

A large, stylized, grey letter 'M' is centered on a black background. The 'M' is composed of thick, solid grey bars. The text 'user guide' is written in a white, lowercase, sans-serif font, following the diagonal slope of the right-hand side of the 'M'.

user guide

Meridian 561 Digital Surround Controller

Meridian 561 Digital Surround Controller User Guide

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Introduction

The Meridian 561 Digital Surround Controller combines a completely digital surround-sound processor with a high-performance digital preamplifier and a video controller in a single integrated unit. Its unique combination of features allows you to build a complete system for audio and video reproduction with a minimum of additional components. The result is an impressively realistic and exciting reproduction of music and cinema sound.

The 561 Digital Surround Controller accepts analogue, digital, composite video, and S-video sources. It supports all the current two-channel and multi-channel audio formats including PCM, Dolby Digital (AC-3), DTS, and MPEG. It also includes several proprietary processing modes, including the MLP (Meridian Lossless Packing) format.

For instructions on setting up the unit turn to *Setting up the digital surround controller*, page 49. Once the digital surround controller has been set up refer to the next chapter, *Using the digital surround controller*, for information about getting the best results from all your music and film recordings.

The Meridian 500 Series

The 561 Digital Surround Controller is part of the Meridian 500 Series of advanced digital, analogue, and video components designed to meet the demand for absolute quality, ease of use, and lasting value.

The flexibility of the Meridian 500 Series is such that you can assemble a system as simple or as complex as you need, perfectly suited to your requirements, and allowing you to add to it or alter it at a later date should your requirements change.

Each Meridian 500 Series component is housed in a matching slimline case. Front-panel controls provide access to the most important functions, and the full range of functions is available from the Meridian System Remote using a simple and intuitive control interface.

500 Series communications

The Meridian 500 Series includes a sophisticated communications link, to ensure that any configuration of units will work together as a fully integrated system.

The 500 Series communications system allows you to control any combination of units using a single remote, and ensures that your commands from the remote are interpreted unambiguously. 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.

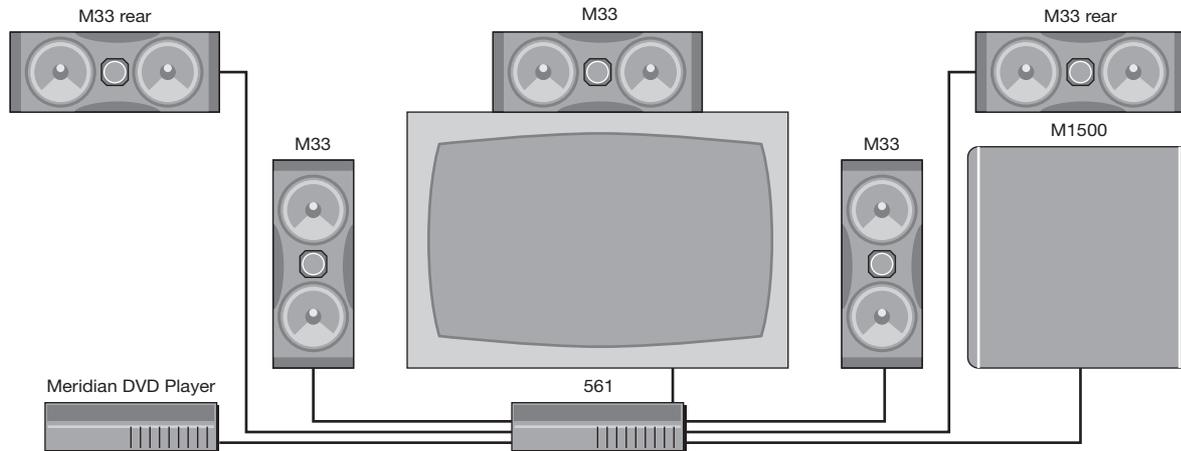
Professional features

The 500 Series also includes features for professional users, including RS232 computer control and balanced connections.

The following pages show two recommended configurations based on the 561 Digital Surround Controller to illustrate the flexibility of the Meridian 500 Series.

Sample configurations

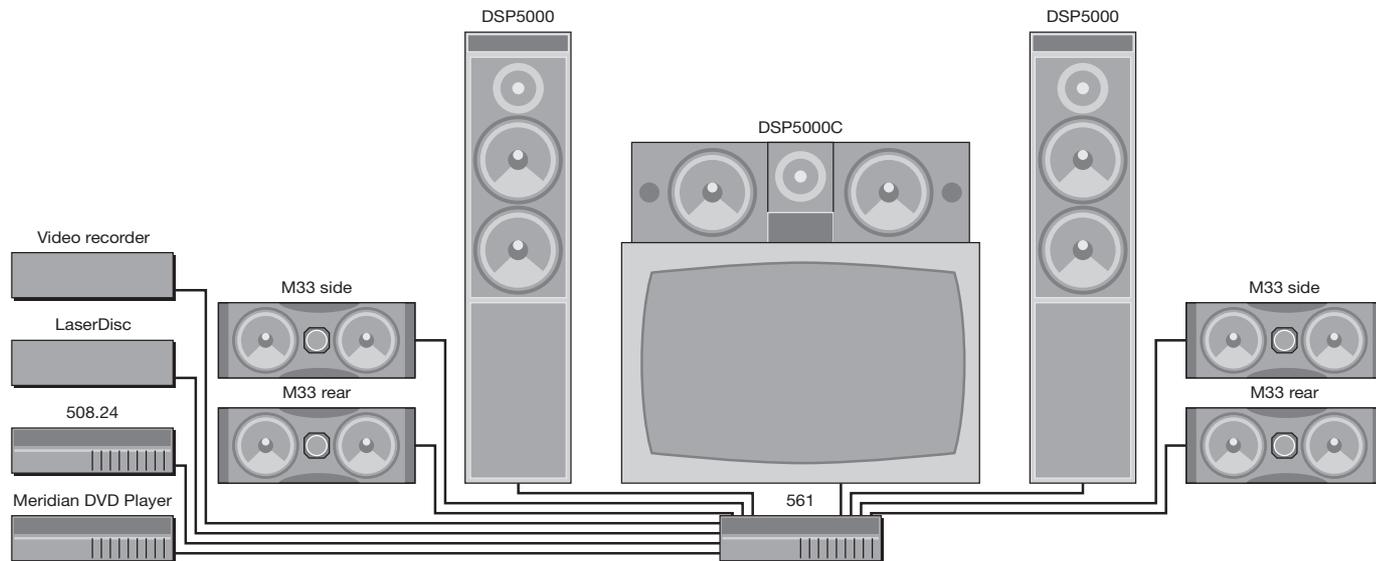
Meridian Analogue Theatre™



The Meridian 561 Digital Surround Controller is ideal for use with the M33 Active Analogue Loudspeaker and M1500 Active Subwoofer. The M33 provides an unusually good response for such a compact case, and can be mounted either horizontally or vertically for total flexibility.

The 561 Digital Surround Controller can connect directly to up to six Meridian active loudspeakers, allowing you to create a 5.1 analogue theatre ideal for superb music and cinema sound in the home.

Meridian Digital Theatre™



The 561 Digital Surround Controller can be used with two Meridian DSP5000 Digital Loudspeakers, and a DSP5000C Digital Centre Loudspeaker, to provide audiophile-quality sound. A further two or four M33 Active Analogue Loudspeakers can be added as side or rear loudspeakers to give extremely convincing multi-channel reproduction from music and film sources.

The Meridian DVD Player is an ideal source for use with the 561. It allows you to play both audio CDs and DVD video discs, taking full advantage of the 561's control and digital signal processing capabilities.

Specification and accessories

Specification

Digital inputs

5 x cable, 75Ω, IEC958 and data compatible, up to 24 bits.

1 x optical, Toslink (EIAJ), IEC958 and data compatible, up to 24 bits.

Analogue inputs

7 x unbalanced, 0.7 to 2V sensitivity, 20kΩ input impedance.

1 x stereo 20-bit Delta-Sigma ADC.

Processing

2 x Motorola 56002 running at 66MHz.

1 x Motorola 56303 running at 72MHz.

Internal precision maintained using 24- and 48-bit arithmetic.

Analogue outputs

3 x stereo 20-bit Delta-Sigma DAC.

6 x unbalanced outputs for centre, sub, rears, and mains or sides or subs.

Outputs variable between 0 and 3.5Vrms, output impedance 47Ω.

Distortion <0.01%.

Noise and hum <-95dB CCIR.

Digital outputs

4 x stereo SPDIF on cable, 75Ω, up to 24-bit precision.

Video switching

4 x composite inputs.

1 x main composite output with on-screen display.

1 x tape/second room composite output.

4 x S-video inputs.

1 x main S-video output with on-screen display and S-video to composite conversion.

1 x tape/second room S-video output.

Composite video: phono, 75Ω, 1.5V p-p, PAL/NTSC/SECAM.

S-video: Y/C on minidin, 75Ω, 1.5V p-p, PAL/NTSC/SECAM.

Tape outputs 2 x stereo analogue for tape and second zone, 470Ω output impedance. With additional module: independent ADC and DAC for analogue and digital tape loop, variable analogue tape out.

Headphone output only available with Tape card fitted – full volume control and headphone amplifier.

Control 2 x Meridian Comms.

9 pin D connector for RS232 PC Setup and Control.

2 x triggers, active high, 9V up to 100 mA on 3.5mm DC jack.

Dimensions 321mm x 88mm x 332mm (12.7" x 3.5" x 13.1") (W x H x D).

Weight 5kg (10lb).

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

Available accessories

The following accessories are available from your dealer.

Meridian 511 S-patch Box

The Meridian 511 S-patch box provides a convenient way to interconnect the S leads between up to eight Meridian DSP digital loudspeakers. It is required if your 561 system includes more than two DSP loudspeakers.

Expansion cards

A range of expansion cards will be available for the 561 to extend its capabilities or add features.

The first of these is a Tape card, which provides conversion between analogue and digital sources, so that analogue recordings can be made of digital sources, and vice versa. The Tape card also adds a headphone output to the back panel, with independent control over the headphone volume.

Meridian 519 Demodulator

To take advantage of Dolby Digital on LaserDisc you need the Meridian 519 Demodulator, which converts the LaserDisc RF output to a bitstream which can be fed to the 561. The 519 Demodulator automatically senses the presence of a Dolby Digital signal, and can select the LaserDisc PCM or DTS digital audio output when no Dolby Digital signal is available.

Fan kit

A Fan kit is available for the 561 to provide additional ventilation if the unit is installed in an enclosed space.

The fan can be programmed using the Meridian Configuration program so that it either runs when the 561 is out of standby, or when the temperature rises above the recommended level.

Rack mount kit

The Meridian 500 Shelf is a tray produced by Middle Atlantic Products which will allow the 561, or any other 500 Series unit, to be fitted in a standard 19" rack. For more information please contact Middle Atlantic Products, Inc., Riverdale, NJ 07457, USA, (001) 973-839-1011, or their local distributor.

DSP presets

The digital surround controller provides an extremely comprehensive range of digital signal processing options for decoding both analogue and digital audio signals and processing them for multi-channel reproduction. These are referred to as DSP presets, and are designed to provide the best results with a range of different types of music and film material.

In addition to selecting built-in DSP presets, the digital surround controller allows you to create your own presets based on the standard ones. For example, you may want to add more delay to the rear speakers to create a more spacious sound. You can store your modified preset with a name of your choice, and recall it for use at a later date.

This section gives information about each of the built-in DSP presets, and gives recommendations for the best preset to choose for different types of material.

Multi-channel digital sources

The 561 Digital Surround Controller supports the three alternative multi-channel digital formats currently available, which encode up to 8 different channels onto a digital signal: Dolby Digital (AC-3), DTS, and MPEG Audio. It also supports Meridian's own MLP format.

Dolby Digital

Dolby Digital, previously called AC-3, is the preferred sound format for DVD video, and is widely used on LaserDisc soundtracks. It is also the audio standard for US digital television.

DTS

DTS uses a carefully designed audio compression technique to encode five channels of audio onto a digital signal. The DTS format is used to encode multi-channel film soundtracks on LaserDiscs and DVD video discs.

In addition, a high data-rate version of DTS can be used to compress five channels of CD-quality audio into the same space as two channels of unencoded sound, allowing a DTS music CD to provide over an hour of five-channel music, at a quality indistinguishable from conventional CD.

MPEG Surround

MPEG Surround is the preferred audio format for DVD in PAL territories, and along with Dolby Digital is a contender as the standard for music and performance videos on DVD worldwide. In addition, it is widely available in US satellite broadcasts.

THX

THX versions of Dolby Digital, MPEG Surround, and DTS are provided to give a better match between the original soundtrack and typical domestic listening conditions.

MLP

MLP (Meridian Lossless Packing) is a format designed for DVD audio which allows multiple audio channels, of up to 192kHz 24-bit quality, to be stored on a DVD without losing any information. It can also be used to store four-channel audio on a standard CD without any loss of quality.

Multi-channel sources encoded onto two channels

Several systems have been developed for encoding multi-channel sources onto a standard two-channel analogue signal so that they can be reproduced by a conventional stereo system, or decoded with special equipment for multi-channel reproduction. The 561 Digital Surround Controller provides decoding of the two most important of these, Ambisonic and Dolby Surround. Although the channel separation cannot be as good as with the digital multi-channel formats, the 561 produces excellent results with these formats.

Pro Logic

The Pro Logic preset is recommended for decoding Dolby Surround encoded video and LaserDisc soundtracks, and films on television. Such materials are usually identified by a Dolby Surround symbol on the packaging, or displayed on the film before the programme.

TV Logic

TV Logic provides user-adjustable steering, and is recommended for use with TV broadcasts that are not surround encoded, where **Pro Logic** may give reduced intelligibility.

THX Cinema

THX Cinema enhances **Pro Logic** to replicate the sound of a dubbing stage or theatre, whether or not the other equipment in your system is THX approved.

Ambisonic

Ambisonic decodes material specifically encoded for surround sound reproduction, using a two-channel stereo-compatible encoding. Recordings encoded in Ambisonic format are available on CD from several sources including Nimbus Records and York Ambisonic. Some radio broadcasts are also broadcast in Ambisonic format.

Conventional stereo sources

The digital surround controller can also accept a conventional two-channel source, such as music on compact disc or a video soundtrack, and by analysing the information in the signal separate the two-channel recording into multiple channels to give better reproduction and a more stable spatial image.

Four alternative DSP presets are provided for reproducing material originally designed for a conventional stereo pair of speakers, and which preset you choose largely depends on your own personal preferences.

All four presets use similar procedures to extract the surround component of the original recording, which is delivered to the rear surround speakers, and side surround speakers if present.

Music

Music uses a special technique developed by Meridian to divide the sound between the left, right, and centre speakers and give a wide, spacious sound. We recommend this option for large-scale music, such as orchestral and choral music.

Trifield

Trifield uses a different processing technique to give a stable, three-dimensional image, with the ability to adjust the width of the image. Because of its precision we recommend this option for solo, chamber, or vocal music.

Super Stereo

Super Stereo provides a form of Ambisonic decoding suitable for material that is not specially encoded. We recommend this option for multi-miked or multi-tracked music, such as rock music.

Music Logic

Music Logic provides user-adjustable steering to give an exciting sound with many types of music. We recommend this option for studio-produced music, ie material not produced using natural soundfield recording.

