DSP8000
Digital Loudspeaker System
User Guide
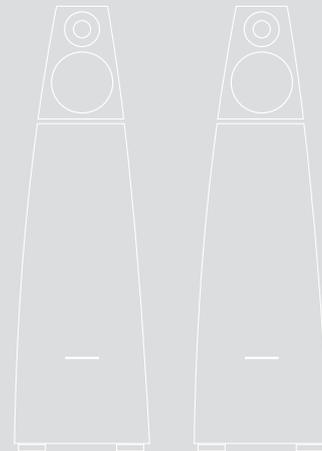
Important safety instructions

- 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 service personnel.
- Do not disassemble – no user-servicable parts inside.

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

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

- 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

- Leave at least 10cm around the equipment to ensure sufficient ventilation.

Do not position the unit:

- In direct sunlight.
- Near heat sources, such as a radiator.
- Directly on top of heat producing equipment.

To avoid interference

Do not position the unit:

- Near strong electrical or magnetic radiation, such as near a power amplifier.

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 EN55013 and EN55020.

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Contents

Copyright and acknowledgements

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Product registration

Register your Meridian DSP loudspeakers at:

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and receive Exclusive Meridian News and discover more about the Meridian Collection.

Introduction

Welcome to the Meridian DSP8000 Digital Loudspeaker System.

This user guide provides full information about using the DSP8000 loudspeakers in conjunction with your other equipment, to achieve the superb results you can expect from them.
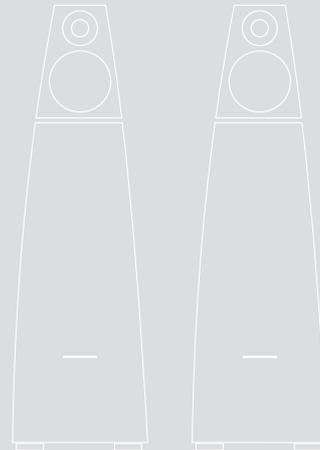
Meridian DSP8000 loudspeaker system

The Meridian DSP8000 loudspeaker system represents the fruits of more than 30 years of continuous development of loudspeakers as musical instruments. The finest materials and state-of-the-art design are combined to create what we believe is the ultimate home loudspeaker.

Digital Signal Processing

Digital Signal Processing, or DSP, is a technique pioneered by Meridian in hi-fi products for achieving extremely accurate reproduction of audio signals using high-precision mathematical processing.

DSP allows sophisticated processing to be performed without any of the cumulative noise or degradation that inevitably occurs, even with high-quality analogue circuitry. In addition, the signal improvement techniques incorporated in the Meridian DSP loudspeakers would be virtually impossible to implement in analogue circuitry.

The Meridian DSP loudspeakers take advantage of DSP for several different functions:

• To remove timing variations from the incoming digital signals (de-jittering).
• To split the frequency band between bass, mid-range, and treble drivers (crossover).
• To perform filtering or adjustment of the frequency response; eg treble or bass.
• To provide volume control to 48-bit precision.
• To provide digital protection of the loudspeakers against high-level low-frequency transients.
• To perform electronic equalisation.

If you are using the Meridian DSP loudspeakers with a digital source, such as CD or DVD, the signals remain in digital form until the last possible stage.

DSP loudspeaker drivers

Each DSP8000 loudspeaker uses six multiple high-efficiency long-throw custom bass drive units. The bass units are mounted symmetrically in pairs on the sides of the bass cabinet, cancelling vibration in order to minimise interference with the mid-range and treble units.

The treble and mid-range drivers are mounted in a separate sealed head assembly. The treble unit is a semi-horn-loaded composite dome design with a silver voice coil. The mid-range unit incorporates a cone made from a uniquely light and stiff combination of polymers to give unparalleled transparency.

The Special Edition model uses variations of the mid and bass units fitted with solid metal rings that clamp the drivers more firmly in the cabinet. It uses a similar treble unit but with a lighter, more rigid, beryllium dome. This combination allows the Special Edition loudspeakers to have a more controlled transient response across a wider frequency range.

Power amplifiers

The speakers are driven by five independent high-power low-feedback power amplifiers mounted on a multi-finned extruded heatsink. The combination of idealised magnetic design, careful star earthing, and very fast output devices gives the amplifiers extremely low noise, high detail, and fast bass.

The whole electronic assembly is supplied from two substantial toroidal transformers feeding high-quality audiophile-grade capacitors.

Cabinet

Each DSP8000 loudspeaker is built around a precision manufactured cabinet, which uses innovative design techniques to give exceptionally low coloration and amazing mid-range transparency.

The head assembly is a sealed enclosure fabricated from curved pressure-laminated panels, each using multiple layers of selected woods and metal to provide high stiffness and damping. Its narrow tapered shape offers optimum dispersion across a wide listening area. It is supported on the bass enclosure by three machined feet.

Like the head unit, the bass cabinet is constructed from interlaminated panels with extensive bracing. The front panel is 6mm glass and incorporates a window for the matrix display and infrared remote control sensor. The cabinet stands on triangulated adjustable machined foot assemblies with provision for floor spikes or skids.

Meridian High Resolution (MHR)

The DSP8000 loudspeakers support Meridian High Resolution (MHR), to allow you to connect to other MHR-compliant Meridian products to take advantage of high-rate audio sources, and provide the additional benefits of lower jitter and improved sound quality on all sources.

MHR is a proprietary secure encoding format that uses encryption and anti-copy methods to provide a secure copyright protection environment, and allow the secure transfer of audio streams within a Meridian-only system for playback only.

Meridian Comms

The Meridian DSP loudspeakers are part of the Meridian family of advanced digital, analogue, and video components, and these incorporate a sophisticated communications link, to allow you to control any combination of units using a single remote, and ensure that they will work together as a fully integrated system.

The communications system also allows you to extend your hi-fi system into two or three rooms, with the ability to control the sources in one room from the controller in another room.

The following pages show two recommended configurations based on the Meridian DSP8000 loudspeakers to illustrate the flexibility of Meridian components.

