

MERIDIAN 508.24



In February, we saw Meridian's 506.20 CD player soaring convincingly ahead of its then more expensive competitors in our £1100-£1400 group-test [page 27]. At the time, and in the face of the almost universal praise being heaped on Meridian products, I did personally admit to experiencing some variability in their sonic consistency, range by range. For example, while the 20-bit version of Meridian's 506 (now £1195) proved a spectacular success, the same, according to my listeners' comments, could not have been

Does the implementation of Crystal's 24-bit converter bring advantages over the earlier 508 CD player?

by PAUL MILLER

said of its earlier, 20-bit 508 model.

This could simply be a 'learning curve' as new technology is implemented into progressively more affordable products. If so, then the latest 508 player — complete with Crystal's so-called '24-bit' converter — is, once again, at the vanguard of change.

Of course, the similarities in appearance between the 508.24 and the 506.20 are not misleading. They both share a common chassis, embedded transport and analogue filter stages, for example, and feature the same 8-character display and on-board facilities that are supplemented by Meridian's

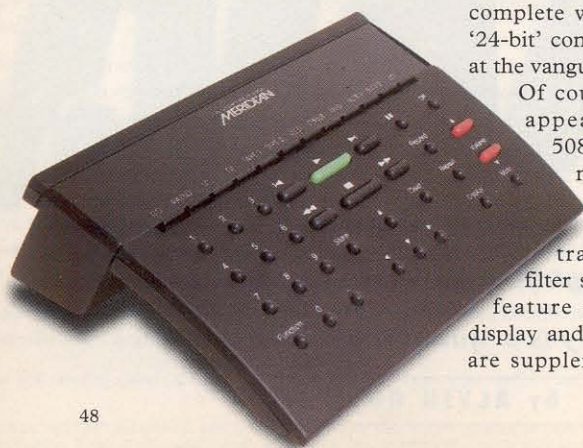
The 508.24 and 506.20 share a common chassis, embedded transport and analogue filter stages, and feature the same eight-character display and on-board facilities that are supplemented by Meridian's table-top remote

table-top MSR remote control. I have explored the technical differences between the two players in my accompanying Lab Report, even if, in everyday use, their congruence is inescapable.

For example, the TOC (Table of Contents) of a newly-loaded CD is not read nor its contents digested until the 'play' button is pressed. Fortunately, each subsequent track skip or play selection will not require the TOC to be re-read unless the disc has been ejected and re-loaded. None of this will surprise owners of earlier Meridian units, but it does mark a departure from the digital norm.

SOUND QUALITY

According to established practice, the 508.24 was evaluated under matched, blind listening conditions in the familiar DPA100S/Audio Note AN/EII system. Crucially, and without being aware of this player's origins, our listeners immediately suggested links with Talk's Thunder 3, reviewed in August. 'Same very pleasant midband



MERIDIAN 508 20-BIT

balance with a good sense of definition' they suggested, 'but still lacking some transparency'. Lyle Lovett's 'La to the Left' certainly sounded more recessed than expected. 'A little too syrupy', our panel remarked in response to this player's polishing of his ordinarily forward and gruff-sounding vocals.

For others, the player's slightly detached bass may prove a bigger distraction. Not that powerful bass rhythms exactly slip across the stage at will, but there's certainly the sense that the music lacks a solid and certain foundation from which to launch itself. Instead, its bass has a mild, elastic quality that seems to cause it 'to hang about slightly longer than necessary' — a foible that will be more or less of an issue in competing systems.

Stereophile's Gershwin tribute, *Rhapsody in Blue* [STPH 010-2] sounded deliciously quirky, as it should, but while the double-bass and bass clarinet possessed plenty of body, the violins and trombone lacked sufficient crispness to keep the piece rolling purposefully along.

And yet despite this pervasive sense of the innocuous, the 508's stereo imaging remains tightly focused: a feature common to all Meridian's low-jitter players. This works in its favour with, say, Prefab Sprout's aggressive-sounding 'Looking for Atlantis': a track whose rough edges were polished to a pleasant shine, leaving all the detail without the

sting. Nevertheless, while the 508.24's mollifying influence might seem to work wonders in this instance, it may just as easily knock the life and vitality from a less demanding style of music.

CONCLUSION

Although direct comparison was not possible, the 508.24 was evaluated under precisely the same, controlled conditions as the 506.20 (February), and the 508.20 before that. Interestingly, the group impression in this instance bore a parallel to that prompted by the earlier 508.20, rather than the more transparent, fluid-sounding and generally more engaging 506.20 that succeeded it; almost, it seemed to us, as if the extra engineering that separates the 508.24 from the 506.20 also served to 'engineer' a little of the passion and spontaneity from the music. (A similar consensus was reached on the 24-bit Talk CD player, August '98.)

