

*user guide*

**Meridian DSP33 Digital Loudspeaker System**

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# **Meridian DSP33 Digital Loudspeaker System User Guide**

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Part no: DSP33

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# **Contents**

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## **Introduction**

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Introduces the DSP33 Digital Loudspeaker System, and gives guidelines and suggested layouts to help you plan your surround system.

The DSP33 Digital Loudspeaker System .....	2
Sample configurations .....	5
Specification and accessories .....	7

## **Setting up the DSP33 Digital Loudspeaker System**

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Describes how to unpack and install the digital loudspeakers and explains how to connect them to your equipment.

Unpacking .....	10
Positioning the digital loudspeakers .....	11
Connecting the loudspeakers .....	13
Connecting the digital loudspeakers .....	15

## **Using the DSP Digital Loudspeaker System**

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Provides step-by-step instructions for operating the digital loudspeakers in compact systems with no other preamplifier or control unit.

Selecting a source .....	20
Adjusting the volume .....	21
Adjusting the balance or phase .....	22

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## Configuring the DSP33 loudspeakers using a computer 23

---

Describes how to configure the digital  
loudspeakers using the Meridian  
Configuration program.

## Troubleshooting 35

---

The Meridian Configuration program .....	24	Provides suggested solutions to typical problems.
Running the Meridian Configuration program .....	25	
Creating a new settings file .....	27	Troubleshooting .....
Changing the setup options .....	29	Service and guarantee .....
Setting up sources .....	31	
Completing the configuration .....	34	Index .....

# Introduction

The Meridian DSP33 Digital Loudspeaker System combines the latest acoustic and drive unit technology with multiple built-in power amplifiers and advanced high precision digital signal processing. The result is a speaker that produces extremely high-quality sound from a compact enclosure, and is ideal either as part of a stereo system or a full home theatre.

For instructions on setting up the loudspeakers turn to the next chapter, *Setting up the DSP33 Digital Loudspeaker System*. Once they have been set up refer to *Using DSP33 Digital Loudspeaker System*, page 19, for information about getting the best results from all your music and film recordings.

# The DSP33 Digital Loudspeaker System

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The DSP33 Digital Loudspeaker System incorporates the result of several years of research and development into innovative technologies.

## Digital Signal Processing

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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 DSP33 would be virtually impossible to implement in analogue circuitry.

The DSP33 takes advantage of DSP for several different functions:

- To remove timing variations from the incoming digital signals (de-jittering).
- To split the frequency band between the treble and bass 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 bass extension by boosting the bass at moderate levels to take full advantage of the capabilities of the drive units.

If you are using the DSP33 Digital Loudspeaker System with a digital source, such as CD or DVD, the signals remain in digital form until the last possible stage.

## DSP33 drivers

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Each DSP33 loudspeaker uses two parallel 125mm (5") bass drive units. These incorporate a cast alloy chassis and a carbon fibre cone, and have a very large magnet which provides excellent drive and control. Combined with the Meridian's active bass extension technology, they provide surprisingly rich, deep bass, quite unprecedented for this size of cabinet.

The treble unit is a very high quality 25mm (1") aluminium dome with a Neodymium magnet and a protective grille. It is extremely well matched to the woofer, and also tonally very compatible with the other speakers in the Meridian range.

## **Power amplifiers**

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The speakers are driven by two high-power low-feedback power amplifiers. The combination of idealised magnetic design, careful star earthing, and very fast output devices give the amplifiers extremely low noise, high detail, and fast bass.

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

## **Cabinet**

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Each DSP33 loudspeaker is built around a precision manufactured aluminium cabinet. The rigidity of this material, combined with the built-in structural elements, gives incredibly low levels of cabinet resonance, which is further reduced by additional damping. This results in a cabinet of exceptionally low colouration, giving the loudspeaker amazing mid-range transparency.

## **Mounting options**

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The DSP33 is designed to be used either vertically or horizontally mounted and uses fully shielded drive units so that it can be placed above or below a television without interference. If ordered as a centre it is supplied with a plinth, which can be used to give rigid support and tilt the centre channel towards the listener.

## **Meridian High Resolution (MHR)**

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The DSP33 Digital Loudspeaker System supports 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.