Sample configurations

Meridian Digital Theatre™

DSP8000   DSP8000   DSP8000   DSP8000

DSP7200HC

861 Reference Digital Surround Controller

HD621 HDMI Audio Processor
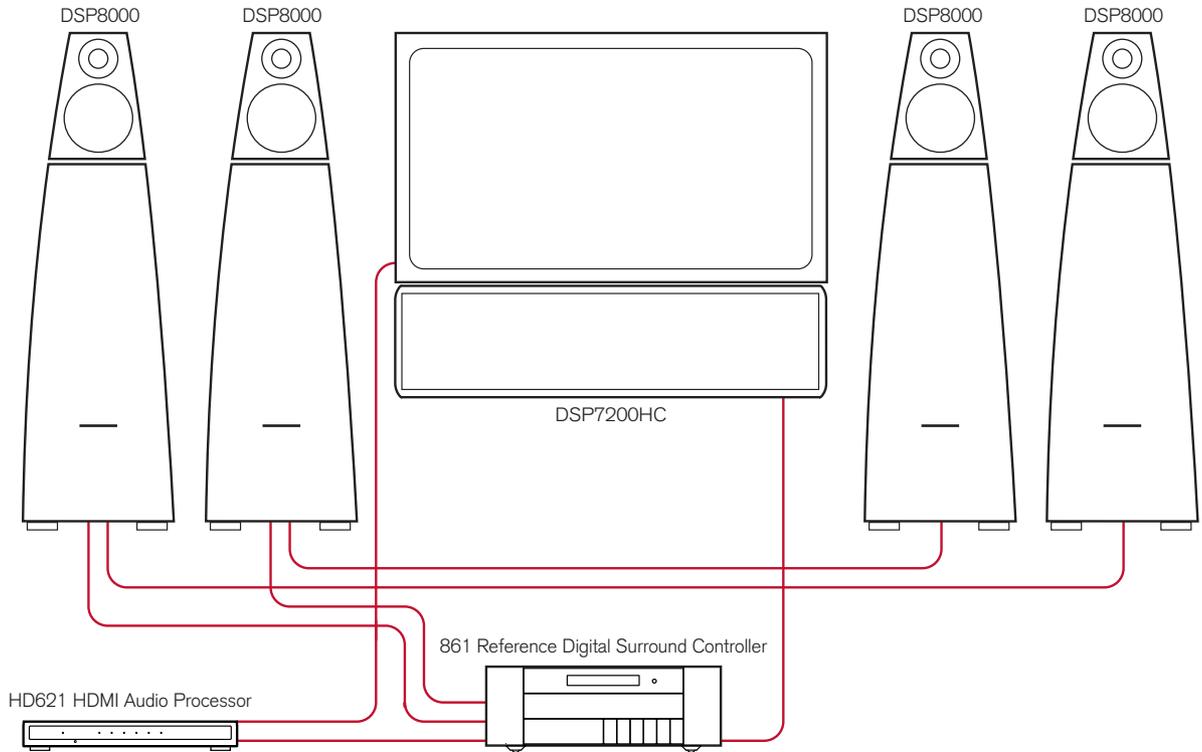
Up to seven Meridian DSP8000 loudspeakers can be used in conjunction with a Meridian Surround Controller to create a digital surround system with superb music and cinema sound.

The HD621 integrates HDMI switching seamlessly into a Digital Theatre system, separating the audio from the video stream and allowing the best possible audio playback from HDMI sources.

Meridian Digital Music System

DSP8000   DSP8000

808 Signature Reference CD Player
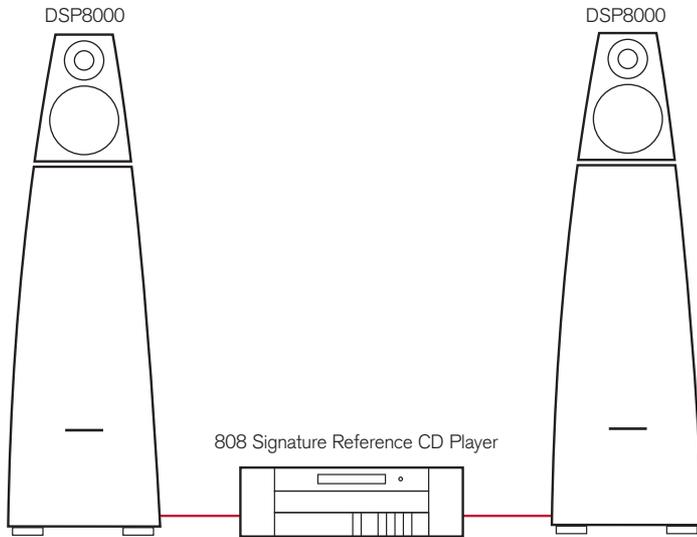
Meridian DSP loudspeakers include DSP volume and
tone controls, and be connected directly to digital
sources, such as the 808 Signature Reference CD
Player, to create an compact high-quality music system.

Specifications

Connections

- Meridian SpeakerLink (RJ45) input and output, providing balanced digital audio, Meridian Comms, and serial interface.
- Digital co-axial input and output.
- Meridian BNC Comms input and output.

Signal processing

- 1 x Freescale 56367 running at 150MHz.
- Special Edition: 2 x Freescale 56367 running at 150MHz.
- 4 x 24-bit Multi-bit delta-sigma DACs with 128x oversampling.
- Crossover minimum-phase at 2.6kHz.

Output stages

- Power amplifiers: Complementary bipolar design, with output-stage error correction and twin loop design.
- Bass: 3 x 150W.
- Mid: 150W.
- Treble: 150W.
- Total: 750W.

The DSP8000 includes drive unit thermal protection.

Acoustic

- $3\frac{1}{2}$ way.
- Closed bass enclosure.
- Separate mid/top plywood cabinet.
- Bass drive unit: 6 x 200mm (8") high-efficiency long-throw custom drivers.
- Mid drive unit: 1 x 160mm (6") custom driver.
- Treble drive unit: 1 x 25mm (1") Boothroyd Stuart piston in short horn, composite dome with silver voice-coil.
- Special Edition treble drive unit: 1 x 25mm (1") Meridian piston in short horn, beryllium dome with silver voice-coil.

