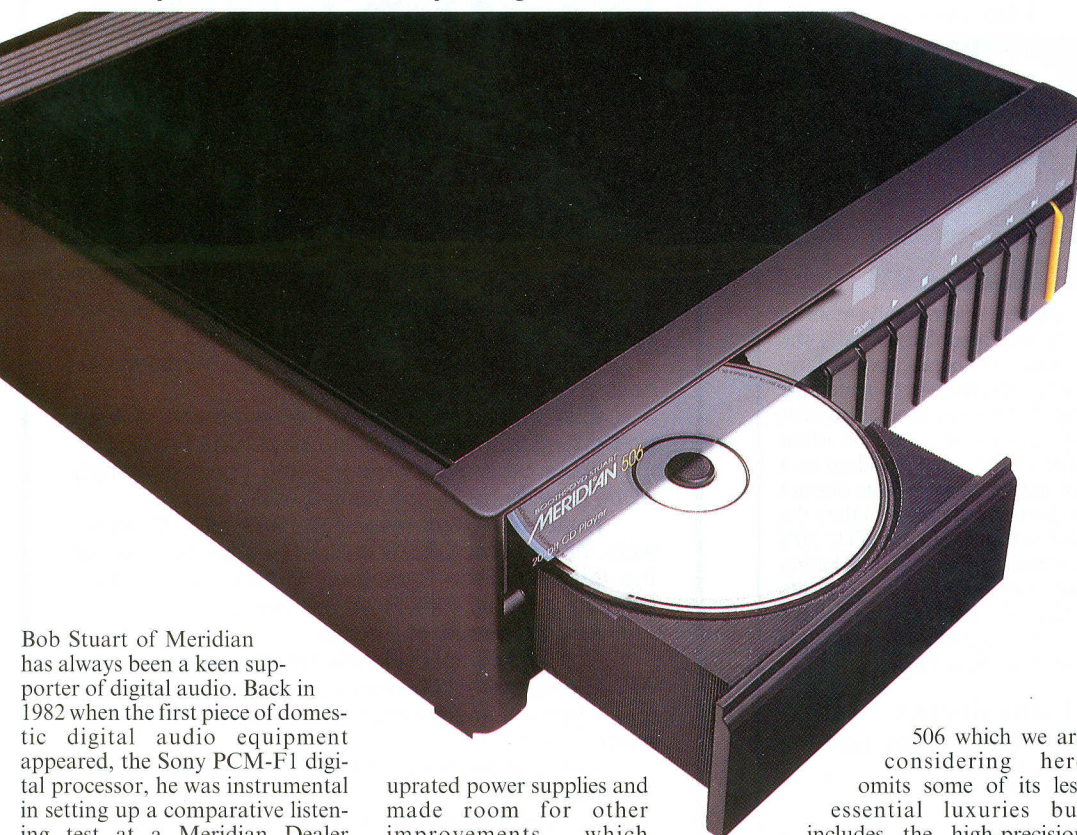


Meridian 506

Compact Disc player

Geoffrey Horn



Bob Stuart of Meridian has always been a keen supporter of digital audio. Back in 1982 when the first piece of domestic digital audio equipment appeared, the Sony PCM-F1 digital processor, he was instrumental in setting up a comparative listening test at a Meridian Dealer Convention. This proved fairly conclusively that the random inclusion of this digital encode/decode device in a high-quality chain was undetectable on normal music and speech signals. A report on the event in our November 1982 issue still makes interesting reading, particularly in view of rising discontent with the standards then set and recent extravagant proposals to push them to extremes. Those standards had been decided after a fair amount of research both in Europe and Japan (in particular) and were: sampling at 44.1 kHz and quantizing at 16 bits, yielding a frequency response to 20kHz and a dynamic range of 96dB. Significantly, these same standards were set for the parallel development of Compact Disc.

Although we at *Gramophone* had been allocated a few early players and discs for our record reviewers, the public launch of CD had to wait until March 1983. When other makes of machine arrived and the novelty wore off, differences in sound began to register. Stuart, no doubt recalling the PCM-F1 experience, was alert to this and, disregarding the distinctly ill-conceived industry slogan of 'perfect sound forever', began an investigation which continues to this day. Meridian's first move was a clever one. It took the basic Philips machine and fitted it with an enlarged plinth which contained

uprated power supplies and made room for other improvements which resulted in noticeably better quality sound; but the clincher was in labelling it with the one word "Pro". It sold and sold and Meridian was marked out as *the* company that knew its way around the digital maze.

To generate an awful pun, Meridian took the bits between its teeth and produced a succession of digital devices: a series of CD players, control units, even digital loudspeakers, many of which have been discussed in these pages. The company is now widely acknowledged worldwide – not least in the important United States market – as a leader in the digital field.

