

A large, stylized, dark gray letter 'M' is centered on a black background. The 'M' is composed of thick, solid lines. 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 541 Surround Controller**

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# Introduction

**T**he Meridian 541 Surround Controller is unique in providing high quality surround-sound processing in an audio-visual remote-control preamplifier.

The surround processing provides a range of modes both for home cinema and music, making the 541 ideal as the heart of a general-purpose hi-fi system. The 541 also has all the features of a high-performance audio-visual controller. It provides six analogue inputs, together with three video inputs for home cinema switching. All the features are highly customisable, with a simple menu interface and on-screen help for setup and calibration.

To get the superb results you should expect from the 541 it is important that you spend some time setting it up correctly with your system, and this guide is designed to help you do this as simply as possible.

For instructions on setting up the unit turn to *Setting up the surround controller*, page 27. Once the surround controller has been set up refer to the next chapter, *Using the surround controller*, for information about getting the best results from all your music and film recordings.

# The Meridian 500 Series

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The Meridian 541 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 with the ability to add to it or change it at a later date should your requirements change. The 500 Series is also compatible with the existing Meridian 200 Series and 600 Series components.

Each Meridian 500 Series component is housed in a matching slim line 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 incorporates 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 handset, and ensures that your commands from the handset 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 control unit in another room.

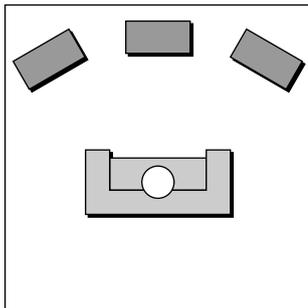
The following pages show several of the loudspeaker layouts you can use with the 541 Surround Controller. For more information about the configuration Type number you select for each layout see *Choosing standard settings*, page 36.

## Sample configurations

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### Three-channel surround system – Type 3

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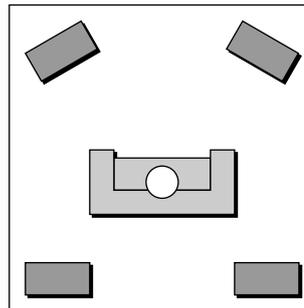


The ideal starting point for a surround sound system is to add a centre loudspeaker to the left and right loudspeakers of a conventional stereo system.

The 541 Surround Controller takes advantage of the additional loudspeaker to reinforce the central image, and allow the left and right loudspeakers to be further apart for a wider soundstage. This gives a more realistic and stable three-dimensional image of the original recorded sound, for outstanding music and cinema reproduction.

### Four-channel surround system – Type 4

---



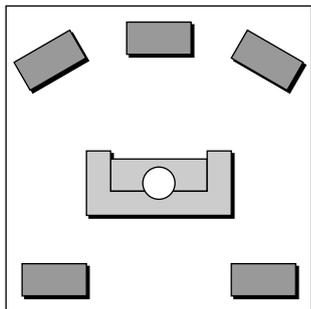
If you are primarily interested in home cinema you may prefer to extend an existing stereo system by adding a pair of rear surround loudspeakers, for cinema effects and ambient sounds.

An ideal choice would be a pair of wall mounting or bookshelf loudspeakers powered by a Meridian 555 Power Amplifier.

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## Five-channel surround system – Type 5

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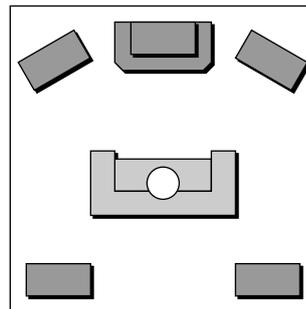
Our recommended surround system for music and cinema uses five loudspeakers, with the main left and right loudspeakers providing the bass. This gives a very natural sound for music listening, and a precise three-dimensional image combined with good bass performance for cinema. An ideal configuration would include a pair of Meridian M60 Active loudspeakers for the main left and right loudspeakers and a Meridian M60C Active Loudspeaker for the centre loudspeaker.

If you also have a mono subwoofer available you can choose to use this for the Cinema presets, to enhance cinema effects without affecting the quality of music from your system (Type 6).

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## Cinema surround systems – Type 1 or 2

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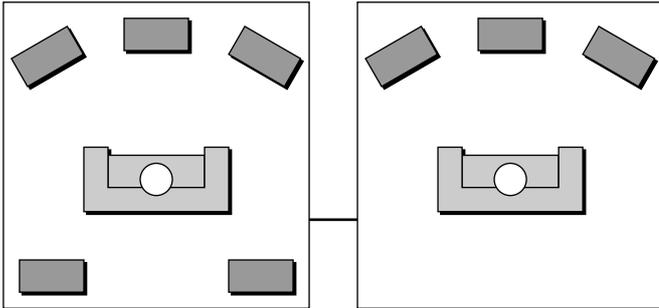
If your primary interest is cinema, you can use a mono subwoofer to enhance the bass performance for both cinema and music presets.

This is the configuration recommended by Dolby for use with Pro Logic, and is a good choice if your main left and right loudspeakers have a poor bass response, or the room is large.

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## Second room system – Type 7

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The 541 Surround Controller has all the features necessary to set up a two (or three) room hi-fi system. From either room you can watch and listen to any source playing in the main room, in addition to any local sources in that room. The Meridian communications system lets you control the system from either room.