Characteristics

- Distortion: <0.02% up to full power.
- Noise and hum: <-94dBr at all volume settings.
- Acoustic output: typically >115dB spl @ 1m.
- Acoustic noise: <15dB spl @ 1m.
- Frequency response: in room response within 3dB, 25Hz-20kHz.
- Special Edition frequency response: in room response within 3dB, 25Hz–32kHz.

Cabinet

- Entire speaker manufactured from interlaminated panels.
- Glass front.
- Finished in high-gloss piano lacquer.
- 400mm x 1300mm x 528mm (15.7" x 51.2" x 20.8") W x H x D excluding feet.
- 105kg (231lb) each.

Power

- 100-125; 200-250V AC 50-60Hz.
- 20VA standby; 920VA max.

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

Available accessories

Other applications, and some advanced features, may require one or more of the following accessories, which can be purchased from your Meridian dealer:

- MSR+ remote.
- Interconnecting leads.
- AC11 SpeakerLink Hub, to allow interconnection between newer products with SpeakerLink connectors, and products with Meridian BNC Comms or Meridian DIN Comms connectors.
- AC12 SpeakerLink accessory, to allow interconnection to older Meridian source or controller products.

Setting up the DSP8000 loudspeakers

This chapter explains how to install your DSP8000 loudspeakers. It describes what you should find when you unpack the speakers, how you should connect them to your other audio equipment, and the siting constraints.
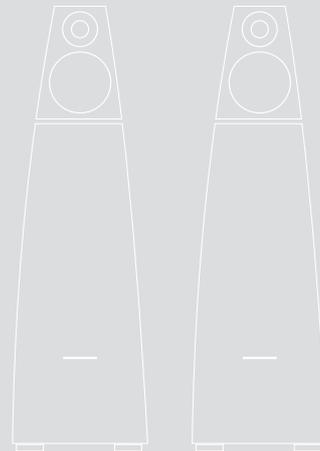
Unpacking

Before you begin installation you should ensure that your DSP8000 loudspeakers are the correct voltage for your local AC supply. If they are not, do not try to install them, and contact your dealer.

You should not make any connections to the DSP8000 loudspeakers, or to any other component in your system, while the AC power supply is connected and switched on.

Care when unpacking

Take great care when unpacking or re-packing the DSP8000 loudspeakers that you do not put undue pressure on the side containing the drive units, as they may be damaged if pressed.

Components

Each pair of DSP8000 loudspeakers is supplied with the following components:

• The DSP8000 loudspeakers.
• A hex wrench (3mm) for the drive units.
• A 10mm spanner for removing the headboard.
• Six shouldered spikes for the head unit.
• One power cord per speaker suitable for your territory.
• This user guide.

If any of these items are missing, please contact your dealer. We suggest that you retain the packaging carefully, as it provides maximum protection in transit.

Unpacking

To unpack the DSP8000 loudspeakers please follow the instructions on the accompanying leaflet.

Caution

Meridian Audio has taken every care in the design, assembly, finishing and packing of this product. The high gloss finish on parts of the cabinet is achieved by painting up to five coats of polyester lacquer onto the plywood, each one hand polished.

Due to the product size and cabinet construction, small marks on the lacquer surface may be visible when unpacked. These small marks can usually be removed as described in *Maintenance and cleaning*, page 31.

It is the nature of all lacquer finishes to shrink over time. This is unavoidable and may result in cabinet joint lines becoming visible.

Meridian Audio has supplied products using lacquer finishes for many years and we are confident that when carefully used your product will return a lifetime's enjoyment.

Tightening the drive units

The DSP8000 loudspeakers typically take about two weeks of normal use for the drive units to settle. It is therefore recommended that you leave the grilles unfitted during this period, and tighten the mounting bolts on each drive unit every few days. Tighten the bolts in symmetrically opposite pairs using the 3mm hex wrench provided.

You should then check and if necessary retighten the drive units every few years.

To dismantle the loudspeakers

It is advisable to remove the head units when moving
the speakers. This is achieved by disconnecting the
head lead from the head unit and lifting off the head.
Take care while the head is not in position as this
exposes its mounting spikes. While not in place the
head should be stored safely but care should also be
taken of the surface they are placed upon as it may be
damaged by the cups.

When dismantling the speakers always disconnect and
switch off the power first.

**Note: Do not disconnect the head lead while
the unit is connected to the AC supply and
switched on.**

Positioning the DSP8000 loudspeakers

To obtain the best sound

For best results adjust the position of the loudspeakers while listening to music.

If possible, have the most acoustically absorbent wall in the room behind the front speakers. Ideally have each DSP8000 loudspeaker at least 0.5m (20") from a corner, and position them approximately 0.25m (10") from the wall.

If you are using a DSP8000 loudspeaker as a centre channel, place the speaker centrally between the main left-right pair and, if possible, arrange for the treble units of the three speakers to be approximately the same height.

Connecting the loudspeakers

Back panel

The following diagram gives details of the back panel connections:

| MERIDIAN SPEAKERLINK | MERIDIAN COMMS | DIGITAL |
| INPUT   OUTPUT | INPUT   OUTPUT | INPUT   OUTPUT |

Meridian SpeakerLink connections

Meridian BNC Comms connections

Digital co-axial connections
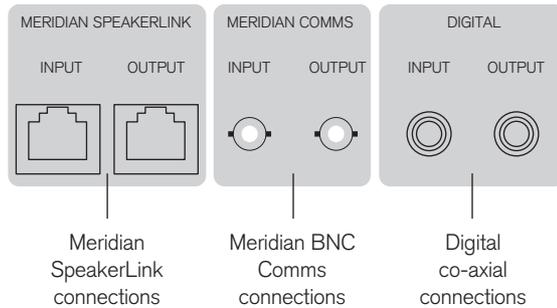
You can connect to the DSP loudspeakers using either the SpeakerLink connectors, or the Meridian BNC Comms and digital co-axial connectors.

Connecting using Meridian SpeakerLink

The Meridian SpeakerLink connectors provide both balanced digital and Meridian Comms control in a single SpeakerLink lead. The following table gives details of these connections:

Use this connection	To connect to this
MERIDIAN SPEAKER-LINK INPUT	A digital source such as a Meridian Surround Controller, Audio Core, or Media Source.
MERIDIAN SPEAKER-LINK OUTPUT	A second (Slave) DSP loudspeaker.

