

Audio Manual for Setting Up Sound

with

The following is a tutorial to set up sound for spf.io. We will cover interfacing with both analog and one very common digital console.

Your goal is to get the spoken audio (or the main mix) to spf.io, via a computer audio interface.

We have to look at the connection options on the sound board before choosing the right computer audio interface. The computer audio interface is what gets the audio connected to the computer so it's recognized as a microphone device.

You will need to:

1. Identify what audio outputs are available on the venue sound board.
2. Identify the computer audio interface right for you, given the available outputs.
3. Identify the necessary audio cable needed to connect the sound board with the audio interface.
4. Get equipment and set up at the venue.
5. Test to ensure audio is coming through to spf.io as expected.

First, let's look at the interfaces:

Computer Audio Interfaces

A computer audio interface enables your computer to receive the audio from the sound board via an audio cable. These are a couple options:

Sabrent AU-MMSA 2.1

\$7.49 at <http://amzn.to/2mcTdH7>
(affiliate link)



or

Focusrite Scarlett Solo

\$99 at www.sweetwater.com



Factors in choosing which to get:

- Costs less
- It's plug and play
- Only good if your sound board has an RCA output
- No level control and lower quality
- Doesn't handle a +4dBu signal. It will distort if using a +4dbu output, which affects the speech recognition.
- Sweetwater.com offers free tech support and general setup help.
- Better control and quality may influence speech recognition.
- Works with various standard audio cable types.
- Has Input level control and can handle a +4dBu signal (helps prevent distortion, which compromises speech- recognition).
- A higher price point

If you don't know what your venue supports or you use spf.io in various locations, we recommend the Focusrite Scarlett as it is the most flexible solution.

Audio Cables

Audio cables patch from an output on one device into an input on the next device. Depending on which audio interface you choose, you will need one of the following:

Female XLR to Male XLR



Good for Focusrite Scarlett Solo

Female XLR to Male TRS 1/4"



Good for Focusrite Scarlett Solo

TRS 1/4 inch to TRS 1/4"



Good for Focusrite Scarlett Solo

Stereo RCA to 1/8" TRS (3.5 mm)