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## Meridian Comms

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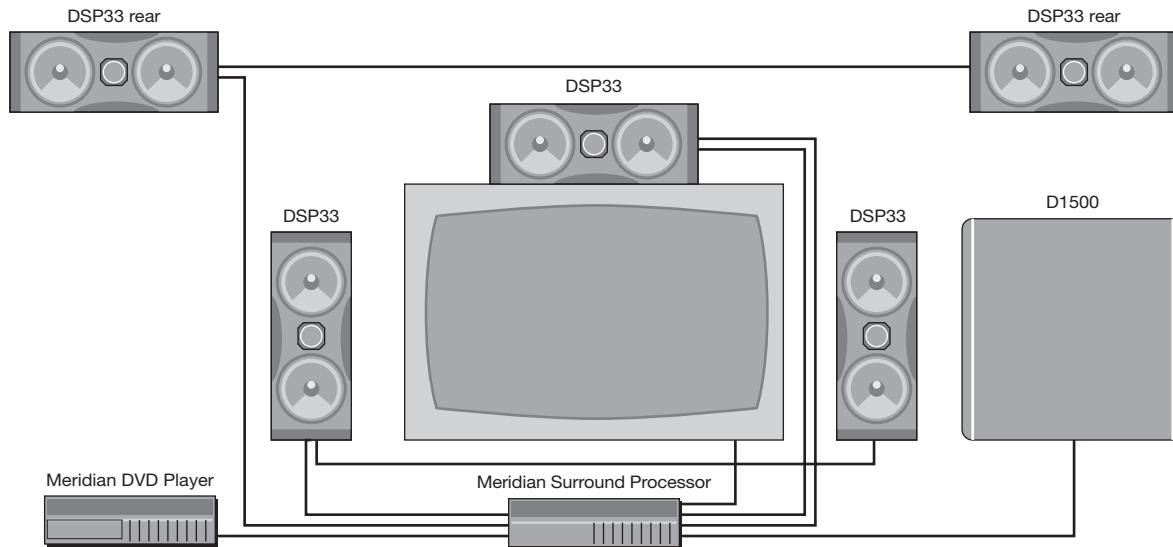
The DSP33 Digital Loudspeaker System is part of the Meridian family of advanced digital, analogue, and video components, and these incorporate a sophisticated communications link, to allow you to control any combination of units using a single remote, and ensure that they will work together as a fully 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 DSP33 Digital Loudspeaker System to illustrate the flexibility of Meridian components.

# Sample configurations

## Meridian Digital Compact Theatre™

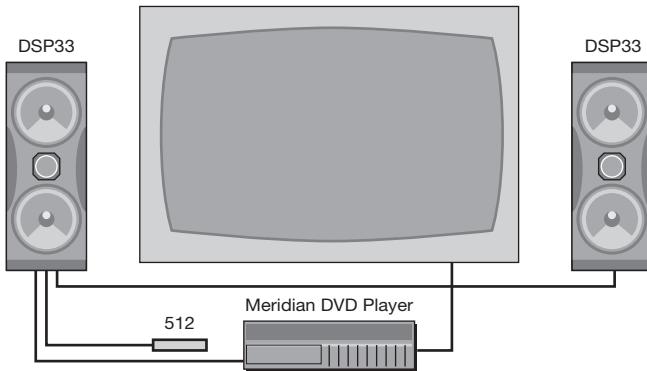


Five DSP33 loudspeakers can be used in conjunction with a Meridian Surround Processor to create a compact surround system with superb music and cinema sound.

The DSP33 provides an unusually good response for such a compact case, and can be mounted either horizontally or vertically for total flexibility.

A Meridian D1500 Digital Subwoofer can be added for extended bass performance.

## DSP33 Digital Loudspeaker System



The DSP33 can be connected directly to almost any source that provides a PCM SPDIF output, including CD or DVD players, some PC soundcards, and digital satellite decoders. The DSP33 includes a DSP volume control, and with Meridian sources this operates seamlessly via the 500 comms system.

Alternatively, the volume can be controlled with the Meridian System Remote using the optional 512 Remote Eye, or via the RS232 interface using the optional RS232 lead.

## Other applications

Other applications include:

- High-quality multimedia PC speakers with RS232 control of volume etc.
- Surround speaker in a Meridian Digital Theatre (extra S5 lead required).
- Main speaker in a Digital Music System with a Meridian CD Player (512 and D5 lead required).
- Main speakers with another source of digital audio; eg satellite (512, D5 lead and MSR required).
- Second zone speaker in a Meridian two-room plus system (long M5 lead, 512, D5 lead, and MSR required).

These applications may require additional accessories; for more information see *Available accessories*, page 8.

# Specification and accessories

## Specification

<b>Digital inputs</b>	2 x cable, 75Ω, IEC958, 32-96kHz. FIFO locks at 44.1, 48, 88.2, or 96kHz ± 150ppm.  1 x digital output cable, 75Ω, IEC958, providing a copy of the selected input.	<b>Frequency response</b>	In room response within 3dB, 60Hz-20kHz, lower at moderate volumes.
<b>Processing</b>	1 x Motorola 56364 running at 100MHz.	<b>Crossover</b>	Linear-phase ±30° at 2.3kHz.
<b>Power amplifiers</b>	Low feedback complementary bipolar design, with output-stage error correction and twin loop design.  Treble: 50W RMS.  Bass: 85W RMS.	<b>Drive units</b>	Woofers: 2 x 125mm (5") carbon fibre custom drivers, cast alloy chassis.  Tweeter: 1 x 25mm (1") aluminium dome neodymium magnet, with protective grille.
<b>Digital to analogue conversion</b>	24-bit Delta-Sigma.	<b>Control</b>	2 x Meridian Comms.  9-pin D connector for RS232 PC setup and control, null modem, 9600 baud, 2N1, no handshake.
<b>Distortion</b>	Typically <0.01%, or <0.05% up to full power at all frequencies.	<b>Cabinet</b>	Extruded and cast aluminium with bracing elements.
<b>Noise and hum</b>	<-95dB at all volume settings.	<b>Dimensions</b>	150mm x 395mm x 210mm (5.9" x 15.6" x 8.3") (W x H x D).
<b>Acoustic output</b>	Typically >104dB spl @ 1m.	<b>Weight</b>	9.5kg (21lb) each.
<b>Acoustic noise</b>	<15dB spl @ 1m.	<b>Power</b>	100-125; 200-250V AC 50-60Hz. 6VA idle; 200VA max.
			Meridian Audio reserves the right to amend product specifications at any time.

