

# DSP750

## IN-WALL DIGITAL ACTIVE LOUDSPEAKER

### OVERVIEW

The DSP750 is Meridian's highest performing architectural loudspeaker.

Designed for easy installation and ultimate performance, the DSP750 delivers a maximum output of 120dB @ 1m and bass extension down to 30Hz. When three loudspeakers are used in a High Power Array, the result is full-range sound at an SPL of 105 dB@10m/32ft. Its array of drive units includes a high-performance beryllium tweeter for ultimate Hi-Res fidelity. Capable of playing over 40kHz, the DSP750 has superb off-axis performance enabling it to produce a uniform and lifelike stereo image over a wide listening area.

The sealed aluminium cabinet design ensures that a reliable and repeatable performance is achieved regardless of the installation. High dynamic range, low distortion and an outstanding signal-to-noise ratio combine to provide full-range sound with exceptional headroom and low-listener fatigue in any room.



DSP750 shown with grille and RF600 rough-in box

### PRODUCT HIGHLIGHTS

Ultra-shallow (100mm deep) design provides full DSP loudspeaker performance, while the rough-in box and frame system allows for easy installation and precise positioning.

- Three new, high-performance drive-units.
- 'Double-baffle' aluminium enclosure design minimises unwanted resonances and colouration.
- Separate mid-range driver enclosures eliminates interaction with the bass drivers.
- Grille attached by magnets may be painted to match interiors.
- Each of the five drive-units powered by a bridged pair of amplifiers; each pair capable of delivering over 100W into 8 Ohms.
- EBA (Enhanced Bass Alignment) eliminates time-smearing across the frequency range.
- Dynamic bass protection provides maximum excursion without distortion.

# DRIVE UNITS

## TWEETER



- Custom tweeter with a beryllium dome and diffraction expansion technology.
- Wide dispersion and pinpoint imaging for a natural, lifelike sound, ideal for larger areas and surround-sound systems.
- Capable of reproducing frequencies in excess of 40kHz.
- High power handling and incredibly low distortion.

## MID-RANGE DRIVERS



- Two 100mm mid-range drivers.
- Bespoke matte-black, woven polypropylene cone.
- Extraordinary fidelity, clarity and off-axis performance.

## BASS DRIVERS



- Two 160mm matte-black bass-drivers.
- Titanium voice-coil.
- Delivers deep, powerful and complex bass frequencies with exceptional speed and accuracy.
- Unmatched bass performance from an architectural loudspeaker which is only 100mm deep.

# REAR VIEW



DSP750 Connections

DSP750 Rear shown with mounting frame in place

## USER FEATURES

- The front of the loudspeaker carries the on/off rocker switch, an infra-red receptor window, an RS232 socket and a three-way channel selector rocker switch. When switched to L + R, the loudspeaker plays a balanced mix of left and right audio which is ideal for soundbar applications - especially when combined with Centre Elevation.
- LED indicators show power and standby status in normal use and are also used to confirm configuration settings during installation.
- All the elements are designed for simple, flexible and precise installation into almost any type of wall.
- 100mm mounting depth for easy mounting and installation.

## TECHNOLOGIES

### CLASS-M DSP ENGINE

Phase-linear DSP crossovers with text-book performance ensure the drive-units remain in phase with each other across their crossover regions. The DSP engine also provides thermal and dynamic bass protection while retaining very accurate transients, ensuring that when the loudspeaker is played at high levels – even over prolonged periods of time – it always delivers a clean, detailed and accurate sound.

### MERIDIAN DYNAMIC AMPLIFIER DESIGN

Hi-Res power amplifiers include feedback from the loudspeaker terminals on the output inductor which lowers the output impedance to levels rivalling good Class-AB designs, for perfect cone control and maximum detail.

### CENTRE ELEVATION

Meridian's Centre Elevation technology, which is based on psychoacoustic research, raises the perceived image location from an under-screen loudspeaker so that it appears to come from the centre of the screen.

### ENHANCED BASS ALIGNMENT (EBA)

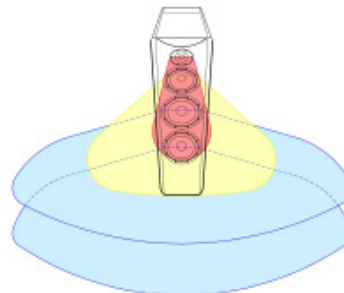
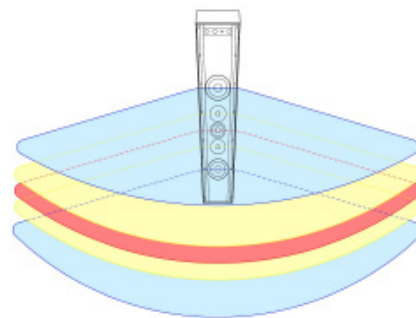
Meridian's innovative Enhanced Bass Alignment (EBA) technology time-aligns high, mid and upper bass frequencies with the low bass, resulting in audibly improved bass transients and added life and clarity.

