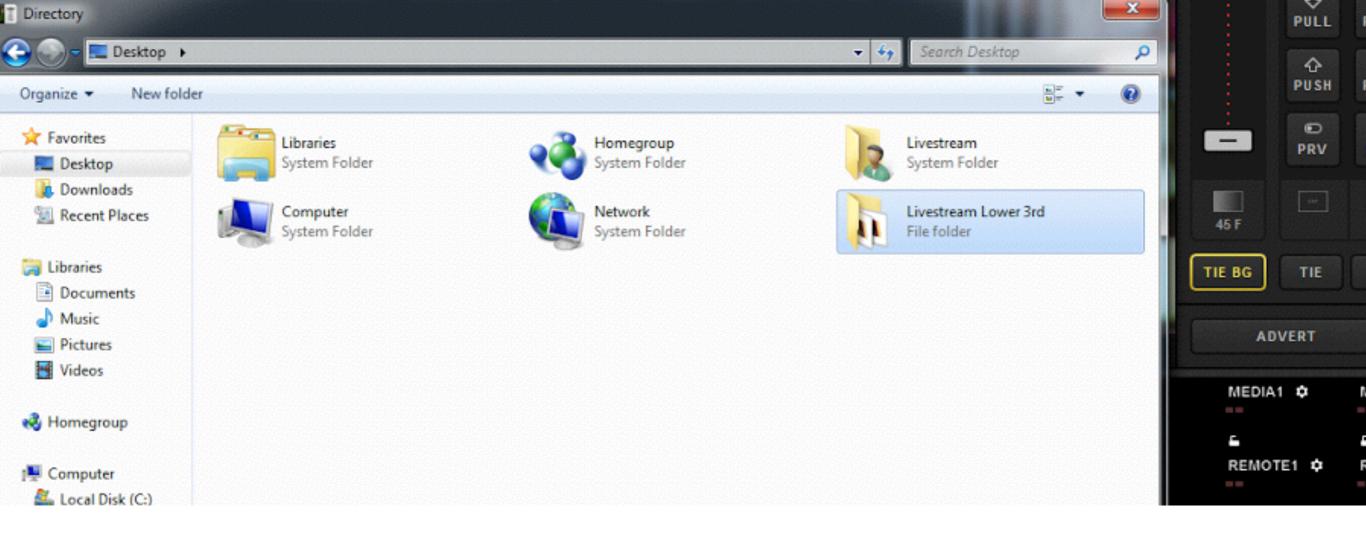
## You can now make it visible and control it using 'PRV,' 'PUSH,' and 'PULL' as desired.



## Adding graphics overlays

Animated graphics



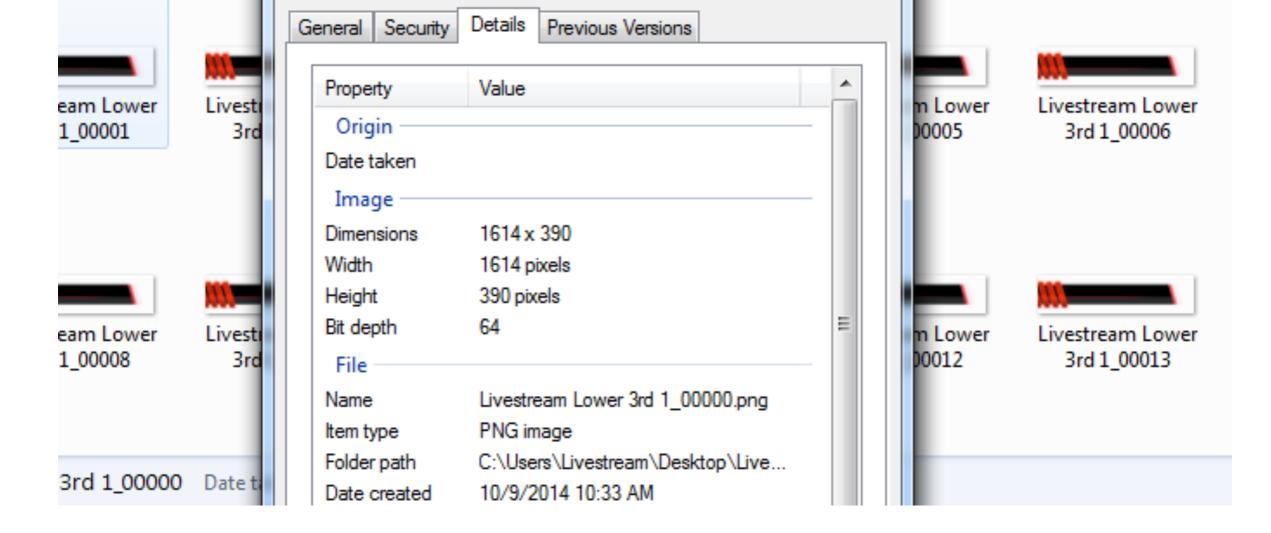


Livestream Studio will accept a folder of images that it will loop through. To keep your images' backgrounds transparent, .PNG files are recommended.

☆ Favorites							ſ
🧮 Desktop							
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Recent Places			····				
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Documents							
J Music							
Pictures							
😸 Videos				<b>***</b>			
輚 Homegroup	Livestream Lower 3rd 1_00007	Livestream Lower 3rd 1_00008	Livestream Lower 3rd 1_00009	Livestream Lower 3rd 1_00010	Livestream Lower 3rd 1_00011	Livestream Lower 3rd 1_00012	Livestream Lower 3rd 1_00013
🖳 Computer							
A Local Dick (C)	Livestrea	m Lower 3rd 1_00000	Date taken: Specify (	late taken	Size: 438 KB		
	PNG imag	_	Dimensions: 1614 x 39		created: 10/9/2014 10:	33 AM	

This feature is best for lower-third graphics and corner bugs. Larger animated graphics, such as backdrops, should come in through a media bin.





Your .PNG files must be less than 1.5 million pixels. To determine a .PNG file's pixels, view that file's properties and multiply the height by the width. For this graphic, which has subtle animations, 1614 x 390 = 629,460 pixels.

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	-72		-72	-72	Timer	0
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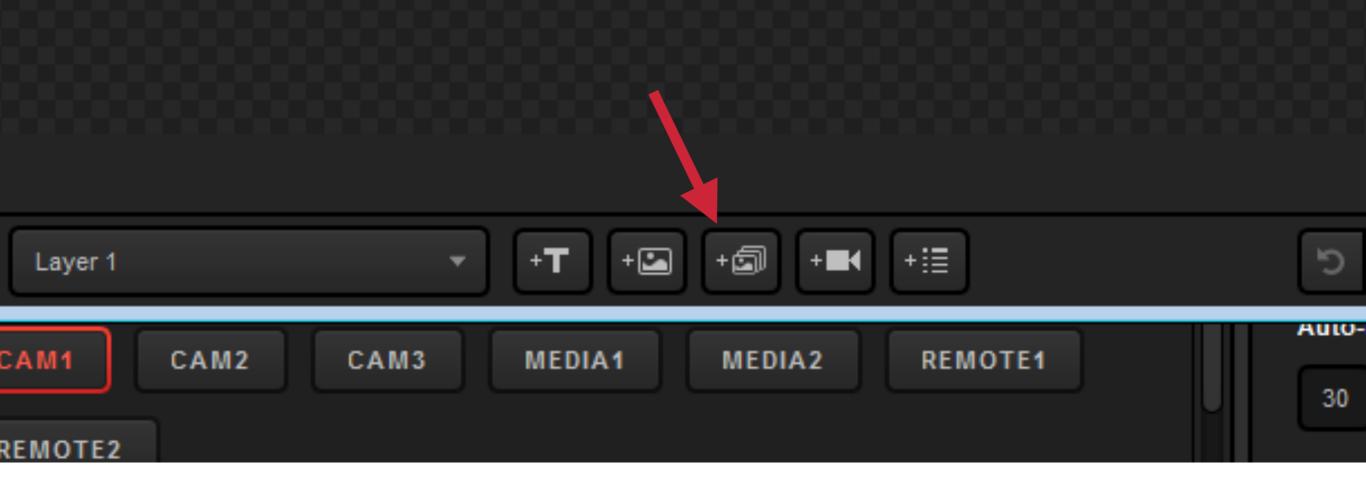
#### **Studio Graphics Store**

Lower thirds, Twitter overlays, scoreboards, designed by the Livestream Studio commun

Browse Graphics →

To add an animated graphic, go to a graphics overlay channel and add a new layer.

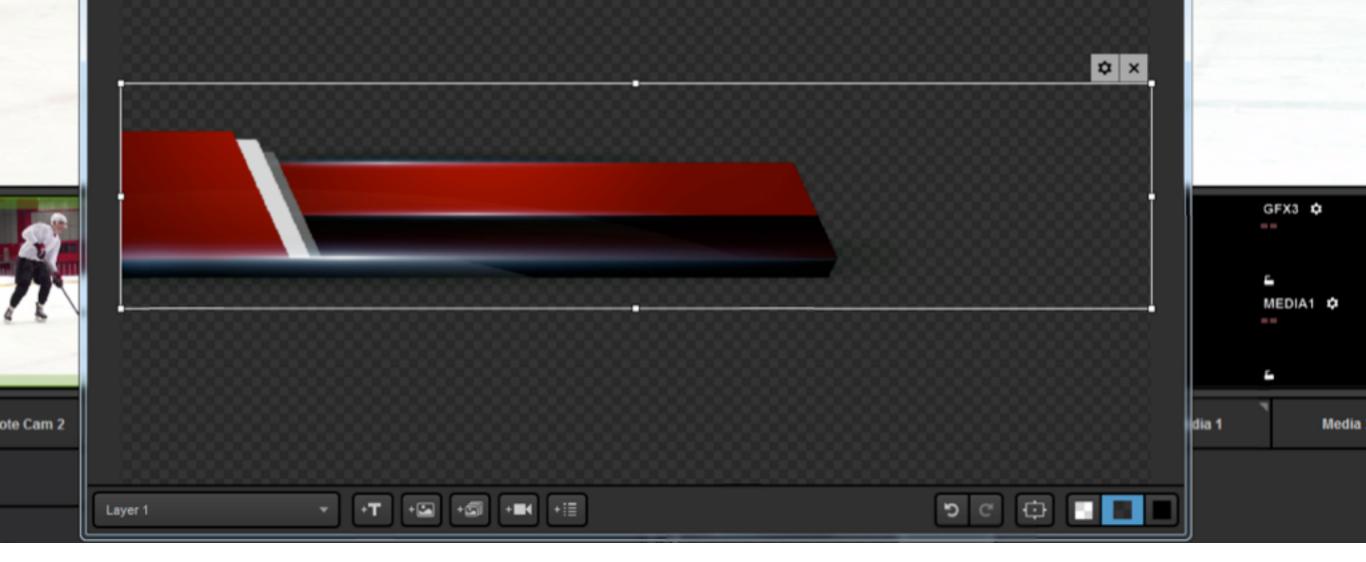




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**live**stream

In the GFX Designer, there is a button in the module to search for a series of images. Click on this button to browse your computer.



Open the folder that has your .PNG files and choose the first file inside that folder. All images in that folder that match your selected file's resolution will then import as a sequence into Livestream Studio.

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From there, designing the graphic follows the same procedure as designing still graphics (adding data fields, etc.).

Layer 1	•			Text 🗸	Text 1		
((Name)) ((Title))	/	111	۲	Tom lannaco	Producer Support		
	\$	111	0	Penalty Shot	New York, N.Y.		
		111	0	Amanda Vicari	Event Co-Founder		
		111	0	Ed Yealu	Event Co-Founder		
		101	0	Kristin McCue	Co-Host		
+ /	:≣		+ ROW	+ COLUMN		AUTO PUSH/PULL	

All other functions of the graphics overlay, including adding data, changing settings, and pushing and pulling the layer are the same as other graphics.





Lower 3rd Main Title Line

SECONDARY DESCRIPTION LINE



LOWER 3RD MAIN TITLE LINE

SECONDARY DESCRIPTION LINE

LOWER 3RD MAIN TITLE LINE SECONDARY DESCRIPTION LINE

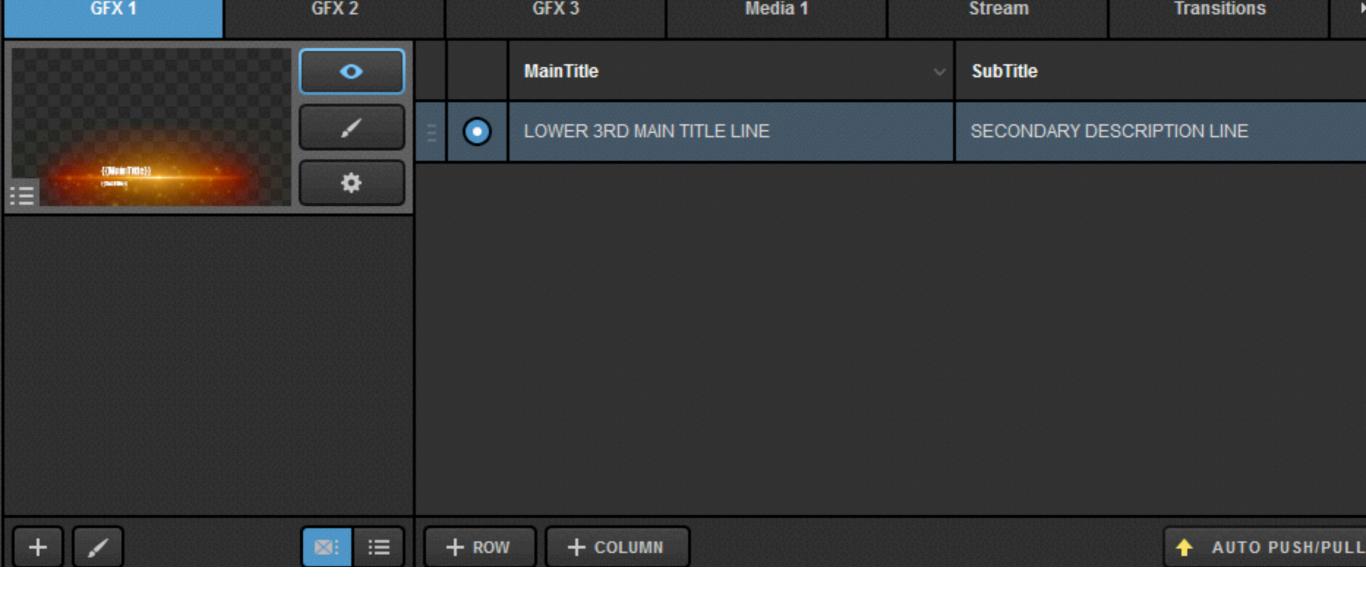
Lower 3rd Main Title Line SECONDARY DESCRIPTION LINE

All the templates above are available for free in the <u>Livestream Graphics Store</u>. Click on the images here to download the .lsgfx files.

This GFX file contains an animated image sequence. Livestream Studio requires its permanent copy on the disk. Please, specify the destination folder to extract the files.

BROWSE	C:\Users\Livestream HD50\Pictures\Livestream Studio Beta\		
		CANCEL	SELECT

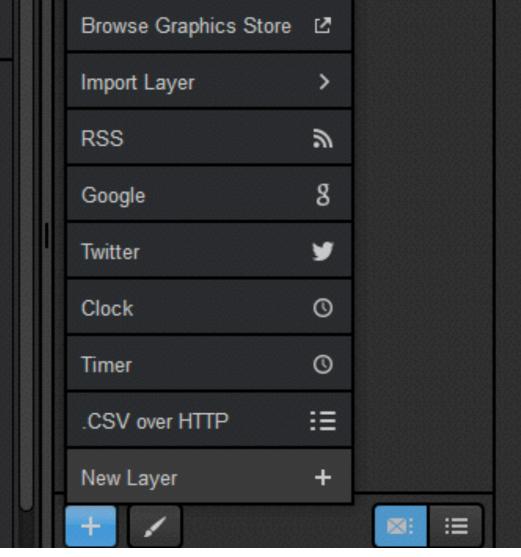
When you import an .lsgfx file that contains an animated graphic sequence, Livestream Studio will prompt you to select where you want to save the file on your computer's hard drive. Choose your destination and then click 'Select.'



The .lsgfx file will load in Livestream Studio and you can edit it in the same fashion as with any any other graphic.









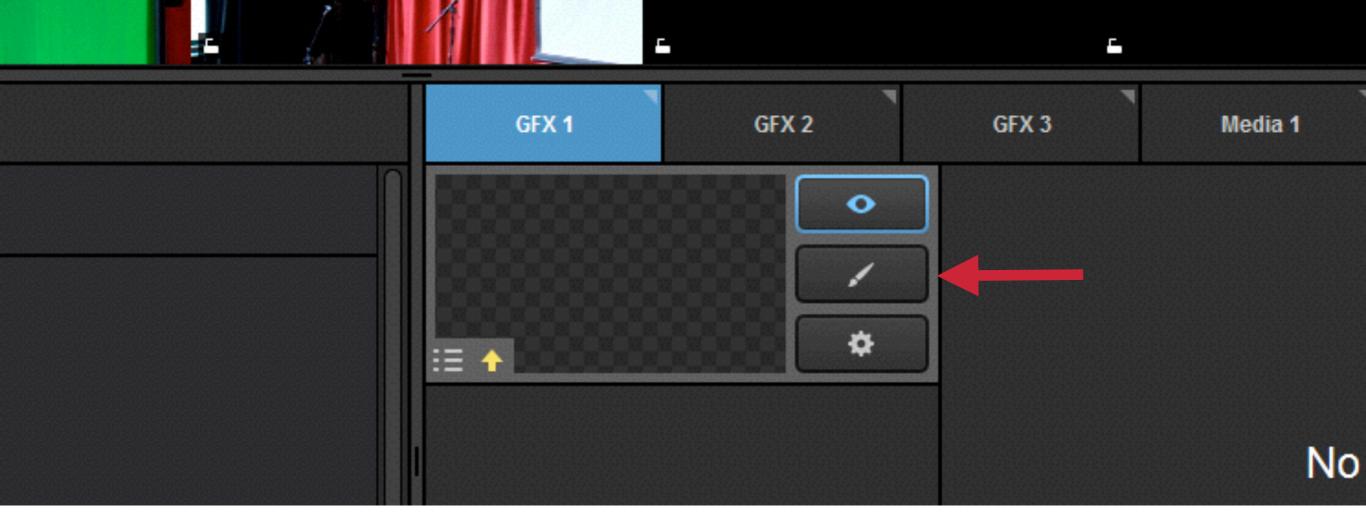
#### Studio Graphics Sto

Lower thirds, Twitter overlays, sco designed by the Livestream Studie

Browse Graphics →

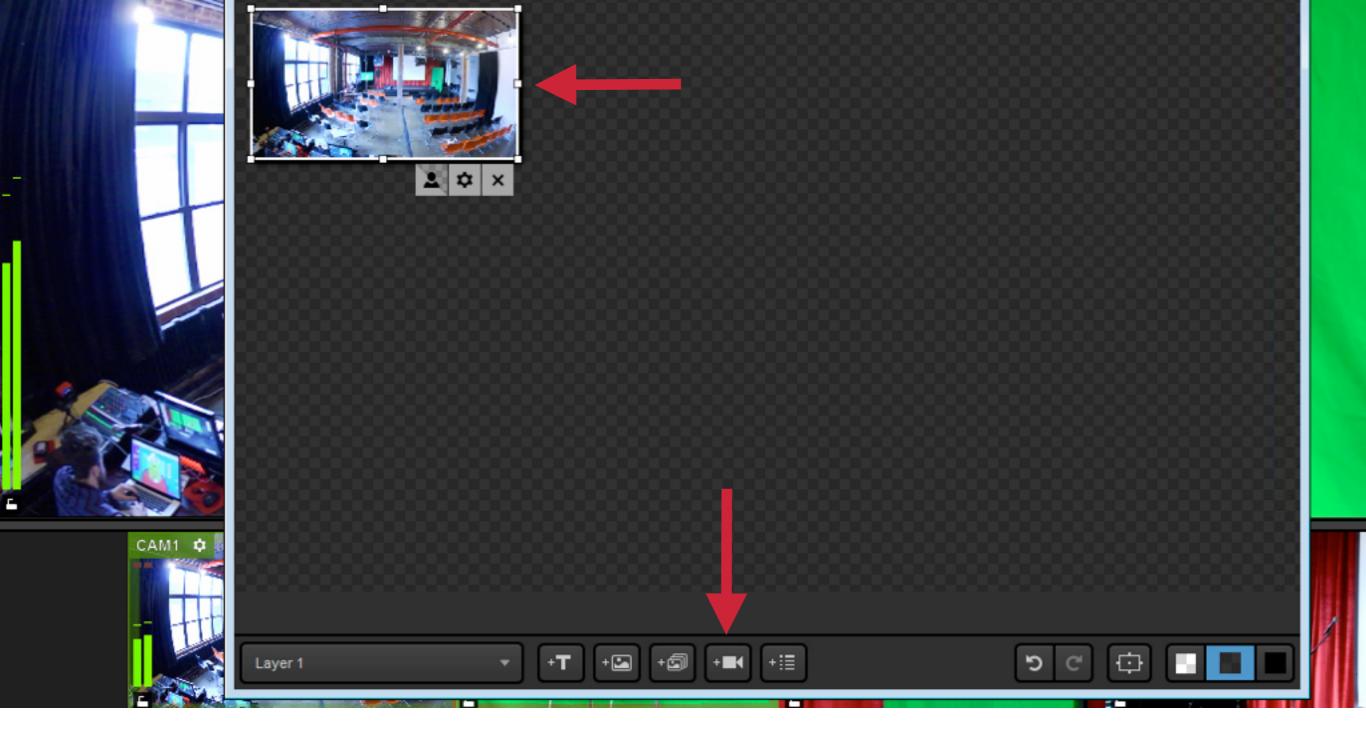
Livestream Studio has the ability to key out colors through the graphics module. Start by adding a new layer to any graphics overlay channel.



