Using Flash Media Live Encoder To Broadcast An Audio-Only Stream (on Mac)

A user guide for setting up Flash Media Live Encoder (FMLE) to broadcast video over our servers is available here:
(https://community.ja.net/system/files/15551/FMLE%20streaming%20wizard%20guide.pdf)

This guide will explain how to use it for audio-only streaming, with the aim of setting up an internet radio station.

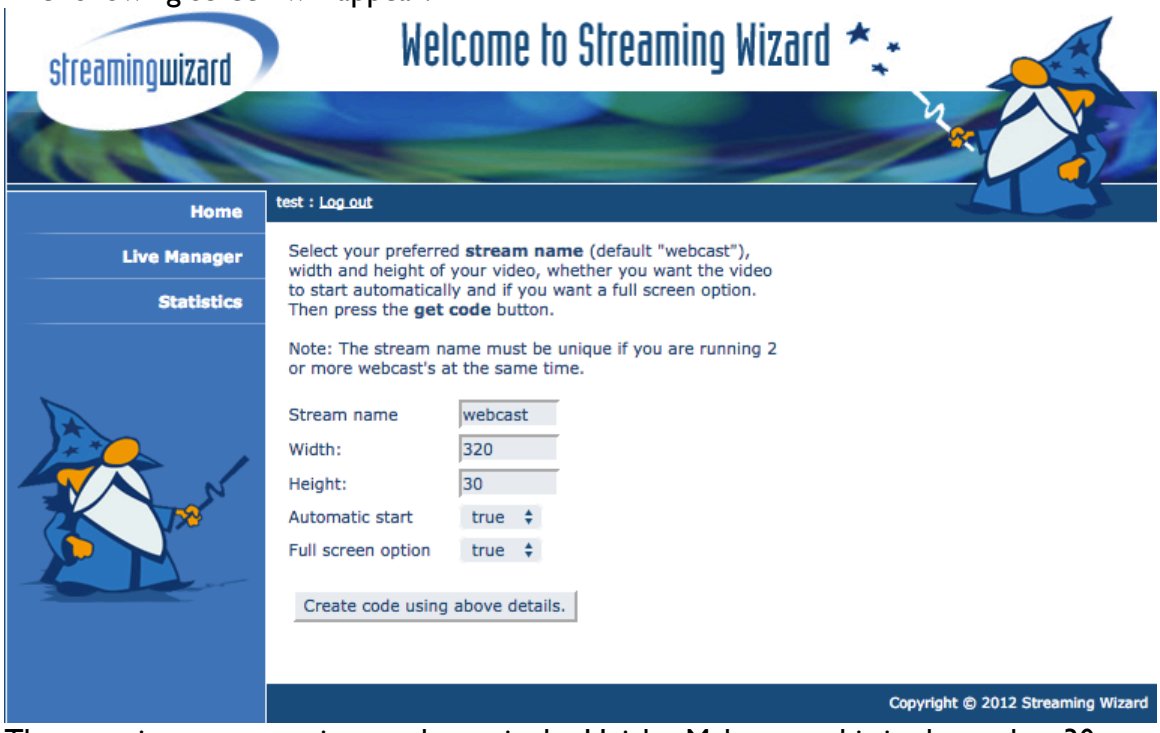
Software Necessary:

All software required is free:

- Flash Media Live Encoder (http://www.adobe.com/uk/products/flash-media-encoder.html)
- Audio Playlist Software (e.g. iTunes, Winamp, Spotify, etc)
- LineIn (http://www.rogueamoeba.com/freebies/)
- Soundflower (http://rogueamoeba.com/freebies/soundflower).

Connecting to Streaming Wizard:

Navigate to http://nasta.streamingwizard.com/ or http://sra.streamingwizard.com/ and enter your username and password.
The following screen will appear.



The most important option to change is the Height. Make sure this is changed to 30. This will remove the video box while keeping the toolbar at the bottom. You can then alter the name and, if you want to, change the width. If the Automatic Start option is set

to true it means the audio will begin as soon as someone enters the site, not requiring them to click "play" first. If it is set to false, then the stream will not start until the listener tells it to start.

The full screen option determines if the full screen button is displayed on the player toolbar. As this is audio only it is preferable to set this as false.

