

Tuning On The Fly

Riffing in the land of old school

By Jack Alexander

Call. I can feel the chill of the morning air through my sweat-shirt as I walk toward the venue. Diesel and cigarette exhaust greet me at the entrance, and as the fumes clear I pass into excessive heat and light that quickly change to no heat and the sickly glare of the works.

Just what I need – the smell of the forks at 8 am on an empty stomach – better forego the nap in the curtain trunk and eat the forbidden donut.

One of the hands changes the fork spread to accommodate the wheel bases on the FOH cabinets, and the clang of metal on metal bounces around the room, momentarily obscuring the grating buzz of the works. Making allowances for the fact that none of the soft seats are on the main floor yet, and that the 100 section and half of the 200 section bleachers are folded, it's obvious that the room has some serious issues at 1.6K.

I glance up at the roof – oh yeah, this place. Right. They ran out of money and didn't put any shmeck up there. Untreated tin roof. Great. Stage has a bad 160, though it's solid below that. Last time the first third built up at 400 with a full house – I'll have to have someone monitor that and let me know if I screw up again during the show.

Now if we angle the array down just a snerd, we can finesse the ceiling bumper and still get some consonants to the nosebleeds in the back. I'll get someone into

that section and we can modify the angle while I hiss into a mic, and when he signs off on the fact that some 5K is audible back there, and I accept that we've minimized the 1.6 - 3.15K disaster from the ceiling, we're set on the array.

I may have to fudge the crossover point on the top segment from 1.68 to 1.90K or so as well, to knock down the harmonics that the 2-inch would have set off bouncing around that cheapo roof. A couple of cuts in the mids just below the new crossover point should hide the slowness of the mid operating out of band, and I'll change the entry into the 2-inch from 24 Linkwitz-Riley to 18 Butterworth, which will make the thing a little more integrated walking out of the mids.

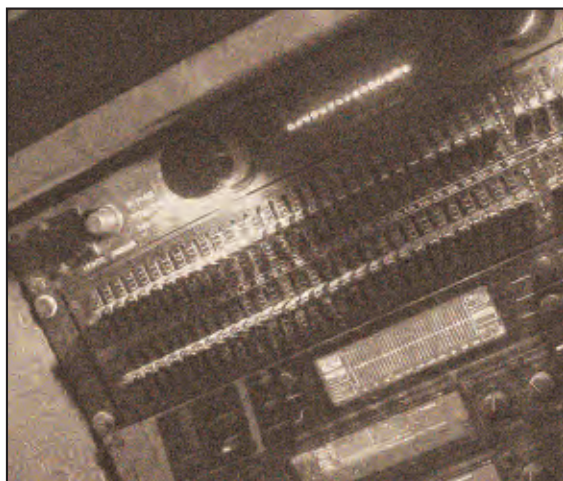
The 2-inch should be able to take the hit; unlike many drivers we now have to use, these have a wholesale price point that exceeds the IQ of the average production manager.

RE-CUT THE DOWNFILL

Let's see. Those idiots need to get the subs out of contact with the deck, then we'll re-cut the downfill angle to something less radical, and then re-do the array /sub alignment – the bass was too one-note last night and it wasn't just the room.

O.K., the Carla Lother cut ("Captain Courageous" from Chesky's *Ultimate DVD, Sampler & 5.1 Set-Up Disc*) is running and now I can start on the sub/array alignment. We've got it sent to the drumfill for an upstage delay reference, and to the subs and the array FOH left.

First we'll put the DVD into repeat and listen to each area individually, for a sense of how they're loading the



room. The leading bass edge of that cut conveys part of the loading, say 80 Hz and above, while the second part of the note hits lower, down into the high 30s.

The drumfill sounds as sloppy as usual – how’s he got that thing plus 6 at 80 Hz? Mostly I hear it as an ugly smear at FOH, but we must account for it in the timing, filtering, and EQ of the mains and the subs.

That’s enough of that; let’s check it in the array, which has useable activity to the high 50s, chopped off with a 24 Linkwitz. Sounds flat and fast in the bass, cool for theatre or corporate or new age, but this is a loud show, hence the subs.

Kill the array, now let’s hear the subs, with that gross 120 Hz low-pass the factory recommended. There’s your one note problem right there. So we drop the sub low-pass to 15 Hz below the array high-pass, creating a 15 Hz void in the system low-end response, effectively busting the subs apart from the array.

In this case, it means we’re exiting the subs at 56 Hz, with the high-pass on the array at 71 Hz. Nah, the hole’s too big. Let’s see, we’ll walk out of the subs 18 Butterworth to increase integration (it had been 24 Linkwitz) and change the entry into the array to 24 Butterworth from 24 Linkwitz.