Special DSP presets

The digital surround controller also includes the following special DSP presets, for specific applications:

Mono and Academy

The **Mono** and **Academy** presets are designed for reproducing mono materials through a centre speaker, so that any high-frequency hiss or clicks are centrally localised.

Mono is designed for mono recordings, and multi-language LaserDiscs and video soundtracks.

Academy is designed for early black and white film soundtracks. It includes equalisation designed to correct for a high-frequency balance in some old black and white films.

Stereo and Direct

Stereo and **Direct** are provided for comparison with the other DSP presets. **Direct** uses just the main left and right speakers for traditional two-speaker stereo reproduction. **Stereo**, in addition, uses any subwoofers in the layout to enhance the bass or to protect small speakers.

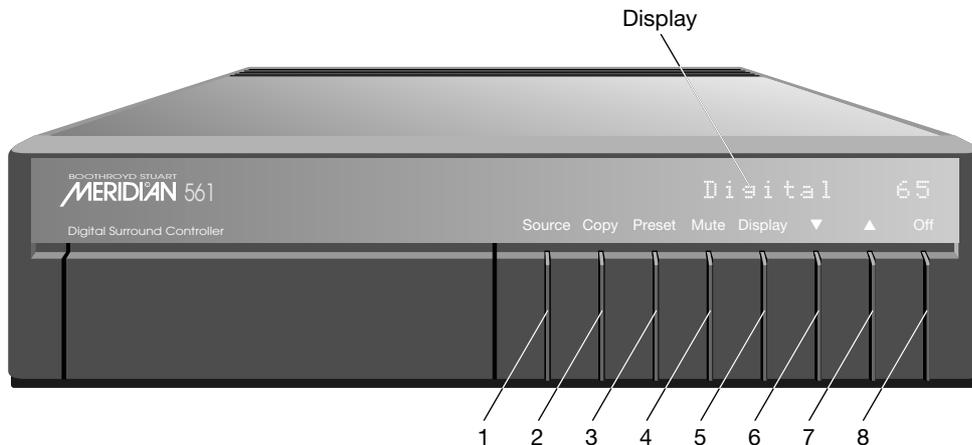


Using the digital surround controller

This chapter provides a summary of the functions of the digital surround controller to identify the controls which you use to operate the unit.

It also provides step-by-step instructions for operating the digital surround controller, using either the front panel or the Meridian System Remote.

Front panel



- 1 Source**
Selects the source.
- 2 Copy**
Copies a selected source to the tape and VCR outputs.
- 3 Preset**
Changes the preset.
- 4 Mute**
- 5 Display**
Changes the information displayed on the front panel.
- 6 ▼ Decrease**
Decreases the volume.
- 7 ▲ Increase**
Increases the volume.
- 8 Off**
Switches to standby.

Meridian System Remote



- 1 Source keys**
Select a source.
- 2 Control keys**
Control the source functions.
- 3 Off**
Switches to standby.
- 4 Function**
Accesses additional functions.
- 5 Number keys**
For entering track numbers and radio presets.
- 6 Title/Chapter**
For controlling a DVD Player.
- 7 Menu keys**
For customising the 561.
- 8 Preset**
Changes the DSP preset.
- 9 Display**
Changes the front-panel display.
- 10 Volume keys/Mute**
Change the volume.

Quick guide to operating the 561 with the remote

<i>Action</i>	<i>561 as controller</i>	<i>DSP speaker as controller</i>
Source selection	CD, RADIO etc.	CD, RADIO etc.
Go to standby	Off	Off
Volume	Volume ▲ ▼	Volume ▲ ▼
Mute	Mute	Mute
Headphone volume (with Tape card only)	Function + Volume ▲ ▼	Function + Volume ▲ ▼
Change display	Display	Not available
Change DSP preset	Preset	Preset
Move to next or previous menu	Menu ◀▶	Function + Menu ◀▶
Change the value of this menu	Menu ▲ ▼	Function + Menu ▲ ▼
Store settings as a new DSP preset or over an existing one	Store	Function + Store
Associate the current DSP preset with the current source	Function + Store	Function + Mute
Delete an unwanted user preset	Clear (held down)	Function + Clear (held down)

Selecting a source

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

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

To switch on from standby

- Press **Source** (front panel), or select a source by pressing the appropriate source key on the remote; eg **DVD**.

If the digital surround controller is part of a Meridian system it will automatically switch on any other unit in the system, such as the CD player and Meridian DSP loudspeakers.

To select a source

- Press **Source** (front panel) until the display shows the source you require.

For example:



DVD

Alternatively press the appropriate source key on the remote; eg **DVD**.

After a short delay the display shows the currently selected DSP preset and volume setting.

For example:



Digital 56

The digital surround controller mutes the sound while you change source.

By default the following 12 sources are available: CD, Radio, DTV, TV, Tape 1, Tape 2, CDR, Cable, DVD, VCR1, VCR2, and LDisc.

The audio input, video input, and DSP preset associated with each source can be configured using the Meridian Configuration program; for more information refer to *Configuring the digital surround controller using a computer*, page 79.

To switch to standby

- Press **Off** on the front panel or the remote.

The display will show:



If you have other Meridian 500 Series equipment or Meridian DSP loudspeakers connected to the digital surround controller these units will also switch to standby.

Adjusting the volume

The digital surround controller adjusts the volume 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.

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

A setting of 87 corresponds to THX reference gain, the level at which film soundtracks are mixed. For normal to high-level listening you should expect to use volume levels in the range 60 to 90.

To change the volume

- Press ▲ or ▼ (front panel), or the red ▲ or ▼ 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**.

The display will show:



To restore the sound

- Press **Mute** again.

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

Changing the DSP preset

Each source has a set of DSP presets associated with it, one for each of the alternative audio formats: two-channel (PCM), Dolby Digital, DTS, MPEG, and MLP.

When you choose a source an appropriate DSP preset is selected for the incoming audio format.

For example, if you have selected the CD source and are playing a conventional CD, the **Trifield** DSP preset will initially be selected. You may then wish to choose a different DSP preset, such as **Music** or **Ambisonic**.

You can also change the default DSP preset associated with the source; see *Changing the DSP preset for a source*, page 33.

To change the DSP preset

- Press **Preset** (front panel or remote) to step between the different DSP presets.

The display shows the current preset; for example:



You will be able to choose any of the predefined DSP presets, or any user-defined presets you have stored.

The following table gives the sequence of DSP presets for each audio format, followed where appropriate by the abbreviated name used on the display:

<i>Audio format</i>	<i>Presets</i>
Two-channel (PCM)	Direct, Music, Trifield, Ambisonic (Ambisonic), Super Stereo (Super), Stereo, Music Logic (MuLogic), Pro Logic (ProLogic), THX Cinema (THX), Mono, Academy, TV Logic
Dolby Digital	Dolby Digital (Digital), Dolby Digital THX (Dig THX)
DTS	DTS, DTS THX, DTS Music (DTS Mus)
MPEG	MPEG, MPEG THX, MPEG Music (MPEG Mus)
MLP	MLP

In each case these will be followed by any user-defined presets you have stored for the appropriate audio format.

Changing the display

The digital surround controller displays information about the current settings on the twelve-character front panel display. In addition, it can display the same information superimposed on a video image. For more information about setting up the on-screen display refer to *Connecting video*, page 56.

To change the display

- Press **Display**.

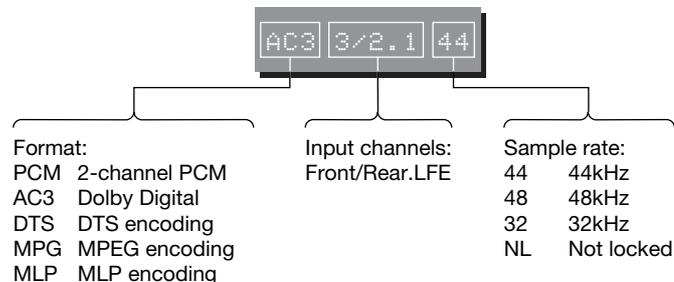
Each time you press **Display** the display will step between the options shown in the table opposite.

In addition, the following symbols on the front panel display indicate which of the DSP processing modes are operating:

<i>Symbol</i>	<i>What it means</i>
THX	THX processing is operating.
DD	Dolby processing is operating.
dts	Input is DTS.
MPEG	Input is MPEG.

<i>Display option</i>	<i>Example</i>
DSP preset and volume	Music 65
DSP preset and THX gain	Music -22
Source and volume	Radio 65
Audio stream	AC3 3/2.1 44
Blank	

The audio stream display option shows the following three pieces of information about the audio stream:



Recording a source

The 561 Digital Surround Controller allows you to copy any of the standard sources to the tape and VCR outputs, independently of the source you are listening to.

If you are using the digital surround controller in a two-room system, you copy a source to the tape output to make it available to the second room.

To copy a source

- Press **Copy**.

Each time you press **Copy** the digital surround controller will step between the options shown in the table opposite.

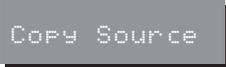
For example, to record the television picture and sound on a VCR:

- Press **Copy** until the display shows:



You can now listen to a different source, such as CD, by selecting the source, without affecting what is being recorded.

Display



Option

The current audio and video inputs are fed to the tape/VCR outputs.

The tape and VCR outputs are muted.

Copies the first source to the tape and VCR outputs.

Steps through each source in turn, etc.

To change the headphone volume

You can connect headphones to the 561 using the optional Tape expansion card. The source copied to the tape output is also fed to the headphones.

To change the headphone volume:

- Press **Function** with the red ▲ or ▼ keys on the remote.

The display will show the current headphone volume; for example:



Defining your own presets

In addition to being able to change the source, volume, and DSP preset, the digital surround controller provides a sophisticated range of more advanced adjustments for each DSP preset, to allow you to change the characteristics of the sound to the settings you want.

This chapter explains how to change these advanced parameters, and how to store them permanently so they are available whenever you want to use them.

For information about the parameters specific to individual presets see *DSP presets*, page 37.

Locking and unlocking the menus

To simplify the normal operation of the digital surround controller, and to protect the settings from accidental changes, you can lock the menus so that the parameters cannot be accessed.

To display or change the DSP presets, or to define your own presets, you first need to unlock the digital surround controller menus.

To lock the menus

- Press **Off** to put the 561 in standby.

The display shows:



- Press and hold down **Preset** for a few seconds until the display shows:



To unlock the menus

- Repeat the above sequence so that the display shows:



Changing the DSP parameters

Each DSP preset provides a series of parameters that you can vary to customise its behaviour to your specific requirements. For example, most presets provide **Balance** and **Depth** parameters which alter the characteristics of the sound.

For each of the built-in DSP presets these parameters are set to standard values, designed to give the best sound in typical listening conditions and with most source materials. Each time you select a different DSP preset the parameters are reset to these standard values, even if you have previously altered them.

You can save the changes you have made to one or more DSP parameters in place of the original DSP preset. Alternatively you can create a new user-defined DSP preset, with a name of your choice. User-defined presets appear in the list of DSP presets after the built-in ones. See *Defining your own presets*, page 34.

Standard parameters

All DSP presets (except **Mono** and **Direct**) provide the standard parameters shown on the next page.

Individual DSP presets provide additional parameters, to allow you to adjust specific features provided by that preset. For full details refer to *DSP presets*, page 37.

To change a DSP parameter

- Make sure the menus are unlocked; see *To unlock the menus* opposite.
- Press **▶** or **◀** (remote) until the display shows the name of the parameter you want to change.

For example:



Treble +1.5

- Press **▲** or **▼** (remote) to change the value of the parameter.

As you change the value you will be able to hear the effect on the sound, and the display will show the current value.

After a short delay the display will revert to the normal display of DSP preset and volume.

Using a Meridian DSP loudspeaker

If you are using a Meridian DSP loudspeaker as the controller for your system, select the parameter you want to change by pressing **Function ▶** or **Function ◀** on the remote, and change the parameter by pressing **Function ▲** or **Function ▼** on the remote.

Standard parameters

<i>Parameter</i>	<i>Range</i>	<i>Default</i>	<i>What it changes</i>
Treble * †	-10dB to +10dB	+0dB	The slope of the frequency response.
Bass * †	-5dB to +5dB	+0dB	The bass response.
Phase * †	+ or -	+	The phase of all loudspeakers.
Balance	<10 to 10>	<0>	The L-R balance.
Centre	-3.0dB to +3.0dB	+0.0dB	The level of the centre.
Depth	-2.5ms to +5.0ms	+0.0	The delay of the centre.
Rear	-30dB to +10dB	+0dB	The level of the rears.
Sides	-30dB to +10dB	+0dB	The level of the sides.
R Delay ‡	0ms to 30ms	15.0ms	The delay of the rears.
S Delay ‡	0ms to 30ms	15.0ms	The delay of the sides.
LipSync	0ms to 30ms	0ms	The sync. delay.
OSD *	Off, Low, Med, High	Low	The position of the on-screen display.

* These parameters apply to all DSP presets.

† These parameters appear on the speakers if you are using DSP loudspeakers.

‡ These parameters have a range of 0 to 15ms for 5.1 Movie presets and a range of 15ms to 30ms for Logic presets.

Changing treble, bass, or phase

The digital surround controller provides 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 recordings which are out of phase.

In each case all the outputs of the digital surround controller are given the same adjustment, to ensure a correct surround effect.

If you have a Meridian DSP loudspeaker these menus appear on the speaker. For more information see the speaker user guide.

To change the treble

- Press ► or ◀ (remote) until the display shows the current treble.



For example:

- Press ▲ or ▼ (remote) 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 $\pm 10\text{dB}$ in 0.5dB steps. Normally settings between +1.0 and -2.0 will give the most natural results.

To change the bass

- Press ► or ◀ (remote) until the display shows the current bass setting.



For example:

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

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

To change the absolute phase

- Press ► or ◀ (remote) until the display shows the phase; for example:



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

Changing the listening position

A conventional stereo system provides a single balance control, which changes the relative loudness of the two speakers. The 561 Digital Surround Controller provides a more sophisticated adjustment which corresponds to moving the listening position to the left or right.

You can also change the level of the rear or side loudspeakers relative to the main speakers.

To move the listening position to the left or right

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



Balance <0>

For example:

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

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



Balance <8>

For example:

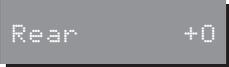
The arrow indicates the direction, and the number indicates the position where 0 is central, 8 is in line with the corresponding main speaker, and 10 is fully to one side.

Note that this adjustment is not available for the **Mono** or **Academy** presets.

To change the relative level of the rear or side loudspeakers

- Press ► or ◀ (remote) until the display shows the speaker(s) you want to adjust.

For example:



Rear +0

- Press ▲ or ▼ (remote) to change the relative level of the speakers, in dB.

You can change the relative loudness of the rear loudspeakers from -30dB (about one-eighth of the loudness) to +10dB (about double the loudness).

For example, to double the loudness of the loudspeakers:

- Adjust their level until the display shows:



Rear +10

Note that this adjustment is not available for the **Direct**, **Stereo**, **Mono**, or **Academy** presets.

If you have side speakers an additional Sides parameter allows you to adjust the relative loudness of the side speakers.

Changing the integration of the centre

If you have a centre loudspeaker you can adjust its relative loudness, to provide the best integration of the centre with the main left and right speakers.