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## Available accessories

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The DSP33 is shipped ready to be used as the front speakers in a small Meridian Digital Theatre with a Meridian DVD Player (such as the 800 or 580) or a Meridian Digital Surround Controller (such as the 861, 568, or 561).

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

- Meridian System Remote.
- 512 Remote Eye for remote control reception.
- D5 lead for connecting between the 512 and DSP33.
- Additional S5 leads (8m and 14m).
- 511 S-patch box if connecting more than two DSP33s to a 561 Digital Surround Controller or 568 Digital Surround Processor.

# **Setting up the DSP33 Digital Loudspeaker System**

**T**his chapter explains how to install the DSP33 Digital Loudspeaker System. 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.

**B**efore you begin installation you should ensure that your digital loudspeaker system is the correct voltage for your local AC supply. If it is not, do not try to install the unit, and contact your dealer.

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

# Unpacking

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The digital loudspeaker system is supplied in a box containing the following components:

- DSP33 Loudspeaker(s) complete with grille.
- Four self-adhesive feet per speaker.
- This user guide.
- Power cord suitable for your territory per speaker.
- Meridian M5 lead.
- Meridian S5 lead.
- Meridian Configuration program.
- RS232 cable.
- R reset plug (see page 13).
- Centre channel plinth (if ordered as a centre channel).

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

## Radio interference

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**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.



# Positioning the digital loudspeakers

## Safety warnings

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

## To avoid overheating

Do not position the speakers:

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

The DSP33 cabinet acts as a heatsink and requires adequate ventilation. Ensure that air can flow around it.

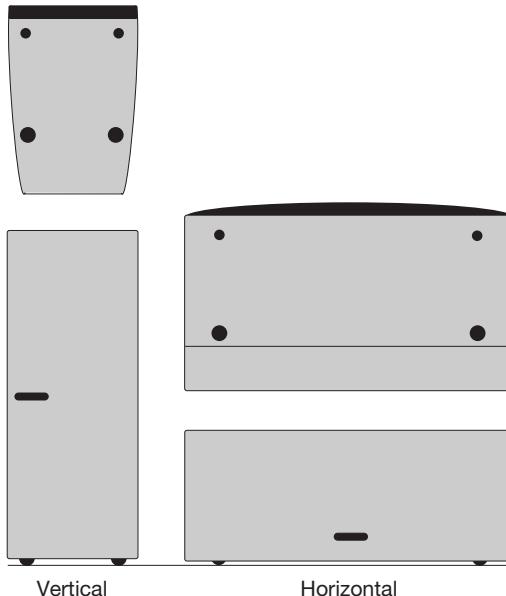
## To avoid interference

Do not position the speakers:

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

## To position the digital loudspeakers

The DSP33 loudspeakers can be used either horizontally or vertically. If the DSP33 is mounted on a bookshelf, or mounted horizontally on top of a television, the feet should be attached as shown below. The best sound will only be obtained if the DSP33 is firmly mounted, and does not rock when pushed.



## To obtain the best sound

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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 DSP33 at least 0.5m (20") from a corner.

If the speakers are mounted on stands, position them approximately 0.25m (12") from the wall.

If you are using the speaker as a centre channel, place the speaker centrally between the main left-right pair and, if possible, arrange for the tweeters of the three speakers to be approximately the same height. The plinth allows the centre channel to tilt towards the listener for optimum imaging.

## To wall mount the digital loudspeakers

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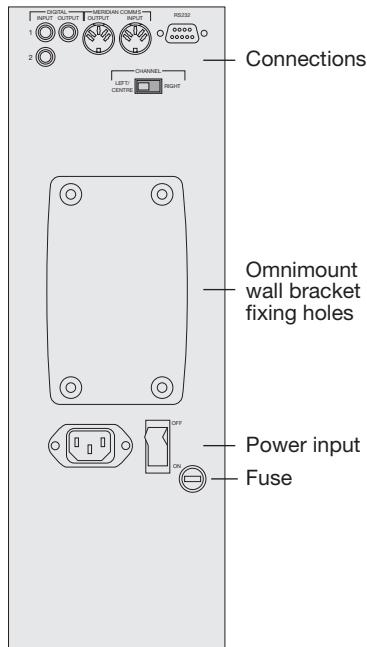
The DSP33 has been designed to be secured with an *OmniMount 75 Series* wall bracket, details of which may be obtained from OmniMount Systems, USA (818-766-9000). The mounting bolts are shown on the back panel. These are M6 Allen Bolts. Do not use any other bolt for the OmniMount bracket. Please follow the instructions for fitting provided with the bracket. It is entirely the responsibility of the installer to ensure that the DSP33 is securely fastened.

No other bolts should be undone on the rear panel.

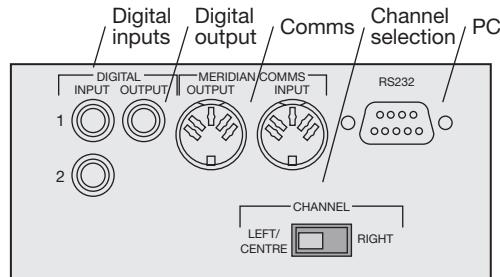
**Caution:** The DSP33 is heavy for its size.