CLOCK FOR THE ROUGH

Better, and now the piece de resistance: we’ll add the slop from the drumfill, which fleshes out the 15 Hz void between the array and the subs. That mess cleared, time to do delay.

The PCM 42 is set to clock for the rough, brought into the drumfill, which becomes the beat reference for the array and the subs. Knock the array and subs back to apparent alignment with the drumfill.

Now kill everything but the bass drivers in all the zones, put the Lother cut on again, and we’ll dial the 15’s in the array and 18’s in the subs to lock with the 18’s in the drumfill. De-mute all drivers everywhere, and try it again with the Lother cut, to see how the system locks delay-wise running at full bandwidth.

Not there yet. Re-reference the timing of the subs and the array individually to the drumfill, now that we’ve correctly tied all of the low-end driv-

ers together on their local sends. Better, we’ll have to finalize at soundcheck with the band running. I transfer all the settings to the other side of the system and repeat the whole process with both sides hot.

“Somebody hit that snare drum, O.K.?” Limiting my activities to global delay on the array, I verify that the acoustic outcome from the snare is not smeared with respect to the FOH rig. Not too bad, not hearing two distinct outcomes – may have to touch this up a bit at soundcheck too, but the alignment done for the bass has held up for the snare, as expected.

I grab a vocal mic (same one as used for the show, natch) and speak through the rig, not for delay, but for tone. Ugh – 1.6K bites. Pop “Highway to Hell” into the system at show level, and take my mic up over it.

Under these circumstances, designed to replicate the requirements of a show situation on system voicing, I need most of that 1.6, but am able to drop it in the one-third’s 1.5 clicks, with 1-click dumps at 12.5K and 2K as well. Still a tad aggressive, but the crowd (sold out – if we weren’t, I’d cut more of the offending frequencies) and the soft seats should soak some of that up.

Crash for a while, eat, line check, endure the monitor tweak – is he slowing down in his old age? Seems like he’s been messing around with a 160 - 200 thing forever. Oh yeah, right, that stage is microphonic at 160.

“All right, gimme the kick – no slower, O.K.?” I pull kick one (M88, no mic stand, laid down on the pillow and aimed away from the bass amp) up in the array, yanking out the variable high-pass to check the bottom band response of the 15’s.

Quick cut on the lower mids, grab a bit of a beater click (not too much, I’ll get most of the click elsewhere) on the upper mids, nuke out the HF... I don’t want to hit this too hard because there won’t be too much left for the rest of the show in the main sends.

PUNCH UP BOTH

Into PFL with the cans, and I get a strong low-end look in the other side of the M88 “Y”. (Why “Y” all of the kick channels? Different looks for the array and the subs.) Then punch up both the channels in the cans and fre-

quency split them by running the sweeps in different directions with M88 number 1 organized quick and mid-bass heavy and M88 number 2 “low endy” and total thunder.

Off with the cans, and with M88 number 1 running hot in the array, I start pushing M88 number 2 into the aux sends that feed the stereo sub stacks, until the thing starts to feel like rock ‘n’ roll. I’ll have to get M88 number 2 really hot into those subs to achieve the desired effect, and soon, even with the crossover adjustments, it starts to sound a bit flabby.

Time to run the variable high-pass filter on M88 number 1 (which is feeding the array only) up until the 80 Hz-ish build up between the subs and the array dissipates. Now my array seems a little too polite in comparison to the subs, so take the bottom band of EQ on M88 number 1 crank it 3 dB, moving the high-pass filter on that strip until getting the desired effect of bass power without overhang.

This practice of driving the bottom band of EQ on a bass channel into a variable high-pass filter works wonders with kick, bass, and bottom snare, and now things are starting to sound like the low end associated with this event.

Add the other kick channels, and the rest of the kit, bass, guitars, voices, and check out the sound of the usual EFX in the empty room. Use the same adjustment methodology for the whole soundcheck, and the show – around 10,000 or so frequency-related decisions from the moment I stagger into the venue until the last note is struck.

My phone goes off, and it’s security reminding me that some college kids want to bring in some equipment. O.K., no problem. “Hi guys, let me move that pizza box. You can put that stuff right there. Here’s an outlet, knock yourselves out – measure to your heart’s content.”

As I whip around FOH, keeping the show afloat on the only level that matters, the emotional one, I think about how one would measure truly important stuff. Reaching for that last bit of pepperoni, I realize that I couldn’t care less. ■

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