Nevertheless, I must avoid more sweeping generalisations here. Meridian's 861 processor, for example, sounds in my view significantly more 'vital' and yet is based upon the same '24-bit' technology. Moreover, the correlation in sound quality between successive generations of the 508, seems to suggest that earlier and contented owners should find no unexpected departure in sonic performance from this 24-bit iteration. +

SUPPLIER

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A SECOND OPINION

I had hoped to reach some wholly independent conclusions by masking out the identity of a 508.24 and 506.20 player, merely labelling them 'A' and 'B', but this was frustrated by the different rear panel arrangements and coloured standby bar on the 506. So after warmup, my own Meridian 508.20 was used as a reference and all three compared. Principal test CDs were: Britten's *Prelude & Fugue* [Simax]; *Peter and the Wolf* [Erato]; V.W. Sixth Symphony [BBC Radio Classics]; *The Soldier's Tale* [Auvidis Valois]. First impressions were that, at the expense of some more subtle information, the 506.20 was the most engaging player: better realising the musical tensions and expressive character of performance than the 508s. The 508.24 was smoother, more informative about soundstage placement — for instance, the instruments of the orchestra in relation to narrator Patrick Stewart in the Prokofiev — and microphone balances, better able to control speech

sibilants. But with slow music it did seem to produce a less coherent or involving line. The players were connected to an ordinary 13amp ring main. However, by adding a Pure Power unit a clearer picture emerged: I feel the '24' supersedes the 508.20 (which Meridian will upgrade for £395), and whilst the 506.20 is very easy to live with, ultimately its comparative coarseness makes it less satisfying than the more expensive 24-bit player. For me, the 508.24 comes closer to simulating the concert-hall experience — how live music sounds. It was especially authoritative on piano; and the image focus, tonal refinement and sense of scale surpassed previous Meridian players over the decade. The last two movements from Bartok's powerful Fourth Quartet in the award-winning Takács/Decca set was the clincher! (Room system: DNM amplification and interconnects/ original Quad ESLs; headphone listening: Beyer DT911/PHONES-01.)

Christopher Breunig

LAB REPORT

The 508.24 could be regarded as an upgraded 506.20 with extensive digital re-clocking circuitry, a new surface-mount CS4390 DAC, balanced analogue outputs and revised clamping system for its CDM12.4 mechanism. The practical benefits, however, seem less certain, partly because the 506.20 has already set such a tremendous standard. Sure enough, the additional data-clamping has reduced the 506's 200 picoseconds of jitter to 158ps in the 508.24. But compare this spectrum with that printed on page 30 in Feb '98, and the 'fingerprint' with its mild, low-rate broadening [1] remains quite unchanged. The residual 121ps of data-induced [2], 86ps of 'unknowns' and 55ps of PSU-related phenomena are all but irrelevant.

Less irrelevant, in this instance, is the significant wash of ultrasonic requantisation noise [3] ejected by the CS4390's noise-shapers. This is directly comparable with the 3D plot obtained from Talk's Thunder 3 [Aug '98], and at -30dBV (32mV), is higher than the 506.20's out-of-band noise. Some amplifiers will react quite unfavourably to this ultrasonic energy, particularly when patterned by 88.2kHz sampling images [4] and very high-order digital spurs [5]. The audio band [6], meanwhile, is mercifully free of harmonic distortion, which lies below the noise at 0.002% (ref. -30dB/1kHz).

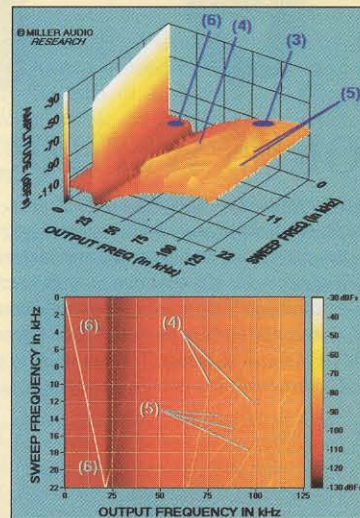


Fig 1. Meridian 508 24-bit: spurious output resulting from 0-22kHz sweep at -30dB

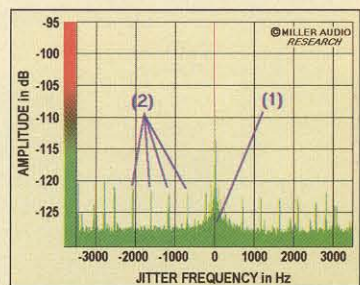


Fig 2. Meridian 508 24-bit: total jitter spectrum

Peak-level THD is also very low at 0.0008% (mid-band), as it is in the 506.20.

Both models offer a resolution that holds true between +0.1dB/-0.4dB over a full 100dB dynamic range. '20-bit' and '24-bit' suffixes refer to the input word-length and

internal processing of what, at the outset, is 16-bit CD data; they do not promise a dynamic range of 120dB or 144dB, respectively. The 508.24's A-wtd signal-to-noise ratio measured 104dB; ironically, 1.5dB behind the 105.5dB achieved by the 506.20.

Test results	Meridian 508.24		
	20Hz	1kHz	20kHz
Channel balance (dB)	0	0	0
Stereo separation (dB)	135	130	105
Frequency response (dB)	0	0	-0.2
Distortion (THD vs level, dB):			
At 0dB	-103	-102	-76
At -30dB	-97	-94	-68
At -60dB	-63	-58	-23
At -80dB	-29	-33	-2
At -90dB (dithered)	-19	-22	+6
At -100dB (dithered)	-18		
At -110dB (dithered)	-9		
Resolution (linearity, dB):			
Error at -80dB	0	0	
Error at -90dB	-0.4	-0.3	
Error at -100dB	-0.2	+0.1	
Peak output level L/R	2.525/2.535V		
Relative output level ref 2V (dB)	+2.0		
Output impedance L/R	48 ohms		
Intermodulation, CCIR, 0dB (dB)	-103		
Stopband image suppression (dB)	>105		
1Hz noise modulation (dB)	+7		
Signal-to-noise (A-wtd, dB)			
With emphasis, OLSB	119.2		
Without emphasis, OLSB	117.1		
Without emphasis, 1LSB	104.0		
Total correlated jitter	158picosecs		
Digital output(s)	coax and opt		
Crystal clock accuracy	+0.2ppm		
Track access (to track 99)	3.0 secs		
Typical price (inc VAT)	£2150		