DSW600
Installation and
Set-up Guide

MERIDIAN

Important Safety Instructions

Read the instructions
Keep these instructions.
Follow all instructions
Do not use this apparatus near water.
Clean only with a dry cloth.
Install only in accordance with the manufacturer's instructions.
Refer all servicing to approved personnel.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

This apparatus has been designed with Class 1 construction and must be connected to a mains socket outlet with a protective earthing connections (the third grounding pin).

This apparatus uses a single-pole power switch. As a result it is not isolated from AC mains power when switched off at the front panel. The apparatus may be isolated from mains power either by unplugging the power connector from the rear of the unit, or by unplugging the connector at the opposing end of the power cord or cable from its supply outlet. As a result, either or both of these connectors should remain accessible.

SAFETY WARNINGS

WARNING!
RISK OF ELECTRIC SHOCK – DO NOT OPEN
ATTENTION!
NE PAS OUVRIR – RISQUE DE DÉCHARGE ÉLECTRIQUE
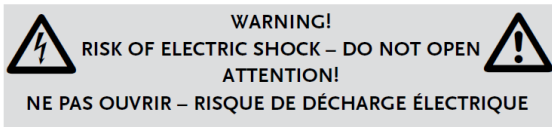
Caution: to reduce the risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

IP20 EQUIPMENT

CLIMATE
The equipment has been designed for use in moderate climates and in domestic situations.

Only use at an altitude not exceeding 2000m.

SAFETY WARNINGS
- Do not expose the unit to dripping or splashing.
- Do not place any object filled with liquid, such as a vase, on the unit.
- Do not place naked flame sources, such as lighted candles, on the unit

TO AVOID OVERHEATING
- Do not position the product in direct sunlight.
- Do not position the product near heat sources, such as a radiator.
- Leave at least 10cm around the product to ensure sufficient ventilation.

RADIO INTERFERENCE

FCC Warning: This equipment generates and can radiate radio frequency energy and if not installed and used correctly in accordance with our instructions may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in Subpart J, Part 15 of FCC rules for a Class B computing device. These limits are intended to provide reasonable protection against such interference in home installations.

EEC: This product has been designed and type-tested to comply with the limits set out in EN55032:2015 and EN55024:2010 + A1:2015.

SPECIFICATIONS

PHYSICAL
Dimensions (excluding mounting ears): 1429mm x 343mm x 87mm (H x W x D
Weight: xxkg

POWER
550W max

This product is available factory pre-set in the following voltage options:

- 100V AC 50-60Hz
- 110-120V AC 50-60Hz
- 220-240V AC 50-60Hz

Meridian Audio reserves the right to amend product specifications at any time.

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Part no: P88478

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VISIT US ON THE WEB

www.meridian-audio.com

This guide shows the basic steps involved in installing the DSW600 In-wall Digital Subwoofer. Further information relating to this product can be found on the Meridian website:

meridian-audio.com/DSW600

DSW600 info

Introduction

The DSW600 is a shallow-depth in-wall subwoofer designed to handle the most bass-heavy music and action-movie soundtracks effortlessly. Delivering deep, powerful bass, the DSW600 can be used to augment the bass from other loudspeakers whether used in a two-channel or surround-sound system. It can also be used to play the dedicated LFE channel in a surround system - either on its own or when used in multiples. This flexibility means that, in some application cases, it is necessary to configure the DSW600 for it to perform as anticipated. Details of this configuration, and how to do it, are included in this guide.

General installation information

The DSW600 can be used in a variety of installation situations. It can be built into studwork (with 400mm centres) covered by a layer of plasterboard (sheetrock), with or without a finishing skim of plaster. It can be mounted in studwork behind decorative stretched fabric. It may be mounted behind a projection screen, either onto an existing wall or onto framework built for the purpose. It can be mounted onto, or even recessed into, a solid brick or block wall. It could also be mounted into cabinetry, secured under a sofa, or built into other seating constructions.

Naturally, the degree of construction work required for the differing situations varies a great deal and several of the situations listed will rely on completely bespoke solutions. Given this, this guide shows how to install the DSW600 into new-build studwork built onto an existing solid wall on the basis that this type of installation covers the general requirements for any of the others.

Important: The DSW600 can emit high sound pressures from its drive-unit and the laws of physics dictate that the product must be very securely fastened to its surroundings in order to prevent unwanted rattles or buzzes. In addition to this, secondary precautions can be taken to avoid unwanted noises due to the severe mechanical forces involved when producing low frequency audio at high levels. Silicone sealant (caulking) and other damping materials may be applied to any areas with potential for suffering from vibrations.

Product hardware overview

The two main components of the product are the acoustic enclosure and the electronics module. The acoustic enclosure is a sealed loudspeaker cabinet which houses the drive-unit. During installation, the acoustic enclosure is fixed to the surrounding wall or other construction using four mounting wings supplied with the product. The electronics module is connected to the acoustic enclosure via a single audio cable, which features a "Speakon" connector, and the module is then also fitted to the mounting wings. The electronics module carries the product's controls, its mains power inlet and the SpeakerLink input and output connections.

The DSW600 is supplied with a perforated steel grille and a steel frame on which the grille is mounted. The perforations match those used on other products in the Meridian Architectural Loudspeaker range. To reduce visual impact, the grille is sized to cover the aperture left in the wall if installing the DSW600 behind plasterboard (sheetrock). This represents approximately only 40% of the frontal area of the installed subwoofer assembly. The grille is mounted such that it floats on top of the plasterboard covering the DSW600. To allow the drive-unit to travel its full potential excursion without making contact with the grille, the plasterboard should be at least 16mm thick. If desired, a second layer of plasterboard can be used so the grille fits flush into the wall.

If the DSW600 is to be mounted behind a projection screen or any other type of stretched fabric, there should be a clearance of at least 30mm between the fabric and the front surface of the cabinet. This will allow the drive-unit to travel its full potential excursion without making contact with the fabric.

Important: The DSW600 is supplied with an "installation shield". This is an MDF board which is specifically drilled and routed to perform key functions during installation. Full details are included in the installation instructions below but suffice it to say here that using the shield greatly eases the task of installing the DSW600 successfully.

RF DSW Wall Receptacle

In territories where building regulations stipulate that flexible power cables cannot be used within wall spaces, the DSW600 should be installed in conjunction with the DSW600 Wall Receptacle (available separately). Installation of the RF DSW is covered in the Appendix at the end of this guide.

Specifications

Audio Input

- 1 x Meridian SpeakerLink connector (RJ45).

Audio output

- 1 x Meridian SpeakerLink connector (RJ45).

Performance

- Frequency response: 24Hz to 120Hz.

Amplifier

- 1 x Class-D amplifier capable of producing over 600W RMS on music or movie transients.

Bass driver

- 1 x 10in long-throw, low profile design.

Controls

- Channel selector switch to select which digital audio received via the SpeakerLink input is played.
- Power On/Off switch.
- LED indicator showing power status.

Grille dimensions

- Height: 569mm (22.4in).
- Width: 387mm (15.2in).
- Depth: 16mm (0.63in).

Product dimensions

- Height: 1429mm (56.3in).
- Width: 343mm* (13.5in) – excluding mounting wings.
- Depth: 87mm (3.4in) – excluding grille.
- Weight: 23kg (50.6 lbs).

Packed dimensions

- Height: 1340mm (52.8in).
- Width: 485mm (19.1in).
- Depth: 290mm (11.4in).
- Weight: 30kg (66.0 lbs).

Power

- IEC mains connector – 550W max.

Unpacking

The installation of the DSW600 often involves construction and decoration work. As this type of work can generate dust and debris, it can make sense to separate components which are not required until later in the process and, either put them to one side, or move them away from site completely. This enables them to be kept safe and clean for use later. The electronics module can be installed after the bulk of the construction work has been completed and the grille (if being used), along with its retaining magnets and its frame, is fitted towards the end of the process.

