

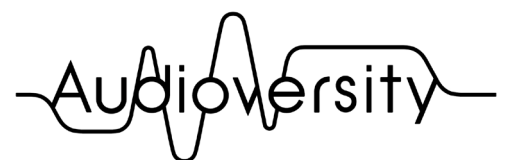


Creating Professional Audio for Livestreaming

Part One

How to Mix for Livestreaming

Getting a good basic music mix for streaming platforms



by Yamaha Pro Audio

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It's a Brave New World

The world of music performance has changed over this last year. We have all seen this happen in real time and that is also how we see the future; live! Live streaming looks to be an ever-increasing part of the professional audio world and it's about time we all got serious about getting a great mix for live streaming platforms.

Know Your Audience

What platform are you streaming to?

What type of devices will your audience be viewing the performance?

What is the primary focus of the livestream?

These are some of the questions you need to ask yourself as you prepare to mix your livestream. By knowing the answers in advance, you are well positioned to do a professional job and create a great mix!

For example, if you are streaming over Zoom, you should ensure that the advanced audio settings have been set up for Original Sound with stereo hi-fidelity so that you can stream the highest quality over that platform. Will your audience be listening primarily on laptops, phones, home entertainment systems or a combination? You may want to set up a similar device that you can monitor through in order to hear what they hear. If the focus is singing and dialog, your first concern will be to get the vocals clear and at the forefront of your mix. This is why I advocate a top-down approach.

Mix in Isolation

In an ideal situation, your mixing area should be in a separate room from the performance so that the acoustic sound in the room does not affect your balance in the mix. Your audience won't be in the same room and in fact could be on the other side of the world so make sure you are hearing the mix like the audience will.

Sometimes mixing in another space is not possible and so you must find another way to isolate yourself from the room sound. Using headphones is most likely the only way to do this and while this is not optimal, it can still work well so long as you are using headphones that block out as much external sound as possible. You should use a closed back headphone set such as the Yamaha HPH-MT8 pictured below to block as much room sound as possible.



YAMAHA Studio Monitor Headphones HPH-MT8

Separate Monitor Volume

One thing to keep in mind is that the main mix output should not be used as a volume control for your monitoring setup, whether headphones or speakers. The master fader should only be used to set the level of the mix going into your streaming software. You will need a separate monitor volume control for your speakers or headphones. Most modern consoles have this feature built in, such as here on the Yamaha MGP32X.



YAMAHA MGP32X Phones/Monitor Section

Mixing Top-Down

A typical sound check often starts with the engineer asking the drummer to hit the kick drum. Then we listen to the kick for a while, dialing mysterious parameters into the console so that the kick is perfect and then we move on to the snare and so forth. This is what I call a bottom-up approach and does have its benefits in certain situations.

But with livestreaming, the goal is not to fill up a stadium with tons of impactful low frequencies and coverage for thousands of people, but rather clarity and envelopment over personal devices for usually just a single person. So let's start with a top-down approach.

Vocals First

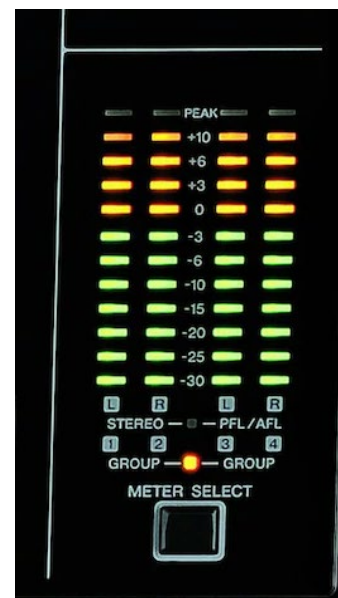
In this approach we start with the vocals. Get a good vocal level on the main singer or speaker by setting both the channel and main faders at 0 and adjust the preamp to get a good, healthy level on the master meter.

What's a "Healthy" Level?

Now that's a good question! The answer depends on what type of mixer you are using; analog or digital. In the analog world, the meter for the main mix usually has a 0 point somewhere in the upper half of the range. In this image of the YAMAHA MGP32X analog mixer's Meter Section, you can see the main meter has a range of -30 to +10 with the 0 point about $\frac{2}{3}$ of the way up.