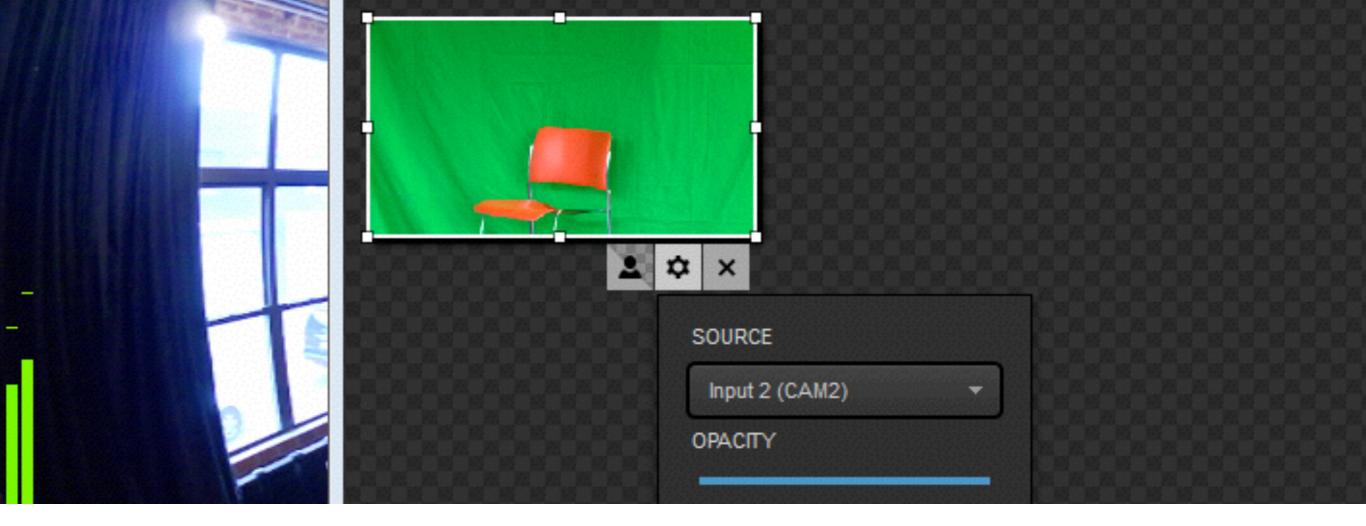


# Click the paintbrush icon to enter the GFX Designer.





Next, click on the camera icon to add an input source to your graphics layer.



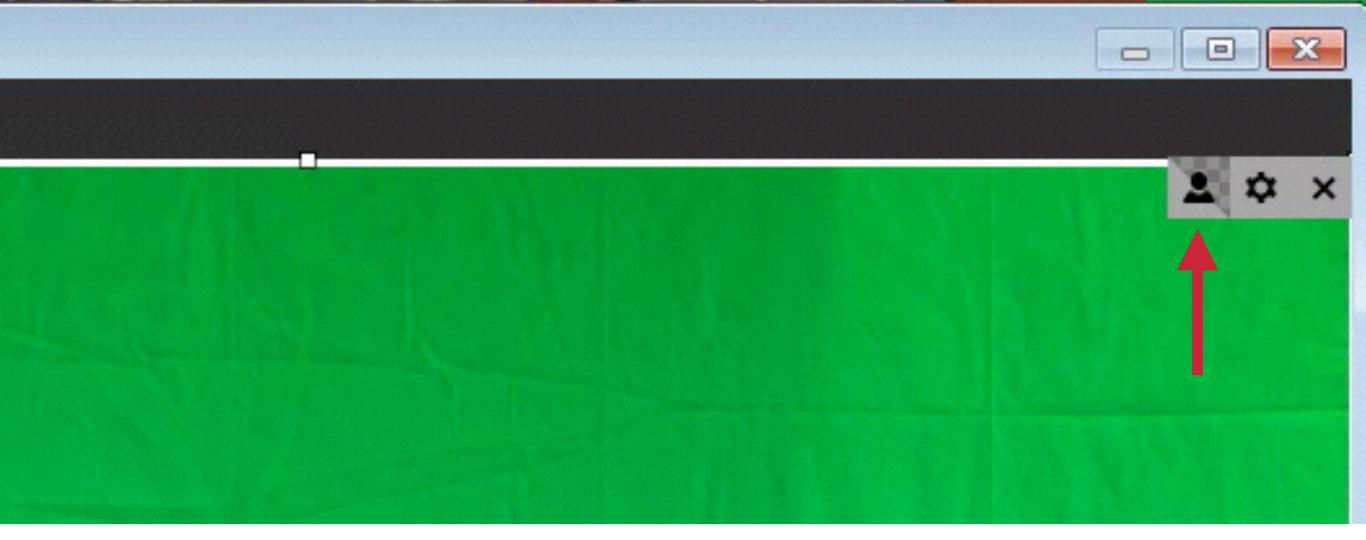
Click the gearwheel to select which input source you want to use for chroma key.





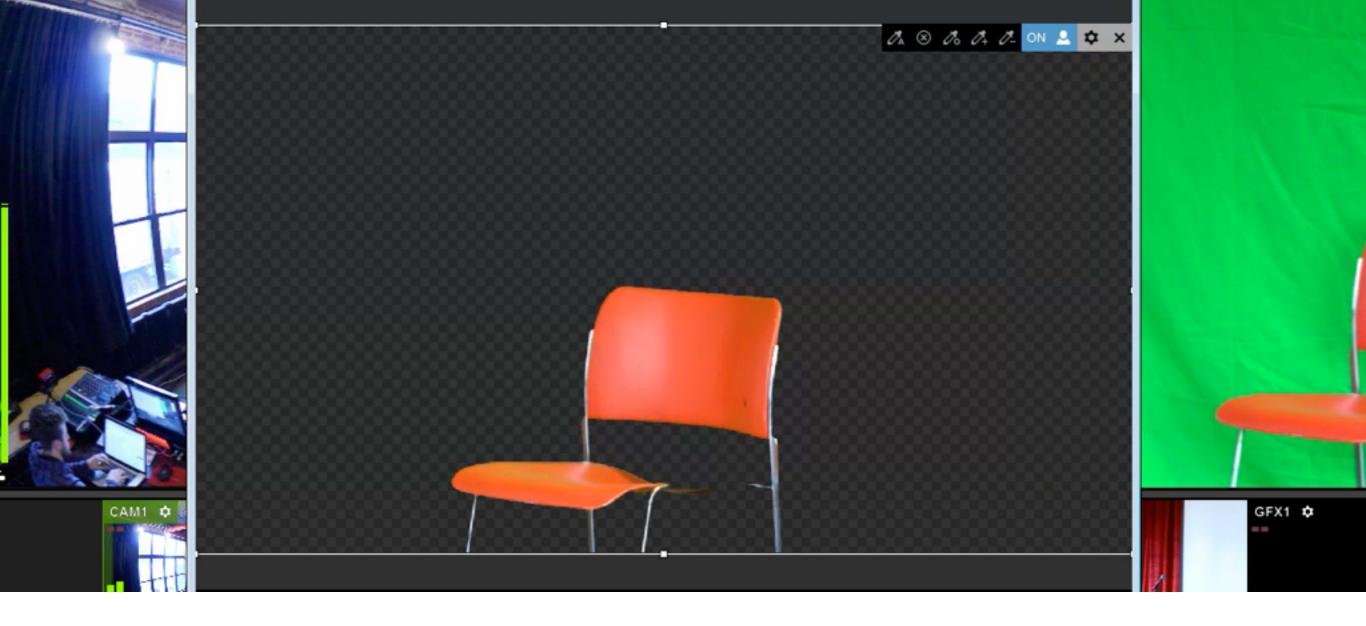
You can adjust how your input source looks inside the GFX Designer as necessary.



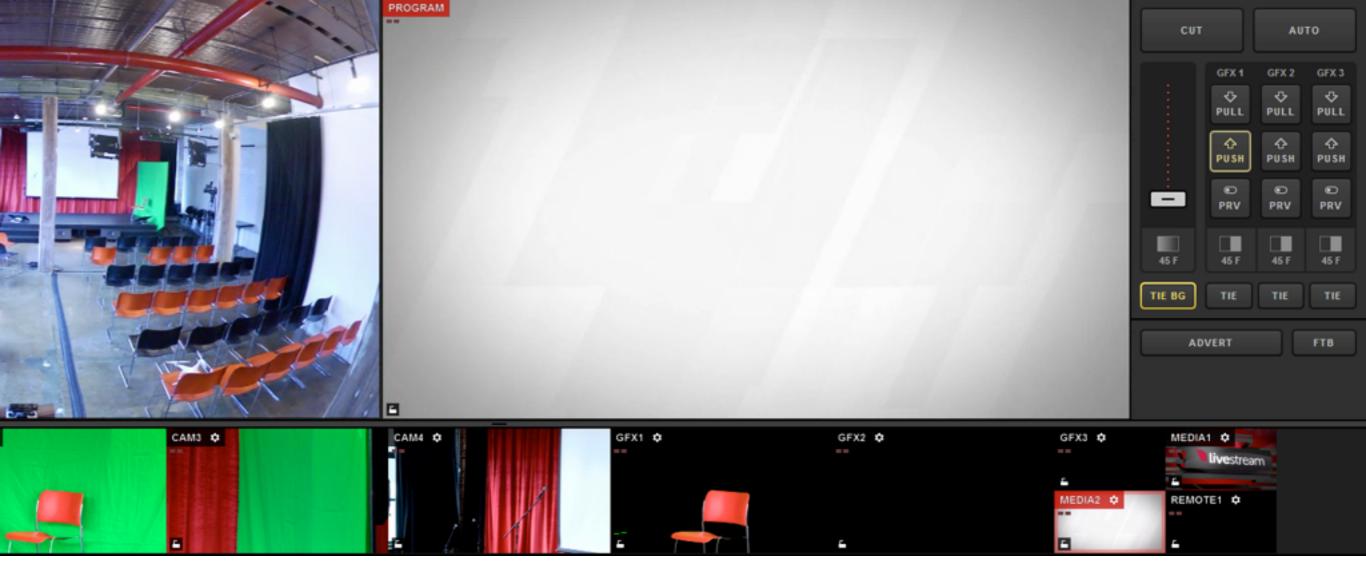


# Click the person icon to turn on chroma key.





Livestream Studio will automatically detect the most prominent color (green in this example) and key it out once chroma key is turned on.

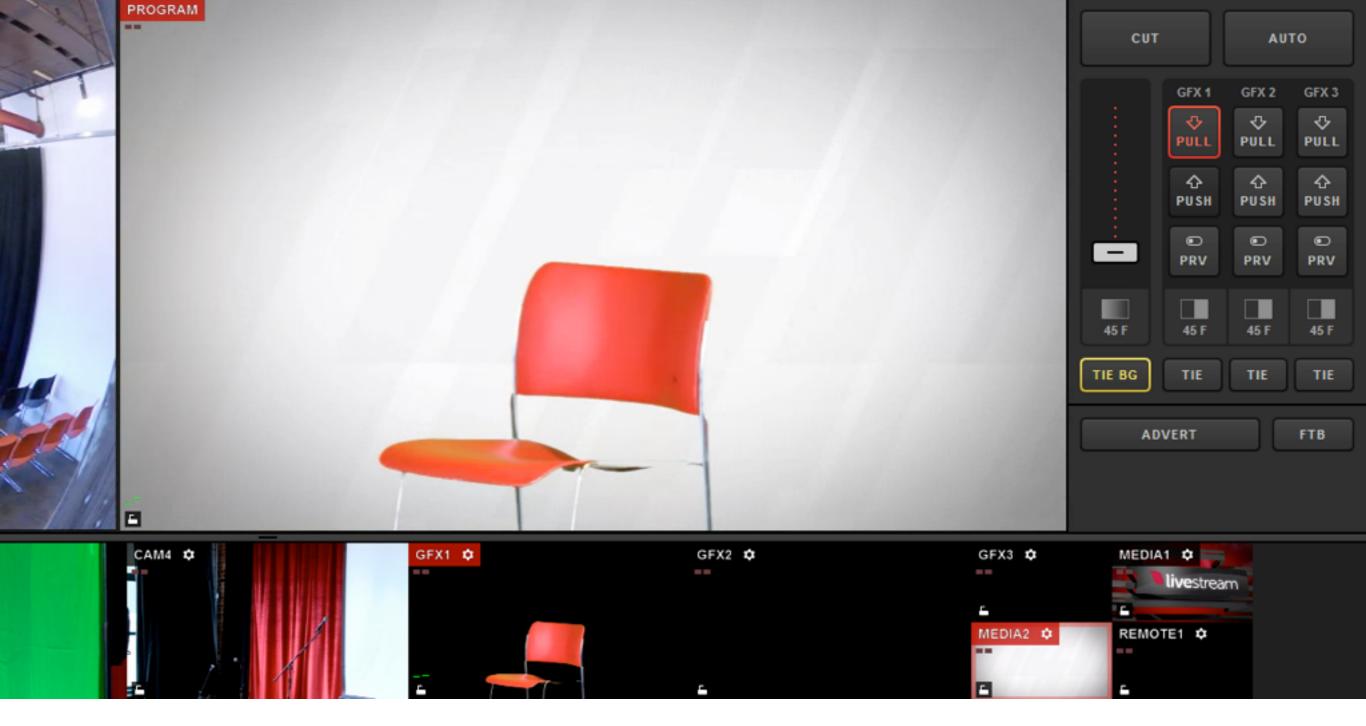


Next, close out of the GFX Designer and put either a camera, media source, or graphics source into Program from your multi-view. The example above has a white background video from Media 2.

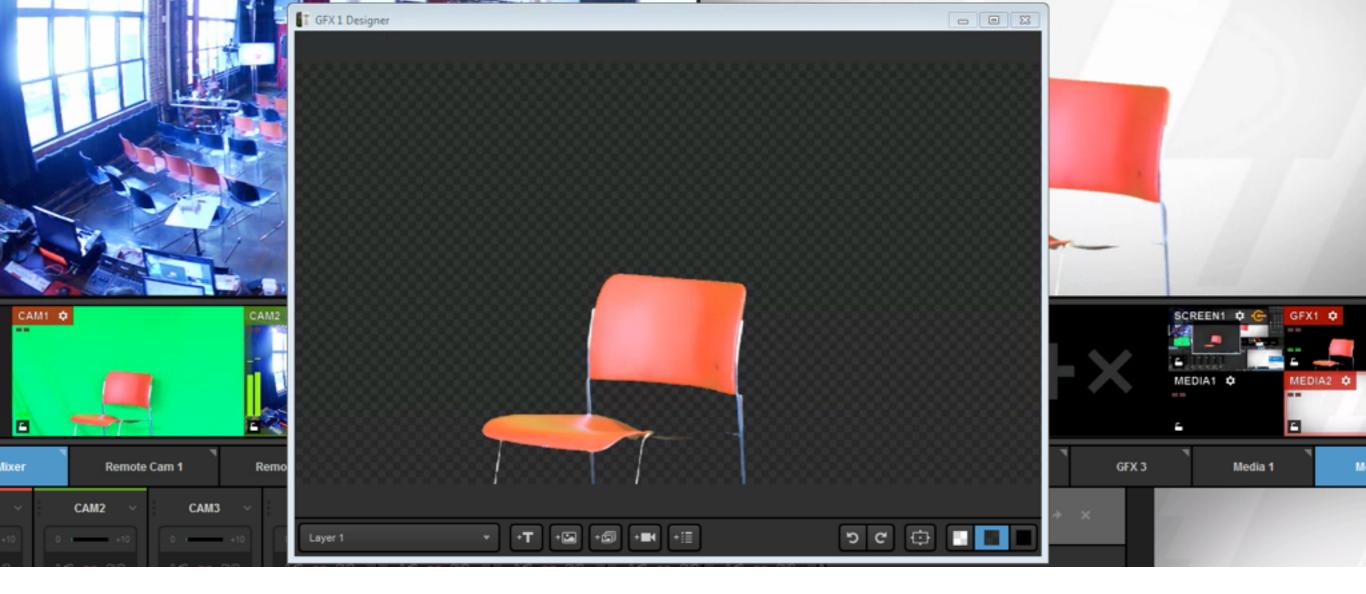


Now push your graphics overlay layer into Program by clicking the 'PUSH' button.

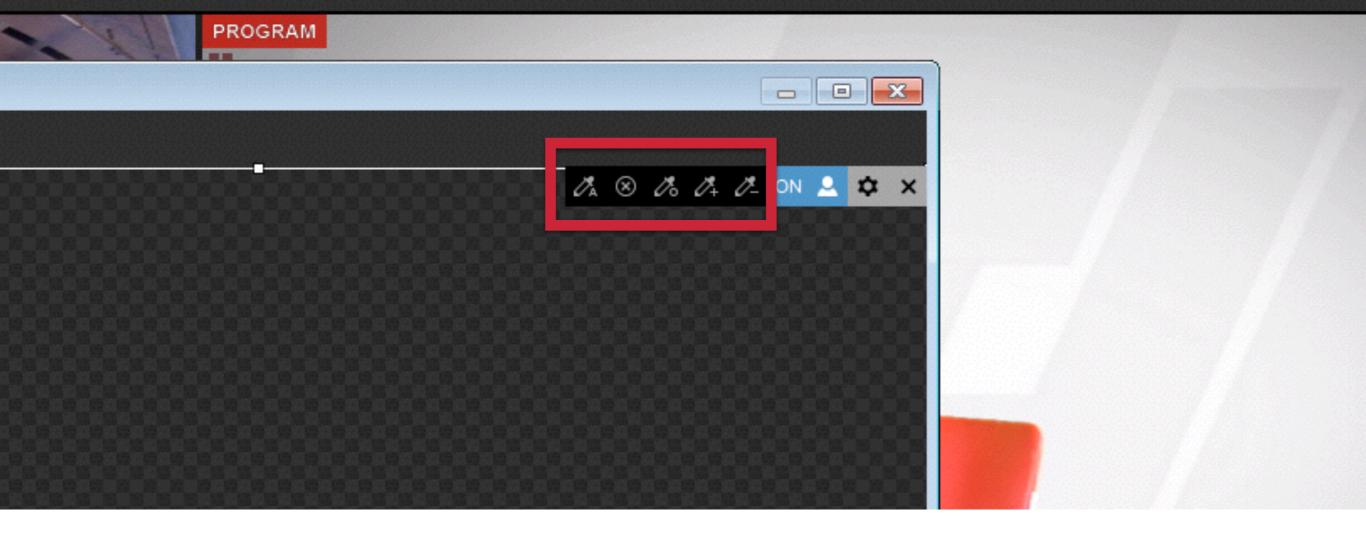




You should now see your chroma keyed input source overlaying your Program source.

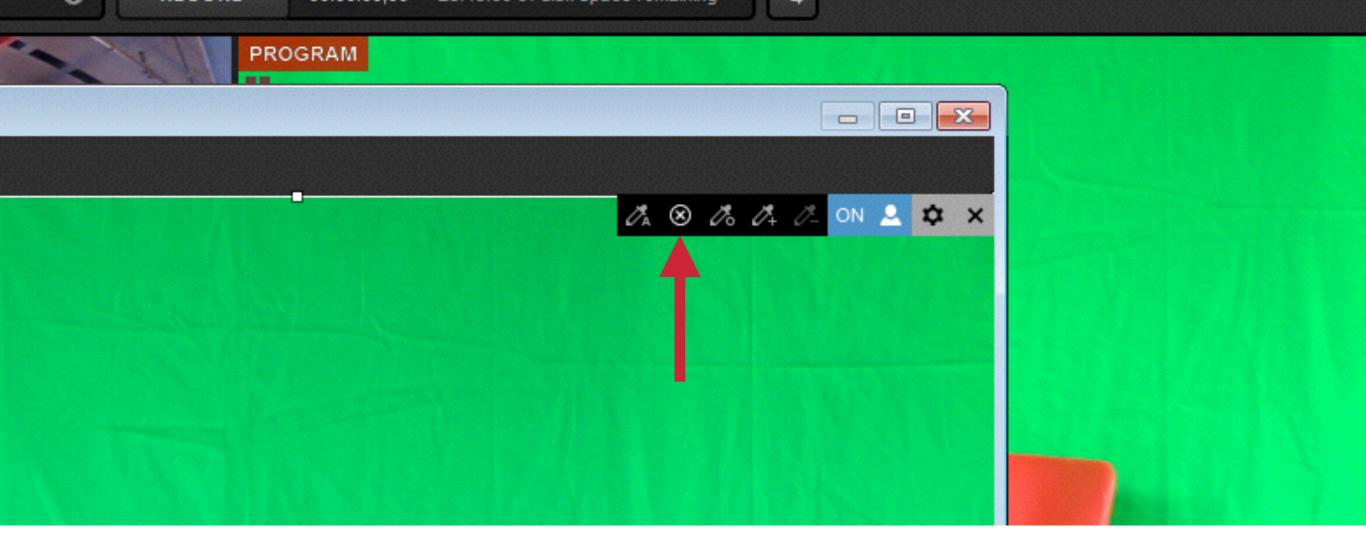


To make further adjustments to your chroma key graphic, go back to the GFX Designer.



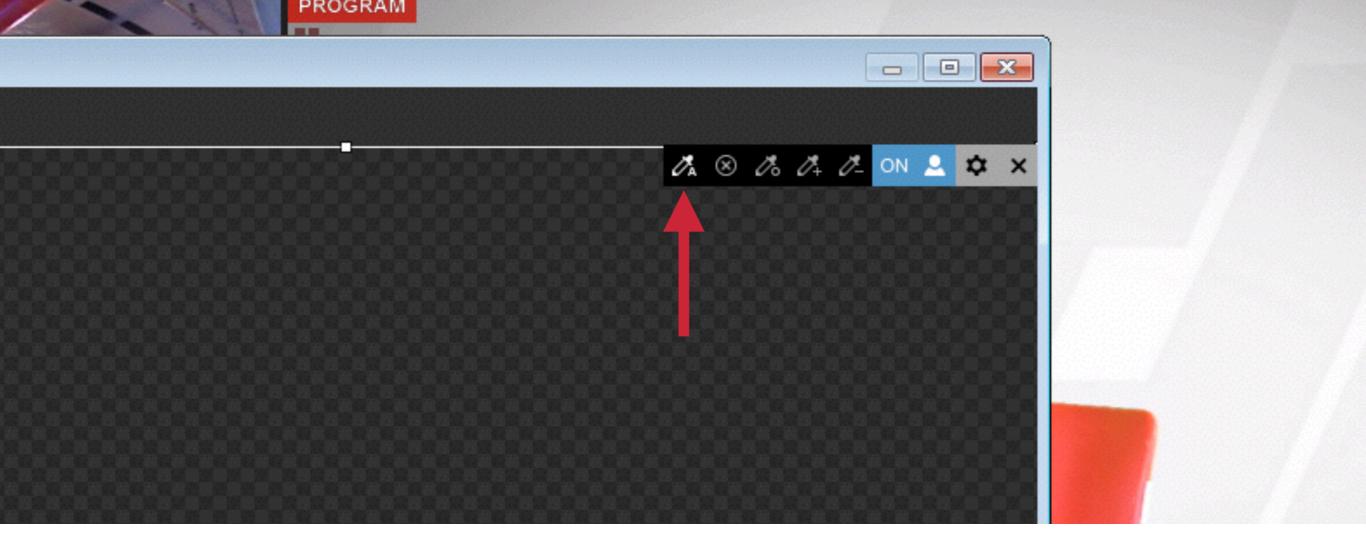
When you select your input source in the graphics overlay while chroma key is turned on, you will see other options in the upper right corner.





