

PLAYING WITH NUMBERS

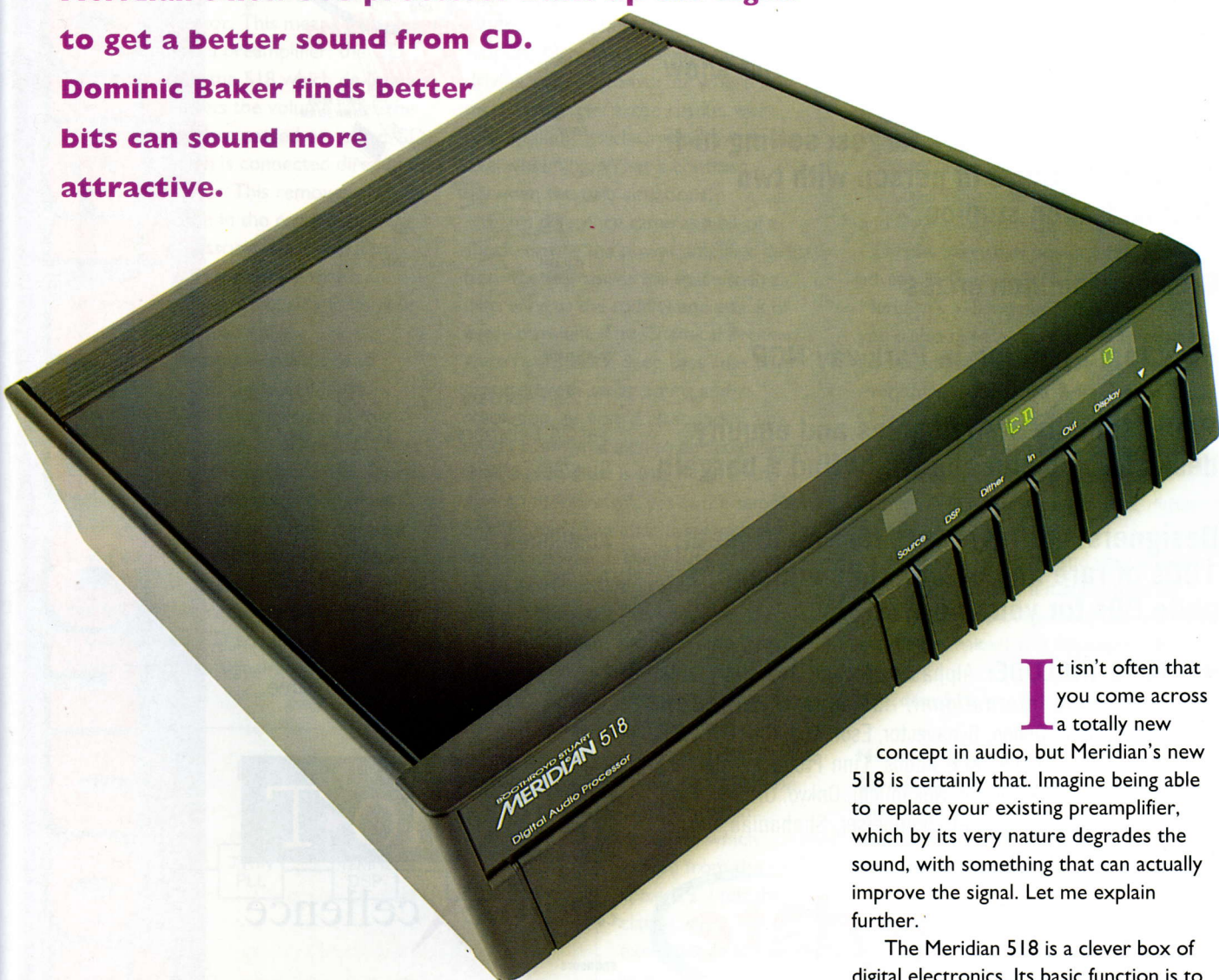
Meridian's new 518 processor buffs up the digits

to get a better sound from CD.

Dominic Baker finds better

bits can sound more

attractive.



It isn't often that you come across a totally new concept in audio, but Meridian's new 518 is certainly that. Imagine being able to replace your existing preamplifier, which by its very nature degrades the sound, with something that can actually improve the signal. Let me explain further.

The Meridian 518 is a clever box of digital electronics. Its basic function is to remove the jitter in the digital signal between transport and CD convertor, typically heard as coarseness through the

midrange and treble. A CD convertor relies upon the transport's master clock to stay in time; the digital data arrives at precisely the right moment.