You set up the second room using Type 7, and the main room using whichever of the other types is appropriate; eg Type 5.

# The surround sound options

---

The 541 Surround Controller provides a sophisticated range of audio and video control options, and even if you have no immediate plans for surround sound it is an ideal choice as a conventional two-channel preamplifier.

However, the 541 Surround Controller really comes into its own as the heart of a full surround system. It accepts a conventional two-channel source, such as music on compact disc, or a video soundtrack, and processes it to create between three and six separate output channels designed to be fed to an array of correctly-positioned loudspeakers.

The surround controller provides several signal processing options, called presets, designed to provide the best results with a range of different types of music and cinema material. This section gives information about each of the presets, and gives recommendations for the preset to choose for different types of material.

In addition to selecting built-in presets, the 541 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 loudspeakers 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.

For more information see *Defining your own presets*, page 24.

The 541 Surround Controller provides two categories of presets: cinema and music, and these are described in the following sections.

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## Cinema presets

---

The surround controller provides three alternative presets designed for decoding TV, film, video, and LaserDisc sound tracks.

The cinema presets are designed to bring videos, LaserDiscs, and TV broadcasts alive with fully-involving sound and special effects. They include Dolby Pro Logic, and a custom Meridian Cinema mode better suited to home listening.

---

### *Use this preset*

### *For this material*

---

#### **Pro Logic**

Dolby Surround encoded video and LaserDisc soundtracks, films on television, many television programmes, and some radio broadcasts and music.

#### **Cinema**

Dolby Surround encoded material.

#### **Mono**

Mono recordings and video soundtracks.

Use the **ProLogic** and **Cinema** presets for film soundtracks, television programmes, and music encoded using the Dolby Surround encoding system. Such materials are usually identified by a Dolby Surround logo on the packaging.

Pro Logic separates out the vocals and supplies these to the centre loudspeaker, to give a clear soundtrack aligned with the video image. Background sounds and music are distributed across the three front loudspeakers, to give a clear three-dimensional image, and effects are steered in the left-right and front-back directions, for maximum impact.

The **Cinema** preset changes the balance of the sound for home listening.

The **Mono** preset is designed for reproducing mono material, such as old black and white films, through a centre loudspeaker so that any high frequency hiss or clicks are centrally localised.

## Music presets

---

The 541 Surround Controller provides two alternative presets designed to enhance traditional stereo recordings and broadcasts.

The music presets, **Music** and **Trifield**, are designed to give new life to conventional stereo recordings and broadcasts. They integrate a centre channel, and add ambience, to take advantage of the additional loudspeakers in a surround system.

In addition, a **Stereo** preset is provided for comparison with the surround options:

<i>Use this preset</i>	<i>For this material</i>
<b>Music</b>	Recordings and broadcasts intended for normal stereo reproduction.
<b>Trifield</b>	Recordings and broadcasts intended for normal stereo reproduction.
<b>Stereo</b>	For comparison, or binaural/transaural material.

Each of the music presets can be used for reproducing material originally designed for a conventional stereo pair of loudspeakers, and the choice of which to choose largely depends on your own personal preferences.

**Music** uses special processing techniques to give a wider, more spacious sound, especially suitable for orchestral music.

**Trifield** gives a precise spatial image, suitable for all types of music, and is ideal for solo instrument or vocal music where a wider image may seem unnatural.

Both presets use the same procedure to extract the surround component of the original recording, which is delivered to the rear surround loudspeakers.

**Stereo** is provided for comparison with the other presets, and uses just the main left and right loudspeakers for traditional two-channel reproduction.

# Specification and accessories

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## Specification

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### **Audio inputs**

6 analogue inputs. User-adjustable sensitivity. Re-nameable legends.

Optional LP module for MM or MC.

### **Audio outputs**

Left, Right, Centre, Subwoofer, Surround Left and Right. Outputs for power amplifiers or active loudspeakers up to 3.5 Vrms.

Two analogue tape outputs for tape recording or second/third room.

Independent control of tape copy.

### **Signal processing**

2-channel preamp preset: Stereo.

Music presets: Music and Trifield.

Cinema presets: ProLogic and Cinema.

Built-in, user-bypassable high-quality crossovers on the Left, Right, Centre, and Subwoofer outputs for accurate integration of a subwoofer with your loudspeakers.

## Specification

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### **Video connections**

3 composite video inputs.

1 composite video out to monitor.

1 composite video tape loop for VCR or second room.

1 trigger control output (12V) for switching amplifiers, screens, etc.

3 SCART (Peritel) sockets for VCR, LD, and TV, with function select.

On-screen display (OSD) for volume, source, menu adjustments, setup and calibration.

### **Controls**

Source, Tape Copy, Preset, Mute, Display, Volume Up/Down, Off.

### **Display**

12-character dot-matrix display giving full source, volume and menu information.

Lights for Pro Logic and Trifield.

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## Available accessories

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The following accessories are available from your dealer:

○ Phono modules: 515 (MC) and 516 (MM).