Alongside this, Stuart's interest in the science of psychoacoustics provided parallel insights into the ear/brain evaluation of certain digital artefacts, notably noise shaping, so that it became possible artificially to enlarge the physical 16-bit barrier to provide an effective dynamic range closer to 20-bit performance. The Meridian 618 mastering processor is widely used in the recording industry and this and similar devices from other makers can significantly improve the resolution of the Compact Disc source. To reap the benefit of these innovatory techniques one must match them in the reproducer, and so we have seen advanced digital filters and 20-bit converters in recent upmarket CD players. Meridian's entry in this field was the latest version of its 508; the more recent

506 which we are considering here omits some of its less essential luxuries but includes the high-precision digital filter and D/A converter chip at a more affordable price.

The mass market which CD players represent was obviously attractive to the integrated circuit manufacturers, who went to work with a will. Their ideas soon divided into two camps which may be broadly stated as single-bit and multi-bit decoding. Each has its adherents and each offers a mixed bag of advantages and snags. In the January issue we saw a contemporary example of the latter type in the AVI player and now we have a very recently developed near single-bit device in this Meridian. Both, it may be noted, claim 20-bit operation. As they sound remarkably similar it may indicate that both approaches are

close to optimum. Meridian states that it has been working with a particular chip manufacturer, Crystal Semiconductor, for some three years in developing this 'ultimate' converter. Those readers with a technical bent will find most of the meat in IH's report on the previous version of the 508 in the March 1995 issue, for this 506 follows it closely. Having discussed its background it is time to consider this machine in more detail.

Meridian's 500 series components have a common style, dimensions and appearance. The format is satin black metalwork with the incorporation of black glass panels for the top surface. Controls take the form of a row of slim push levers, always placed at bottom-right of the front panel which is a 322mm wide thick plastics moulding with rounded edges. In the 506 rather more than half of the area is occupied by the Philips series CDM12 disc handling mechanism. This is much modified by Meridian and includes a clamp which drops on to the disc when the drawer closes. The assembly works notably smoothly, as much due to the solidity of construction as anything. On the right, immediately behind the control switches and the display panel above them, is the power transformer flexibly mounted to the steel chassis floor. The remaining area is occupied by the very well laid out main printed circuit board on which, if you hunt around with a magnifying glass, you can identify the tiny new CS4329 D/A converter only some 6 × 4mm in plan with its 20 little connecting legs.

The rear panel is more than usually busy, for in addition to the analogue left and right channel gold-plated phono output sockets there are coaxial and optical digital outputs, a switched and fused two-pin IEC power connector and a couple of five-pin DIN sockets for Meridian's system communications. The heavy-gauge steel casework and general solidity of construction result in a weighty piece of equipment, which fact alone inspires confidence. It is worth noting the unit's ➤

Specification

506 CD player

Total harmonic distortion < -90dB FS

Noise < -90dB FS

D/A conversion delta-sigma high definition converter; 16-bit precision

Display four-character display for track, time, and index

Outputs analogue 2V fixed, Class A; digital coaxial and Toslink optical

Communications Meridian Comms on 2 × 5-pin DIN

Power consumption 20VA

Dimensions (W × H × D) 321 × 88 × 332mm

Weight 6.4kg

MSR remote control panel

Control method infra-red using RC5 codes

Number of keys 44

Battery type PP3; battery life 6 months typical

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UK retail price £1,100 including MSR remote control panel

considerable depth, to which needs be added space for the connectors – 380mm (15in) should be allowed.

All the usual day-to-day operations are provided by the front panel control levers but the 506 comes with Meridian's MSR system remote control. This takes the form of a sloping tablet some 190mm wide and 130mm deep with 44 push switches which enable it to look after any single Meridian item or a complete system. This device is so versatile and has so many options that it could take up a full report in itself. Here we need only state that it offers all the usual facilities and a few others besides such as reversal of absolute phase.

Performance

Lab measurements showed that the 506 audio output was above specification at 2.5 volts on both channels. Frequency response was fine, with less than 0.2dB variation over the 20Hz to 20kHz sweep. Wideband noise in the output was high at around -60dB, this mainly quantizing noise with a puzzling recognizable component in the area of 150kHz. It was judged too low to embarrass any following amplifier input but it made accurate assessment of crosstalk and linearity impossible without additional filtering. Otherwise everything was in order.

Listening tests showed the 506 to be a most gentlemanly player, blessed with impeccable good manners. No disc placed in its welcoming drawer was given anything other than VIP treatment and it consistently remained unruffled by the over-enthusiastic rendition of string tone on some discs I had mentally noted as astringent. And yet everything is there in the right degree and, in a completely realized acoustic, all wonderfully detailed.

This is the second British CD player in the £1,000-plus bracket to pass through my hands in recent months and, although utilizing alternative conversion schemes as mentioned at the start, they share an intuitive feel for musicality which betters anything I have experienced in the past. Differences in the way they sound are minimal but side by side one might fancy that the Meridian has it on smoothness and the AVI on enthusiasm. But these are mere words used to illustrate a series of vague and elusive impressions. I could live happily with either and I imagine that they could see off the vast majority of challengers. If any competitor thinks differently the Audio Editor's telephone number is on the contents page! 