You can also adjust the relative delay of the centre speaker to give the best perspective between the three front speakers.

Note that these adjustments are not available for the **Direct**, **Stereo**, **Mono**, or **Academy** presets.

To change the relative level of the centre speaker

- Press ► or ◀ (remote) until the display shows the current centre level.



Centre+0.0dB

For example:

- Press ▲ or ▼ (remote) to change the relative level of the centre speaker.

You can change the relative level by $\pm 3\text{dB}$ in 0.5dB steps.

To change the relative delay of the centre speaker

- Press ► or ◀ (remote) until the display shows the current centre depth.



Depth +0.0

For example:

- Press ▲ or ▼ (remote) to change the relative depth of the centre speaker.

You can change the depth between -2.5ms , which corresponds to moving the centre speaker $2\frac{1}{2}$ feet nearer to the listening position, and $+5\text{ms}$, which corresponds to moving it 5 feet further away from the listening position.

Changing the spaciousness of the sound

You can adjust the spaciousness of the sound by altering the delay on the rear and side channels.

Note that these adjustments are not available for the **Direct**, **Stereo**, **Mono**, or **Academy** presets.

To change the relative delay of the rear or side speakers

- Press **▶** or **◀** (remote) until the display shows the speaker(s) you want to adjust.

For example:



R Delay 15.0

- Press **▲** or **▼** (remote) to change the relative delay of the speakers.

The range of possible values depends on the preset. With the music presets (**Music**, **Trifield**, and **Ambisonic**) you can change the rear delay between 0ms and 30ms, which is equivalent to moving the rear speakers 30 feet away.

The 5.1 Movie presets allow you to vary the delay between 0ms and 15ms, and the Logic presets allow you to vary it between 15ms and 30ms.

If you have side speakers an additional S Delay option allows you to adjust the delay on the side speakers between 15ms and 30ms. Note that for best results you should never set the S Delay to be less than the R Delay.

Changing the lip sync and on-screen display

To adjust the lip sync

The LipSync parameter is a unique feature of the digital surround controller which allows you to adjust the delay between the sound and the video image by up to one video frame.

Most movies are mixed for a viewing distance of 30 feet, and when viewed from 12 feet or less the sound arrives too early, giving a disconcerting effect. Using the LipSync parameter you can add an overall delay to the sound to accommodate your closer home viewing distance.

Many TV broadcasts delay the picture by half a frame, and can benefit from a LipSync setting of 12ms.

- Press **▶** or **◀** (remote) until the display shows:



- Press **▲** or **▼** (remote) to change the delay in milliseconds.

You can adjust the delay between 0 and 30ms, where 30ms corresponds to sitting 30 feet further away from the screen.

To change the position of the on-screen display

For each DSP preset you can specify the position of the on-screen display (OSD), or blank the on-screen display altogether.

For example, you may prefer to have the on-screen display at the top of the screen when watching videos, but at the bottom of the screen when listening to music.

- Press **▶** or **◀** (remote) until the display shows the current OSD position.



For example:

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

You can choose between Off, Low, Med, or High.

Changing the DSP preset for a source

Each source has an appropriate DSP preset associated with it for each music format. For example, for a standard stereo (PCM) signal the CD source uses **Trifield** and the TV source uses **TV Logic**.

This section explains how to change the DSP preset associated with any source.

To change the DSP preset for a source

- Make sure the menus are unlocked; see *To unlock the menus*, page 24.
- Select the source you want to change, by pressing the **Source** key on the front panel or the appropriate source key on the remote; eg **CD**.
- If necessary, select a signal in the appropriate format. For example, to change the DSP preset used for DTS compact discs, play a DTS CD.

- Press **Preset** (front panel or remote) to select the DSP preset you want to associate with the source.

For example:



- Press **Function Store** (remote) to save the new association.

If you are using a Meridian DSP loudspeaker press **Function Mute**.

The display shows the source and preset you have stored; for example:



After a short delay the display will revert to the normal display of DSP preset and volume.

Defining your own presets

The 561 Digital Surround Controller allows you to modify one of the built-in presets, and save it for future use.

You can either save the changes to the built-in preset, or you can create up to 12 presets of your own, with names of your choice, so you can use them alongside the built-in presets.

To save the preset settings

- Make sure the menus are unlocked; see *To unlock the menus*, page 24.
- If necessary, select a signal in the appropriate format. For example, to change the DSP preset used for DTS compact discs, play a DTS CD.
- Press **Preset** (front panel or remote) to select the DSP preset you want to modify and then associate with the source.



Trifield

For example:

- Change the preset parameters to the values you want to store; see *To change a DSP parameter*, page 25.
- Press **Store** (remote).

The display shows the next available user-defined preset.



Sto.User 2

For example:

- If you want to overwrite an existing user-defined preset press ▲ or ▼ to select the preset you want to overwrite.



Sto.User 1

For example:

Alternatively if you started with a built-in preset you can choose that and overwrite it.



Sto.Trifield

For example:

- Press **Store** (remote).

The settings have been stored in the new or existing preset you selected.

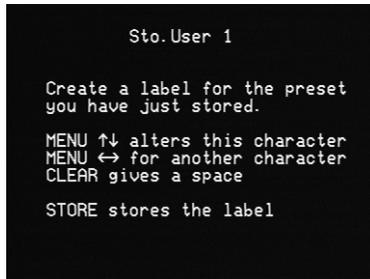
If you are defining a user preset you can now edit the name of the preset if you wish.

A flashing cursor shows the letter you are editing:



```
Sto. User 1
```

If you have an on-screen display it shows:



```
Sto. User 1

Create a label for the preset
you have just stored.

MENU ↑↓ alters this character
MENU ←→ for another character
CLEAR gives a space

STORE stores the label
```

- Press ► or ◀ to select the character position you want to edit.
- Press ▲ or ▼ to change the character.

Each press steps through the sequence A to Z, a to z, 0 to 9, full stop, and blank. You can also select a blank directly by pressing **Clear** (remote).

If you are using a Meridian DSP loudspeaker you select a blank by pressing **Function Clear**.

For example, you could change the name to:

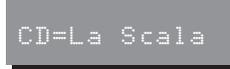


```
Sto. La Scala
```

- When you have entered the name you want to use press **Store**.

The display shows the source and the new preset you have defined.

For example:



```
CD=La Scala
```

To clear a user-defined preset

- Make sure the menus are unlocked; see *To unlock the menus*, page 24.
- Press **Preset** (front panel or remote) to select the DSP preset you want to clear.

For example:



User 2

- Press and hold down **Clear** (remote) for several seconds.

The display shows:



Preset Clear

If you clear a preset that was saved over a built-in preset, the original settings are restored.

DSP presets

This chapter gives technical information about each of the DSP presets built in to the digital surround controller.

It explains the processing performed by each DSP preset, and gives details of the types of material you should use with each preset.

It also gives details of the special DSP parameters available for each preset.

The DSP presets are divided into three categories: Logic, Music, and 5.1 Movie. You can set up the 561 Digital Surround Controller to use a different subwoofer configuration for each category of DSP preset.

Logic DSP presets

The digital surround controller provides five DSP presets specifically designed for reproducing stereo film soundtracks. Three of these presets, **Pro Logic**, **THX Cinema**, and **TV Logic**, are designed for Dolby Surround encoded material. Most films, and many TV programmes and series, are encoded using Dolby Surround, and it is increasingly being used to encode music.

The 561 Digital Surround Controller follows the Meridian philosophy of performing all the signal processing digitally, and the Dolby Surround decoding operates purely in a digital mode. This gives it a far higher performance and a better subjective sound than other analogue-based decoders.

The remaining two Logic presets, **Mono** and **Academy**, are designed for films with mono soundtracks.

Pro Logic

Dolby Surround is an encoding system based on a phase-amplitude matrix whose output can be decoded by a very simple passive matrix. Such a decoder gives quite a poor separation.

The Pro Logic system uses psychoacoustically optimised directional enhancement to increase the separation in both left-right and front-back directions. It does this by continuously calculating the position and degree of the currently dominant sound. This sound is then steered to a greater or lesser extent to that position in the arriving sound. This technique is very successful for cinema and other dramatic programmes.

Further refinements in the Pro Logic decoder include the filtering and delay of the rear surround signal to reduce any tendency for the surround signals to divert attention or become dominant. The Pro Logic decoder also uses a modified digital Dolby noise-reduction process in the surround signal. Since Dolby Surround material is encoded with this in mind the noise-reduction is permanently operating in this mode.

THX Cinema

The **THX Cinema** DSP preset provides Pro Logic decoding, followed by additional signal processing refinements developed by Lucasfilm Ltd.

The THX extensions to Pro Logic decoding are designed to provide a better match between the sound of the movie theatre and a home cinema in the following ways:

- The front channels are re-equalised to correct for the higher treble often found in film soundtracks.
- The surround channels are frequency-corrected using a timbre-matching process so that sounds moving front-back are more convincing.
- The surround channels are decorrelated to break up any artificial localisation of the rear signals due to the speakers being nearby. In the 561 Digital Surround Controller this decorrelation is optimised to give spacious surround sound that has no artefacts disturbing to music or other sensitive sounds in the mix.
- The time synchronisation between loudspeakers is adjusted to compensate for the fact that the speakers in a home system tend to be a lot closer to the listener than in a movie theatre.

THX can also be used with the 5.1 Movie DSP presets; see *Dolby Digital THX, DTS THX, and MPEG THX*, page 46.

Pro Logic and THX Cinema DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Mono Rear	Steered Rear, Steered Side, Steered All, Mono All, Mono Rear, Mono Side	Which of the surround channels are generated by steering. Mono gives conventional Pro Logic surrounds. Steered gives stereo surrounds.

TV Logic

TV Logic is a logic preset, with user-adjustable steering, that can give higher intelligibility and a more appropriate spatial presentation for studio-based TV material.

TV Logic DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Roll	Off, Low, Med, High	The degree of left–right steering.
Yaw	Off, Low, Med, High	The degree of front–rear steering.
Mono Rear	Steered Rear, Steered Side, Steered All, Mono All, Mono Rear, Mono Side	Which of the surround channels are generated by steering.

Mono and Academy

In the **Mono** and **Academy** DSP presets you can choose to listen to:

- Only one of two input channels, for use when different languages or material are carried on each channel.
- A combined version of the two input channels, for use if the material was originally mono and has been conveyed on a two-channel carrier.

If there is a centre speaker, the combined or selected signal is played only through this to centrally localise high-frequency hiss and clicks.

The **Academy** DSP preset includes an equalisation (recommended by Lucasfilm Ltd) to correct for a high-frequency balance in some old mono films.

Mono and Academy DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Input	Auto L+R, Left, Right, L+R	The channel selected.

Music DSP presets

The digital surround controller provides seven alternative music DSP presets designed for the reproduction of well-recorded material, originally intended for replay over a traditional stereo pair of loudspeakers.

In addition, it provides DSP presets for reproducing music in the digitally encoded DTS, MPEG, and MLP formats.

<i>Audio format</i>	<i>Presets</i>
Two-channel (PCM)	Direct, Music, Trifield, Ambisonic, Super Stereo, Stereo, Music Logic
DTS	DTS Music
MPEG	MPEG Music
MLP (Meridian Lossless Packing)	MLP

Music

The **Music** DSP preset extracts the mono and surround components of the original recording. These components provide an alternative representation of the original sound, and this representation is sometimes used for recording systems or in broadcasts such as FM radio.

The mono element is equalised using a proprietary Meridian technique to match the tone colour of the centre speaker, and to compensate for the fact that the frequency response of human hearing changes with direction.

The **Music** DSP preset is recommended for recordings made with spaced omnidirectional microphones, or using a mono-surround technique.

Trifield

As for the **Music** DSP preset, the **Trifield** preset extracts the mono and surround components of the original recording. It then calculates the signals for the front left, centre, and right speakers, using the phase and amplitude differences between the three front channels, to redistribute the sounds on a frequency-dependent basis.

This gives a significant improvement over traditional stereo, which converts the differences between the microphone signals into amplitude differences in the speaker signals. This version of the Trifield algorithm is virtually impossible to implement without digital signal processing.

Trifield is recommended for well-made recordings and stereo television broadcasts that are not Dolby Surround encoded. An advantage over the **Music** DSP preset is that the front stereo image is more focused, and the width of the image can be adjusted.

Music and Trifield DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Centre	Flat, EQ1 to 3	The timbre of the centre loudspeaker.
Width *	0 to 1.5	The width of the image.
Surr. Rear	Surr. Rear, Surr. Side, Surr. All	Switches the surround signal between the side and rear speakers.
R Filter	Off, 1kHz, 3kHz, 7kHz	The cutoff of high frequencies from the rear surrounds.
S Filter	Off, 1kHz, 3kHz, 7kHz	The cutoff of high frequencies from the side surrounds.

* **Trifield** only.

Ambisonic

The **Ambisonic** DSP preset is designed for replaying material encoded in UHJ format, the two-channel stereo-compatible encoding found on Ambisonically recorded discs and broadcasts. This material is specifically encoded for surround reproduction and can give breathtakingly realistic sound when replayed using the digital surround controller.

Ambisonic surround sound is quite unlike conventional stereo. A special microphone technique picks up the sound of the original performance in all three dimensions, allowing an archive to be made which describes the sound field exactly at that position. The microphone signals are then encoded using a phase-amplitude matrix to allow the effect to be conveyed on two-channel carriers (like FM radio, LP, or CD).

The digital surround controller uses accurately matched, frequency-dependent, phase-amplitude matrices to decode the signal and construct the signals for each speaker feed.

The fundamental difference between Ambisonic surround sound and conventional stereo is that the signals from all the speakers combine to produce a coherent sound field at the listening position, giving the illusion that you are sitting inside the

recording space whether you are at the exact central seat or well off to one side.

Of all the signal-processing options, **Ambisonic** is the one that requires the greatest attention to speaker choice and positioning.

Super Stereo

Super Stereo synthesises a signal from a conventional stereo recording or broadcast so that it can be decoded using the Ambisonic decoder. The result is especially effective for two particular types of recordings:

- Those using true coincident microphone techniques.
- Multi-tracked or multi-miked recordings.

Ambisonic and Super Stereo DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Width *	0 to 1	The width of the image.
Position †	A, C, E, G, I, K, M	The seating position; the letters are like rows in a hall.
5 Channels	7, 6, 5, 4	The number of speakers.
R Filter	Off, 3kHz, 7kHz, 9kHz	The cutoff of high frequencies from the rear surrounds.
S Filter	Off, 3kHz, 7kHz, 9kHz	The cutoff of high frequencies from the side surrounds.

* **Super Stereo** only.

† **Ambisonic** only.

Music Logic

Music Logic is a music DSP preset with user-adjustable steering, designed to provide an exciting experience with many types of studio-produced music.

Music Logic DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Roll	Off, Low, Med, High	The degree of left-right steering.
Yaw	Off, Low, Med, High	The degree of front-rear steering.
Mono Rear	Steered Rear, Steered Side, Steered All, Mono All, Mono Rear, Mono Side	Which of the surround channels are generated by steering.

DTS Music

DTS Music is a special version of the **DTS** preset designed with a lower LFE level of -10dB to match the bass levels applied to DTS music CDs.

MPEG Music

MPEG Music is a special version of the **MPEG** preset designed for listening to MPEG encoded music CDs.

