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## Phil Ward's audio musings . . .

### THE FLAGSHIP MUTE

**The world is divided into three types of people. Type A think that 'Sing', written by Joe Raposo and made popular by The Carpenters in 1973, is a charming and cheerful tune. You know it: full of la-la-las with a sprightly children's chorus at a time when St Winifred's School Choir were still in nappies. Type C think that it's a loathsome dollop of treacle for the technically brain-dead.**

**But Type B are interesting,** however. They also suspect that it might be a loathsome dollop of treacle for the technically brain-dead, but they won't admit it. They prefer to say things like, "well... it's only a bit of fun", "don't be so horrid, some people love this sort of thing", and, my favourite, "you'd be happy and rich if you'd written it". Setting aside both the projected stigma of having written it *and* the dark envy of not having written it, we can see that careers are built and maintained on things that others will happily make excuses for, if not totally discard.

**I feel the same way about opera.** Clearly there's something going on, even though I suspect Puccini might have been better off writing, like Joe Raposo, for *Sesame Street*, and there's a reason why people might want the libretto translated into English - just as 'Sing' was performed many times over on that very children's programme in sign language. We all need a little help sometimes.

**Which is where Out Board Electronics comes in.** TiMax has quietly revolutionised theatre sound, and nowhere more so than in opera, which has its own fair share of Big Birds. Elsewhere in this magazine you can read about

the Cambridge company's participation in a production of *Tosca* at The Albert Hall recently, in which TiMax is hooked up to a radar tracking system that tells it where the actors are located. Fundamentally, the system is doing a similar job to the signing on *Sesame Street*: making up for inadequacies in the perception of the sound so that all those in the audience who appreciate it can figure out who's hiding in the well.

**But TiMax Talent Tracker - the system used at The Albert Hall - is not the first radar tracking system to be adopted by Out Board Electronics.** Indeed, the search for the ideal combination of automated tracking and audio imaging has long been a kind of Holy Grail - as soon as *Spamalot* appears in the round, we all know who to call. From the earliest days of TiMax, a project existed in-house - affectionately called BatVision - which used Received Signal Strength analysis in an attempt to locate the backpacks worn by the artists. The triangulation techniques used proved too inaccurate, however, and it wasn't until the technology emerged that a product based on wi-fi saw the light of day - eventually tried and tested by sound designer Bobby Aitken on both *Showboat* and *Madame Butterfly*. This was based on a direction-sensing, wi-fi antenna intended to locate laptops as part of an IT licencing management regime. Trials took place as the interface between audio and radar matured, and there was even an appearance at PLASA that led to a highly commendable Award for Innovation. A year later, though, the search was still on for the best solution.

**Conversations took place in California,** where the shadow of Disneyland frequently looms across the plans of technology

entrepreneurs wishing upon a star; in Toronto; and in Miami, where a solution based on RFID (Radio Frequency Identification, the technology used for electronic lapel badges) was able to track delegates at a trade show, for example, by identifying how many times they'd stopped at a given booth, but not able to locate them within the whole building at any time. Not nearly adequate, I'm sure you'll agree, for keeping tabs on the evil Scarpia as he swashbuckles round his palazzo.

**This is the best bit of the story,** though - the bit where the fat lady of technological research sings her heart out: having looked all over the globe for the ideal technology partnership, Out Board found a candidate only a few miles away in Cambridge. This lot had developed a tracking system for use in car manufacturing, where the precise location of men and machines somewhere on the production line is pretty handy, and in banks, where the precise location of everything is somewhat essential, you'd have thought.

**Moreover, the new, all-Cambridge system now in use differs significantly.** It's not wi-fi, it's UWB (ultra-wideband), spreading the localising signal across more frequencies and making it less susceptible to multipath reflections. It also accommodates more sensors, allowing it to cover larger areas, and it reads both the angle at which the signal arrives at the sensor and the time it takes to get there - nailing the nimblest of sopranos to the very spot. Plus, and this is a real bonus, it can detect the transmitters on the bodies of the actors from multiple angles - such that the movement of the actor is far less likely to block the signal. Yes, it's true: the lady can be as fat as she likes, as long as she can sing. Sing a song. Sing out loud. Sing out strong.