BOOTHROYD STUART MERIDIAN

Meridian 586 DVD Player

ago introduced high-end CD – still makes the very finest players. Meridian are now proud to announce a new performance leadership – high-end DVD.

Background

Meridian built the world's first audiophile CD player in 1984, and introduced the first two-box player (transport and converter) in 1986. Since then, Meridian have remained undisputed leaders of CD, keeping consistently ahead of the competition – both sonically and technologically.

Meridian were also the first company to identify and tackle 'jitter' in digital audio.

Meridian's CD technology has emphasized good mechanical, electronic and software engineering.

Recent breakthroughs include custom control software that adapts the player to the parameters of each individual disc and a proprietary signal-processing system that purifies the data coming from the disc *before* it is decoded.

Such technologies have kept Meridian at the forefront of high-performance music CD players.

Meridian's players also feature precision pickup mechanisms, mounted in a vibration-reducing drawer-loading system that bears the traditional Meridian hallmark.

DVD Video

DVD is an exciting new format. Although it looks like a CD, information can be stored on more than one layer, and the track pitch and pit-size are smaller – this increase in information density allows it to hold at least seven times the data of a CD.

This amount of data allows many applications; DVD Video is the first.

By using the high-quality MPEG2 video compression with Dolby AC-3 or MPEG audio sound formats, one DVD disc can hold a whole motion picture.

This is the first opportunity for videophiles to obtain picture quality close to the original formats – bypassing all the degradations of analogue storage.

DVD Video also brings exciting new audio formats, including: Dolby Digital AC-3, MPEG Surround and DTS for 5.1 channel movie sound; MPEG Extended for 7.1 channel movie sound; MPEG Audio and DTS at high rates for music and performance videos; and last but not least – extended PCM digital formats including 16, 20 and 24-bit at 48kHz and 96kHz sampling rates.

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High-End DVD?

Through the lifetime of CD, Meridian have been able to build the best players – that consistently provided better sound with each successive generation of hardware, and with continually improving disc recording and mastering techniques.

Important milestones were the identification and near-eradication of player design problems including jitter, mechanical feedback, servo instability, playability, converter linearity and interface design.

Bob Stuart, Meridian's chief designer and Chairman of the *Acoustic Renaissance for Audio,* has been heavily involved in the evolution of the audio formats for DVD – working hard to ensure that DVD has the very best potential to serve audiophiles as well as a mass market.

It should therefore be no surprise that Meridian's design team brought the full benefit of their CD experience to DVD.

But there is more: Meridian also brought important psychoacoustic and psycho-visual insights to this design. As a result, Meridian's 586 is able to offer sound and picture quality that is second to none – and it offers the kind of features needed to exploit DVD in a high-end home theatre and to interface with state-of-the-art digital surround processors (like the Meridian 565) and display systems.

More about the picture

The pictures on DVD Video are stored using a very high quality compression system called MPEG2. MPEG2 has a flexible data rate; this allows more data to be used for some scenes than others. So, complex motions and textures can be conveyed accurately in the NTSC or PAL video formats, without using an unnecessarily high data-rate on simpler material.

Consequently, the encoders (that make MPEG2 streams from the original film) will be able to improve continually over the years – a situation somewhat analagous to CD, where recording equipment has steadily improved.

Because the picture is stored as digital video, it has some remarkable qualities – including low noise, very low frame and line jitter and the potential for deeply saturated colours.

Meridian's 586 uses their own proprietary studio-grade video processing to provide the very highest quality video in RGB, Component, S and Composite formats.

The picture is also much improved by extensive de-jittering of the DVD replay system.

All players offer 4:3 and 16:9 aspect ratios and Letterbox/Panscan. Versions for NTSC and PAL.

Meridian 586

The 586 is a powerful statement by Meridian on the potential quality of the new DVD medium.

A precision dual-lens (for CD or DVD) pickup mechanism is mounted in a new version of the unique Meridian drawer-loading system. This loader combines the user benefits of tray-loading with the extremely important performance benefits of top-loading. The mechanism uses a special low-mass carbon and glass fibre anti-vibration disc clamp similar to those fitted to the 500-Series CD players.

Great care has been taken with the mechanical properties of the disc transport mechanism. Similarly, the 586 uses a number of special power supplies, separated on the 4-layer PCB according to servo, digital, audio and video functions – and a precision master oscillator to keep the jitter low.

All outputs use Meridian processing and are re-clocked for ultra-low jitter.

The 586 provides multiple video outputs including Composite, S and – depending on the regional version – Component, RGB or SCART.

Although it is best thought of as a 'DVD Transport', the 586 offers a 2-channel analogue audio output (normally encoded in Dolby Surround) for direct connection to television receivers, or analogue surround processors like the Meridian 541.

For home theatre use, the 586 provides IEC1937 digital audio outputs to convey PCM, AC-3, MPEG Surround and DTS audio streams to an outboard digital surround processor – like 565.

The Meridian 586 is fully compatible with other components in the Meridian 500 Series – it includes 500 Comms, and can be operated with a Meridian System Remote (provided) and inter-operates as part of a Meridian Theatre.

CD 'Compatibility'

The 586 plays normal Red-Book audio CDs, but uses a separate lens to account for this different optical requirement.

DVD requires a different colour laser than CD (the DVD laser is a visible red, unlike the infrared laser used for CD).

Because the laser is a different colour, it is not optimal for reading normal CDs and is not able to play recordable CDs.

Meridian recommends that any serious audiophile should buy or keep a Red Book CD player (like the superb highly developed 508) and treat DVD as an entirely separate format.

Regional Coding

Movie DVDs can be regionally encoded to prevent distribution of films outside the region for which they are approved.

Not all discs will be coded this way, but each 586 player is coded for one of the main distribution regions.

Specification

System

DVD-Video and CD-DA
Single/double-sided
Single/double layer

Image

NTSC or PAL (according to region)
Letterbox/Panscan
4:3 and 16:9 aspect ratios

Video Outputs

Composite
S-video
Component (USA and Japan)
RGB on SCART (Europe)
Macrovision copy protection
Conversion and processing to studio standards

Audio Outputs

2-channel Lt/Rt encoded Dolby Surround analogue
On-board decoding for 2-channel AC-3 or MPEG (by region)
Digital outputs for connection to external decoder (cable and Toslink) to IEC1937