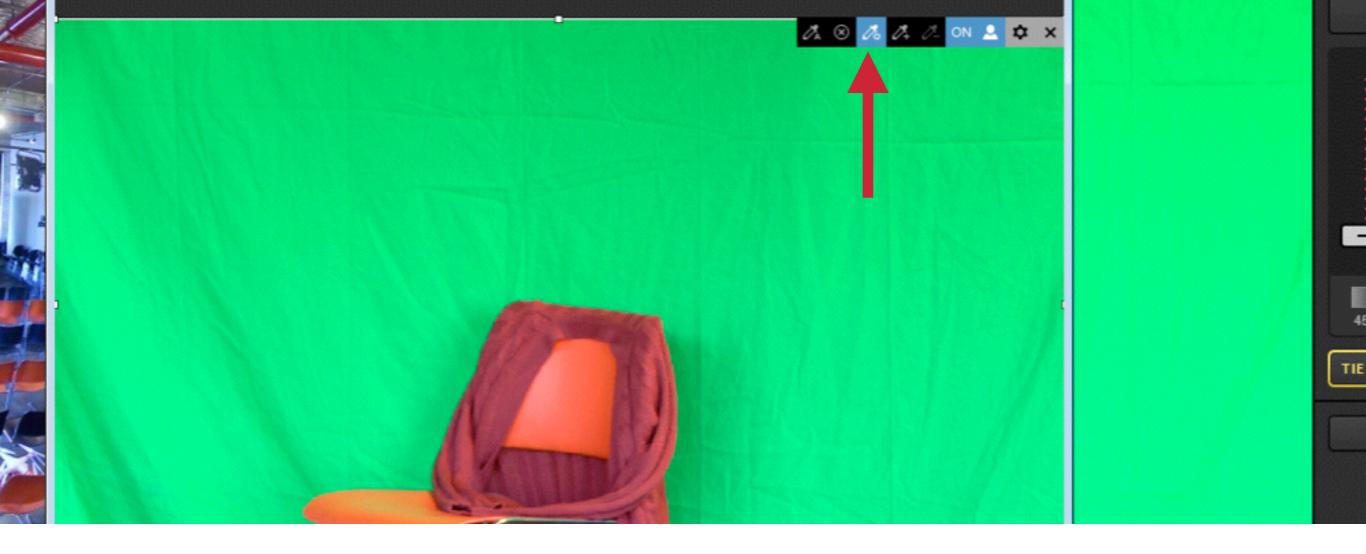
To erase all chroma keying on your input source, click the 'X' icon. Note that the green background has returned to the picture.





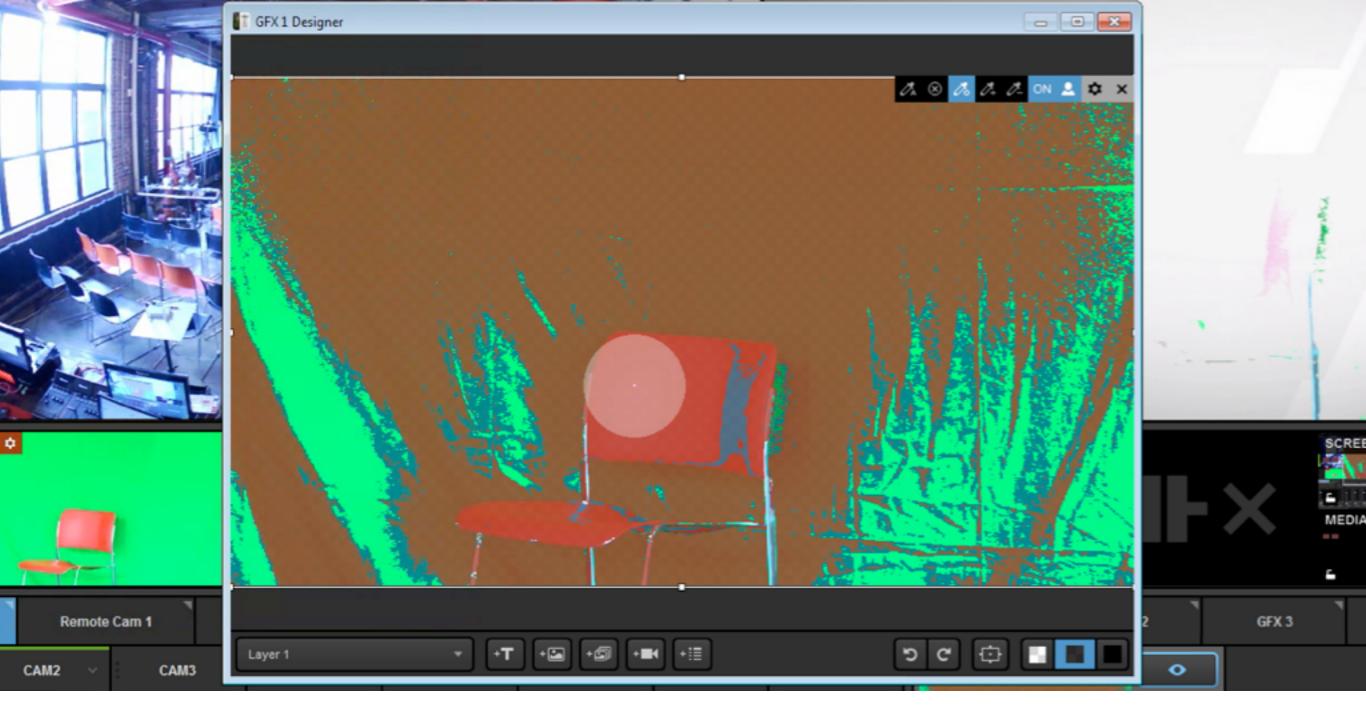
To apply automatic chroma keying (i.e., key out the most prominent color), click the icon of the eyedropper with an A.



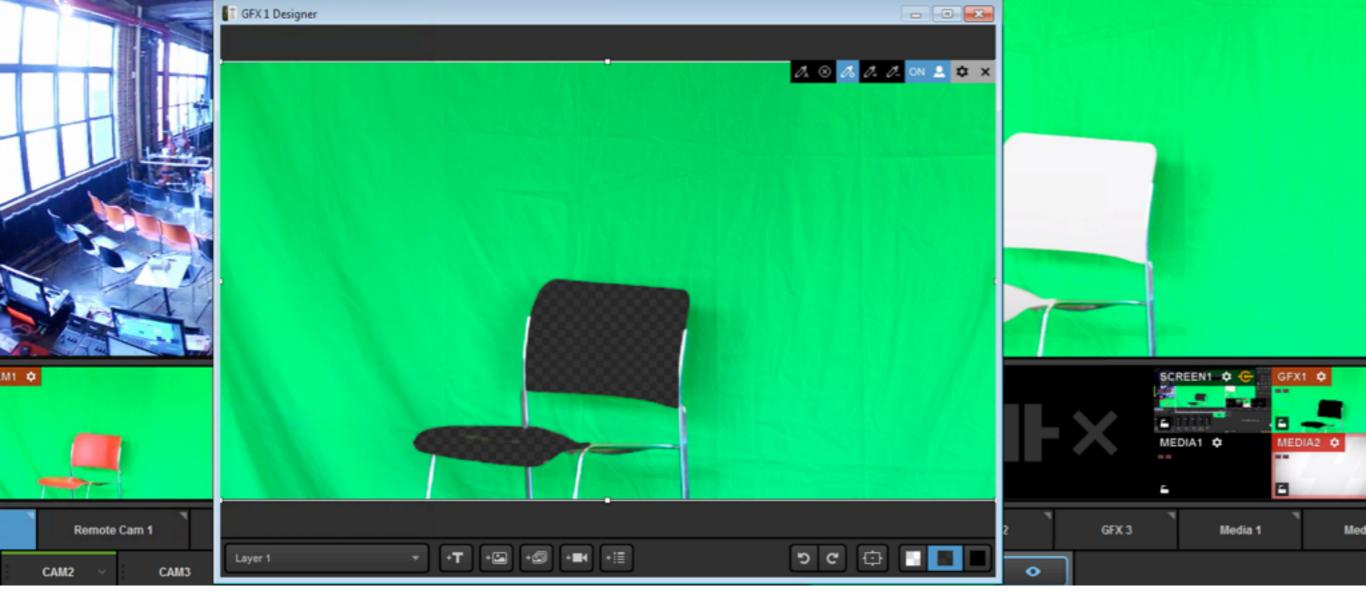


The eyedropper-circle icon will allow you to do rough keying by hand. Select this option, then hover your mouse to the area you want to key (e.g. the back of the chair).



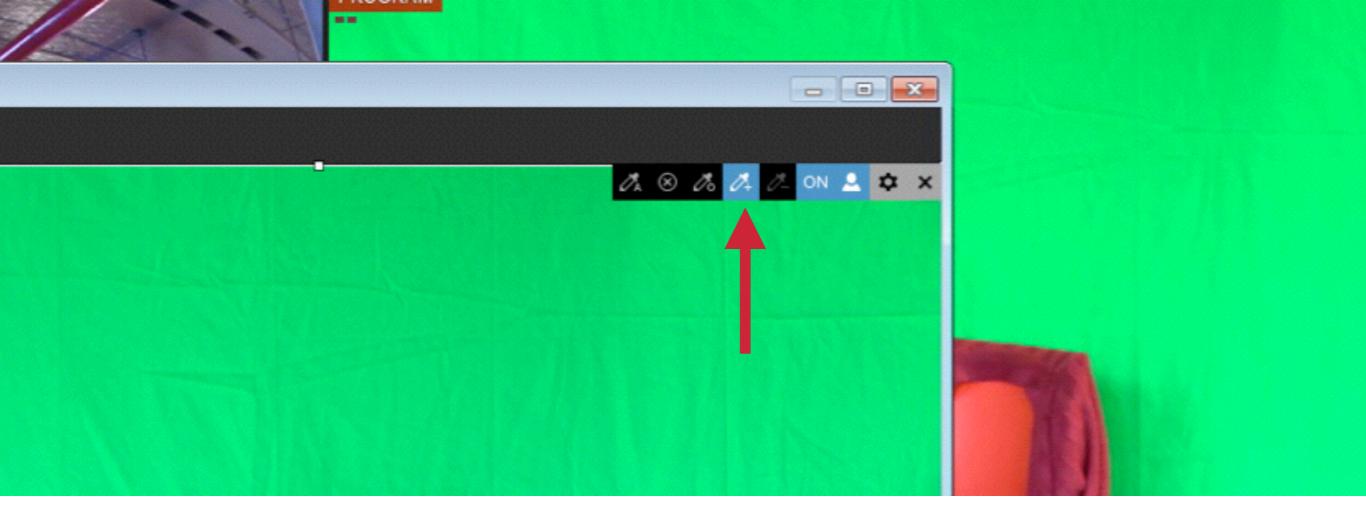


Click and drag your mouse to start real-time keying. You can increase or decrease the keying color range, which will be indicated by a circle around the area.



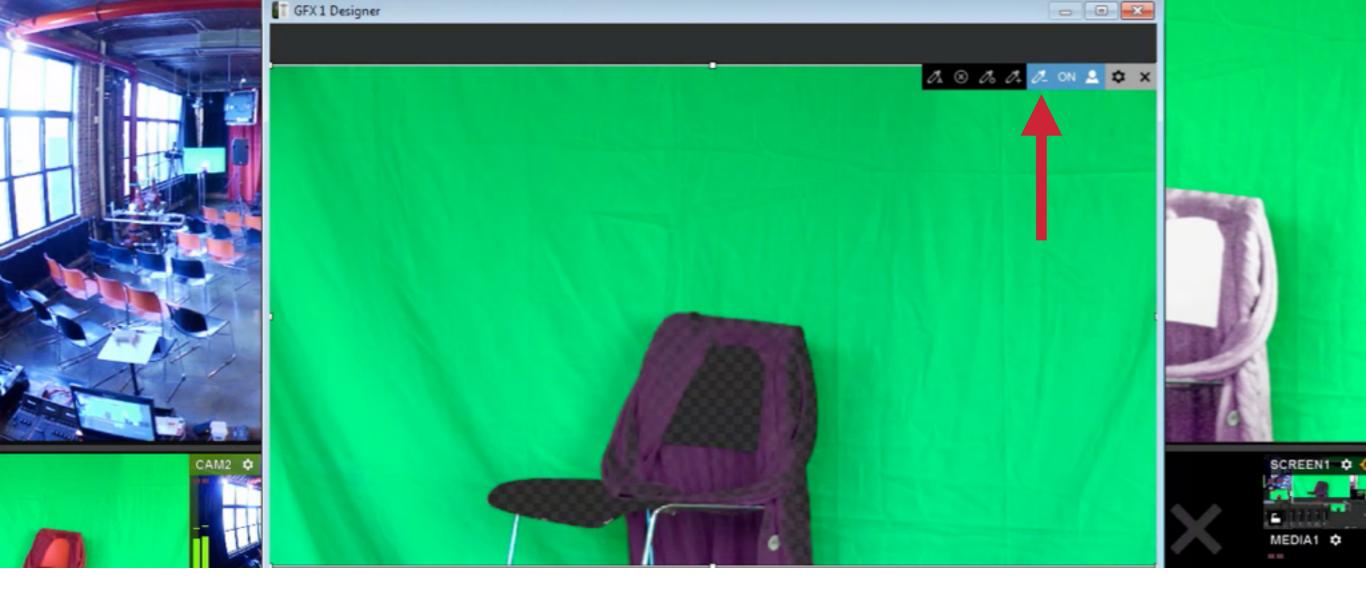
The end result should be similar to the image above, where the colors within the range that was selected are now on the chroma key palette and thus not visible.



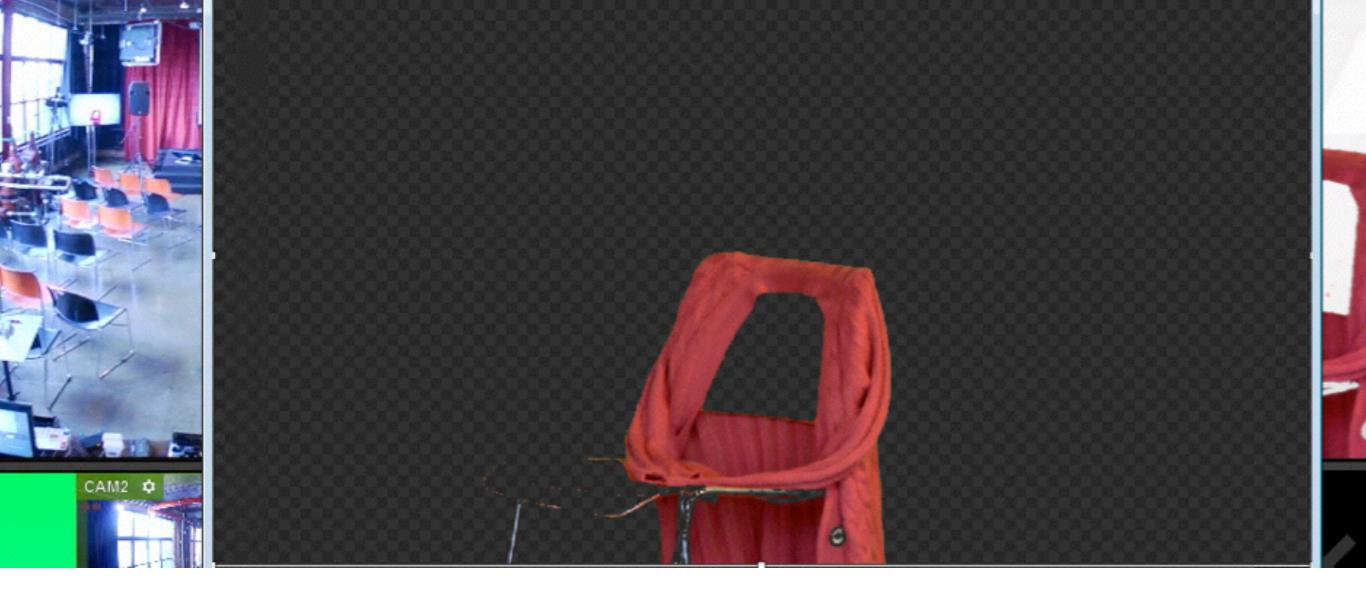


The eyedropper with a plus sign either initializes the chroma key or adds color hues to the chroma key palette. This is helpful if there are shadows in your background that did not key out fully.

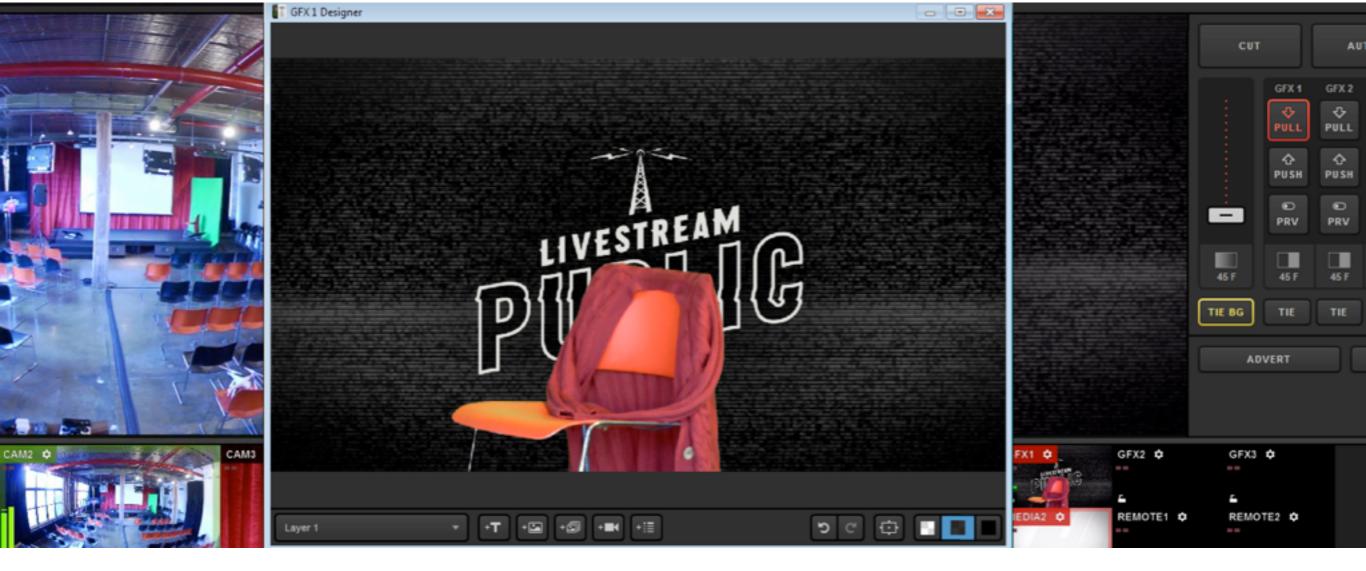




The eyedropper with a minus sign will exclude colors from your chroma key palette. This is helpful if a color on your set is similar to the color you keyed out and is faded. In this example, the orange chair is keyed out and the red sweater is also largely keyed out.



After using the eyedropper minus tool on the red sweater, you can now see the sweater; orange is still on the chroma key palette.



Please note that other graphics or images in the same graphics layer will be visible. Use caution with this type of workflow, as it will increase your CPU usage.



## Tie functionality





You may need to switch a video source and a graphics overlay simultaneously. This is where the '**TIE BG**' and '**TIE**' buttons come in.





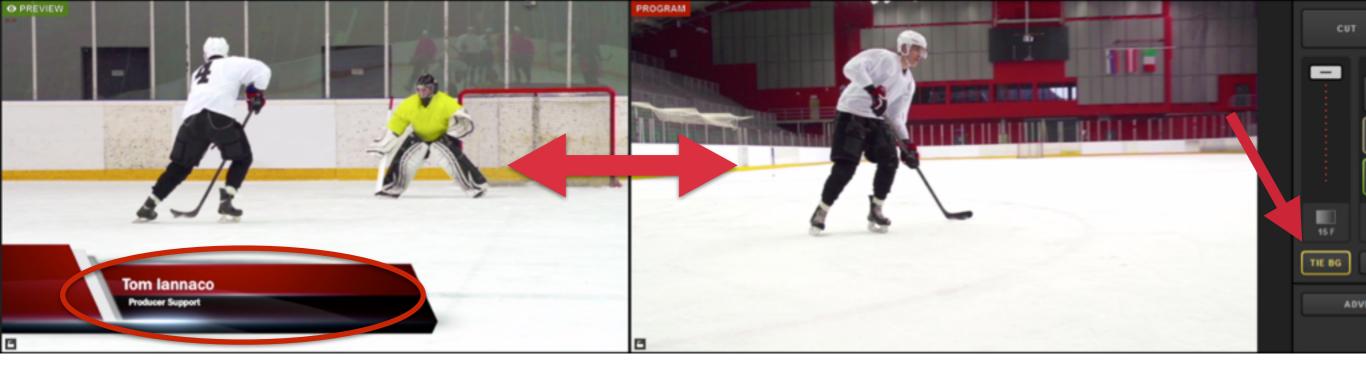
At least one of these 'TIE' buttons must be selected at all times. This tells the transition controls what to reference when switching.





### If only '**TIE BG**' is highlighted yellow, then only the video source in Preview will switch to Program when transitioning.





After using a transition control, notice how the video source switched, but GFX 1 remained in Preview because only '**TIE BG**' was selected.





To both switch the video source and bring in a graphics overlay at the same time, select '**TIE BG**' and the corresponding **TIE** button for your graphic.





Press the '**PRV**' button for the graphics overlay channel that is tied to your video source.

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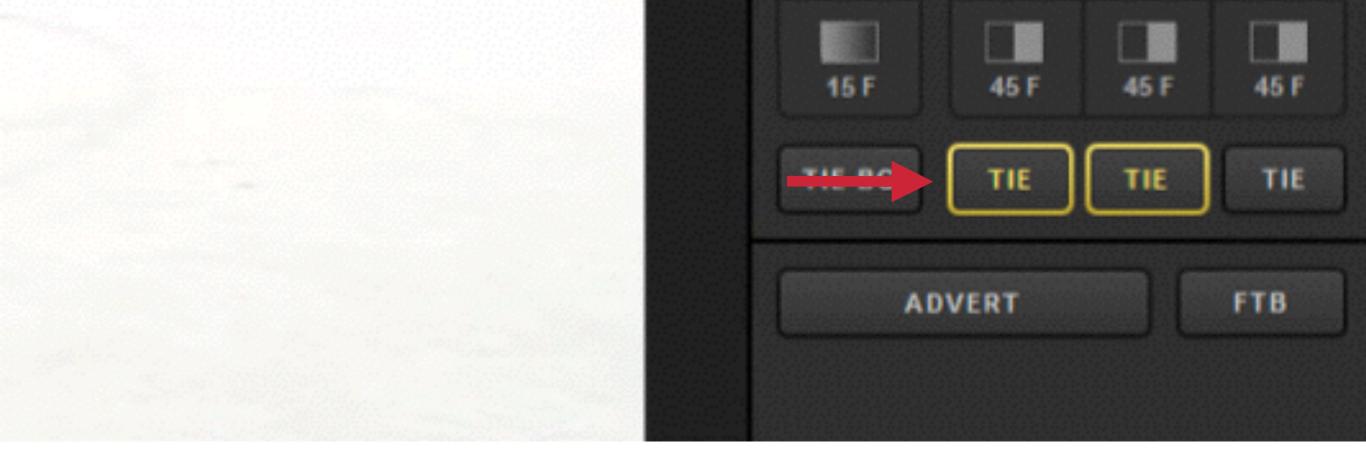
Your Preview and Program monitors should look similar to this, with a GFX channel in Preview. Use a transition control to switch the sources.