Contents of the box

Components

- Acoustic enclosure
- Upper mounting wings – 2 pieces
- Lower mounting wings – 2 pieces
- Installation shield
- Electronics module
- Grille frame
- Grille

Power

- IEC power cable with mains plug
- 110v-120V version only: Short male-to-female IEC power cable for use with RF DSW Wall Receptacle
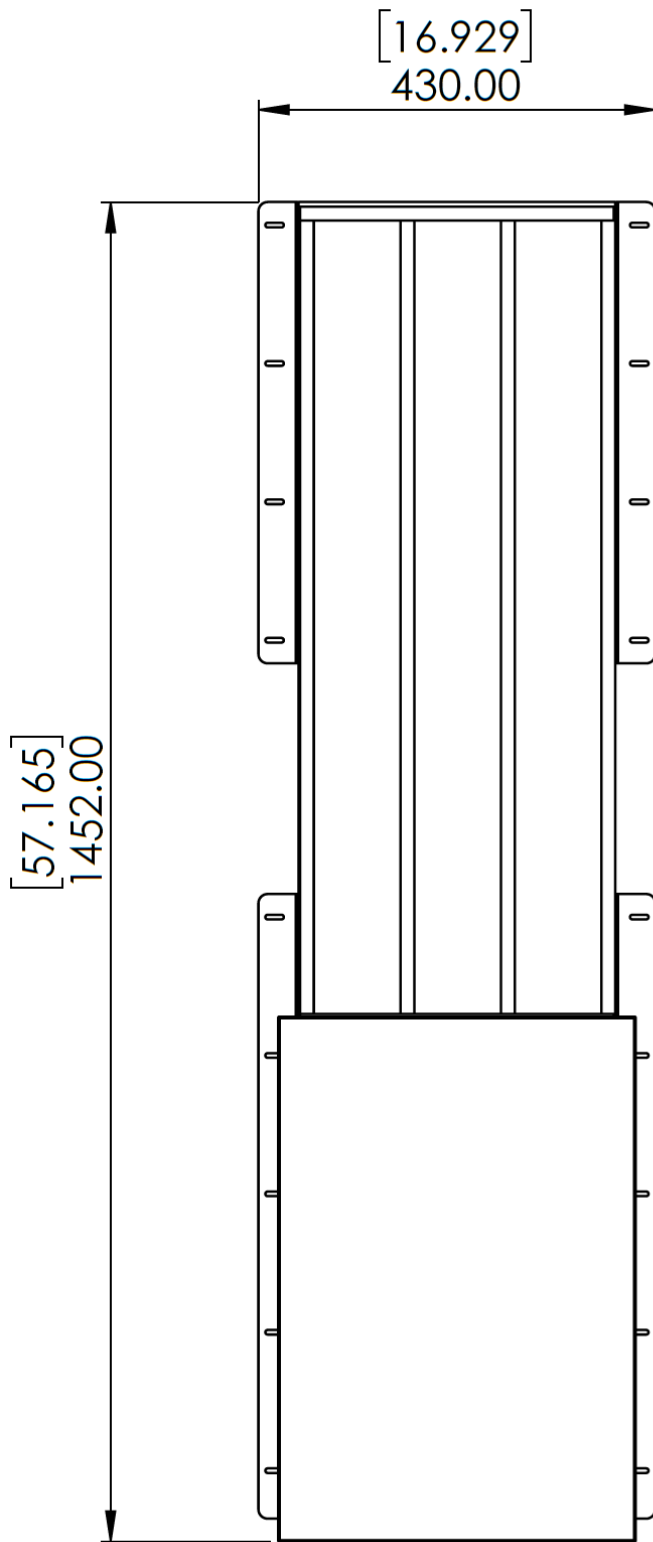- Spare mains fuse

Tools

- Grab handle for module removal
- Grille removal tool – 2 pieces

Fittings

- M5 x 12mm pozidriv countersunk screws silver, with threadlocker applied– 12 pieces
- M5 x 35mm socket-cap screws silver
- M5 x50mm anti-vibration fixings black – 10 pieces
- M5 x 15mm socket-cap screws black – 16 pieces
- M5 washer (form C) – 16 pieces
- Grille-retaining magnets (in rubber sleeves) – 14 pieces
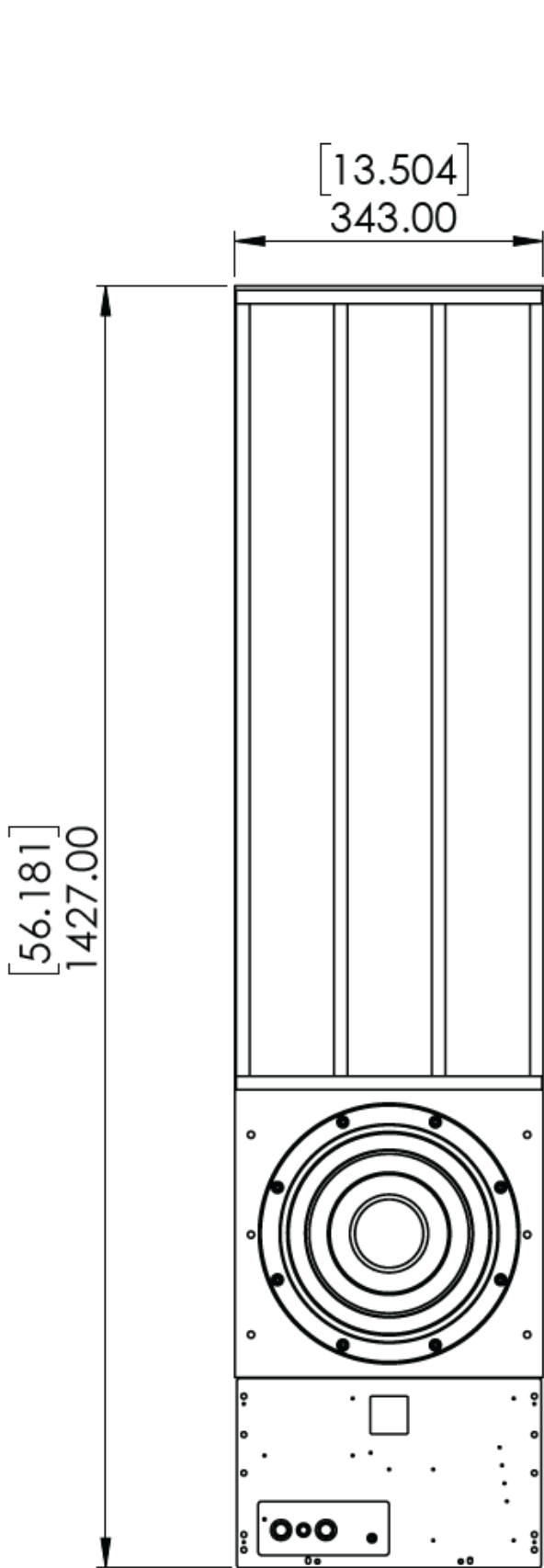
Dimensional drawings

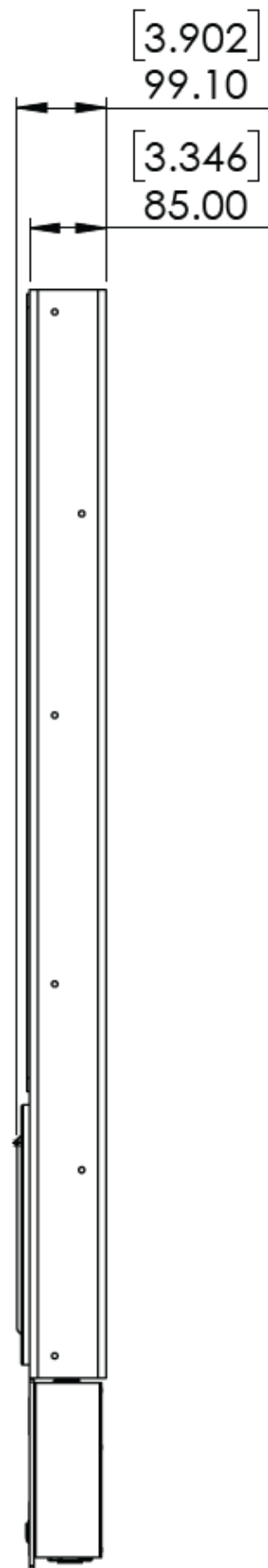If installing into studwork, the stud centres should be spaced at 400mm.
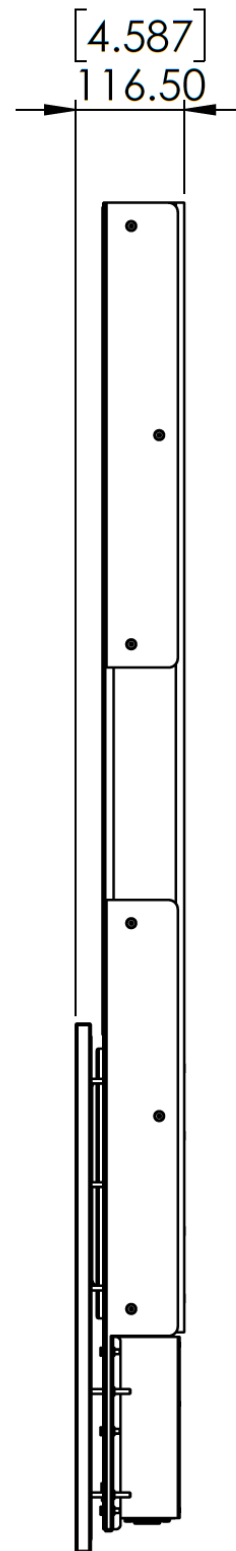
[16.929]
430.00