Pressing the button "Create code using above details" brings the screen:

Use the following details in your encoder:

FMS URL: rtmp://195.195.131.195/test
Stream: webcast

Username: test
Password: ******** (This should be provided to you)

Player code to cut and paste into your website:

```
<embed  src='http://nasta.streamingwizard.com/player.swf'
 width='320'
 height='30'
 allowscriptaccess='always'
 allowfullscreen='true'

flashvars='streamer=rtmp://195.195.131.195:80/testLive&file=webcast.flv
&autostart=true'
/>
```

This should look like:

Code to play on iPhone/iPad's
http://195.195.131.195:1935/test/webcast/playlist.m3u8

Make note of the FMS URL, as well as the Stream Name set. These will be required later for setting the FMLE output.

About FMLE:

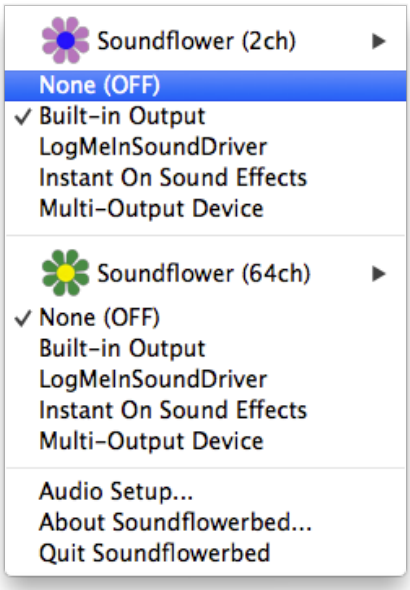
FMLE requires a live source as input. This means that if all sound is going to be performed live (for example in a talk show, without any jingles, advertising or music in the middle) then all that is required is to set the Audio Device option to the correct input/microphone being used for the show.

However, if there is any pre-recorded audio, most likely music, it is necessary to route the audio to FMLE. There is a solution for this on Mac using the free software Soundflower (available here: http://www.rogueamoeba.com/freebies/soundflower). This tutorial will take you through the steps to set this up.

Setting Up Soundflower:

Soundflower is a program that acts like a set of virtual audio cables, allowing us to route audio from any application on the Mac to any other software. It will also allow us to route the audio to more than one output, which will be necessary later. Install the application; this will require restarting the computer. Once that is completed, go to Applications, Soundflower, and run Soundflowerbed. This will not cause a window to pop up, but will create a small icon in the toolbar:

Clicking it will drop down a menu:



Your Soundflower menu might be slightly different depending on the audio inputs/outputs detected on your machine. Set the Soundflower (2ch) to the headphone/speaker output device, the output you use to actually hear the audio, "Built-in Output" in our example. This means that any audio received by Soundflower (2ch) will also be sent to that output device. You will notice a second Soundflowerbed, in our case called Soundflower (64ch), but in some cases it can be called Soundflower (16ch). For now ignore this, we will come to this at the very end.

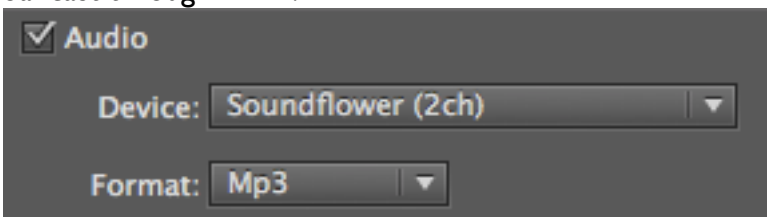
We will then go to System Preferences and choose Sound. Here we will set the audio Output for the entire computer as Soundflower (2ch). What this means is that all the audio of the computer is being sent to Soundflower (2ch), and then sent on from there to the Output we just selected in the Soundflower drop-down menu, the "Built-In Output". You can test it is working so far by playing any audio on the computer. You should be able to hear it through the selected output device. Make sure the volume is

set high enough, as this was too low for me at first and made it seem as if it was not working.

Setting Up FMLE Audio Encoding:

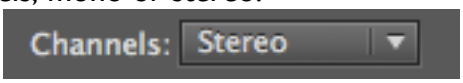
We can now focus on FMLE. Upon opening the program, as this is an audio only broadcast, we can immediately un-tick the Video box on the left, and ignore all the settings underneath that will now be greyed out.

Keeping the Audio box ticked, we can start looking at the available encoding options. First of all, the most important thing is to set the Device as Soundflower (2ch). This will make FMLE take input audio from the Soundflower application, which we have already sent all system audio on the machine to. This means you can use any software to play music and it will be broadcast through FMLE.

