Subject: Re: Feedback Reduction Strategies
Posted by Thermionic on Fri, 05 Aug 2011 05:13:29 GMT
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Howdy audioaudio90,

You pretty much covered all the bases there. But, if I could add to the list, it would be to mute or pull the faders down on all mics not currently being used. That is, provided you're running a live setup where there are some mics that aren't used during the entire set.

Of course, if you're running sound on a fixed, permanent location such as a hall, church, etc, then it's well worth it to install some acoustic treatments if they're needed. Overly live/reflective venues are always feedback monsters, besides sounding terrible.

One of the best things you can do is to have a 5 minute class on proper microphone usage. This can save you a LOT of grief, believe you me. For example, I've always been surprised by how many folks don't know to always keep their mic's axis perpendicular to the monitors, and as far away as possible. Quite regularly, I'll see people hold the mic down by their side when standing right in front of the monitors. Of course, they figure it out pretty quick when the resulting squeal causes several ruptured eardrums and coronary attacks in the venue.

Then, you have those who suffer from what I call "microphonophobia," which is a tormenting, agonizing fear of microphones. They hold it out at arm's length (sometimes even straight out to their side), because they are afraid it will bite or otherwise attack them if they get it too close to their face. QUICK! Turn the monitors down some for max gain before feedback (they don't need 'em anyway), push the fader up hard in a vain effort to get enough gain that they can actually be heard every now and then, and then quickly slap the 'phones on yer head so you can hear closely enough to ride the fader on the knife-edge of feedback with your trembling, white-knuckled fingers.

Do all this while trying to ignore the dirty looks from everyone turning around and motioning for you to turn it up because they can't hear them singing. Yes, YOU'RE a total idiot; it's YOUR fault, never mind the fact they're holding the mic 3 feet away from their mouth, straight out to their side, and whispering quietly enough to not draw attention in a public library. Mental note to self: make a big sign that says, "Go do Google searches for Inverse Square Law and "gain before feedback," before you blame me for this." Keep the sign in the sound booth, and hold it up the next time everybody turns around and looks at you.

Do note, there are two general classifications of microphonophobia disorder. These are "horizontal microphonophobia" and "vertical microphonophobia," also referred to as "longitudinal microphonophobia" and "latitudinal microphonophobia." The disorder that was mentioned in the above paragraph is horizontal microphoniphobia, and its symptoms differ from those of vertical microphonophobia. Those suffering from vertical microphonophobia hold the mic down at waist level, usually while singing with their head tilted back so that their voice projects upward and at an angle as far away from the mic's pickup axis as possible. Neither is considered to be worse than the other, because they are pretty much dead even equally annoying.

However, the absolute worst is "split microphone usage disorder." These are those who suffer

from microphonophobia (usually while whispering), then suddenly conquer their fear of microphones, and prove it by eating the mic while screaming at the top of their lungs. Then, after mere seconds have passed, they relapse into a panic attack of mixed vertical and horizontal microphonophobia by whispering again while holding the mic 3 feet from their mouth.....and then repeat the whole episode over and over in 30 second to one minute cycles.

Then, there's always that guy with the low, deep voice who insists on eating the mic the whole time he's singing, so you quickly, nervously kill the bass EQ by 10dB when you see him heading for the stage.....

Closely related (but much worse) is that one with a voice like an air raid siren, who knows less than nothing about vocal control and already "sings" by screaming, but then punctuates it with 140dB screams while eating the mic.....QUICK! COMPRESSION TO THE RESCUE! SQUASH IT TO DEATH! HARD LIMITER ON!

Then, veeeeeery carefully push the fader way up to catch that nearly inaudible whisper they like to throw in now and then. Finally, it's sounding OK and everything's right with the world, wait, what's that, no, NO, NOOOOO! Their next scream clips the input 6dB into the red at the setting that gives you at least several db headroom on everyone else's loudest peaks; my, what lovely sounding distortion that was.....turn the input gain down until it stays out of the red the next time they scream like they hit their thumb with a hammer, then readjust everything else all over again to match the new input gain setting. Then, spend the next full minute trying to strike a balance between dull, muddy sound from too much compression, and not getting blown clear out of your seat on the screams.

By now, the musicians are giving you dirty looks, because the singer's death screams in the monitors are blasting out their eardrums. That's when you realize, hmmmm, that terrible, mysterious sound you were trying to tweak out but just couldn't was wall reflections from the monitors, because the level of vocals in them was 15dB higher then normal because of that "scream machine" with the mic. So, turn the singer down in the monitors, everybody's happy, and everything finally sounds OK. Then, five seconds later, the song's over.....reset everything back to normal for the next one.....

That is, reset everything back to normal except the monitor aux send on that channel, because you forgot to turn it back up. Next step: receive dirty looks from the next singer because they can't hear themself.....

Finally, there are the ones who hold the mic straight up and down and sing directly into the side of it, for that lovely, nasally comb-filter sound. Those acoustic labyrinths around the capsules of cardioid mics are dandy for off-axis rejection, but they don't sound very good to sing into. That's what the open end of the mic is for.....

As noted, all this can largely be avoided by a 5 minute class on mic usage. However, there'll always be some that'll do their own thing, no matter what, because you're an idiot and don't know what you're talking about.

Oh, the life of a sound tech.....sigh.