The digital connections should be made with SpeakerLink leads. Suitable cables are available from your Meridian dealer. Standard CAT5 computer cables may also be used.

We do not recommend the use of cables longer than 50 metres. Only connect the cables to the output of a Meridian product.

Connecting using the Meridian BNC Comms and digital co-axial connectors

The following table gives details of these connections:

Use this connection	To connect to this
MERIDIAN COMMS INPUT	The BNC COMMS connection on a Meridian control unit or preamplifier.
MERIDIAN COMMS OUTPUT	The BNC COMMS INPUT on a second DSP loudspeaker.
DIGITAL INPUT	A digital source such as a Meridian G Series digital surround controller, digital preamplifier, CD player, or DVD player.
DIGITAL OUTPUT	A second (Slave) DSP loudspeaker.

The Comms connections should be made with BNC to BNC leads. Suitable cables are available from your Meridian dealer. Standard computer BNC to BNC cables may also be used.

The digital connections should be made with high-quality 75Ω screened cable. Suitable cables are available from Meridian. We do not recommend using audio cables, which do not have adequate shielding or the correct impedance, or cables intended for UHF applications, as these do not provide adequate shielding in the 1–30MHz region.

Connecting to other equipment

To connect to a Meridian product with SpeakerLink (home run)
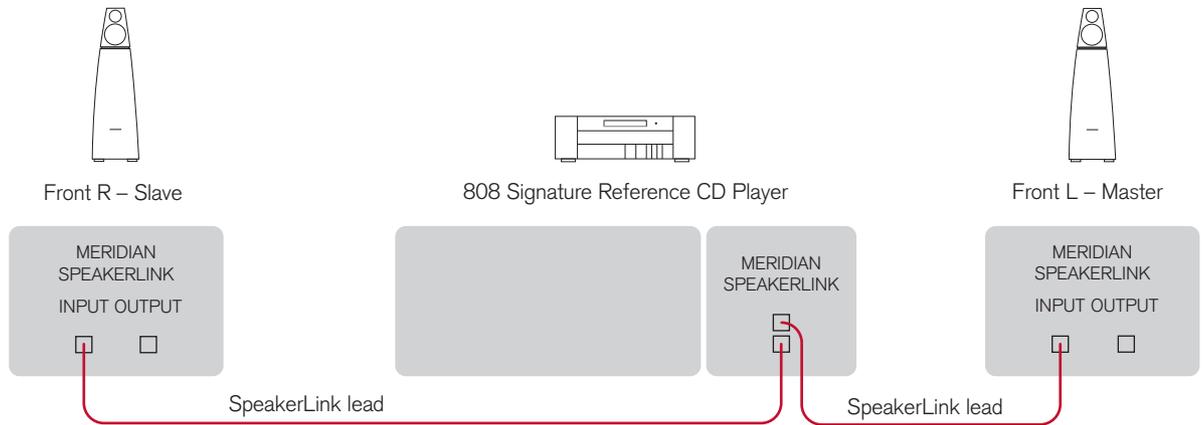
Front R – Slave   808 Signature Reference CD Player   Front L – Master

MERIDIAN
SPEAKERLINK

INPUT OUTPUT

MERIDIAN
SPEAKERLINK

MERIDIAN
SPEAKERLINK

INPUT OUTPUT

SpeakerLink lead   SpeakerLink lead

You can create a complete system by connecting a pair of DSP8000 loudspeakers directly to a digital source. The DSP loudspeakers include volume, balance, and tone controls allowing you to control the system using an MSR+.

If the Meridian source or control unit includes a Meridian SpeakerLink output, such as the Meridian 808 Signature Reference CD Player, you can make all the connections using SpeakerLink leads. The Meridian SpeakerLink connection provides both two-channel digital audio and Meridian Comms control.

This is an alternative to the "daisy chain" wiring configuration shown in the next section.

• Connect the upper SpeakerLink output from the Meridian product to the SpeakerLink input on the DSP8000 chosen as the Master, using a SpeakerLink lead.

• Connect the lower SpeakerLink output from the Meridian product to the SpeakerLink input on the other (Slave) DSP8000, using a second SpeakerLink lead.

• Configure the Master DSP8000 as **M.RJ45** and the Slave DSP8000 as **S.RJ45**; see *To choose Master or Slave and the primary connector*, page 24.

To connect to a Meridian product using SpeakerLink (daisy chain)
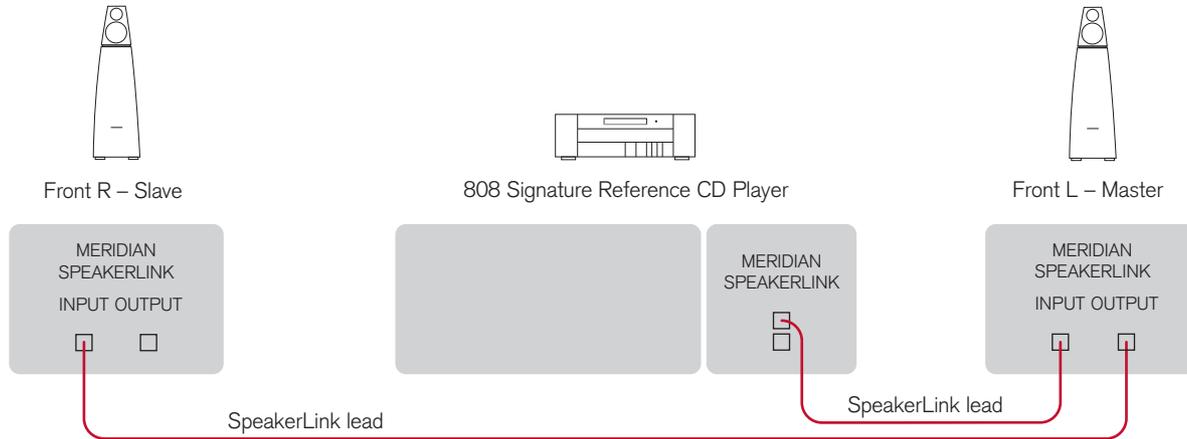
Front R – Slave

808 Signature Reference CD Player

Front L – Master

MERIDIAN
SPEAKERLINK

INPUT OUTPUT

MERIDIAN
SPEAKERLINK

MERIDIAN
SPEAKERLINK

INPUT OUTPUT

SpeakerLink lead

SpeakerLink lead

You can create a complete system by connecting a pair of DSP8000 loudspeakers directly to a digital source. The DSP loudspeakers include volume, balance, and tone controls allowing you to control the system using an MSR+.