Now your video sources have switched and your graphics overlay has been pushed to Program.





If only the GFX 1 and GFX 2 '**TIE**' buttons are lit and both sources are in Preview, then both overlays will switch into Program when transitioning. The video will not change.





### In this example, GFX 1 has a lowerthird graphic, and GFX 2 is a clock. Use a transition control to bring both into Program.





After the transition, both graphics overlays are now in Program, but the video source is the same since '**TIE BG**' was not selected.





To pull a graphics overlay out of Program simultaneously with a video source, tie the background and the graphics overlay together.



Next, you will need to remove the graphics overlay from Preview. This will tell the transition controls that the graphic is not being shown on the next switch.





Your monitors should look similar to this now, with Preview showing a different video source and no graphic. Use a transition control to switch the sources.





#### Now your video sources have changed, and your graphics overlay is no longer in Program.



# Synchronizing input and remote sources



		8		1	6		
	Audio Mixer	٦	Remote Cam 1	Remote C	am 2	Input Settings	
CAMI	l	*		Neme			
\$	GENERAL		Input Source	Name			
	AUDIO		Input Source Name				
φ	CONVERT		CAM1				
τ	CROP						
_							

You may notice a discrepancy in synchronization between direct camera inputs and remote cameras. Livestream Studio has a few workarounds. Start in the 'Input Settings' tab.



Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings	
CAM1 -				
CAM1	Input Source	Name		
CAM2	Input Source Name			
CAM3	CAM1			
·ḥ. CROP	T			

## On the left side, select the camera source you want to adjust.



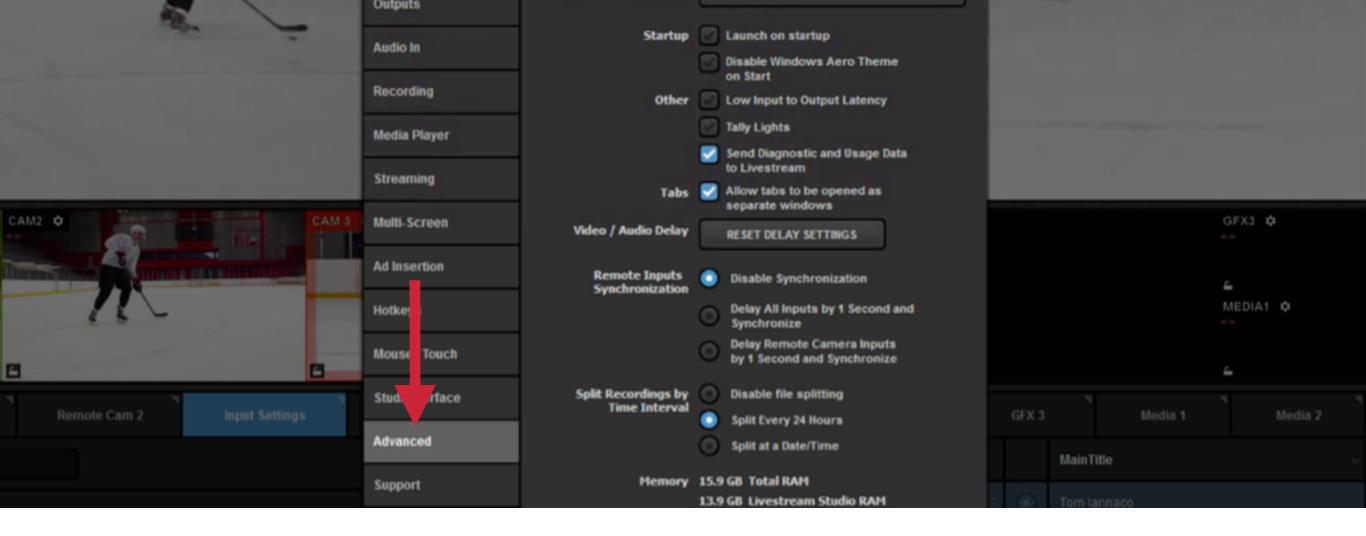
CAM1 ~				
₽	GENERAL	Delay	OFF	
	AUDIO	Video Delay (milliseconds)		
֩	CONVERT	0 -100 -10	+10 +100	
Ϊ	CROP	I I 0	 2000	
		Audio Delay (milliseconds)		
0	DELAY	0 -100 -10	+10 +100	
cc	CLOSED CAPTIONS	I I 0	ا 2000	

## Navigate to the '**Delay**' tab towards the bottom left side.



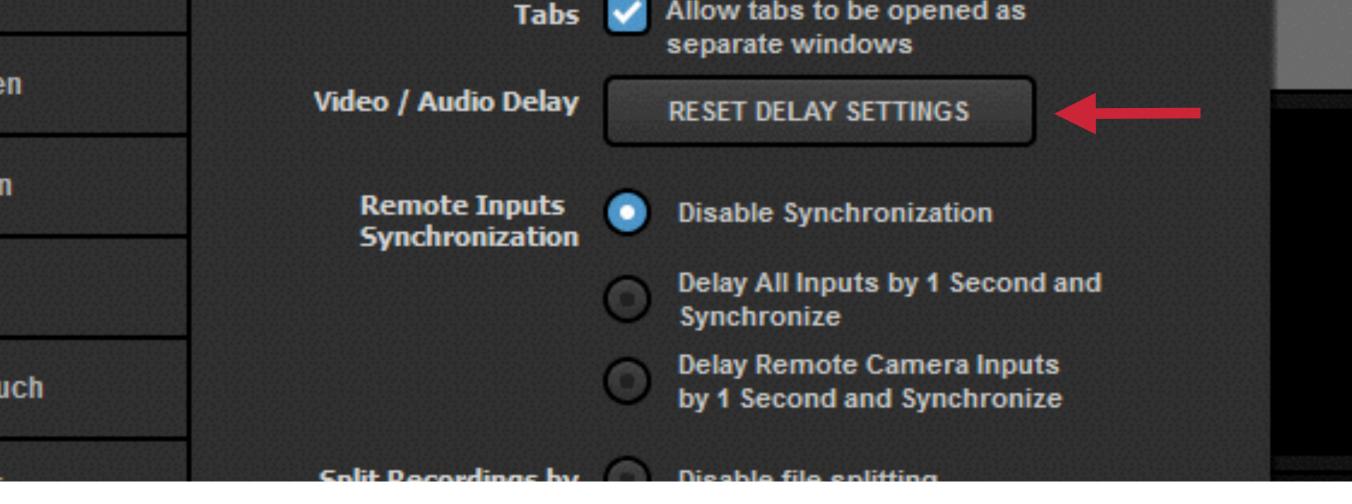
Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings	
CAM1 -				
🔅 GENERAL	Delay	C ON		
¦†¦ AUDIO	Video Delay (miliseconds)	Alternation of the second statements		
- CONVERT	350 -100 -	10 +10 +100		
·ഥ. CROP	I I 0	 2000		
TALLY	Audio Delay (milliseconds)	)		
C DELAY	350 -100 -	10 +10 +100		
CLOSED CAPTIONS	I I 0	2000		

You can delay any individual input's video and audio by up to two seconds to help keep your sources in sync. This can also resolve audio/video sync issues.



### Alternatively, go to settings and navigate to the '**Advanced**' tab.



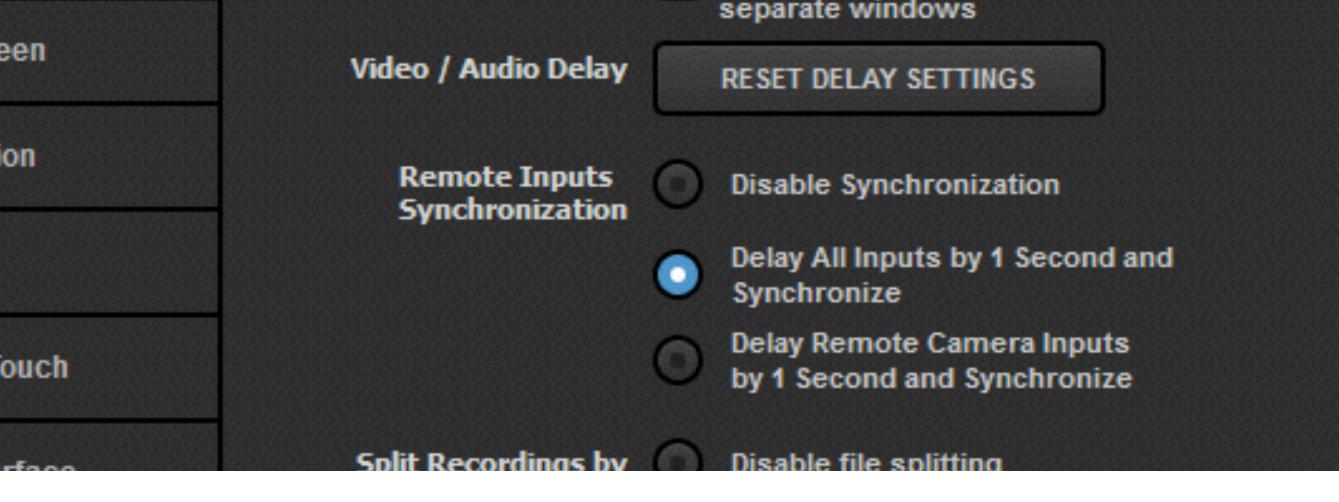


Towards the bottom of this menu, you can click on 'Reset Delay Settings' to set any manual adjustments made back the default setting of zero seconds for all sources.

	Tabs	Allow tabs to be opened as separate windows	
n	Video / Audio Delay	RESET DELAY SETTINGS	1
n	Remote Inputs Synchronization	O Disable Synchronization	
		Delay All Inputs by 1 Second and Synchronize	
uch		Delay Remote Camera Inputs by 1 Second and Synchronize	
	Solit Recordings by	Disable file enlitting	

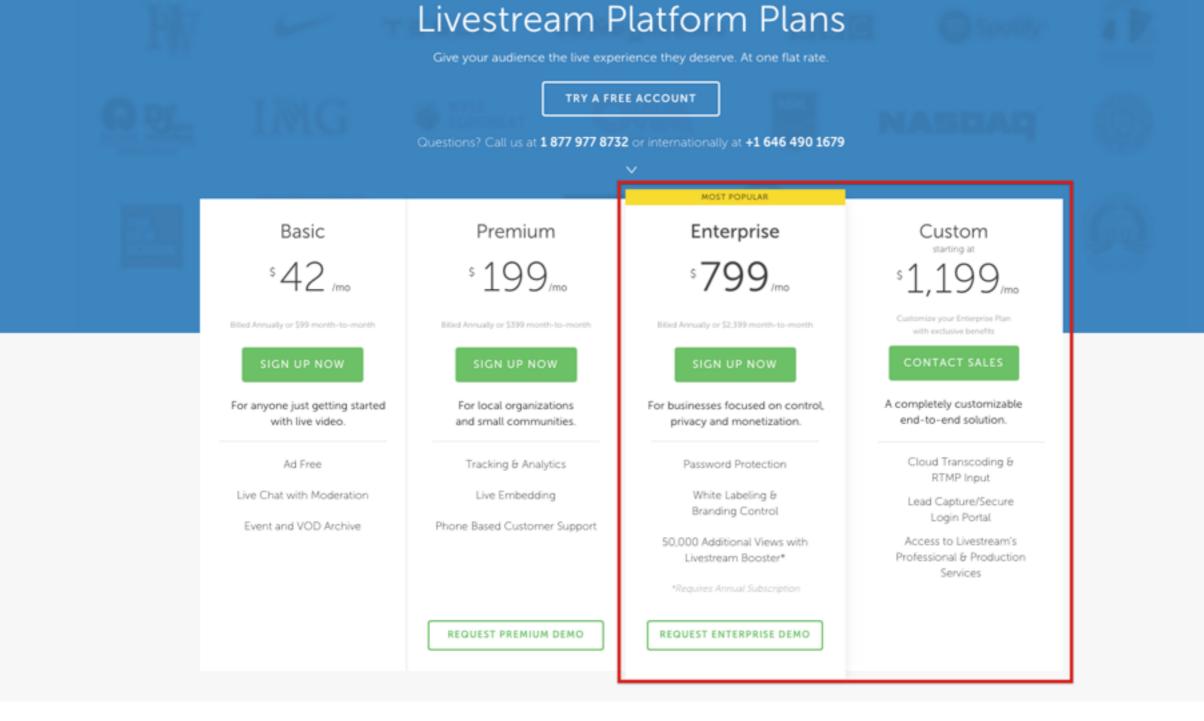
You can disable any synchronization if you do not notice any discrepancy between your inputs.





You can also delay either all inputs, or just remote inputs, by one second. This will allow Livestream Studio to sync those sources together. Triggering mid-roll advertisements





This feature is only available for those who also have a Livestream Enterprise account, which includes integration with Google DoubleClick for Publishers.



#### Get the most from all of your digital ad inventory



With DFP Small Business, adding new partners is always plug and play, which allows us to be creative with our ad experience and scale revenue as users discover Scribd around the globe.

Matt Alecock, Ad Operations Manager, Scribd

#### DoubleClick for Publishers (DFP) Small Business

Get started today with our free ad management solution that helps growing publishers sell, schedule, deliver, and measure all of their digital ad inventory.





Doubleclick's solid web ad serving infrastructure holds them at the top level for ad technology, monetization, and publisher reliability.

Lindsay Warren, Director of Ad Operations, Flixster

#### DoubleClick for Publishers (DFP)

Take advantage of a comprehensive suite of tools designed to help large publishers accelerate their digital ad operations and generate even-greater returns.



You will need an account on Google DFP. Go to <u>http://www.google.com/</u> <u>doubleclick/publishers/welcome</u> to set up and configure your content.



**live**stream

Google DFP Integration (Pre- 
Roll Video Ads) Learn More

Senable DFP Advertisements

DFP Network Code

DFP Network Code is required

Path to Ad Unit

ie. /directory/videodemo

Path to Ad is required

Show advertisements to owner

In your Livestream account settings, you will need to check 'Enable DFP advertisements' and provide a DFP Network Code and Path to Ad Unit.

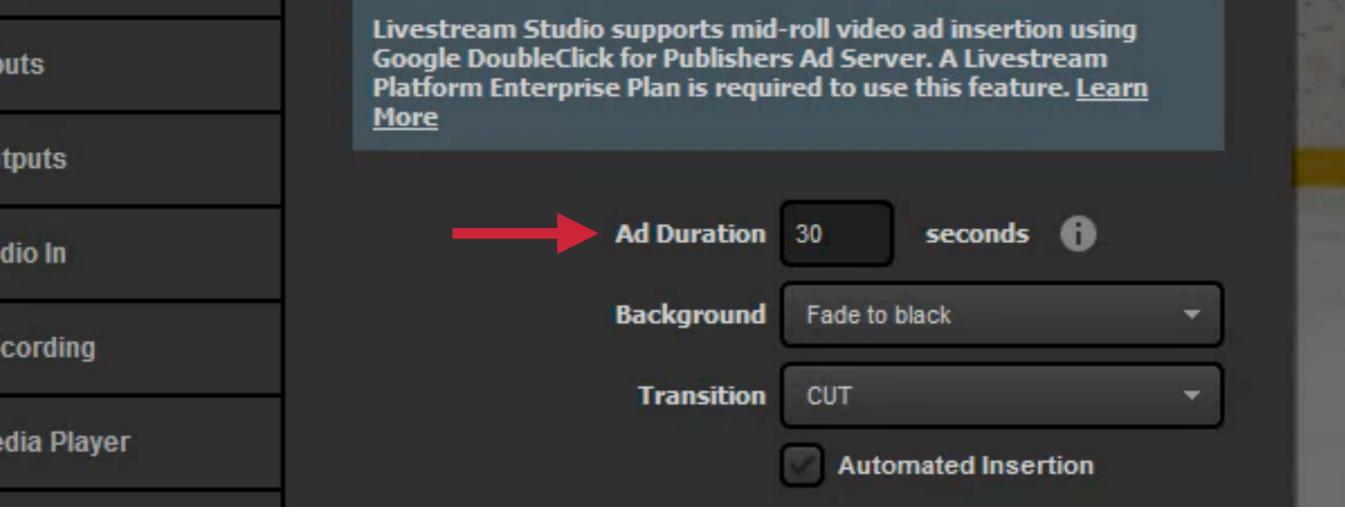
Note: Detailed instructions on setting up DFP with Livestream can be found in the <u>help center</u>.

**live**stream

Settings: A	d Insertion CANCEL SAVE
Project Format	
Inputs	Livestream Studio supports mid-roll video ad insertion using Google DoubleClick for Publishers Ad Server. A Livestream Platform Enterprise Plan is required to use this feature. Learn More
Outputs	
Audio In	Ad Duration 30 seconds ()
Recording	Background Fade to black  Transition CUT
Media Player	Automated Insertion
Streaming	
Multi-Screen	
Ad Insertion	GFX3 🗘 MEDIA

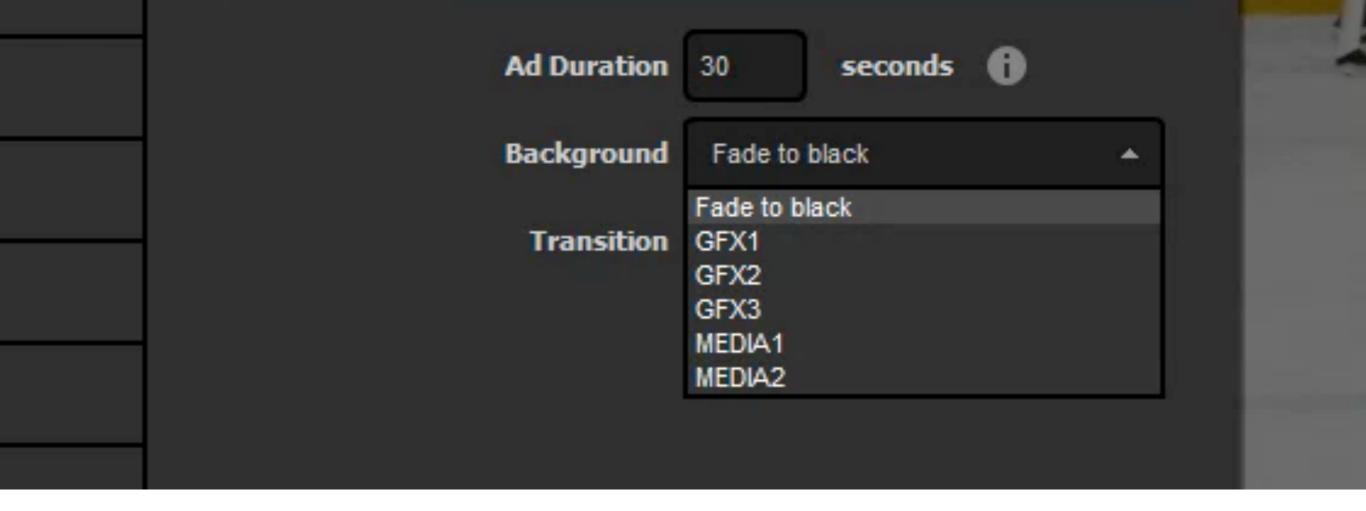
## Back in Livestream Studio, go to the '**Ad Insertion**' tab in settings.





'Ad Duration' allows you to set the length of your ad segment. You should ideally enter the time of the longest advertisement you plan to run.



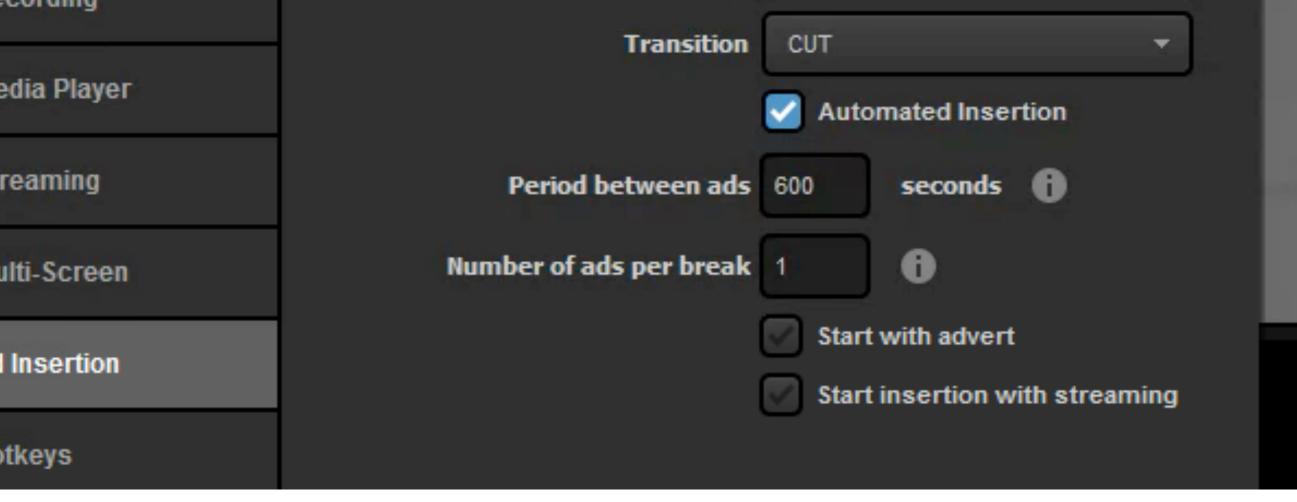


You can set a background to see in Program during your ad insertion. This is helpful if an ad's length is shorter than your set ad duration time and you want to display a slate or image during the extra time.