MLP

MLP (Meridian Lossless Packing) is an audio format that increases the amount of information that can be recorded on a CD or DVD, without any loss of quality.

For details of the **DTS Music**, **MPEG Music**, and **MLP** DSP preset parameters see *5.1 Movie DSP preset parameters*, page 47.

Stereo and Direct

The **Stereo** preset passes the left and right input signals directly to the left and right main speakers. Any mono or front left and right subwoofers continue to be used.

With the **Direct** preset only the left and right main speakers are used.

There are no special DSP preset parameters.

5.1 Movie DSP presets

The discrete digital formats can encode up to eight separate channels, which can be decoded to provide separate signals to the eight speakers in a surround configuration.

Dolby Digital

Dolby Digital is a totally digital format capable of encoding five full frequency-range channels, together with one restricted frequency-range channel used for extreme bass.

The digital surround controller's **Dolby Digital** preset is capable of decoding the range of different options provided by Dolby Digital. In addition, it provides bass power management to protect systems from the potentially high bass levels that Dolby Digital can produce.

DTS

DTS is unusual among the compressed surround formats in that it can deliver high quality music at high bit rates.

CDs and LaserDiscs are currently available which provide a DTS signal in place of the normal digital audio. DVDs may also feature DTS soundtracks.

MPEG

MPEG surround is the preferred audio format for DVD in PAL territories.

Dolby Digital THX, DTS THX, and MPEG THX

As with the standard **THX Cinema** DSP preset, **Dolby Digital THX**, **DTS THX**, and **MPEG THX** re-equalise the signals to suit domestic listening conditions, and applies frequency-response correction and decorrelation to the surround channels to make the surround sound more realistic, and can be used whether or not your other equipment is THX approved.

5.1 Movie DSP preset parameters

<i>Parameter</i>	<i>Options</i>	<i>What it changes</i>
Surr. Rear	Surr. Rear, Surr. Side, Surr. All	Switches the surround signal between the side and rear speakers.
LFE	0 to -30dB	The relative level of the LFE bass channel.
Max SPL *	105 to 120dB SPL	The peak-level limit for an LFE subwoofer.
Limit *	-15 to -5dBFS	The peak-level limit of the total bass signal added to the main speakers.
Compress †	Off, Low, Med, Top, Max, Mix	The dynamic range control; see opposite.

* See *Using peak-level limiting*, page 48.

† **Dolby Digital** and **Dolby Digital THX** only.

Using dynamic range control

Because Dolby Digital is a digital format it allows dynamic range control without the distortion involved in analogue methods. The **Compress** parameter can be set to one of the following options:

<i>Option</i>	<i>Description</i>
Off	No compression.
Low	Provides moderate bottom-up compression. This raises quiet sounds above the background noise, which is ideal for demonstration and quiet listening.
Med	Provides moderate amounts of both bottom-up and top-down compression.
Top	Provides a moderate amount of top-down compression. This reduces loud sounds.
Max	Provides full bottom-up and top-down compression. Quiet sounds are raised to be audible and loud passages are minimised to avoid disturbance, which is useful for late-night listening.
Mix	Bypasses dialogue normalisation and references the sound pressure level in the studio where the material was mixed.

Using peak-level limiting

The **Max SPL** or **Limit** parameters allow you to set up peak-level limiting for bass signals, and the setting applies to all the discrete digital DSP presets.

If your loudspeaker layout includes one or more subwoofers the parameter is named **Max SPL**, and it sets the peak-level limit for the LFE channel.

If your loudspeaker layout contains no subwoofer the parameter is named **Limit**, and it sets the peak-level limit of the bass signal added to the main loudspeakers. For loudspeaker layouts using Meridian DSP loudspeakers as the main left and right, or centre speakers, the **Limit** value is fixed at -11dBFS and the parameter does not appear in the menu.

Setting up the digital surround controller

This chapter explains how to install the digital surround controller. It describes what you should find when you unpack the processor, how you should connect it to your other audio equipment and speakers, and the siting constraints.

Before you begin installation you should ensure that your digital surround controller is the correct voltage for you local AC supply. If it is not, do not try to install the unit, and contact your dealer.

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

Unpacking

The digital surround controller comes in a box containing the following components:

- Meridian 561 Digital Surround Controller.
- Meridian System Remote.
- Power cord.
- 500 Series communications lead.
- RS232 computer serial lead.
- This manual.

If any of these items are missing please contact your dealer. We suggest that you retain the packing in case you need to transport the unit.

To position the digital surround controller

Do not place the digital surround controller:

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

- Near to a television, or where connecting cables may be subject to or cause interference.

To avoid overheating ensure that air can flow through the cooling slots on the base and top cover. Alternatively, an optional Fan kit can be fitted to ensure adequate ventilation when the 561 is installed in an enclosed space.

Radio interference

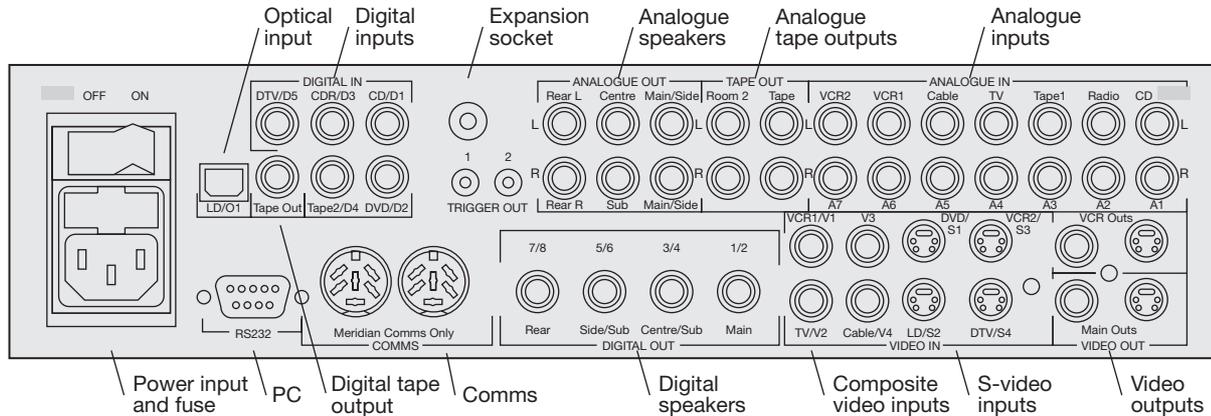
FCC Warning: This equipment generates and can radiate radio frequency energy and if not installed and used correctly in accordance with our instructions may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in Subpart 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.



Connecting the digital surround controller

Rear panel



Video inputs

The table opposite gives details of the video inputs.

The video inputs V4 and S4 include DC rejection, for video signals with a DC offset.

Use this input

VCR1/V1, TV/V2,
V3, Cable/V4

DVD/S1, LD/S2,
VCR2/S3, DTV/S4

To connect to this

The composite video output from a video recorder, TV tuner, or cable television.

The S-video output from a DVD player, LaserDisc player, video recorder, or digital television tuner.

Video outputs

The following table gives details of the video outputs. All outputs include the 561 on-screen display.

When an S-video source is selected the S-video output is also converted to composite and fed to the composite outputs. However, to take advantage of the higher quality available from S-video sources it is recommended that you also connect the S-video output to the television or monitor.

<i>Use this output</i>	<i>To connect to this</i>
Main Outs (composite)	The composite video input of a television or monitor.
Main Outs (S-video)	The S-video input of a television or monitor.
VCR Outs	A video recorder. The composite VCR Outs output will enable you to record either composite or S-video sources.

Digital audio inputs

The following table gives details of the digital audio inputs:

<i>Use this input</i>	<i>To connect to this</i>
CD/D1, DVD/D2, CDR/D3, Tape2/D4, DTV/D5	A digital source, such as a CD player, DVD player, digital tape recorder, or digital television tuner.
LD/01	A digital-optical source, such as a LaserDisc player, the 519 Demodulator, or a CD player with no digital-cable output.

The digital connections should be made with high-quality 75 Ω 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.

Optical connections should be made using a suitable optical fibre supplied by your dealer.

Analogue audio inputs

The following table gives details of the analogue audio inputs:

<i>Use this input</i>	<i>To connect to this</i>
CD/A1, Radio/A2, Tape1/A3, TV/A4, Cable/A5, VCR1/A6, VCR2/A7	An analogue source such as a radio tuner, tape recorder, TV tuner, or cable television.

The analogue connections should be made using high-quality screened cable, taking care to connect the left and right channels correctly.

Audio outputs

The following table gives details of the analogue and digital outputs:

<i>Use this output</i>	<i>To connect to this</i>
Main 1/2	Main left and right speakers.
Centre/Sub 3/4	Centre speaker and centre or mono subwoofer.
Sides/Sub 5/6	Left and right subwoofers, or side left and side right surround speakers.
Rear 7/8	Left and right rear surround speakers.

To use a Meridian DSP loudspeaker in a particular position connect it to the appropriate digital output.

To use a Meridian active loudspeaker, or an analogue speaker in conjunction with a suitable power amplifier, connect the input of the power amplifier to the appropriate analogue output.

If the main speakers are analogue, connect them to the Main/Side analogue outputs. If the main speakers are digital, the Main/Side analogue outputs can be used for analogue side speakers.

Audio tape and expansion socket outputs

The following table gives details of the tape and headphone outputs:

<i>Use this output</i>	<i>To connect to this</i>
DIGITAL Tape Out	A digital tape recorder.
Tape L, R	An analogue tape recorder or video recorder.
Room 2 L, R	A second tape recorder or a Meridian preamplifier in a second room.
Expansion socket *	Additional expansion output.

* The function of the expansion socket depends on the expansion card fitted. The optional Tape card provides a headphone output.

Control outputs

The following table gives details of the control outputs:

<i>Use this output</i>	<i>To connect to this</i>
TRIGGER OUT 1	Other equipment. On when the 561 is switched on but not in standby.
TRIGGER OUT 2	A TV SCART input or motorised screen. On for S-video sources.

The trigger outputs provide 100mA at 9V. They can be configured to other settings; see *Configuring the digital surround controller without a computer*, page 65.

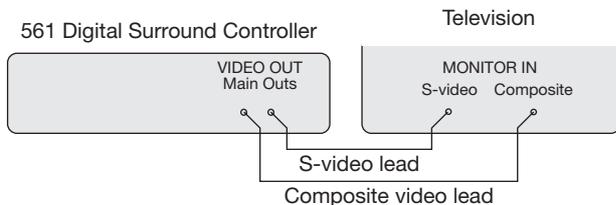
Communications connections

The following table gives details of the communications connections:

<i>Use this connection</i>	<i>To connect to this</i>
COMMS	Other Meridian 500 Series equipment, and the master digital speaker.
RS232	The serial port of a PC, to configure the 561. See <i>Configuring the digital surround controller without a computer</i> , page 65.

Connecting video

To connect to a television or monitor



The 561 digital surround controller provides switching of both composite and S-video sources.

- Connect the composite Main Outs VIDEO OUT socket to the composite input of your television or monitor using a composite video lead.

S-video sources are converted to composite and are also available on the composite output.

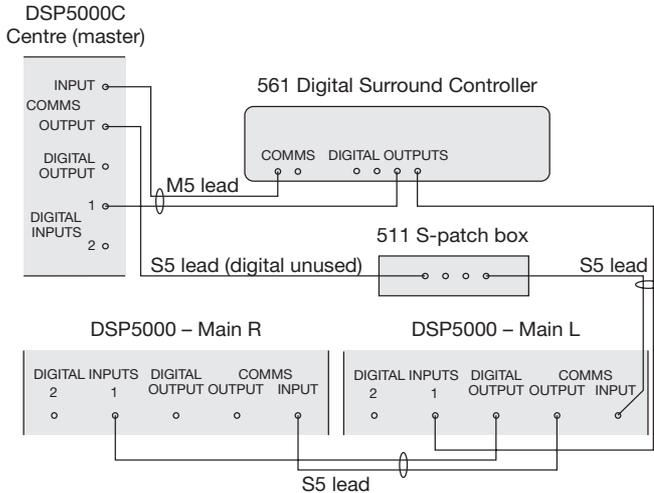
However, for highest quality from S-video sources it is recommended that you connect the S-video Main Outs VIDEO OUT socket to the S-video input of your television or monitor, using an S-video lead, and select this when viewing an S-video source.

The 561 adds a text overlay to the video signal from the Mains Outs video outputs, to provide additional information about its operation in the form of a textual on-screen display (OSD). In normal operation this repeats the information provided on the 561 front panel display. During calibration, and when resetting the 561, the on-screen display provides additional guidelines to help you perform the calibration sequence.

The on-screen display automatically locks to an NTSC, PAL, or SECAM signal, and requires an input signal to operate.

Connecting speakers

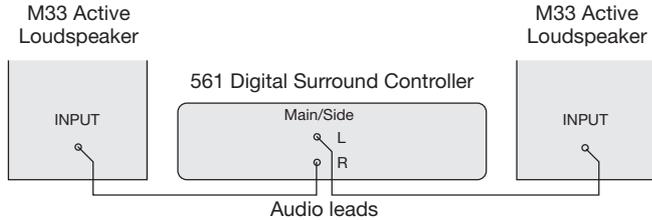
To connect to Meridian DSP loudspeakers



- Use the comms part of an M5 lead to connect one of the COMMS sockets on the 561 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 OUT socket.

- 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. 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.

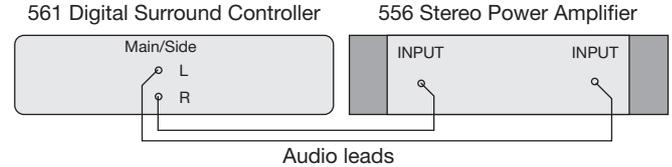
To connect to active loudspeakers (eg Meridian M33s)



- Connect the appropriate ANALOGUE OUT sockets from the digital surround controller to the speaker inputs, using screened audio cable.

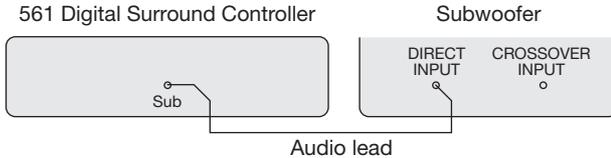
You can connect the 561 to up to two pairs of active loudspeakers and a centre speaker.

To connect to a stereo power amplifier (eg Meridian 556)



- Connect the appropriate ANALOGUE OUT sockets from the digital surround controller to the stereo power amplifier line inputs, using screened audio cable.
- Connect the speaker outputs from the stereo power amplifier to suitable speakers.

To connect an active subwoofer (eg Meridian M1500 or M2500)



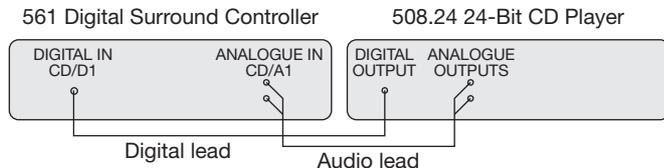
- Connect the Sub ANALOGUE OUT socket from the digital surround controller to the subwoofer's line level input.

The digital surround controller provides very high-quality crossovers for the subwoofer, and for best results you should use these instead of the subwoofer's crossover. To do this set the subwoofer filtering to Narrow, and remove any crossover in the subwoofer or set it to its highest setting (eg 200Hz). If you cannot do this set the subwoofer filtering to wide to switch off the digital surround controller's crossover and use Gain/Sub mode to match the subwoofer's crossover frequency. For more information see *To specify the type of subwoofer*, page 90.