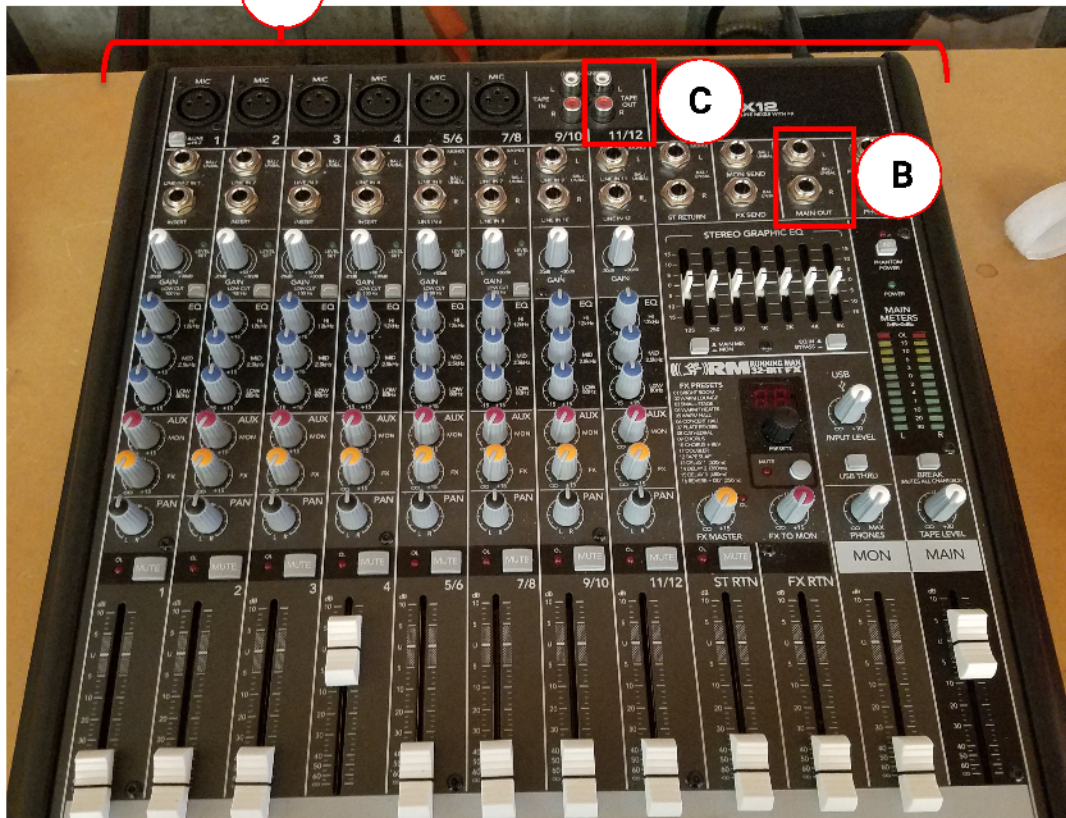


Good for Sabrent

The one you need depends on your choice of audio interfaces (Focusrite Scarlett Solo or Sabrent) and the output connections available on the back of your sound board.

Connecting with an Analog Sound Board

If you have an analog sound board, the outputs on the sound board will look like this:



A. L and R Mix on Male XLRs



This is typically near the top or on the back of the sound board.

B. L & R 1/4" on Female Outputs



Look for "Main Out."

C. RCA Outputs "2TK Outs" or "Tape Outs"



The same type of 1/4" jack or RCA jack are used for both input or output connections. Look for "output" or "out".

IMPORTANT: Do not unplug a cable that is already plugged in!

If your sound board does not have RCA outputs, then you will need the Focusrite Scarlett Solo. Here is why:

An audio device like the Sabrent with just the 1/8" mic/line input, will distort when receiving the hotter +4dBu output level from the soundboard's XLR or 1/4" connections. Distortion negatively affects spf.io's speech recognition.

This means the Sabrent can only accept the lower signal level from an RCA output. Using an adaptor to connect XLR or 1/4" to the Sabrent does not change the signal level and does not solve the problem.

Bottom line: if you may need to use spf.io in a variety of venues with different equipment, your best bet is to bring a Focusrite Scarlett Solo. Otherwise, if you only need to use spf.io in a venue that you know has RCA outputs, the Sabrent will do the job.

Mix Outputs

Connecting with Sabrent

If the soundboard has RCA Outs, then you can use the Sabrent with Stereo RCA to 1/8" TRS cable:



When plugging in the RCA cable, match the colors.

Connecting with Focusrite Scarlett

If you decide on the Scarlett Solo, look for 'L or R Output', L & R, or 'Main mix L and R output' on the back of the soundboard:



L & R mix XLR Outputs

L & R mix 1/4" TRS outputs

This analog console has both connections. The two sets of connections will either be in a section called 'Main mix,' or may say L2 and R2 as the 2nd set of mix outputs.

Either the XLR to XLR cable, Female XLR to 1/4" TRS cable, or the TRS 1/4" to TRS 1/4" cable will work. It depends on which connections are not yet in use. Do not unplug something that is already plugged in.

Female XLR to Male XLR cable



OR

Female XLR to 1/4" TRS cable



OR

TRS 1/4" to TRS 1/4"



Check your console and buy the right cable and the right audio interface. Make sure the cable is long enough.

Connecting with a Digital Sound Board

Q: Is my soundboard analog or digital?

A digital sound board will most likely have a screen and menus. An analog board will have labeled knobs and faders only.

Q: What if the sound board just has male XLR Outputs 1-16, and none of them say 'mix'?

This is probably a Digital audio console. Some digital consoles do have a "Main Mix output section". Many Digital consoles require the user to assign the Mix L and R to the desired connection in the back. This is where it gets a little complicated.



In a sound board, the Left/Right Mix acts like a funnel, which channels the volume from the mics and playback into one stereo channel. This channel then can be sent different places. The reason we recommend sending the Main Mix to spf.io is that it is sure to include the speech mics (the microphones people will speak into).

