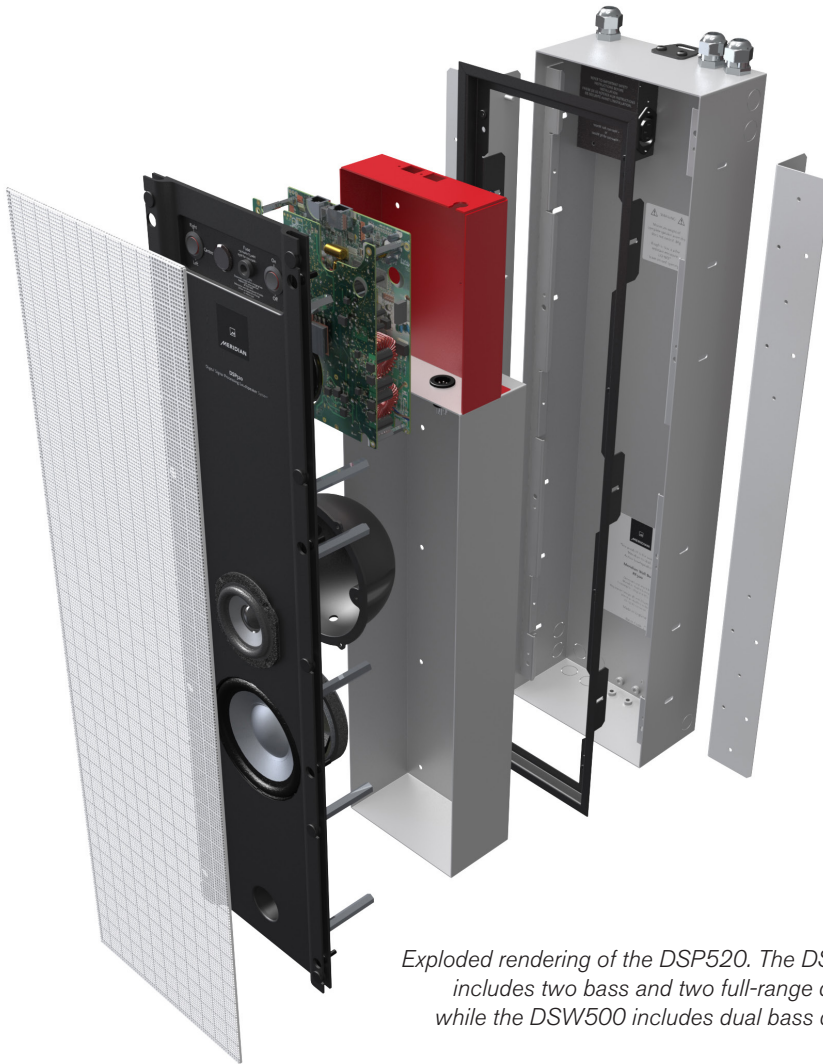




MERIDIAN

# DSP In-Wall Loudspeakers

DSP520, DSP640 & DSW500



*Exploded rendering of the DSP520. The DSP640 includes two bass and two full-range drivers, while the DSW500 includes dual bass drivers.*

**Meridian has introduced a new range of DSP-based in-wall loudspeakers. The first to be released is the DSP520 full-range loudspeaker, followed by the larger DSP640 and a matching subwoofer, the DSW500.**

**Increasingly, home theatre installations in particular call for in-wall designs, and Meridian's existing DSP in-wall model, the DSP420, has been one of the company's most popular loudspeaker since its introduction.**

The sonic inspiration for the in-walls was development work on the unique M6 loudspeaker released in early 2012. This tall, conical loudspeaker features a 140mm bass driver and an 85mm wide-range driver, and the same drivers are used in different combinations in the current in-wall systems, giving them impressive performance on many

levels, including superior mechanical integrity, increased bass and reduced upper mid-range colouration.

The range has been launched with the DSP520, featuring a single wide-range driver and single bass driver. The larger DSP640 unit includes dual bass and full-range drivers, while the DSW500 subwoofer includes twin bass drivers.

The DSP In-wall range has been developed specifically to deliver wide dispersion for maximum listening area, with minimum unwanted diffraction thanks to careful baffle and grille design. The on-board DSP provides thermal and dynamic bass protection with very accurate transients, ensuring that when the loudspeaker is played at high levels, even over prolonged periods of time, the loudspeakers always deliver a clean, detailed and accurate sound.

## Product highlights

Ultra-narrow (200mm) design delivers full DSP loudspeaker performance in-wall

Back-box and frame system allows simple and easy installation, with the flexibility to ensure precise positioning

Loudspeaker array is built into self-contained enclosure that mounts into back-box

DSP-based design delivers superior performance to conventional designs – equivalent to an enclosure of eight times the physical volume.

Features 140mm bass and 85mm wide-range drivers based on the M6, for full-frequency response

Two full-range models plus a subwoofer for maximum flexibility

All aspects of the design including baffle and grille have been developed for maximum dispersion and listening area plus minimum unwanted diffraction

Perfect partner for stand-alone Meridian DSP loudspeakers, with complementary sound

Grille may be painted to match interiors

**Meridian Audio Limited**

[meridian-audio.com](http://meridian-audio.com)

Voicing compensation is included for installation behind provided grille, or fabric and screen material.

All three products in the current range include powerful amplifiers, one for each driver. A 100W Class AB amplifier powers each wide-range driver, while a 150W Class D amplifier powers the bass drivers. These amplifiers have been designed to operate comfortably and run perfectly cool, even at the highest listening levels.