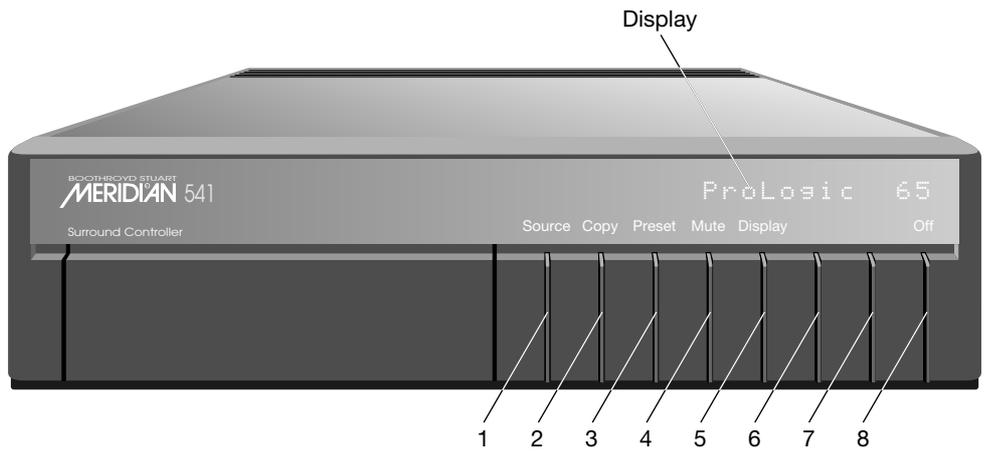
Meridian Audio reserves the right to amend product specifications at any time.

# Using the surround controller

**T**his chapter provides a visual summary of the functions of the 541 Surround Controller in order to identify the controls which you will use to operate the unit.

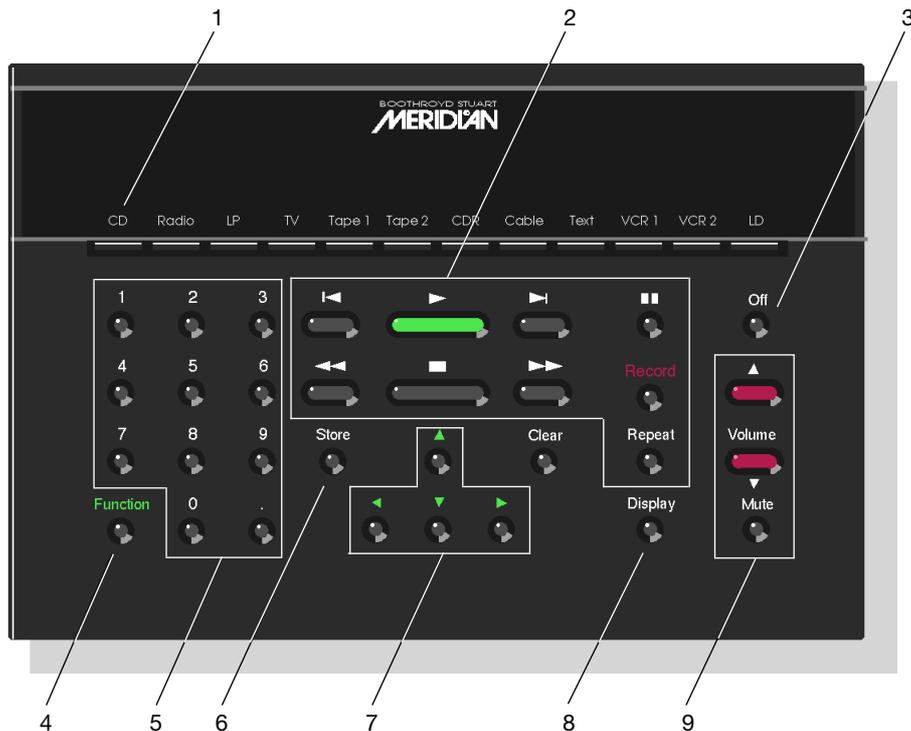
It also describes how to use the Meridian System Remote in conjunction with the surround controller.

# Front panel



- 1 Source**  
Selects the source.
- 2 Copy**  
Copies a selected source to the tape output.
- 3 Preset**  
Changes the preset.
- 4 Mute**  
Mutes the sound.
- 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 selection keys**  
Selects the source.
- 2 Source control keys**  
Control the source functions.
- 3 Off**  
Switches to Standby.
- 4 Function shift**  
Used to access additional functions.
- 5 Numeric keys**  
For entering track numbers and radio presets.
- 6 Store, Clear**  
For defining custom presets.
- 7 Menu keys**  
For customising the 541.
- 8 Display**  
Changes the information displayed on the front panel.
- 9 Volume keys**  
Change the volume.

## Selecting a source

---

During normal use the surround controller should be left in the Standby state. This uses a negligible amount of electricity and is completely safe, but ensures that the components of the surround controller operate at maximum efficiency from the moment you start.

If you are not going to use the surround controller for several days you should switch the unit completely off at the rear 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 **CD**.

If the 541 Surround Controller is part of a Meridian system, it will automatically switch on any other unit in the system, such as the CD player.

### To select a source

---

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

The display shows the source, and volume setting; for example:



Then after a short delay the display shows the preset associated with that source.



For example:

By default the following 6 sources are available:

CD, Radio, TV, Tape1 (or LP), VCR1, and LDisc.

The input and preset associated with each source depends on how the surround controller has been set up; see *Setting up the surround controller*, page 27.

### 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 connected to the surround controller using the comms lead, these units will also switch to standby.

# Adjusting the volume

---

The 541 Surround Controller adjusts the volume in precise steps of 1 dB, where 9 dB 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 99 dB.

