

Meridian Digital theatre system

Keith Howard



At a time when Britain seems about to surrender the electronic high ground to competitors in Europe, the US and Japan by ceasing semiconductor manufacture altogether, it is comforting to find there are still small British companies capable of exploiting electronics technology with rare vigour and imagination.

Within the realm of British hi-fi manufacturers, nobody better deserves that description than Meridian. The company which Bob Stuart co-founded in the 1970s has had its share of ups and downs—a roller coaster ride, you might say—but through it all has never ceased to innovate. In its deployment of advanced digital audio technology it is now an indisputable world leader.

Bob Stuart's particular strength—additional to his apparent ability to cram 25 hours into every day—is that he has never ceased to be an audio purist. Some audiophiles might accuse him of prematurely abandoning the LP (it was not long after the launch of CD that he began referring to LP as “the obsolescent medium”) but they are



565 DSP, top, and MSR remote control

probably not aware, for example, that he is amongst those persuading the National Sound Archive not to apply data reduction to its database of historic recordings.

This purist Stuart streak shines through Meridian's Digital Theatre system, the company's entry into the home cinema arena. And what an entry. It might have been predicted after the DSP loudspeakers and 601 DSP preamplifier that Meridian would in turn apply its digital signal processing expertise to Dolby Surround decoding, but the 565 Digital Surround Processor—the heart of the adaptable Digital Theatre system—goes a crucial step further. As well as ridding Dolby decoding of ‘horrid’ analogue circuit elements such as voltage controlled amplifiers, the 565 also offers a selection of replay modes for music reproduction which are truly exciting. That the 565 is the first Dolby Surround processor able to perform its decoding entirely in the digital domain—digital input to digital processing to digital output—is only half the story of this remarkable device.

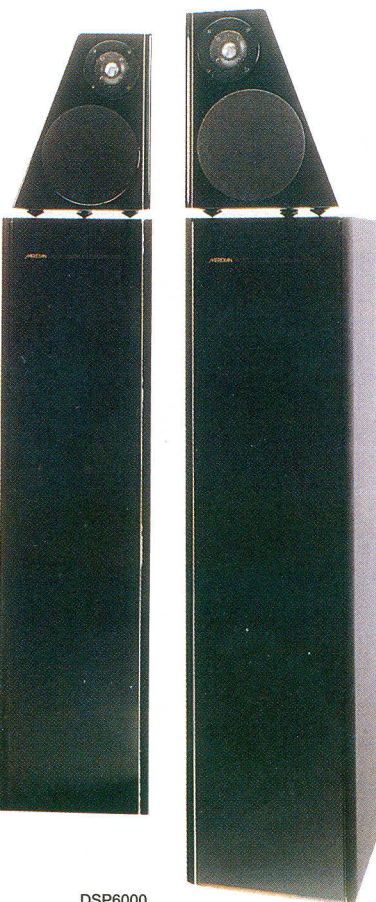
Because the 565 has digital and analogue outputs, it can be used in combination with a wide variety of partnering equipment. For example, you can use the analogue

outputs to feed an incumbent stereo system, adding only the extra hardware necessary for the centre and surround channels. But for this review I called up an inventory not far off being the ultimate all-Meridian Digital Theatre system—a pair of DSP6000 loudspeakers front left and right channels (£8,500 the pair), a DSP5000C centre channel loudspeaker for atop the television (£1,595), two DSP5000s for rear surround duties (£2,995 the pair), plus the 565 processor (£1,995), 562V Digital Signal Controller with video switching (£895) and latest-spec 508 CD player (£1,475). To save you the mental arithmetic, that totals £17,455—not counting the SD-T4000 40-inch back-projection television and CLD-2950 LaserDisc player Pioneer kindly lent me to complete the video side of the set-up.

Just to catalogue the capabilities of the full-house Digital Theatre system is a daunting task—there are so many refinements you can make to the set-up of the system and how it operates. In recognition of this and the potential for an uninitiated user to cause havoc, a ‘granny mode’ is incorporated with which to lock the technologically challenged out of all but the system's most basic controls. Few owners would want to lose face by admitting so, but I suspect it won't only be septuagenarians who are grateful of it.

The system's installation aids we can put aside since these are the province of the dealer to whom, quite rightly for so complex and costly a system, the task of setting up the equipment normally falls. To deliver, unpack, connect, set up and finally tidy up a complete Digital Theatre installation so that mains and connecting wiring is hidden from view typically takes two days. Bob Stuart himself, aided by his colleague Steve Hopkins and yours truly in the role of teaboy, took almost six hours including the operational tutorial, and that was with minimal concession to tidiness.

The only set-up feature which does necessitate a mention is Auto Configure, a new feature which allows the components to ‘handshake’ and establish between them a functional system configuration. This is useful if, for example, you have to power down part of the system, as I did after installation when swapping an ordinary household extension lead for ➤



DSP6000

something more appropriate to a top-notch audio system. When power is restored you simply put the system in standby mode, press Clear on the remote control, and in no time the system is configured as it was before.

Driving the system is normally accomplished via the remote control handset—an altogether more wieldy, ergonomically sound user interface than previous Meridian remotes. This addresses the system not via the 565 or 562V, but via whichever loudspeaker is programmed as the master—normally the centre channel.

Arranged horizontally along the top of the handset's keypad are no fewer than 12 source selector buttons. Their order is perhaps a little curious—CD, Radio, LP, TV, Tape 1, Tape 2, CD-R, Cable, Text, VCR1, VCR2, LD (LaserDisc)—

DSP5000



but you are unlikely to complain of insufficiency. In fact the provision exists to disable those inputs which are not used. Video inputs can be associated with audio sources if you wish, which is useful for simultaneous broadcasts. You can then watch the television picture while listening to the sound off radio.

