
Meridian 808.3

In August 1971, Bob Stuart met Allen Boothroyd in a London pub, where they started their first design collaboration with the multi-award winning Lecson AC1 and AP1 audio amplifier – now in the permanent collection of New York's MOMA and exhibited at London's V&A museum.

Bob and Allen went on to found Meridian Audio in 1977 and during the 40 years since they met, have produced many of the industry's most ground-breaking designs in the field of consumer audio.

The 40th Anniversary System you now own represents the distillation of this 40 year collaboration and has been made in a limited edition of 40 systems, never to be repeated.

Everyone at Meridian congratulates you in your discerning choice of what we are confident is the finest music system in the world.

Bob Stuart
Co-Founder, Chairman and Technical Director

Allen Boothroyd
Co-Founder and Design Director

The 40th Anniversary System

We have endeavoured to make this special edition even more exceptional.

The DSP8000 Anniversary System Loudspeakers feature a new, more sensitive tweeter with a new moulded surround, while special calibration allows the loudspeaker system to operate at even higher sound pressure levels than the standard model. The driver surrounds feature exclusive machined edge detail, while special spike-cups are used to mount the head unit.

Bob and Allen have signed a special plaque on the rear of the head units which carries the limited edition number, and there is a similarly-etched plaque inside the hinged front panel of the 808 Anniversary System CD Player. The 808 Anniversary System CD Player also includes an enhanced power supply.

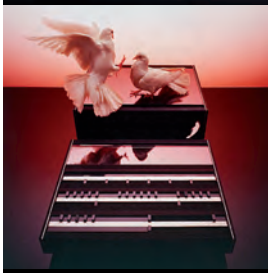
Your system as a whole has been built from components that have been hand-selected for superior sound quality, and it is interconnected with special, ferrite-filtered SpeakerLink cables. Bob Stuart has personally fine-tuned your system in our laboratory to the very highest standards of performance.

Bob Stuart and Allen Boothroyd are sure that you will enjoy this very special Meridian system.

Milestones from the 1970s

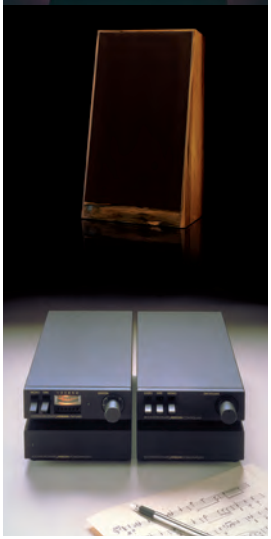
Lecson AC1/AP1 1971

The first Boothroyd and Stuart product design. A thin and potentially wall hung preamp and optional cylindrical Power Amp.



Orpheus Amplifier System 1975

A revolutionary high-end audio system with interchangeable, rotating, hide-away preamp controls.



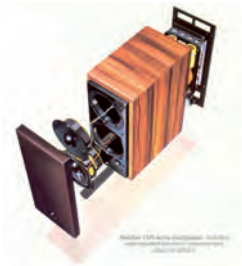
Meridian M1 1977

The first Meridian loudspeaker, active of course.

100 Series, the first Meridian audio system 1978

One of the first Modular audio systems with Preamp, FM Tuner and ‘split’ Power amp and Power Supply.

Milestones from the 1980s



Meridian M3 compact active loudspeaker 1979

M2 and M3 loudspeakers set the standard for compact, high quality active audio systems.

Meridian Modular audio system 1980

A unique, ‘build it yourself’ control unit for providing all the inputs you might need for the dawning digital age.

Meridian MCD/Pro better sounding CD 1983

Bob’s re-engineered Philips CD100 was recognised as by far the best sounding CD player.

Meridian D10, world’s first digital loudspeaker 1985

The world’s first truly digitally driven active loudspeaker demonstrated at the Hi-Fi News London show.

Milestones from the 1990s

Meridian DSP6000 1990

The first Meridian loudspeaker to feature many of technologies later developed into the DSP8000 and its relations.

Meridian 600 Series 1991

Developed from the award-winning Meridian 200 Series with separated DAC and Disc player modules.

Meridian 565, world's first digital surround processor 1995

The ground-breaking product which launched Meridian's Digital Theatre System.

Milestones from the 2000s

Meridian DSP8000 ultimate digital loudspeaker 2000

Still in strong production after a decade of evolution.

Meridian G Series 2003

Finely crafted in glass and textured aluminium the G Series was developed from the highly successful 500 Series.

Meridian F80 2005 – M80 2010

A distillation of Meridian's expertise in DSP and modular electronics designed in one elegant product.

Meridian DSP3200 2010

A very high quality DSP Loudspeaker in a compact format.

The design history of Meridian DSP loudspeakers

The development of optimised acoustic cabinets with on-board amplification and subsequently DSP has been evolving since the Meridian M1 loudspeaker in 1977.

Our goal has always been to ensure that the complete enclosure and drive unit assembly is as rigid as possible since the slightest movement of the cabinet will produce distortion in the acoustic output.

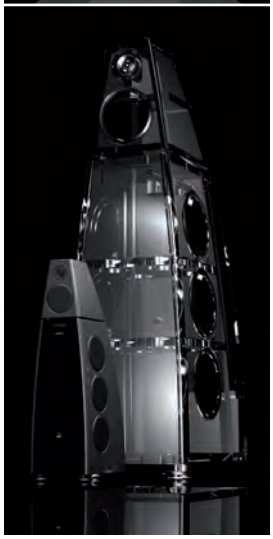
Due to the limitations of manufacturing and cost at the time, our first cabinets were made from high density particle board but this was upgraded to Finnish Birch ply for the M2 and M3 products in 1983 since its grain structure is inherently stiffer not being just a bonded homogeneous material.

Inside every Meridian cabinet there is also extensive bracing in all planes to further stiffen any flat surfaces. Early cabinets were damped with applied acoustic pads of bitumen-based material bonded to all open surfaces. Later cabinets, after the DSP5200, have used 'poured in' mineral loaded epoxy which we have found provides the ideal combination of stiffness and damping.

Milestones in our loudspeaker cabinet evolution have featured cancellation of bass unit induced vibration (DSP6000), stiffening of the side faces by curving the form (DSP5200) and then optimising the curved form using a double laminate of ply with an internal aluminium core (DSP8000).

The visual form of Meridian DSP cabinets is no accident. Features we have pioneered include a narrow 'head' for higher frequencies, where economically possible, decoupled from the bass system (DSP8000). This head form, with soft edges, allows the mid and high frequencies optimum dispersion.

As Bob has defined elsewhere, an active loudspeaker, i.e. one in which the power amplifiers are on-board and precisely designed for that cabinet alone, brings the benefit that it can produce the same bass note as a 'passive' system but at one eighth of the size. As a result we have evolved our distinctive tapered, curved cabinet form that combines all these features. Since the M2 loudspeaker in 1983 we have chosen to place the amplifier, power supply and connections on the rear face and in its own enclosure which allows us to build, test and service the 'electronics' section easily. On a historical note, the 6 pin, silver plated, air-tight Bulgin connector we first used on M1 in 1977 is still the same today since we have found none better even if we had to ask the supplier to retool it occasionally.



From around 2000 we found that the high-gloss lacquer coated loudspeakers sounded better than those we produced in veneer. Since then we decided to only offer lacquer for the best sound. The Meridian lacquering process is extremely expensive and thorough. It takes nine sequentially applied and cured coats of polyester based lacquer of which the top-coat is clear, hand polished then buffed. This process provides the optimum surface for avoiding any acoustic reflections and provides our customers with a wide choice of custom colours.

Since all lacquer finishes gradually shrink over time we also avoid any cracking by ensuring the design forms avoid sharp edges – it's the details that make the difference.

Our grille components are equally optimised for the best sound by being as acoustically transparent and as small as possible to reduce fabric vibration. Where possible Meridian loudspeakers always stand on three adjustable feet to ensure there is no rocking but allowing adjustment for uneven surfaces.

Such is the story of the evolution of what you see when you look at Meridian loudspeakers – logical design, not styling.

Allen Boothroyd
Co-Founder and Design Director

Meridian Loudspeakers – the DSP Advantage

Meridian Audio has taken an almost unique course in the design of its audio and video systems, and particularly in its loudspeaker design, where the signal remains in the digital domain until the very last moment, and the loudspeakers include digital crossovers and signal processing.

The traditional approach

Traditional hi-fi systems have hardly changed over the years. Signal from a source is fed into a preamplifier, and from there at line level to a power amplifier. The resulting high-level signal is then fed via extensive (and often expensive) cables to the loudspeakers.

Almost universally, a single amplifier handles the full audible frequency range. Inside the loudspeaker cabinet, the high-level audio is split into multiple bands and fed to the drivers by the crossover: a set of filters that suit the requirements of the different drivers.

This requires components chosen more for power-handling than for audio quality. And everything is more difficult to manage at high power levels. Suddenly the cables that connect amplifier to loudspeaker can impact the sound of the system, for example.

Even if you use expensive, higher-performance components, it's hard to avoid compromising the crossover performance. In addition, the drivers have to be well matched to avoid wasting power, limiting the designer's choices.

The solution is to operate the crossover at line level. The amplification then follows the crossover instead of preceding it. In modern live sound installations, this is the standard approach.

The Active Loudspeaker

Back in the mid-1970s, this was extremely unconventional in the consumer field. Even more so was Meridian's first product, the M1 Active Loudspeaker, with an active crossover, amplification, loudspeaker drivers and power supply in the same enclosure.