If the Meridian source or control unit includes a Meridian SpeakerLink output, such as the Meridian 808 Signature Reference CD Player, you can make all the connections using SpeakerLink leads. The Meridian SpeakerLink connection provides both two-channel digital audio and Meridian Comms control.

This is an alternative to the "home run" wiring configuration shown in the previous section.

- Connect the upper SpeakerLink output from the Meridian product to the SpeakerLink input on the DSP8000 chosen as the Master, using a SpeakerLink lead.

- Connect the SpeakerLink output from the Master DSP8000 to the SpeakerLink input on the other (Slave) DSP8000, using a second SpeakerLink lead.

- Configure the Master DSP8000 as **M.RJ45** and the Slave DSP8000 as **S.RJ45**; see *To choose Master or Slave and the primary connector*, page 24.

To connect to a Meridian product with BNC Comms

G Series CD Player or Control Unit

DIGITAL OUTPUT	BNC COMMS

Digital/BNC lead

Front R – Slave

Front L – Master

MERIDIAN SPEAKERLINK	MERIDIAN COMMS	DIGITAL	MERIDIAN SPEAKERLINK	MERIDIAN COMMS	DIGITAL
INPUT OUTPUT	INPUT OUTPUT	INPUT OUTPUT	INPUT OUTPUT	INPUT OUTPUT	INPUT OUTPUT

RJ45 lead
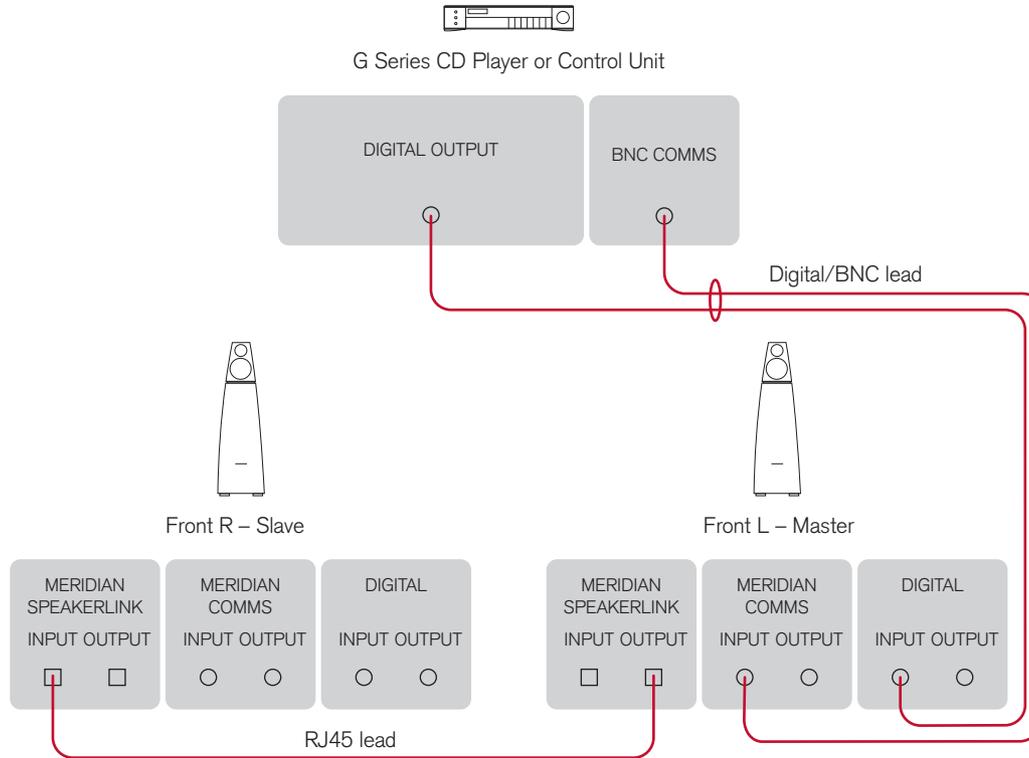
If the Meridian source or control unit provides a
Meridian BNC Comms output, you will need to connect
it to the DSP loudspeakers using a Digital/BNC lead.

• Connect the DIGITAL OUTPUT and the BNC
COMMS socket from the Meridian source or control
unit to the DIGITAL INPUT and COMMS INPUT on
the DSP8000 chosen as the Master, using a
Digital/BNC lead.

• Connect the MERIDIAN SPEAKERLINK OUTPUT
from the Master DSP8000 to the SpeakerLink input
on the other (Slave) DSP8000, using a SpeakerLink
lead.

• Configure the Master DSP8000 as **M.Coax** and the
Slave DSP8000 as **S.RJ45**; see *To choose Master
or Slave and the primary connector*, page 24.

Auto configuration

In a system of Meridian products one of the products acts as the controller for the system. It receives infra-red commands from the MSR+ and then, if appropriate, relays them to the other products in the system via the Comms link.

The following automatic setup procedure should be used to set up the Comms correctly between several products:

• Switch all the units to standby.

• Press **Clear** on the MSR+ remote.

Each unit will display: `Auto`

One unit will then be designated as the controller.

The display shows: `Con`
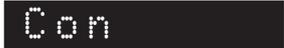
All the other units will be configured as non-controllers.

The displays show: `N.Con`

If for any reason the automatic setup does not work, make sure you are operating the remote from a position where all the units can receive the infra-red, and try again.

If this fails:

• Restore the default operation by selecting one of the standard types; see *To select a standard setting*, page 24.

Using the DSP8000 loudspeakers

In systems with a Meridian surround controller all the functions of the DSP8000 loudspeakers, including volume, tilt, and bass, are operated via the controller. For more information refer to the user guide for the surround controller, and you can ignore this chapter.