[57.165]
1452.00

[4.587]
116.50

Front view – with installation
shield and wings fitted

Side view – with installation
shield and wings fitted

[13.504]
343.00

[56.181]
1427.00

[3.902]
99.10

[3.346]
85.00

Front view – with installation
shield and wings removed

Side view – with installation
shield and wings removed

Installation

Step 1. Prepare studwork with 400mm centres to accept the subwoofer. If the studwork is being built onto a solid wall, a generous bead of silicon sealant (minimum width 5mm) should be applied between the studs and the solid wall.

It is important to fit a noggin (cross-brace) directly above the location of the subwoofer. Also, ensure the aperture has sufficiently height to provide a gap of at least 100mm (4in) between the bottom of the installed subwoofer and the studwork. This will allow access to the cables which connect to the electronics module.

Note: If the subwoofer is to be installed in conjunction with the RF DSW Mains Receptacle (available separately), refer to the Appendix at the end of this guide.
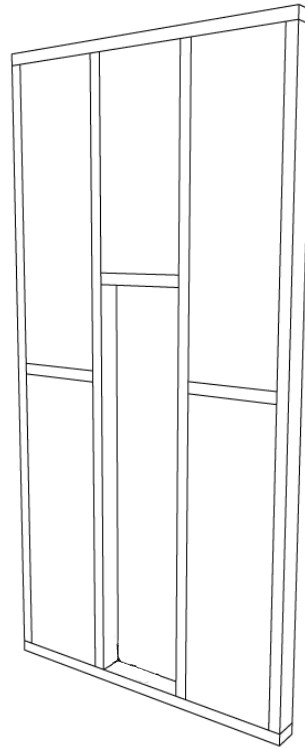

Step 2. The DSW600 is powered via a mains inlet socket on the underside of its electronics module. Therefore, a mains feed terminated with an IEC C13 connector is required within the wall cavity adjacent to where the mains inlet socket will be located.

The SpeakerLink connections on the electronics module of the DSW600 carry the audio and control signals for the product. One SpeakerLink cable is required to connect to the SpeakerLink input socket. Depending on the layout of the system, a second SpeakerLink cable may be required to be connect to the SpeakerLink output socket.

Note: If two SpeakerLink cables are to be connected to the DSW600, the two cables should be identifiable as the input and output feeds to ensure they can be inserted into the correct respective sockets.

Run the mains cable and SpeakerLink cable(s) into the aperture, below where the subwoofer is to be installed. To ease installation, ensure all cables are long enough to allow them to be inserted into their sockets once the electronics module is in its final installed position. Approximately 30cm of spare cable should suffice.
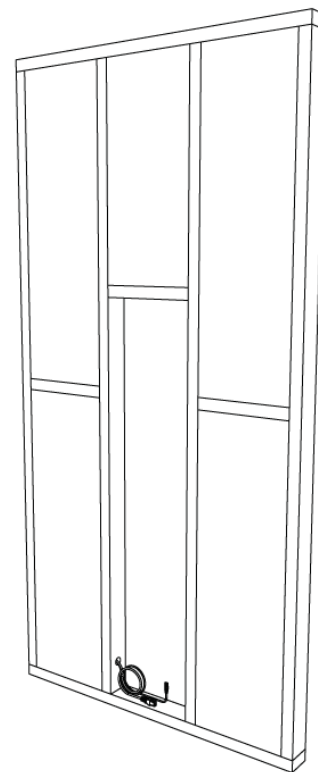
Step 3. Prepare the acoustic enclosure for installation by laying it on a flat surface and fitting the four mounting wings to the acoustic enclosure using the twelve M5 x 12mm pozidriv countersunk screws supplied. These screws must be fitted very tightly as they are not accessible once the subwoofer is installed within the wall. The acoustic enclosure and mounting wings are supplied with foam damping strips applied. It is important for that these strips are left in place.
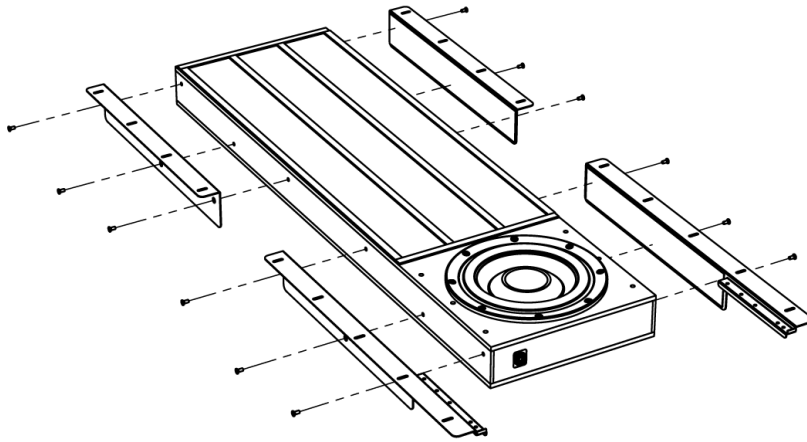
Step 4. Fit the installation shield to the front of the acoustic enclosure and the lower mounting wings using the six M5 x 35mm socket-cap screws supplied. The installation shield features a recess to accommodate the subwoofer drive-unit, and its fixing holes are positioned asymmetrically to ensure correct orientation.


Installation shield
must be fitted
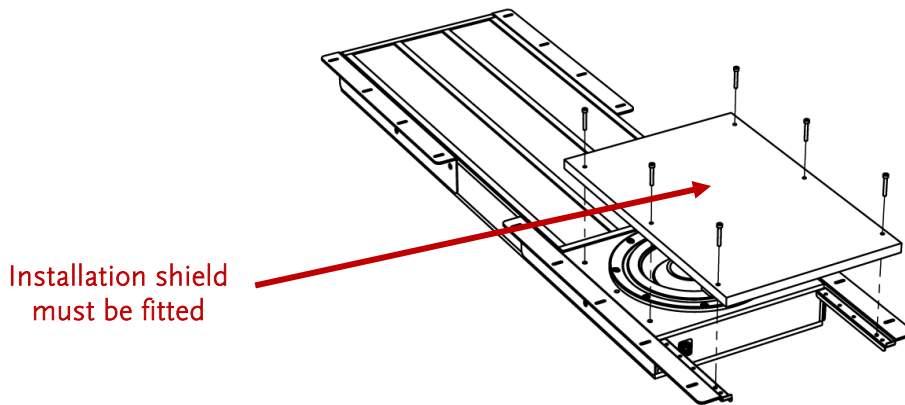
Important! The installation shield is essential as it performs up to three important functions:

- It protects the drive-unit against accidental damage and prevents the ingress of dust, paint and other debris.
- It acts as a brace and a template to ensure the electronics module can be successfully fitted later on. It does this by holding the lower mounting wings in the correct position for the fixing holes to align while ensuring the correct portion of the subwoofer is left exposed in order for the electronics module to be fitted.
- If the grille is to be fitted to the subwoofer, the installation shield acts as a template for the subsequent fitment of the grille frame onto which the grille is mounted. If plasterboard (sheetrock) is fitted so it abuts to the installation shield, it ensures that the grille frame can be successfully fitted to the subwoofer once the installation shield is removed.

Step 5. Fit the subwoofer assembly to the studwork with appropriate fixings through the 18 holes in the mounting wings. Note: fixings not supplied.

