

Getting The PA Up & Running

by Ken Friesen

A friend called me from a club in Saskatchewan the other day. The soundman hadn't shown up and he needed to get the PA running, so this is what I told him...

Take a deep breath. Let your fear guide you. If you don't know what a device does, don't mess with it. For the purpose of this article, we will assume you have a basic understanding of sound system functions and that everything is plugged in properly.

The first thing to do after finding all the power switches is to zero the entire system. This includes putting all faders and sends to zero, flattening all equalizers (on the console and graphics), pans to centre, gains down, filters out, comps and gates at unity, and check any settings on self-powered boxes. This may seem unnecessary or scary since it "worked last time," but it really can save a lot of grief – and will stop you from building on the mistakes that previous users may have made. Any messing with amp racks, crossovers, or more serious system set-up should only be attempted by lab-coat-wearing, factory-trained personnel.

To get the monitors working, start with the lead vocal. Use the solo function and set the input gain so it is filling the meter when you bark into the mic as loud as your singer will at maximum. SLOWLY bring the send level up in their floor wedge until it is on the verge of feedback. This will be centred on one frequency, and you will need to identify it and pull it down on the graphic equalizer. If you have not trained yourself to identify frequencies, you may need to cut them one at a time to find the troublemaker. Most often the first frequency to feedback is in the 800 Hz range. It is a common practice to GENTLY boost rather than cut to find the frequency. BE CAREFUL. This is the time you are most

likely to induce a huge blast, which can damage the system, your ears, and anyone else in the room. I usually call out "fire in the hole" and clear the stage of all other potential victims before starting this process. You can use the roof of your mouth or the palm of your hand to cup the mic and make it feedback easier. Continue to bring up the level until it wants to feedback again. Find and turn down the next problem frequency. After you have done this a third time, stop. Having found the first three "rings" and turned them down an appropriate amount, your monitor is about as loud as it is going to get. You may find making little smiles on your graphic EQ around these centre frequencies helps. For wide band tone adjustments, use the EQ on the input strip. If you have matching monitors and mics, you should be able to copy the settings to the other inputs and mix equalizers as a starting point. Use your ears. If they don't sound the same, then start from scratch for each mix.

With equalization, less is more. You will often find the frequencies that want to feedback are multiples of each other (octaves) and it is helpful to learn to convert Hertz to musical notes. Having every slider on the graphic pulled down is a bad sign.

Now it's time to do the front of house. Once again, step one is to zero all settings. I've been carrying a disc with the same four songs on it for about ten years now. I play about 30 seconds of each just to make sure the system is working properly. Unless you are a strong enough tech to do something about it if there is a problem, don't bother. Take the lead vocal mic and plug it directly into its correct channel with any inserts plugged in. Solo it and set the input gain appropriately. If you understand compression, set it up too. If not, then



unplug it. Bring up the master fader SLOWLY. Use the graphic equalizer to ring out the feedback and for whatever adjustments need to happen to make it sound like you, only louder. If the system is stereo, do one side and then match the other. The room will have a resonant frequency in the low end that will need to be cut.

This is the time to get the PA as loud as it will go so when it is turned down (please) it will be stable. I like to take this opportunity to thank the diners for their patience and work on my stand-up routine. Avoid yelling "check, one, two." It is boring and irrelevant. Be sure to test all your effects before taking the mic back on stage.

You are now ready to start mixing. Just remember: if it's feeding back don't panic, you can always turn everything down.

Ken Friesen enjoys amplifying, recording, and broadcasting good music in both the analog and digital domains. Contact: ken@kenfriesen.com.