

PRELIMINARY



The DSP3100 is available with satin silver or black with piano-lacquer wood accents, and in vertical configuration (above) or horizontal centre (DSP3100HC, left)

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 DSP3100 represents a breakthrough in compact digital loudspeakers. Available in vertical or horizontal centre configuration, they deliver an astonishing performance for their size, and are ideal for stereo or surround listening in smaller spaces. Their accuracy and uncoloured sound also makes them ideal for monitoring in recording and mastering studios.

DSP3100

Digital Signal Processing
Loudspeaker System

Powerful, compact, high-accuracy DSP loudspeaker ideal for second room, surrounds or nearfield/surround studio monitoring

New dual amplifier design based on the acclaimed DSP8000 minimizes coloration

Self-contained audio system with custom drivers, two amplifiers, two digital converters, digital crossovers and advanced sound-shaping DSP capability 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

S/PDIF digital inputs support up to 24-bit, 96kHz with MHR

Ultra-rigid cabinet features aluminium panels bonded to wood, bitumen damped for the ultimate in low coloration

Available in matte black or satin silver, with black piano lacquered wood accents

Maximum output level up to 108dB SPL

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The DSP3100 from Meridian represents a new benchmark in the development of compact, high-performance digital loudspeakers.

Cabinet design

The DSP3100's distinctive cabinet is made from braced MDF with piano-lacquer ends and aluminium side-panels bonded for rigidity. The DSP3100 offers extremely low coloration, and this is partially a result of this cabinet construction. Wood tends to vibrate at lower frequencies, while aluminium is very stable; conversely, aluminium tends to resonate at higher frequencies while wood does not. Combining the two by bonding them together as in the DSP3100 tends to cancel out vibration across the range. In addition, the cabinet is further damped with bitumen, leading to an enclosure that is exceedingly dead.

The DSP3100 is intended for use as a bookshelf or stand-mounted loudspeaker – specially-designed aluminium stands are available for the vertical units that can be sand-filled for maximum stability and minimal impact on sound quality. In addition, the vertical units include Omnimount/ universal wall bracket mountings for additional flexibility in location. The horizontal centre unit is designed to sit on a shelf. Feet are fitted to the units.

The speakers are tonally similar to other Meridian DSP loudspeakers and as a result they are ideal for use, for example, as surrounds for a Meridian DSP-based system. They are equally suited for use in a smaller stand-alone system in a study or bedroom, and can be used as second zone speakers in a Meridian multi-room environment. With S/PDIF digital inputs at up to 96kHz, they can also be used as high-

end computer loudspeakers.

The extremely accurate characteristics of the DSP3100 make them eminently suitable for studio monitoring applications, particularly as near-field or surround monitors in recording and mastering facilities, where they can accept digital audio data at standard digital recording sample rates up to 24-bit, 96kHz operation.

Inside the DSP3100

Featuring high-efficiency long-throw 6in (160mm) (vertical model) or dual 5 1/4 in (120mm) (horizontal model) bass drivers with doped carbon fibre cones and cast alloy baskets, the DSP3100 also includes a very high quality 1in (25mm) Meridian piston treble drive unit with doped fabric dome. The drivers are powered directly by independent high power, low feedback amplifiers fed from an audiophile-grade power supply with a substantial toroidal transformer.

The DSP power in the DSP3100 is provided by a Motorola 56367 running at 150MHz, while D/A conversion is handled by dual 24-bit multi-bit delta-sigma converters. The vertical units feature a 2-way rear-ported design with a single 160mm bass driver, while the horizontal centre is a 2 1/2-way closed box design featuring twin 5 1/4 in (120mm) bass drivers.

The DSP3100 may be controlled and configured via RS232, and operated by an infrared remote control unit (not supplied).

Cosmetic finishes available are black or silver, matching Meridian's G Series components (bead-blasted, chemically brightened and anodised). Wooden surfaces are piano-lacquered.

DSP3100

Digital Signal Processing
Loudspeaker System



Rear panel (horizontal version)

Outline Specifications

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 electronic 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.

Construction: Vertical unit: 2-way ported design with 160mm bass driver; Horizontal centre: 2 1/2-way closed box design with twin 5 1/4 in (120mm) bass drivers, with doped carbon fibre cones and cast alloy baskets. 1in (25mm) Meridian piston treble drive unit with doped fabric dome.

Electronics: Two precision 24/192 oversampling converters for bass/mid and tweeter signals. Digital and conversion electronics constructed using advanced surface-mount techniques and partitioned 4-layer printed-circuit boards.

DSP: Motorola 56367 150MIPS digital signal processor. Digital crossover at 2.3kHz. Response correction for the whole system. Bass protection. User tone controls. Analogue/digital volume and phase control.

Amplifiers: Two 75W power amplifiers, one for each band.

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

Dimensions: Vertical units: 7.65in (194mm) x 15.2in (386mm) x 10in (254mm) w x h x d; Horizontal centre unit: 18.5in (470mm) x 6.9in (173.5mm) x 10in (254mm) w x h x d.

Weight: xxkg packed.

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