Jitter makes the digital transport signal arrive at the convertor a fraction too early or late, putting it out of sync. The 518 de-jitters a signal by using two phase-locked loops. These act like progressive flywheels, following the average sample rate exactly, but removing short term signal unevenness. The PLLs lock onto the signal and regulate it so that its timing is consistent.

The price of £895 seems a lot for a jitter buster, so it's just as well the 518 takes things a whole step further. It can also act as a digital preamplifier, varying the volume of the signal before it gets to the CD convertor. This means that you no longer need a preamplifier; the CD transport feeds the 518 which de-jitters the signal and sets the volume level, the digital signal is then passed on to the CD convertor which is connected directly to a power amplifier. This removes a whole analogue section in the reproduction chain, and any associated degradation, replacing it with something that is actually improving the quality from your CD player. Not bad eh?

There are some precautions to observe when using the 518 in this manner though. Take a glance at the measured performance of any CD player or convertor in the back of Hi-Fi World and you will see that distortion rises strongly as level drops, simply because there's a loss of resolution. As volume is turned down on the 518, less and less of the full 16-bit word describing the signal is used, so the CD convertor sees a lower resolution signal.

In practice this means that if you have a sensitive power amplifier and loudspeakers, it may be possible to hear some distortion and noise when using the 518. The digital signal fed to the CD convertor will be so low that it is producing an audible amount of noise and distortion. This was the case with a power amplifier of 280mV input sensitivity and loudspeakers of 94dB SPL sensitivity which I tried. Distortion was clearly audible, making the sound fuzzy and vague, so the 518 cannot be used in all systems.

The 518 does have real strengths though. Coupled to a power amplifier with an input sensitivity of around 1V, and using Harbeth's 83dB sensitive HL-P3ES loudspeakers, the 518 was working high up its volume range, driving the CD converter where it is most linear. Here, the results were breathtaking, its clarity and dynamics overwhelming. What a contrast between the two situations!

This difference came as a bit of a shock; driving the power amplifier direct from the CD convertor made such a difference to the solidity and attack of every transient. The Chemical Brothers were really funky, deep bass lines crisply captured with super timing and resolution. At first, it all sounded a bit much, somewhat akin to an active system, where every beat is that much more direct and forthright, yet at the same time brutally stark. But after living with the 518 for several weeks, I realised just how much extra resolution and detail it offers without becoming fatiguing.

Vocals were smoother and clearer, improved focus giving them a superb

sense of realism. PJ Harvey grew on the stage to give a life size rendition of 'C'mon Billy', raw with emotion, which seared from the speakers. I felt the clarity was exceptional; Polly was as loud and rasping as she should be, yet the recording struck me as smooth and

uncompressed; a display of easy power.

Meridian have made a brave move with the 518, a move that really is ahead of its time, at least in terms of audio. In decades to come I suspect that a lot of our digital sources will be controlled in this way, but at the moment such powerful technology must be used with care. It really is a device for those who only use digital sources, unless you are

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prepared to go as far as converting all of your analogue sources to digital with Meridian's 562 A/D convertor, as they suggest (what? convert the signal from my £500 MC cartridge to digital? I think not!).

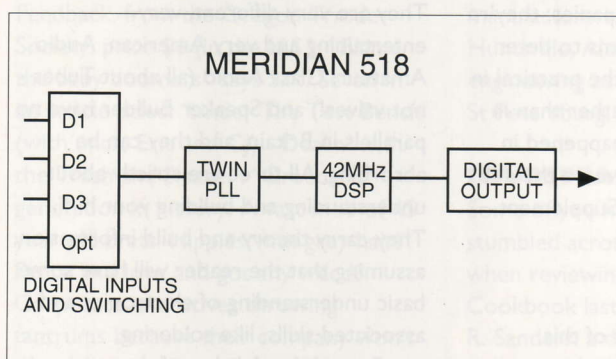
Used in a simple system with, say, CD and DAT as sources, and the 518 feeding CD convertor then power amp., its advantages are unrivalled. That makes Meridian's 518 impossible to ignore. But you'd also need a good dealer to explain, guide and help set up the system, because everything must be carefully chosen - and I found setting up the 518 properly is no mean feat. The instruction manual is far from straightforward, with different settings needed for word lengths, dither modes, emphasis, etc.

It's all clever stuff - and very effective in the right system. If it suits, then for £895 this is one of the best CD upgrades you could make. I was impressed ●

Meridian 518

£895

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Inside the 518 are twin phase locked-loops to reduce jitter.

WORLD VERDICT

Superb sound from CD, providing it is used in the right sort of system. Very specialised.