	Platform Enterprise Plan is requi	red to use this feature. <u>Learn</u>	
uts	More		
In	Ad Duration	30 seconds	
rding	Background	Fade to black	
	Transition	CUT	• •
a Player		CUT AUTO	
ming			
Screen			

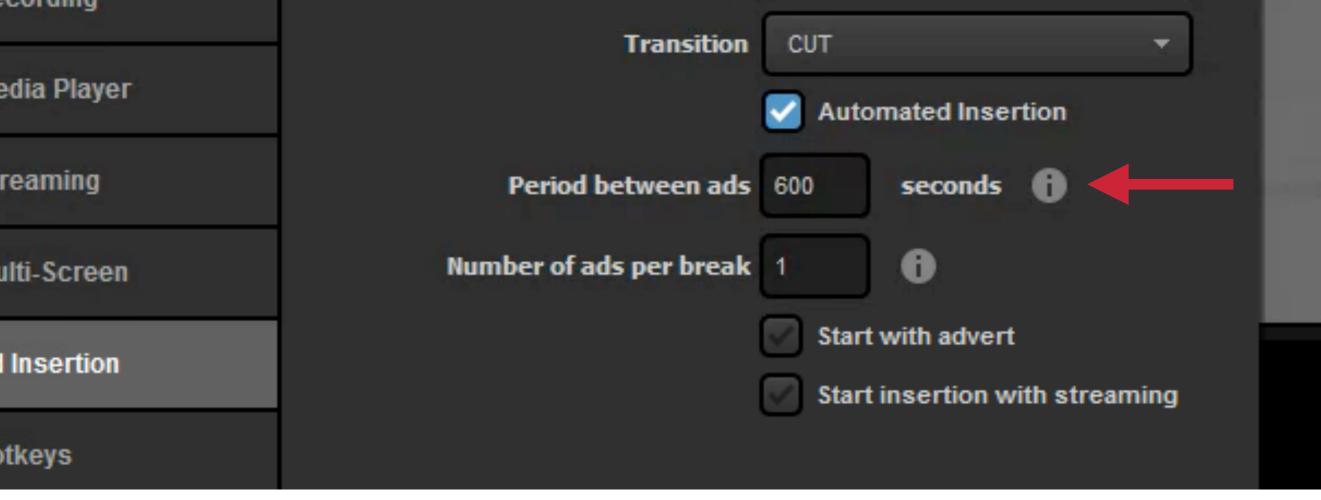
Choose if you want the ad to transition in using a cut or the automatic transition you have set for your main mix.





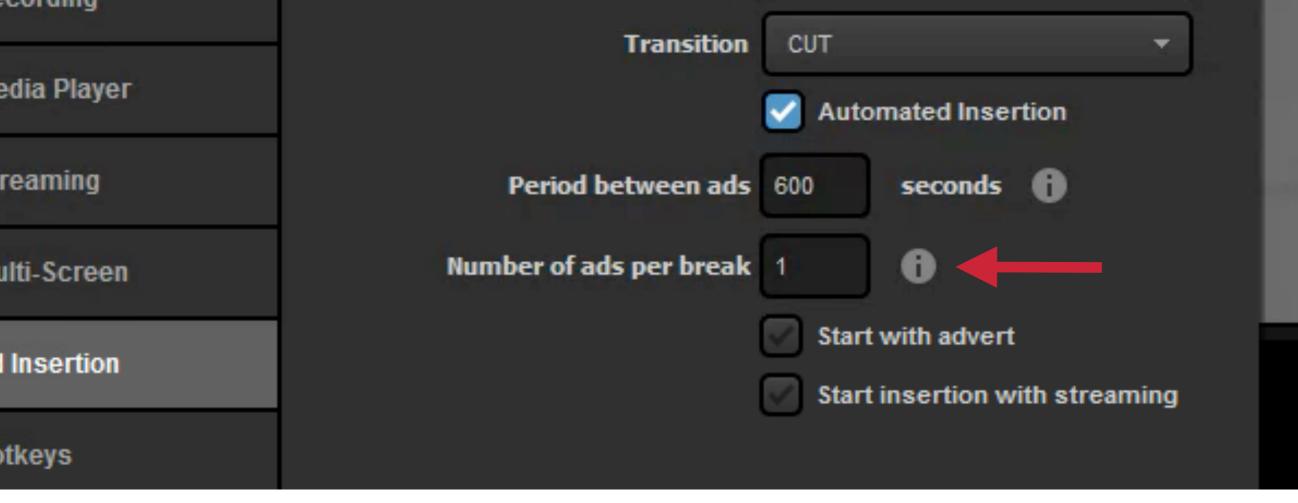
If your production requires having ads at specific intervals, you can check 'Automated Insertion' to bring advertisements in without manually triggering them.





Set how long in seconds you want to have between your advertising segments.

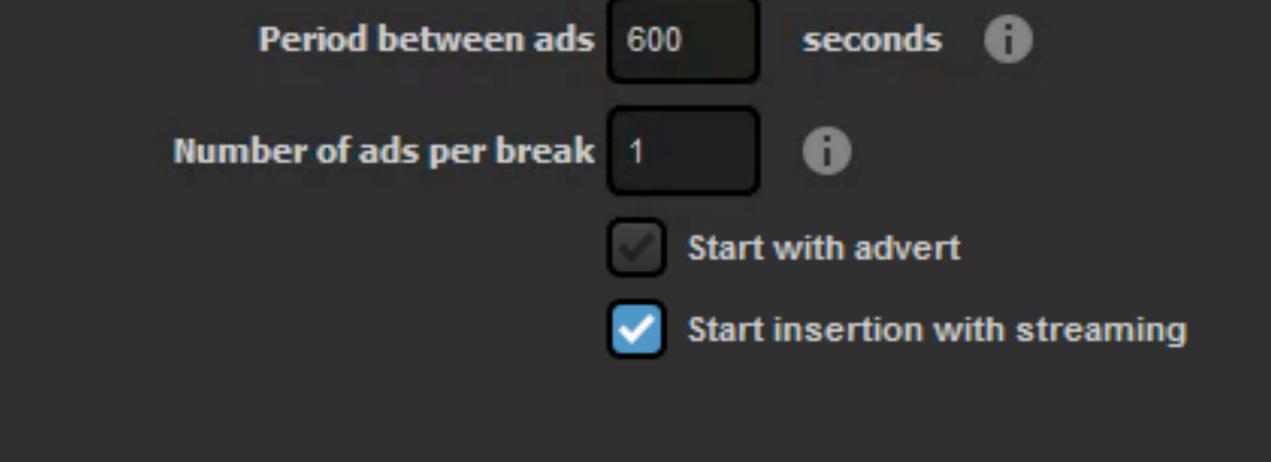




You can roll your ad segments more than once. Here, set how many times you want ads to roll before returning to your production.

Recording	Background	Fade to black 👻	
	Transition	CUT -	
Media Player		Automated Insertion	
Streaming	Period between ads	600 seconds	
Multi-Screen	Number of ads per break	1	
		Start with advert	
Ad Insertion		Start insertion with streaming	GFX3 🌣
Hotkeys			Ē
Mouse / Touch			REMOTE

'Start with advert' means the segment will begin with the advertisement rolling rather than whatever is being shown in your background.

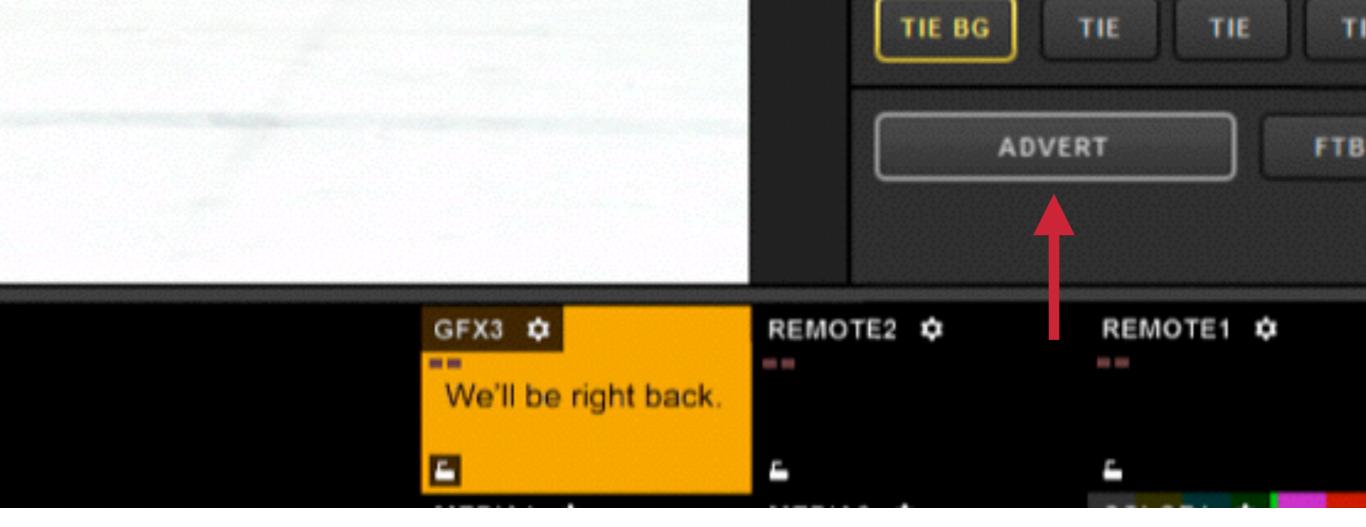


'Start insertion with streaming' will show viewers your advertisement first when your broadcast begins, rather than starting with your content.

Settings: A	d Insertion
Project Format	
Inputs	Livestream Studio supports mid-roll video ad insertion using Google DoubleClick for Publishers Ad Server. A Livestream Platform Enterprise Plan is required to use this feature. <u>Learn</u>
Outputs	More
Audio In	Ad Duration 30 seconds ()
Recording	Background Fade to black -

When you have configured your settings as desired, click 'Save.'





When you go live to Livestream, you will notice the 'Advert' button highlight white. Click on it when you want to enter an advertisement segment.



## We'll be right back.



The 'Advert' button will turn red with a segment countdown. The top of the Program monitor will also indicate what is being shown (advertisement, background, etc.)

**live**stream



If you have a 30-second ad in Google DFP, but choose to have a 40-second segment, your background will show for the remainder of the segment.



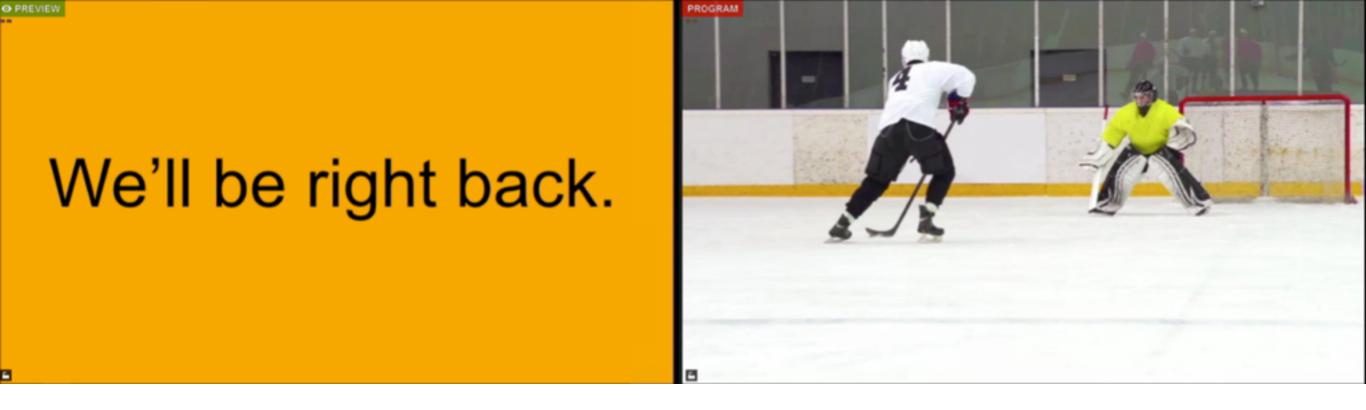
## We'll be right back.

The ad segment will keep looping until you click 'Advert' again. Doing this will finish the segment and indicate when your player will return to content.



**live**stream

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At the end of the last segment, the source in Preview will switch to Program and your production will continue showing content.



### Integrating tally lights



A tally light is a small signal lamp on a professional video camera or monitor that indicates which camera is in Program.

**live**stream



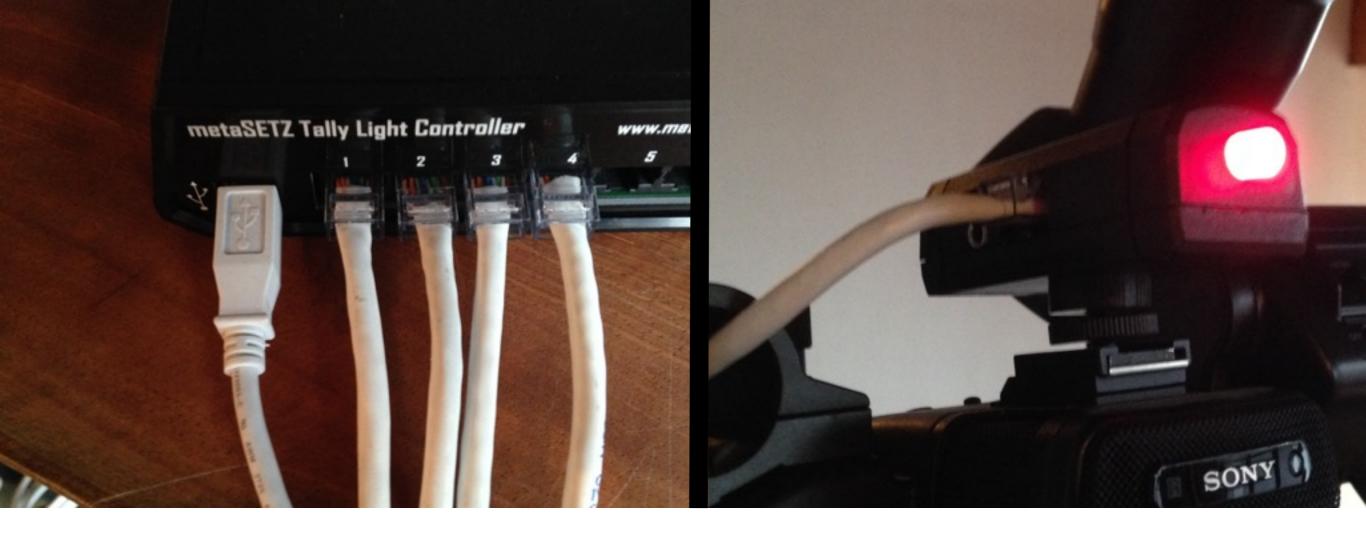
### For Livestream Studio, it is recommended to purchase a tally light system available from metaSETZ (<u>http://www.metasetz.com</u>).





Connect your tally light system to your computer via an available USB 2.0 port. The device's drivers should install automatically.

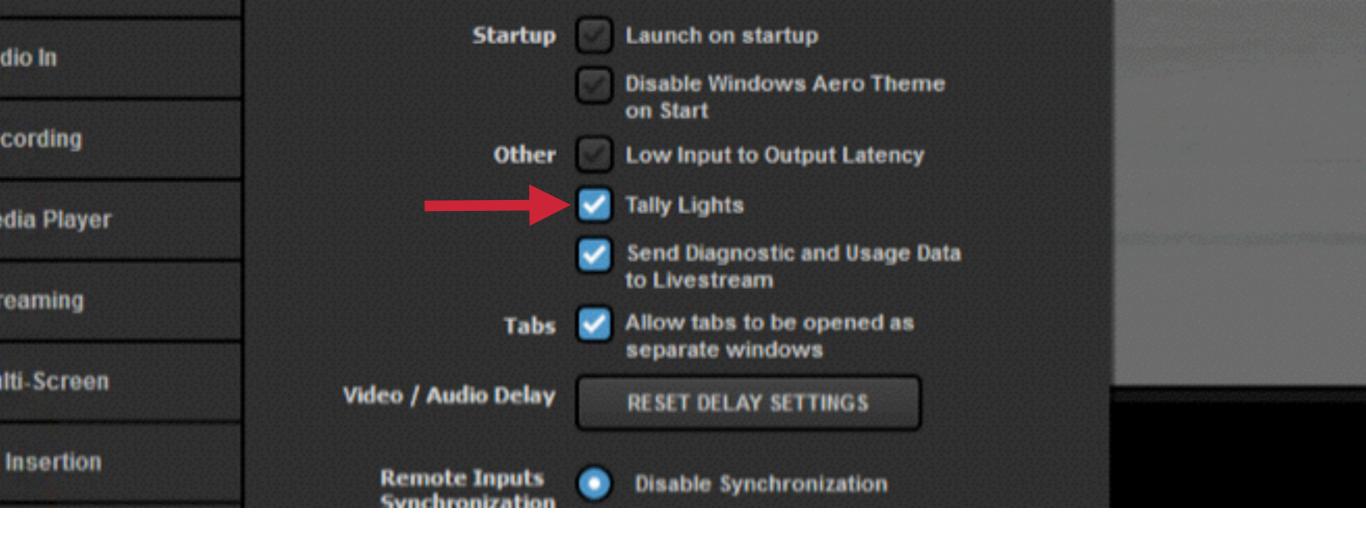
**live**stream



Connect each of your cameras to the metaSETZ Tally Light Controller using Ethernet cables.

	Settings		CANCEL SAVE			
	Project Format	Crossfade Audio on Cut 5	Frames	210	R	
	Inputs Outputs	Graphic Overlay Tracks 3 GFX T	fracks 👻		1¢	
	Audio In		nch on startup ble Windows Aero Theme			
	Recording	on S				
	Media Player	Tally	/ Lights d Diagnostic and Usage Data			
	Streaming	to Li Tabs 🗹 Allor	ivestream w tabs to be opened as arate windows			
CAM2 O	Multi-Screen		ET DELAY SETTINGS		GFX3 Ø	REMOTE2 🗘
	Ad Insertion	Remote Inputs Oise Synchronization	able Synchronization		We'll be right back.	
K A M	Hotkeys	Syn	ay All Inputs by 1 Second and schronize		MEDIA1 Ø	MEDIA2 🗘
	Mouse / Touch	by	ay Remote Camera Inputs 1 Second and Synchronize		-	<u>-</u>
note Cam 1 Remote Cam 2 Input Settings	Studio Surface	Time Interval	able file splitting it Every 24 Hours	GFX 3		
	Advanced	🔘 Spli	it at a Date/Time	MaiaTitla		

Next, open Livestream Studio and go to the '**Advanced**' tab in settings.



## Make sure that 'Tally Lights' is checked, then click 'Save.'



Audio Mixer	Remote Cam 1	Remote Cam 2	Input Settings	
CAM1		NI		
CAM1	Input Source	Name		
CAM2	Input Source Name			
CAM3	CAM1			
년. CROP				
ETEL TALLY				

Select the '**Input Settings**' tab in the lower right corner, then choose a camera source from the dropdown menu for which to set a tally light.



CAM1 -		
۵	GENERAL	Tally Light
$\frac{1}{1}\frac{1}{1}\frac{1}{1}$	AUDIO	Select Tally Output
-@-	CONVERT	None
		None Digital Arts TLC6 - Line 1
τĻ	CROP	Digital Arts TLC6 - Line 2 Digital Arts TLC6 - Line 3
	TALLY	Digital Arts TLC6 - Line 4 Digital Arts TLC6 - Line 5 Digital Arts TLC6 - Line 6
٩	DELAY	Digital Arts TLC6 - Line 7 Digital Arts TLC6 - Line 8
8	CLOSED CAPTIONS	

#### Tip

For more details about supported Tally devices, please, read Livestream knowledge base article

Click 'Tally' on the left side, and select an available tally port to assign to that camera. Repeat this step for each camera source.



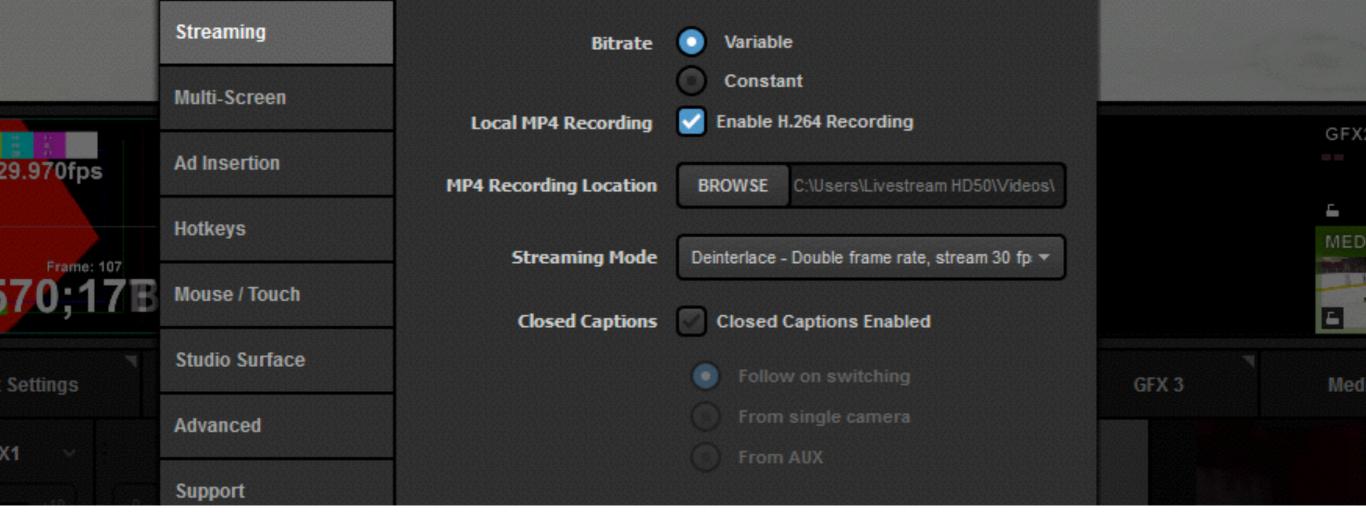
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**live**stream

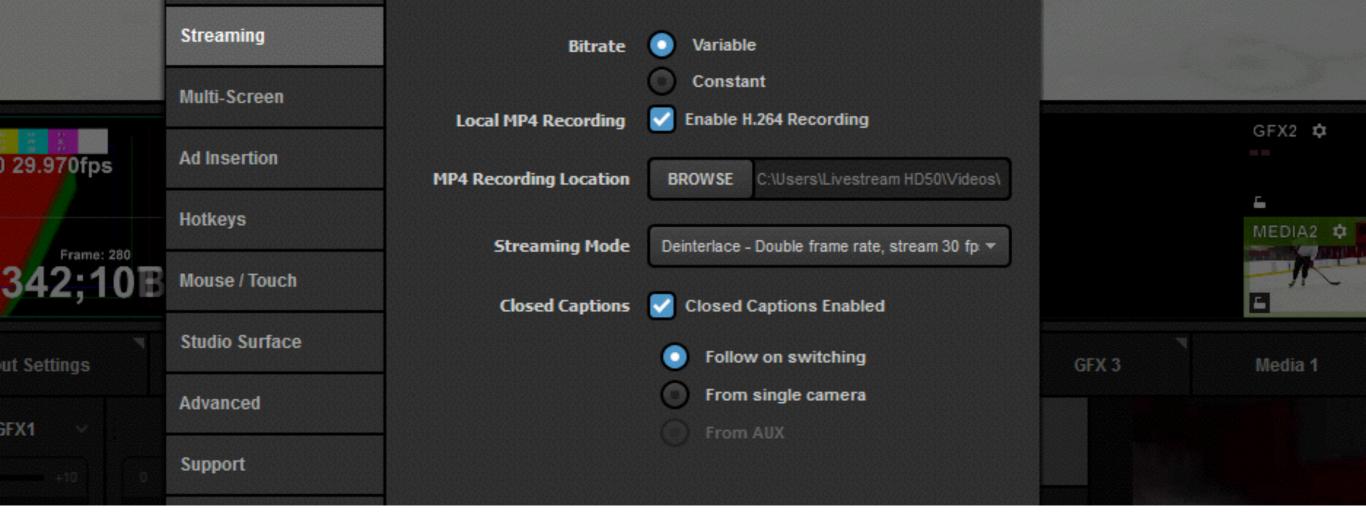
As you switch between sources, you should now notice the tally lights turn on when the corresponding camera is in Program.