The DSP8000 loudspeakers can also be connected directly to up to two digital sources to create a complete, minimum system. This chapter provides step-by-step instructions for operating the DSP loudspeakers in a system with no Meridian surround controller.
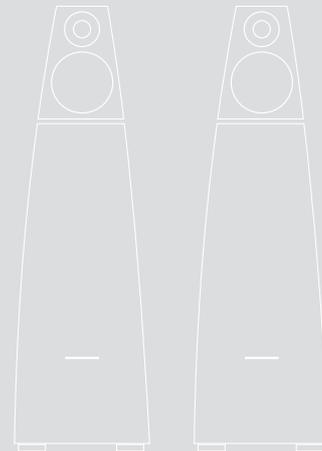
Selecting a source

When not playing, the DSP8000 loudspeakers should be left in the standby state. This uses a negligible amount of electricity, but ensures that the components of the loudspeakers operate at maximum efficiency from the moment you start.

If you are not going to use the DSP8000 loudspeakers for several days you should switch each unit completely off at the back panel, and disconnect it from the AC power supply.

To select a source

• Press the appropriate source key on the remote; eg **Radio**.

This will bring the DSP8000 loudspeakers out of standby, and the displays will show the currently selected source and volume setting.

For example:

Radio 65

Initially all the sources are set to use the SpeakerLink digital input. To configure all sources to use the co-axial input, configure the speaker as **M.Coax** or **S.Coax**; see *To choose Master or Slave and the primary connector*, page 24. To configure an individual source to use a different input see *To configure a source*, page 28.

To switch to standby

• Press **Off** on the remote.

The loudspeakers will switch to standby.

The displays will show:

Changing the display

The DSP8000 loudspeakers display information about the current settings on the 8-character front-panel display.

In addition, three coloured indicators show status information.

To change the displayed information

• Press **Display**.

Pressing **Display** steps between the following options:

Display option	Example
Source and volume	Radio 65
Meridian source display (dashes if not present)	....
Audio format	PCM 96k
Blank	

The audio format display shows **PCM**, **Data**, or **MHR**, followed by the frequency or **NL** (not locked).

Status indicators

The display includes the following status indicators:

Indicator	Description
Red	Master loudspeaker.
Yellow	88kHz or 96kHz input.
Green	Thermal protection; see *Troubleshooting*, page 29.

Adjusting the volume

The DSP8000 loudspeakers adjust the volume in precise steps of 1dB, where 9dB is equivalent to doubling the loudness, and can be varied in the range 1 to 99dB.

When you first connect power to the DSP8000 loudspeakers the volume is set to 65, which is similar to the midway position of the rotary volume control on a conventional preamplifier.

To change the volume

• Press the ▲ or ▼ volume keys on the remote.

As you adjust the volume setting the display will show the current volume level.

For example:

```
Radio  55
```

To mute the sound

• Press **Mute** on the remote.

The display will show:

```
Muted
```

To restore the sound

• Press **Mute** again on the remote.

Alternatively, the sound will be restored if you adjust the volume.

Changing the treble, bass, or phase

The DSP loudspeakers provide sophisticated treble and bass controls, to allow you to adjust the broad balance of the system to correct for the acoustics of your listening room, or for a misbalanced recording.

The controls are more subtle than conventional tone controls, and take advantage of digital signal processing techniques to provide a more natural adjustment of the frequency response.

You can also change the absolute phase of the signal, to compensate for signals which are out of phase, giving an unnatural-sounding bass.

If you have a Meridian Surround Controller these functions are performed via the surround controller.

To change the treble

• Press **Function ◄** or **Function ►** until the display shows the current treble.

For example:

`Tre.+0.0`

• Press **Function ▲** or **Function ▼** to change the treble.

The treble control tilts the frequency of the response over the entire frequency range to make the sound brighter or dimmer. It can be adjusted between ±10db in 0.5dB steps. Normally settings between +1.0 and -2.0 will give the most natural results.

To change the bass

• Press **Function ◄** or **Function ►** until the display shows the current bass setting.

For example:

`Bass+0.0`

• Press **Function ▲** or **Function ▼** to change the bass.

The bass control allows you to adjust the bass response in the room by ±5dB in 0.5dB steps. Normally settings between +3.0 and -2.0 will give the most natural results.

To change the absolute phase

• Press **Function ◄** or **Function ►** until the display shows the current phase.

For example:

`Phase  +`

• Press **Function ▲** or **Function ▼** to change the phase.

Changing the listening position

The balance control of the DSP8000 loudspeakers uses digital signal processing to compensate for an off-centre listening position by delaying and diminishing the sound in one speaker, thus effectively shifting the speaker's image back.

The axis control allows you to adjust the optimum listening height of the DSP8000 loudspeakers, like a balance control operating in the vertical plane.

If you have a Meridian Surround Controller these functions are performed via the surround controller.

To change the balance

• Press **Function** ◀ or **Function** ▶ on the remote until the display shows the current balance.

For example:

<div style="font-family:monospace;">Bal. ⟨0⟩</div>

• Press **Function** ▲ or **Function** ▼ to change the balance.

The display shows the direction and position of the listening position.

For example:

<div style="font-family:monospace;">Bal. 12⟩</div>

There are 30 steps in each direction.

To change the axis

• Press **Function** ◀ or **Function** ▶ on the remote until the display shows the current axis setting.

For example:

<div style="font-family:monospace;">Axis -1</div>

• Press **Function** ▲ or **Function** ▼ to change the axis.

The axis can be adjusted between 3 and -2, where 0 corresponds to the axis of the treble unit. Usually a listener will be below that position, so we recommend settings of -1 or -2.

Configuring the DSP8000 loudspeakers

This chapter explains how to configure the DSP8000 loudspeakers to suit the other equipment in your system.

The first stage in configuring the DSP8000 loudspeakers is to choose one of the standard settings, and these are designed to set all of the parameters to their most common values. You can also configure each setting individually for applications not catered for by one of the standard settings.