If you are using an M1500 or M2500 use the L+ input and configure it for Bypass; refer to the subwoofer's user guide for more information.

Connecting sources

To connect to a digital source (eg Meridian 508.24 24-Bit CD Player)

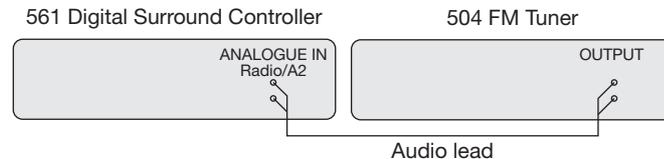


You can connect up to five digital sources to the 561 Digital Surround Controller.

- Connect the digital source to one of the DIGITAL IN sockets, of the 561, using a high-quality digital phono lead.
- If the digital source provides an analogue output, and you want to be able to make analogue tape recordings of the source, connect the analogue output to one of the ANALOGUE IN sockets.

By default the CD/A1 input is copied to the analogue tape output when you copy the CD source.

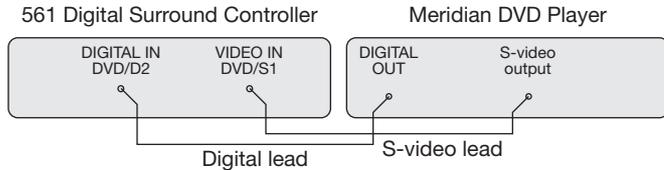
To connect to an analogue source (eg Meridian 504 FM Tuner)



You can connect up to seven analogue sources to the 561 Digital Surround Controller.

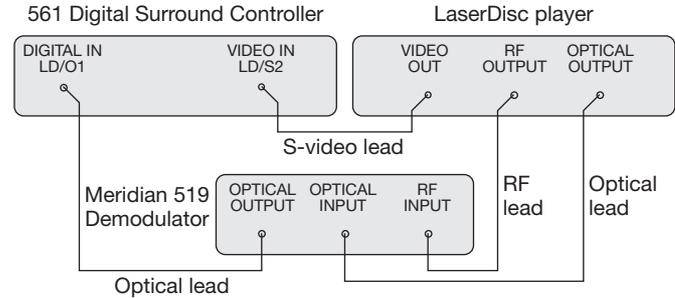
- Connect the analogue source to one of the ANALOGUE IN sockets of the 561, using a standard phono lead.

To connect to a DVD player (eg Meridian DVD Player)



- Connect the S-video output from the DVD player to the DVD/S1 VIDEO IN socket of the 561, using an S-video lead.
- Connect the digital output from the DVD player to the DVD/D2 DIGITAL IN socket of the 561, using a digital lead.

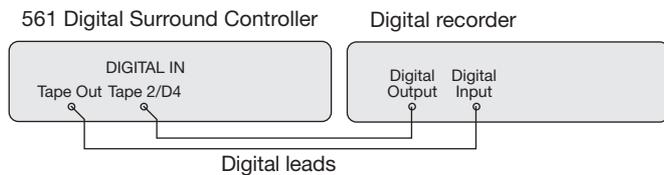
To connect to a LaserDisc player



- Connect the S-video output from the LaserDisc player to the LD/S2 VIDEO IN socket of the 561, using an S-video lead.
- Connect the RF output from the LaserDisc player to the 519 RF input.
- Connect the optical output from the LaserDisc player to the 519 optical input, and the 519 optical output to the LD/O1 DIGITAL IN socket on the 561, using optical leads.

Connecting to a tape recorder

To connect to a digital recorder

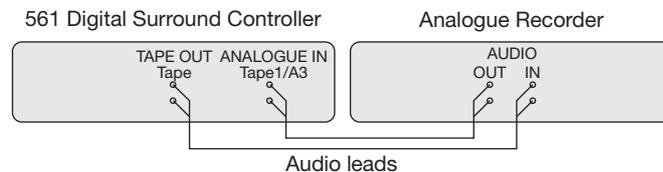


- Connect the Tape Out socket on the 561 Digital Surround Controller to the recorder's digital input.
- Connect the recorder's digital output to the Tape2/D4 DIGITAL IN socket on the 561.

This will allow you to record a digital source by copying it to the tape output.

By adding the optional Tape card you will also be able to record analogue sources to the digital tape output.

To connect to an analogue recorder

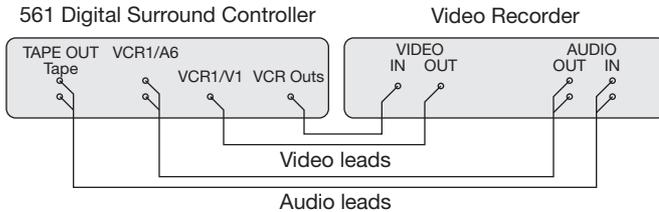


- Connect the Tape TAPE OUT sockets on the 561 Digital Surround Controller to the recorder's input sockets.
- Connect the recorder's output sockets to the Tape1/A3 ANALOGUE IN sockets on the 561.

This will allow you to record an analogue source by copying it to the tape output.

To record a digital source either connect its analogue output to one of the 561 analogue inputs, or add the optional Tape card.

To connect to a video recorder



- Connect the Tape TAPE OUT sockets on the 561 Digital Surround Controller to the video recorder's audio inputs.
- Connect the video recorder's audio outputs to the VCR1/A6 ANALOGUE IN sockets on the 561.
- Connect the appropriate VCR Outs VIDEO OUT socket on the 561 Digital Surround Controller to the video recorder's video input.
- Connect the video recorder's video output to the VCR1/V1 or VCR2/S3 VIDEO IN socket on the 561, as appropriate.

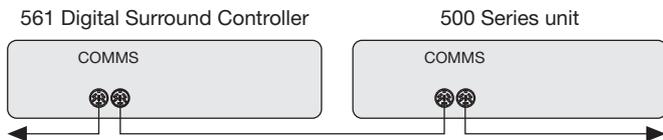
Note that DVD video discs include a special feature so that they cannot be recorded.

Connecting to other Meridian equipment

To connect to other Meridian 500 Series equipment

- Connect one of the COMMS sockets on the back panel of the 561 Digital Surround Controller to one of the COMMS sockets on another 500 Series unit, using the 500 comms lead provided with the digital surround controller.

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



Then configure the units with the following automatic setup procedure:

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

Each unit will display:

Auto Setup

One unit will then be designated as the controller, and display:

Controller

This is the unit that will respond to the remote.

All the other units will be configured as non-controllers, and display:

Not Con.

Your system is now set up and ready for use.

- If for any reason the automatic setup does not give the configuration you want, restore the default operation by selecting one of the standard types; see *Choosing a standard setting*, page 66.

Note: Do not, under any circumstances, connect any equipment other than Meridian 500, 600, or 200 Series to the socket marked COMMS on the back of the digital surround controller.

Configuring the digital surround controller without a computer

The 561 Digital Surround Controller can be set up for most standard configurations of loudspeakers and sources using just the front-panel controls and Meridian System Remote.

This chapter explains how to configure the digital surround controller without using a computer, and then how to calibrate the loudspeakers and sources for your particular system.

Alternatively, for complete control over all aspects of the digital surround controller's configuration you can set up the unit from a computer using the Meridian Configuration program. For full information refer to the next chapter.

Choosing a standard setting

The digital surround controller provides 39 alternative standard settings, called Types, which configure all aspects of the 561 into the most commonly needed configurations. In addition, any User Types you create using the Meridian Configuration program are also available.

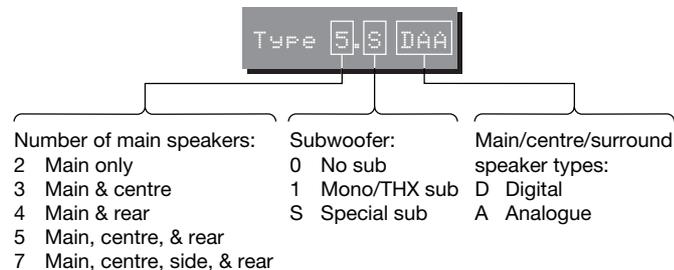
Choosing one of the Types overrides any other configuration you may have performed, and so can be used to reset the configuration of the unit.

If your digital surround controller is connected to a television or monitor, the on-screen display also provides additional text explaining what to do. For information about setting up the on-screen display refer to *Connecting video*, page 56.

The Type you choose depends on the following aspects of your system:

- The number of speakers in your system.
- Whether your system includes a subwoofer.
- Whether the speakers are analogue or digital.

The following diagram shows the meaning of the standard Type codes:



The Special sub option gives no subwoofer for Music DSP presets, a centre subwoofer for Logic presets, and an LFE subwoofer for 5.1 Movie presets.

To select a Type

- Select a video source to produce an on-screen display.
- Put the digital surround controller into standby by pressing **Off** (front panel or remote).

- Hold down the ▲ key on the front panel until the display shows:

```
Type in... 5
```

- Keep holding down the ▲ key for a further 5 seconds.

The display will show:

```
Type- Wait..
```

Followed by the current Type setting; for example:

```
Type 5.1 AAA
```

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

For example, if you have two analogue speakers the display shows:

```
Type 2.0 A--
```

- Wait for a few seconds, while the display shows:

```
Typeing, wait
```

- Press the **Off** key on the front panel.

The display shows:

```
Exiting Type
```

Standard source settings

The digital surround processor provides 12 sources corresponding to the 12 source selection keys on the Meridian System Remote.

When the digital surround processor is reset to one of the standard Types the sources are set up with the labels, inputs, and presets shown in the table below.

<i>Source</i>	<i>Audio input</i>	<i>Video input</i>	<i>2-channel preset</i>	<i>Digital preset</i>	<i>DTS preset</i>	<i>MPEG preset</i>
CD	CD/D1	–	Trifield	Digital	DTS Mus	MPEG Mus
Radio	Radio/A2	–	Music	Digital	DTS Mus	MPEG Mus
DTV	DTV/D5	DTV/S4	Music	Digital	DTS	MPEG
TV	TV/A4	TV/V2	TV Logic	Digital	DTS	MPEG
Tape 1	Tape1/A3	–	Music	Digital	DTS	MPEG
Tape 2	Tape2/D4	–	Music	Digital	DTS	MPEG
CDR	CDR/D3	–	Trifield	Digital	DTS	MPEG
Cable	Cable/A5	Cable/V4	TV Logic	Digital	DTS	MPEG
DVD	DVD/D2	DVD/S1	Trifield	Digital	DTS	MPEG
VCR 1	VCR1/A6	VCR1/V1	Pro Logic	Digital	DTS	MPEG
VCR 2	VCR2/A7	VCR2/S3	Pro Logic	Digital	DTS	MPEG
LD	LD/01	LD/S2	THX Cinema	Digital THX	DTS THX	MPEG THX

Calibrating the system

To help you to set up your installation to give the best possible sound with any particular combination of associated equipment, the 561 Digital Surround Controller includes a built-in calibration procedure.

This calibration procedure uses test signals to present a series of sounds, which you use to adjust certain aspects of the system to their optimum settings.

You should work through the calibration procedure the first time you set up your surround sound system, and whenever you want to check the calibration, such as after changing the layout of your room.

Using the calibration procedure

We recommend that you perform the calibration procedure using the Meridian System Remote and from the listening position.

As you run the calibration procedure the name of each calibration test is shown on the front-panel display, followed by the parameters adjusted in the test.

If your digital surround controller is connected to a television or monitor, the on-screen display also provides additional text explaining what to do. For information about setting up the on-screen display refer to *Connecting video*, page 56.

Each calibration test uses a test signal designed to give the best results.

Using a Sound Pressure Level meter

Although you can perform the calibration procedure by ear, it is recommended that you perform the tests using a Sound Pressure Level meter. These are available fairly cheaply from Tandy/Radio Shack, or your Meridian dealer may be able to lend you one.

Set the Sound Pressure Level meter to C weighted, and Slow. Take readings with the meter at the listening position, pointing vertically. You should hold the meter with an outstretched arm to minimise reflections from your body.

To choose the distance units

You can choose to display and enter distances in either feet and inches, or metres.

To change the distance units:

- Put the digital surround controller into standby by pressing **Off** (front panel or remote).
- Press and hold the ▼ key on the front panel for at least five seconds.

The display shows the distance units:



Metres

Or:



Feet/Inches

To start the calibration procedure

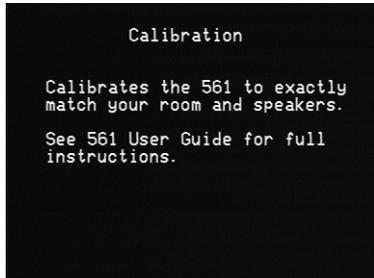
- Select a video source to produce an on-screen display.
- Put the digital surround controller into standby by pressing **Off** (front panel or remote).
- Press and hold the **Off** key on the front panel for at least five seconds.

The display shows:



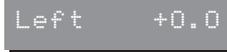
Calibration

If you have an on-screen display it shows:



Calibration
Calibrates the 561 to exactly
match your room and speakers.
See 561 User Guide for full
instructions.

After a few seconds the display shows:



Left +0.0

For more detailed information about this and the other calibration tests see the following sections.

To move between the calibration tests

- Press ► (remote) to move to the next test.
- Press ◀ (remote) to move back to an earlier test.
- Press **Store** to jump to the next set of tests.

The calibration tests are described in the following sections.

To exit from the calibration procedure

You can exit from the calibration procedure at any time, and any parameters you have set will be retained.

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

Calibration tests

Levels

These tests allow you to adjust the output level to each speaker individually, and it follows the general guidelines from Dolby Laboratories and Lucasfilm. A Sound Pressure Level (SPL) meter can be useful at this stage; ask your dealer for more information.

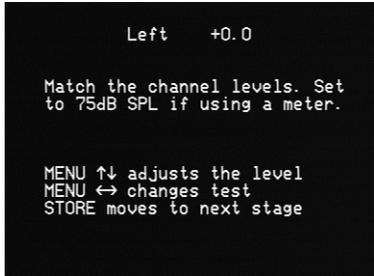
In each test the display shows the speaker being tested, and the current relative level.

For example:



Left +0.0

If you have an on-screen display it shows:



```
Left +0.0

Match the channel levels. Set
to 75dB SPL if using a meter.

MENU ↑↓ adjusts the level
MENU ←→ changes test
STORE moves to next stage
```

- Use the ► and ◀ keys to move between each of the speakers in the layout in the sequence: Left, Centre, Right, Side R, Rear R, Rear L, Side L, and subwoofers.
- Use ▲ and ▼ to adjust the level of the speaker. Ignore any tonal difference.

For correct THX reproduction you should adjust each speaker to 75dB SPL using an SPL meter. Even if your speakers are not THX approved this setting is recommended.

If you have Meridian DSP loudspeakers they cannot be set above +0db.