This approach delivers several important benefits. A large, heavy amplifier and associated cabling disappears at a stroke, replaced by a line-level link from preamplifier to loudspeaker. The crossover is now operating at line level, so the highest quality components can be employed, just as in a preamplifier. The designer can also specify each element of the crossover without worrying about matching driver efficiencies or the impedance of the configuration.

In addition, the amplifiers are connected directly to the drivers – one power amplifier per crossover band, allowing the amplifier to control the driver over its entire range. If the loudspeaker cone makes an unwanted movement – as a result of a resonance, for example – the electrical energy generated is fed back to the amplifier, restraining cone motion.

This damping reduces resonance, cone effects and spurious responses – and this tight control allows a Meridian loudspeaker to sound excellent at any level, from a whisper to a surprisingly loud shout.

Less power, more sound

The apparent downside is that the system requires one power amplifier per crossover band, rather than just one per loudspeaker.

In fact, however, the active loudspeaker is much more efficient. When a single amplifier is used in a passive system the amplifier cannot deliver all its power to the drivers playing music, there is a mismatch and in addition the amplifier cannot control the drivers adequately. To play as loudly as an active system the common, passive solution needs a power amplifier rated at four times the total power of a well-designed active system.

A properly integrated active system, however, can be designed specifically to provide the power required, into a known, carefully defined load. Such a design can be more efficient, rather than more expensive. In an active 3-way system, for example, three 25W amplifiers will do the job of one 250W amplifier in a passive system. Meridian's first DSP loudspeaker, the DSP6000, included four channels of 70W amplification – equivalent to about 1kW driving a conventional system.

Thus an active system can produce surprisingly high levels from a significantly smaller amplification system.

Bass Extension

An active approach can also deliver benefits that are simply impossible for a passive system to realise.

The performance cost of a smaller cabinet is either less bass or lower efficiency. Considering an active loudspeaker as a total system allows the overall response and performance to be carefully tailored. Generally, a passive loudspeaker with equivalent bass response needs eight times the physical volume. In addition, this alignment minimises cone movement of the bass driver for a given output.

Being able to deliver bass from an enclosure an eighth of the size is a useful ability: it makes possible loudspeakers that are physically the right size: on a human scale. That means that they will fit into a room more easily, and take up less space.

Stereo imaging is also significantly improved: the more like a point source your loudspeakers sound, the better the soundstage – especially in surround.

The Digital Dimension

Digital media like CD and DVD made it possible to take the next step and keep the signal in pristine digital form as long as possible – with many benefits. There are no long analogue cables carrying signals to the loudspeakers, for example, with the possibility of induced hum and noise: a slim cable carrying digital audio data is all that's required. Full level is supplied to the loudspeakers, removing issues with noise at low levels.

The final step is the addition of Digital Signal Processing (DSP) to the digital loudspeaker. Meridian uses DSP in loudspeakers to provide the crossover, allowing the digital to analogue converter (DAC) to be placed even later in the chain. A separate DAC is used for each band, maximising dynamic range – currently up to 120 dB – for better intermodulation performance and lower background noise.

This, however, is only the beginning. Now you can design "impossible" crossovers, with linear phase, steep slopes, and time delay compensation; and even "apodising" filters, which can actually clean up some recording problems, especially in early digital recordings.

Volume control in a Meridian DSP Loudspeaker uses a precision combination of analogue and digital techniques, giving the best of both worlds. And "balance" doesn't just mean changing the relative levels of the loudspeakers. Instead, it's more a "Where am I sitting?" control, using both level and time delay to make the sound exactly right in the listening position you choose. Our processors can also provide decoding using Trifield and Ambisonic technologies, which recreate a solid image of the original environment in your listening room – producing an incredibly lifelike surround-sound experience.

DSP technology also provides additional features, such as tone controls. Loudness controls can be implemented more naturally than ever before, along with dynamic bass extension in smaller loudspeakers, where low frequencies are boosted more at low levels. The system computes voice coil temperature, cone movement, frequency and level to provide bass and thermal protection. Allowance can be made for different locations, such as being placed near a wall.

“Human-sized” loudspeakers

Meridian’s loudspeakers sound, and look, distinctive, and both these factors are related. Research shows that loudspeakers that are as close to human-like as possible produce the best imaging and the most natural sound – mirroring, in a sense, the position of human sense organs. The “head” of a Meridian DSP loudspeaker produces the vast majority of sound from 200 Hz up, which is where stereo and surround localization takes place.

As much effort goes into cabinet design as into the electronics within. Cabinets are heavy and rigid, for minimal movement. Typically, they incorporate multiple layers of wood and metal, bonded together for maximum damping. The DSP8000 includes horizontally opposed woofers, so that their net movement is zero. Advanced materials ensure that the cabinet is so dead that movement stops at once when excitation ceases, with no ringing.

The loudspeaker as musical instrument

Meridian DSP loudspeakers are essentially musical instruments. If you were to record a live string quartet in your listening environment, a difficult test of a “high fidelity” system would be to replay that experience in the same room. Meridian DSP loudspeakers rise fully to that challenge. And the DSP8000 is one of the few loudspeakers in the world that can accurately reproduce the power, dynamics and subtlety of a full-sized concert grand piano – the most difficult of instruments, recording engineers will tell you, to capture and reproduce accurately.

This article has been intended to give you an insight into why Meridian DSP Digital Active Loudspeakers sound so good, and why they are in a class of their own as far as performance, naturalness and authenticity are concerned. But as always, the truth lies in what you hear. Listen to your Meridian system. You are hearing 40 years of research and development, designed at every level to reproduce the original sound as accurately as possible. Whether recorded in the concert hall, recording studio or soundstage, this is audio reproduction at its finest.

Bob Stuart
Co-Founder, Chairman and Technical Director

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.

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).

This apparatus uses a single-pole power switch. As a result it is not isolated from AC mains power when switched off at the rear 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: 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, such as a power amplifier.

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.

CE

Copyright and acknowledgements

Designed and manufactured in the UK

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Visit us on the Web:
http://www.meridian-audio.com

Part no: P88404

MHR: this product incorporates copyright protection technology covered by certain patent applications and intellectual property of Meridian Audio Ltd. This technology is provided for the express purpose of securely containing copyright audio within the Meridian System only. Reverse engineering or circumvention of this protection is strictly prohibited.

This guide was produced by:
Human-Computer Interface Ltd,
http://www.interface.co.uk

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 40th Anniversary System fails to function correctly, it should be returned, in its original packaging, to your Meridian dealer.

No responsibility can be accepted for the 40th Anniversary System 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 40th Anniversary System is guaranteed against defects in material and workmanship for 3 years from the date of purchase, or 5 years if you register your product with Meridian.

The guarantee is void if the 40th Anniversary System has 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 40th Anniversary System 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.

808 Anniversary System CD Player User Guide

Contents

Introduction

Welcome to the Meridian 808 Anniversary System CD Player.

This User Guide provides full information about using the 808 in conjunction with your other equipment, to achieve the superb results you can expect from it.

The 808 Anniversary System CD Player

The 808 Anniversary System CD Player takes Compact Disc playback to an entirely new level, with a heritage that includes the multiple award winning 508 and 800, and two dozen optical disc players from 1984 to the present day. The 808 is specifically designed as a CD-optimised machine, able to play audio CDs, CD-Rs, and CD-R/Ws. It also plays the CD layer of an SACD disc.

At the heart of the 808 are fully-integrated electronics and a computer-style CD-ROM drive. The drive normally operates at standard CD speed, but is capable of much faster reading, using multiple high-speed re-reads to ensure accurate recovery of data from even the most difficult disc. This capability alone provides over ten times the error correction of a conventional CD player.

Signal Processing

Once the digital data stream has been recovered from the disc, powerful on-board digital signal processing (DSP) with a capability of an impressive 150 MIPs upsamples the digital information from the 16-bit 44.1kHz signal of conventional CD to a 24-bit signal with a sample rate of 176.4kHz. This signal is fed to the high-quality DACs to drive the analogue outputs, while a digital signal at an 88.2kHz sample rate is supplied to the digital outputs. Upsampling is performed with very high-accuracy filters which minimise pre-echo arising from ADCs and DACs used in the recording and replay process so that the total chain closely represents transmission of sound through air, for ultimate transparency from all sources.

The 808 employs a triple buffering system to minimise jitter, and therefore maximise HF transparency and stereo image precision and stability. This, and the digital electronics as a whole, are driven by a new design of high-stability clocking system which further reduces jitter and ensure that the highest level of detail is recovered from a disc. All digital data is accurately re-clocked.

Multiple power supplies ensure that digital and analogue circuitry are kept apart and can provide the required power when called upon to do so.

Integrated preamplifier

The 808 Anniversary System CD Player includes a built-in stereo preamplifier with the ability to handle six stereo analogue inputs, three digital coaxial S/PDIF inputs, and two Toslink optical digital inputs, making it ideal as the heart of a superb stereo music system. It also includes a Sooloos network connection

System integration

The 808 Anniversary System CD Player provides balanced and unbalanced analogue outputs for connecting to an external power amplifier or preamplifier. Alternatively, it provides SpeakerLink and coax digital outputs, allowing it to drive Meridian DSP Loudspeakers directly. The digital outputs support MHR (Meridian High Resolution) and operate at up to 2 x CD sample rate (88.2kHz), 24-bit.

Meridian Comms sockets (2 x DIN) allow communication with other Meridian components, while an RS232 interface provides full remote control capability as well as the ability to configure the unit with Meridian's innovative Windows-based graphic configuration application. Three programmable trigger outputs are provided for direct control of external devices, for example powering-up amplifiers, etc.

