

DIARY DIARY

People, places, events

Tannoy apology

We have been asked by Tannoy Ltd to publish the following apology on their behalf.

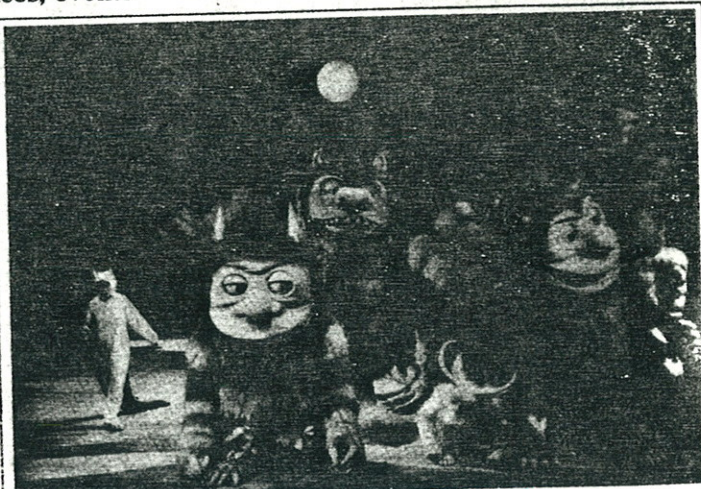
"Tannoy Limited wishes to apologise to Titan International Productions limited for inadvertently using that company's registered

trade mark as the name of one of its products. Tannoy wishes to assure Titan International Productions Limited that it was a genuine accident which will not be repeated and hopes that this occurrence has not caused harm or embarrassment."

...and from HHB

HHB Hire & Sales have asked us to publish a disclaimer on their behalf stating that there is no connection whatsoever between the current advertisement for 24-track

packages from HHB and a company trading under the name of Room Service of 26 High Street, Hadlow, UK who are a studio design company.



Forthcoming events

Feb 18 to 20 Sound 86, Novotel, London, UK.
March 4 to 7, 80th AES, Congress Center, Montreux.
March 10 to 14, Fiarex Electronics Trade Fair, RAI, Amsterdam.
March 17 to 21 IERE 6th International Conference on

Video, Audio and Data Recording, University of Sussex, Brighton, UK.
April 13 to 16 NAB, Dallas, USA.
May 13 to 15 ShowTech 86, Berlin, West Germany.
June 25 to 27 APRS 86, Olympia 2, London, UK.

Glyndebourne panned

Oliver Knussen's Fantasy Opera *Where The Wild Things Are* at Glyndebourne Festival Opera's 1985 Summer Season features six Wild Thing animated figures, five of which are some 12 ft high, and a soprano singing the part of a little boy, Max. The soprano's

voice is heard *au naturel* from the stage but the voices of the Wild Things are sung from the orchestral pit in amongst the London Sinfonietta, by five amplified proxy singers. Their voices zoom off by Ambisonic panpotting at appropriate moments into and around the

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Practical ambisonics

audience courtesy of an Audio+Design 8-input pan rotate unit. They are given horizontal surround sound via four Tannoy Lynx loudspeakers, two just off the floor either side of Glyndebourne's proscenium and the other two either side of the front of the balcony.

The London Sinfonietta perform contemporary music at concerts and frequently in such modern music, amplification is needed of one sort or another. This is usually in the hands of John Whiting and his team and so here he was set up in a box at the back of the stalls for the Wild Things and its companion on the double bill *Higglety Pigglety Pop* also based on children's books by Maurice Sendak.

B-format

The A+D unit takes eight single mono inputs and provides a standard B-format output. The involvement of the B-format concept probably needs some explanation. B-format should be seen as an intermediate signal 'description' stage which is then further processed to provide a choice of output. This could be mono, stereo, horizontal surround sound stereo to a minimum of four loudspeakers, ie 6, 8, etc, or periphonic full sphere surround sound with a minimum of eight. The letters X, W, Y and Z are used for the full set of B-format signals. What they represent provides all the information necessary to describe the soundfield at a given point in space.

There is X—figure-of-eight, front to back, velocity; W—omni, pressure; Y—figure-of-eight, side-to-side, velocity; Z—figure-of-eight, up and down, velocity. Table 1 shows the basic uses of the four B-

Glyndebourne panned

format signals. Only X, W and Y are needed for further processing to the horizontal surround sound under discussion, the A+D pan rotate unit provides these and the additional processing is handled by a Minim AD10 pro Ambisonic decoder.

