

Projection screens

You've got the room and an affordable modern picture source to work to but you're going to need something to shine it on. **JIM BETTERIDGE** says that procuring a suitable projection screen is challenging, particularly when cash is a bit tight.



PROGRESS IN VIDEO has created opportunities for smaller film dubbing operations to work with much higher quality images. For a medium sized dubbing theatre, working with a non-linear picture at DV quality is no longer an expensive option, and for around UK£1,000 you can pick up a compact DLP or LCD projector capable of quite respectable results. Then all you need is a screen to shine it at — and how expensive can that be? The answer is, very.

You can of course pick up a fixed projection screen with a reasonable optical response for a few hundred pounds. The problem arises in wanting to have three speakers placed across the front of your room at the same ideal monitoring height: at least one of them will have to be behind the screen, which must therefore be acoustically cooperative. Dolby recommends that your left and right speakers be within the boundaries of your screen, but even if you don't heed this good advice there remains the thorny issue of the one in the middle. You can place it above or below the screen level, but that's an unacceptable compromise if you're intending to achieve anything like a final mix for

theatre applications (occasional, uncritical playback applications is another matter).

Until recently the only mainstream way to make screens acoustically porous was by peppering them with micro perforations and this is what you'll find in all the major cinema chains and large film dubbing theatres around the world. Though simple in concept, the making of acoustically effective holes turns out to be unexpectedly tricky and so prices for similarly proportioned perforated screens can vary by several hundred percent. The cheapest I came across in the UK for a 2m wide screen was a little under UK£900 while the most expensive was in the region of £4,500. But even the best set of perforations causes comb filtering and a progressive high frequency roll-off requiring extra EQ, not to mention adding undesirable moiré interference patterns to the picture, especially when used with fixed-pixel projectors like DLP and LCD.

An alternative has quite recently appeared in the shape of ClearPix2 from French company Screen Research. It uses a woven fabric rather

than perforations, producing an almost perfectly flat acoustic response that obviates any compensatory EQ. So far it has concentrated on the burgeoning home cinema market winning Best Product of the Year 2004 from US magazine Electronic House. More important from our perspective, it received THX certification in December 2003 with this comment from John Dahl, technical product marketing manager for THX: 'No screen we've tested to date matches the acoustical transparency of the Screen Research ClearPix2 fabric'. That's got to be good for consumers and pros alike.

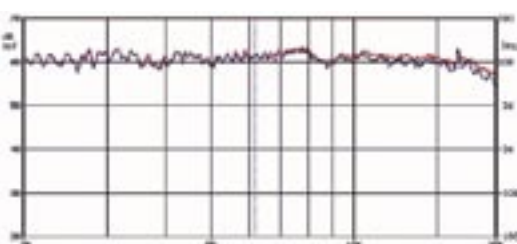
Not content with published figures we asked Roger Quested of Quested Monitoring to compare some fabrics for acoustic performance. He too was amazed at how much better they performed than the competition with his findings broadly supporting the Screen Research claims.

The woven wonder is also claimed to eliminate moiré interference from the picture and received this comment from Joel Silver, president of the Imaging Science Foundation: 'The Screen Research products have now been certified for Flat Spectral Response and White Field Uniformity. Many materials have been tested and have failed since the category was basically defined almost a decade ago'. Depending on your set up, the picture quality might be further improved by the use of a layer of equally acoustically transparent black material behind the screen to avoid reflections from light or shiny surfaces at the rear. This same material is used by Screen Research in its masking system, Xmask, which allows size and aspect ratio to be changed using a system of borders without worrying about whether they obscure the speakers.

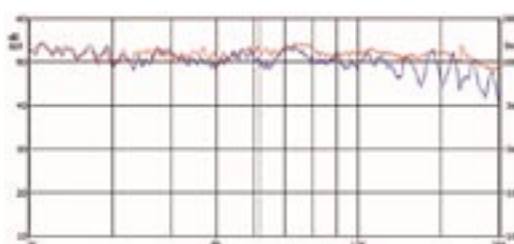
The screens come in various formats for home applications including simple roll-down, or a permanent model with electrically adjustable masking or alternatively a simple fixed frame with optional masking as mentioned. If you've got some cash left over after re-equipping your studio and want something unobtrusive for home, or need your meeting room to double as an occasional listening room, the new 'Le Wing' model might appeal. The whole unit fixes to the ceiling from whence the screen and the attached LCR speaker array descend for the duration of your viewing, sliding back up out of the way again when it's over. I have no idea what it sounds like, but it certainly has a slick practicality about it.

The fixed frame model that I plumped for arrives as a kit involving four very sturdy aluminium extrusions covered on the front side with a smart, matt black velvet finish. These quickly bolt together to form the frame and include suspension points to allow the screen to be hung very simply from a couple of chunky screws. The roll of material is then stretched across the back of the frame using special plastic tools provided to force it into the grooves on the back of the frame where, miraculously, it stays in place.

It all feels slightly medieval to the nervous first-timer, but it actually does work fine and presumably helps to keep the price down. That's the final icing on the cake of this little find: the ClearPix2 is actually considerable less expensive than the top end perforated option — somewhere in the region of 65% of the cost. Now that's progress. ■



Clearpix2 screen at 4 inches — red line is without screen, blue line with screen.



Microperforated screen at 4-inches — red line is without screen, blue line with screen.

Contact

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