The Meridian 808 Anniversary System CD Player is supplied with the MSR+ learning/programmable remote control, which not only operates all Meridian products but also includes an extensive database of third-party products and the capability to learn commands from existing remotes.

Specifications

Drive

- Internal CD-ROM drive.

Audio outputs

- 2-channel balanced audio output.
- 2-channel unbalanced audio output.
- 2-channel digital coax output.
- Two 2-channel Meridian SpeakerLink outputs.
- Optional MHR encryption on digital outputs at high rate

Audio inputs

- Six 2-channel unbalanced analogue inputs. Adjustable sensitivity. Renameable legends.
- Three 2-channel digital coax inputs. Renameable legends. 44.1kHz to 96kHz sampling and up to 24-bit precision.
- One 2-channel Meridian SpeakerLink input. Renameable legends. 44.1kHz to 96kHz sampling and up to 24-bit precision.
- Two 2-channel digital optical inputs. Renameable legends. 44.1kHz to 96kHz sampling and up to 24-bit precision.

Signal processing

The 808 uses Meridian's proprietary DSP software to provide the following powerful features:

- Apodising filter.
- Upsampling.
- FIFO and error correction.
- Resolution enhancement.

Controls

Front-panel facia controls for:

- Open/Close, Play, Stop, Pause, Previous, Next, and On/Off.

A hinged control panel provides additional controls for:

- Repeat, Fast Forward/Reverse, Source, Store, Clear, Display, Mute, and Volume +/-.

Display

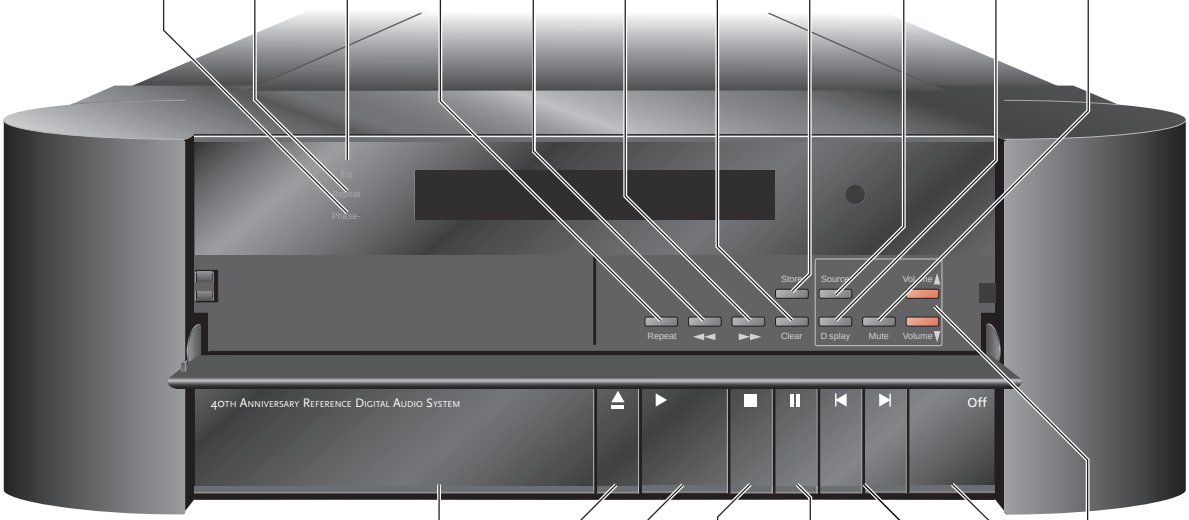
- 20-character dot-matrix display with adjustable brightness and contrast.
- Indicators for Emphasis, Repeat, and Phase.

Using the 808 Anniversary System CD Player

This chapter provides a summary of the functions of the 808 Anniversary System CD Player to identify the controls which you use to operate the unit.

It also provides step-by-step instructions for operating the 808, using either the front panel or the MSR+.

Front panel keys



Phase–
Indicates inverted phase

Eq
Emphasis indicator

Fast Reverse
Scans backwards

Clear
Clears a track selection

Source
Selects a source

Mute
Mutes or restores the sound

Repeat
Repeat indicator

Repeat
Repeats a track/disc

Fast Forward
Scans forwards

Store
Stores a track selection

Display
Changes the information displayed

Drive
CD drive

Play
Plays the disc

Pause
Pauses the disc

Off
Switches to standby

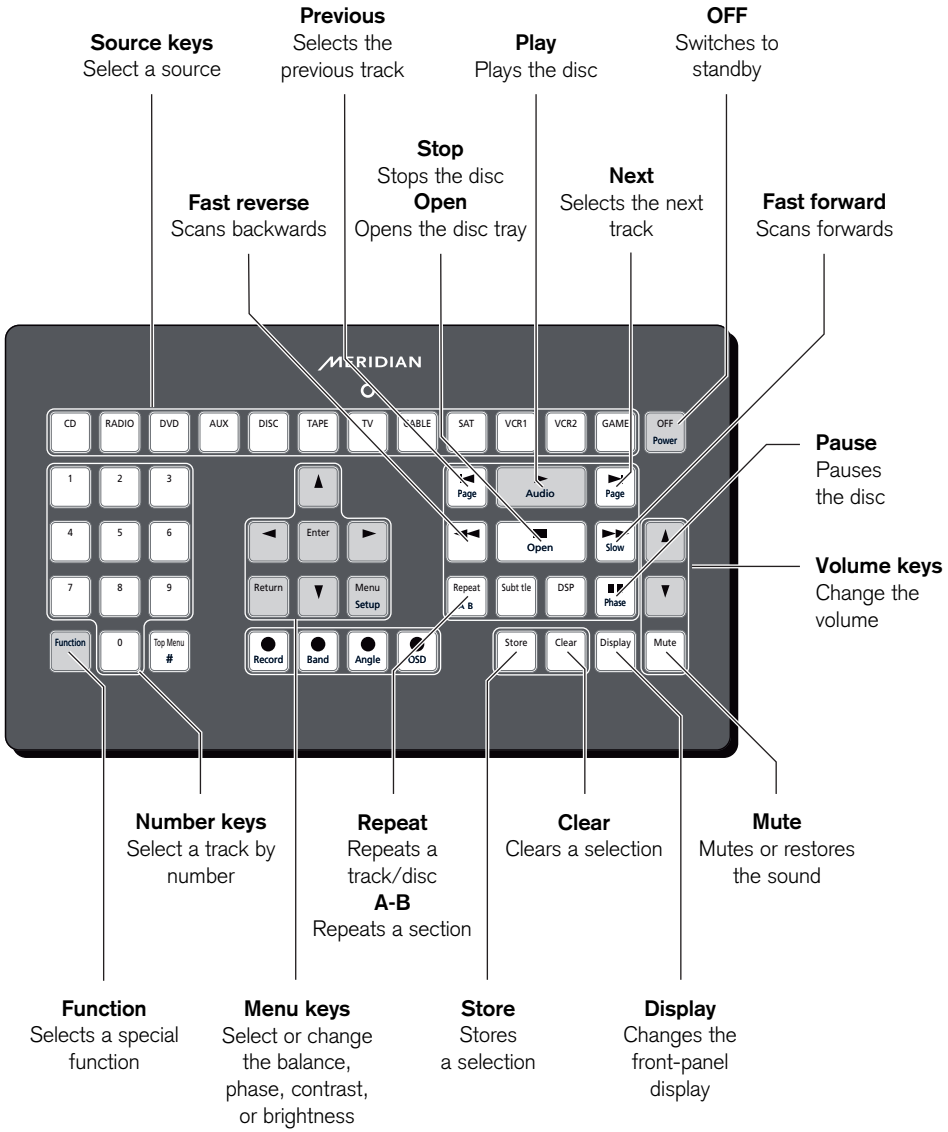
Open
Opens/closes the disc drawer

Stop
Stops the disc

Next/Previous
Selects the next or previous track

Volume keys
Change the system volume

MSR+ keys


Source keys
Select a source
Previous
Selects the previous track
Play
Plays the disc
OFF
Switches to standby
Stop
Stops the disc
Open
Opens the disc tray
Fast reverse
Scans backwards
Next
Selects the next track
Fast forward
Scans forwards
Pause
Pauses the disc
Volume keys
Change the volume
Number keys
Select a track by number
Repeat
Repeats a track/disc
A-B
Repeats a section
Clear
Clears a selection
Mute
Mutes or restores the sound
Function
Selects a special function
Menu keys
Select or change the balance, phase, contrast, or brightness
Store
Stores a selection
Display
Changes the front-panel display
MERIDIAN
CD
RADIO
DVD
AUX
DISC
TAPE
TV
CABLE
SAT
VCR1
VCR2
GAME
OFF
Power
Page
Audio
Page
Open
Slow
Enter
Return
Menu
Setup
Repeat
A B
Subt tle
DSP
Phase
Function
Top Menu
#
Record
Band
Angle
OSD
Store
Clear
Display
Mute

Switching on and off

When not playing, the 808 should be left in the standby state. This uses a minimal amount of electricity, but ensures that the components of the 808 operate at maximum efficiency from the moment you start.

If you are not going to use the 808 for several days you should switch the unit off completely at the rear panel, and disconnect it from the AC power supply.

To switch on from standby

- Press ▲, ■, or ▶ (front panel), or select a source.

If the 808 is part of a Meridian system it will automatically switch on any other units in the system, such as the 861 Reference Digital Surround Controller and Meridian DSP Loudspeakers.