If an outer layer of plasterboard (sheetrock) is being fitted to the wall, proceed to the next step. If no outer layer is being fitted, skip to **Step 10**.
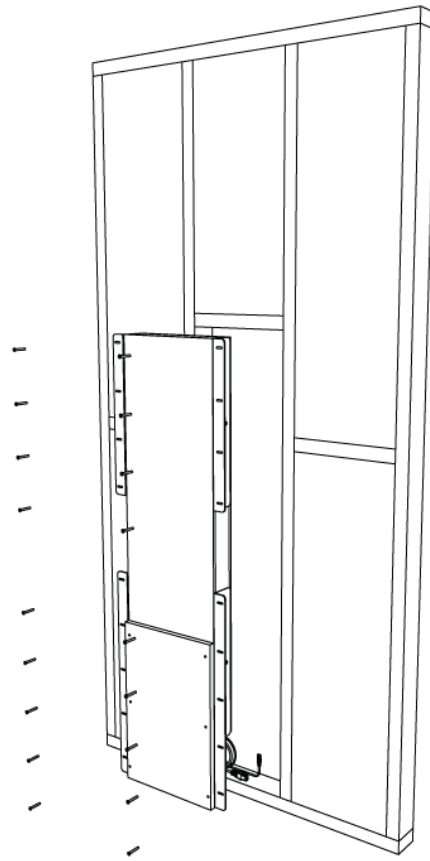
Step 6. Prepare the outer layer of plasterboard (sheetrock) prior to fitting to the wall. Use the template supplied to cut the aperture. Fit plasterboard edging to the inner edges of the aperture. This edging will greatly ease the removal of the installation shield later.

Note: If the grille is to be fitted, this plasterboard layer should be at least 15mm thick. This ensures that the drive-unit can travel its full potential excursion without making contact with the grille.
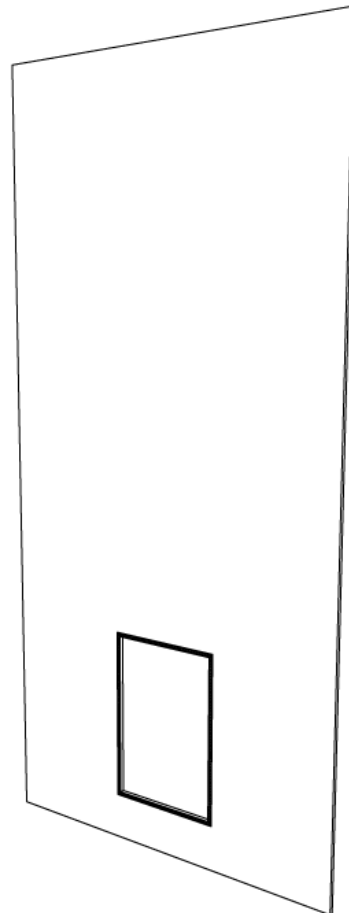
Step 7. Fill the cavities adjacent to the subwoofer with 100mm Rockwool. Apply a generous bead of silicon sealant (minimum width 5mm) to the front faces of the studs and between the foam damping strips on the front of the acoustic assembly.

Sil
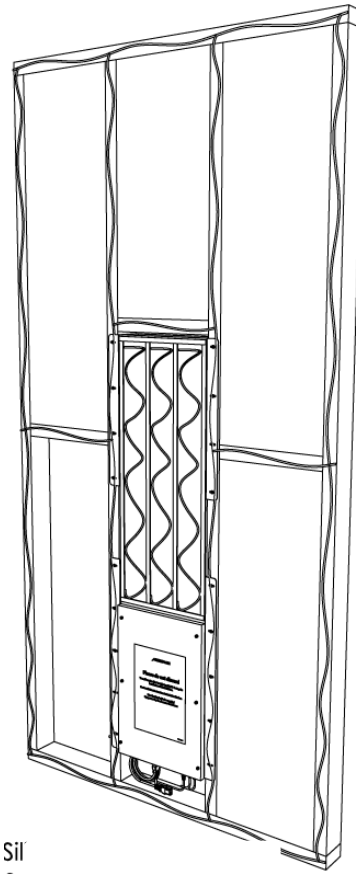
Step 8. Fit the plasterboard using screws (not supplied) at 150mm (6in) spacing. Apply a skim of plaster to the wall.
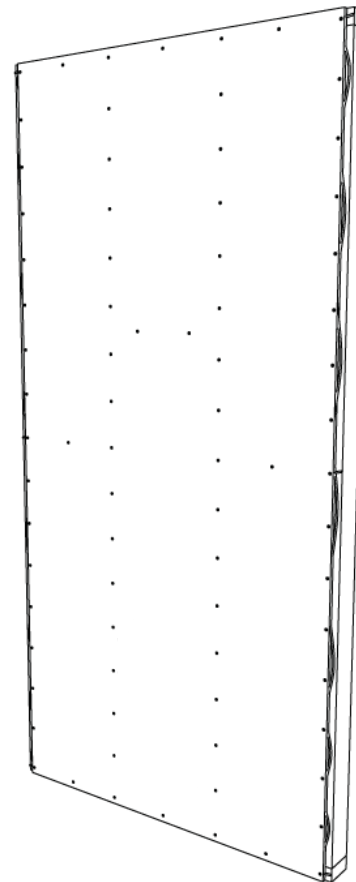
Step 9. Once the finished skim has dried, carefully free the edge of the installation shield using a knife.
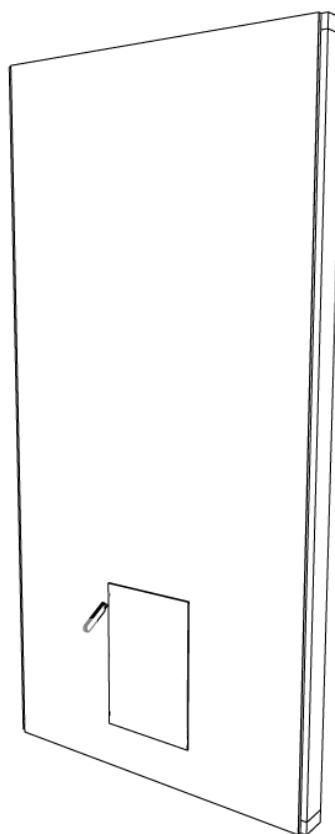
Step 10. Undo the six M5 x 35mm retaining screws and remove the installation shield.
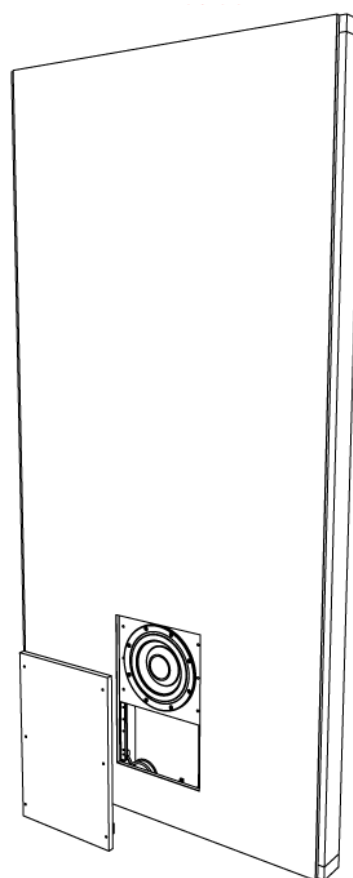
Step 11. Offer up the electronics module to the aperture in the wall. Connect the SpeakerLink input lead to the SpeakerLink input socket. If a SpeakerLink output lead is present, connect this to the SpeakerLink output socket. Connect the mains cable to the electronics module.
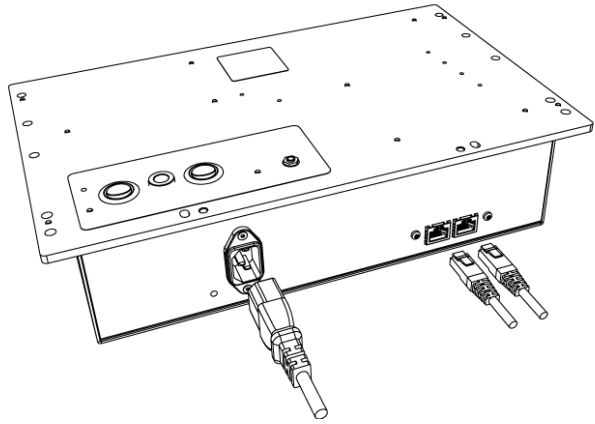
Step 12. Connect the flying audio lead on the electronics module to the underside of the subwoofer assembly within the wall. The connector fits by lining up the keyway, pushing in the plug and twisting it clockwise until a gentle "click" is heard.
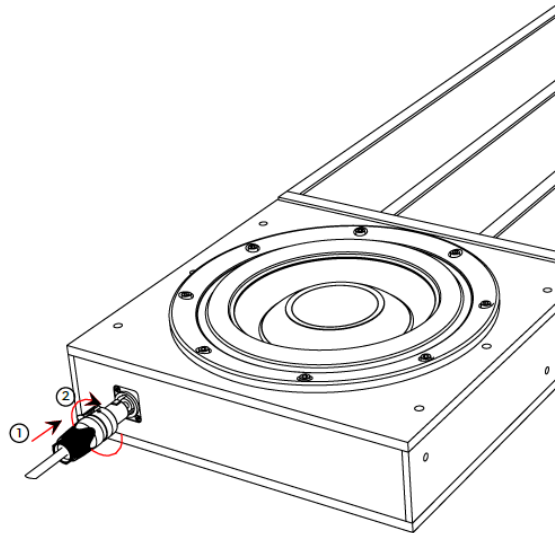
Step 13. Insert the electronics module into the wall aperture and secure it in place using six of the M5 x 15 socket-cap screws and six of the M5 washers supplied into the fixing holes indicated here. The ten remaining M5 x 15 socket cap screws and M5 washers will be required if the grille frame is not being fitted, so keep them to one side for now.
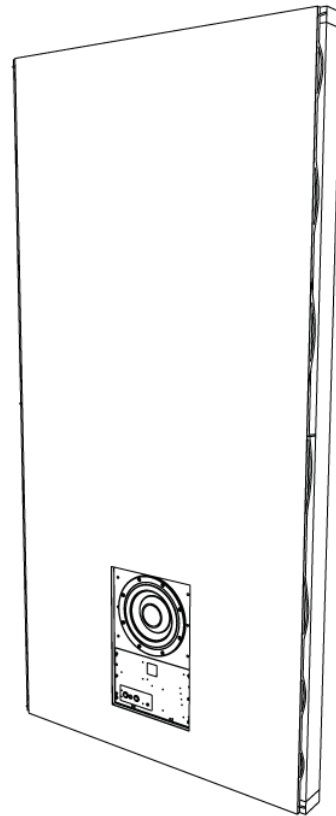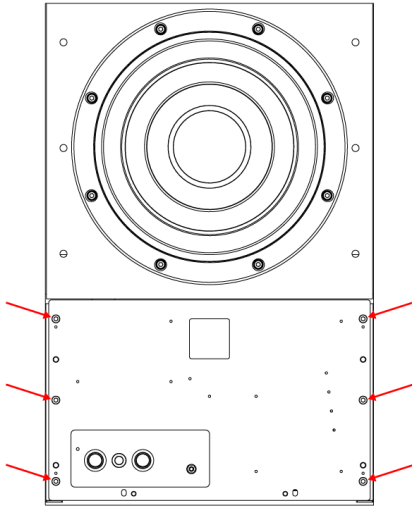
Step 14.