When you first connect power to the surround controller the volume is set to 65, which is similar to the mid-way position of the rotary volume control on a conventional preamplifier. For normal to high level listening you should expect 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:

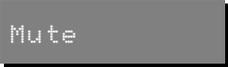
A rectangular digital display with a dark background and light-colored text. The word "Music" is on the left and the number "70" is on the right.

## To mute the sound

---

- Press **Mute**.

The display will show:

A rectangular digital display with a dark background and light-colored text. The word "Mute" is centered on the display.

## To restore the sound

---

- Press **Mute** again.

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

# Changing the preset

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Each source has a preset associated with it, and when you select a source its default preset will automatically be selected.

Once you have selected a source you can change the preset; so, for example, if the default preset associated with the CD source is **Music**, you may wish to select the **Trifield** preset instead.

You can also change the default preset associated with the source; See *To change a source preset*, page 52.

## To change the preset

---

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

You will be able to choose any of the following predefined presets:

Music, Trifield, Stereo, ProLogic, Cinema, Mono.

You will also be able to choose any user-defined presets you have stored.

# Changing the display

The 541 Surround Controller displays information about the current settings on the 12-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 *Setting up the surround controller*, page 27.

## To change the display

- Press **Display**.

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

<i>Display option</i>	<i>Example</i>
Preset and volume	
Source and volume	
Source and remote display †	
Blank	

† Only if configured for two-room mode.

In addition, the following symbols on the front panel display indicate which of the presets are selected:

<i>Symbol</i>	<i>What it means</i>
	The Trifield processor is operating.
	The Pro Logic processor is operating.

# Recording a source

The 541 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 541 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 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 CD, by selecting the CD 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.

# Defining your own presets

In addition to being able to change the source, volume, and preset, the 541 Surround Controller provides a sophisticated range of more advanced adjustments for each preset, to allow you to change the characteristics of the sound to the settings you want.

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

# Locking and unlocking the menus

---

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

## To lock the menus

---

- Press **Off** to put the surround controller in standby.

The display shows:



- Press and hold down **Mute** for several seconds.

The display shows:



## To unlock the menus

---

- Repeat the above sequence so that the display shows:



# Changing the listening position

A conventional stereo system provides a single balance control, which changes the relative loudness of the two loudspeakers. The 541 Surround Controller provides a more sophisticated adjustment which correspond to changing the effective listening position relative to the loudspeakers.

Two separate controls are provided, one to move the listening position to the left or right, and one to move it to the front or rear.

## To move the listening position to the left or right

- Press ► or ◀ until the display shows:



- Press ▲ or ▼ to move the listening position.

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

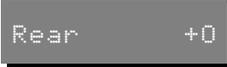
For example:



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

## To move the listening position to the front or rear

- Press ► or ◀ until the display shows:

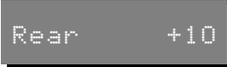


- Use ▲ and ▼ to change the relative level of the surround speakers, in dB.

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

For example, to double the loudness of the rear loudspeakers:

- Adjust their level until the display shows:



## Changing the preset parameters

Each preset provides a series of parameters which you can vary to customise the behaviour of the preset to your specific requirements. For example, most presets provide a **Delay** parameter, to allow you to specify the delay applied to the rear surround speakers in order to change the spaciousness of the sound.

You can save the changes you have made to a preset so that you can use the same settings whenever you want. You have a choice of saving changes to the built-in preset, or you can create a new preset with a name of your choice. User-defined presets appear in the list of presets after the built-in ones.

The following table shows the parameters available for each preset, and their standard values:

<i>Parameter</i>	<i>Range</i>	<i>Default</i>	<i>What it changes</i>
Balance	-10 to +10	0	The L-R balance.
Rear	-30dB to +10dB	+0	The relative level of the surrounds.
Delay	0 to 30.0 ms	25.0	The spaciousness of the surrounds.
Centre	-3.0dB to +3.0dB	0	The integration of the centre speaker.
Sub	-10dB to +10dB	0	The relative level of the subwoofer.
OSD	Off, Low, Med, High	Low	The position of the on-screen display.

Stereo only provides the parameters Balance, Sub, and OSD.

Mono only provides the parameters Sub and OSD.

---

## To change a preset parameter

---

- Make sure the menus are unlocked; see *To unlock the menus*, page 20.
- Press ► or ◀ until the display shows the name of the parameter you want to change.

For example:



```
Delay 25.0
```

- Press ▲ or ▼ 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 shows the current value.

For example:



```
Delay 30.0
```

After a short delay the display reverts to the standard display of preset and volume.

Note that the parameter will be restored to its stored value if you change preset. To change a parameter permanently see the next section.

# Defining your own presets

The 541 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 10 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 20.
- Press **Preset** (front panel), or **•** (remote), to select the preset you want to modify.
- Change the preset parameters to the values you want to store; see *To change a preset parameter*, page 23.
- Press **Store** on the remote.

The display shows the next available user-defined preset; for example:



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

For example:



Or you can choose the user-defined preset you started with; for example:



- Press **Store** on the remote.

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

You can now edit the name of the preset.

A flashing cursor shows the letter you are editing:



- 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** on the remote.

---

For example, you could change the name to:



Sto.Stadium

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

The display shows:



Stored

## To clear a user-defined preset

---

- Make sure the menus are unlocked; see *To unlock the menus*, page 20.
- Press **Preset** (front panel), or ▲ and ▼ (remote) to select the preset you want to clear.
- 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 preset name and settings are restored.