To insert a disc

- Press ▲ (front panel) or **Function** ■ (remote) to open the tray.
- Place your disc in the tray, label side up.
- Press ▲ (front panel), **Function** ■ (remote), or ▶ to close the tray.

To switch to standby

- Press **Off** (front panel or remote).

If you have other Meridian equipment or Meridian DSP Loudspeakers connected to the 808 these units will also switch to standby.

If a disc is currently playing, switching to standby will stop the disc, and the disc can safely be left in the unit.

Always remove any disc before moving or shipping the 808.

Playing a disc

The compact disc player allows you to play an entire disc, or start playing from any track. While a disc is playing you can go back to the start of the track or skip to the start of the next track.

If you have programmed a selection, these functions also work with the selection of tracks you have programmed. For information about programming see *Programming a selection*, page 13.

If you have other Meridian sources you should ensure that the 808 is the currently selected source.

To play the disc

- Press ▶ (front panel or remote).

The display will show your selection.

For example:

The display will then show the track number and elapsed time.

For example:

To restart the current track

- Press ⏮ (front panel or remote).

To move to the next track

- Press ▶ (front panel or remote).

To play starting from a particular track

- Press ⏭ or ⏮ (front panel or remote) to step through the track numbers until the track you want to play is displayed, or type the number of the track (remote only).

For example:

After a short delay the track you have selected will start to play.

Stopping and pausing play

To stop playback

- Press ■ (front panel or remote).

The display will show the total number of tracks on the disc.

For example: 

To pause playback

You can pause a disc while keeping it spinning, so that you can resume play instantly.

- Press ❚❚ (front panel or remote).

You can change tracks while the disc is paused using ⏮ or ⏭ (front panel or remote).

To continue after pausing

- Press ❚❚ or ▶ (front panel or remote).

Repeat

You can choose to play a track, disc, or selection repeatedly, so that when it has played it will start again from the beginning.

To continuously repeat a disc

- Press **Repeat** (remote or under the front panel) to select between the following options:

Display	Description
Repeat track	Repeat current track.
Repeat disc	Repeat entire disc.

To repeat between two positions

- Press **A-B** (**Function Repeat** on the remote) at the start of the section you want to repeat.

The display shows: Repeat A-

- Move to the end of the section you want to repeat.
- Press **A-B** (**Function Repeat** on the remote) again.

The display shows: Repeat A-B

The section you have specified will be played repeatedly.

To cancel A-B repeat

- Press **A-B**.

To cancel the repeat function

- Press **Repeat** (remote or under the front panel) again.

Scanning a disc

The scan controls allow you to move quickly to any position on the disc at either twice or eight times normal speed.

To scan through a disc

- Press ▶▶ or ◀◀ (remote or under the front panel) to select twice normal speed.
- Press ▶▶ or ◀◀ again to select eight times normal speed.

The display will show you the position on the disc.

For example: 

- Press ▶ (front panel or remote) when you have reached the position you want to play.

Alternatively press ▶▶ or ◀◀ again from eight times normal speed to return to normal playback.

Programming a selection

You can programme a selection of tracks and then play only the tracks you have programmed.

You can programme a selection either by storing the tracks you want to play, or by clearing the tracks you do not want to play. If you programme a selection by storing the tracks you want to hear, you can play the tracks in any order and repeat tracks in the sequence.

You can programme a selection while the disc is playing, in which case the selection will be played after the current track finishes.

To choose a track to programme

- Press ⏮ or ⏭ (front panel or remote) to step through the track numbers until the track you want is displayed, or type the number of the track you want.

To make a selection by adding tracks

- Choose the first track you want to play, as described above.

The display will show the track number.

For example:

- Press **Store** (remote or under the front panel).

The track will change from **Track** to **Store**, and all the other tracks will be marked **Clear**.

For example:

You should store the first track for a selection within two seconds, or it will begin to play.

To make a selection by omitting tracks

- Choose one of the tracks you do not want to play, as described above.

The display will show the track number.

For example:

- Press **Clear** (remote or under the front panel).

The track will change from **Track** to **Clear**, and all the other tracks will be marked **Store**.

For example:

You should clear the first track for a selection within two seconds, or it will begin to play.

To add or remove a track from a selection

- Select the track using ⏮ or ⏭ (front panel or remote).

Alternatively you can enter the track number using the remote.

- Press **Store** to add the track, or **Clear** to remove the track.

To clear a programme

- Press ■ (front panel or remote) twice.

The display will show:

A programme is automatically cleared if you open the disc drawer, or press **Off**.

Changing the absolute phase

You can use the remote to invert the absolute phase of the analogue output signal, which in some circumstances can give a noticeable improvement in realism.

To display the phase setting

- Press **Phase** (**Function ❚❚** on the remote).

The display will show: 

To change the phase setting

- Press **Phase** again.

The display will show the new phase setting.

For example: 

Changing the front-panel display

The 808 Anniversary System CD Player displays information about the current disc and settings on the 20-character front-panel display.

You can adjust the contrast and brightness of the front-panel display for optimum viewing, and choose what information is displayed.

To change the contrast or brightness

- Press ▶ or ◀ (remote), until the display shows the current contrast or brightness.

For example: 

- Press ▲ or ▼ (remote), to change the selected setting.

You can change the contrast or brightness between 0 and 15.

To change the displayed information

- Press **Display** (remote or under the front panel).

Each time you press **Display** the display will step between the following options:

Display option	Initial value in Type 1
Track and elapsed time	
Sampling rate, precision, and audio format	
Blank	

If the **Diagnostic displays** option has been selected, additional diagnostic displays are included.

Using the preamplifier features

The 808 Anniversary System CD Player includes a preamplifier, and can act as the controller for up to 11 other sources, and provide an optional volume control for the analogue inputs.

This chapter explains how to use these features from either the front panel or the MSR+.

Selecting a source

The 808 responds to the following 12 source keys on the remote:

CD, Radio, DVD, Aux, Disc, Tape, TV, Cable, Sat, VCR1, VCR2, and Game.

The CD source usually corresponds to the internal drive.

The Aux source usually corresponds to the internal Sooloos interface.

The input associated with each of the sources depends on how the 808 has been set up; for more information refer to the *Meridian Configuration Program Guide*.

Your installer may have customised the labels displayed for each source to suit your other equipment.

To select a source

- Press **Source** (under the front panel) until the display shows the source you want, or press the appropriate source key on the remote; eg **CD**.

The display shows the source and volume setting.

For example, if you select the Radio source:

The display shows:

The 808 mutes the sound while you change source.

To play music from a Sooloos server

Either:

- Press **Source** (under the front panel) until the display shows SLS, or press the **Aux** key on the remote.

Or:

- Select the 808 zone from the Sooloos controller.

You can then listen to music streamed from the Sooloos server.

The volume and mute controls on the Sooloos controller will operate the 808.

To control the Sooloos server

When the SLS source is selected you can control the Sooloos server from the 808 front panel controls.

- Press ▶, ❚❚, or ■ to control playback.
- Press ⏮ or ⏭ to step between tracks in the server's play queue.

For more information please refer to the *Meridian Sooloos Network Card Guide*.

Adjusting the system volume

The 808 Anniversary System CD Player provides an optional volume control on the analogue outputs, enabling it to drive amplifiers or active loudspeakers directly, and you can adjust the volume using the front panel or remote.

The volume changes in precise steps of 1dB, where 9dB is equivalent to doubling the loudness. The current volume setting is displayed in dB on the front-panel display, and can be varied in the range 1 to 99dB.

To change the volume

- Press **Volume ▲** or **Volume ▼** (under the front panel), or the red ▲ or ▼ keys on the remote.

As you adjust the volume setting the display shows the current volume level.

For example:

To mute the sound

- Press **Mute** (remote or under the front panel).

The display shows:

To restore the sound

- Press **Mute** again.

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

Changing the balance

To change the balance

- Press ◀ or ▶ (remote) until the display shows the current balance.

For example:

- Press ▲ or ▼ (remote) to move the listening position.

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

For example:

The arrow indicates the direction, and the number indicates the position where 0 is central, 8 is in line with the corresponding main speaker, and 10 is fully to one side.

Installing the 808 Anniversary System CD Player

This chapter explains how to install the 808 Anniversary System CD Player. It describes what you should find when you unpack the product, and how you should connect it to the other equipment in the system.

