

Studio - LIVE BROADCAST

EQUIPMENT / SOFTWARE BASICS

COMPUTER: Most newer computers will have what it takes. We suggest 4 GB of RAM (2 will suffice) and a Duo Core 2 GHz (or faster) processor. A decent (non-integrated) video graphics card with GPU acceleration is also a good idea (but not required). The GPU comes in handy when using Wirecast (encoding software), as this will perform much better with Wirecast's special effects and features. Also, make sure the computer has a Firewire (IEEE 1394) connection/input.

CAMERA: A DV Camera with Firewire (IEEE 1394, USB is less likely to work properly). **The key is to have a camera that will send the signal to the computer in a way that it can then be streamed out in real-time. The camera needs to be able to act as a "web cam."** Most cameras these days can connect to the computer, but typically if the connection is USB the camera will just be recognized as a storage device by the computer (for transferring video from the camera to the computer). However, what you need is for the camera to actually be detected as a video source/signal that can then be streamed from the computer's encoding software. This is where the Firewire most often comes in to play (but this is not always the case).

... camera "suggestion"

- http://www.bhphotovideo.com/c/product/597424-REG/Canon_3686B001_VIXIA_HV40_High_Definition.html

NOTE: If your camera's video signal is not detected by the computer, you can purchase a video converter box (to convert your analogue video signal into digital). This will allow the encoding software on your computer to "talk to" the camera.

Links about video converters:

- <http://www.videomaker.com/article/8642/>

- <http://www.grassvalley.com/products/advc-hd50>

ENCODING SOFTWARE: You will then run encoding software (typically Wirecast or Adobe FME - more on this below) on the computer that has the sound and audio devices connected to it. We also have clients that use a Tri-caster and other pieces of encoding hardware or software. As long as you can stream in RTMP protocol, you are good to go. To connect this encoding software/hardware to your Studio account, you will simply "copy and paste" the information from your Studio's "Episode" into the encoding software (i.e. Stream Name & Server Address).

USING YOUR ENCODING SOFTWARE

A. Flash Media Live Encoder - by Adobe

- <http://www.adobe.com/products/flashmediaserver/flashmediaencoder/>

This is free software that is now also available for MACs.

B. Wirecast - by Telestream

- PC <http://www.telestream.net/wire-cast/overview.htm>

- MAC <http://www.apple.com/downloads/macosx/video/wirecast.html>

This is not free, but it is quite robust with a nice line-up of features. Features include; multiple camera/source switching, desktop presenter, titling, smooth transitions between sources (including multiple simultaneous sources), and multi-bit-rate streaming... to name a few.

They provide a free unlimited demo you can play around with to see if you like it. The full-featured demo has everything activated, however it does include a watermark over the video as well as a sound loop. It is a great way to get a feel for the software, before you make the decision to purchase.

A. ADOBE FLASH MEDIA ENCODER

Here are some instructions on using this encoding software with your Studio.

You will run the Adobe Flash Media Encoder software on the computer system that has a good internet connection, and the audio and video sources going into it. The encoding software will detect these sources (audio and video) and then push this broadcast to our servers for distribution through your player(s).

Step by Step - Live Broadcasting with Adobe FME:

1. CREATE THE EPISODE: log-in to your Studio, create a new Episode (Record), set it to Live Broadcast (in the top left of the Record details page), enter the Time for the event - then press SAVE. Within this section you will copy & paste both the Stream Name and the Server Address into the corresponding text box within the encoding software.

- The Audio Only setting will keep your Episode's Artwork visible during the audio broadcast (instead of a black screen).

2. ADOBE FME: First, connect your equipment to your computer and make sure you have both an audio and video signal being received by the encoding software. Within the Live section of your Episode details page (Studio) you will "copy" both the Stream Name and the Server Address and "paste" the text into the corresponding text box within the encoding software (be sure it is EXACT). Then press CONNECT, then START. That is it - you are now broadcasting!

Note: To help find the right settings that you should use within the encoding software, test your connection speeds through this site: <http://www.speakeasy.net/speedtest/> < test using the New York server. Upload speed is important at the source/broadcast location. Let us know what you get and we will suggest some audio and video bit-rate settings for you. Typically, it is recommended that your combined Video + Audio bit rate do not exceed 80% of the connection's up-stream test result.

Suggested Settings to help get you started in Adobe FME:

(NOTE: A lot of these settings will depend on your equipment and connection speed, so these are just "suggestions.")

VIDEO

- select your Device
- Format: H.264 (then within "wrench" icon to the right, select BASELINE and 3.0)
- Frame Rate: 30
- Input Size: 640 x 480
- Bit Rate: 500

AUDIO

- select your Device
- Format: AAC preferable (MP3 if only option)
- Channels: mono
- Sample Rate 44100 Hz
- BitRate: 96

IMPORTANT: To ensure that your stream will also work on iPhones/iPads and other mobile devices, please follow these instructions:

- video in h.264 / Baseline 3.0
- audio in AAC is best as it accommodates the widest selection portable devices (iPhone, Android, etc...).

NOTE: If you are using Adobe FME on a PC then MP3 @ 44,100 Hz will at least accommodate the Apple devices. If you are on a PC and want to be able to encode in AAC audio format, you will need to purchase the AAC plugin (<http://www.adobe.com/products/flashmediaserver/flashmediaencoder/> - you will find the link in the lower left of this page.) Adobe FME on the MAC will allow for AAC encoding without any additional plugins required.

