

## Console Ergonomics: An Amiable Diatribe By Malcolm Chisholm

We've lost it.

By which I do NOT mean that we should return to "The good old days".

Nostalgia notwithstanding, THESE are the good old days (and they're getting better), and the old consoles were a royal pain in the patootie.

They were a pain before sessions and during sessions and after sessions.

For anything bigger than a rhythm section, the mixer had to spend a whole lot of time working out how to get all those players on all those mikes through a pitifully few channels, and having managed that, how to actually mix the band, as the rotary faders were spaced about four inches apart, allowing two per hand. Things got real busy from time to time, especially as we didn't limit the vocals, which required a half-hand of their own. When the brass went to mutes, the reeds went to flutes, and the rhythm guitar went to fills, the mixer went to the MOON.

It is a fact that a mixer can get into the music a little better with rotary faders than with straight liners, but rotaries will work you to death.

To make things even more interesting, the early recording consoles had virtually no equalization, habitually developed noisy tubes here and there, (sometimes during a session) and required the engineers to clean and re-grease the faders every morning and sometimes between gigs to reduce the switching ticks between steps. We went through about a pound of Vaseline a month cleaning the faders, and still got little ticks on soft passages.

Pain.

When you combine the above with the absolute certainty of a little hum and an amazing amount of heat from the tubes, you get a working environment suitable for only the very brave or the very desperate. Usually both. I occasionally wonder not how we managed to record anything in the good old days, but why. It was a hell of a lot of work just to get through a session, let alone get it good.

Probably the only thing that saved us was "good old" monaural. At least nobody could listen to each channel by itself and find out how bad the stuff really sounded.

Actually, the overall sound was generally pretty decent and sometimes terrific, but taken one at a time, some of the mikes produced the sort of thing that would get you thrown out of any modern studio.

The bad thing about the old consoles was that there was nothing to them, so you couldn't do much.

The good thing was that you could learn to do it in about ten minutes. With a few knobs and one or two meters, you could see and understand everything on the board at one glance, so the learning curve was a flat line.

Things change.

The companies that made tube consoles, and who knew a lot about recording practices, tried to convert to solid state in the 60's. By and large they failed, both in design and as businesses, leaving console manufacture to people who knew a lot about solid state electronics, but very little about recording.

There were an awful lot of really bad consoles on the market for a few years after the transistor evolution, and there are still a few that aren't quite up to speed because the designers don't know as much about microphones as they should, but almost all the units on the market have at least acceptable sound, and the good ones are not only quieter than the mikes used with them but sound very good indeed.

All that jazz about tubes being inherently better than solid state is mostly the result of not doing direct comparisons between the two types of equipment, provided the new stuff is well designed.

The trick here is that it's so hard to make a tube amp work at all that there are virtually no bad designs on the market, but it's seductively easy to put together a genuinely terrible transistor amp, which sounds genuinely terrible.

A well designed modern console, however, can be accurately described as sounding like tubes without hum. Or heat. You wouldn't believe the air conditioning bills with tube equipment.

We've come a long way, and most of it has been upside.

There remains, nonetheless, the problem that the current manufacturers know very little of what mixers actually do on session, and make some pretty silly mistakes in terms of console layout as a result. It's rather as if nobody in Detroit knew how to drive.

If that sounds overdrawn, try to think of a manufacturer who runs a competitive recording studio as a test bed.

Give up? Read on.

After designing and building a few consoles and working pretty extensively with both the old and new ones, (to say nothing of managing to live through the in-between disasters)

I like to think I know something about them, and over a course of time I've accumulated a long list of complaints about current console design.

Design in general, that is, not designs or designers. I know a number of console manufacturers, and they're all good guys who try really hard to make the best products they can manage. They continually update their lines, and they are very open to user feedback.

The trouble is that the feedback mostly comes from studio owners who have grown up with designs that grew like Topsy, and because of that have never seriously thought about the ergonomics of the things, and who in great part don't have the skills to suggest solutions to the problems they communicate.

To add to the problem, owners are pretty conservative about buying items on which the future of the business depends. They'll buy something new, improved, and different, but not too new or different.

To the manufacturers who are mumbling something about smart ass S.O.B. please keep in mind that I've probably made more mistakes than you, and if nobody had complained I'd still be repeating the first one.

To begin the griping, why is channel one at the extreme left of the console?

Mixers do most of their work with the first dozen channels and with number one hard left, the poor devils either have to sit off-center to the speakers or put the board to the right of the room. To add insult to injury, a lot of consoles have the trivia located on the right side where it is convenient for diddling by the producer.