# Connecting the loudspeakers

## Back panel



The following diagram gives details of the rear panel connections:



## To reset the configuration of the digital loudspeaker

The following procedure can be used to reset the configuration of the DSP33 loudspeaker to the default settings, without needing a computer, using the R reset plug supplied.

- Unplug the COMMS connections.
- Plug the R reset plug into the COMMS input socket.
- Switch the loudspeaker off, and then on again.
- Replace the original COMMS connection.

## Digital connections

The following table gives details of the digital audio inputs:

<i>Use this input</i>	<i>To connect to this</i>
DIGITAL INPUT 1,	A digital source, such as a digital preamplifier, digital control unit, CD player or DVD player.
DIGITAL INPUT 2	
DIGITAL OUTPUT	A second (slave) DSP loudspeaker, using an S5 lead.

The digital connections should be made with high-quality  $75\Omega$  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.

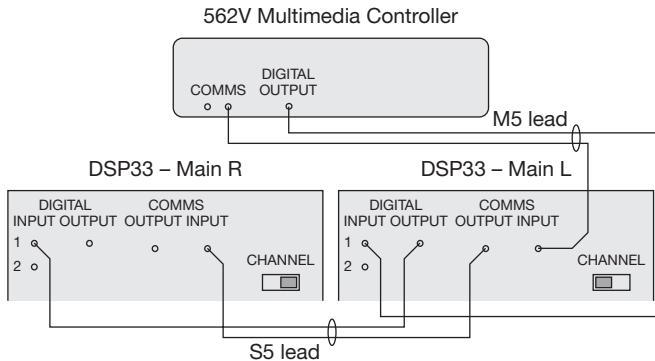
## Communications connections

The following table gives details of the communications connections:

<i>Use this connection</i>	<i>To connect to this</i>
COMMS INPUT	The COMMS connection on a Meridian control unit or preamplifier.
COMMS OUTPUT	The COMMS INPUT on a second DSP loudspeaker.
RS232	The serial port of a PC, to configure the DSP33. See <i>Configuring the DSP33 loudspeakers using a computer</i> , page 23.

# Connecting the digital loudspeakers

## To connect two DSP33 loudspeakers in a Meridian system



You can connect two DSP33 loudspeakers directly to a Meridian DVD player, Meridian 568 Digital Surround Processor, Meridian 561 Digital Surround Controller, or Meridian 562V Multimedia Controller.

- Connect one of the COMMS sockets on the Meridian source or control unit, and the MAIN digital output, to one of the digital speakers using the M5 lead supplied.

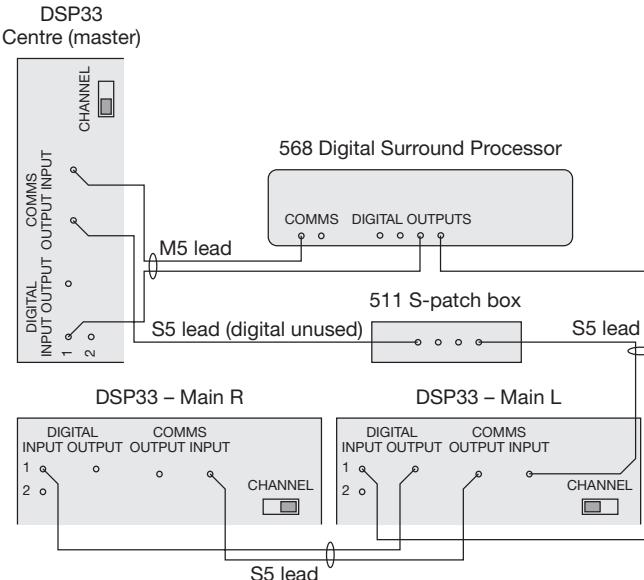
- Link the two digital speakers together using the S5 lead supplied, as shown in the illustration.
- Set the CHANNEL switch to the appropriate position on each loudspeaker.

## To use a DSP33 loudspeaker as a centre speaker

You can use a single DSP33 as a centre speaker in a Meridian surround system.

- Connect the speaker to the CENTRE digital output using an M5 lead, as shown in the previous illustration.
- Set the CHANNEL switch on the back of the loudspeaker to the LEFT/CENTRE position.

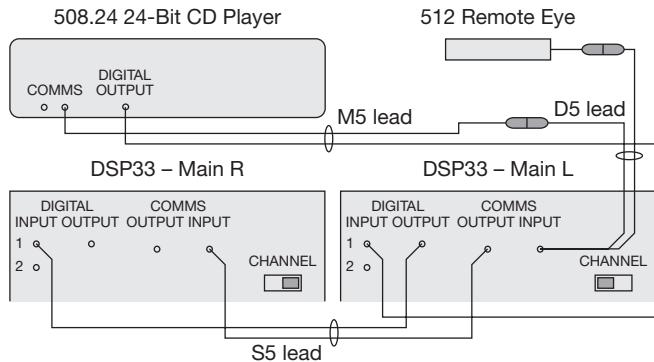
## To connect three or more DSP33 loudspeakers in a Meridian surround system



If your system includes more than two Meridian DSP loudspeakers you will need a 511 S-patch box (available separately) to link together the S5 leads from each speaker, as shown on the left.