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

Unpacking

The 808 Anniversary System CD Player is supplied with the following accessories:

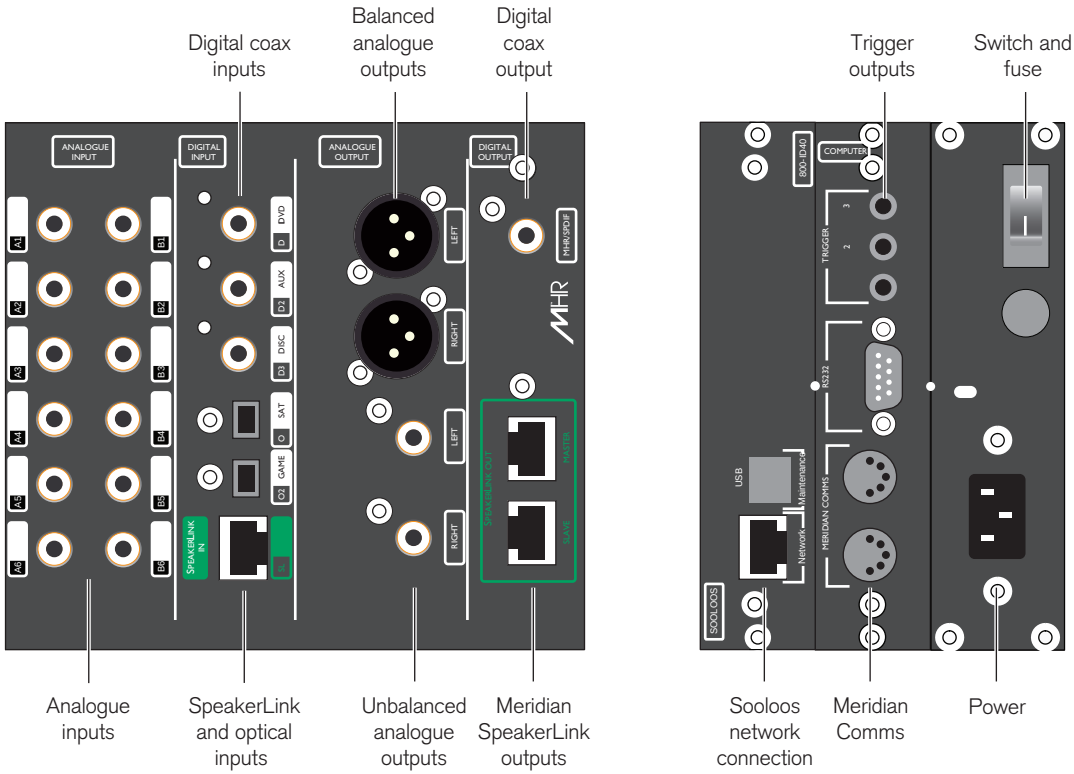
- MSR+ remote control with batteries, manual, and spare key caps.
- Meridian Comms lead.
- Power cord.
- This manual.

If any of these items are missing please contact your dealer.

NOTE: You should retain the packaging in case you need to transport the unit.

Back panel

The following diagram gives details of the back panel connections:



Audio outputs

Use this output	To connect to this
BALANCED OUT	The balanced analogue inputs of a preamplifier, or a power amplifier such as the G57, using XLR leads.
ANALOGUE OUT	The unbalanced analogue inputs of a preamplifier, or a power amplifier such as the G57, using analogue phono leads.
DIGITAL OUT	The digital input of a surround processor, such as the 861 Reference Digital Surround Controller, or DSP loudspeakers, using a 75Ω digital cable.
MERIDIAN SPEAKERLINK	DSP Loudspeakers with Meridian SpeakerLink connectors, using SpeakerLink leads. Use the upper socket for the Master speaker.

Audio inputs

Use this input	To connect to this
ANALOGUE IN A1+A2 (Radio), A3+A4 (TV), A5+A6 (Cable), B1+B2 (Tape), B3+B4 (VCR1), B5+B6 (VCR2)*	The analogue outputs of a source, such as a TV or tape deck.
DIGITAL INPUT D1 (DVD), D2, D3	The digital output of a source such as a DVD player.
SPEAKERLINK INPUT SL1 (Disc)	The SpeakerLink output of a Meridian source, using a Meridian SpeakerLink lead.
OPTICAL INPUT O1 (Sat), O2 (Game)	The optical output of a source such as a satellite receiver.
NETWORK (Aux)	A Meridian Sooloos Digital Media System.

* In each case the odd-numbered input is the left channel and the even-numbered is the right channel.

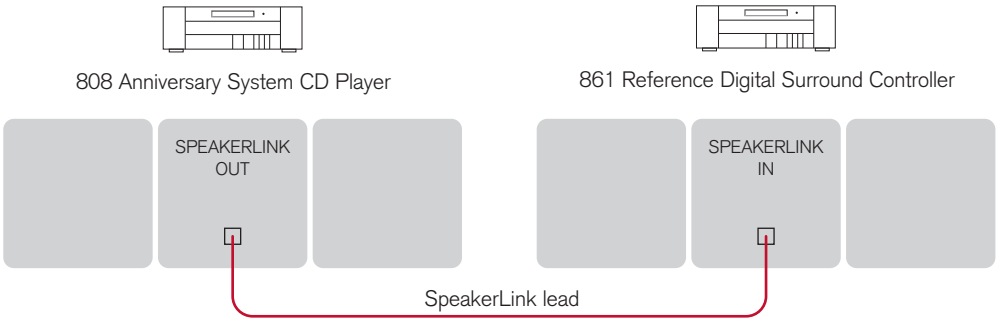
The default assignment of the source to each input is shown in brackets after the input name in the above table. CD corresponds to the internal CD player.

Communications connections

Use this connection	To connect to this
MERIDIAN COMMS	Other Meridian equipment, or Meridian DSP loudspeakers.
RS232 connection	A computer, for configuring the 808, or a serial control system.
TRIGGER OUTPUT 1, 2, 3	Equipment to be triggered by a 12V 100mA signal.

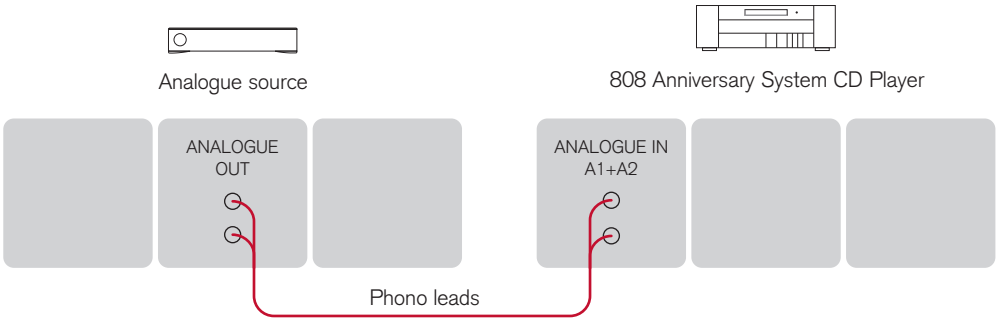
Applications

To connect to an 861 Reference Digital Surround Controller



- Connect the SpeakerLink output from the 808 to the SpeakerLink input on the 861, using a SpeakerLink lead.

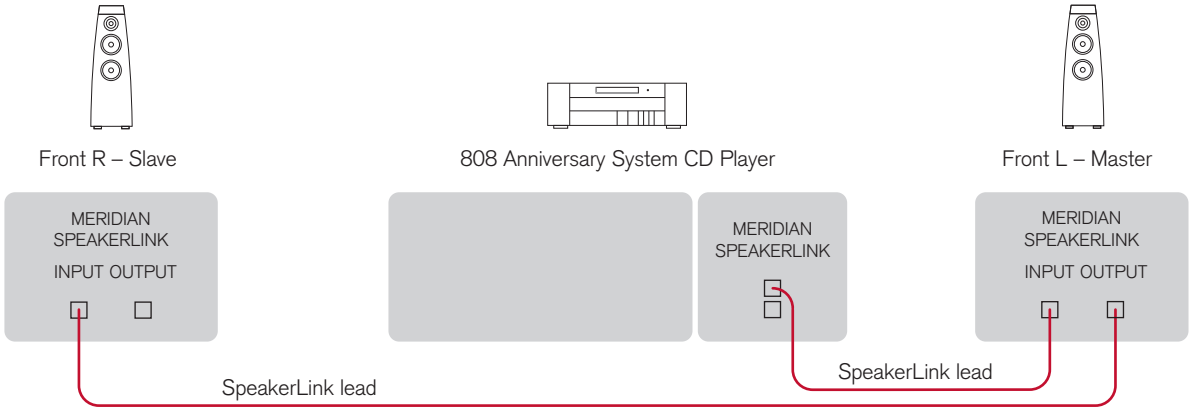
To connect to an analogue source (eg TV tuner)



You can connect up to six analogue sources to the 808 Anniversary System CD Player

- Connect the analogue source to one of the analogue input sockets of the 808, using screened coax phono leads.

To connect to DSP loudspeakers using SpeakerLink (daisy chain)



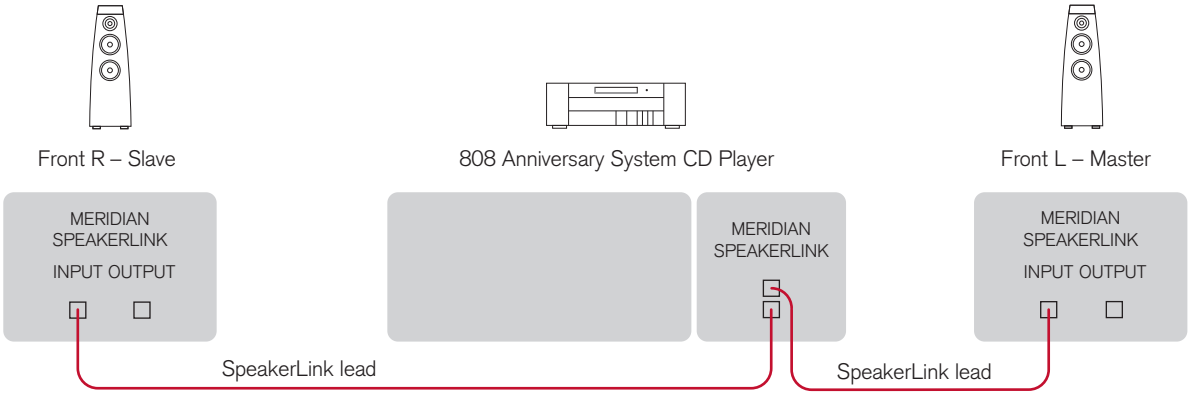
The 808 can be connected directly to Meridian DSP loudspeakers to create a complete compact stereo system, with volume and other preamplifier controls provided by the loudspeakers via the MSR+ or the front panel.