If the grille frame is to be fitted:
Fasten it to the subwoofer assembly using the ten M5 x 50 anti-vibration fixings; there are six fixing holes on the acoustic enclosure and four on the electronics module. Tighten the fixings firmly enough to clamp the frame to the wall. Avoid overtightening as any distortion of the grille frame will impede the fit of the grille.

If the grille-frame is not being fitted:
It is essential that the fixing holes are blocked to avoid the possibility of air leaks. This is done by inserting the ten remaining M5 x 15 socket-cap screws and M5 washers into the ten holes in the front of the subwoofer assembly; there are six holes on the acoustic enclosure and four on the electronics module.

Step 15. If the grille is to be fitted, slide the 14 grille-retaining magnets into the 14 openings on the back of the grille so that the rubber-coated faces of the magnets are exposed.
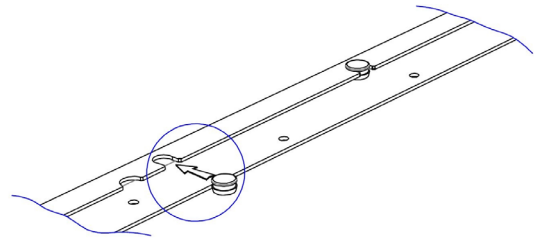
Step 16. If the grille is to be fitted, attach the grille to the grille frame.

If the grille is not being fitted, and the DSW600 is being mounted behind a projection screen or any other type of stretched fabric, there should be a clearance of at least 30mm between the fabric and the front surface of the cabinet. This is to allow the drive-unit to travel its full potential excursion without making contact with the fabric.

Connections on the electronics module

The DSW600 is powered via a mains inlet socket on the underside of its electronics module. Therefore, a mains feed terminated with an IEC C13 connector is required within the wall cavity adjacent to where the mains inlet socket will be l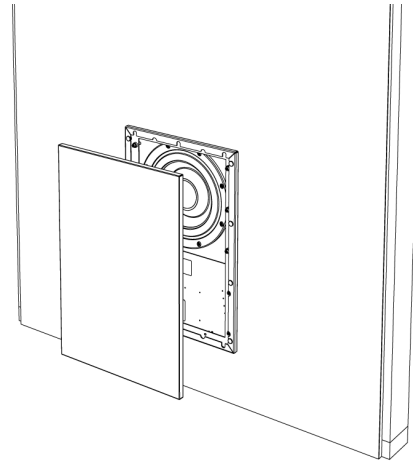ocated. To ease installation, ensure the mains cable is long enough to allow it to be inserted into the inlet socket once the electronics module is installed. Approximately 30cm (12in) of spare cable should suffice.

The SpeakerLink connections on the electronics module of the DSW600 carry the audio and control signals for the product. One SpeakerLink cable is required to connect to the SpeakerLink input socket. Depending on the layout of the system, a second SpeakerLink cable may be required to be connect to the SpeakerLink output socket. To ease installation, ensure the cables are long enough to allow them to be inserted into their sockets once the electronics module is in its final installed position. Approximately 30cm of spare cable should suffice.

Please note: If two SpeakerLink cables are to be connected to the DSW600, the two cables are distinguished as the input and output feeds so they can be inserted into the correct respective sockets.

Setting the channel selector switch

When used in a Meridian system, the SpeakerLink input of the DSW600 is always fed with a two-channel audio signal. The channel selector switch informs the subwoofer whether to play back channel 1, channel 2 or a mix of both channels. These are designated by the switch options of **1**, **2**, and **1 + 2**, respectively.

Two channel systems

When using the DSW600 in a two-channel system, the subwoofer can be set to play back the left channel, the right channel, or a mix of both channels:

Channel to be played	Switch position
Left channel	1
Right channel	2
Left and right channel mix	1 + 2

If using one DSW600, then the switch should be set to **1 + 2** to play a balanced mix of the left and right channels.

If two DSW600s are being used, it is valid to set them both to **1 + 2** or to set one to play the left channel and the other to play the right channel. Many acoustic factors can influence the performance achieved by the two alternative options and the best choice can be determined through listening tests.

If more than two DSW600s are used in a two-channel system, the option exists to set each of them to play either a single channel or to play **1 + 2**. However, it should be noted that the number of subwoofers set to play just the left channel should equal the number set to play just the right. Otherwise, the bass sound will be skewed to one channel or the other.

Surround-sound systems

Augmentation of other loudspeakers

If the DSW600 is being used to augment the bass of one or more loudspeakers within a surround-sound system, the channel selector switch should be set to the appropriate position for the loudspeaker channel or channels in question:

Loudspeaker to be augmented	Switch position
Any channel on the left of the system	1
The centre channel	1
Any channel on the right of the system	2
Any combination of left and right channels	1 + 2

If multiple subwoofers are being used for any individual role shown in the table, all the subwoofers concerned should be set to the position indicated.

Dedicated subwoofer channel when using a Meridian Surround Controller

If the DSW600 is being fed from the dedicated Mono or LFE subwoofer channel generated by a Meridian Surround Controller, that audio is present in channel 2, so the switch should be set to **2**. If more than one DSW600 is used in this role, all of them should be set to **2**.

Note: In systems based on a Meridian Surround Controller, channel 1 is reserved for centre-channel audio. This means that if the switch on the DSW600 is inadvertently set to **1** or **1 + 2**, the subwoofer will be fed with centre-channel sound. This is usually characterised by the subwoofer attempting to play back the dialogue of a movie or the lead vocals from the music.

Dedicated subwoofer channels when using a Meridian 271 Theatre Controller

When the DSW600 is fed with a dedicated subwoofer channel from a non-Meridian surround processor via the Meridian 271, the channel selector switch must be set accordingly for the input channel of the 271 which the subwoofer is intended to play.