3. END OF BROADCAST: when the broadcast is over, press STOP in Adobe FME. A

NOTE: After you have stopped the broadcast in the encoding software, it is then safe to turn off your camera and audio signals. Do not start or stop the broadcast without the signals being present - failing to do so may affect your ability to Publish the broadcast.

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PUBLISHING THE BROADCAST: You can then Publish the Live Broadcast so that it is available within your permanent Archive. To make sure this works you will need to confirm a setting within your computer. In Windows, Go into the START MENU > CONTROL PANEL of the computer. Then into SOUND AND AUDIO DEVICES. Once in there, click on the AUDIO tab. Then look at the SOUND RECORDING drop down menu. Make sure it is set to the same device that you are using for the Audio source through Adobe Flash Media Encoder. On a MAC, go to System Preferences, then into Sound. Confirm that your Input device matches what is being used by the broadcast encoding software.

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NOTE ABOUT FILE BACKUPS: always be sure to save a copy of the video at your location as well, do not trust your only copy of the video to an internet connection. If needed, Adobe FME allows you to save a copy to your hard-drive as the broadcast is taking place. In the lower right of the encoding software you will see a checkbox that will allow you to Save a copy of the file to your computer's harddrive.

FYI: You do not need to have the Studio open during the broadcast. As long as you have the Server URL and Stream Name you are good to go. All you need is Adobe FME running. You can then login at a later time and Publish the broadcast. It will remain publishable for up to 4 days after the broadcast has taken place.

B. USING WIRECAST

Here are some instructions on using this encoding software with your Studio.

You will run the Wirecast encoding software on the computer system that has a good internet connection, and the audio and video sources going into it. The encoding software will detect these sources (audio and video) and then push this broadcast to our servers for distribution through your player(s).

Step by Step - Live Broadcasting with Wirecast:

1. CREATE THE EPISODE: log-in to your Studio, create a new Episode, set it to Live Broadcast (within the Live Broadcast section), enter the Time for the event - then press SAVE. Within this section you will copy & paste both the Stream Name and the Server Address into the corresponding text box within the encoding software.

- The Audio Only setting will keep your Episode's Artwork visible during the audio broadcast (instead of a black screen).

2i. WIRECAST: First, connect your equipment to your computer and make sure you have both an audio and video signal being received by the encoding software. Within the Live section of your Episode details page (Studio) you will "copy" both the Stream Name and the Server Address and "paste" the text into the corresponding text box within the encoding software (be sure it is EXACT).

Note: To help find the right settings that you should use within the encoding software, test your connection speeds through this site: <http://www.speakeasy.net/speedtest/> < test using the New York server. Upload speed is important at the source/broadcast location. Let us know what you get and we will suggest some audio and video bit-rate settings for you. Typically, it is recommended that your combined Video + Audio bit rate do not exceed 80% of the connection's up-stream test result.

2ii. STREAMS: Create the stream(s) within Wirecast (using the stream information provided in the Episode's Live tab) and begin the broadcast.

Setting up streams within Wirecast:

1. Open Wirecast, go to Broadcast > Settings

2. Create a stream (click on "+").

- Encoder Preset: Flash High Bandwidth, then select "Edit" to customize the stream. Within the Edit section you set up the parameters for your broadcast.

- Output Format: Flash

(NOTE: A lot of these settings will depend on your equipment and connection speed, so these are just "suggestions.")

VIDEO ENCODING = 640 x 480, 30 FPS, Baseline, 500 kbits/s (depending on your connection upstream speed)

AUDIO ENCODING = Mono, 96 kbits/s, Sample rate 44.100 Hz

Destination = RTMP Flash Server

Last Step: enter the Server Address & Stream Name as provided in the Live tab of the Episode you created within your Studio.

Each broadcast you do thereafter will only require you to change the Server Address & Stream Name (your other presets will be saved).

NOTE: in the latest version of Wirecast we have partnered with the software developer, and are included as one of their integrated streaming Destinations. Simply select Sermon.net and you will be prompted to login. Use the same credentials that you use to login to your Studio. You will then be provided with a list of all the Episodes that are set to Live Broadcast within your Studio's Archive. This will remove the step of manually copying and pasting the information from your Studio into the encoding software.

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PUBLISHING THE BROADCAST: You can then Publish the Live Broadcast so that it is available within your permanent Archive. To make sure this works you will need to confirm a setting within your computer. In Windows, Go into the START MENU > CONTROL PANEL of the computer. Then into SOUND AND AUDIO DEVICES. Once in there, click on the AUDIO tab. Then look at the SOUND RECORDING drop down menu. Make sure it is set to the same device that you are using for the Audio source through Adobe Flash Media Encoder. On a MAC, go to System Preferences, then into Sound. Confirm that your Input device matches what is being used by the broadcast encoding software.

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NOTE ABOUT FILE BACKUPS: always be sure to save a copy of the video at your location as well, do not trust your only copy of the video to an internet connection. If needed, Wirecast allows you to save a copy to your hard-drive as the broadcast is taking place. Within Wirecast, create a new custom stream (save it at a higher quality bit-rate), however, in the "Destination" drop down, select Record to Disk. When the broadcast begins, be sure to also Start the Record to Disk from within the Broadcast tab.