# Setting up the surround controller

**T**his chapter explains how to install the 541 Surround Controller. It describes what you should find when you unpack the surround controller, how you should connect it to your other audio and video equipment and loudspeakers, and the siting constraints.

**Before you begin installation you should ensure that your 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 surround controller, or to any other component in your system, while the AC power supply is connected and switched on.**

# Unpacking

---

The 541 Surround Controller comes in a box containing the following components:

- 541 Surround Controller.
- Meridian System Remote.
- Power cord.
- 500 series communications 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 surround controller

---

Do not place the surround controller:

- In direct sunlight.
- Near heat sources, such as a 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.

## Radio interference

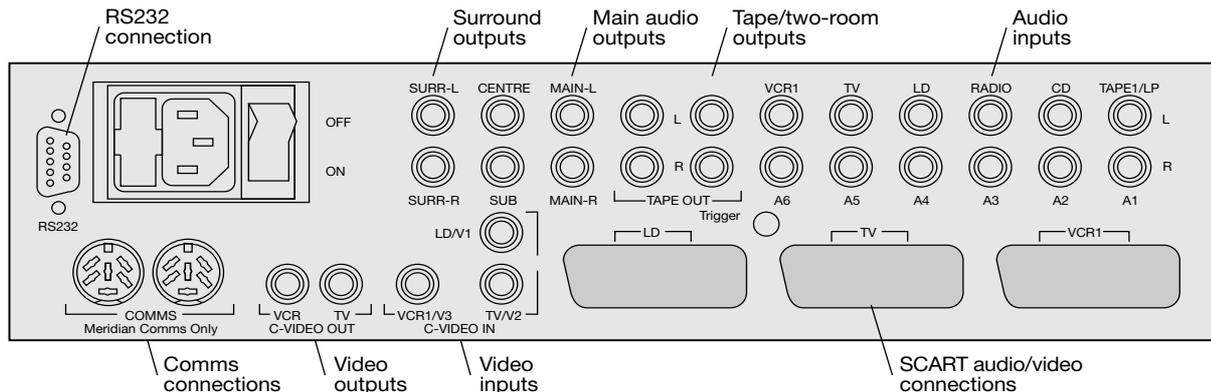
---

**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 complies with the limits set out in EN55013 and EN55020C.

# Connecting the surround controller

## Rear panel



## Audio connections

The following table gives details of the six audio inputs:

<i>Use this input</i>	<i>To connect to this</i>
<b>A1</b>	A turntable pickup with optional MM/MC module, or Tape1 input.
<b>A2 to A6</b>	Other audio sources.

The following table gives details of the audio outputs:

<i>Use this output</i>	<i>To connect to this</i>
<b>Main-L, Main-R, Centre, Sub, Surr-L, Surr-R</b>	Power amplifiers or active loudspeakers.
<b>Tape Out</b>	Tape recorder or two-room outputs.

The audio inputs and outputs should be connected using high-quality screened cable, taking care to connect the left and right channels correctly.

---

## Video connections

---

The following table gives details of the composite video inputs:

<i>Use this input</i>	<i>To connect to this</i>
<b>LD/V1, TV/V2, VCR1/V3</b>	Composite video signals.

The following table gives details of the composite video outputs:

<i>Use this output</i>	<i>To connect to this</i>
<b>TV</b>	Video input for a TV or monitor.
<b>VCR</b>	Composite video recorder inputs.

The composite video connections should be made with phono connectors, and high-quality 75 $\Omega$  screened cable. These are the same cables as used for digital audio, and 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.

---

## On-screen display

---

If your surround system includes video or a television the 541 can add a text overlay to the video signal, 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 front panel display. During calibration 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 signals, and it requires an input signal to operate. The video circuits in the 541 are of extremely high quality, and passing the video signal through the surround controller will not affect its quality.

---

## Communications connections

---

The Comms sockets should be used to interconnect any other Meridian 500 series equipment in the system.

The RS232 connection is for future expansion, to allow the 541 Surround Controller to be interfaced to a computer. For further details contact Meridian.

## SCART connectors

In addition, the 541 provides European standard SCART (or Peritel) connectors, which duplicate the signals on the composite video connectors and some of the audio connectors.

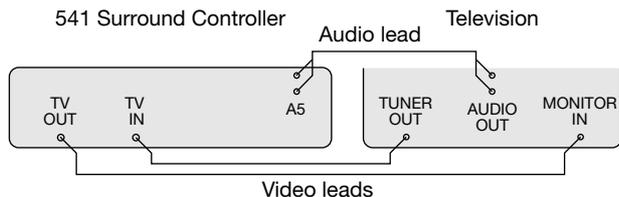
The connections are shown in the following table:

<i>Pin</i>	<i>Signal</i>	<i>LD</i>	<i>TV</i>	<i>VCR1</i>
1	Audio Out R			Tape Out R
2	Audio In R	A4	A5	A6
3	Audio Out L			Tape Out L
4	Audio Ground	•	•	•
5	Blue Ground	Out	In	
6	Audio In L	A4	A5	A6
7	Blue	Out	In	
8	Function Select		•	
9	Green Gnd	Out	In	
10	NC			
11	Green	Out	In	

