



## The worst nightmare

**In an era where broadcast rights fees substantially underwrite the cost of major sporting events, the spectators' use of cowbells, horns and whistles is destroying the broadcast sound.**

**DENNIS BAXTER**

It's your worst nightmare — obnoxious atmospheric venue noise that you can't mix out of a live sports broadcast. It's noise pollution. Think about it: allowing 80,000 spectators to bring bells, thunder sticks and vuvuzelas to the stadium interferes with the enjoyment of millions of broadcast viewers. Put that together with the fact that PA systems at indoor events have become obnoxiously loud and it is literally painful to attend the event. I thought people came to an event to be entertained by the sport, not audibly pummelled into pudding by incessant, unnecessary noise. People around the world have emailed me about the World Cup football spectator noise, wondering why officials don't simply ban these noisemakers from the stadium. Interestingly, an insider mentioned that there was discussion with the government to ban the horns, but these plans were shelved due to concerns about potential spectator rioting.

With the push to HD surround sound and 3D video, noise pollution is even more heinous because the viewer is surrounded by the annoying factor. In this case, it is arguable that surround sound does not bring much to the broadcast of World Cup football.

What can be done? Here are a couple of thoughts.

Grab an equalizer or filter and cut some of the frequencies. The problem here is that the fundamental frequency of the vuvuzela is around 230Hz, so with the fundamental and a couple of harmonics gone, you essentially wipe out the tonal quality of the venue. Not good.

Create an atmospheric soundtrack. Because of the noise pollution, you cannot solely capture the tone of the venues. Instead, you have to create the sound of the venue. Because of the significant level of unwanted sounds in the field and camera microphones, roll the soundtrack. It's not cheating. I have never considered creating an atmospheric soundtrack for an event, but if ever there was a case when it should be used, it is World Cup 2010. The surround sound arrays are trying to capture the audience (atmosphere) but it is useless. Where could you possibly place any atmosphere microphones there? I heard the same horn blower in the same position for three hours. The horns completely blow away any audience reaction — so create it. Several surround fills with various levels of enthusiasm on a sampler or two would provide a counter atmosphere bed — without the horn noise.

You may chuckle and say it's not possible or that it's cheating, but I have worked with a group of Finnish audio engineers/producers at the national broadcaster (YLE) that take sampling to new heights. Email me (dbaxter@dennisbaxtersound.com) after the London Olympics and tell me where you think samplers were used and I will enter you in my personal sweepstake to win a shotgun microphone used at the 2012 Games.



Use more on-axis microphones. The World Cup field sounded good when play was close enough to a stationary or camera microphone. With microphone operators, the sound mixer has greater accuracy with critical aiming and a broader range of useful sound from good positioning of the microphones. Good on-axis field sound could balance the noise against a clean atmosphere and give better definition of the sport in the sound. Perhaps this is a good use of the CEDAR noise reduction products (although I have no personal experience with them.)

I have seen additional microphones on the field but microphone operators would significantly improve the sound of the field. FIFA does not permit microphone operators on the field of play even though you could see a gaggle of cameras and operators behind the goals.

Use the right microphone. Finally, since the commentators occupy over 50% of your sound space, use the right microphone. A tip of the hat to the British-designed Coles lip microphone which I would require every announcer on earth to use. Even though I am not a big fan of excessive commentary, at World Cup 2010 it would have been a relief to listen to something other than a swarm of hornets (*No, I'll stick with the hornets thanks. Ed*).

As a soundman, it is your job to entertain and when viewers are turning off the sound (*Resolution V8.6*) we are not entertaining. I tried to enjoy the match between America and England, but was so distracted by 'bad sound' that I turned it down — not off (*Not to be confused with international standard bad football. Ed*). What a pity, because I know the many talented British, European and American audio mixers and technicians who have worked so hard to broadcast this event are frustrated as well.

It is time for the sanctioning bodies, sports federations, producers, directors and sponsors to help us (the audio society) entertain our audience the best we can. During the Olympics, the Host Broadcaster holds daily meetings to discuss all issues enforcing their written policy for the volume levels of venue sound.

What's next? I can only imagine dreaming in 3D with the vuvuzelas blaring — that is a soundman's nightmare. ■