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 next section.

- Connect the upper SpeakerLink output from the 808 to the SpeakerLink input on the DSP loudspeaker chosen as the master, using a SpeakerLink lead.
- Connect the SpeakerLink output from the master DSP loudspeaker to the SpeakerLink input on the other (slave) DSP loudspeaker, using a second SpeakerLink lead.
- Configure the loudspeakers as described in the *Meridian DSP Loudspeaker User Guide*.

To connect to DSP loudspeakers using SpeakerLink (home run)



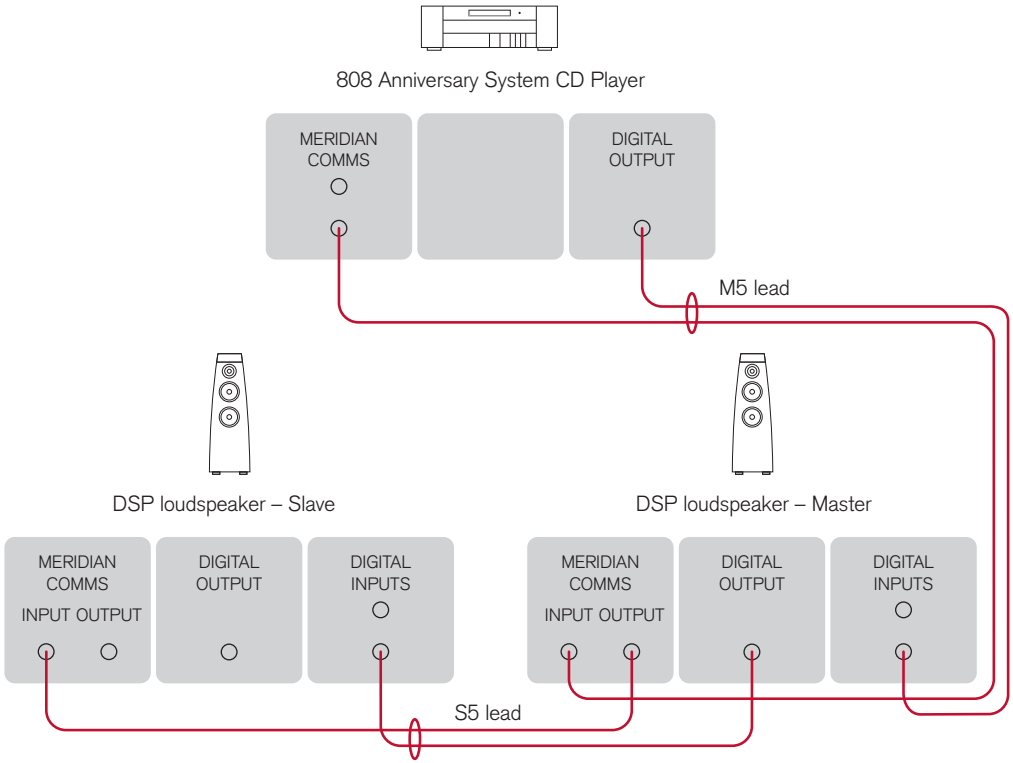
The 808 can be connected directly to Meridian DSP loudspeakers to create a complete compact stereo system, with volume and other preamplifier controls provided by the loudspeakers via the MSR+ or the front panel.

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 previous section.

- Connect the upper SpeakerLink output from the 808 to the SpeakerLink input on the DSP loudspeaker chosen as the master, using a SpeakerLink lead.
- Connect the lower SpeakerLink output from the 808 to the SpeakerLink input on the other (slave) DSP loudspeaker, using a second SpeakerLink lead.
- Configure the loudspeakers as described in the *Meridian DSP Loudspeaker User Guide*.

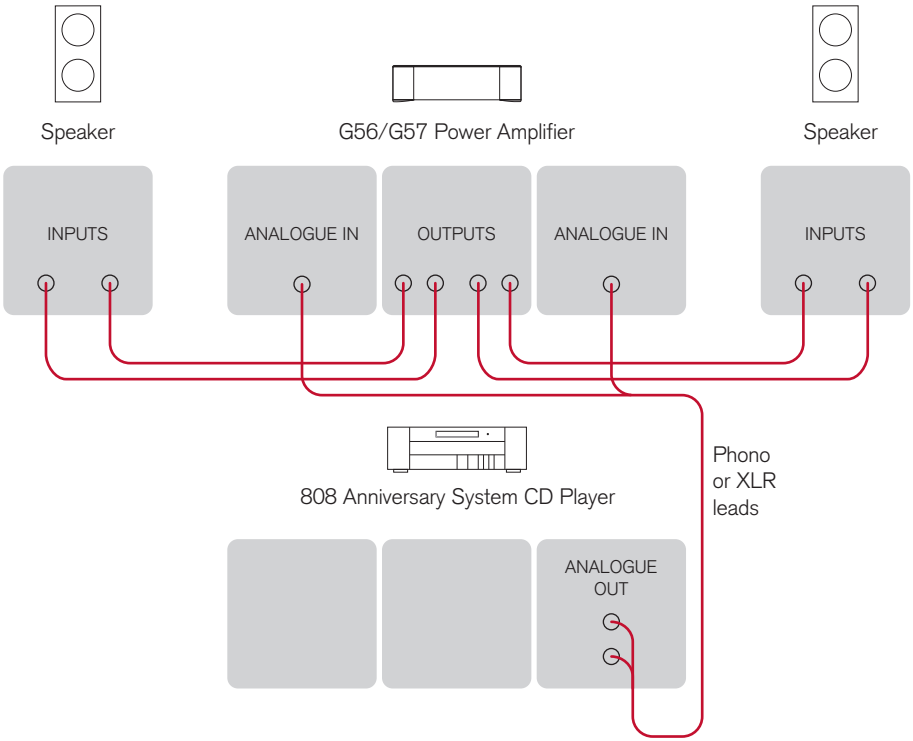
To connect to DSP loudspeakers using the digital and Comms connections



If your DSP loudspeakers do not provide Meridian SpeakerLink connections you can connect to them using the Digital and Meridian Comms connections.

- Connect the DIGITAL OUTPUT and a COMMS socket from the 808 to DIGITAL INPUT 1 and the COMMS input on the DSP loudspeaker chosen as the master, using an M5 lead.
- Connect the DIGITAL and COMMS outputs from the master DSP loudspeaker to DIGITAL INPUT 1 and the COMMS input on the other (slave) DSP loudspeaker, using an S5 lead.
- Configure the loudspeakers as described in the *Meridian DSP Loudspeaker User Guide*.

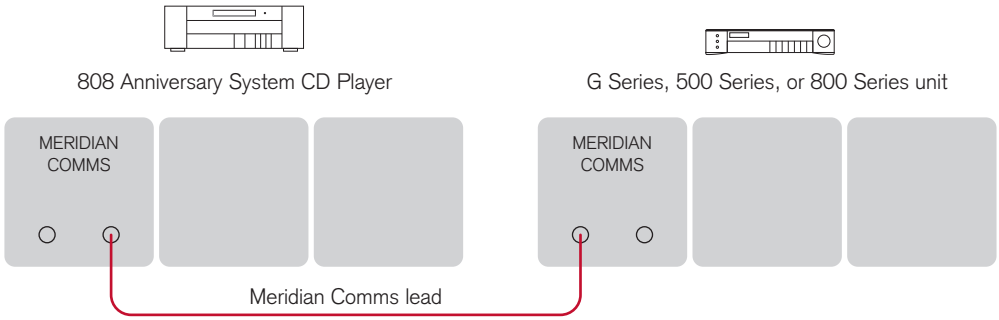
To connect to a power amplifier



The 808 includes an integrated preamplifier, allowing you to connect it directly to a pair of analogue active loudspeakers, or to analogue passive loudspeakers via a power amplifier.

- Connect the ANALOGUE OUTPUT connections from the 808 to the inputs of the analogue active loudspeakers or power amplifier.

To connect to other Meridian G Series or 800 Series equipment



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

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

- Connect one of the DIN COMMS sockets on the back panel of the 808 to one of the COMMS sockets on another G Series, 500 Series, or 800 Series unit, using the Comms leads provided with the products.

The sequence in which you connect the units is not important.

- Switch all the units to standby.
- Press **Clear** (remote).

Each unit will display: Auto

One unit will then be designated as the controller.

The display shows: Controller

All the other units will be configured as non-controllers.

The displays show: Not 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 *Choosing a standard setting*, page 32.

Do not, under any circumstances, connect any equipment other than Meridian G Series or 800 Series to any socket marked COMMS on the back of the product.

Configuring the 808 Anniversary System CD Player

This chapter explains how to set up the 808 Anniversary System CD Player for most standard configurations of your other equipment, using just the front-panel controls and MSR+.

For complete control over all aspects of the unit's configuration it is recommended that you set up the unit using the Meridian Configuration Program; for full information see the *Meridian Configuration Program Guide* available separately.

Choosing a standard setting

The 808 provides two standard settings, called Types, which configure all aspects of the 808 into standard configurations.

These standard Types are shown in the following table:

Type	Description
1	Fixed output, for use with Meridian DSP loudspeakers.
2	Variable output, for use with power amplifiers and analogue loudspeakers.

In addition, your installer may have provided one or more named User Types, with settings appropriate to the configuration of equipment when your 808 was installed.

You can reset the configuration of the 808 to any of these Types to restore it to the state it was in when it was installed. **Note:** Selecting a Type will clear any configuration changes you have made.