<i>Pin</i>	<i>Signal</i>	<i>LD</i>	<i>TV</i>	<i>VCR1</i>
12	NC			
13	Red Gnd	Out	In	
14	Blank Gnd	Out	In	
15	Red	Out	In	
16	Fast Blank	Out	In	
17	C-Video Gnd	•	•	•
18	Fast Blank Gnd	•	•	
19	C-Video Out		•	VCR Out
20	C-Video In	V1	V2	V3
21	Shield	•	•	•

# Connecting video

## To connect a TV

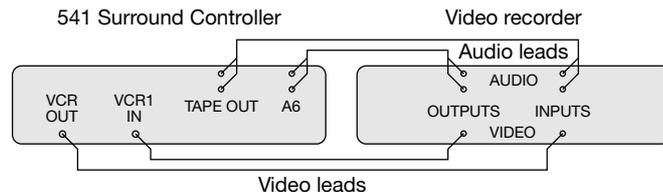


- Connect the TV C-VIDEO OUT or the TV SCART connector to the television SCART input or composite video input using a suitable video cable.

If your television provides RGB inputs, and your LaserDisc had RGB outputs, you can achieve higher quality by connecting between them using the RGB connections from the surround controller's TV SCART connector.

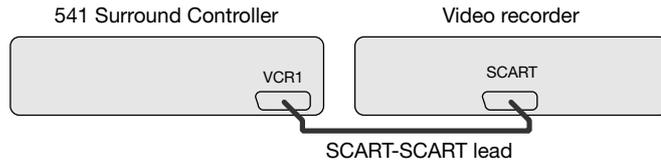
The TV SCART connector also provides a Function Select signal, used by most televisions to perform input switching.

## To connect a VCR



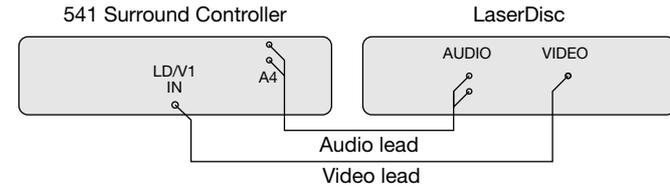
- Connect the VCR audio outputs to the surround controller's VCR1/A6 audio inputs using an audio phono lead.
- Connect one pair of the surround controller's TAPE OUT sockets to the VCR audio inputs using an audio phono lead.
- Connect the VCR composite video output to the surround controller's VCR1/V3 C-VIDEO IN input using a composite video lead.
- Connect the surround controller's VCR C-VIDEO OUT socket to the VCR composite video input using a composite video lead.

## To connect a VCR using SCART



If your VCR has a SCART connector you can make all the above connections using a single SCART-SCART lead in which case you should leave all the corresponding composite video and audio connectors unused.

## To connect a LaserDisc



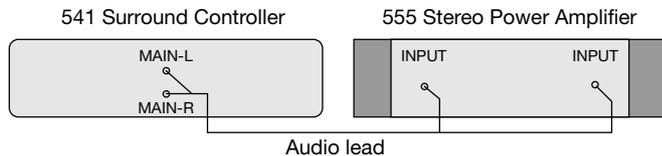
- Connect the LaserDisc audio outputs to the surround controller's LD/A4 audio inputs using an audio phono lead.
- Connect the LaserDisc composite video output to the surround controller's LD/V1 C-VIDEO IN input using a composite video lead.
- RGB is also passed on from the LD SCART to the TV SCART by the surround controller.

# Connecting loudspeakers

Connect to loudspeakers as follows:

<i>Use this output</i>	<i>To connect to this</i>
<b>Main-L, Main-R</b>	Main left and right loudspeakers.
<b>Centre</b>	Centre speaker.
<b>Sub</b>	Subwoofers.
<b>Surr-L, Surr-R</b>	Left and right surround speakers.

## To connect to a 555 Power Amplifier

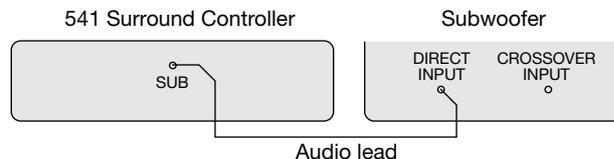


- Connect the appropriate outputs from the surround controller to the 555 amplifier line inputs, using screened audio cable.
- Connect the loudspeaker outputs from the 555 power amplifier to suitable loudspeakers.

## To connect to active loudspeakers

- Connect the appropriate outputs from the surround controller to the speaker inputs, using screened audio cable.

## To connect an active subwoofer



- Connect the SUB output from the surround controller to the subwoofer's line level input.

The 541 Surround Controller provides very high quality crossovers for the subwoofer. For best results you should remove or disable any crossover in the subwoofer, and leave the surround controller set to Sub Narrow. Even if you cannot bypass the subwoofer crossover we recommend you leave the surround controller set to Sub Narrow to use the surround controller's crossover, and set the subwoofer crossover to its highest setting (eg 200Hz). For more information see *To specify the type of subwoofer*, page 39.

# Configuring the surround controller

**T**his chapter explains how to configure the 541 Surround Controller to suit the loudspeaker arrangement you want to use, and the other equipment in your system.

The first stage in configuring the surround controller is to choose one of the standard settings, and these are designed to set all of the parameters to their most common values.

You can then configure those aspects of the surround controller individually where they differ from one of the standard settings you have chosen.