When normal talking or singing reads around 0 on the meter, you can consider this healthy. For those of you used to working with the PFL bus, this level should be the same if both the channel and master faders are set to 0. This is the place to start.

On a digital console, the meter range is different but the



YAMAHA MGP32X Meter Section

principle is the same. In this image of the main meter on the TF5 digital mixer, the range is from -60 to 0 with a marking at the -20 point. This marking should be considered your healthy level point. Some consoles might use -18 but generally it's in this area, -18 to -20.

Now this level is only for normal singing or talking. Of course performers can get louder or softer and you need to check for this as well. Have the singer sing a very loud and/or high note and check to see that the level does not go all the way to the top where it will clip and cause distortion.



YAMAHA TF5 Meter Section

On the analog meter, this is "PEAK". On the digital meter, this is "OVER". Your mix should never reach this point on the meter. It can come close, but just not reach it at any point. We will talk more about how you can use mix bus processing to help prevent this and still have a great sounding mix for your livestream in another article. Just remember that the rule is not to let the mix level get to PEAK or OVER.

Compressors

If you are familiar with compressors, now is a great time to use them. Put a compressor on the main vocal to control the level and even out the loud and soft passages so that it remains loud and clear as the focus of your mix. Plus, this will make it easier to bring in other musical elements without losing the vocal in the depth of your mix. With a strong vocal sound, it's easier to crank up the drums, bass, and other instruments to create a full mix that will be enjoyable to your audience.

Drums Last

Now let's get the rest of the band in there. Don't worry about the drums until the end. They are almost always bleeding into every mic on stage and so you only want to add what's needed from the drum mics once you have a balance of everything else. Anyone who has experience mixing live sound knows this is true.

Minimize the Bleed

We've all seen the plexiglass walls put up in front of the drums. While it's not aesthetically pleasing, it can really help you create a better mix for the livestream. Singers are often placed directly in front of the drums and of course the drum sound will go directly into the vocal mic causing a great deal of unwanted bleed.

Move the Drummer

Try moving the drummer off to the side if you can. Plexiglass shields work well. Use an acoustically treated corner area for the drums, possibly with curtains to help contain the spill of cymbals and overly physical drummers. Gotta love 'em!

Turn the Amps

Typical instrument amplifiers have a fairly narrow dispersion. Think of them like a laser, not a floodlight. They project sound in a very narrow beam. If that beam is pointed into another mic, especially a vocal mic, it can be a problem.

One solution is to turn the amps sideways so they project across the stage rather than forward into the vocal mics. Some amps have tilt-back features that project the sound up to the ceiling which can also help.

The other solution is to get the player to turn it down a bit. That always helps the mix so long as everyone is able to hear each other well in the monitor or in-ear systems.

Don't Forget the Room Mics

I have a great deal of experience mixing live recordings, most notably Peter Frampton's 35th Anniversary World Tour box set and the reissue of Humble Pie's 'Performance Rockin' the Fillmore'. One thing Peter was always adamant about was the use of the room mics. I worked very hard to maximize the room sound of those concerts in order to provide a feeling of "being there" and envelopment for the listener. This is why you shouldn't forget the room mics!

There are a couple possibilities for room mic positioning that work well. You can use directional or cardioid mics on the stage pointing out into the audience or a pair of mics out in the room itself to capture the ambience. A good place to put them is out at the FOH position or in the back corners of a room.

Rather than using some digital reverb from a processor, try turning up the room mics for ambience and "liveliness". The real room sound is so much more believable than fake reverb and will help your audience feel like they are there with you. The room mics may require a good deal of EQ to blend well with the direct mics as each room has its own signature sound. Take advantage of this to make your mix more compelling!

This is not a Monitor Mix

Remember that this mix should not be used as a monitor mix for the stage or performance area and should only go to the livestream. You do not need to worry about feedback at all in this case, so you can freely apply EQ, compression, de-essing, and FX without fear that it will cause feedback or interfere with the performers. This is much more like mixing in the studio than a live PA. Have fun with it!

(To be continued in Part Two)

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by Yamaha Pro Audio