To select a standard setting

Warning: this procedure will reset any configuration changes you have made.

- Switch off any power amplifiers that are connected to the 808 and put any digital speakers into standby.
- Put the 808 into standby by pressing **Off** (front panel or remote).
- Press and hold down **Volume ▲** (under the front panel).

The display shows: 

- Keep holding down **Volume ▲** for a further three seconds.

The display shows: 

Then after a short delay the display shows the current Type.

For example: 

- Press ▲ or ▼ on the front panel to change the Type number.

The display shows: 

- Wait for one second, and then put the 808 into standby by pressing **Off** (front panel or remote).
- Switch on again to use the standard settings you have selected.

Setting up sources

This section explains how to use Gain mode to set up the analogue sources connected to the 808.

To turn on Gain mode

- Put the 808 into standby by pressing **Off** (front panel or remote).
- Press and hold the **Volume** ▼ key under the front panel for at least five seconds.

The display shows: `Gain On`

The 808 will then return to standby with Gain mode turned on.

Gain mode adds an extra **Sensitivity** option to the menus.

To turn off Gain mode

- Repeat the above procedure.

The display shows: `Gain Off`

To adjust the sensitivity of a source

To obtain the best signal-to-noise ratio for your analogue sources you can adjust the sensitivity of each input to give the highest level that does not produce clipping.

- Turn on Gain mode, as described above.
- Select the source you want to adjust, with loud source material playing.
- Press ◀ or ▶ (remote) until the display shows the current sensitivity.

For example: `Radio 2.0V In`

- Press ▲ or ▼ (remote) to change the sensitivity.

You can select between sensitivities of 0.5V (most sensitive), 1.0V, 2.0V, or 2.5V (least sensitive).

If the sensitivity is set too high the input will clip the loudest passages. The display shows:

For example: `Radio 0.5V In Clip`

In this case reduce the sensitivity.

If you have selected a digital source you cannot adjust the sensitivity. The display shows:

For example: `CD  Not Analogue`

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DSP8000 Anniversary System Loudspeakers User Guide

Contents

Introduction

Welcome to the Meridian DSP8000 Anniversary System Loudspeakers.

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.

DSP8000 Anniversary System Loudspeakers

The DSP8000 Anniversary System Loudspeakers represent 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 upsample 44.1kHz and 48kHz signals to 88.2kHz and 96kHz.
- 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 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.

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

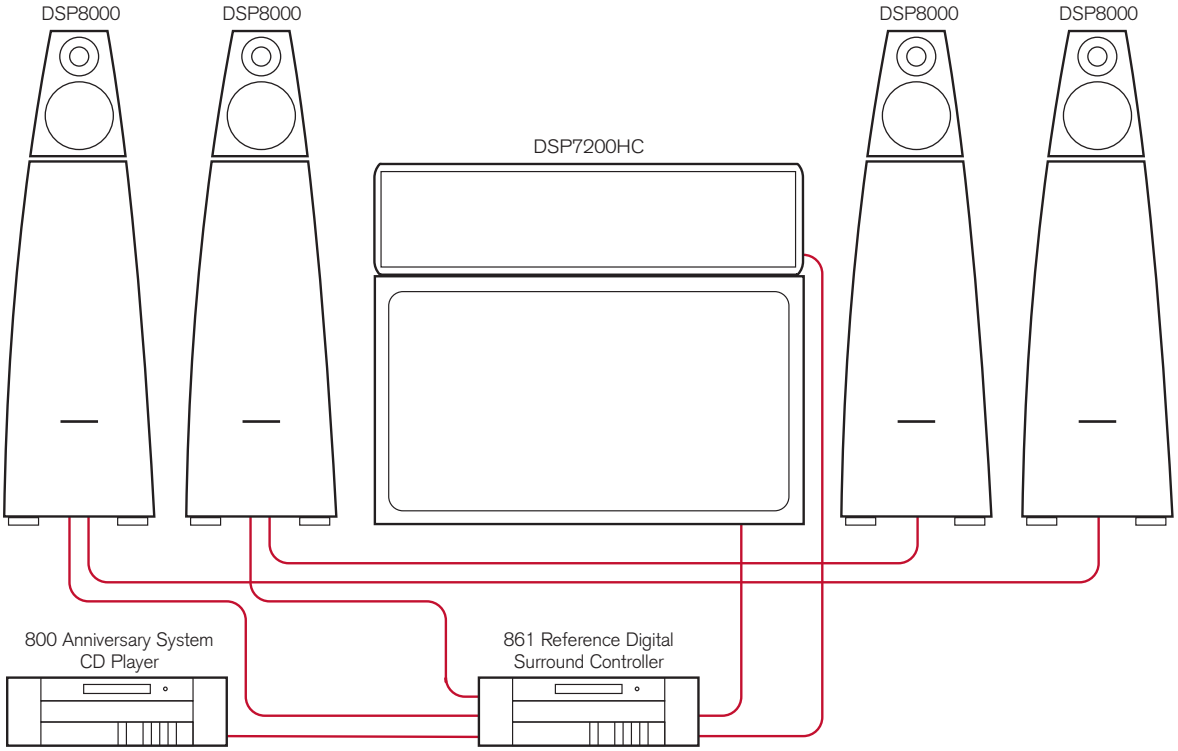
The Meridian DSP loudspeakers are part of the Meridian family of advanced digital, analogue, and video components, and these incorporate a sophisticated communications link, to allow you to control any combination of units using a single remote, and ensure that they will work together as a fully integrated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

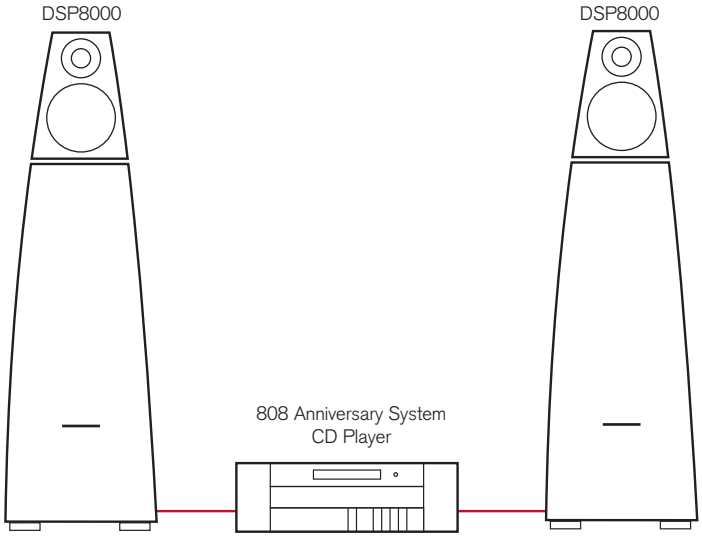
Meridian Digital Theatre™



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 Meridian DVD Player is an ideal source for use with DSP loudspeakers. It allows you to play both audio CDs and DVD movies, with the audio kept in digital form until the last possible stage.

Meridian Digital Music System



Meridian DSP loudspeakers include DSP volume and tone controls, and can be connected directly to up to two digital sources to create an extremely 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.

Digital formats

- 44.1–96kHz. FIFO locks at 44.1, 48, 88.2, or 96kHz ±150ppm.
- PCM using SPDIF/IEC60958, or MHR connection support with auto-detection.

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.

Characteristics

- Distortion typically <0.01%, or <0.02% up to full power at all frequencies.
- 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-35kHz.

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 Anniversary System 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 33.

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.

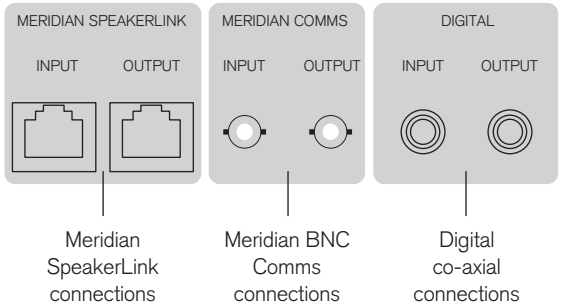
If possible, have the most acoustically absorbent wall in the room behind the front speakers. Ideally have each DSP8000 loudspeaker at least 0.5m (20") from a corner, and position them approximately 0.25m (10") from the wall.