The use of a wide-range driver across the speech band helps create a loudspeaker with an effortless sound that remains clear, open and spacious, even at high listening levels. Meanwhile, the bass end is crossed over at 200Hz, just as in the flagship DSP8000, with a full-scale high-resolution Meridian DSP crossover. Meridian's unique suite of proprietary technologies provides a lifelike sound at all volume levels. DSP processing throughout delivers a level of performance matching that of a conventional loudspeaker of eight times the physical volume, while an 'apodising' upsampling filter delivers maximum digital audio quality.

The in-wall systems are built into a completely integrated, narrow (total 200mm wide) all-metal frame and ported enclosure system, with carefully-calculated internal volume to provide the required acoustic characteristics for the drivers. This self-contained enclosure mounts to a frame which is in turn mounted into the rough-in box, which is designed for mounting into new-build partition and stud style wall. It can alternatively be retrofitted into stud or brick/stone-built walls.

The rough-in box provides a fireproof enclosure that includes a box for power entry. Power is brought into the box from above or below and fed to an IEC connector inside the power box that feeds the loudspeaker. Signal inputs and outputs are brought into the back box via grommets through knockouts included in several locations around the box. The loudspeaker assembly includes two RJ45 SpeakerLink connectors, one for input and one for output, allowing the units to be wired home run or daisy-chain.

During the installation process, the rough-in box may be mounted directly into the wall, for example by attaching it directly to woodwork or brickwork, or secured via mounting wings that fix to the side of the rough-in box, which give additional stability. It can also be attached to the frame, whose return always

lies on the wall surface, clamping the entire assembly in place.

The loudspeaker enclosure itself then mounts on to the frame, and the perforated steel grille attaches to rubberised magnets in the aluminium extrusion that forms the front panel of the loudspeaker enclosure.

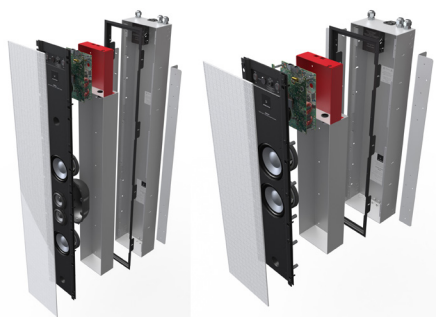
The paintable magnetic grille also has locating pins top and bottom that fit into holes in the extrusion. All the elements – rough-in box, frame, loudspeaker enclosure, included scrim and grille – include room for adjustment so that the entire assembly can be fitted with precision into almost any type of wall. See exploded illustrations overleaf and below.

The loudspeakers can be mounted horizontally or vertically, in a wall or ceiling.

The rough-in box kit includes a template to determine mounting positions, plus a mask to protect the box during plastering, etc, ensuring simple, flexible and easy installation.

The drivers are mounted into the front extrusion of the enclosure itself, while a separate upper case holds the electronics, consisting of DSP, digital audio converters and amplification. A mounting position is provided in the DSP520 and DSP640 for the fitting of a Media Source 200 unit to the rear of the enclosure enabling the simple construction of a single zone for a Meridian Digital Media System.

The front of the extrusion carries the on/off rocker switch, fuse holder, an infra-red receptor window and a three-way (Left-Centre-Right) channel selector rocker switch. When switched to Centre, the loudspeaker equalisation is optimised for horizontal centre use. A LED indicator shows the loudspeaker power status.



DSP640 (left) and DSW500 (right) exploded renderings.

## Outline Specifications

### Inputs

- 2x Meridian SpeakerLink connector (RJ45)

### Outputs

- Meridian SpeakerLink connector (RJ45)

### Drivers

- 85mm wide-range & 140mm bass
- DSP520: one of each; DSP640: two of each; DSW500: dual bass drivers

### Amplification

- 1x 100W Class AB amplifier per wide-range driver
- 1x 150W Class D amplifier per bass driver

### Construction

- All-metal construction throughout, consisting of back-box, mounting frame, aluminium extruded baffle with rear enclosure and front steel grille

### Dimensions

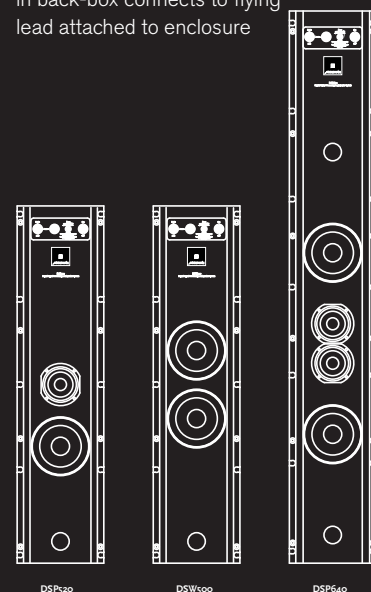
- Visible grille on wall all models:  
W x D: 222.5 mm (8.73 in) x 4.0 mm (0.16 in);  
H DSP520/DSW500: 820 mm (32.28 in);  
H DSP640: 1251.3 mm (49.25 in).
- For wall cutout and rough-in box dimensions, see engineering drawings and installation instructions

### Front panel

- On/off rocker switch, Fuse holder, IR window
- Rocker switch selects left-centre-right channel operation
- LED indicator shows power status

### Power

- IEC mains connector included in back-box connects to flying lead attached to enclosure



E&OE. Specifications subject to change without notice. Original measurements use SI units. Dimensions should be confirmed against the original device or dimensioned engineering drawings.