Once you have configured the DSP8000 loudspeakers you will probably never need to change the configuration, unless you alter the equipment connected to your system at a later stage.
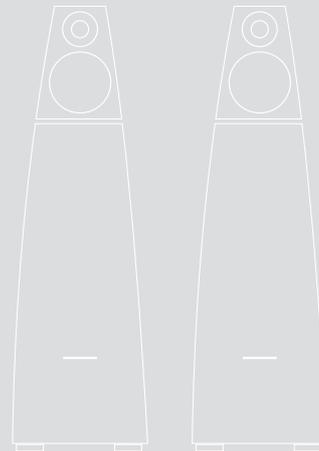
Choosing standard settings

The DSP8000 loudspeakers provide the following
five alternative standard settings, called Types, which
configure all aspects of the loudspeaker into the most
commonly needed configurations:

Type	Description
1	Standard setting for 2-channel system.
5	For use with a Meridian CD player (eg 808.3) connected to the SpeakerLink input; all other sources use the co-axial input.
6	For use with a Meridian Surround Controller.
7	For use in a second room.
8	For use in the second or third room of a three-room system.

Types 2, 3, and 4 are for compatibility with 200/600
series units.

In all cases except Type 5 the SpeakerLink input is
used for all sources.

Choosing one of the standard settings overrides any
other configuration you may have performed, and so
can be used to reset the configuration of the speakers.

To select a standard setting

• Switch off the DSP loudspeaker.

• Turn on the power again while holding down the
number key on the remote which corresponds to the
Type you want to use.

The display will show the Type number.

For example:

`Type 1`

• Release the remote key.

The display will show:

`L.M.RJ45`

You should now specify the speaker's position as
follows.

To specify the speaker position

• Press ▲ or ▼ to specify the speaker position.

The options are shown in the following table:

Display	Position
L.	Left.
R.	Right.
C.	Centre (Type 6 only).

To choose Master or Slave and the primary connector

You should select one loudspeaker to be the Master;
this will normally be the centre channel. For more
information see *Connecting to other equipment*, page
12. Each other DSP loudspeaker should be configured
as a Slave.

• Press the ▶ (Play) key on the remote.

• For each speaker this steps between the following
four options:

Option	Master/Slave	Primary input
M.RJ45	Master	Meridian SpeakerLink
M.Coax	Master	Digital co-axial
S.RJ45	Slave	Meridian SpeakerLink
S.Coax	Slave	Digital co-axial

Initially all sources will be configured to use the primary input you have specified, but you can configure individual sources to use the other input; see *To configure a source*, page 28.

For example, to define the left speaker as a Slave using the digital co-axial connectors:

The display shows:

```
L.S.Coax
```

When you have configured the loudspeaker:

• Switch off the DSP loudspeaker, using the power switch on the back, and then switch on again to restore normal operation.

Specifying information about your system

You can configure the operation of the DSP loudspeakers to suit the way your system is set up, and the way in which you want to use it.

These settings are configured automatically to appropriate values when you choose one of the standard Type settings, and you should not normally need to alter them; see *To select a standard setting*, page 24.

To configure the DSP loudspeaker

• Turn off the DSP loudspeaker, using the power switch on the back panel.

• Turn on the power again while holding down the **0** key on the remote.

The display will show the current setting of the first configuration option.

For example:

> L.M.RJ45

• Press ▶ or ◀ to step between the options.

• Press ▲ or ▼ to change the value of the current option.

The following table shows the options you can configure:

Option	Initial value in Type 1
Position and Master/Slave	L.M.RJ45
Compatibility (G, 500, 200 Pre, or 200 CD) *	G
Controller mode (Auto, Con, or NCon)	Auto
System address (1–8)	S.A. 1
Product address (1–8)	P.A. 1
Volume mode (1=normal, 2/3=second or additional room)	L.E. 1
Balance control (N or Y)	Bal. Y
Enhanced Bass Alignment? (SL, N, or Y) †	EBA SL
Centre menus? (N or Y)	Centre N
Diagnostic displays? (N or Y)	Diag. N
Position (Free, Wall, Sub1, Sub2, Corner, SL) †	Pos. SL
Ambient temperature for thermal protection	Temp 24

* G gives 500 and 800 Comms and MSR+ sources, 500 gives 500 Comms and MSR sources, and 200 Pre or 200 CD are legacy modes.

† SL (SpeakerLink) allows the setting to be controlled by a suitable controller, such as the 861 Reference Digital Surround Controller, via the SpeakerLink connection.

To specify the loudspeaker position

The frequency response of each loudspeaker can be individually tailored to compensate for its position in the room, or to integrate the sound with a subwoofer where no surround controller is present.

For multichannel systems with a surround controller we recommend each speaker is configured individually.

For two-channel systems you may wish to set this control to **SL** in both speakers so that it can be adjusted remotely by the system controller (eg a Meridian 818).

When configuring the DSP8000 loudspeakers, point the remote at the speakers, even if you have a Meridian Surround Controller.

• Press ▶ or ◀ until the display shows the current position setting.

For example:

`Pos.Free`

• Press ▲ or ▼ to select the appropriate option as follows:

Option	What it means
`Pos.Free`	Flat frequency response.
`Pos.Wall`	Speaker closer than 0.5m (20") to a wall.
`Pos.Sub1`	Applies a second-order high-pass filter at 80Hz for use with a subwoofer.
`Pos.Sub2`	Applies a second-order high-pass filter at 120Hz for use with a subwoofer

Option	What it means
`Pos.Corn`	Speaker closer than 0.5m (20") to a corner.
`Pos.   SL`	Frequency response controlled via SpeakerLink.

To specify the ambient temperature for thermal protection

The DSP8000 drive units are protected from overheating by thermal protection software. This is already configured correctly for most domestic listening environments, but if the ambient temperature is greater than 24°C (75°F) you should adjust the ambient temperature setting.

• Press ▶ or ◀ until the display shows the current ambient temperature setting.

For example:

`Temp   24`

• Press ▲ or ▼ to specify the ambient temperature.

When thermal protection is active the lower left green indicator will be illuminated.

Configuring the sources

The DSP loudspeakers provide 12 sources corresponding to the 12 source selection keys on the remote:

CD, **RADIO**, **DVD**, **AUX**, **DISC**, **TAPE**, **TV**, **CABLE**, **SAT**, **VCR1**, **VCR2**, and **GAME**.

If the configuration you want is not catered for by one of the standard settings, you can configure each source individually.

For each source you can configure:

- The label used for it on the front panel display, from a range of alternative labels.
- The digital input it selects.
- The comms type and address, to control other Meridian equipment.
- Other advanced options.