Analogue, digital, composite video and S video tape loops allow dubbing while listening to or watching another source. So, for example, you can copy a video tape while listening to the radio.

Inclusion of a CD-R input might seem a touch ironic considering that Meridian has ceased production of its own CD Recorder—apparently the mechanisms are no longer available from Philips in sensible quantities: a job lot of 5,000 yes, an order of 50 no—but, as we shall soon see, it serves a useful purpose.

To each of the sources can be assigned one of a varied selection of operating modes, many of them calling on the prodigious signal manipulation powers of the 565 Digital Surround Processor. Lurking within its case are two cascaded 66MHz DSP processors which perform all their signal processing duties with double precision—that is, to twice the resolution of the digital input signal.

If you wish to listen to a stereo input relayed unadulterated over the left and right front loudspeakers, then the DSPs remain idle—somewhat sulkily, you imagine. Likewise if you listen in the Mono mode which, thanks to the centre channel, is the real thing, not the ersatz two-channel variety in which the central image is exposed as a phantom every time a tick or pop alerts you to tweeters displaced left and right.

For home cinema purposes, when the input is Dolby Stereo encoded, there are two alternative operating modes—Pro Logic, which provides conventional Dolby Pro Logic decoding, albeit performed in the digital domain, or THX, which offers the signal filtering and decorrelated surround outputs specified by Lucasfilm. The 565 is THX accredited, but note that Meridian's loudspeakers are not because, in common with others in the hi-fi industry, Bob Stuart believes the THX directivity requirements do not lend themselves to high quality music reproduction.

For music sources, or video sources that are not Dolby encoded, a wider choice exists. If your collection includes UHJ Ambisonic recordings—which in effect means the Nimbus label—the 565 has an Ambisonic mode, the only true soundfield mode on offer. At the opposite end of the spatiality spectrum, for old monaural films,

Academy mode provides true mono through the centre channel with high frequency equalization recommended by Lucasfilm.

Conventional two-channel inputs can be enhanced in a variety of ways. Music mode is superior Hafler. Left and right loudspeakers carry the stereo signal as normal while the centre loudspeaker carries the sum (left plus right channel) and the surround loudspeakers the delayed difference (left minus right channel) signals. Trifield is Michael Gerzon's three-speaker (left, centre, right), frequency dependent enhancement regime, while SuperStereo uses the Ambisonic decoder in stereo synthesis mode.

All these modes are, of course, effected using DSP, and the 565's user manual gives comprehensive guidance about which to use and when. For two-channel inputs I concentrated attention on the Music and Trifield modes.

Performance

To deal with the Digital Theatre system's performance in the home cinema role first, there is little more you need say than it is clean, goes loud and—even without the D2500 subwoofer—possesses lots of low frequency 'oomph'.

As you will doubtless have noticed, modern adventure movies rely on ludicrous levels of bass energy to achieve their impact. Every time Indiana Jones punches an adversary—which is frequently—or some other scoundrel almost nails him with a howitzer, there is a Richter Scale low frequency transient. These the Meridian system conveys almost nonchalantly, even at loudness levels which are the province of hearing-impaired rock musicians.

If intelligibility is compromised because of the Meridian loudspeakers' wide, non-THX directivity, I can't say I noticed it. As Bob Stuart says, only partly tongue-in-cheek, any intelligibility shortfall in home cinema is conventionally addressed using the volume control.

I had no alternative Dolby processor on hand to gauge the benefits of digital decoding, but there is no questioning either the clarity of the sound or its stability. My attention was never once drawn to the two surround loudspeakers, which made their contribution with uncommon discretion.

The same could not always be said listening to music in Ambisonic mode, where the limitations inherent in UHJ matrixing occasionally resulted in audible leakage through the rear loud-

speakers. Nevertheless I found it thrilling, and somewhat depressing, to hear high-quality Ambisonics at home for the first time. Thrilling because I had no idea soundfield reproduction could be this compelling, and depressing because, had the quadratics debacle turned out differently, we might already have been enjoying Ambisonics for 15 years. Bob Stuart's contention that three-channel Ambisonics is the way forward for the audio industry, not 5-1-channel surround sound, is all the more convincing when you hear just how remarkably even the UHJ variant can perform.

It would be churlish, not to say ludicrous, to expect similar spatial fidelity from the Music and Trifield modes but both, in their own way, take a two-channel input and make more of it, particularly if the original recording is a good one. Music mode, because it uses the rear loudspeakers, offers the greater spaciousness; Trifield's strong suit is in clarifying and sharpening the frontal image. Either mode is, on appropriate recordings, preferable to conventional stereo, which in comparison sounds rather flat dynamically as well as spatially, but I was particularly impressed with Trifield. I have never before heard Gervase de Peyer's clarinet (Mozart Clarinet Concerto, Decca 417 759-2DM) locked so stably and convincingly in the centre of the soundstage.

Couple Digital Theatre's majestic sonic performance with this unprecedented operational versatility—there is simply nothing else like it on the market—and you have an exceptional home cinema system by any standards. One which, far from abandoning two-channel stereo in its anxiousness to convey the often crude delights of Dolby Surround, actually builds on the two-channel listening experience in technically valid, subjectively satisfying ways.

I look forward to trying the 565 processor again, purely in this enhanced stereo role, with a range of more modest and familiar partnering equipment. In the interim, I commend Meridian's Digital Theatre system to well-heeled seekers after home cinema excellence, and its underlying philosophy to all in the home cinema industry. Too often surround sound is seen as a technology with which to beat two-channel stereo about the head. Here is a system which illustrates beyond doubt the benefits of constructive coexistence ©

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