



DSP320 Ceiling/In-Wall Loudspeaker



With the increasing demand for in-wall and ceiling-mounted loudspeaker designs, particularly in home theatre applications, DSP320 is a compact complement to Meridian's DSP520 and DSP640 installation loudspeakers.

Developed from the successful DSP520, the DSP320 is designed for in-ceiling use while also being thin enough for in-wall installation. It is designed to deliver similar tone qualities and compatible performance, and this complementary tonality makes it easy to integrate into systems that combine Meridian's free-standing DSP Loudspeakers with in-walls.

Like the DSP520, the DSP320 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.

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

DSP320 includes two powerful 80W Class D amplifiers: one for the wide-range driver, while the other powers the bass driver.

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 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.

DSP320 features Enhanced Bass Alignment (EBA) to provide accurate time-alignment of a wide range of frequencies across the range of both drivers – a significant advance over conventional time-alignment, which can only be performed on a per-driver basis. In a loudspeaker, lower frequencies are progressively delayed compared with the MF and HF range. Using a combination of digital filters and time delays for the mid and high frequencies, EBA allows the upper bass, mid and high frequencies to "wait" for the low frequencies, delivering perfectly-timed music playback. This feature requires a DSP-based design: it's impossible in any passive or analogue-active loudspeaker.

Product highlights

Compact 300mm (12in) square* design only 100mm (4in) deep* delivers full DSP loudspeaker performance in-wall (*approx)

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

2-channel, high power amplifier with linear power supply, DSP crossover, setup controls, IR sensor

Fireproof rough-in box with AC connection and mounting hardware

Damped, high-rigidity aluminium acoustic enclosure with internal midrange enclosure

High rigidity aluminium baffle with Bass/Wide Range drive units and high contact magnetic grille clamping

White scrim under high precision plated steel, paintable, matt white grille.

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

Features "racetrack" oval bass driver, and the same 85mm wide-range driver as the DSP520, for full-frequency response

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

Ideal with DSP520/640 & stand-alone Meridian DSP loudspeakers, with complementary sound

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The in-ceiling/in-wall systems are built into a completely integrated, compact (total 302.5mm/11.9in square, 315mm/12.5in square including optional trim frame) all-metal frame and enclosure system, with carefully-calculated internal volume to provide the required acoustic characteristics for the drivers. The rough-in box is designed for mounting into new-build partition and stud style wall. It can alternatively be retrofitted into stud or brick/stone-built walls or ceilings.

The rough-in box provides a fireproof enclosure that includes a box for power entry. Power is brought into the rough-in box 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. Once the rough-in box is installed, the loudspeaker can be mounted with the optional trim frame that provides a bezel for the perforated steel grille. In this case the trim frame is inserted and the loudspeaker is mounted on top of it.

The grille then attaches magnetically within the trim frame. Alternatively, the trim frame can be omitted, in which case the grille mounts flush with the wall surface. See illustration below – for full installation details, consult the installation instructions.

All the elements – rough-in box, frame, loudspeaker enclosure, included scrim and grille – include room for adjustment (except when flush-mounted) so that the entire assembly can be fitted with precision into almost any type of wall.

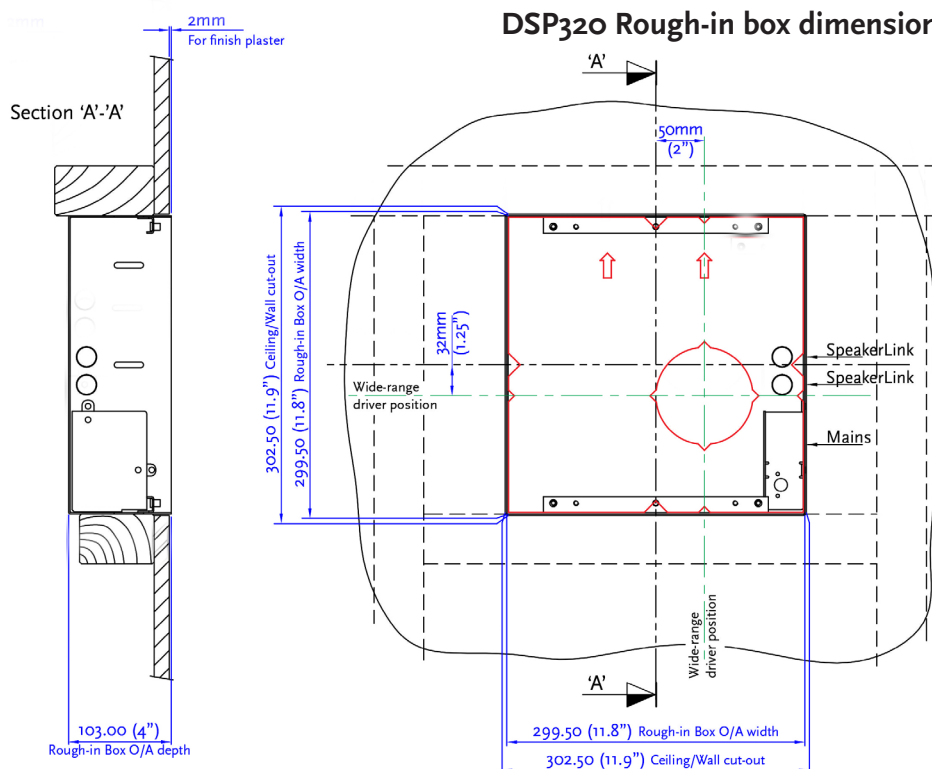
The rough-in box kit includes a template to determine mounting positions, plus a mask to protect the box during plastering, etc, ensuring simple, flexible and easy installation.

The drivers are mounted into the front of the enclosure itself, while a separate upper case holds the electronics, consisting of DSP, digital audio converters and an individual Class D amplifier per driver.

The front of the unit carries the on/off rocker switch, fuse holder, an infra-red receptor window and a three-way (Left, Left+Right, Right) channel selector rocker switch. The inclusion of a Left+Right mode allows the loudspeaker to be used alone where a pair is impractical.

A LED indicator shows the loudspeaker power status.

DSP320 Rough-in box dimensions



Outline Specifications

Inputs

- Meridian SpeakerLink connector (RJ45)

Outputs

- Meridian SpeakerLink connector (RJ45)

Drivers

- 85mm wide-range driver and 'racetrack' oval bass driver

Amplification

- 80W Class D amplifier (wide-range driver)
- 80W Class D amplifier (bass driver)

Construction

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

Dimensions

- Product 299.5 (11.8) x 299.5 (11.8) x 103 (4.0) mm (in)
- Recommended cut-out 302.5mm (11.9in) square
- Visible size with optional grille frame 315.5mm (12.4in) square. 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 selecting Left, Left+Right, Right channel operation
- LED indicator shows loudspeaker 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.