When a multi-channel input is in use on the 271, each of its 16 channels is fed to the matching numbered output channel: 1 to 1, 2 to 2, 3 to 3, and so on. These output channels are combined in pairs on the SpeakerLink output sockets such that each socket carries both channels indicated by the label for the pair. For example, both the upper and lower sockets below the label "1/2" carry channels 1 and 2.

In addition, the option exists for up to four input channels to be duplicated to the A/B and C/D SpeakerLink output sockets. Each of these output channel pairs can be configured on the 271 to output a copy of the feed from any of the eight pairs of input channels, 1/2, 3/4, 5/6 and so on. For example, if A/B is configured to carry channels 3/4, both the A/B sockets carry channels 3 and 4.

This means that each DSW600 being fed directly from the 271 must have its channel selector set to the appropriate position for the channel or channels intended to be played:

271 input channel to be played	Switch position
An odd-numbered channel (1, 3, 5, 7, etc.)	1
An even-numbered channel (2, 4, 6, 8, etc.)	2
A mix of a pair of channels (1/2, 3/4, 5/6, etc.)	1 + 2

Power status

The **On/Off** switch on the front-panel of the electronics module controls the mains power supply to the DSW600. When initially powered-up, the DSW600 comes on in **Standby** mode. It is then switched between **Standby** and **On** by the appropriate communication signals from another Meridian product. These signals are received on the SpeakerLink input socket of the DSW600 when the rest of the system is switched between **Standby** and **On**.

The power status of the DSW600 is shown by the green LED on the front-panel of the electronics module:

Power status	LED
Off	Not illuminated
Standby	Dimly illuminated
On (Out-of-Standby)	Brightly illuminated

The mains inlet fuse of the DSW600 is located within the circular fuse-holder on the front-panel of the electronics module. The fuse is designed to protect the product in case of undesired external events, such as a mains power over-voltage. A spare fuse of the appropriate type and rating is supplied within the accessories supplied with the product.

Controlling the DSW600

Once installed, the DSW600 is intended to work in unison with the other Meridian products in the system. The subwoofer includes a built-in volume control which remains synchronised with the overall volume level of the system. This is achieved by communications signals sent over the Meridian comms system carried via the products' SpeakerLink connections. The volume level of the subwoofer relative to the other loudspeakers in the system can be set at the time of installation to suit the application.

Configuring the DSW600

The DSW600 features three internal settings which allow it to be integrated with other loudspeakers within a system. Not all these settings are relevant in every system; in some cases, none of them needs to be adjusted, in others one or more of them will need to be set during installation. The configuration required depends on the role of the DSW600 within the system.

The three settings are explained here, with guidance specific to the various use-cases for the DSW600 following below.

- **Sub filter**

  Options: **Off** (no subwoofer), **Sub1** (80Hz crossover), **Sub2** (120Hz crossover).
  Effect: Determines the shoulder frequency of the low-pass filter to be used by the subwoofer.

- **Sub gain**

 Options: Adjustable from **-15dB** to **+15dB**.
  Effect: Adjusts the volume level of the subwoofer in relation to the other loudspeakers in the system.

- **Sub mode**

  Options: **Movie** or **Music**
  Effect: Music mode extends the bass response of the DSW600 down to 24Hz and provides a superior transient response, i.e. it sounds "faster". Movie mode produces a higher level of bass output, but the response does not extend quite so low. This tends to make for a more "impactful" sound, more appropriate for movie playback.

  Relative frequency response curves of DSW600 Music and Movie mode
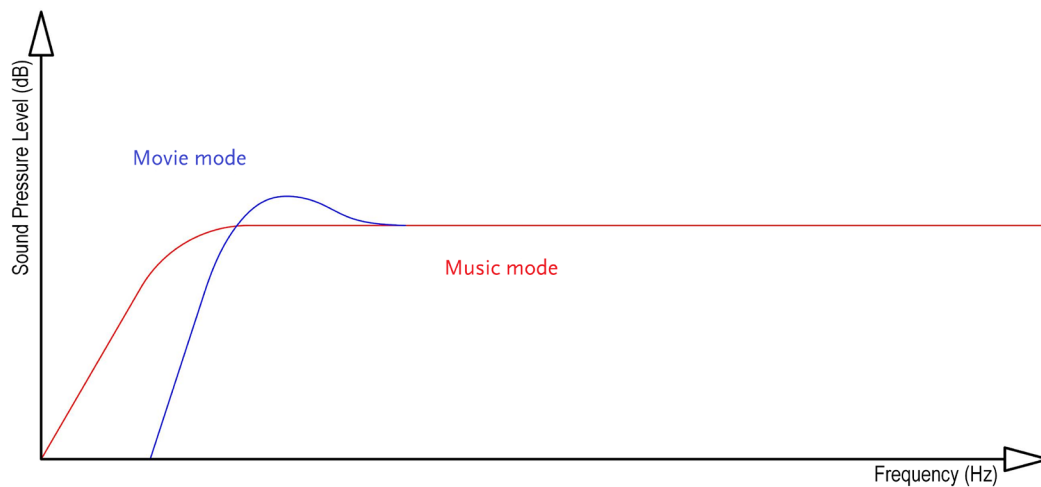
Two-channel systems and soundbar applications

Situations when the DSW600 is used in a two-channel system or when augmenting the bass performance of a single Meridian loudspeaker in a soundbar-type application.

Systems based on 818v3, 818v2, 808v6, 808v5, AC200 or 218

These Meridian controller products support the ability to adjust and select the subwoofer settings from within their own configuration menus. During normal use of the system, the settings are transmitted via SpeakerLink to the DSW600 as well as the Meridian loudspeakers being used for the main channels. By default※, this automatically activates the appropriate high-pass filters in the main channels and the matching low-pass filter in the subwoofer(s). The SpeakerLink system also sets the subwoofer(s) to Music or Movie mode and applies the correct volume level offset.

Refer to the User Guide for the relevant controller product for how to access and adjust the settings.

* This automatic system can be disabled and, if desired, the settings can be set manually using RS232 commands sent to each individual loudspeaker and subwoofer; for example, if there is a requirement to lock the user out of being able to change the settings from the controller product. See *RS232 command set* on page 22 of this guide.

Systems not based on 818v3, 818v2, 808v6, 808v5, AC200 or 218

In two-channel systems which do not feature any of the products listed above, **Sub filter**, **Sub gain** and **Sub mode** for the DSW600 can be adjusted only by sending RS232 commands to the subwoofer itself. See *RS232 commands specific to Meridian subwoofers* on the next page of this guide.

Important: In the absence of any adjustment using RS232 commands, the DSW600 will operate without any low-pass filter activated and will attempt to play the whole frequency range of the audio it receives.

Surround-sound systems

Augmentation of other loudspeakers

If the DSW600 is being used to augment the bass of one or more loudspeakers within a surround-sound system, at least one setting will need to be adjusted by sending RS232 commands to the DSW600. *See RS232 section below.* **Sub filter** should be set to either **Sub1** (80Hz) or **Sub2** (120Hz) so the DSW600 plays only bass frequencies. The option then exists to set the corresponding high-pass filter on the loudspeaker being augmented on the loudspeaker being augmented to either **Sub1** or **Sub2** to create a true crossover between the loudspeaker and the DSW600. If the loudspeaker is left on its default settings, it will attempt to play full-range bass, providing potential for over-accentuation of some bass frequencies. Refer to the user-guide for the loudspeaker in question for how to set the filter. Once the crossover is implemented, the sound from the DSW600 should integrated with the sound from the loudspeaker(s) by adjusting **Sub gain** and **Sub mode** on the DSW600 using RS232 commands. Listening tests and adjustments should be made with the aim of blending the sound into a single coherent source of audio.

Dedicated subwoofer channel when using a Meridian Surround Controller

If the DSW600 is being fed from the dedicated Mono or LFE subwoofer channel generated by a Meridian Surround Controller, the subwoofer filter (crossover) and the subwoofer gain are adjusted as part of the configuration and calibration process of the system. There is no need to adjust **Sub filter** or **Sub gain** on the DSW600 itself. Also, by default **Sub mode** of the DSW600 is set to "Music" so its bass response is extended as shown in the graph above. This is usually appropriate for this type of application but can be changed to "Movie" if desired by the sending the relevant RS232 command to the subwoofer itself. See *RS232 commands specific to Meridian subwoofers* on the next page of this guide.