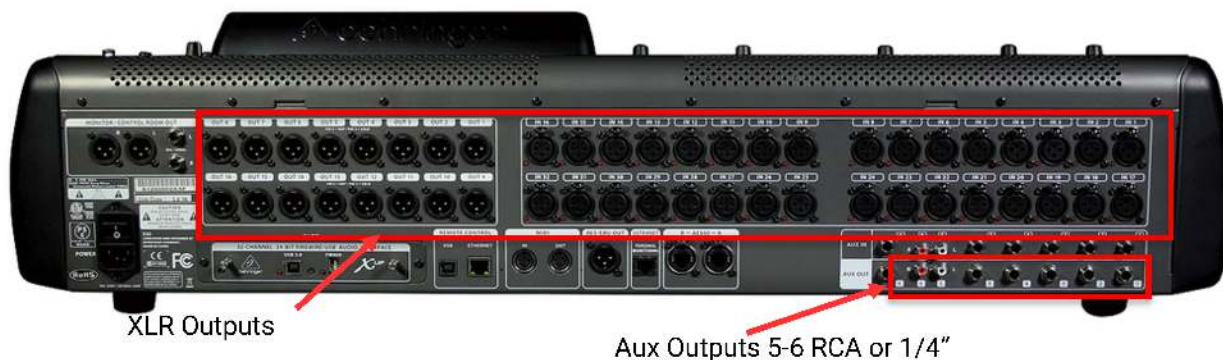
Before setting up the audio for spf.io, be sure to complete the other audio setup and sound check for speakers/musical instruments/etc.

If you are using a digital console, identify an unused output (XLR, 1/4", or RCA). Plug it in with the computer audio interface using the necessary audio cable (Focusrite Scarlett for XLR or 1/4", Sabrent for RCA).

Next, you will need to route the main mix to the output.

The following explains how to route the main mix to a specific connection on the X32. This is a common digital console with many of our clients. A different digital sound board will have a different menu system. It will however have a way to do the same type of routing. You may need to consult the console's manual.

The X32 has both XLR and RCA outputs.



In our example, we want to route the main mix to Aux Output 5-6. Use the RCA outputs for the Sabrent (with a Stereo RCA to 1/8" stereo cable), or use the 1/4" Aux Out for the Scarlett Solo.

1. Press 'Routing'



2. Press Right Arrow until the 'Aux Out' tab is visible.



3. With the knob below the bottom-left of the screen turn it and select an aux output that is available. In our example, we are scrolling to Aux Out 5.



4. Below 'Category', Use the knob to highlight 'Main (L,R,C)'.



5. Use the knob below 'Output Signal' to Highlight 'Main L', then. Press the knob inward.

The image shows the 'Edit Output Assignment' screen on a Pioneer DJ mixer. A finger is pointing at the 'Main L (R)' entry in the 'Category' column. The screen displays a table with the following data:

Current Setting	Category	Output Name	Bus
Main L	Main L (R)	Main L	M41 C
Main R	Main R	Main R	M41 C + M
Main XLR	Main XLR	Main XLR	L64 SO
Direct Out Monitor	Direct Out Monitor	Direct Out Monitor	L7224 M
AUX Out 1	AUX Out 1	AUX Out 1	P5412 G
AUX Out 2	AUX Out 2	AUX Out 2	P5412 G + M
AUX Out 3	AUX Out 3	AUX Out 3	P5412 G
AUX Out 4	AUX Out 4	AUX Out 4	P5412 G + M
AUX Out 5	AUX Out 5	AUX Out 5	P5412 G
AUX Out 6	AUX Out 6	AUX Out 6	P5412 G + M
AES/EBU I	AES/EBU I	AES/EBU I	P5412 G
AES/EBU II	AES/EBU II	AES/EBU II	P5412 G + M

Below the table are four buttons: 'Select', 'Assign', and 'Set'. To the right of the screen, there are physical knobs and buttons for 'ROUTE', 'ROUTING', 'SETUP', 'LIBRARY', 'EFFECTS', 'MUTE GRP', and 'UTILITY'. The top of the screen shows a digital clock reading '02:39 PM'.

If you will be using an XLR output with the Focusrite Scarlett, you will follow slightly different steps.

- It is really important to note: If you are struggling with this, DO NOT JUST START PUSHING BUTTONS! You will end up un-routing and re-routing many mixes and can cause all kinds of problems. If you got the Focusrite from Sweetwater.com, they have people who can help. Otherwise, consult with an A/V tech to ensure proper setup.**

Questions? Visit <http://spf.io/contact-us> 8