### Closed captioning



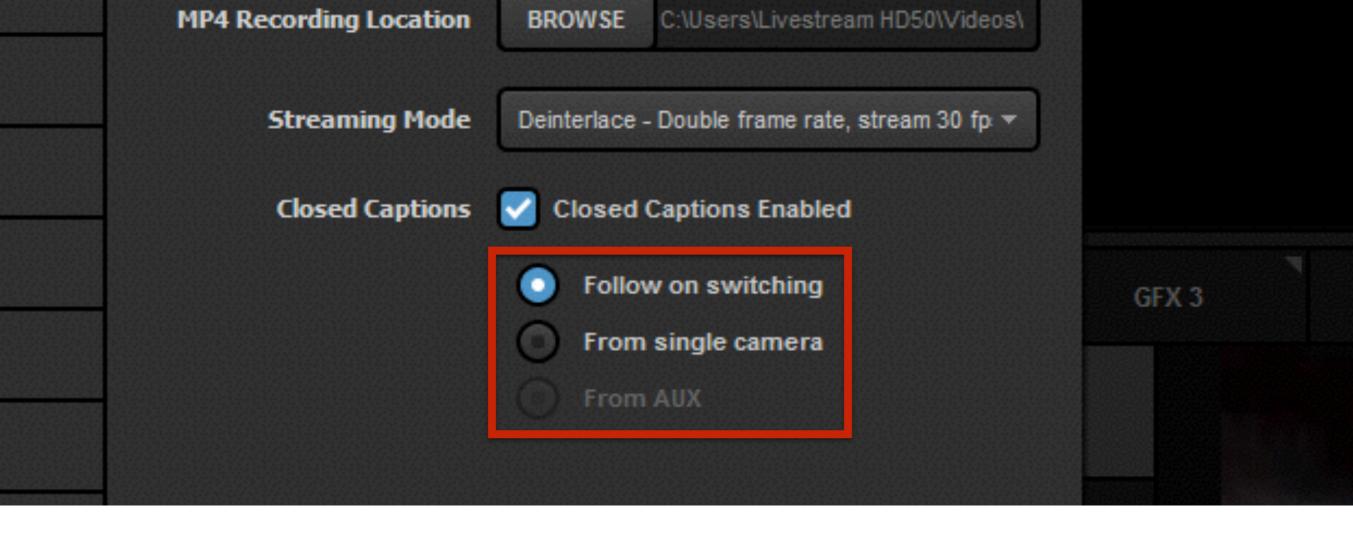


To enable closed captions forwarding to Livestream, go to settings and enter the 'Streaming' menu. At the bottom you will see 'Closed Captions.'



Check 'Closed Captions Enabled' to allow closed captioning data to be received.





Next, select whether the closed captions are available only with the source they are coming from ('Follow on switching'), if the captions should show regardless of what source is in Program ('From single camera'), or only when the source is in AUX program ('From AUX').

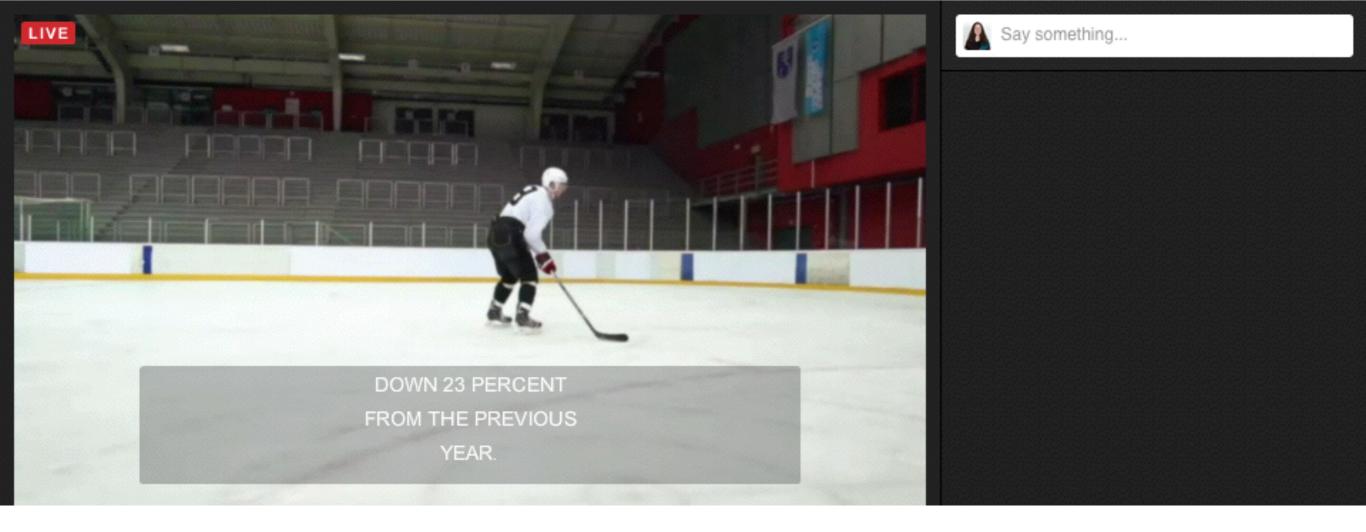


Audio Mixer	Remote Cam 1	Remote Cam 2	input Settings	
CAM3				
CAM1	Closed Capti	ons		
CAM2	Enabled			
CAM3	i Show Tips			
CAM4				
DELAY				
CLOSED CAPTIONS				

Save your settings, then return to the '**Input Settings**' tab. Select the camera source(s) with the closed captioning data embedded, then click 'Closed Captions.'

4	GENERAL	Closed Captions	
	AUDIO	C Enabled	
ē	CONVERT	Closed Captions Channel	
Έ	CROP	Off A	
еўв	TALLY	DTVCC service 1 (English) DTVCC service 2	
0	DELAY		
	CLOSED CAPTIONS		

Check 'Enabled' and then select which channel your closed captions are coming through. This will require that the selected input source be a 10-bit input signal, rather than 8-bit.



When you go live, your captions will be available as an option in the Livestream player. Please note you will not see any captions in Livestream Studio and captions will not be recorded with your video on-demand.

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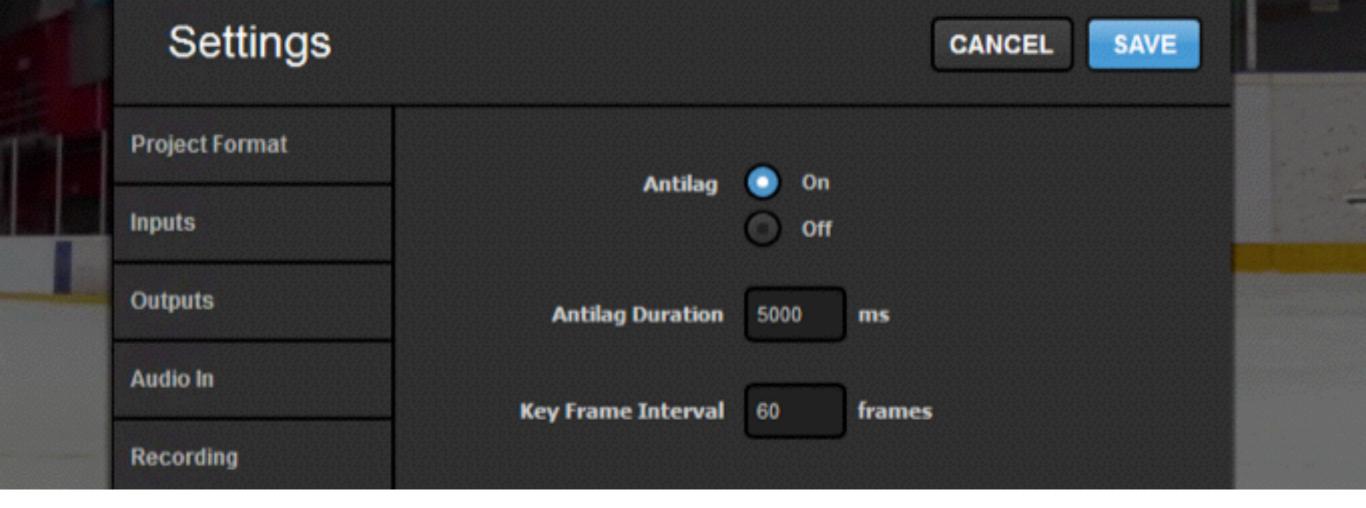
# Advanced streaming options



	Settings		CANCEL	SAVE		
	Project Format	Antilag	💽 On		Sta De	
	Inputs	, and a second se	on on			
	Outputs	Antilag Duration	5000 ms		2	
	Audio In	Key Frame Interval	60 frames			
	Recording					
	Media Player	Encoder Queue	Stop streaming when queue is           300         frames			
	Streaming	Bitrate	Variable			
	Multi-Screen		Constant			
CAM2 O	Ad Insertion	Local MP4 Recording MP4 Recording Location	BROWSE CAUsers/Livestream/	/ideos\	GFX3 ¢ We'll be right b	ack.
	Hotkeys	Other	Experimental UDP streaming		MEDIA1 🌣	⊑ MEDIA2 ¢

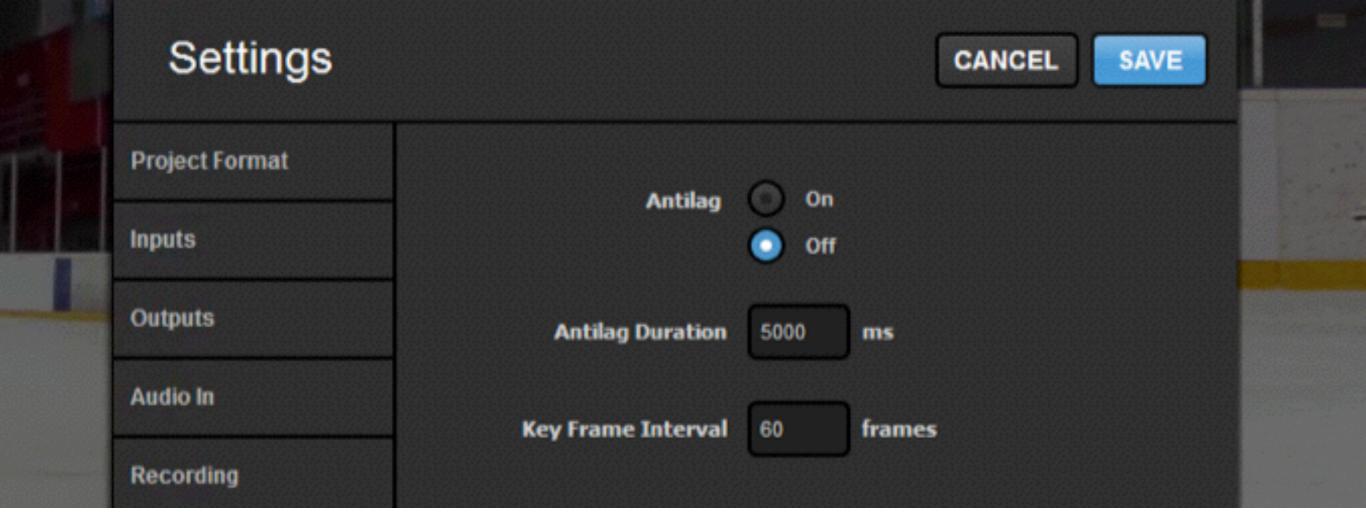
# Go to the '**Streaming**' tab in settings to change specific configurations for your stream.



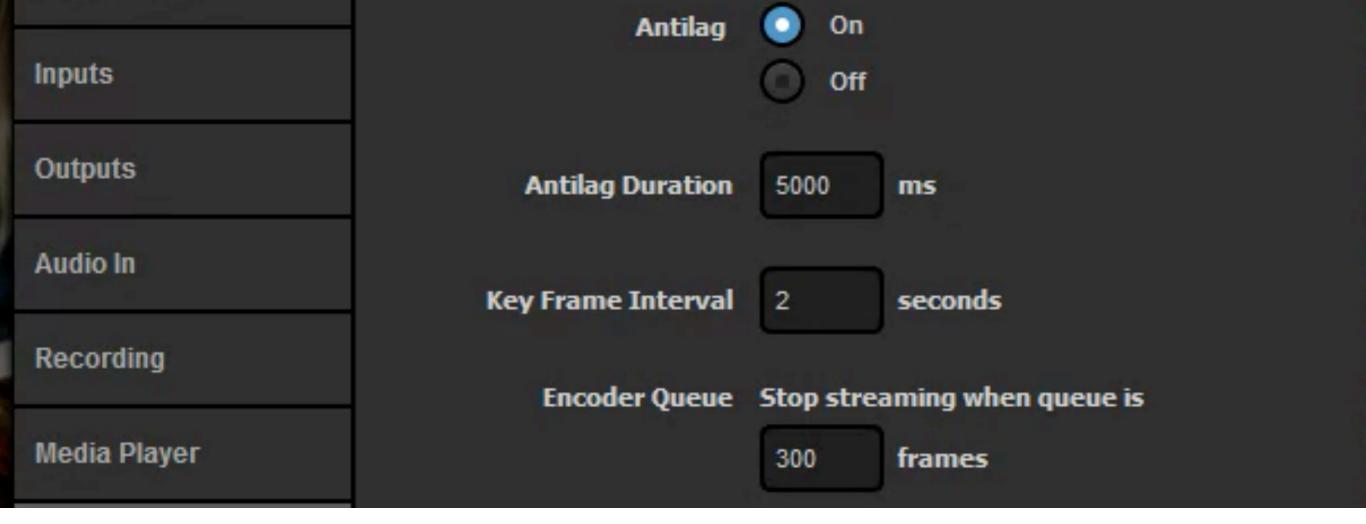


Selecting 'On' for Antilag works to reduce latency on the viewing end. If a delay on the encoding side builds up past the chosen 'Antilag Duration,' the frame buffer will be cleared.

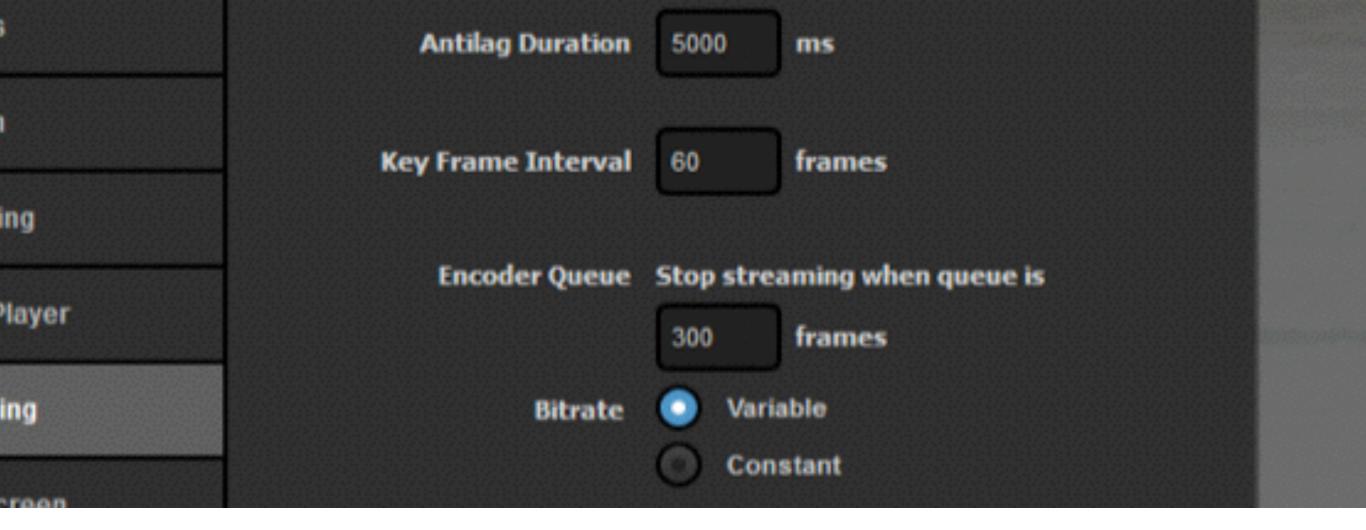
**live**stream



Turning Antilag off will continue to build a cache of frames without clearing the data, thus building latency to your viewers. If low latency is a critical component of your stream, this is not recommended.

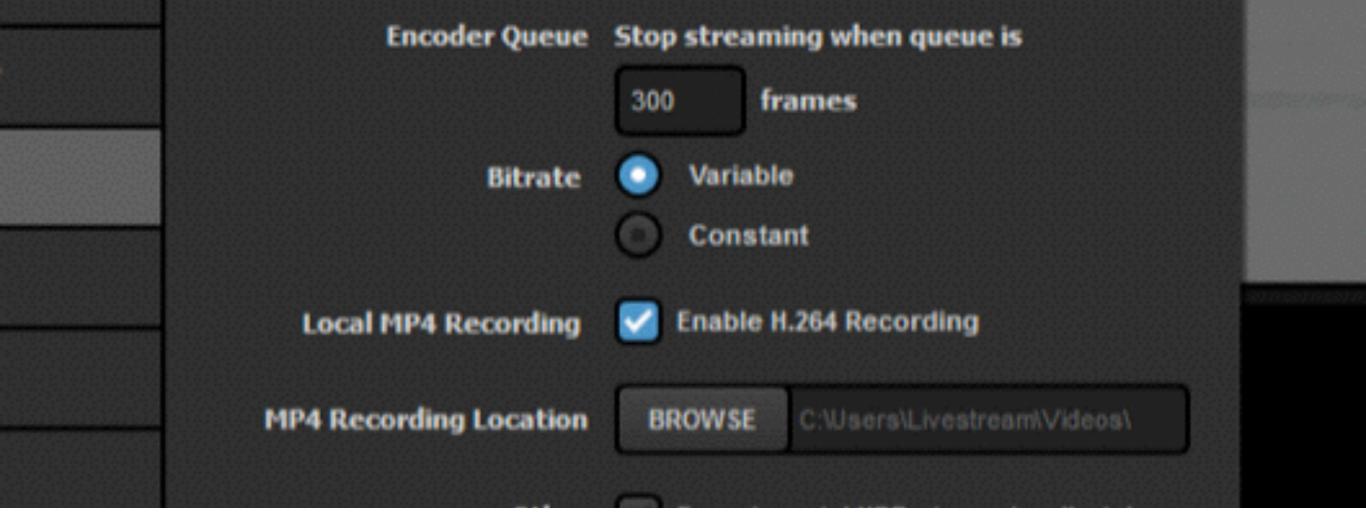


'Key Frame Interval' can be changed if desired. 2 seconds is a standard setting, but you may want to consider a higher interval if your event has a lot of motion.



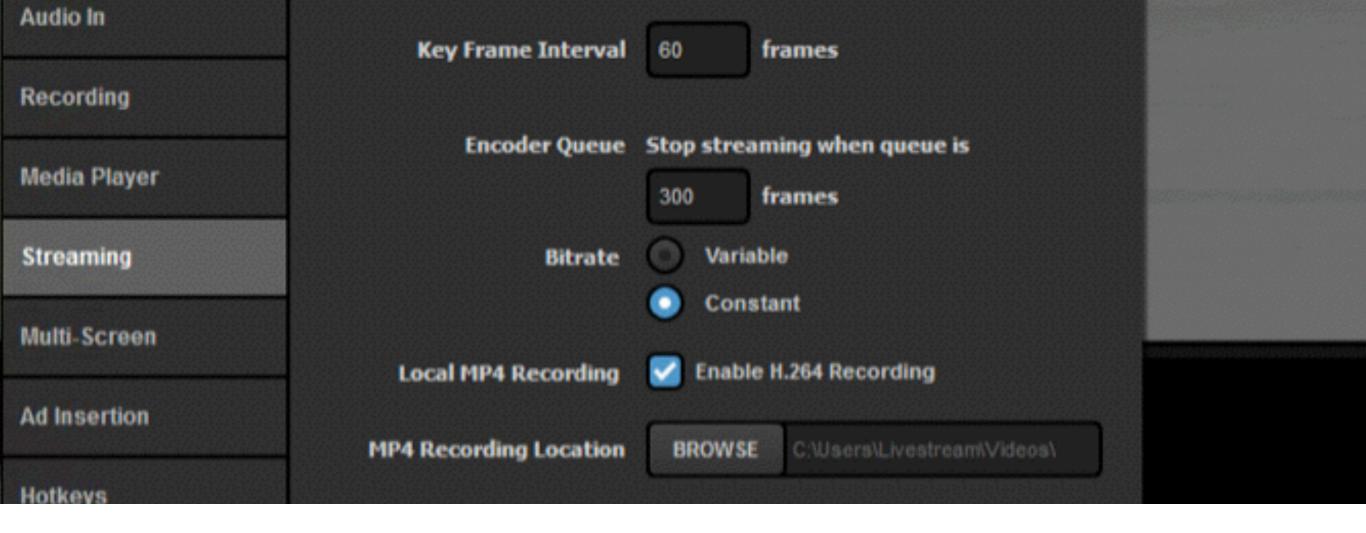
The encoder queue is the number of frames that Livestream Studio will allow to build up prior to a stream terminating due to bandwidth or CPU issues.





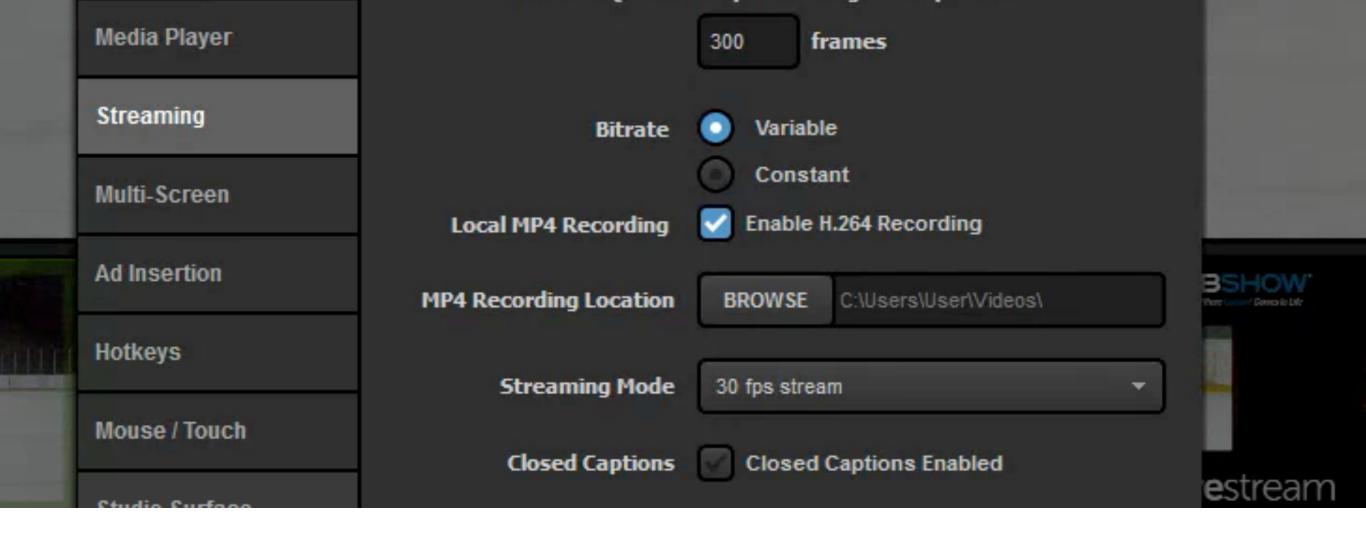
'Variable' bitrate will change the outgoing bitrate based on the movement in the video. Static images will send at a lower bitrate; high movement will increase the bitrate.