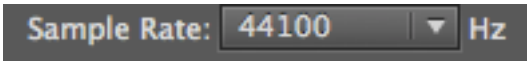


Select the audio Format you would like, most likely MP3 or AAC.

Then select how many channels, mono or stereo.

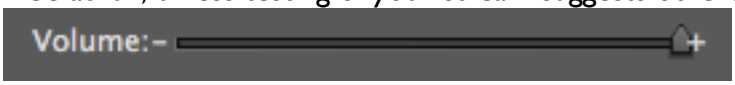


The Sample Rate is the next option, and should be left at 44100Hz for the vast majority of situations.

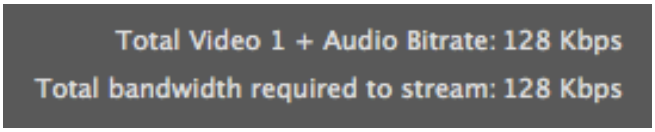


The Bit Rate is a very important option, and this will change depending on the strength of your internet, and the level of quality your stream can produce. I would recommend starting at 128Kbps and running tests of your stream. If buffering or breaks in the stream occur, you might want to turn this down, however if the stream is stable you can test turning this up to broadcast at a slightly higher quality.

The Volume bar should be at full, unless testing of your stream suggests otherwise.



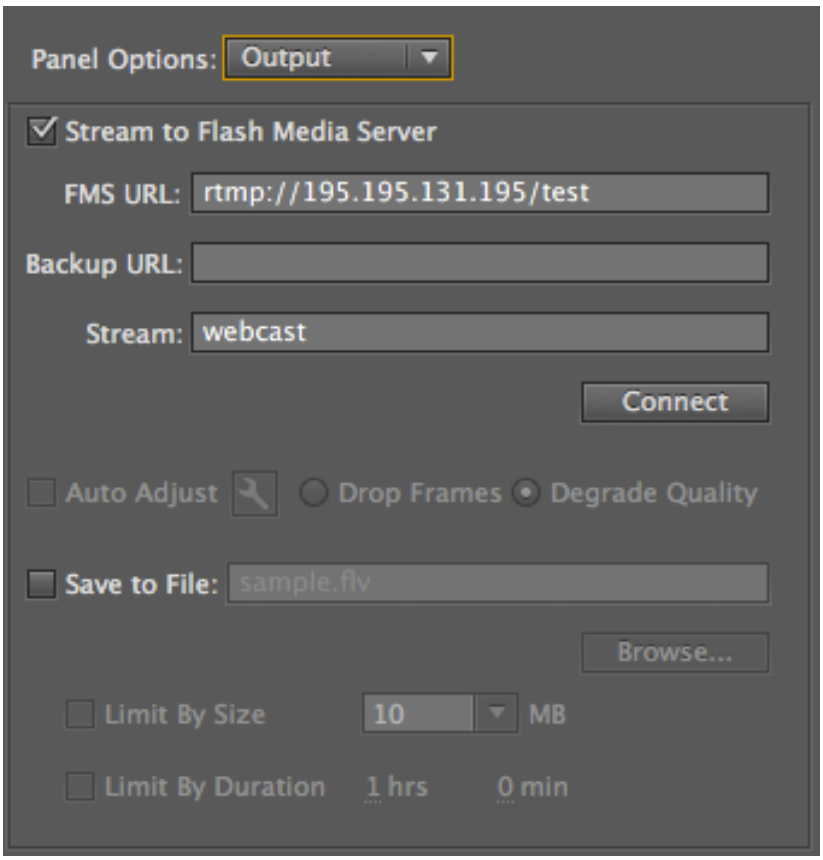
Finally, at the bottom of this section is an area that calculates the total bandwidth required to stream. This is straightforward for an audio only broadcast, as it is simply the Bit Rate selected earlier. This will highlight the internet bandwidth necessary for the broadcast, so you can more easily match the quality of the stream with your internet bandwidth.



You can now immediately test that this is working by playing any audio. If everything is set correctly, you will be able to hear the music playing through your headphones (or selected audio output) and be able to see the audio meter on the top half of FMLE fill with colour and jump around according to the volume it is receiving.

Setting up for Streaming:

With the input and encoding settings chosen, it is necessary to set-up the output to the Streaming Servers.