Once you have configured the surround controller you will probably never need to change the configuration, unless you alter the equipment connected to your system at a later stage.

# Choosing standard settings

The 541 Surround Controller provides seven alternative standard settings, called Types, which configure all aspects of the surround controller into the most commonly needed configurations.

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

For details of the different loudspeaker layouts see *Sample configurations*, page 3.

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

- The layout of loudspeakers in your system.
- Whether you are using the earlier Meridian 200 Series units.
- Whether you want to use a subwoofer for all presets, or just for the cinema presets.

The types are explained in the following table:

Type	Main-L	Main-R	Centre	Surround-L	Surround-R	Sub	Notes
1	●	●	●	●	●	●	
2	●	●	●	●	●	●	200 mode
3	●	●	●				
4	●	●		●	●		
5	●	●	●	●	●		
6	●	●	●	●	●	●	Subwoofer for cinema presets
7	●	●	●				Second room

A duplicate set of types configure input A1 for LP rather than Tape 1, for use if you have a phono module.

---

## To select a standard setting

---

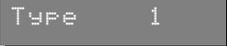
**Warning!** Selecting Type will reset the 541 Surround Controller to one of a standard set of configurations. If you want to make changes to the configuration of an existing system use Config; see *Specifying information about your system* on the next page. With Config you can alter any Type to match any system.

- Switch off any power amplifiers that are connected to the surround controller.
- Switch off the surround controller, using the power switch on the back panel.
- Switch on the power again while holding down the **Off** key on the front panel.

The display will show:



followed by:



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

For example, to select Type 3 for use with a phono module the display shows:



- Wait for one second, and then switch off the surround controller using the power switch on the back panel.
- Switch on again to use the standard settings you have selected.

# Specifying information about your system

If none of the standard settings exactly matches your requirements choose the one that is closest, and then use the 541 Surround Controller's configuration menus, called Config, to make the necessary changes to the appropriate parameters.

The procedures for doing this are described in the following sections of this chapter.

## To specify the type of centre speaker

- Switch off the surround controller, using the power switch on the back panel.
- Switch off any power amplifiers that are connected to the surround controller.
- Switch on the power again while holding down the **Display** key on the front panel.

The display will show:



Config

- Press **▶** or **◀** until you see a display such as:



Centre Norm

- Press **▲** or **▼** to step between the alternative options, as shown in the following table:

<i>Option</i>	<i>Description</i>
<b>Norm</b>	Normal centre speaker; bass handled by left and right main loudspeakers.
<b>Wide</b>	Wide-range centre speaker, with good bass response.
<b>Phan</b>	No centre present; phantom centre signal created by left and right main loudspeakers.

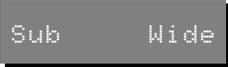
When you have chosen the Centre option you want to use proceed to the next step.

---

## To specify the type of subwoofer

---

- Press **▶** or **◀** until you see a display such as:

A screenshot of a digital display showing two options: 'Sub' on the left and 'Wide' on the right, both in a monospaced font.

- Press **▲** or **▼** to step between the alternative options, as shown in the following table:

<i>Option</i>	<i>Description</i>
<b>Narrow</b>	The surround controller provides a 120Hz cut off; the subwoofer crossover should be bypassed.
<b>Wide</b>	The surround controller provides a wide-band signal for a subwoofer that includes a crossover.
<b>Off</b>	No subwoofer present. The main channels are full bandwidth.

When you have chosen the subwoofer option you want to use proceed to the next step.

---

## To specify the surround speakers

---

- Press **▶** or **◀** until you see a display such as:

A screenshot of a digital display showing the text 'Surrounds? Y' in a monospaced font.

- Press **▲** or **▼** to change the option between Y and N, to specify whether there are surround speakers in your system.

---

## To exit from configuration

---

- Press the **Off** key.

---

## To specify the speakers to use for music presets

---

If your centre speaker and/or subwoofer are of lower quality than your main left and right loudspeakers, you may prefer to use them for only for home cinema, but not for music.

- Press ► or ◀ until you see a display such as:



Music Cen? Y

- Press ▲ or ▼ to change the option between Y and N, to specify whether to use the centre speaker for the music presets.

- Press ► or ◀ until you see a display such as:



Music Sub? Y

- Press ▲ or ▼ to change the option between Y and N, to specify whether to use the subwoofer for the music presets.

---

## To specify other options

---

The more advanced options are summarised in the following table:

<i>Option</i>	<i>Initial Value</i>
Communications mode (500 Comms or 200 Comms)	500 Comms
Controller mode (Auto Setup, Controller, or Not Con.)	Auto Setup
System address (1 to 8)	Sys.Addr.= 1
Product address (1 to 8)	Prod.Addr.=1
Volume control (Main Volume, 2nd Volume, or No Volume)	Main Volume
Copy address (1 to 8)	Copy Addr.=2
Remote displays (Off or On)	Displays Off

# Calibrating the loudspeakers

**T**he 541 Surround Controller includes a built-in calibration procedure to help you to set up your installation to give the best possible sound with any particular combination of associated equipment.

**This calibration procedure uses a test signal so you can adjust each loudspeaker to the same level.**

**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

As you run the calibration procedure the name of each loudspeaker is shown on the front panel display. The on-screen display also provides additional text explaining what to do, and sample displays are reproduced in the following sections for reference. For information about setting up the on-screen display see *On-screen display*, page 30.