- Use the comms part of an M5 lead to connect one of the COMMS sockets on the Meridian Surround Controller to the digital speaker you have chosen as the master (typically the centre speaker).
- Use the audio part of the M5 lead to connect the digital speaker to the appropriate digital output socket.
- Connect the COMMS output from the master digital speaker to one socket on the 511 using an S5 lead.
- Link all the other digital speakers together using S5 leads, as shown in the illustration. The other sockets on the 511 can be used to distribute the comms to each slave speaker.
- Use the duplicate sockets on each digital speaker to link the speakers together in pairs, corresponding to the pairs of channels on the digital outputs.
- Set the CHANNEL switch on the back of each speaker to the appropriate position.

## To connect two DSP33 loudspeakers to a Meridian CD Player or other digital source



You can create a complete system by connecting a pair of DSP33 loudspeakers directly to a digital source. You need the optional Meridian 512 Remote Eye, and a D5 lead, to allow you to control the volume and balance using the Meridian System Remote.

- Connect one of the COMMS sockets on the Meridian source, and the digital output, to one of the digital speakers and one of the sockets on the D5 lead, as shown in the diagram.

- Connect the 512 Remote Eye to the other socket on the D5 lead.
- Link the two digital speakers together using the S5 lead supplied, as shown in the illustration.
- Set the CHANNEL switch to the appropriate position on each loudspeaker.

See the chapter *Using the DSP33 Digital Loudspeaker system*, page 19, for information about controlling the DSP33 loudspeakers.

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## To use the DSP33 as a multimedia speaker with a PC

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The DSP33 can be controlled via its RS232 port using any terminal emulation software such as HyperTerminal. This allows you to control the volume, balance, phase, bass and tilt in addition to the advanced setup features described in the next chapter.

- Connect the DSP33s together with the S5 lead supplied, as shown in *To connect two DSP33 Loudspeakers in a Meridian system*, page 15.
- Connect one end of the phono part of the M5 lead to the input on the DSP33, and connect the other end to the soundcard's SPDIF digital output.
- Set the CHANNEL switch to the appropriate position on each loudspeaker.
- Connect the RS232 lead to a serial port on the PC.

An application note giving more information is available on the Meridian web site at <http://www.meridian-audio.com>.

# **Using the DSP33 Digital Loudspeaker System**

In systems with a Meridian preamplifier or control unit all of the functions of the DSP33, including volume, tilt, and bass, are operated via the controller. For more information refer to the user guide for the preamplifier or control unit, and you can ignore this chapter.

However, the DSP33 Digital Loudspeaker System 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 digital loudspeakers in a system with no Meridian preamplifier or control unit.

## Selecting a source

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When not playing, the digital 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 digital 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

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- Press the appropriate source key on the remote; eg **DVD**.

This will bring the digital loudspeakers out of standby, and the back-panel indicator on each speaker will be bright.

As standard, all the sources are set to select the D1 digital input of the DSP33. To select the D2 input, see *To configure the source options*, page 31.

### To switch to standby

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- Press **Off** on the remote.

The loudspeakers will switch to standby and the back panel indicator on each speaker will dim.

## Adjusting the volume

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The digital 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 digital 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

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- Press the red ▲ or ▼ keys on the remote.

### To mute the sound

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- Press **Mute** on the remote.

When the sound is muted the back panel indicator on each speaker is dimmed.

### To restore the sound

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- Press **Mute** again on the remote.

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

The back panel indicator on each speaker will go bright.

# Adjusting the balance or phase

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The balance control of the DSP33 Digital Loudspeaker System 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.

## To change the balance

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- Press ▲ or ▼ on the remote.

There are 20 settings in each direction.

## To reset the balance to the centre

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- Press ▲ or ▼ on the remote.

**Note:** Because the use of the balance control processes the digital signal, you may hear a slight clicking as the balance is adjusted.

## To change the phase

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- Press ▲ on the remote.

The phase function controls the absolute phase of the digital conversion. It can be used to compensate for signals that are out of phase, giving an unnatural-sounding bass.

# **Configuring the DSP33 loudspeakers using a computer**

The DSP33 Digital Loudspeaker System provides a range of configuration options, which you can change to suit your own preferences and the other equipment in your system. To configure the DSP33 Digital Loudspeaker System you connect the master loudspeaker to a PC, and then use the Meridian Configuration program to set the configuration you want.

This chapter explains how to install the Meridian Configuration program, and then how to use it create your own configuration of the DSP33.

# The Meridian Configuration program

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The Meridian Configuration program is a stand-alone Windows-based application that lets you design your own configuration of the DSP33 Digital Loudspeaker System to suit your own personal preferences and the particular configuration of equipment in your system.

The Meridian Configuration program provides the following sections to allow you to control the corresponding aspects of the speaker's operation:

## Setup



Setup

Lets you specify general features of the multimedia controller's operation, including the operation of the volume control and menus, and settings affecting its operation in multi-room systems.

## Sources



Sources

Lets you customise the operation of each of the sources, including the audio input used for the source, and additional information about the type of each source.

## Requirements

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To use the Meridian Configuration program you need:

- A computer running Windows 95, Windows 98, or Windows NT 4.00.
- A 100MHz or faster Pentium-class processor.
- At least 16Mbytes of RAM.
- 5Mbytes of free disk space.
- A vacant 9-pin serial port assigned to one of COM1 to 4.