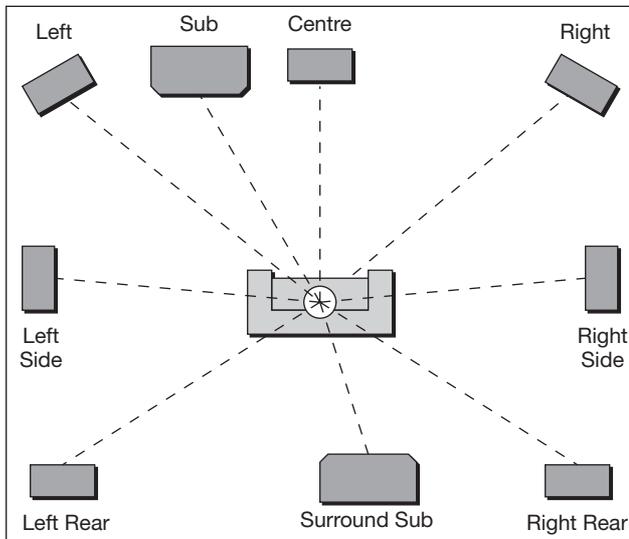
Note that you cannot set the level of a subwoofer by ear, because low-frequency noises sound quieter. To set the subwoofer correctly either use an SPL meter, or set it by ear and then reduce the subwoofer gain by 15dB to correct for human hearing.

- When you have completed the Levels section press ► or **Store** to proceed to the next test.

Distance

These tests allow you to adjust the delay of each of the speakers in the layout to time-align the system so that sounds are coincident when they arrive at the listening position.

Before setting up the speaker outputs you need to measure the distance to each speaker from the listening position:



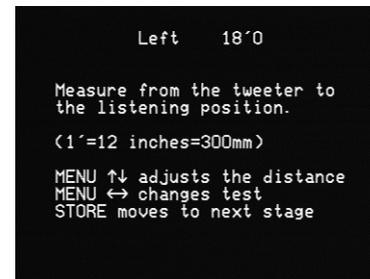
Measure from the ear height at the listening position to the tweeter on each speaker (where applicable), in the distance units you have chosen; see *To choose the distance units*, page 70.

- Use the ► and ◀ keys to move between each of the speakers in the layout.

The display shows the speaker being tested, and the distance:



If you have an on-screen display it shows:



- Use ▲ and ▼ to change the distance.

Repeat this for each of the speakers in your layout.

- Press ► or **Store** to proceed to the next calibration stage.

Fine tuning

These tests allow you to fine-tune the phase and delay of each speaker when used in conjunction with other speakers on the layout.

- Use the ► and ◀ keys to move between each of the speakers in the layout.

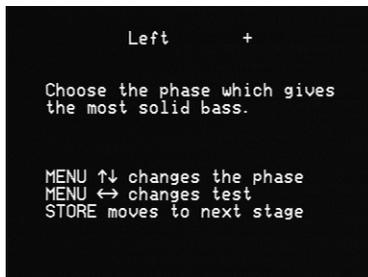
The first display allows you to adjust the phase.



Left +

For example:

If you have an on-screen display it shows:



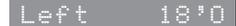
```

Left      +

Choose the phase which gives
the most solid bass.

MENU ↑↓ changes the phase
MENU ←→ changes test
STORE moves to next stage
  
```

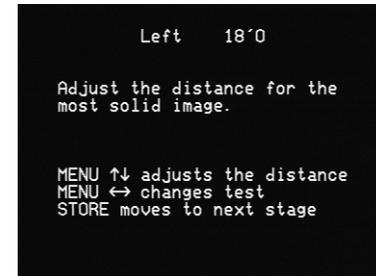
The next display shows the distance (or delay) for the same speaker.



Left 18'0

For example:

If you have an on-screen display it shows:



```

Left      18'0

Adjust the distance for the
most solid image.

MENU ↑↓ adjusts the distance
MENU ←→ changes test
STORE moves to next stage
  
```

Choose the correct setting as follows:

<i>Setting</i>	<i>What it sounds like</i>
Correct	The sound between the speakers is very even, and does not change radically as you move your head.
Incorrect	The sound appears diffused, and changes in timbre and apparent location as you move your head.

Pay particular attention to the centre channel, as this can have a dramatic effect on the overall sound.

As you increase the delay the speaker will appear to move away from you.

You have now completed the calibration of your system.

- Press **Off** (front panel or remote) to exit from the calibration procedure.

Setting up sources

This section explains how to use Gain/Sub mode to set up the sources connected to the digital surround controller, and configure them to suit your other equipment.

You can also adjust the subwoofer crossover frequency to suit the subwoofers in your system.

To turn on Gain/Sub mode

- Put the digital surround controller into standby by pressing **Off** (front panel or remote).
- Press and hold the **Mute** key on the front panel for at least five seconds.

The display shows:



Gain/Sub On

The 561 will then return to standby with Gain/Sub mode turned on.

Gain/Sub mode adds three extra options to the DSP parameter menus: **Gain**, **Xover**, and **Sine**.

To turn off Gain/Sub mode

- Repeat the above procedure until the display shows:



Gain/Sub Off

To adjust the sensitivity of analogue sources

The 561 contains a very high-quality Analogue to Digital Converter (ADC) which allows analogue sources to take advantage of our unique surround modes and the highly transparent DSP volume control.

To obtain the best signal-to-noise ratio for your analogue inputs you can adjust the sensitivity of each input to give the highest level which does not produce clipping. Clipping in the ADC can sound very unpleasant and can occur at any output volume level.

For each analogue input, the sensitivity should be set using the loudest passages in the loudest source material available, such as the commercials on a TV channel. While setting the sensitivity you can choose any surround mode or volume level, as these do not affect the input level.

- Turn on Gain/Sub mode, as described above.
- Select the source you want to adjust, with loud source material playing.

The display shows a Clip indicator, and the current sensitivity of the source in dB.

For example:



If you have selected a digital source you cannot adjust the sensitivity and the display shows NA.

The Clip indicator changes to show the peak input level as follows:

<i>Display</i>	<i>What it means</i>
	Input clipped; reduce sensitivity.
	Input correct; just below clipping.

- Press ◀ or ▶ (remote) until the display shows:



- Press ▲ or ▼ (remote) to adjust the sensitivity until three bars are showing in the loudest passages.
- Repeat for any other analogue sources you want to adjust.
- Turn off Gain/Sub mode, as described above.

To adjust the subwoofer crossover frequency

The 561 allows the crossover frequency for any subwoofers which you have to be adjusted between 30 and 120Hz. The crossover can be set independently for Music, Logic, and 5.1 Movie presets. The default is the THX standard of 80Hz.

- Turn on Gain/Sub mode, as described above.
- Press ◀ or ▶ (remote) until the display shows the current crossover frequency.

For example:



- Press ▲ or ▼ (remote) to set the crossover frequency.

For THX loudspeaker systems you should not adjust these settings – they should be left at 80Hz. 80Hz is also the recommended setting for all movie listening. You may prefer, however, to lower the crossover frequency for music if your main speakers have good bass handling down to, say, 50Hz.

To use the sinewave sweep test

Gain/Sub mode includes a sinewave signal test, to help you set the subwoofer crossover frequencies, or check for room resonances.

- Turn on Gain/Sub mode, as described above.

- Press ◀ or ▶ (remote) until the display shows:



- Press ▲ to turn on the sinewave signal.

The display shows:



- Press ▲ or ▼ to start the sinewave sweeping up or down in frequency, respectively. Press the key twice to sweep more quickly.

The display shows the direction and frequency.



For example:

You can then use the ▲ or ▼ keys to change the speed or direction of sweep, pause the sweep, or turn off the sinewave.

Configuring the digital surround controller using a computer

The 561 Digital Surround Controller provides a flexible range of customisation options which you can change to suit your own preferences and the other equipment in your system. To configure the 561 you use the Meridian Configuration program, an intelligent Windows-based application that is supplied with the 561. This allows you to create one or more custom configurations, and download them to the 561 so that they are available alongside the built-in types.

This chapter explains how to install the Meridian Configuration program, and then how to use it create your own configurations of the 561.

The Meridian Configuration program

The Meridian Configuration program is a stand-alone Windows-based application that lets you design your own configuration of the 561 Digital Surround Controller 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 digital surround controller's operation:

Setup



Setup

Lets you specify general features of the digital surround controller's operation, including the position of the on-screen display, the information provided on the front panel displays, the startup volume, and settings affecting its operation in multi-room systems.

Speakers



Speakers

Lets you configure the digital surround controller to suit the layout of the loudspeakers in your system, and the type of each speaker, to ensure that you get perfect surround sound performance.

Sources



Sources

Lets you customise the operation of each of the sources, including the presets used by each source for each of the audio formats, the digital, analogue, and/or video inputs used for that source, and additional information about the type of each source.

Presets



Presets

Lets you customise the settings of the built-in DSP presets, and create additional presets of your own based on the built-in presets.

Installing the Meridian Configuration program

Requirements

To use the Meridian Configuration program you need:

- A computer running Windows 95 or Windows NT 4.00.
- A 100MHz or faster Pentium-class processor.
- At least 16 Mbytes of RAM.
- 5 Mbytes 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

- 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.

Planning the configuration

Before creating a configuration for your 561 Digital Surround Controller it is a good idea to plan the following aspects of your setup:

- How you are going to set up the different speakers in your layout.
- Whether the bass is going to be handled by the main speakers, or by one or more subwoofers.
- Which analogue, digital, or video inputs you are going to use for each of your sources.
- Which DSP preset you want as the default preset for each source and audio format.

To run the Meridian Configuration program

- Click **Start**, point at **Programs**, then click **Meridian 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(s).
	Store	Stores the current settings and User Types to attached products.
	Disconnect	Disconnects the program from attached products.
	Copy	Copies text or settings onto the clipboard.
	Paste	Pastes text or settings from the clipboard.
	About	Displays program information.

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 561 Digital Surround Controller.
- 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.

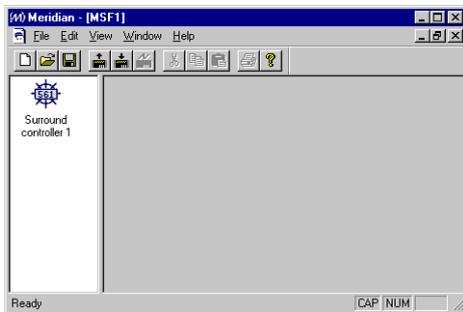
Creating a new settings file

The 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 561.

- Choose **New** from the **File** menu, or click the New button in the toolbar:



A new settings file will be created for you, with the initial name **MSF1**, and the **Meridian** window will show a 561 **Surround controller** icon to identify the product you are configuring.

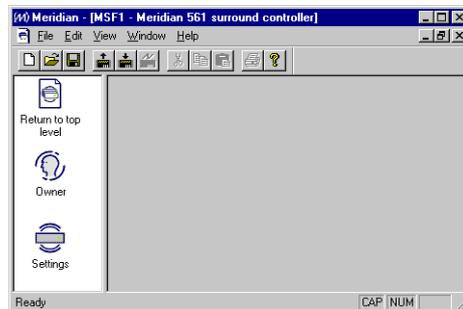


- Choose **Save As** from the **File** menu, enter an appropriate name for the file, such as your name, and click the **Save** button.

To display the settings

- Double-click the **Surround controller** icon, to open it and display the settings it contains.

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



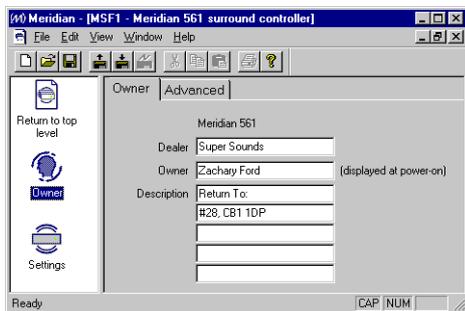
Owner lets you enter personal information, for future reference, and choose the message displayed when you first switch the unit on, and **Settings** is the initial configuration in the settings file.

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

To enter your personal details

- Click the **Owner** icon in the left-hand panel.
- Enter any text you like in the **Dealer**, **Owner**, and **Description** fields.

You can enter up to 12 characters in each field, the size of the 561 front-panel display.



The **Owner** text will be displayed when you turn the 561 on. The **Dealer** and **Description** text are displayed after the product version and serial numbers if you hold down the front-panel **Display** key in standby.

The options on the **Advanced** tab are for use by dealers in setting up multi-room systems, and to upload a new version of the software to the product, and it is recommended that you do not change these settings.

To display or edit the settings

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

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

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.

Setting up speakers

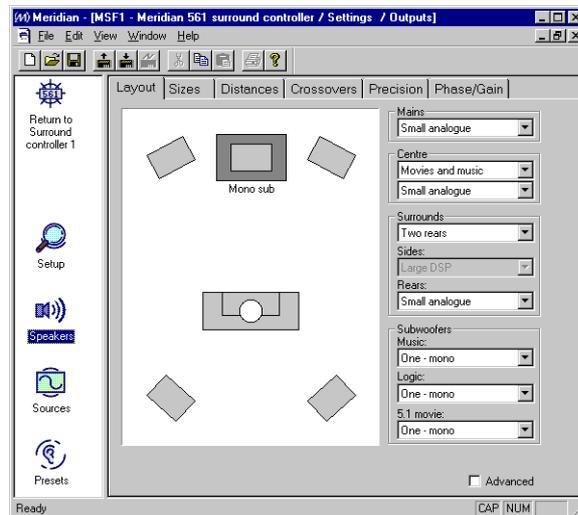
This section describes how to use the Meridian Configuration program to configure the 561 Digital Surround Controller for the configuration of loudspeakers in your system, and specify information about the type of each speaker, for optimum performance.

The first stage in setting up the speakers is to specify the number of speakers in the layout, and the type and size of each speaker.

The 561 Digital Surround Controller can support up to 8 loudspeakers, or up to 6 loudspeakers if the front speakers are analogue.

To specify the speaker layout

- Click **Speakers** in the left-hand panel of the **Meridian** window.
- If necessary click the **Layout** tab to display the **Layout** page of speaker settings:



- Specify the type of each speaker by selecting the appropriate option from each of the drop-down menus.

As you change the options the layout illustration will change to show the resulting layout.

If you select a combination of options that is not supported, the other options will be adjusted accordingly to ensure that the whole configuration is valid.

For example, if you specify two sides and two rears, and then select two subwoofers, the side speakers will be removed to enable you to have the subwoofers.

To specify the size and type of the main speakers

- Choose **Large** if your main left and right speakers are large, with good bass performance, and you want to use them for full range reproduction.
- Choose **Small** if your main left and right speakers do not have a good bass response and you want to use one or more subwoofers to handle the bass for the system.
- Choose **analogue** or **DSP** according to the type of each speaker.

The following table gives recommended settings for Meridian loudspeakers:

<i>Loudspeaker</i>	<i>Recommended setting</i>
DSP5000, DSP5500, DSP6000, or DSP6000C	Large DSP
DSP5000C	Small DSP
M60	Large analogue
M60C, M33, or A500	Small analogue

To specify information about the centre speaker

- From the first drop-down menu choose one of the following options:

<i>Option</i>	<i>Description</i>
None	If you do not have a centre speaker.
Movies only	If you want to use the centre speaker for Logic and 5.1 Movie DSP presets only.
Movies and music	If you want to use the centre speaker for all presets.

- From the second drop-down menu specify the type of the centre speaker; the options are as for the main speakers.

To specify the number and types of surrounds

- Choose the appropriate option depending on the number of rear speakers and side speakers you have in your surround system.
- Specify the types of the rear and side speakers.