### ENHANCEMENT TECHNOLOGIES

Meridian's unique suite of proprietary technologies includes FIFO buffering, DSP upsampling, apodising filters and MHR (Meridian High Resolution) to get the very best performance from all digital sources.

### DIFFRACTION EXPANSION TECHNOLOGY

The innovative tweeter design delivers controlled directivity, wide dispersion and consistent off-axis response. This means all listeners get the same experience, turning the listening-room into one large "sweet-spot". As well as providing greater freedom of placement due to controlled reduction of unwanted reflections, this also makes the loudspeaker ideal for larger areas.



# CONSTRUCTION

The DSP750 is made up of a slim, self-contained, all-metal enclosure with a metal mounting frame. Its purpose-built rough-in wall-box is available separately. The rough-in box is first fitted to the wall and wired to the mains supply. The frame is then fitted and the loudspeaker enclosure is then bolted to the frame. The rough-in box and frame can be adjusted for various wall materials and depths.

- The loudspeaker enclosure is fitted to its frame which is designed for mounting into new-build partition and stud style walls, or for retrofitting into stud or brick/stone-built walls.
- The paintable, perforated steel grille supplied with the loudspeaker can be fitted where required. The grille is held in place by powerful rubber-coated magnets which are attached to the aluminium extrusion that forms the front panel of the loudspeaker enclosure.

# SPECIFICATION

<b>AUDIO INPUTS</b>	• 1 x Meridian SpeakerLink connector (RJ45)
<b>AUDIO OUTPUTS</b>	• 1 x Meridian SpeakerLink connector (RJ45)
<b>PERFORMANCE</b>	<ul style="list-style-type: none"> <li>• Peak SPL: 120dB@1m for a single speaker</li> <li>• 3 x DSP750 in HPA: Peak SPL = 125dB@1m and 105dB@10m/32ft</li> <li>• Frequency response 30Hz – 40kHz</li> </ul>
	<ul style="list-style-type: none"> <li>• Horizontal dispersion: 120° @ 20Hz - 10kHz      70° @ 18kHz (-6dB)</li> <li>• Vertical dispersion: 80° @ 20Hz - 10kHz (-6dB)</li> </ul>
<b>AMPLIFIERS</b>	• 5 pairs of Class-D amplifiers - each pair bridged for greater than 100W into 8 Ohms
<b>TWEETER</b>	• Beryllium dome with diffraction expansion technology
<b>MID-RANGE DRIVERS</b>	• 2 x 100mm with woven polypropylene cones
<b>BASS DRIVERS</b>	• 2 x 160mm long-throw, high-output with titanium voice coil
<b>FRONT PANEL CONTROLS</b>	<ul style="list-style-type: none"> <li>• Rocker switch selects "Right", "L + R", "Left or Centre"</li> <li>• RS232 socket – 3.5mm minijack (long version – 18.6mm)</li> <li>• LED indicators show power status and configuration settings</li> </ul>
<b>DIMENSIONS/WEIGHT</b>	<ul style="list-style-type: none"> <li>• HEIGHT: 1230mm [48.5in]*</li> <li>• DEPTH: 102mm [4in]</li> <li>• WIDTH: 203mm [8in]</li> <li>• WEIGHT: 16 kg [35lbs]</li> </ul>
<b>GRILLE DIMENSIONS</b>	<ul style="list-style-type: none"> <li>• HEIGHT: 1251.3mm [49.25in]</li> <li>• DEPTH: 4mm [0.16in]</li> <li>• WIDTH: 222.5mm [8.73in]</li> </ul>
<b>PACKED DIMENSIONS</b>	<ul style="list-style-type: none"> <li>• HEIGHT: 1380mm [54.3in]</li> <li>• DEPTH: 270mm [10.6in]</li> <li>• WIDTH: 340mm [13.4in]</li> <li>• PACKED WEIGHT: 21 kg [36lbs]</li> </ul>
<b>POWER</b>	• IEC mains connector included in back-box connects to flying lead attached to enclosure

\* Excludes frame

For detailed drawings please contact [design@meridian.co.uk](mailto:design@meridian.co.uk)