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:



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 with a Meridian SpeakerLink connector, such as a Meridian G Series digital surround controller, digital preamplifier, CD player, or DVD player.
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:

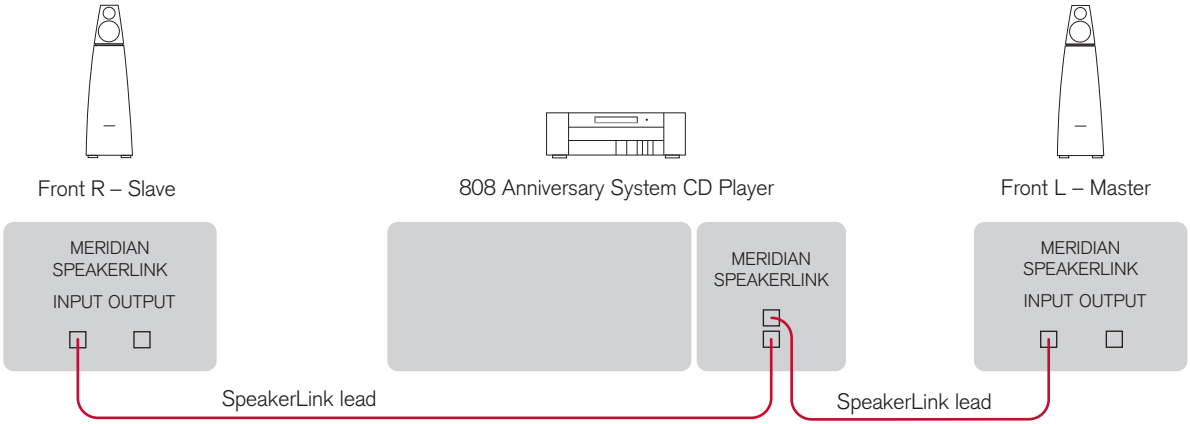
Use this connection	To connect to this
MERIDIAN COMMS INPUT	The BNC COMMS connection on a Meridian control unit or preamplifier.
MERIDIAN COMMS OUTPUT	The BNC COMMS INPUT on a second DSP loudspeaker.
DIGITAL INPUT	A digital source such as a Meridian G Series digital surround controller, digital preamplifier,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



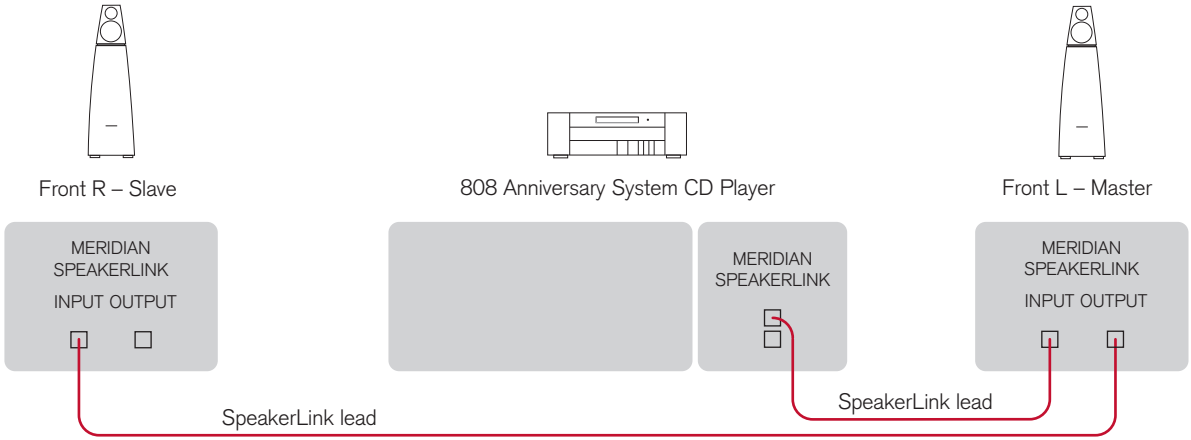
You can create a complete system by connecting a pair of DSP8000 loudspeakers directly to a digital source. The DSP loudspeakers include volume, balance, and tone controls allowing you to control the system using an MSR+.

If the Meridian source or control unit includes a Meridian SpeakerLink output, such as the 808 Anniversary System 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)



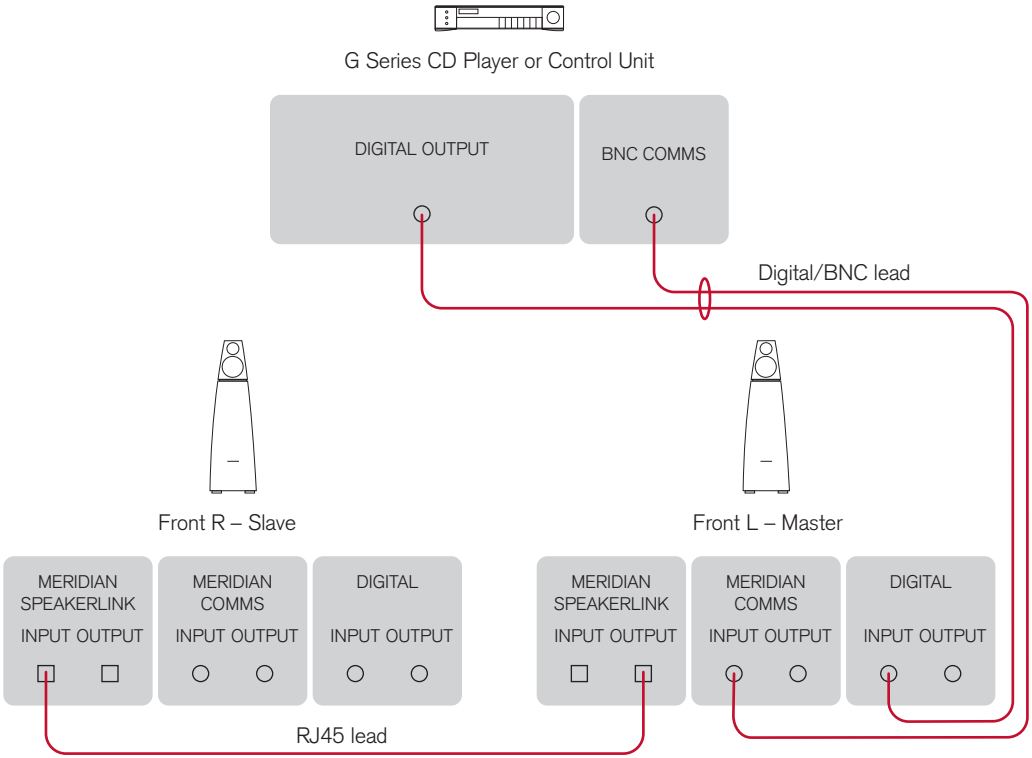
You can create a complete system by connecting a pair of DSP8000 loudspeakers directly to a digital source. The DSP loudspeakers include volume, balance, and tone controls allowing you to control the system using an MSR+.

If the Meridian source or control unit includes a Meridian SpeakerLink output, such as the 808 Anniversary System 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



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: 

One unit will then be designated as the controller.

The display shows: 

All the other units will be configured as non-controllers.

The displays show: 

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 Anniversary System 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:

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 27.

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	
Meridian source display (dashes if not present)	
Audio format	
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 31.

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:

To mute the sound

- Press **Mute** on the remote.

The display will show:

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: 

- 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: 

- 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: 

- 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:

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

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

For example:

There are 32 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:

- 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 Anniversary System 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 D1 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: 

- Release the remote key.

The display will show: 

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 27.

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

The display shows: 

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: 

- 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	
Compatibility (G, 500, 200 Pre, or 200 CD)*	
Controller mode (Auto, Con, or NCon)	
System address (1–8)	
Product address (1–8)	
Volume mode (1=normal, 2/3=second or additional room)	
Balance control (N or Y)	
Centre menus? (N or Y)	
Diagnostic displays? (N or Y)	

* 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.

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: 

- 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.

Configuring the setup options

The setup options allow you to adjust the frequency response of the loudspeakers to compensate for their position. You only need to configure the master loudspeaker.

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

To select Setup mode

- Turn off the DSP loudspeaker using the power switch on the back panel.
- Turn on the power again while holding down the **Store** key on the remote.

The display will show: 

It will then revert to standby:

The display shows: 

You can now operate the speaker in the usual way, using the additional setup menus to adjust the response while listening to sources.

When you have finished adjusting the setup options:

- Switch off at the back panel, and then switch on again to restore normal operation with the setup you have programmed.

To adjust the frequency response

- Press **Function** ▶ or **Function** ◀ until the display shows the current response setting.

For example: 

- Press **Function** ▲ or **Function** ▼ to select the appropriate option as follows:

Option	What it means
	Flat frequency response.
	Speaker closer than 0.5m (20") to a wall.
	Applies a second-order high-pass filter at 80Hz for use with an analogue subwoofer.
	Applies a second-order high-pass filter at 120Hz for use with an analogue subwoofer
	Speaker closer than 0.5m (20") to a corner.

To adjust the centre frequency response and tilt offset

If your system includes a DSP centre speaker you should set **Centre Y** on the master speaker. An additional frequency response option is then provided to allow you to adjust the centre speaker, with the options:

C.Free, **C.Boun.**, **C.Sub 1**, **C.Sub 2**, and **C.Corner**.

- Press **Function ▶** or **Function ◀** until the display shows the current centre frequency response.

For example: 

- Press **Function ▲** or **Function ▼** to select the appropriate option for the centre speaker.

An additional centre tilt offset option is also provided. The centre tilt offset is added to the treble value for the selected source. The recommended setting is -1dB when the speaker is positioned above a television.

- Press **Function ▶** or **Function ◀** until the display shows the current centre tilt offset.

For example: 

- Press **Function ▲** or **Function ▼** to adjust the centre tilt offset.

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 **Function ▶** or **Function ◀** until the display shows the current ambient temperature setting.

For example: 

- Press **Function ▲** or **Function ▼** to specify the ambient temperature.

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

To store the settings

Once you have adjusted the frequency response for the speakers in your system you should store the settings using the following procedure:

- Press **Function Store**.

The display shows: 

- Turn off the DSP8000 loudspeaker using the power switch on the back panel.

When you turn on the power again the speaker will operate normally with the setting you have stored.

Troubleshooting

This chapter provides suggested solutions to typical problems that may occur when setting up the DSP8000 Anniversary System 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 *Configuring the setup options*, page 28. Note that this may be deliberate by your dealer.

Configuring the DSP8000 loudspeaker does not have any effect

Make sure that you are configuring the DSP8000 loudspeaker used as the master digital loudspeaker in the system. This determines the configuration of sources and setup options for all slave digital loudspeakers in the system.

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.

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