The software requires a mouse or similar pointing device – it cannot be operated solely from the keyboard.

## To install the Meridian Configuration program

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- Insert the first Meridian Configuration program installation disk.
- Choose **Run...** from the **Start** menu.
- Type **A: setup** and press
- Follow the on-screen instructions, inserting the second installation disk when prompted.

# Running the Meridian Configuration program

## To run the Meridian Configuration program

- Click Start, point at **Programs, Meridian** then click **Product Configuration**.

The **Meridian** window will be displayed:



The toolbar provides a convenient way of accessing the most important menu options:

<i>Button</i>	<i>Option</i>	<i>Function</i>
	New	Creates a new settings file.
	Open	Opens an existing settings file.
	Save	Saves the current settings file to disk.
	Fetch	Fetches the current configuration of the attached product.
	Store	Stores the current settings to the attached product.
	Disconnect	Disconnects the program from the attached product.
	Add Product	Adds a product to the current settings.
	Copy	Copies text or settings onto the clipboard.
	Paste	Pastes text or settings from the clipboard.
	About	Displays program information.

## To select which loudspeaker to configure

In any system incorporating one or more DSP33 loudspeaker you will need to configure the master DSP33 loudspeaker; ie the one connected to the COMMS socket on your preamplifier or control unit by an M5 lead.

You will only need to configure the other DSP33 loudspeakers in your system if you want to change the **Front** or **Centre speaker boundary** from its default value, **Free**, or set a **Centre speaker tilt offset**. For more information see *Changing the setup options*, page 29.

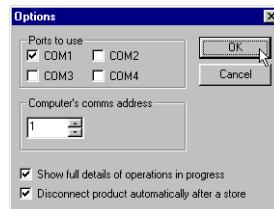
## To connect the serial cable

The serial cable is symmetrical, and can be connected either way round.

- Connect one end to the RS232 connector on the back panel of the DSP33 loudspeaker.
- Connect the other end to one of the serial ports on the PC or PC notebook computer.

Then specify the serial port you are using as follows:

- Choose **Options...** from the **View** menu to display the **Options** dialogue box:



- Select the port you want to use and click the **OK** button.

## Creating a new settings file

This section explains how to create a new settings file, using the Meridian Configuration program, and how to enter personal information to identify the settings in your product.

If you are programming the DSP33 Loudspeaker for the first time:

- Click the **New** button in the toolbar.

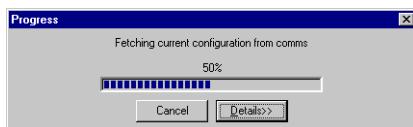


If you are amending an existing configuration:

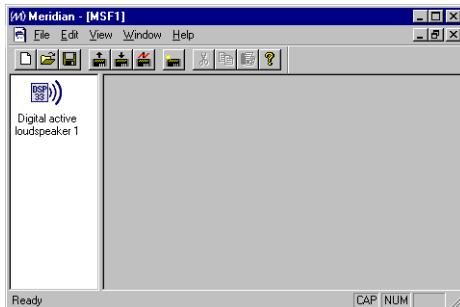
- Click the **Fetch** button to fetch the existing settings.



The **Progress** dialogue box will show you the progress as the settings are fetched:



A new settings file will be created for you, with the initial name **MSF1**, and the **Meridian** window will show a **Digital active loudspeaker** icon to identify the product you are configuring.

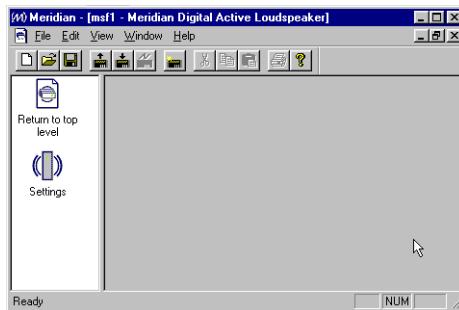


- Choose **Save As** from the **File** menu, enter an appropriate name for the file, such as your name, and click the **Save** button.

## To display the settings

- Double-click the **Digital active loudspeaker** icon, to open it and display the settings it contains.

The left-hand panel of the **Meridian** window will change to show the following two icons:



**Settings** is the initial configuration in the settings file.

Double-clicking **Return to top level** takes you back to the previous level.

## To display or edit the settings

- Double-click the **Settings** icon.

The **Meridian** window will change to show the two categories of settings contained in the settings file: **Sources** and **Setup**.

The options available in each case are explained in the following sections.

At this stage you may find it useful to maximise the Meridian Configuration program window so you can see all the options on each screen.

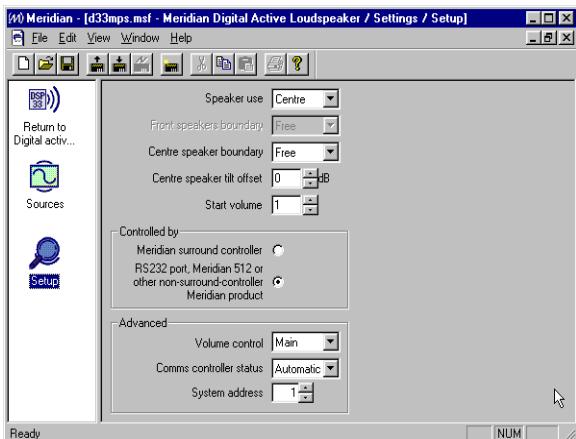
# Changing the setup options

The next stage in editing the settings is to configure the general **Setup** options.