To specify the number of subwoofers, and the DSP presets that use them

If your main left and right speakers are small you will need to use one or more subwoofers to handle the bass. You can choose between appropriate combinations of mono (front), centre, left and right, or surround.

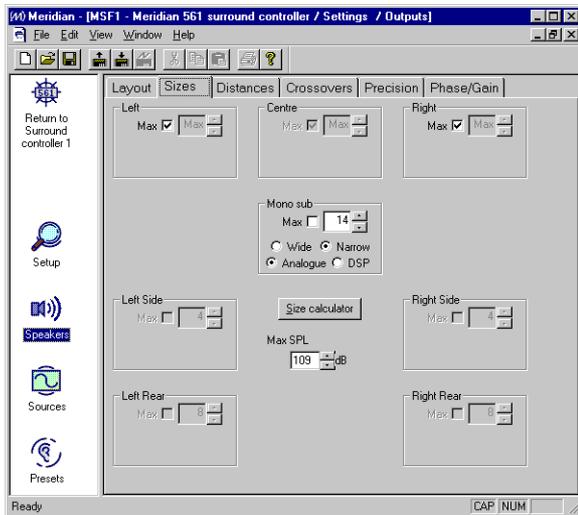
If your main left and right speakers are large you can use one or more subwoofers to augment the bass from the centre channel. With 5.1 sources an additional option is to use the subwoofer only for the LFE channel.

You can specify a different subwoofer configuration for Music, Logic, and 5.1 Movie DSP presets.

The **Advanced** checkbox is for dealer use only, and it is recommended that you leave this unchecked unless you have special requirements.

Setting the speaker sizes

Once you have specified the speaker layout for your system the **Sizes** page of settings allows you to set up speaker protection for the 5.1 sources.



To set up speaker protection

Because of the high bass levels that 5.1 materials are capable of reproducing, the digital surround controller allows you to set up automatic protection of each full-range speaker or subwoofer.

A setting of **Max** corresponds to no protection, and 0 corresponds to full protection. By default any Meridian DSP loudspeakers in your system are set to **Max**, as these include built-in protection.

You can use **SizeCalc** to help you calculate the correct value for your speakers:

- Click the **Size calculator** button to display the **SizeCalc** window:



- Specify the number of bass units in each speaker (woofers), the size of each unit, and the design of the speaker.

The size value is displayed in the **SizeCalc** display.

- Type the size into the appropriate field.

If you prefer you can copy and paste the size directly.

To specify the type of subwoofer

For each subwoofer in the system you can specify the subwoofer filtering. The options are explained in the following table:

<i>Option</i>	<i>Description</i>
Narrow	The digital surround controller provides a low-pass cut off; the subwoofer's crossover should be bypassed. This is the recommended option.
Wide	The subwoofer includes a crossover.

To set peak-level limiting

The **Max SPL** or **Bass limit** parameter allows you to set up peak-level limiting for bass signals, and the setting applies to all the discrete digital DSP presets.

If your loudspeaker layout includes one or more subwoofers the parameter is named **Max SPL**, and it sets the peak-level limit for the LFE channel.

If your loudspeaker layout contains no subwoofer the parameter is named **Bass limit**, and it sets the peak-level limit of the bass signal added to the main loudspeakers. For loudspeaker layouts using Meridian DSP loudspeakers as the main left and right, or centre speakers, the **Bass limit** value is fixed at -11dBFS and you cannot adjust it.

To complete the speaker setup

You have now completed the first stage of setting up the 561, and you should save the changes you have made by choosing **Save** from the **File** menu.

You can ignore the **Distances**, **Crossovers**, **Precision**, and **Phase/Gain** pages of settings for the moment; these will allow you to check the values you have set up when you calibrate the 561.

Setting up sources

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

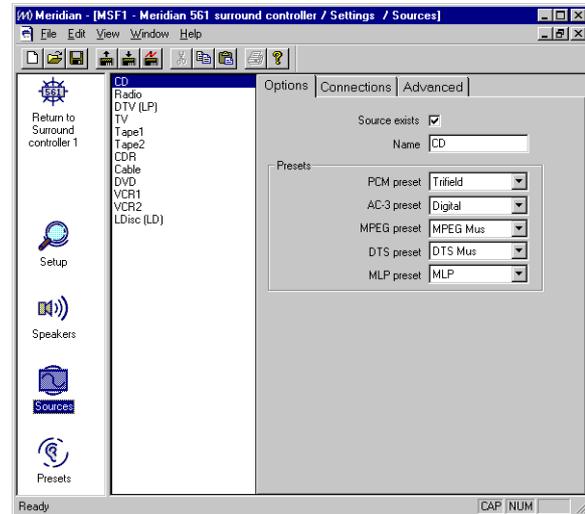
To set up sources

- 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 display three pages of settings by clicking on the **Options**, **Connections**, or **Advanced** tabs.

To configure the source options

- Select the source in the list of sources.
- Click the **Options** tab.



- Select **Source exists** if you want to use this source.

You can prevent the source from appearing in the list of sources, or being selectable using the Meridian System Remote, by disabling this option.

- If you want, you can change the name displayed when the source is selected by editing the **Name** field.

The name can consist of up to five letters, digits, or the characters space, full-stop, and minus.

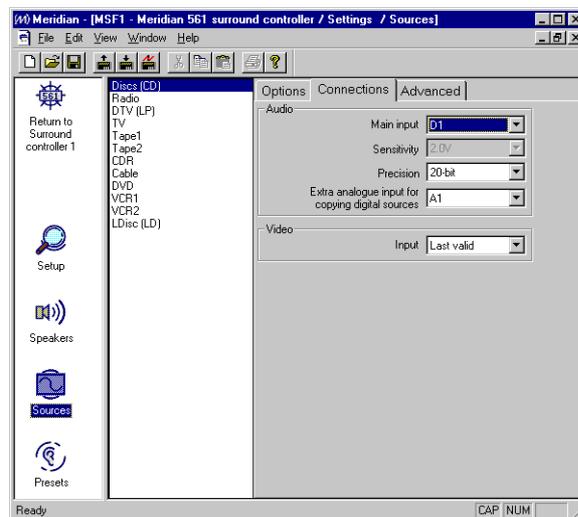
The name you specify is shown in the list of sources followed by the Meridian System Remote key used to select the source in brackets.

- In the **Presets** section specify the DSP preset you want to use for each of the five alternative audio formats: PCM, AC-3, MPEG, DTS, or MLP.

Each drop-down menu gives the built-in and user-defined DSP presets appropriate for that audio format.

To specify the source connections

- Click the **Connections** tab to show the **Connections** page of settings.



- From the **Main input** drop-down menu specify the digital or analogue audio input you want to use for the source.
- From the **Video Input** drop-down menu specify the video input you want to use for the source.

Either option can be set to **Last valid** to leave the corresponding setting unchanged when you select the source. You would usually set **Video Input** to **Last valid** for audio sources such as CD, Radio, Tape1, and Tape2.

You can create a source with **Main input** set to **Last valid** if you want it to change some other aspect of the current source, such as its DSP preset, without changing the selected input.

If you have specified a digital input for the main audio input:

- Specify the precision for the source by choosing an option from the **Precision** drop-down menu.

All CDs and laserdiscs are currently 16-bits. The 518 provides 24-bits. If in doubt choose **24-bit**.

The **Extra analogue input** drop-down menu allows you to select an extra analogue input for copying digital sources. Select this if your digital source also provides an analogue output, and you want to make analogue recordings from it.

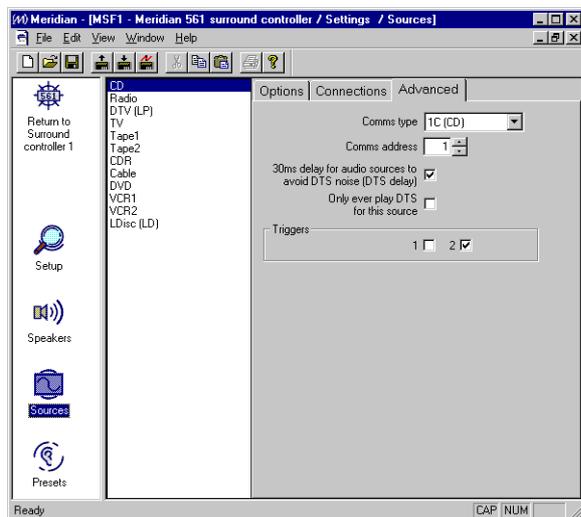
If you have chosen an analogue input for the main audio input:

- Specify the sensitivity of the input by choosing an appropriate option from the **Sensitivity** drop-down menu.

Note that you can also adjust the sensitivity of any analogue source interactively, using Gain/Sub mode. See *To adjust the sensitivity of analogue sources*, page 76.

To set the advanced source options

- Click the **Advanced** tab to show the **Advanced** page of settings.



- 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.
- You can also select a 30 millisecond delay to avoid DTS noise. This option should not be selected for video sources as it will prevent the sound from being in sync with the picture.
- Select **Only ever play DTS for this source** to create a video DTS source that will avoid any DTS noise when switching audio formats.
- Select either of **Triggers 1** or **2** to activate the specified trigger outputs when this source is selected.

Configuring presets

The 561 Digital Surround Controller provides 21 built-in presets and the Meridian Configuration program lets you configure the DSP parameters of any of the built-in presets to suit your own preferences.

You can also create up to 12 additional user-defined presets. Each user-defined preset is based on one of the built-in presets, and can have any name of your choice.

To set up presets

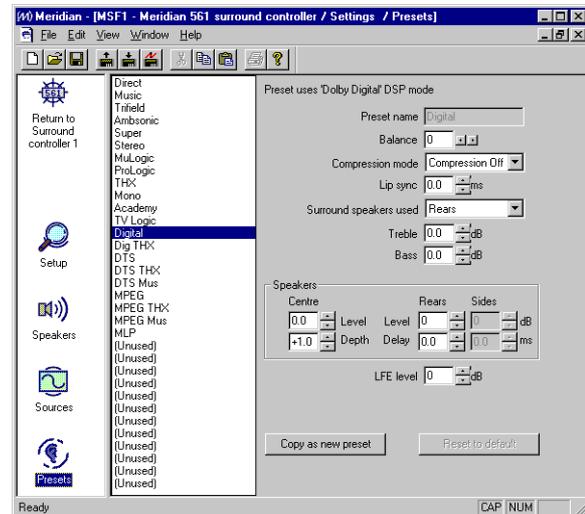
- Click the **Presets** icon in the left-hand panel of the **Meridian** window.

The right-hand panel shows a list of the 21 built-in presets, and the 12 unused user-defined presets.

To modify a built-in preset

- Select the preset in the list of presets.

The default DSP parameters will be displayed:



- Adjust the parameters as required.

Note that the treble and bass settings will not be available if your system includes DSP loudspeakers, because in this case the DSP speakers handle the treble and bass adjustments.

For more information about the DSP parameters available for each DSP preset see *DSP presets*, page 37.

If you have modified the DSP parameters from their defaults, **(modified)** is displayed after the preset name in the list of presets.

To restore the DSP parameters to their defaults

- Select the preset in the list of presets.
- Click the **Reset to default** button.

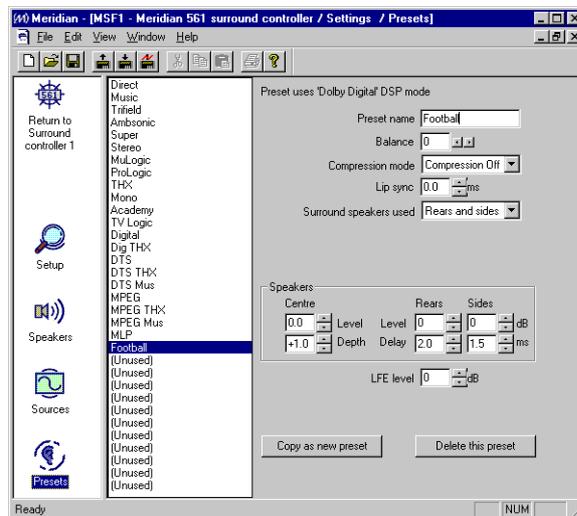
To create a user-defined preset

- Select the preset you want to use as the basis for the user-defined preset.
- Click the **Copy as new preset** button.

The new preset is created in the first available space after the built-in presets.

- Select the new preset you have created.
- Edit the preset name to identify the preset.

Initially the name is set to be the same as the built-in DSP preset it was based on, but you can choose any name of up to 8 letters, digits, or the characters space, full-stop, or minus; eg **Football**.



To delete a user-defined preset

- Select the preset in the list of presets.
- Click the **Delete this preset** button.

To copy a preset to a specific position in the list of user-defined presets

- Highlight the preset you want to copy.
- Choose **Copy** from the **Edit** menu, or click the Copy button in the toolbar: 
- Highlight the user-defined preset or empty position you want to replace.
- Choose **Paste** from the **Edit** menu, or click the Paste button in the toolbar: 

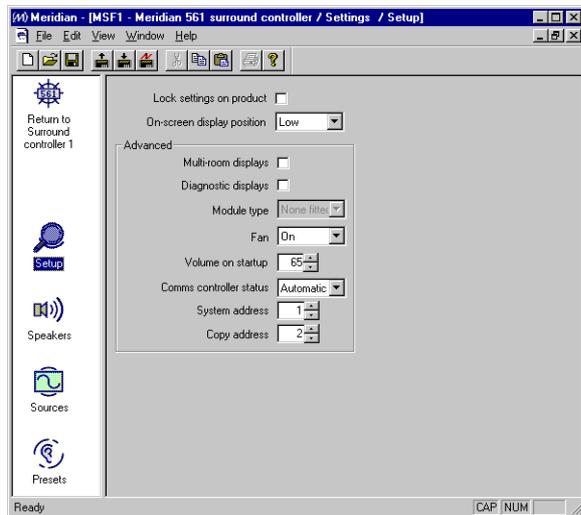
Changing the setup options

The final 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:



The options are described in the following table:

<i>Option</i>	<i>What it means</i>
Lock settings on product	Locks the DSP preset parameters.
On-screen display position	Specifies the default position of the on-screen display.
Multi-room displays	Includes displays of information from Meridian sources; eg CD track number or FM tuner frequency.
Diagnostic displays	Includes diagnostic displays in the display options.
Module type	Selects an optional module, if fitted.
Fan	Sets the fan operation, if fitted.
Volume on startup	Specifies the volume selected on switching on at the back panel.
Comms controller status	Specifies whether the 561 is controller, not controller, or set automatically.
System and Copy address	For multi-room setups.

Calibrating the settings with your system

Once you have edited the settings to suit the configuration of your system, the next step is to store the settings to the 561 and use the calibration listening tests built into the 561 to calibrate it for correct performance.

To save the settings

First save the settings to your PC hard disk.

- Choose **Save** from the **File** menu, or click the **Save** button in the toolbar:



To print a summary of settings

At this stage it is useful to print a summary of the speaker and source settings, so that you can check that they correspond to your system configuration.

- Check that there is a printer connected to your PC.
- Click the **Settings** icon in the left-hand panel of the **Meridian** window.
- Click the **Print sources and output summary** button.

To store the settings to the digital surround controller

- Switch on the 561 Digital Surround Controller, and check that the serial cable is connected between the 561 and the PC.

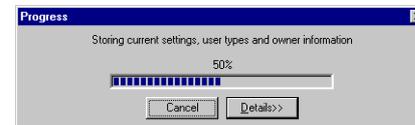
- Click the **Store** button in the toolbar.



