

Searching for the right level

BY DAN ROACH

I'll start off by admitting that mixing audio for broadcast is at least as much art as science.

And I'll continue by adding that, given some of the new complexities, there may be no complete solution to this problem. Certainly I don't have all of the answers. But I think I know where to look for the questions...

The problem comes in two parts. The first is to maintain consistent levels between program sources. The second is to get the "right" level in a mix, so that voiceover material is not buried in a music bed, and conversely such that the bed is not pushed down to inaudibility.

Part one of the problem mostly applies to television audio, since in radio we're pretty good at scrunching up the sound so that all sources are much the same level. But ask any television viewer about loud commercials, and you'll find that this problem is very much alive, and apparently insoluble, for TV stations.

It's not so much a problem of peak levels, but of the density of audio in TV. Program producers are interested in a variety of levels for dramatic effect, but commercial producers are interested in maximum impact, and heavy compression is the inevitable result.

How we keep TV listeners from jumping out of their seats when there's a break for commercials has become the elusive

goal. It may be that the only solution is to run the commercials at a lower peak level (like *that's* gonna happen!).

Part two used to be manageable, but it's rapidly getting more complicated. Part of the problem is that the *right* level for that voiceover in the mix depends partly on the sound level experienced by the listener. Fletcher and Munsen showed not only that listening levels affect our sensitivity to high and low frequencies, but also our ability to discern distinct sounds.

Producers that mix down at excessive monitor levels risk having their voiceover material buried in the background when the listener hears the commercial at a much lower level.

Another well-known factor is called *centre-channel buildup*. When an audio element is placed in the centre of a stereo sound field, its level becomes more pronounced in a subsequent mono sum than items placed to the left or right. This centre-channel buildup can have a significant effect on the final result. The problem was serious enough that some record companies (most notably A&M) used to issue radio station 45s with a mono and a stereo side, with separate mixes of the same tune.

But these factors have been around for some time.

What's new in the last couple of years is that Canadian TV broadcasters are now



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receiving digital U.S. network feeds for rebroadcast.

Unlike their U.S. counterparts, the Canadian stations will typically cherry-pick from among the various U.S. feeds for their content. And the U.S. feeds, aside from varying video quality, all seem to be sending their audio in different standards. There's Dolby Prologic, MPEG, analog left and right and of course digital surround 5.1 standards flying around, and everybody's level is different. It's challenging enough to successfully receive and decode these signals, without trying to maintain proper subsequent mixes in stereo and mono.

For radio, the new twist is automated mixdown of voiceovers over music. Without an operator to ride gain over the music, the voiceover level is at the mercy of the machines.

All of which goes to explain some of the wild audio we've been hearing on the radio and television of late!

Larche Communications: *Hot New Country - KICX FM Kitchener CICZ Midland*

...everything works beautifully!

Paul Larche, *President*



"HP Services did an excellent job at designing and installing our new studios and transmitter facilities in Kitchener. I'm amazed at the level of planning and detail that went into every part of the installation. The quality of the work is excellent and very well documented for follow-up when needed. They started with an empty commercial space and designed all aspects of the operation from the boardroom to the boards, IT and telephone system.....everything works beautifully! They had us built on schedule and on air when promised. The Media Touch installation and integration was smooth and painless. It's the attention to detail that sets HP Services apart. I invite anyone to come visit our facilities and see for yourself."



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