



MERIDIAN

DSP5200

Digital Signal Processing Active Loudspeaker System

Meridian's acclaimed DSP-based loudspeakers are unparalleled in the industry.

Each unit includes not only carefully-chosen loudspeaker drivers and excellent cabinet design and acoustics, but also multiple power amplifiers and D/A converters, and the DSP power required to create crossovers, filters and control systems that would be completely impossible in a conventional amp/passive speaker configuration. This is why they sound so unlike anything else you'll hear.

The DSP loudspeaker is the ultimate expression of Meridian's loudspeaker philosophy.

Active loudspeakers mean giving each driver its own amplifier in direct and close control of all its parameters.

DSP capability means crossover specifications that cannot be matched by conventional designs and bass extension vastly superior to other loudspeakers of the same volume, while keeping the signal in the digital domain until the last moment means that there is an unbroken link between the recording studio or concert hall and your listening room.

The new DSP5200 takes these principles to the highest ever level in a smaller loudspeaker. The DSP5200 takes the elegant appearance and advanced design of Meridian's flagship DSP8000 and popular DSP7200, including Meridian's innovative SpeakerLink Cat 5 interconnect system, and delivers them in a compact package under 36in tall.

Indeed, many of the features that make the 5200 a truly impressive smaller loudspeaker derive from the larger systems in the range. Ideal for more spacious as well as smaller rooms, these loudspeakers will do justice to any system, in almost any environment.

Each self-contained DSP5200 unit combines a '2 1/2-way' crossover design, three custom drivers, three amplifiers, two multi-bit delta-sigma digital converters, digital crossovers



and computers to deliver an impressive, powerful and accurate sound with full remote control over bass, treble tilt, time-correct balance, absolute phase, tweeter axis and input. The latest technology gives the DSP5200 uncompromised, precise detail with pinpoint imaging and dimensionality in both stereo and surround. Advanced signal processing packs dynamics and bass into a size that defies imagination. DSP controls allow correction of the frequency response in a variety of locations.

Product Highlights

Triple amplifier design based on the acclaimed DSP8000 minimizes colouration

Powerful, compact and elegant digital active loudspeaker with 2 1/2-way DSP crossover

Innovative SpeakerLink for simple Cat 5 interconnects

Self-contained audio system with three custom drivers, three amplifiers, two digital converters, digital crossovers and advanced sound-shaping DSP computers for maximum fidelity

Listener remote control features including bass, treble tilt, listening axis, volume, time-compensated balance and absolute phase

Dynamic bass protection system avoids LF distortion at high levels

Controls accommodate different room positions

Ultra-rigid cabinet in veneered ply, braced and resin damped for maximum sonic purity

Available in graphite, black or silver high gloss lacquer finishes as standard

Maximum output level up to 108dB spl

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DSP5200 Horizontal Centre version.

Cabinet design

An enhanced basket design with sturdy clamp rings delivers the very best performance from the drivers, which are chosen specifically for their sound. The stylish, curved and tapered cabinet both increases stiffness and improves HF dispersion for a more natural top end. Cabinet construction is of 19mm thick multi-layer materials, with proprietary heavy poured resin, and is inherently stiff with superior geometry and damping.

The dual bass drivers are 160mm long-throw composite designs and the cabinet vents through an extremely effective rear port design. This configuration, along with active operation and DSP correction, delivers a combination of smooth, powerful bass and very low mid-range colouration. The tweeter is a 25mm aluminium-dome, silver-wire design.

The DSP5200 is available in vertical format in pairs, as a single vertical centre loudspeaker, or in a horizontal centre-channel version.

Inside the DSP5200

Each speaker incorporates an electronics panel in the rear part of the cabinet. The speaker accepts digital signals and has two inputs, placed at the base of the cabinet for maximum neatness and ease of installation.

The electronic design of the DSP5200 is entirely new, and takes advantage of the latest advances in component design as well as techniques and approaches employed on the DSP8000.

The latest miniaturized surface-mount components add control and improve linearity,

while the advanced high-value capacitors allow the power supply and its low-field true toroidal transformer to be placed closer to power amplifiers, offering lower inductance and improved power performance.

The input receiver uses a FIFO (First In First Out) memory buffer for the lowest possible jitter from almost any source. At the heart of the 5200 is a new DSP system based around a 150MIPS processor, running brand new software.

A built-in circuit monitoring system handles both thermal and bass protection, without compromising either sound or protection capability.

High resolution double-precision processing and upsampling, coupled with the latest 192kHz, 24-bit DACs, ensure that the digital signal path offers true recording studio quality.

The three 75W amplifiers are based on those in the DSP8000, with the latest error-correcting auto-biasing technology which runs the amplifiers with maximum linearity and minimal distortion, even at high levels.

The bottom line

The result of all this intensive research and careful, painstaking design is a digital loudspeaker system that out-performs anything of its size, while its visual design and elegance remain second-to-none.

Meridian products are carefully designed inside and out and the DSP5200 – available in a choice of graphite, black or silver high gloss lacquer – is intended to look as good as it sounds.

And the sound is, quite simply, remarkable.

Outline Technical Specification

Performance

- Frequency response in-room within 3dB from 35Hz to over 20kHz. Linear-phase mid/top crossover. Output > 108dB spl @ 1m on music material. Noise less than 15dB spl. Overall distortion typically < 0.02% at any frequency or level.

Inputs

- Two S/PDIF digital inputs, 32kHz-96kHz sampling rates at up to 24 bit with MHR support.
- Meridian SpeakerLink RJ45 in and out

Construction

- '2 1/2-way' acoustic reflex system. Single-port (vertical model) or dual-port (horizontal centre).

Drivers

- 2 x 160mm polypropylene bass drivers.
- 1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded.

Electronics

- Two precision 24/192 oversampling converters for bass/mid and tweeter signals. Active bass/mid crossover. Digital and conversion electronics constructed using advanced surface-mount techniques and partitioned 6-layer printed-circuit boards.

DSP

- 150MIPS digital signal processor. Digital crossover at 2.6kHz. Response correction for the whole system. Bass protection. User tone controls. Analogue/digital volume and phase control.

Amplifiers

- Three 75W power amplifiers, one for each driver.

Display

- Eight-character display with system lights, can be blanked.

Dimensions

- Vertical model: height: 903mm (without spikes/feet); width: 300mm at base, tapering to 179mm; depth: 356mm at base, tapering to 217mm.
- Horizontal centre model: height 200mm; width 734mm; depth: 265.75mm at deepest point.

Weight

- 35kg packed.

All specifications are subject to change without warning. Installers should check measurements against an actual unit. E&OE.