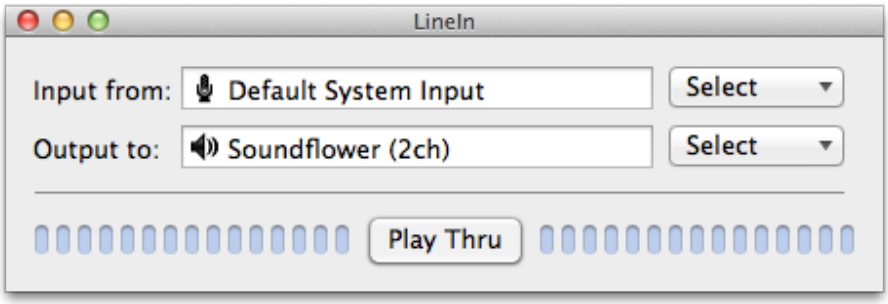


This is the panel where FMLE is told where to stream the audio. Ensure the "Stream to Flash Media Server" is ticked, and enter the FMS URL given by Streaming Wizard, as well as the Stream name you chose.

It is also possible here to set-up an area on the computer to save the stream too, for archiving.

Microphone:

If all that is required is a system to broadcast music/pre-recorded shows then you are now ready to start. However, if you are planning to use a microphone to talk to the audience, for example in between songs, or even over the top to introduce the song, then this final section is required. We will need to install a program called LineIn (available here: http://www.rogueamoeba.com/freebies/).



This software will allow us to toggle the microphone on/off at will (by pressing the "Play Thru" button), as well as letting us set which microphone is the desired input (if there is more than one microphone available) and where to output that audio.

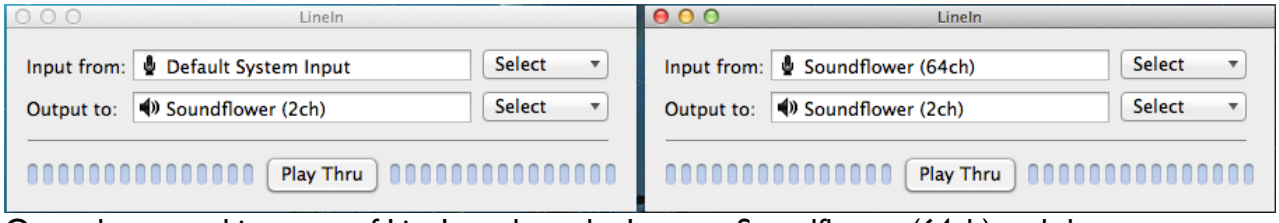
To set this up to send your voice to FMLE so the stream can hear you talking, set the LineIn Output as Soundflower (2ch).

Again, test if this works by turning the Play Thru button on, and making a noise into the selected input microphone. The LineIn program has an in-built Volume Meter, to visualize the sound that is being picked up by the program. Similarly, keeping FMLE open allows viewing of the meter there to ensure that the audio is correctly routed.

However, you may notice that you can hear yourself in your headphones as well, because all the audio is being sent to Soundflower (2ch) and then sent to both FMLE and the output device chosen. You may find this distracting while on air, especially if there is any sound lag, no matter how miniscule. We will now quickly solve this by using a second instance of LineIn and the alternative Soundflower (64ch).

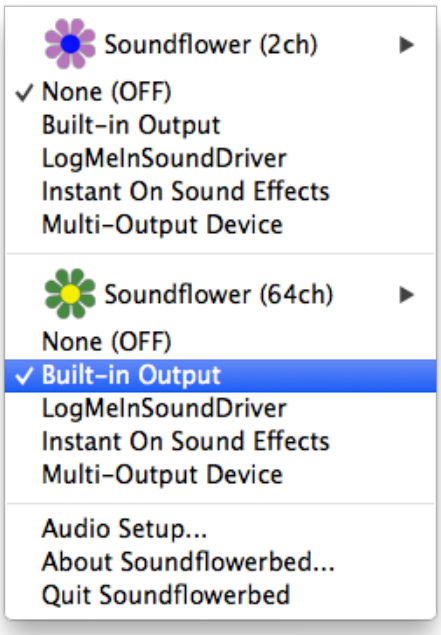
Creating 2 Different Soundflower Channels:

We will need to create a second instance of LineIn. To accomplish this, it is necessary to copy the program in the Applications folder, giving it a different name, such as LineIn2.



Open the second instance of LineIn and set the Input as Soundflower (64ch) and the Output as Soundflower (2ch). Keep the original LineIn window set up the same as before, as shown in the screenshot above.