Audio+Design pan rotate unit

Each of the eight line level inputs has two controls. One is a very low friction, continuously rotatable 360° pot labelled at 15° intervals. This places the mono input signal anywhere in the 360° sound stage area by varying the relationship of the derived X and Y signals. The accuracy of positioning and smoothness of traversing is due as much as anything to the total symmetry of the B-format signals to the four loudspeaker feeds produced after decoding. See Fig 1.

The second input control is Diameter. At its centre position, one presumably has all W, as all speakers receive similar feeds giving a centre image, if you are at the central listening position. By

moving from a full anticlockwise normal position to a full clockwise position a 'through the middle' pan is possible. For example LF to RB, etc, depending on the position of the Rotate control.

Thus with these two controls per input any or all the eight inputs can be made mobile. In Wild Things John Whiting for example makes the five voices roam around before the initial stage entrance of the Wild Things, much aiding the effect of Max's puzzled look, wondering where the Wild Things were about to appear from. When the figures appear on stage their voices are stereophonically spread on the front pair of speakers.

The return from a Yamaha R-1000 digital reverb unit was also fed via a channel of the A+D pan rotate equipment. This allowed the reverb to be 'whizzed' around or presented 'off set' to the source using it at the time.

During tests at Glyndebourne prior to performance the usual characteristic with Ambisonic reproduction of 'loudspeaker invisibility' was evident. Also the sound stage did not collapse to the nearest speaker should one's seat be so

situated. In fact, amazingly, even in the front row, the separation for sounds down the sides and rear meant that they were heard from these directions. Test measurements show in excess of 20 dB differential which is gratifyingly high.

The pan rotate unit has a separate 'all signals' Rotate control. The summed inputs can be fed through this or can bypass it. Similarly, external X, W, Y, B-format signals from, for example a second pan rotate unit, a Calrec Soundfield microphone or a tape can be mixed either pre or post the overall Rotate control. The unit exceeded expectations at what was thought to be a 'world premiere' for such sound treatment at public performances.

Other aspects

As shown in Fig 2, central to the interconnections was a Soundcraft 200 desk. John had modified the first eight input channels to post fade insert, so the pan rotate inputs from the Wild Things' voices came from them with the Soundcraft acting as five separate pre-amps for the AKG C451/CK22 combination used by the voices. The CK22 capsules are omnidirectional and these are favoured as there is no proximity bass rise effect, no handling noise and no popping. Four of the Soundcraft insert returns are used to route the feeds for the pair of HH MOSFET 500 which drive the Tannoy Lynx loudspeakers. Reverb sends are derived from an auxiliary mix.

The recently introduced Tannoy Lynx system is very suitable for the sort of sound projection needed in contemporary music. The requirement is for an integration of the amplified sound with that from the live instrumentation. It is not a case of amplifying everything in sight up to horrendous levels, merely a case of producing a balance both in level and tone. Having single dual concentric drivers they are also particularly suitable for an Ambisonic rig as they are point source. They can however be stacked in pairs vertically or bolted together as angled pairs. Mike Skeet □

TABLE 1 Basic uses (without frills) of B-format signals

	Mono	Stereo	Horizontal	Periphony
X Front-to-back			●	●●
W Omni	●	●●	●●	●●●
Y Side-to-side		●	●	●●
Z Up and down				●●

FIG 2 INTERCONNECTIONS, SOUNDRAFT PAN ROTATE AMBISONIC DECODER, ETC

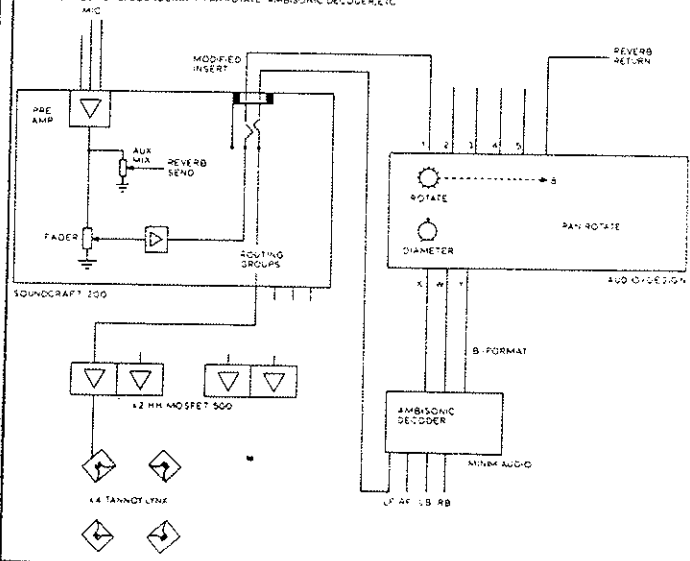


FIG 1 B-FORMAT SYMMETRY FOR DERIVING HORIZONTAL SURROUND SOUND