## To change the setup options

- Click the **Setup** icon in the left-hand panel of the **Meridian** window.

The **Setup** options will be displayed:



- In the **Controlled by** section choose the appropriate option for the system you are using.

If you choose **Meridian surround controller** the **Start volume**, **Tilt**, and **Bass** options are controlled by the surround controller, and will be greyed out in the Meridian Configuration program.

- Set the **Speaker use** to **Normal** for a main or surround speaker, or **Centre** for a centre speaker.

If the speaker is close to a wall or corner, you can optionally apply bass equalisation to adjust the frequency response to compensate for its position.

- Use the appropriate **Front** or **Centre speaker boundary** drop-down menu to choose the appropriate option:

<i>Option</i>	<i>What it means</i>
Free	Flat frequency response.
Boundary	Speaker closer than 0.5m (2') to a wall.
Sub 1 or 2	Applies a second-order high-pass filter at 80Hz or 120Hz respectively for use with an analogue subwoofer.
Corner	Speaker closer than 0.5m (2') to a corner.

For best results with a Meridian D1500 or D2500 subwoofer choose **Free**, **Boundary**, or **Corner** as appropriate.

If you have specified the **Speaker Use** as **Centre** you can apply a **Centre Speaker tilt offset**, which is added to the **Tilt** value for the selected source.

The recommended setting is -1dB when the speaker is positioned above a television.

### Start volume

The **Start volume** setting determines the volume selected on coming out of standby.

- Set the **Start volume** to 65 to leave the volume unchanged (as on other Meridian products).
- Set the **Start volume** to a value other than 65 to set the volume to that value.

### Advanced options

The **Advanced** options are described in the following table:

<i>Option</i>	<i>What it means</i>
Volume control	Specifies whether the DSP33 provides volume control for the system. Choose <b>Main</b> if the DSP33 is in the main room, <b>Secondary</b> if the DSP33 is used in a second room, or <b>None</b> if the DSP33 is in the second or third room of a three-room system.
Comms controller status	Specifies whether the DSP33 is controller, not controller, or set automatically.
System address	For multi-room setups.

# Setting up sources

This section describes how to use the Meridian Configuration program to configure the sources provided by the digital active loudspeaker.

## To set up sources

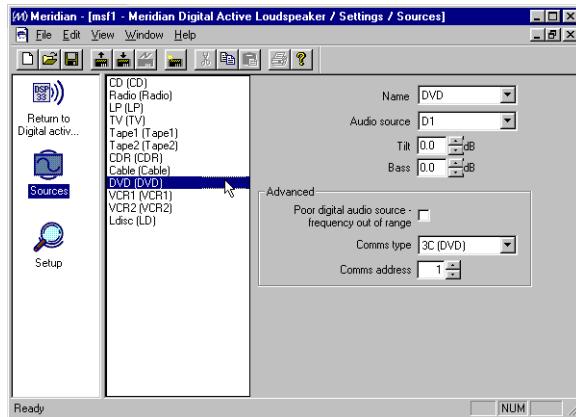
- Click the **Sources** icon in the left-hand panel of the **Meridian** window.

The right-hand panel shows a list of the 12 sources that are available. For each source you can configure its audio, tone, and advanced settings.

## To configure the source options

- Select the source in the list of sources.

The settings for the source are shown in a panel to the right:



To change the name used to identify the source when using RS232 control:

- Choose a name from the **Name** drop-down menu.

Choosing **Unused** prevents the source from appearing when you press the corresponding source key on the Meridian System Remote.

The name used to identify each source is shown in the list of sources, followed by the Meridian System Remote key used to select the source in brackets.

- From the **Audio source** drop-down menu specify the digital input you want to use for the source.

Initially all sources are set up to use input D1, but you can connect a second source to D2.

## Tilt

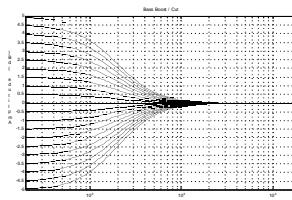
The **Tilt** setting allows you to adjust the broad balance of the DSP33 to correct for the acoustics of your listening room, or for a misbalanced recording.

The **Tilt** can be adjusted between -10dB and +10dB in 0.5dB steps. Normally settings between -2.0dB and 1.0dB will give the most natural results.

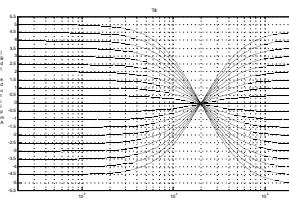
## Bass

The **Bass** setting allows you to adjust the bass response to match the room. The **Bass** can be adjusted between -5dB and +5dB steps.

The effect of the **Tilt** and **Bass** settings on the frequency response of the loudspeaker is shown in the following graphs:



Bass



Tilt

If the DSP33 loudspeakers are controlled by a Meridian Surround Controller, the **Tilt** and **Bass** settings are adjusted by the surround controller.

