

Frankenstein

Audio, by Phil Ward

The National Theatre is very confusing. From the outside, in its stupendous plot on the South Bank of the River Thames, it looks like some of the kids who skateboard the neighbourhood have embedded giant, square frisbees into a concrete lift shaft. Inside, on the other hand, it looks like some of the kids who skateboard the neighbourhood have embedded giant, square frisbees into a concrete lift shaft. The effect is as disorientating as bursting into unnatural consciousness with the realisation that your body has been stitched together from other dead people - an event that opens this stage adaptation of 19th Century horror template *Frankenstein*.

With a stellar cast and subtle, ambient effects composed by uber-cool techno doyens Underworld, this production couldn't go wrong. It was Underworld's Rick Smith who decided that his sound effects needed a little more acoustic help than was usual.

Now with some 20 years of touring the world's biggest festivals behind them, Underworld have enjoyed the sonic ministrations of FOH engineer John Newsham for a long time, and have increasingly benefitted from the trust they place in UK-based point-source mainstays Funktion-One. As soon as these loudspeakers were road-tested inside the remarkably lateral Olivier Theatre, it was just like the moment when Frankenstein's creation hears a musical instrument for the first time. But with less grunting.

Together with Newsham, the team - Matt Berry, full-time sound operator at the National Theatre; Ed Ferguson, head of sound at the Olivier; and Ed Clarke, freelance co-sound designer and Underworld confidante - set about using the width of the theatre to do special

things with stereo using three systems: one for music and sound effects, one for speech and another for rear effects.

The music system has two very wide left and right clusters of six mid/high Resolution 3s per side - three for the stalls and three for the balcony. "This was so that, wherever you are in the house, you're basically looking down a horn," says Newsham. "Even if you're way over at house left, you're still looking down a horn at house right. The room is extremely wide, but if you pan things really hard you do hear a lot of movement in stereo."

The left and right span is repeated by the subs, which are F221s. Quite a way upstage, more sub is provided by two Res 4s per side, four F218s and four IB-218s with double infra-horns. "That's where the really deep sub comes from," explains Newsham. "The long throw gives you a real sense of distance with some of the effects. Rick said that he wanted really dynamic, stereo reproduction of the music parts and the sound effects, plus a different dimension: some real depth using the length of the stage. He was also very keen to do something with the voice system."

The vocal system consists of three of the same Res 3 pairs, upper and lower left, centre and right, across the proscenium. "I also felt the front-fill needed to be stronger," continues Newsham, "so that the proscenium coverage angle didn't have to be so great. That way, the delays could be a lot more consistent. We ended up using 10 F-55s let into the front edge of the stage."

Ed Clarke set up the vocal delays using XTA AudioCore processing, establishing several zones on stage with outputs to match the movements of the actors. Further speaker management came courtesy of the X04, the new 4-in, 8-out audio management developed by XTA in conjunction with Funktion One. "Ed did a great job," says Newsham. "You're

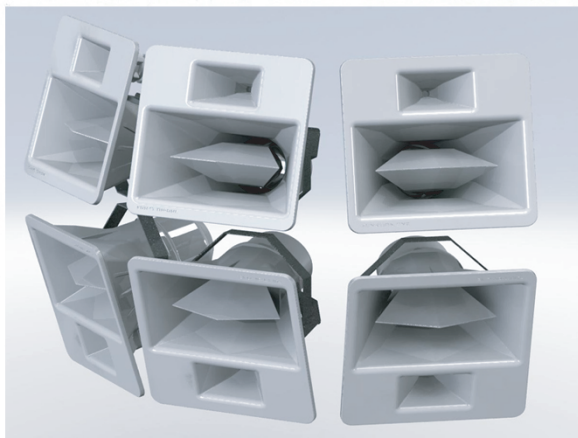
simply not aware of the speakers, nor that the actors are mic'd up at all - even at some high SPLs. This is where the pattern control of the Res 3s really came into its own. You can't set up delays with a 90°x90° box - it's too wide. It might be in time in the middle but it certainly won't be at 45° off-axis. With a maximum of about 60° horizontal, and maybe 25° vertical, you can get delays that work really convincingly."

Initially the actors resisted microphones - this is, after all, the National, home of classical theatre. "But it's such a wide room," Newsham points out, "that there are real issues unless you're projecting forwards directly at the audience. As soon as the actors project to house left, they have, effectively, got their backs to house right. That's why we designed the system around the Resolution 3, which has such focused pattern control.

Lots of customising went into the brackets and yokes in order to dovetail the left and right systems into the set while maintaining point source integrity. Further restrictions were created by the extraordinary lighting fixture flown low above the stage, so in general this was a case of making the most of a very hi-Q box in an awkward space - not necessarily small, but beset with compromises.

A rope dangles onto a central aisle in the stalls. At the end of it is a half-ton bell, re-made from a 400-year old cast by the Whitechapel Bell Foundry, chosen by Rick Smith and mic'd up. Nobody draws any attention to it but, as the audience files out replete with catharsis, if it occurs to anyone to pull on the rope they can. Sometimes they do, sometimes they don't. But the tone is unforgettable: a doom-laden toll to round off an evening of torturous angst. Hammer Film Productions would be proud.

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R3SH Stereo Cluster concept from Funktion One