

# What you measure is not what you hear

Attempts to simplify noise measurements are to be commended, but have their problems. Ever since the mid 1930s, when a weighting network was first described as having an “ear like response”<sup>1</sup>, instrument developers have searched for an ideal sound level meter, which will accurately mimic the ear. They are still a long way short of their goal, but progressing. Meters now give loudness, tonal corrections and many of the physical characteristics of a noise. Their onboard computers perform tasks which previously took hours of calculation, such that the development of the more complex standard measurements has been linked to the advance of these meters.

A-weighting has proved useful for comparing environmental noises of similar spectrum, but is not so good when the spectra are divergent, or when there is dominant low frequency noise. Many a genuine noise complainant has been told that there is no measurable problem, a decision which resulted from the use of A-weighting, without sufficient consideration of its limitations.

And when A-weighting is coupled with average level, we are into a broad-brush measurement, which loses much of its human impact in favour of legislative simplicity. The design of meters that could measure equivalent level, which was one of the developments of the 1970's, put paid, for the time being, to measuring what was actually heard.

What we hear is the instantaneous time variation of the noise, not its average level. Current measurements are rather like inspecting a rain gauge full of water, and having no idea of how rapidly, or of when, the rain actually fell. There has been some advance through sound quality, which, in the main, is restricted to developing expensive items, like quality cars. Applications to environmental noise have not been successful.

Whatever ear-equivalent sound level meter might eventually be designed, it will be for the average person, and unable to take account of the diversity of human response. Once again, the most sensitive of us will be left to live with our noise problems.

<sup>1</sup>N W McLachlan “Noise. A comprehensive survey from every point of view” OUP 1935

#### UNPLUGGED BUSKERS CAN'T COMPETE WITH STREET NOISE

Some Calgary street musicians say they are struggling to be heard under a bylaw that stipulates they can only play acoustic instruments on downtown streets, and not to amplify their instruments. Musician Gabriel Pedia has played the streets in a handful of Canadian cities: "I don't like the fact you aren't able to plug your guitar in. I think there should be some restrictions as far as sound, as far as volume, because you don't want to bother people. But I think we should be able to plug in up to a certain extent." Brian Dorscht, Calgary's event coordinator of arts and culture, said by going strictly acoustic, the city is avoiding all kinds of complaints, not to mention the cost of having officers enforce noise bylaws. "When you have one amp going, then you have competition. And that's when it's difficult. Unfortunately that's one of the things that needs to be policed."