



DSP5000

DSP Loudspeakers

Sales information
1st December 2001

- **2.5-way active loudspeaker with DSP crossover**
- **Self-contained audio system, each comprising three custom drivers, three amplifiers, two digital converters, digital crossovers and advanced sound-shaping DSP computers**
- **Remote controlled and requiring no unsightly speaker cables**
- **Listener control over features including bass, treble tilt, listening axis, volume, time-compensated balance and absolute phase**
- **Cabinet constructed from veneered MDF, braced and damped and available in black ash, cherry or rosewood finish**
- **Horizontal centre channel available**
- **Maximum output level up to 108dB spl**

Background

Meridian has long led the market with their highly acclaimed DSP loudspeaker designs. These combine excellent acoustic and drive-unit technology, with multiple built-in power amps and unique performance-enhancing DSP and digital conversion systems. The Meridian DSP loudspeaker is the ultimate expression of the speaker builder's art.

Meridian DSP5000

Like its big brothers, the DSP5000 is a digital active loudspeaker of great power and finesse. The difference is one of scale; in small rooms you may prefer the 5000. In fact the 5000 contains software to make it easier to place in tight spaces; put it in the proper mode and it performs happily with its back against the wall, or free-standing well into the room.

The self-contained system combines in each cabinet a 2.5-way speaker, three custom drivers, three amplifiers, two delta-sigma digital converters, digital crossovers and computers to give you full remote control over bass, treble tilt, time-correct balance, absolute phase, tweeter axis and input. Refined technology gives the DSP5000 uncompromised precise detail and stereo dimensionality unequalled for its price; advanced signal processing packs dynamics and bass into a size that defies imagination.

The DSP5000 is a single-box DSP loudspeaker. This model is a front-facing format that can be effectively built into system cabinets – DSP functions are provided to correct the frequency response in a variety of locations.

Acoustic system and format

The DSP5000 is a powerful 2.5-way active acoustic reflex design. The bass system uses two 160mm long-throw composite bass drivers and the cabinet vents through a rear facing port. This configuration, along with the active and DSP correction, delivers a combination of smooth powerful bass and very low mid-range colouration.

Meridian Audio Limited

Stonehill, Stukeley Meadows
Huntingdon
Cambridgeshire PE29 6EX
T +44 (0) 1480 445678
F +44 (0) 1480 445686

Meridian America Inc.

Suite 122, Building 2400
3800 Camp Creek Parkway
Atlanta GA 30331
T (404) 344 7111
F (404) 346 7111

BOOTHROYD STUART
MERIDIAN

www.meridian-audio.com

The tweeter is the Meridian 25mm aluminium-dome, silver-wire tweeter used in all the DSP loudspeakers.

Electronic system

Each speaker incorporates an electronic panel in the rear part of the cabinet. The speaker accepts digital signals and has two inputs. The input receiver uses a FIFO (First In First Out) memory buffer for the lowest possible jitter from almost any source.

Widely acclaimed by audio reviewers, the DSP5000 is unchallenged by any other system of this size and offers excellent value. It is ideal as a stereo pair, or linked with others in a surround system.

The crossovers, equalisation, location correction, protection and tone controls are all implemented in 100MHz Motorola Digital Signal Processors (DSP) inside each speaker. The DSP feeds carefully tailored individual signals to the bass, mid and tweeter DACs. DSP5000 uses three Meridian Class-A discrete 75W low-distortion power amplifiers – one to power each driver. The electronics are powered from a high-current toroidal transformer through a custom high-speed power supply.

Technical Specification

- Performance:** Frequency response in-room within 3dB from 35Hz to over 20kHz.
Linear-phase mid-top crossover, 6th-order Linkwitz-Riley bass-mid 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 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:** 2.5-way acoustic reflex system.
2 x 160mm polypropylene bass drivers.
1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded with protective grille.
Cabinet constructed in veneered MDF braced and damped, in black ash, cherry or rosewood finish.
FIFO memory buffer input for the lowest possible jitter from almost any source.
Four precision 128x oversampling converters for bass, mid and tweeter signals.
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.
Three 75W power amplifiers, one for each of the drivers.
Power amplifiers use a unique feedback topology and precision local error-correction systems to achieve a performance equivalent to the conversion system.
- Dimensions:** 900mm (35.43in) H, 210 (8.27) W, 297 (11.69) D
Weight 32kg (71lb) each
- DSP:** 100MHz Motorola digital signal processor.
Digital crossover at 2.6kHz.
Response correction for the whole system.
Bass protection.
User tone controls.
Volume and phase control.
- 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.

DSP5000

DSP Loudspeakers

Sales information
1st December 2001

Meridian Audio Limited

Stonehill, Stukeley Meadows
Huntingdon
Cambridgeshire PE29 6EX
T +44 (0) 1480 445678
F +44 (0) 1480 445686

Meridian America Inc.

Suite 122, Building 2400
3800 Camp Creek Parkway
Atlanta GA 30331
T (404) 344 7111
F (404) 346 7111

BOOTHROYD STUART
MERIDIAN

www.meridian-audio.com