## Advanced

Specify the **Advanced** options as follows:

- Select **Poor digital audio source** if you have difficulty locking to the source.
- If the source is connected to another Meridian unit, set **Comms type** to **1C** for a Meridian CD player, **2C** for a Meridian FM tuner, and **3C** for a Meridian DVD player. Otherwise set it to **None**.
- If you have two Meridian source units of the same type you can configure them to have different Comms addresses. You can then select the appropriate source by specifying its Comms address in the **Comms address** field.

# Completing the configuration

---

The final stage in creating a settings file is to save it, and then store it to the speaker.

If the download was successful the DSP33 will switch itself to standby and the back-panel indicator will go dim.

## To save the current settings

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- Choose **Save** from the **File** menu or click the Save toolbar button, to save the changes you have made to the settings file to your PC hard disk.



## To store the settings to the DSP33 loudspeaker

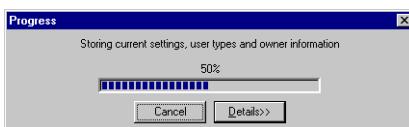
---

- Click the **Store** button.



The settings will then be downloaded and the back-panel indicator will flash.

As the download proceeds the following dialogue box shows its progress:



# **Troubleshooting**

**T**his chapter provides suggested solutions to typical problems that may occur when setting up the digital loudspeaker(s).

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

# Troubleshooting

---

## Green indicator on back panel not lit

---

Check the following:

- There is AC power connected to the socket on the back of the DSP33.
- The power switch on the back panel of the DSP33 is turned on.

If the DSP33 will still not illuminate, check any fuses in your power supply and the fuse in the inlet of the DSP33. If these are all intact, contact your dealer.

## Remote not working

---

Check the following:

- The battery in the Meridian System Remote.
- See if the DSP33 has been set up as not controller in the Meridian Configuration program; see *Changing the setup options*, page 29. Note that this may be deliberate by your dealer.

## Unit goes silent when played hard

---

- DSP33 has a temperature sensing system on board, which prevents overheating of the electronics. The sound will continue when the speaker has cooled.

## 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 DSP33 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 DSP33 and its cabling.

- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the DSP33.
- Connect the receiver and this product to different AC outlets.
- If the problem persists contact your dealer.

## Centre not working

---

There may be a connection problem.

- Check that the channel switch is set to LEFT/CENTRE.

## Configuring the DSP33 does not have any effect

---

Make sure that you are configuring the DSP33 used as the master digital loudspeaker in the system. This determines the configuration of all digital loudspeakers in the system.

## Green indicator on back panel is flashing

---

This normally indicates that the DSP33 is overheating, and that it has shut down to cool down. If the DSP33 is cold, it may indicate a fault.

## Meridian Configuration program repeatedly fails to talk to the loudspeaker

---

- Check that you have selected a COMMS port.
- Check that no other program currently running is using the COMMS port.
- Check that it is connected correctly.
- Turn off the DSP33 for a few seconds and turn back on, then retry.
- Quit from all other programs and retry.
- Reboot the computer and retry.
- Ensure you are using the serial lead supplied with the product, or a null modem cable.
- If you are using a laptop try turning off the screensaver or power management software.

## Unit stays in standby – light is dim

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

---

### **Only the master loudspeaker plays**

---

- Check the S5 cables are connected correctly.

### **Sound is odd or mono**

---

- Check the channel selector switches on both loudspeakers are correctly set.

# **Service and guarantee**

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## **Service**

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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 DSP33 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 ii.

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 DSP33 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**

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The DSP33 Digital Loudspeaker System is guaranteed against defects in material and workmanship for two years from the date of purchase.

The guarantee is void if the DSP33 Digital Loudspeaker 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 DSP33 Digital Loudspeaker 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.



# Index

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- A** Accessories 8
  - Audio inputs, digital 14
- B** Back panel 13
  - Balance 22
  - Bass 32
- C** Centre speaker
  - not working 37
  - using DSP33 as 15
- Communications connections 14
- Components 10
- Computer, configuring using 23
- Configuring the digital surround controller
  - using a computer 23
  - using the reset plug 13
- D** Digital audio inputs 14
  - Digital audio output 14
- Drivers 2
- I** Installing the Meridian Configuration program 24
  - Introduction 1
- M** Meridian 500 Series 2
  - communications 4
  - Meridian comms 4, 14
- Meridian Configuration program 24
  - installation 24
  - running 25
  - toolbar buttons 25
- Meridian Digital Compact Theatre™ 5
- Meridian High Resolution (MHR) 3
- Muting the sound 21
- O** Options (View menu) 26
  - Options dialogue box 26
- P** Phase 22
  - Positioning 11
- R** Radio interference 10, 36
  - Remote
  - troubleshooting 36
- Reset plug 13
- Return to top level icon 28
- S** Safety warnings 11
- Sample configurations
- DSP33 Digital Loudspeaker System 6
- Meridian Digital Compact Theatre™ 5
- Save As (File menu) 27
- Selecting a source 20
- Serial cable, connecting 26
- Serial port, specifying 26
- Settings file, creating 27
- Settings icon 28
- Setup icon 24, 29
- Setup options, using a PC 29
- Sources
  - configuring options using a PC 31
  - selecting 20
  - setting up using a PC 31
- Sources icon 24, 31
- Specification 7
- Standby
  - switching to 20
- Switching to standby 20

**T** Tilt 32

Toolbar buttons 25

Troubleshooting 35

**U** Unpacking 10

**V** Volume

adjusting 21

muting 21