If one through twelve were centered, with monitors, cues, echo returns and all that good stuff hard left to fill the left over space (to say nothing of keeping magic fingers off them) it would make life happier for the mixer.

Mixer, that is, not overdubbing second engineer. We're talking live recording here. It is, after all, the major part of the biz. Country, Jazz, you name it.

Meters. If there is anybody on earth who can read fifteen or twenty meters while watching musicians for playing cues, I'd like to meet him. Personally, I can read four and keep vague track of a fifth, and that's it.

Light bars work real well for keeping general track of the levels, and the yellow flash will get the mixer's attention without interfering with observing the people who are actually doing the work. Musikers, that is.

However, since the machine manufacturers have recently taken to using dancing lights on their products, (I recently did a session with no meters at all) it would be nice to have a few meters somewhere in case the mixer is curious about such things as vocal isola-

tion. Three or four assignable or patchable biggies on the console would do it, but forty meters not only cost the earth, they're nearly useless in the heat of battle.

Speaking of the battle, why is the echo drive number three in a row of anything from four to twelve?

Perspective control is one of the mixer's jobs, and echo is the quick way to do it. Until quite recently, the echo drive was just above the fader so one could get at it in the normal course of mixing. I seem to be about two bars late when it's hidden in the knob jungle and it cramps my style.

Going with the flow, why must I have to stand up and lean over the board to find out where a knob is set, or to set anything short of flat out? All the zeros are at the top rather than at the bottom is why, and it makes no sense, particularly as the majority of settings fall between 9 and 3 o'clock.

Gimmie a break. Put zero at the bottom so I can see where I am on eq and such without getting up every two minutes and (one way or another) losing my balance.

It would also be handy if the take sheet weren't on the knobs. How about a little pull out board or two of the kind found on most business desks? And a couple of pull out automotive ash trays? A whole lot of mixers smoke. A cigarette lighter is probably too much to ask, but one of the German makers has done it, so I'll ask anyway. Also, a couple of muffin fans under the console to blow air at the mixer does wonders to keep his/her tush cool and dry. The difference in personal comfort is amazing.

That damn shelf above the meter bridge is absolutely incompatible with modern (LEDE) control room design. A couple of holes for the Auratones would eliminate the problem.

As an addition, rather than revision, I've had very good luck with a set of -6/0/+6 Db switches above the monitor faders. Makes the mixer look great when somebody asks for more of something during playback, and helps keep the bass drum and guitar solo levels under control, especially if the manufacturer (hint, hint) has had the good sense to bring the monitor feeds out at about +12. I never did understand why people think a one volt feed is adequate for monitor amps. Never was. Still ain't.

In the higher rent areas, it would be real nice to have on board voltage regulation for each channel. That way when (not if, when) a channel develops a supply short it would stop that channel, not the session. Regulation's better anyway, and on board regulators would protect the console against the power supply's failing to maximum voltage. There are some terrible sad stories about that.

Next, why is it that every time I do a session I assign channels 1 through 24 to busses 1 through 24 and un-assign them at session end, only to have the next guy do the same thing when he walks in? We beat hell out them little switches, and the rest just sit there mostly doing nothing. If the board uses bi-fet quads (Logical switching) why not put in a

pushbutton for the 1-24 initial assignment with a provision for changes if needed? If the board uses switches, a couple of extra rows on the patch bay would get it, and anything that avoided punching up 24 assign switches would save setup time as well as eliminating the occasional double assignment. (Now THAT's embarrassment)

While patches are being added, a few more per channel would be greatly appreciated by the engineers who know enough to restructure a console. There are a whole lot of them, and the ability to stack eqs, amps, and faders allows amazing flexibility in recording. Switches are cute, but a patch bay row amounts to 26 13 position switches, and you can't beat that kind of density.

Finally, and this is really pushing it, the mike amps really should be out on the floor, especially with transformer-less inputs. That would get rid of an awful lot of vulnerable mike line and do away with the crosstalk problems associated with a 132 Db level difference in the board.

With 23 phantom circuits in 24 balanced lines, remote gain control ain't that hard to accomplish, and a zero level board has some major attractions.

No, I don't expect anybody to put all this jazz in his next console, but it would be just peachy if, among all the irate responses, at least one maker sat down for a minute and thought about the poor over-pressured schlub who's trying to do useful work with that big glitzy board.

If that happens, we all win. If not, other than maybe a couple of nasty letters, we all break even.

It should be interesting.