Dedicated subwoofer channels when using a Meridian 271 Theatre Controller

If the DSW600 is being fed from the dedicated Mono or LFE subwoofer channel generated by a non-Meridian surround processor via the Meridian 271, the subwoofer filter (crossover) and the subwoofer gain are adjusted as part of the configuration and calibration process on the non-Meridian processor. There is no need to adjust **Sub filter** or **Sub gain** on the DSW600 itself. Also, by default **Sub mode** of the DSW600 is set to "Music" so its bass response is extended as shown in the graph above. This is usually appropriate for this type of application but can be changed to "Movie" if desired by the sending the relevant RS232 command to the subwoofer itself. See *RS232 commands specific to Meridian subwoofers* on the next page of this guide.

RS232 commands specific to Meridian subwoofers

For the full list of RS232 commands for DSP loudspeakers see *RS232 command set*, page 22.

The non-volatile settings which relate specifically to the installation of the DSW600 are as follows:

Command	Parameter	What it does
SW	SL	Subwoofer filter controlled by commands received over SpeakerLink.
	OFF	Subwoofer deactivated.
	1	Sub filter set to 80Hz.
	2	Sub filter set to 120Hz.
	WI	Sub filter set to "Wide" i.e. the filter is deactivated.
Mm	SL	Sub mode (Music or Movie) controlled by commands over SpeakerLink
	MU	Sub mode set to Music.
	MO	Sub mode set to Movie.
SG	+/-##	Sub gain set to +/- ##**

** The non-volatile subwoofer gain is only used when the non-volatile SW command is not SL. The range is -15 to +15 in 1dB steps.

RS232 connection options

The DSW600 can receive RS232 commands via the socket on the front-panel of the electronics module or via the SpeakerLink input socket on the underside of the module. The respective locations of the two connections make each suitable for particular use-cases.

RS232 via the front-panel socket

The front-panel RS232 allows for the configuration of the DSW600 to suit its role in the system, or to perform firmware updates.

A cable suitable for connecting to the front-panel RS232 socket, terminated in a female DB9 plug, is available from authorised Meridian dealers: Meridian part number: PA10824

The socket accepts the longer version of the three-way, 3.5mm (1/8 inch) minijack plug, e.g. Schurter part no. 4802.1300:
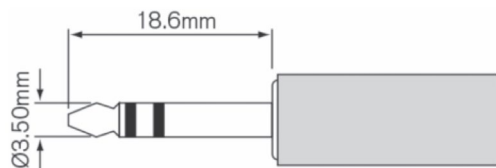
The standard minijack plug, as commonly used on headphones and earbuds with a shorter 14mm plug, cannot be used:
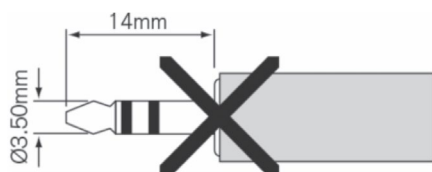
RS232 via the SpeakerLink input

If the subwoofer is installed behind a projection screen or under a fabric wallcovering, the front-panel RS232 socket may be inaccessible. In this case the SpeakerLink input cable, which also carries RS232 connections, can be used to configure the loudspeaker.

- Temporarily disconnect the SpeakerLink cable from the product feeding the subwoofer.

- Connect the RJ45 plug into an RJ45 Inline Coupler to provide an RJ45 socket.

- Connect the RJ45 socket to an RJ45 to RS232 cable.

An RJ45 to RS232 cable, terminated in a female DB9 plug, is available from authorised Meridian dealers: Meridian part number PA10840.

Where loudspeakers and subwoofers are daisy-chained, access to the SpeakerLink input of the downstream products can be provided by routing all SpeakerLink feeds through RJ45 couplers located in the rack.

Connections

The two cables use the following connections for RS232:

Function	Female DB9	Minijack	RJ45
RS232 Tx	3	Ring	6
RS232 Rx	2	Tip	3
Ground	5	Shield	5

RS232 command set

Please note: This list contains some commands which are not recognised by the DSW600. They are included here as they may be used to control other Meridian loudspeaker models which can be used in combination with the DSW600.

Port settings

9600 Baud, 8 data bits, 1 stop bit, no parity, no flow control

Command format

RS232 commands consist of ASCII characters which are case sensitive. Some commands require parameters, so these are followed by additional characters. All commands are terminated with a carriage return. For example:

To change the volume level to 45, the command is: VN45

This will cause the loudspeaker to change its volume and respond with: Volume 45

Non-volatile configuration and reset

Some of the RS232 commands described in this document produce non-volatile (lasting) configuration changes in the loudspeaker. These commands should be used carefully because they may affect the sound and operation of the loudspeaker without giving any obvious external indications.

An RS232 command is provided to reset the DSW600 to its default configuration. For loudspeakers with IR receivers such as DSP520.2, DSP640.2 and DSP750, the loudspeaker may also be reset by powering-up with the stop key pressed on a Meridian remote control. This is confirmed by three flashes from the white light on the loudspeaker.

Loudspeaker control commands

These commands are used for everyday control of a pair of loudspeakers such as by a control system connected to the master loudspeaker through a Meridian Distributor.

Command Type	Code	Parameters	Meaning	Function	Example Response
Source Selection	CD	None, sb[1]	Select source	Select source 0	CD 65
	RD	None, sb[1]	Select source	Select source 1	Radio 65
	LP, AX or MS	None, sb[1]	Select source	Select source 2	Aux 65
	TV	None, sb[1]	Select source	Select source 3	TV 65
	TA, T1 or IP	None, sb[1]	Select source	Select source 4	Tape 65
	T2 or SA	None, sb[1]	Select source	Select source 5	Sat 65
	CR or DC	None, sb[1]	Select source	Select source 6	Disc 65
	CB	None, sb[1]	Select source	Select source 7	Cable 65
	TX or DV	None, sb[1]	Select source	Select source 8	DVD 65
	V1 or US	None, sb[1]	Select source	Select source 9	USB 65
	V2 or MX	None, sb[1]	Select source	Select source 10	Mixer 65
	LD or GA	None, sb[1]	Select source	Select source 11	Game 65
	SB	None	Standby	Standby	.
	MU	None	Mute	Mute	Mute 65
Volume	V2	##	Volume number	Go to volume number	Volume 65
	VP	None	Volume plus	Increase volume	Volume 66
	VM	None	Volume minus	Decrease volume	Volume 64
Audio Effects	TN	± ##.#	Treble number	Go to treble number	Treble + 6.0
	BN	± ##.#	Bass number	Go to bass number	Bass + 5.0
	LN	± ##	Left number	Go to balance setting	Left 3
	RN	± ##	Right number	Go to balance setting	Right 6
	P+	None	Phase +	Phase plus	Phase +
	P−	None	Phase -	Phase minus	Phase -
Display	DI	ON, OFF	Display	Light on or off	Light on

Source control commands

These commands allow control of a Meridian source connected to the master loudspeaker. No response is given on RS232.

Code	Meaning/Function
PL	Play
ST	Stop
PS	Pause
RP	Repeat
NE	Next
PR	Previous
FF	Fast forward
FB	Fast back
MP	Menu up
MM	Menu down
ML	Menu left
MR	Menu right
N0 – N9	Number keys
SR	Store
CL	Clear

Configuration

These commands affect only the connected loudspeaker. They configure features of the loudspeaker that would otherwise be inaccessible without a SpeakerLink capable controller. The settings made are non-volatile (i.e. they remain when the loudspeaker is powered down). These settings can override commands from a SpeakerLink controller, so they should be used with caution. To restore SpeakerLink control, choose the SL parameter.