We will now go back to System Preferences and change the Sound Output to Soundflower (64ch). Finally, return to the Soundflower drop down menu, located in the toolbar icon. Set Soundflower (2ch) to None (OFF), and set the Soundflower (64ch) to the Output device you want to hear through, in our case it is the "Built-In Output".

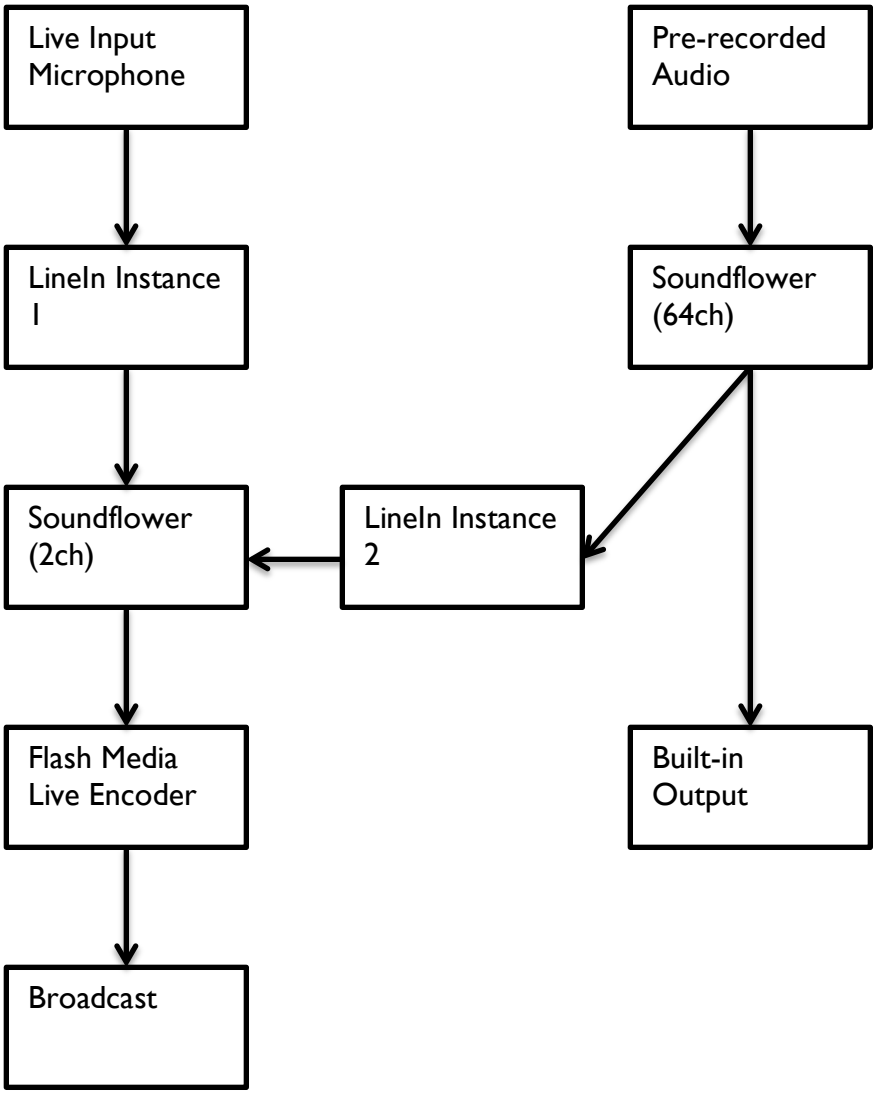


What we have achieved is 2 different Soundflower channels. Soundflower (64ch) is receiving all the audio played on the computer, and sending it to the output device you have chosen, so you can hear it. It is not receiving any of the live microphone input.

Soundflower (2ch) is receiving all the audio of Soundflower (64ch), but it is also sent your live voice input, via the first LineIn program. All this audio is received by FMLE, which is in turn broadcasting it to the Streaming Wizard servers.

The short flow chart below may help you to visualise the path the audio is taking.

NOTE: Make sure when testing that the Play Thru buttons are toggled on, and that the correct LineIn is toggled off when you have finished speaking to the audience.


Live Input
Microphone
Pre-recorded
Audio
LineIn Instance
1
Soundflower
(64ch)
Soundflower
(2ch)
LineIn Instance
2
Flash Media
Live Encoder
Built-in
Output
Broadcast