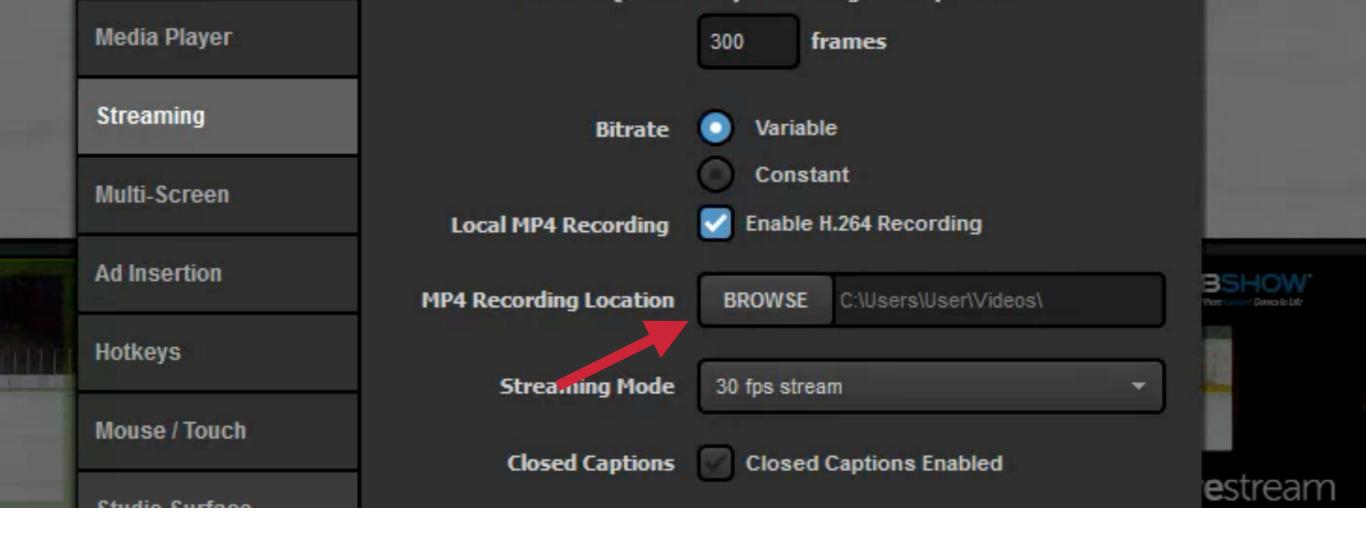
'Constant' bitrate will maintain the outgoing bitrate regardless of the amount of movement in the video.





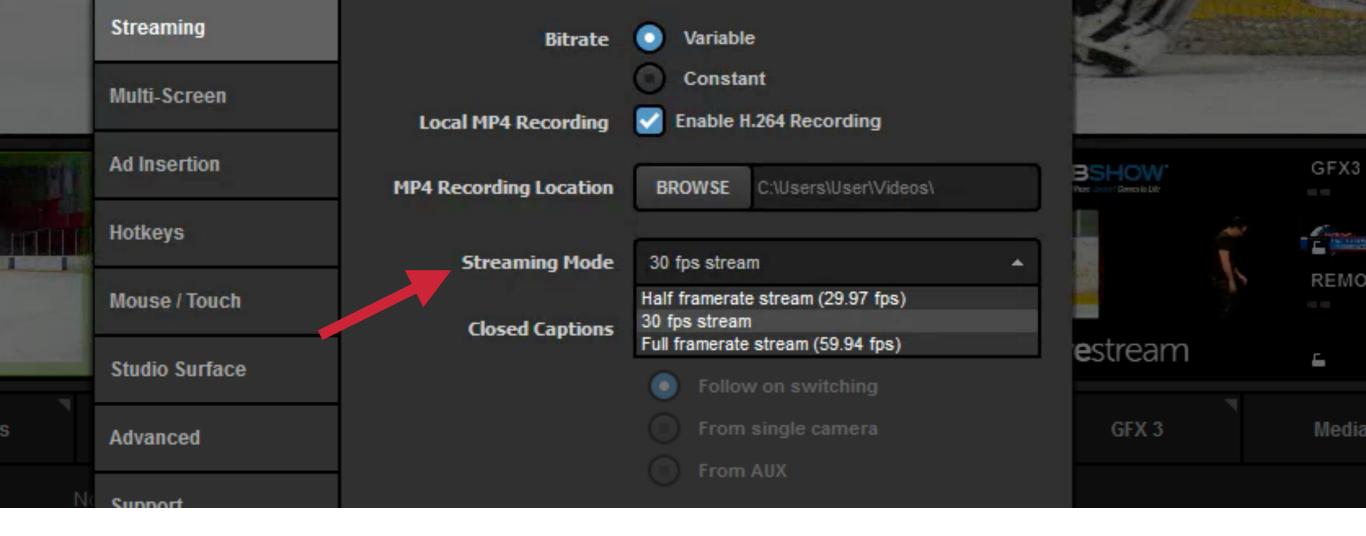
It is strongly recommended to keep 'Enable H.264 Recording' checked to ensure you have a backup .mp4 file of your stream saved on your hard drive.





You can change the location where this .mp4 recording is saved. By default, it will go to your PC's 'Videos' folder.

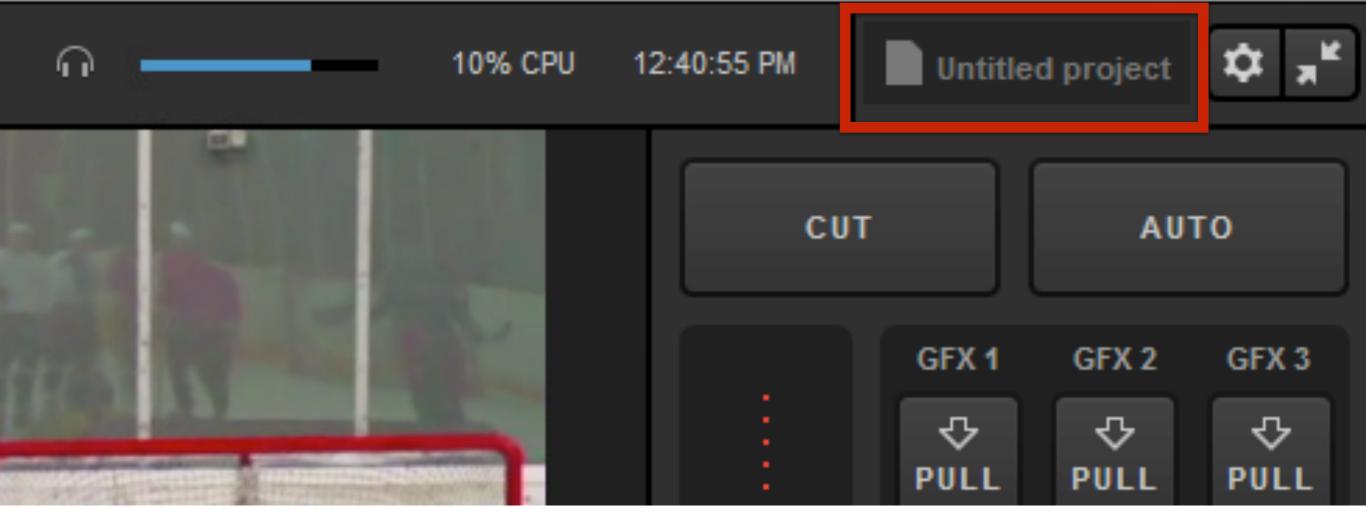




'Streaming Mode' allows you to choose the outgoing framerate. The higher the bitrate you choose, the more CPU usage will increase.

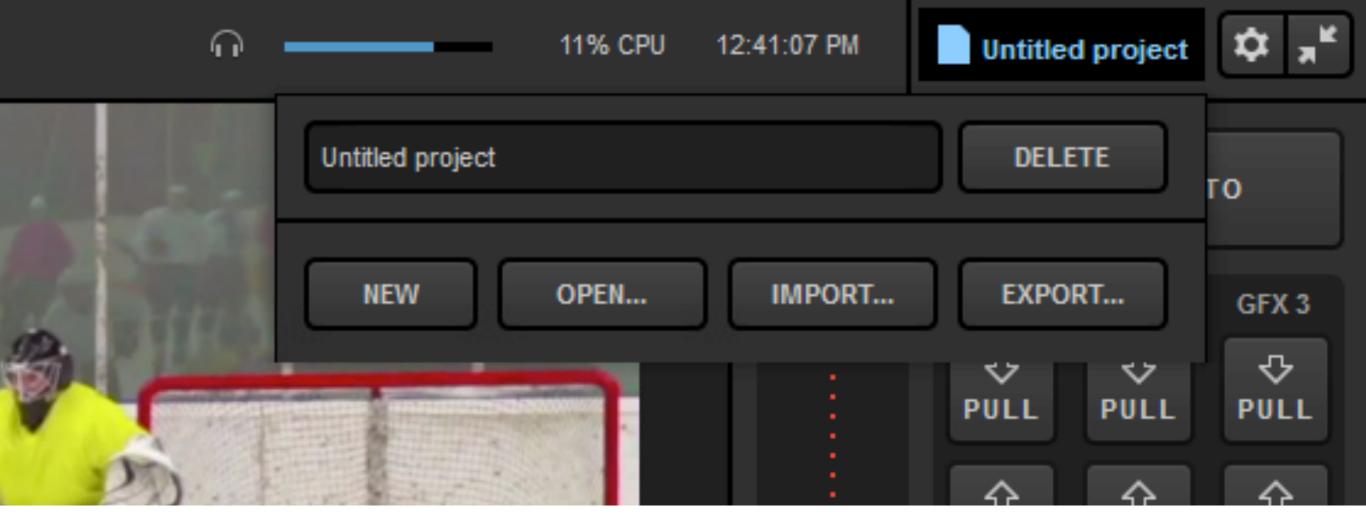
# Project saving and loading



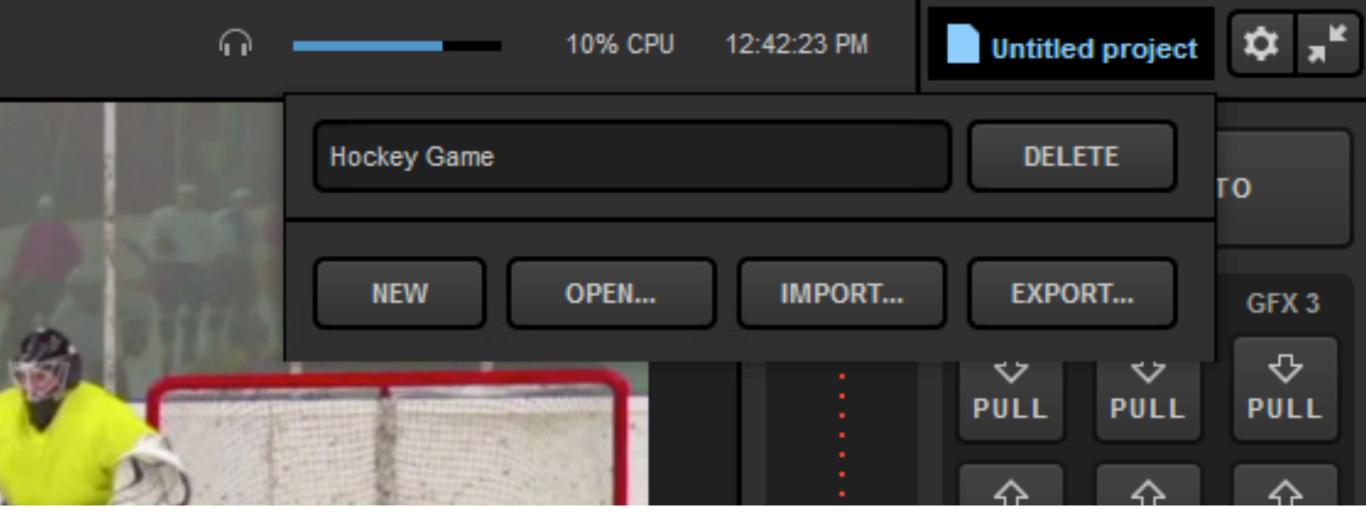


Livestream Studio gives you the ability to save, load, import, and export Livestream Project files, allowing you to keep configurations saved on your system so you can use them whenever you need to, without starting from scratch.





When you open Livestream Studio, by default you will be working on your previous project (or 'Untitled Project' if it is your first time opening Studio). Click on the title in the upper right corner to see more options.



To rename your project, simply type the name into the text box. When you click out of the window, the project will automatically be renamed.

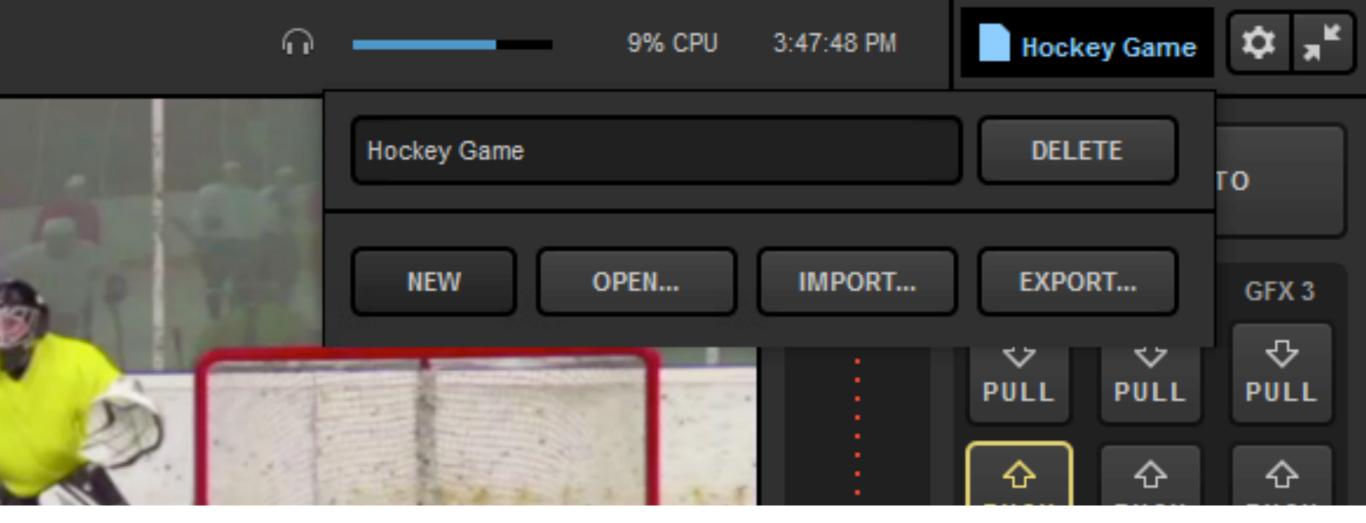
**live**stream

n 🗌 🗌 🗌 11% CPU 12:42:38 PM 📄 Hockey Game 🌣 🛒



Now your project is renamed. As you configure it (e.g. add graphics templates, import media clips, arrange inputs, etc.), it will save automatically. This occurs regardless of the project being renamed, but now you can identify it.

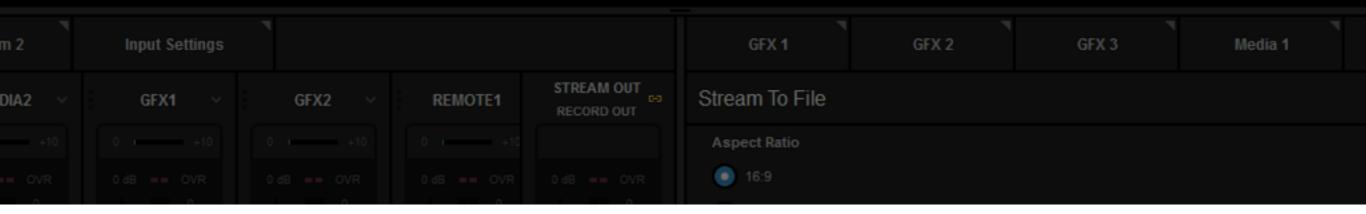




You can create a new project at any time by clicking on your project title and selecting 'New.'

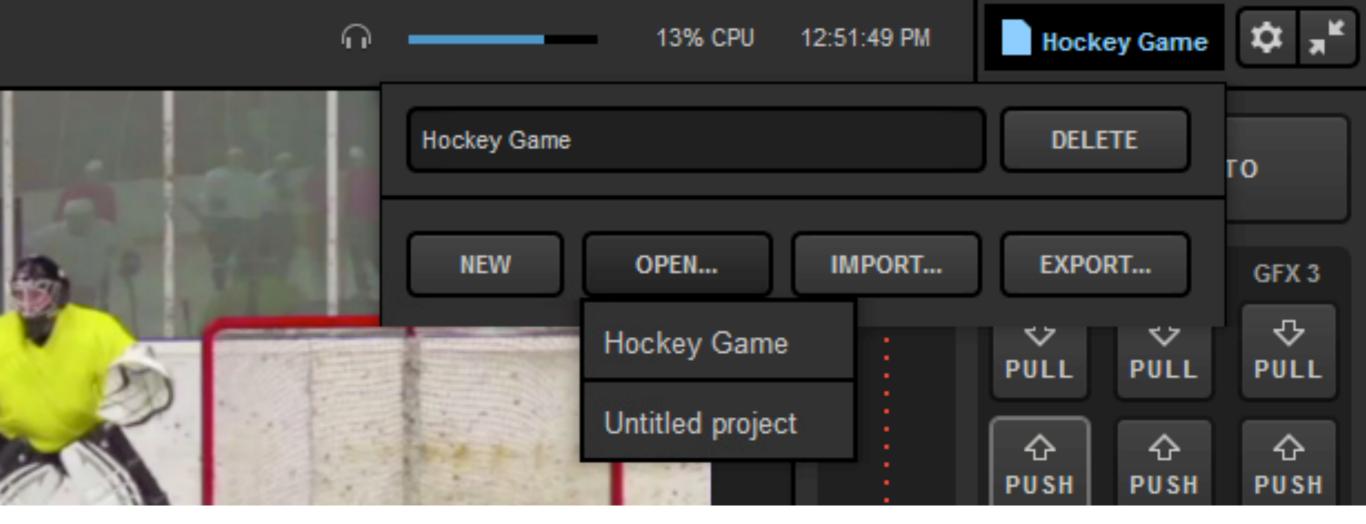


#### Loading...



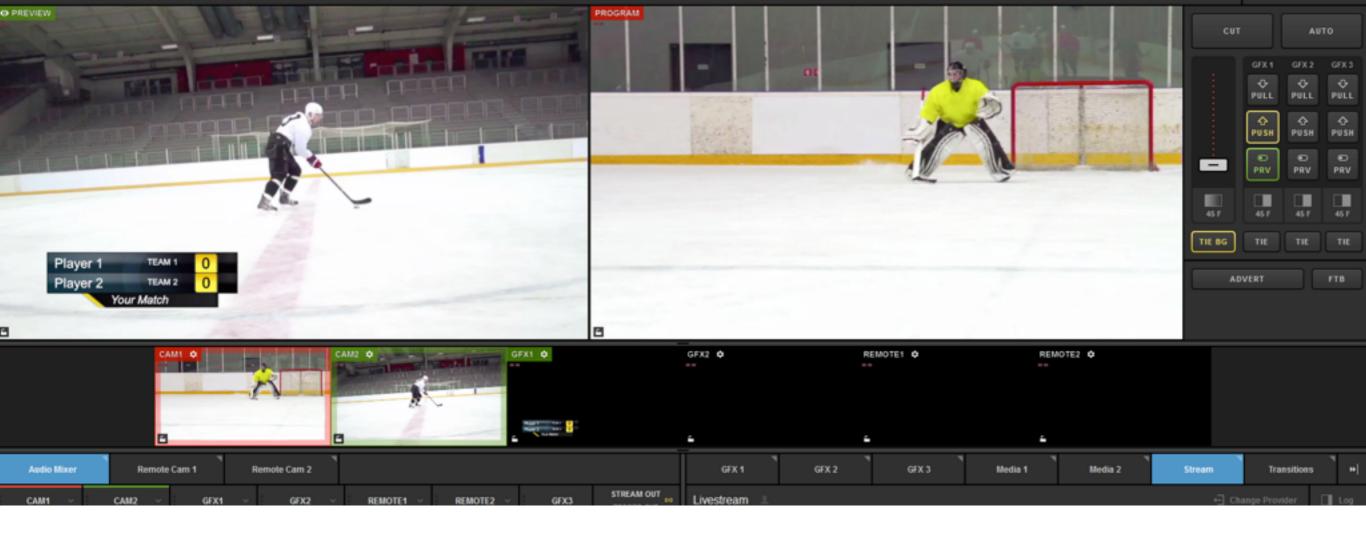
A new untitled project will open with default configurations. As mentioned above, you can rename the new project by clicking on the title.





