

DSP5000C Digital Center Channel

Meridian has led the market with their highly acclaimed DSP loudspeaker designs.

The Meridian DSP loudspeakers combine excellent acoustic and drive-unit technology, with multiple built-in power amps and unique performance-enhancing DSP and digital conversion systems. The DSP loudspeaker is the ultimate expression of the speaker builder's art.



The center channel supplies dialogue in movies, and sharpens the musical stage. It can also add tremendous energy and should not be dismissed lightly when assembling a surround system.

The DSP5000C, arguably the world's finest horizontal center channel speaker, is heavily shielded for use near the largest television screens. Like every Meridian digital active speaker, it carries all necessary electronics on board, including three 75-watt amplifiers, two converters, digital crossovers and a complement of powerful computers.

Using Digital Signal Processing (DSP), the computers adjust bass, treble, absolute phase and loudness while remaining sonically transparent. The speaker is equipped to behave appropriately in five common acoustical positions: free-standing, wallbound, above and below TV, and behind screen. Computers also perform crossovers in the digital realm with unusually correct phase, which snaps voices and instruments into sharp relief.

The DSP5000C blends seamlessly with other Meridian equipment, but can also be adjusted, using its powerful DSP, to

match any high quality stereo system.

These DSP functions are provided to correct the frequency response in a number of locations

However, the DSP5000C is not simply a center speaker. If you prefer the horizontal or shelf-mounting format, it can be used in stereo pairs, as left, center and right in a surround system, or for rear channels as well.

Performance

Frequency response in-room within 3dB from 30Hz to over 20kHz (for inputs at 44.1kHz or 48kHz).
Linear-phase mid-top crossover, 6th-order Linkwitz-Riley bass-mid crossover
Output >109dB 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-48kHz sampling rates

Construction

3-way acoustic reflex system.
2 x 160mm polypropylene high - efficiency long-throw custom drivers.
1 x 25mm aluminium-dome tweeter, silver wire, short horn-loaded with protective grille
Cabinet constructed from high-density MDF. Integral magnetic shielding and user-changeable real wood veneer acoustic damping side panels.
Digital input receiver uses unique proprietary Meridian twin phase-lock-loop system.
Four precision 64x 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 4-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 195mm (7.7in) H, 670 (26.38) W, 275 (10.83) D – Weight 32kg (lbs)

Digital Signal Processing

Twin Motorola 56001 DSPs running at 32MHz
6th order Linkwitz-Riley crossover at 200Hz
Linear-phase time-aligned crossover at 2.6kHz
Response correction for the whole system
User tone controls
Volume and phase control

System operation

By included Meridian System Remote (MSR) that operates:
Volume, Mute, Source selection
Source control (e.g. of CD or Tuner)
Balance and listening-axis control
Tone control with bass and tilt functions
Room-position correction to optimise for a number of locations including free-standing, wall, corner and cabinet
Absolute phase selection
Display control including blank and options for; source, volume, CD track and time, tuner preset and frequency
Favourite tone-settings memory
Reset function
Rear-panel controls for: Power On/Off
Front-panel four character display with system lights