



DSP5200

Digital Signal Processing Active Loudspeaker System

The DSP loudspeaker is the ultimate expression of Meridian's loudspeaker philosophy. Meridian's acclaimed DSP5200 loudspeaker has undergone a significant revision, inheriting powerful features from its larger sibling, the DSP7200, including SpeakerLink connectivity and improved overall performance.

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 an elegant form. The DSP5200 takes the elegant appearance and advanced design of Meridian's flagship DSP8000 and popular DSP7200, including Meridian's innovative SpeakerLink interconnect system, and delivers them in a compact package under a metre tall.

Indeed, many of the features that make the DSP5200 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 '2½-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.

Cabinet design

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.

Product Highlights

Innovative SpeakerLink for simple Cat 5 interconnects

Uniform bass response via careful tuning of the system bass alignment

Improved power response providing uniform in-room tonal balance

Proprietary 'apodising' upsampling filter improves audio quality of standard sample rate signals

Powerful, compact and elegant digital active loudspeaker with '2½-way' DSP crossover

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

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

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DSP5200 Horizontal Centre version.

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.

An enhanced basket design with sturdy clamp rings delivers the very best performance from the drivers, which are chosen specifically for their sound.

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 takes advantage of the latest developments 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 polypropylene 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 DSP5200 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 the sound.

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 DSP5200 also benefits from original research at Meridian into digital filtering, featuring a special new upsampling filter with especially impressive characteristics and no pre-echo. The filter is so effective that it can correct problems further up the chain including fixing faults in the original recording. The result: conventional 44.1/48 kHz sampled CDs and DVDs sound astonishingly like high resolution recordings!

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

- Meridian SpeakerLink in and out (RJ45)
- S/PDIF digital input, 32kHz–96kHz sampling rates at up to 24 bit with MHR support (phono).

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/36in (without spikes/feet); width: 300mm/12in at base, tapering to 179mm/7in; depth: 356mm/14in at base, tapering to 217mm/8.5in.
- Horizontal centre model: height 200mm/8in; width 734mm/29in; depth: 265.75mm/10.5in at deepest point.

Weight

- 35kg packed.

All specifications subject to change. Installers should check measurements against an actual unit: metric units are reference. E&OE.