You only need to configure the sources on the DSP loudspeaker you have specified as the Master.

To configure a source

While in configuration mode:

- Press the source key on the remote corresponding to the source you want to configure.

For example, to configure the Radio source press **RADIO**.

The display shows: `RD  Radio`

- Press ▶ or ◀ to step between options.

The right-hand set of characters shows the current value of the option.

- Press ▲ or ▼ to change the value of the option.

When you have finished programming sources:

- Switch off at the back panel, and then switch on again to restore normal operation.

The options are summarised in the table below:

Option	Initial value	Alternatives	Explanation
Label	`Radio`	CD, Radio, LP, etc.	The label used to identify the source on the front panel display.
Audio input	`D1`	D1 or D2.	Choose D1 for the input configured as the primary connector, or D2 for the other input.
Comms type	`2C`	1C – 9C, or NC.	Choose 1C for a Meridian CD player, 2C for a Meridian FM Tuner, 3C for a Meridian DVD player, or NC otherwise.
Address	`1A`	1A – 8A.	Choose 1A unless you have several Meridian products of the same Comms type.
FIFO	`FF. Y`	Y or N.	Choose N to disable the FIFO buffer if you have difficulty locking to a poor source.

Troubleshooting

This chapter provides suggested solutions to typical problems that may occur when setting up the DSP8000 loudspeakers.

If you are still not able to resolve a difficulty with the help of this guide and the suggestions on the following pages, please contact your Meridian dealer.
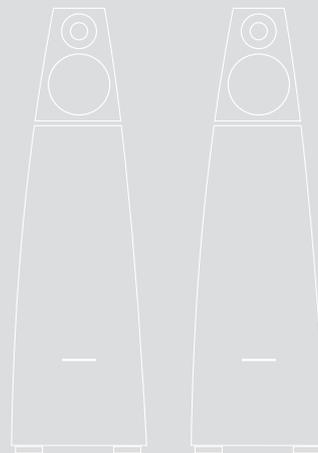
Troubleshooting

Display on front panel not lit

- Check the display mode by pressing DISPLAY on the MSR+.
- Check there is AC power connected to the socket on the back of the DSP loudspeaker.
- Check the power switch on the back panel of the DSP loudspeaker is turned on.

If the display will still not illuminate, check any fuses in your power supply and the fuse in the inlet of the DSP8000 loudspeaker. If these are all intact, contact your dealer.

Unit stays in standby

- Check that it is connected correctly.
- Turn the system on from another Meridian product in the system.

Remote not working

- Check the battery in the MSR+ remote.
- See if the DSP8000 loudspeaker has been set up as not controller in the Meridian Configuration program; see *To configure the DSP loudspeaker*, page 26. Note that this may be deliberate by your dealer.

Configuring the DSP8000 loudspeaker does not have any effect

- For source selection issues make sure that you are configuring the DSP loudspeaker used as the Master loudspeaker.
- For settings that can be controlled by SpeakerLink (eg position) you must specifically configure every loudspeaker, not just the Master.

Drive units move when the speaker is switched on or off

- This is normal as the speaker active electronics settle.

There is radio interference

The DSP8000 loudspeaker is a digital audio and computing device which has been designed to very high standards of electromagnetic compatibility.

If this equipment does cause or suffer from interference to/from radio or television reception then the following measures should be tried:

- Reorient the receiving aerial (or antenna) or route the antenna cable of the receiver as far as possible from the DSP8000 loudspeaker and its cabling.
- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the DSP8000 loudspeaker.
- Connect the receiver and this product to different AC outlets.
- If the problem persists contact your dealer.

Only the Master loudspeaker plays

- Check the cables are connected correctly.

Sound is odd or mono

- Check that the DSP8000 loudspeakers are correctly configured as Left and Right respectively.

Unit goes silent when played hard and displays 'Hot'

- The DSP8000 loudspeakers have a temperature sensing system on board, which prevents overheating of the electronics. The sound will continue when the speaker has cooled.

The green indicator flashes or stays on

This indicates that the DSP is protecting the loudspeaker drive units from overheating. It is normal for this light to stay on after a long period of listening at high sound levels.

Maintenance and cleaning

Fitting and removing the grilles

When fitting the grilles ensure that the two cutouts are at the 3 o'clock and 9 o'clock positions, as this will align the pattern on the grille fabric correctly.

To remove the grilles grasp the grille by the two cutouts and pull gently away from the loudspeaker.

Cleaning

Small marks on the lacquer surface can usually be removed with a damp cloth.

Deeper scratches can be removed by treating with additional polyester lacquer filler and then polishing carefully. Consult your authorised Meridian dealer for advice before attempting any repair.

Service and guarantee

Service

The Meridian components have been carefully designed to give years of untroubled service. There are no user-serviceable parts inside the case, nor do the units require any form of maintenance.

In the unlikely event that your DSP loudspeaker fails to function correctly, it should be returned, in its original packaging, to your Meridian dealer.

In case of difficulty within the UK or USA please contact the appropriate sales and service address shown on page iv.

In case of difficulty outside the UK or USA, contact the importing agent for the territory. A list of Meridian agents abroad is available from Meridian Audio.

No responsibility can be accepted for the DSP8000 loudspeakers whilst in transit to the factory or an agent, and customers are therefore advised to insure the unit. When seeking service under guarantee, proof of the date of purchase will be required.

Guarantee

The DSP8000 Loudspeakers are guaranteed against defects in material and workmanship for 3 years from the date of purchase, or 6 years if you register your product with Meridian.

The guarantee is void if the DSP8000 Loudspeakers have been subject to misuse, accident, or negligence, or has been tampered with or modified in any way without the written authorisation of Meridian Audio Limited. Note that connecting anything other than the correct network lead to the COMMS sockets may cause damage to the DSP8000 Loudspeakers which will not be covered by this guarantee. Attempted servicing by unauthorised people may also invalidate this guarantee. Labour and carriage charges are not covered unless by local agreement.

Outside the UK, local warranty liability is restricted to equipment purchased within the territory. Our agents abroad are only under contractual obligation to service under guarantee equipment sold through them. They are entitled to make a non-refundable charge for any service carried out on other equipment.

This guarantee does not limit your statutory rights within the United Kingdom.

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