The 561 will display:



The following **Progress** dialogue box shows how the operation is progressing.



If there is a problem click the **Details>>** button to see more information about the problem.

When the download is complete the 561 will automatically reset itself to use the new settings, and show the owner name you defined:

For example:



To calibrate the loudspeakers

Now proceed through the calibration procedure to set the correct relative level, delay, and phase for each of the loudspeakers in the system. See *Calibrating the System*, page 69.

To adjust the sources

The second calibration stage involves adjusting the sensitivity of the analogue sources; see *To adjust the sensitivity of analogue sources*, page 76.

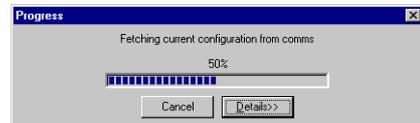
To fetch the calibrated settings

Finally fetch the calibrated settings back from the digital surround controller as follows:

- Make sure your settings file is loaded into the Meridian Configuration program.
- Click the **Fetch** button in the toolbar.



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



You can verify that the calibrations you made are now included in the settings by checking the **Distances** and **Phase/Gain** pages of the **Speakers** settings option.

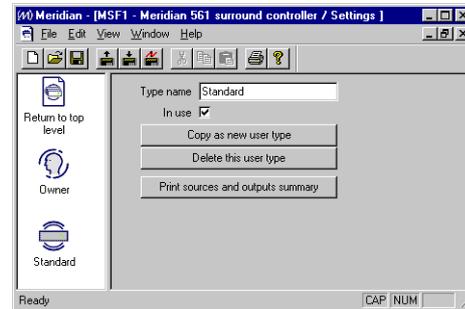
Creating a User Type

Once you have fetched the calibrated settings from the digital surround controller, the final step is to store them permanently to the 561 as a User Type, so that you can reset the unit to them whenever you need to.

When you store one or more User Types to the 561 they become available in the list of Types, alongside the built-in Types. For more information about selecting one of the Types see *Choosing a standard setting*, page 66.

To name the User Type

- Click the **Settings** icon in the left-hand panel of the **Meridian** window:



- Enter a suitable name in the **Type name** field to identify your User Type, such as **Standard**.

The name can have up to 12 characters.

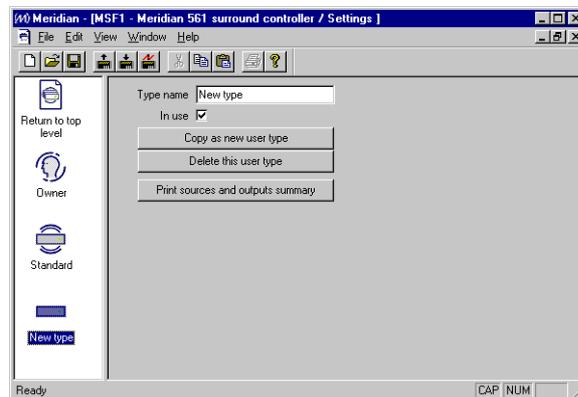
To create additional User Types

If you wish you can create several User Types, and store them all to the digital surround controller. You can then reset the digital surround controller to any of the User Types by selecting the appropriate Type name.

To create a new User Type:

- Select the User Type you want to base it on in the left-hand panel of the **Meridian Setup** window; eg **Standard**.
- Click the **Copy as new user type** button.
- Select **In use** if you want the User Type to be selected automatically when you store it to the digital surround controller.

Initially the new type will be created with the same settings as the type you based it on, and with the name **New type**:



You can then change the name of the new Type, and configure its settings, in exactly the same way as for the original Type.

A suggested naming convention is to name User Types with the date they were created: for example, 06/05/98.

To copy settings between User Types

- Highlight the User Type you want to copy the settings from.
- Choose **Copy** from the **Edit** menu, or click the Copy button in the toolbar: 
- Highlight the User Type you want to copy the settings to.
- Choose **Paste** from the **Edit** menu, or click the Paste button in the toolbar: 

You can also copy and paste source and preset settings from one section of a user type to the same section of another user type as follows:

- Highlight the icon corresponding to the section of settings you want to copy: **Sources** or **Presets**.
- Choose **Copy** from the **Edit** menu, or click the Copy button in the toolbar: 
- Highlight the same icon in the User Type you want to copy to.
- Choose **Paste** from the **Edit** menu, or click the Paste button in the toolbar: 

Completing the configuration

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

To save the current settings

- 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 561 Digital Surround Controller

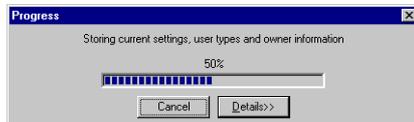
- Click the **Store** button.



The settings will then be downloaded to the 561. The 561 will display:

A screenshot of the digital surround controller's display showing the text "Receiving..." in a monospaced font.

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



If the download was successful the 561 will briefly display the owner name you have defined;

A screenshot of the digital surround controller's display showing the name "Zachary Ford" in a monospaced font.

For example:

It will then switch itself to standby.

The User Type you have created will now be available in addition to the built-in Types, and will be selected by default if you need to reset the configuration of the digital surround controller; see *Choosing a standard setting*, page 66.

Troubleshooting

This chapter provides suggested solutions to typical problems that may occur when setting up the digital surround processor.

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.

General operating problems

Standby point not lit

Check the following:

- There is AC power connected to the socket on the rear of the 561.
- The power switch on the rear panel of the 561 is turned on.

If the 561 will still not illuminate, check any fuses in your power supply and the fuse in the inlet of the 561. If these are all intact, contact your dealer.

Erratic or unexpected system behaviour

Redo the Auto Configure process as follows:

- Put the whole system into standby.
- Press **Clear** on the Meridian System Remote.
- Observe all units responding correctly.

If this fails, the memory of the 561 may have been corrupted. If this is suspected perform a full reset; see *Choosing a standard setting*, page 66.

Remote not working

Check the following:

- The battery in the Meridian System Remote.
- Remove the 500 Comms connections from the 561, does it respond now? If so, replace the connections and perform an Auto Configure procedure as described opposite.
- See if the 561 has been set up as not controller in the Meridian Configuration program; see *Changing the setup options*, page 98. Note that this may be deliberate by your dealer.

When playing a Dolby Digital DVD, the 561 selects the Pro Logic preset

DVDs include a two-channel Dolby Digital soundtrack, which will use the default two-channel preset.

- Select a six-channel soundtrack, if it is available.

Unit is overheating

If there is not adequate ventilation around the unit, or you are operating it in an enclosed space, you will need to fit the optional Fan kit.

Audio problems

Hum on analogue input

There is no reason for the 561 to produce hum on the analogue input.

- Check the source equipment. Disconnect each source in turn.
- If the hum originates from a ground loop, an antenna or cable supply may be the cause. In this case an antenna-lead isolator should be fitted.
- If the 561 seems to be the cause of hum consult your dealer.

Poor sound quality

Poor sound quality will usually result from driving an analogue input too hard.

- Turn down the analogue input level.
- To optimise this use Gain/Sub mode; see *To adjust the sensitivity of analogue sources*, page 76.

There is radio interference

The 561 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 561 and its cabling.
- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the 561.
- Connect the receiver and this product to different AC outlets.
- If the problem persists contact your dealer.

Audible hiss at high volume settings

The input dynamic range of most current recordings is at maximum 16 bit. The reason for this is that currently CD, DVD, and LaserDisc use a 16-bit standard although DVD can support up to 24-bits. The analogue sources you have cannot achieve this kind of range. For comparison, analogue sources are likely to be of the order of:

- VCR, 12 bits.
- FM radio, 13 bits.
- Reel to reel tape, 13 bits.
- Cassette tape, 12 bits.
- LP, 11 bits.

Note that there may be a difference between the dynamic range of the source channel when it is operating, and the noise you hear in standby. For example, LP normally has lower noise when the stylus is not in the groove; similarly tape will be quieter when it is stopped. CD may also be quieter when it is stopped, producing so called 'digital silence'.

The 561 has a 20-bit capability on its internal analogue-to-digital converter, which is used for analogue sources. When the volume is turned up high you may hear its dither as a hiss when the sources are stopped. This hiss is lower than the background noise of your recordings and should be of no consequence.

The 561 has 20-bit output precision on the analogue outputs.

Other sources of hiss may be tracked down using the Mute option. When muted the outputs are reduced to the dither at the selected precision.

Crackling on optical inputs

Some optical sources, in particular some LaserDisc players, provide poor drive waveforms that do not meet the EIAJ standard. This is because the light modulates but never goes quite 'black' between pulses. If you experience crackling on the optical input or an occasional reluctance to lock, ie provide a sound, investigate as follows.

- Try other fibres.
- Pull the fibre part-way out and see if the problem clears up.
- Try another player or CD player on the optical input.
- Contact Meridian for up-to-date advice on this point.

Sound not clear

- If speech sounds muffled in a system with a centre speaker, check that sound is coming from the centre as there may be a connection problem. In a digital or Meridian feed to the centre you may have set it up to be right instead of left so that it is playing a subwoofer signal.
- If speech sounds muffled in a system with no centre speaker, you may have selected a layout that expects one. See *To specify the speaker layout*, page 86.

Centre not working

There may be a connection problem.

- In a digital or Meridian feed to the centre, you may have set it up to be right instead of left, and therefore it may be playing a subwoofer signal.

There is a hiss when starting DTS LaserDiscs

The DTS audio stream is indistinguishable from a PCM audio stream; the 561 takes 30ms to identify the encoding, during which a hiss is heard.

- With non-video DTS sources you can add a 30ms delay to avoid this.
- With video sources you can create a DTS-only source to avoid any hiss.

Video problems

Poor picture quality

Picture quality may suffer if you do not attend to the following:

- Are you using suitable quality cables with good connectors?
- Is there a ground loop created between any of the components connected to the 561?

Remember that reception of broadcast or cable signals can be significantly deteriorated by cross-modulation in the RF domain. It is unwise to attempt to cascade and mix several video sources, eg LaserDisc, VCR, etc, to an antenna system.

Video source produces a 'washed out' low-contrast image

The 561 video inputs V1 to V3 and S1 to S3 are direct coupled, for highest quality. However, some video sources (typically cable television interfaces) have a DC offset which causes video problems. In this case use V4 or S4, which provide DC rejection.

Meridian Configuration program problems

Preset options do not appear or are not available

The options available when you are editing the DSP preset parameters depend on the speaker layout you have defined in **Speakers**.

- If you have any DSP speakers in the layout, treble and bass are not available.
- The **Speakers** options for **Centre**, **Sides**, and **Rears** can only be edited if your layout includes the corresponding speakers.

Meridian Configuration program repeatedly fails to talk to the product

- Check that you have selected a COM port.
- Check that no other program currently running is using the COM port.
- Check that it is connected correctly.
- Turn off the 561 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.

Service and guarantee

Service

The Meridian 500 Series of hi-fi 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 561 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 561 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 561 Digital Surround Processor is guaranteed against defects in material and workmanship for 2 years from the date of purchase.

The guarantee is void if the 561 Digital Surround Processor 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 561 Digital Surround Processor 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.



Glossary

Absolute phase

A control which changes the phase of the signals to all the speakers.

AC-3

An alternative name for the Dolby Digital format.

Ambisonic

A music encoding and decoding system designed to recreate the original soundfield using an array of loudspeakers.

Aspect ratio

The overall shape of the speaker layout.

Compress

A DSP parameter providing dynamic range control for Dolby Digital sources.

Controller

The product in a Meridian system that uses the infra-red signals from the remote to control the system. The controller is normally chosen automatically, but the installer can override this.

Dolby Digital

A digital surround-sound which provides five full-frequency range channels (left, centre, right, left surround, and right surround) and an additional Low Frequency Effects (LFE) channel which is band limited to 120Hz.

Dolby Surround

The encoding system used for the majority of movies on video and many TV broadcasts. Dolby Surround encoded material can be replayed with a surround decoder connected to an array of loudspeakers which normally include at least left, centre, right, and rear surround.

DTS

Digital Theatre Systems originally produced digital audio tracks for motion pictures. A version of this format adapted for consumer video and audio products is referred to as DTS Entertainment. Like Dolby Digital it provides five full-frequency range channels (left, centre, right, left surround, and right surround) and an additional Low Frequency Effects (LFE) channel.

DVD

Digital Video Disc or Digital Versatile Disc, a CD-sized disc with nearly 30 times the storage capacity of CD. It is capable of storing digital video, high-quality multi-channel audio, or computer data.

Layout

Refers to a particular arrangement of speakers and subwoofers. You can select different layouts for the cinema, music, and 5.1 DSP presets.

LFE

The Low Frequency Effects (LFE) channel which enhances movie soundtracks with sound effects and ambient sounds. It is band limited to 120Hz in a Dolby Digital system.

LFE sub

A subwoofer which plays the full 120Hz bandwidth LFE signal in Dolby Digital, DTS, and MPEG presets.

Limit

A DSP parameter that sets the peak-level limit of the bass signal added to the main loudspeakers.

Max SPL

A DSP parameter that sets the peak-level limit for the LFE channel.

Menus

The flexible system for choosing options and configuring settings in Meridian products. On the 561 the menus are controlled by the ◀, ▶, ▲, and ▼ keys on the MSR.

MLP

MLP (Meridian Lossless Packing) is an audio format that increases the amount of information that can be recorded on a CD or DVD, without any loss of quality.

Mono sub

A subwoofer which handles all the bass for the system. A THX standard subwoofer has a crossover at 80Hz.

Mono surrounds

Surrounds which have a common signal steered to them. This may then be decorrelated by the THX process to give more spaciousness.

MPEG

MPEG Surround is a digital encoding system developed by the Motion Picture Expert Group. Like Dolby Digital it provides five full-frequency range channels and an additional Low Frequency Effects (LFE) channel.

MSF

Meridian Settings File, a file containing settings and User Types for one or more Meridian products.

MSR

The Meridian System Remote, or handset.

OSD

On-Screen Display, which the 561 can superimpose on a composite video signal to give information about the state of the system, and to help during configuration.

PCM

Pulse Code Modulation, the method used to encode music digitally, as used on audio CDs.

Preset

A DSP decoding option in the 561. You can create user-defined presets based on the built-in presets, and with specific parameter values; see *Defining your own presets*, page 34.

Source

An input to the system, such as CD or TV. The Meridian 500 and 800 Series provide 12 named sources, corresponding to the names of the 12 source keys on the MSR. In the 561 you can choose the logo displayed for each source, and the input used for it.

Special sub

A subwoofer option that gives no subwoofer for Music DSP presets, a centre subwoofer for Logic presets, and an LFE subwoofer for 5.1 Movie presets.

SPL

Sound Pressure Level, a physical measurement of the level of sound at a particular location which can be obtained using an SPL meter.

Steered surrounds

Surrounds which have individual signals steered to them by the digital surround processor's steering matrix.

Surround

A sound reproducing system with more than two loudspeakers, and usually with speakers behind or to the side of the listener.

THX

Additional processing that follows Dolby Pro Logic Surround decoding to give a more faithful reproduction of cinema sound in the home.

Trifield

A music decoding system designed to extract centre and surround signals from a conventional two-channel stereo source.

Type

A standard configuration of the digital surround controller. Selecting a Type resets any configuration and calibration changes.

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