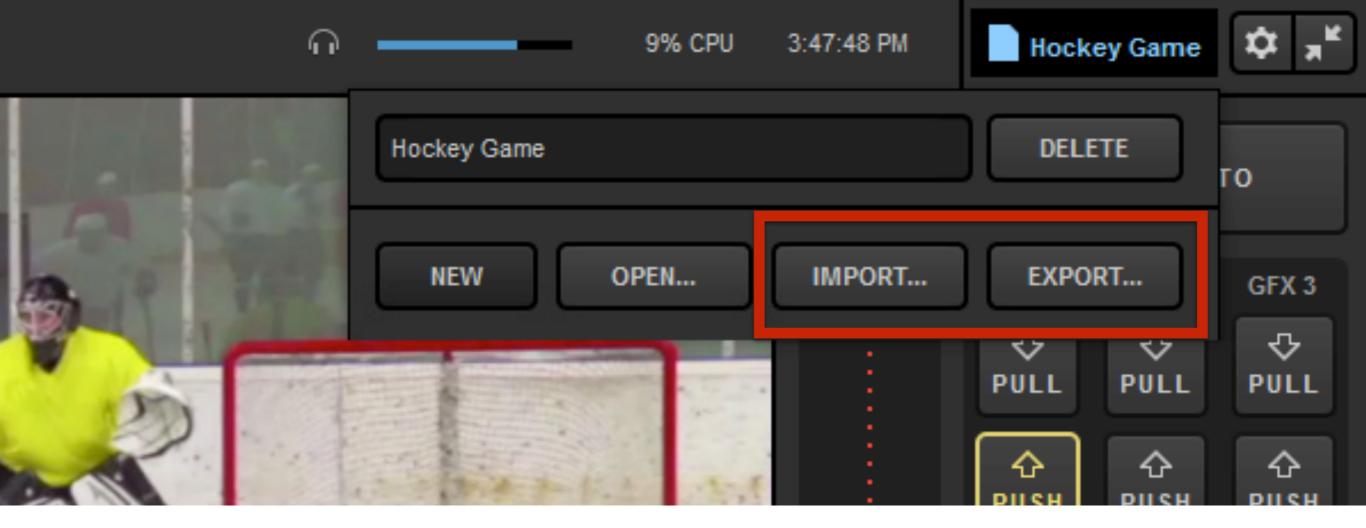
To go back to working on a previously saved project, click on the project title and click 'Open.' A dropdown list of your projects will appear. Click the project that you want to work on.





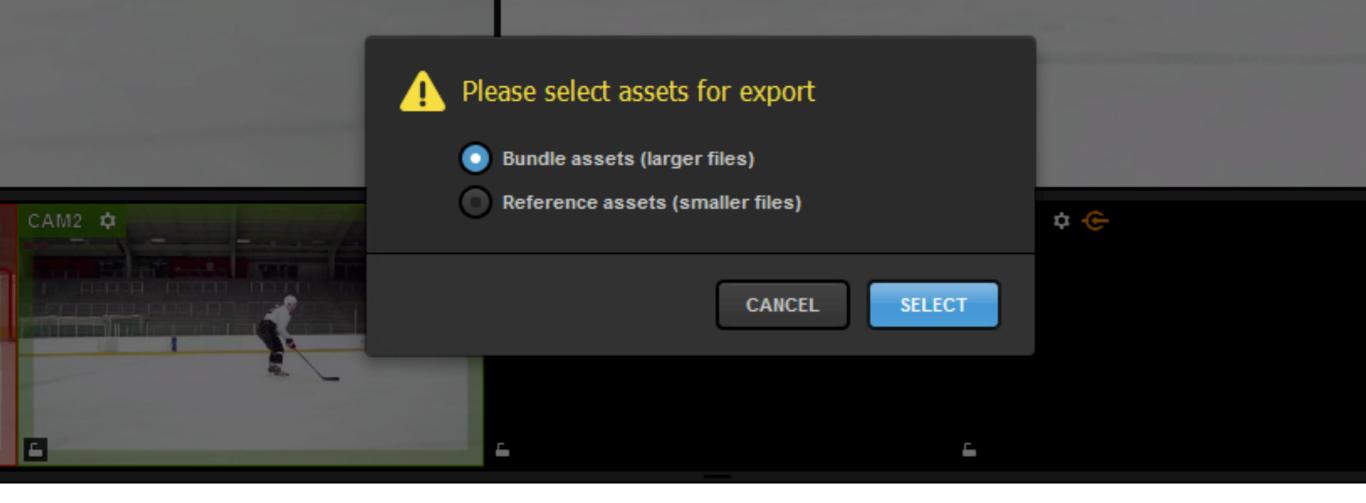
## The selected project will then open as it last appeared in Livestream Studio.





We added an Import/Export feature if you want to save your project as a file. When your Studio project is configured the way you like it, click the project title, then 'Export.'



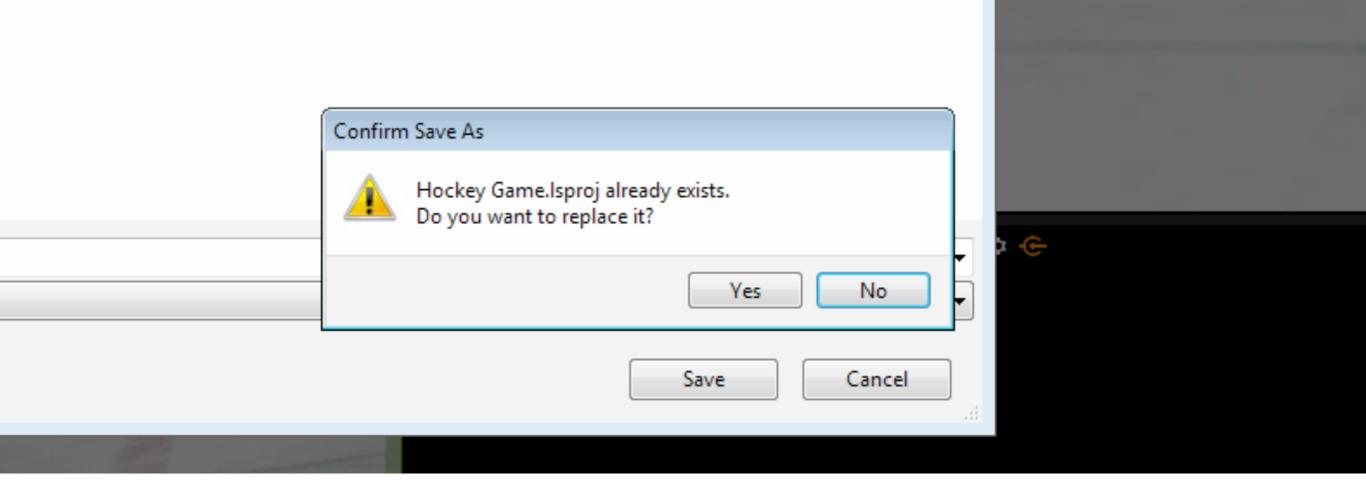


You will have the option to bundle or reference assets. Bundle is ideal if you need to move the file to a different hard drive or system, but creates a larger file. Reference is a smaller file, but will not move any associated assets (media clips, etc.) After selecting your preferred option, click 'Select.'

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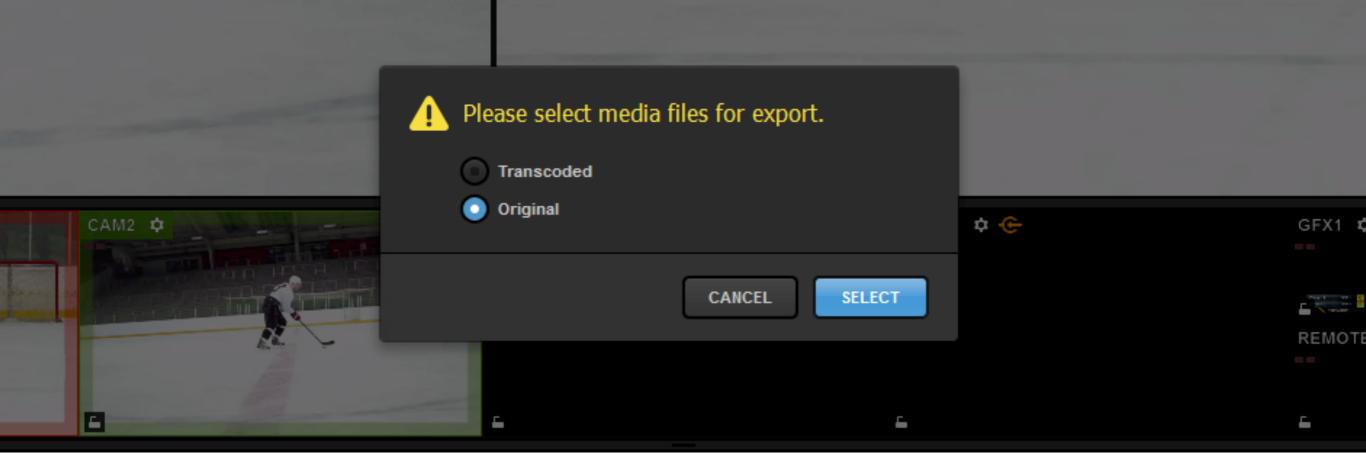
Organize 👻 New fold	der				III •	0		
☆ Favorites	Name	Date modified	Туре	Size				
E Desktop		No items match	n vour search.			and the second second		She 1
🐌 Downloads			.,					
🔏 Google Drive								14 123
Secent Places							2	1000
The second se								
Cibraries						_		
Documents							~	2
Music     Pictures								
Videos								
U VIGCOS								
📜 Computer								
🏭 Local Disk (C:)								
CD Drive (D:) webC	ic .							
👊 Network								
_								GFX1 🕻
File name: Hoc	:key Game					* •		GFX1 4
Save as type: Lives	stream Studio project files (*.lsproj)					-		
Hide Folders				Save	Cancel			REMOTE

Choose where on your system you want to save the Livestream Project file (.lsproj). By default, Windows will open a newly created 'Livestream Studio Export Projects' folder under 'My Documents,' but you can save the file anywhere you want. Then, click 'Save.'



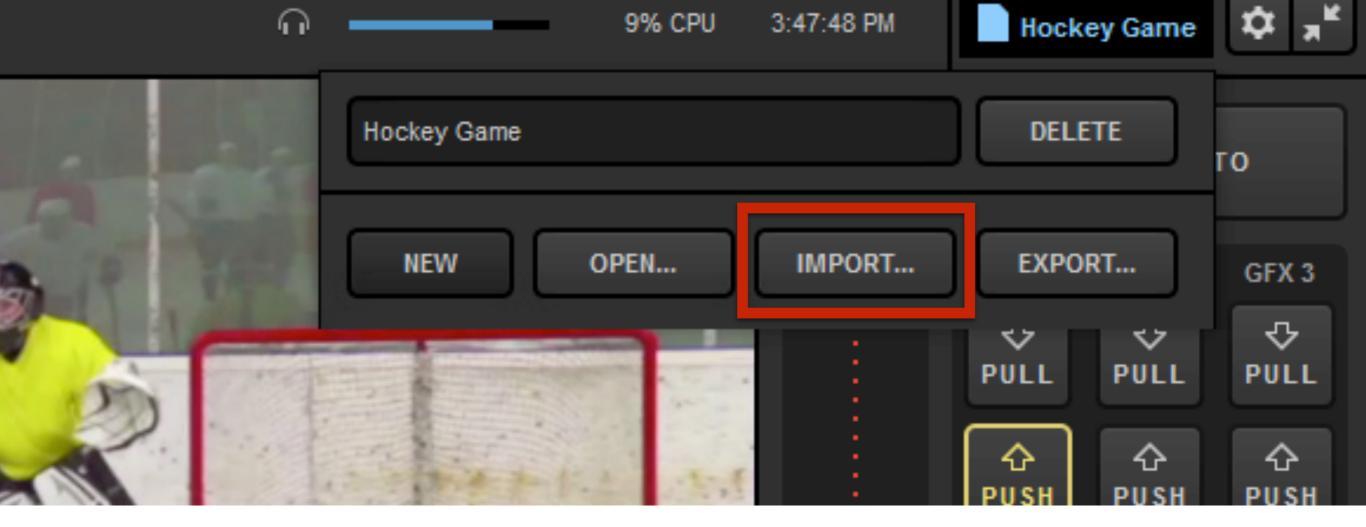
Windows will warn if you already have an .lsproj of the same name and give you the option of replacing it. If you click 'No,' you will have the option to rename it in Windows.





If you imported media files into your media bin, you will be asked whether to save the original video files or their transcoded versions (i.e., the files created after they were brought into Studio).





When you are ready to use that particular project file, you can click on the project title and then on 'Import.'

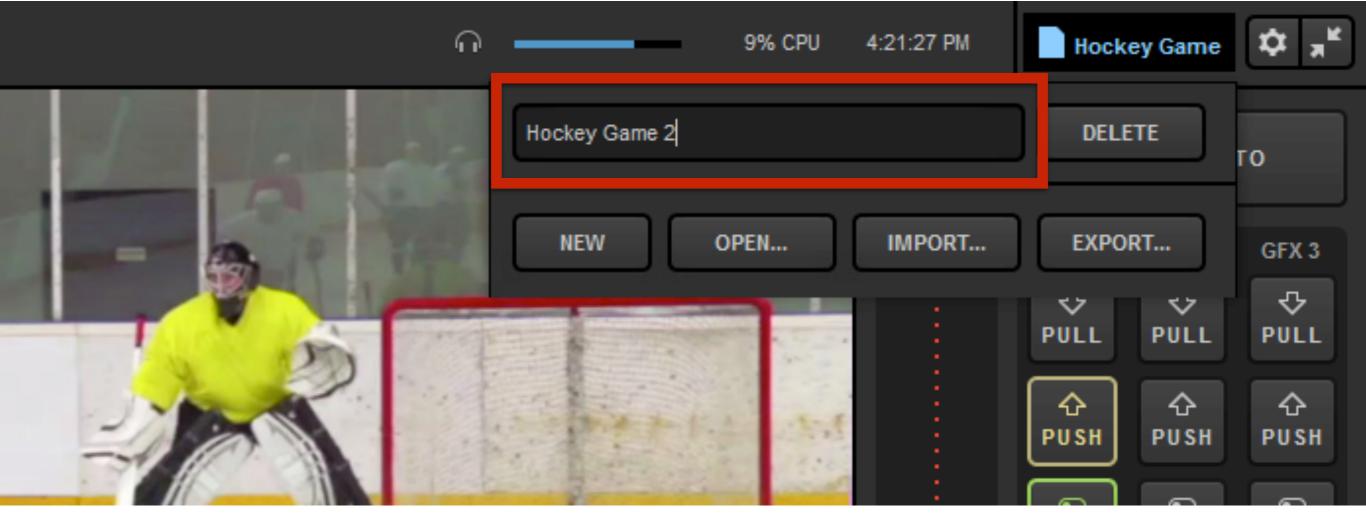


	Organize 👻 New folde	1				9	
Salar Let	🔆 Favorites 📃 Desktop	Documents libr Arrange by Livestraem Studio Beta Ex	Folder 🔻				
	<ul> <li>Desktop</li> <li>Downloads</li> <li>Google Drive</li> <li>Recent Places</li> <li>Libraries</li> <li>Documents</li> <li>Music</li> <li>Pictures</li> <li>Videos</li> <li>Videos</li> <li>Computer</li> <li>Local Disk (C:)</li> <li>CD Drive (D:) webCc</li> <li>Network</li> </ul>	Name	Date mor 9/4/2015	Select a file to preview.			
		٠ m	,				
	File na	ime:		Livestream     Open	Studio project fi		

Find your .lsproj file in Windows, select it, and click 'Open.'

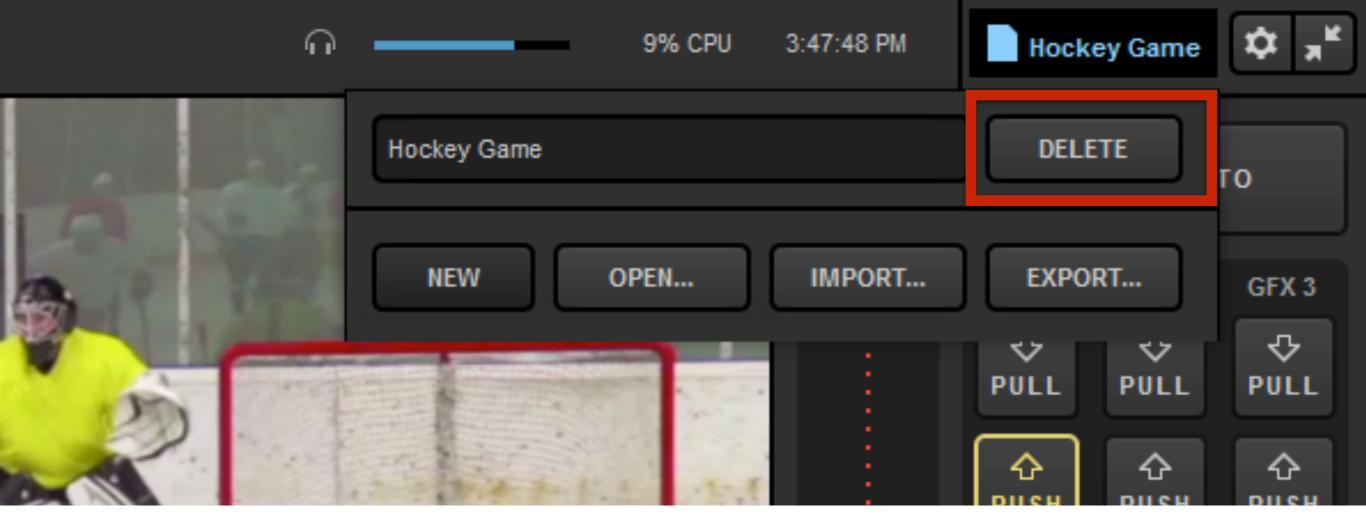
Β





This will create a new project in Livestream Studio with the proper configurations set. You can rename this by clicking the project title if desired.



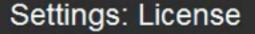


If you no longer intend to use the project you are working on, you can click the project title and then 'Delete.' This will not delete an exported file, but you will no longer be able to select it from the 'Open' menu.



Locating software and support information





**Project Format** 

Inputs

Outputs

Audio In

Recording

Media Player

Streaming

Multi-Screen

CANCEL



If you are unsure of which Livestream Studio features you have, go to settings and click on the 'License' tab for a complete list.

Live Video Output License: Up to 25 outputs	
Multi-screen License: Yes	
Media Players License: Up to 2 players	
Remote Camera License: Up to 10 remote cameras	24
Recording License: Up to 4 concurrent recordings	
Streaming License for Original Livestream: Yes	
Streaming License for New Livestream: Yes	
Streaming License for Ustream: Yes	
Streaming License for Youtube: Yes	
Streaming License for RTMP: Yes	
Streaming License for Custom Zixi: Yes	
Maximum Live Streaming Resolution: 1080p	

**live**stream

Live Input Source License: Up to 25 devices

Multi-bitrate Live Streaming: Yes

Settings: Abo	ut	CANCEL SAVE	
Project Format	Live stressor Otendia		
Inputs	Livestream Studio Version 3.0.0		200
Outputs	Serial Number:		
Audio In	RELEASE NOTES AND NEW FEATURES TOUR		
Recording	VISIT LIVESTREAM.COM		
Media Player			
Streaming	Third Party Copyrights Notice	es	

To find out what version of Livestream Studio you are running on your system, navigate to the '**About**' tab.

	Settings: S	upport	CANCEL SAVE	
G	Project Format	Support PIN:		
	Inputs	Support is available 7 days a week 9:30am to	8:30nm EST For LIS	-105
R.	Outputs	support, call +1 (877) 977-8732 extension #2 +1 (646) 490-1679 extension #2. When prom	. For international call	
	Audio In	support PIN.		
	Recording	HELP CENTER		
	Media Player	VISIT LIVESTREAM.COM		
	Streaming			
	Multi-Screen			

Finally, if you have any questions or issues regarding Livestream Studio, navigate to the '**Support**' tab to find ways to contact the Livestream Support team.



Certified capture devices



#### PCIe Cards

- Blackmagic Decklink SDI
- Blackmagic Decklink SDI 4K
- Blackmagic DeckLink Duo
- Blackmagic DeckLink Quad
- Blackmagic DeckLink Optical Fiber
- Blackmagic DeckLink Studio
- Blackmagic Decklink Studio 4K
- Blackmagic DeckLink HD Extreme 3D
- Blackmagic DeckLink 4K Extreme
- Blackmagic Decklink Mini-Recorder (capture only)
- Blackmagic Decklink Mini-Monitor (playback only)

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#### Thunderbolt devices

- Blackmagic UltraStudio Mini Recorder (capture only)
- Blackmagic UltraStudio Mini Monitor (playback only)
- Blackmagic UltraStudio 3D
- Blackmagic UltraStudio 4K
- Blackmagic UltraStudio Express
- Blackmagic Intensity Shuttle for Thunderbolt
- Blackmagic Intensity Extreme



#### USB 3.0 Devices

- Blackmagic UltraStudio Pro
- Blackmagic UltraStudio SDI
- Blackmagic Intensity Shuttle for USB 3.0
- Blackmagic ATEM 1 M/E Production Switcher
- Blackmagic ATEM 2 M/E Production Switcher

# Appendix B

Supported formats for transcoding

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### File Containers

Format	File Extensions	Media Source	Media Sink	Requires
3GP	.3g2, .3gp, .3gp2, .3gpp	MPEG-4 File Source	3GP File Sink	Windows 7
Advanced Streaming Format (ASF)	.asf, .wma, .wmv	ASF Media Source	ASF Media Sink	Windows Vista
Audio Data Transport Stream (ADTS)	.aac, .adts	ADTS File Source	None	Windows 7
AVI	.avi	AVI File Source	None	Windows 7
MP3	.mp3	MP3 File Source	MP3 File SInk	File Source: Windows Vista File SInk: Windows 7
MPEG-4	.m4a, .m4v, .mov, .mp4	MPEG-4 File Source	MPEG-4 File Sink	Windows 7
Synchronized Accessible Media Interchange (SAMI)	.sami, .smi	SAMI Media Source	None	Windows Vista
WAVE	.wav	AVI File Source	None	Windows 7

### Audio Codecs

Format	Decoder	Encoder	Requires
µ-law Codec	Audio Compression Manager (ACM) µ-law Codec	None	Windows Vista
Adaptive Differential Pulse Code Modulation (ACPCM)	ACM ADPCM Codec	None	Windows Vista
Advanced Audio Coding (AAC)	AAC Decoder	AAC Encoder	Windows 7
MP3	Windows Media MP3 Decoder	None	Windows Vista
GSM 6.10	ACM GSM 6.10 Codec	None	Windows Vista
Windows Media Audio (WMA)	Windows Media Audio Decoder, Windows Media Audio Voice Decoder	Windows Media Audio Decoder, Windows Media Audio Voice Decoder	Windows Vista

Note: Media Foundation provides wrappers for several ACM codecs listed in the previous table. However, Media Foundation does not support arbitrary ACM codecs.

#### Video Codecs

Format Decoder		Encoder	Requires
DV Video DV Video Decoder		None	Windows 7
H.264	H.264 Video Decoder	H.264 Video Decoder H.264 Video Encoder	
MJPEG	MJPEG Decoder	None	Windows 7
MPEG-4 Part 2	MPEG-4 Part 2 Video Decoder	None	Windows 7
MPEG-4 v1/v2/v3	Windows Media MPEG-4 V3 Decoder, Window Media MPEG4 V1/V2 Decoder	None	Windows Vista
Windows Media Video (WMV)	Windows Media Video 9 Decoder, Windows Media Video 9 Screen Decoder	Windows Media Video 0 Encoder, Windows Media Video 9 Screen Encoder, Windows Media Video 7/8 Encoder	Windows Vista