Command Type	Code	Parameters	Meaning	Example Response
IR receiver [2]	IR	ON	Turns on IR receiver eye	IR on
		OFF	Turns off IR receiver eye	IR off
Speaker position	BO	SL	Boundary EQ controlled by SpeakerLink	NV Boundary SpeakerLink
		FR	Free space equlisation[3]	NV Boundary Free
		WA	Wall equalisation	NV Boundary Wall
		SH	Shelf equalisation	NV Boundary Shelf
		CO	Corner equalisation	NV Boundary Corner
Subwoofer	SW	SL	Subwoofer controlled by SpeakerLink	NV Subwoofer SpeakerLink
		OFF	Subwoofer Off	NV Subwoofer Off
		1	Subwoofer Crossover[1]	NV Subwoofer Sub 1
		2	Subwoofer Crossover[1]	NV Subwoofer Sub 2
		WI	Subwoofer Wideband	NV Subwoofer SpeakerLink
	SG	+/-##	Subwoofer Gain[4]	NV Sub Gain 12
Audio Effects	EA	SL, ON, OFF	Enhanced Bass Alignment (EBA)	NV EBA On
	EC	SL, OFF, MIN, MED, MAX	Enhanced Boundary Control (EBC)	NV EBC Med
	RH	###	Room Height in CM for EBC [5]	NV EBC Room Height 210cm
	CE	SL, OFF, MIN, MED, MAX	Centre Elevation	NV Centre Elevation Min
	LO	SL, ON, OFF	Loudness	NV Loudness SpeakerLink
	Cm[6]	ON, OFF	Centre mode	NV Left or Centre
	Mm	SL, MU, MO	Music/Movie Mode [7]	NV Music Mode
Status/Reset	NV	None	Non-volatile	List of non-volatile setting
		RS	Non-volatile Reset	Resets all non-volatile settings

Utility/diagnostic

Code	Meaning	Response
IR2	Infra-red receiver status	IR on / IR off
Cm	Centre mode status	A text description of the status
ID	Identity	A list of product name and versions
!R	Reset	Bye

Notes

1. When in standby, a source selection command may be followed by sb (e.g. CDsb). This allows e.g. a connected Distributor to change source, but the speakers will remain in standby.

2. Available only on Meridian DSP320, DSP520, DSP640 and DSP750.

3. Free-space equalization is not available on in-wall loudspeakers.

4. The non-volatile subwoofer gain is only used when the non-volatile subwoofer setting is not SL. The range is -15 to +15 in 1dB steps.

5. The non-volatile room height is used only when the non-volatile EBC setting is not SL. The range is 150 to 400cm in 1cm steps.

6. Centre mode applies only to Meridian DSP520.2, DSP640.2 and DSP750.

7. Music/Movie mode applies only to the Meridian DSW, DSW.2 and DSW600.

Appendix: RF DSW Wall Receptacle

In territories where building regulations stipulate that flexible power cables cannot be used within wall spaces, the DSW600 should be installed in conjunction with the DSW600 Wall Receptacle (available separately). This is a metal enclosure designed to be installed directly adjacent to the DSW600 to provide a three-way IEC socket to feed the subwoofer.

Basic installation steps

- Isolate the mains power supply prior to making any connection.

- Punch out appropriate holes for cable routing and fit grommets or, if required by the national and local electrical and building regulations, use cable glands in place of the grommets.

- Feed the incoming mains cable and the SpeakerLink cable(s) into the RF DSW.

- Remove the mains terminal box and connect all three wires of the mains cable to the terminal block.

- Refit the mains terminal box within the housing.

- Fit the RF DSW to the studwork of the wall.

Installation instructions

The RF DSW is designed to be installed in the studwork directly below the DSW600 in-wall subwoofer as shown here.

It is recommended that the RF DSW is installed into the studwork along with the subwoofer assembly. Leaving it to be fitted later increases the risk of installation issues which may not be easily rectified by that point.

If an outer layer of plasterboard (sheetrock) is to be fitted to the wall, it covers the RF DSW. Therefore, the RF DSW should be installed prior to the outer layer of plasterboard.
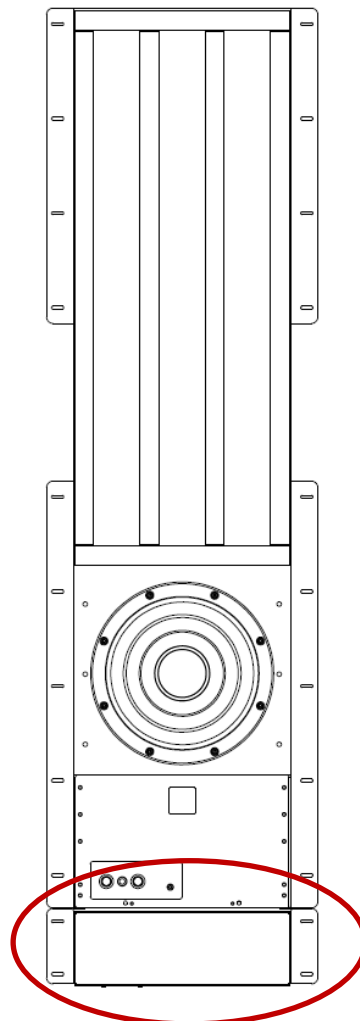
The housing of the RF DSW features several circular punch-out access holes to provide flexibility for the routing of cables into the product.

Open the access hole which is most conveniently positioned for the routing of the incoming mains power feed to be connected to the RF DSW.

Open whichever other access hole is convenient for the SpeakerLink cable (or cables) to be routed through the RF DSW. Note: SpeakerLink cables are routed through the RF DSW but not connected to it.
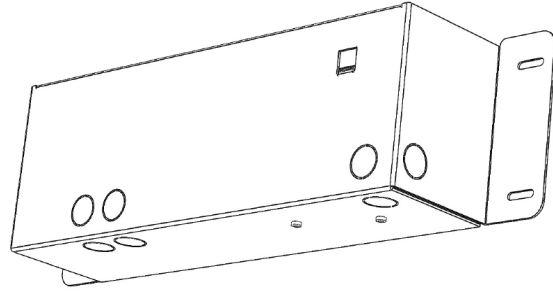
Feed the mains power cable through its grommeted hole or, if required by the national and local electrical and building regulations, use a suitable cable-gland in place of the grommet.

Feed the SpeakerLink cable(s) through its grommeted hole or, if required by the national and local electrical and building regulations, use a suitable cable-gland in place of the grommet.
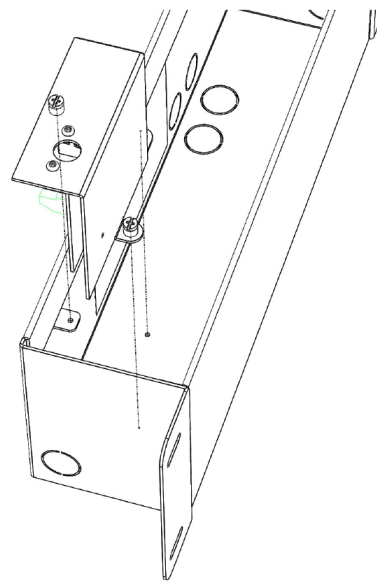
The mains terminal-box should be removed from the RF DSW by undoing its three retaining screws and lifting it out of the housing.
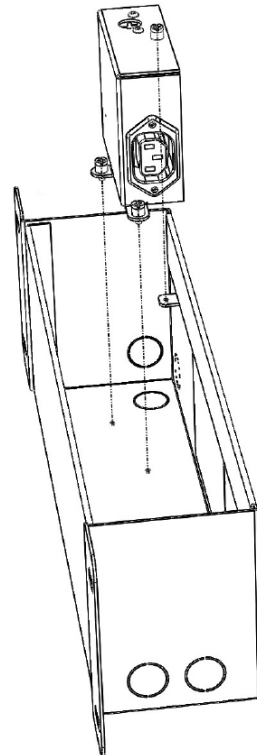
Connect the incoming mains to the terminal block on the circuit board; Neutral, Earth and Live connections
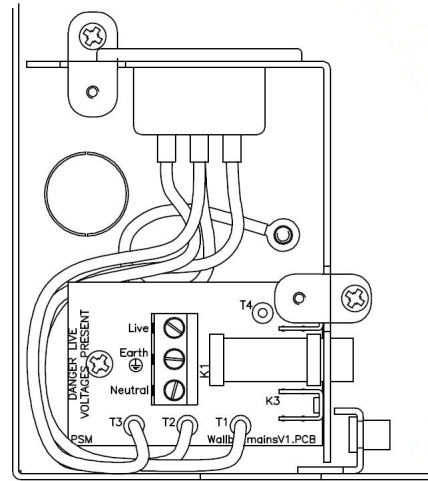
Fit the mains terminal box back into the housing using its three retaining screws

Fit the RF DSW to the studwork with appropriate fixings through the four holes in its mounting wings. Note: fixings not supplied.

Installation of the RF DSW Wall Receptacle is now complete.

A short male-to-female IEC power cable is supplied with the 110v-120V version of the DSW600. This can be used as the power connection between the RF DSW and the DSW600.