

DIGITAL SIGNAL PROCESSING THE ESSENCE OF AUTHENTIC SOUND

Digital Signal Processing (DSP) technology provides the foundation for every Meridian loudspeaker. A completely integrated audio system featuring multiple power amps, precision DACs and unique technologies, Meridian DSP loudspeakers provide more output, more bass and significant control advantages.

With designs suited for a wide variety of applications including living spaces, home theatres and marine, all Meridian DSP loudspeakers deliver unparalleled performance levels.



meridian-audio.com



THE DSP PATH AT A GLANCE



The DSP Loudspeaker is a complete audio system with DAC's, pre amplifiers, power amplifiers and high efficiency digital crossovers built into each speaker – just add a source.



Advanced listener controls including time-compensated balance, listening axis and Enhanced Bass Alignment – these enable speaker placement flexibility in a variety of environments.



Built in high performance power amplifiers, custom matched to each drive unit for maximum fidelity, control and output.



True, measured Sound Pressure Level (SPL) output for all models.



Features Meridian's proprietary Enhanced Bass Alignment (EBA) technology – bass, mid and treble all reach you at the same time, in perfect alignment.



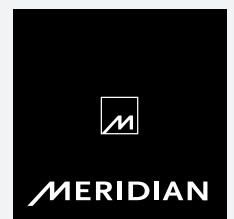
On-board Digital Signal Processing – no lossy passive crossovers and wasted power.



Inert, rigid cabinet construction – you hear the high quality drive units, not the box.



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DSP8000

DSP Loudspeakers

Sales information
1st December 2001

- Four-way DSP active loudspeaker
- The ultimate expression of the art and science of loudspeaker design
- Self-contained audio system, each comprising eight custom drivers, five amplifiers, four digital converters, digital crossovers and advanced sound-shaping DSP computers
- Remote controlled and requiring no unsightly speaker cables
- Advanced, curved cabinet featuring new lamination and damping techniques
- Class A rated by Stereophile
- Listener control over features including bass, treble tilt, listening axis, volume, time-compensated balance and absolute phase
- Maximum output level 118dB spl

Meridian DSP8000

Meridian's latest flagship sets entirely new standards for clarity, dynamics, imaging and realism. DSP8000s are breathtaking in their ability to place musicians in precise locations in your room, with even subtle body movements clearly audible. The system also has the power to bring alive the most challenging motion picture sound track or rock band.

The DSP8000 is designed to reproduce sounds at up to full natural level while providing all the resolution required by sources of up to 24bit and 192kHz. Such demanding dynamic resolution called for a new approach to cabinet construction and selection of advanced drive unit materials.

DSP loudspeaker drivers

Each DSP8000 loudspeaker uses six multiple high-efficiency long-throw custom bass drive units. The bass units are mounted symmetrically in pairs on the sides of the bass cabinet, cancelling vibration in order to minimise interference with the mid-range and treble units.

The treble and mid-range drivers are mounted in a separate sealed head assembly. The treble unit is a semi-horn-loaded composite dome design with a silver voice coil. The mid-range unit incorporates a cone made from a uniquely light and stiff combination of polymers to give unparalleled transparency.

Power amplifiers

The speakers are driven by five independent high-power low-feedback power amplifiers mounted on a multi-finned extruded heatsink. The combination of

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BOOTHROYD STUART
MERIDIAN

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optimised magnetic design, careful star earthing, and very fast output devices gives the amplifiers extremely low noise, high detail, and fast bass.

The whole electronic assembly is supplied from two substantial toroidal transformers feeding high-quality audiophile-grade capacitors.

Cabinet

Each DSP8000 loudspeaker is built within a precision manufactured cabinet, which uses innovative design techniques to give exceptionally low coloration and exquisite mid-range transparency.

The head assembly is a sealed enclosure fabricated from curved pressure-laminated panels, each using multiple layers of selected woods and metal to provide high stiffness and damping. Its narrow, tapered shape offers optimum dispersion across a wide listening area. It is supported on the bass enclosure by three machined feet.

Like the head unit, the bass cabinet is constructed from interlaminated panels with extensive bracing. The front panel is 6mm glass and incorporates a window for the matrix display and infrared remote control sensor. The cabinet stands on triangulated adjustable machined foot assemblies with provision for floor spikes or skids.

Technical Specification

- Performance:** Frequency response in-room within 3dB from 20Hz to over 20kHz.
Maximum output >118dB spl @ 1m on music material
Noise less than 15dB spl.
- Inputs:** Overall distortion typically <0.02% at any frequency or level
Two digital inputs to SPDIF standard; 32kHz–96kHz sampling rates at up to 24 bit; MHR support. (A future software update will enable support for 192kHz.)
- Construction:** Two separate enclosures: mid/top and bass.
Four-way infinite-baffle system.
Digital crossovers at 80Hz, 200Hz and 2.6kHz.
Horizontally opposed and profiled bass system introduces minimal vibration to the mid-top enclosure.
6 x 200mm long-throw bass drivers.
1 x 160mm polypropylene mid driver in separate enclosure
1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded with protective grille.
Black gloss piano-lacquer head and glass front bass cabinet
Other colours to special order.
FIFO memory buffer input for the lowest possible jitter from almost any source.
Analogue gain and filtering using proprietary Meridian Class-A discrete amplification.
Digital and conversion electronics constructed using advanced surface-mount techniques and partitioned 6-layer printed-circuit boards.
Four 24-bit 128x oversampling D/A converters.
Five 100W power amplifiers per speaker.
All processing is performed upsampled in twin 100MHz digital signal processors (DSPs).
- Dimensions:** 1350mm (53.2in) H, 400 (15.7) W, 528 (20.8) D
Weight 105kg (231lb) each
- Controls:** Rear-panel controls for Power On/Off.
MSR and RS232 port provide control over bass, treble tilt, listening axis, volume, time-compensated balance and absolute phase.
- Front display:** Eight-character display with system lights, can be blank.

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DSP Loudspeakers

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