## 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, 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 from the listening position, holding the meter vertical at head height.

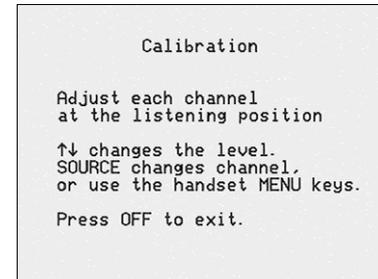
## To start the calibration procedure

- Put the surround controller into standby by pressing the **Off** key.
- Press and hold the front panel **Off** key for at least five seconds.

The display shows:



The on-screen display shows:



```
Calibration

Adjust each channel
at the listening position

↑↓ changes the level.
SOURCE changes channel,
or use the handset MENU keys.

Press OFF to exit.
```

---

## To calibrate a loudspeaker

---

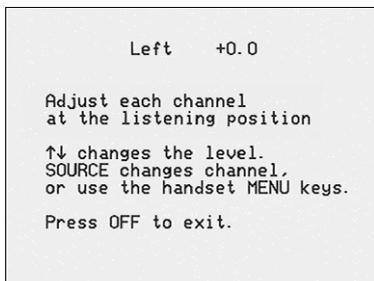
- Press **Source** (front panel), or ► or ◀ (remote) to select the loudspeaker you want to calibrate.

The display shows the loudspeaker you are adjusting:



Left +0.0

The on-screen display shows:



Left +0.0

Adjust each channel  
at the listening position

↑↓ changes the level.  
SOURCE changes channel,  
or use the handset MENU keys.

Press OFF to exit.

- Use ▲ and ▼ to adjust the level of the speaker.

If you are using a Sound Pressure Level meter adjust each speaker for the same reading at the listening position.

If you are calibrating by ear adjust each speaker until the sound is uniformly loud as you switch from speaker to speaker, ignoring any differences in timbre. Note that it is difficult to adjust the subwoofer correctly by ear, because low frequency sounds appear much quieter, and we recommend using a Sound Pressure Level meter.

---

## To end the calibration

---

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

The 541 Surround Controller then returns automatically to Standby.



# Setting up sources

**T**his chapter explains how to connect up sources to the 541 Surround Controller, and set them up to your preferred configuration.

When you set up the surround controller to one of the standard settings, the inputs are automatically configured to cater for the six most common arrangements of sources and inputs.

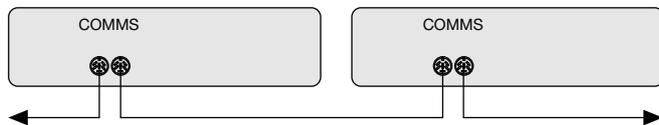
Alternatively, you can configure each source individually to suit the other equipment in your system. You can choose the label for each source, and the input sensitivities so that the sound level remains similar when you switch between sources.

# Connecting sources

## To connect to other Meridian 500 Series equipment.

- Connect one of the Comms sockets on the rear panel of the Surround controller to one of the comms sockets on another 500 series unit (excluding the 563), using the 500 comms lead provided.

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** on the handset.

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 handset.

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 Type 1 as described in *To connect to Meridian 600 or 200 Series equipment* below.

**Note: Do not**, under any circumstances, connect any equipment other than Meridian 500, 600, or 200 Series to the socket marked COMMS on the rear of the control unit.

---

## To connect to Meridian 600 or 200 Series equipment

---

If your system includes any Meridian 600 or 200 Series units, with 600 COMMS or 200 COMMS sockets, you should set all the 500 Series units to 200 COMMS operation using the following procedure:

- Turn off the control unit, using the power switch on the back panel.
- Turn on the power again while holding down the **Off** key on the front panel.

The display will show the current Type setting:



- Press ▲ and ▼ on the front panel to change the Type setting to Type 2.

The display will show:



- Switch the power off and on again to restore the control unit to normal operation.

- Configure the Meridian System Remote for 601 operation; see the Meridian System Remote User Guide for details.
- To return to 500 COMMS operation repeat the above procedure, and select any type apart from Type 2. For more information see *Choosing standard settings*, page 36.

---

## What next?

---

Congratulations – your 541 Surround Controller is now set up and ready for use. Refer to the chapter *Using the surround controller* for details of using the surround controller with your music and cinema sources.

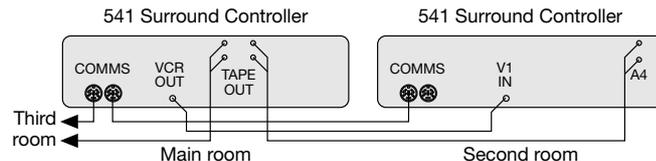
# Setting up a two-room system

The design of the Meridian 500 Series incorporates a powerful two-room capability, making it possible to link systems between two or more rooms.

The most usual configuration is to provide all the sources in the main room. The control unit in the second room can then select any of the sources in the main room, independently of what the main room is listening to, and control the selected source.

The 541 Surround Controller is an ideal choice as the control unit for a second room, and is easy to set up using the two-room configuration option (Type 7). This makes it select all the sources from the main room, and displays information from the current source (such as track number or radio preset) on the front-panel and on-screen displays.

## To set up a two-room system



- Connect the 541 Surround Controller's A4 inputs to one pair of the TAPE OUT sockets of the control unit in the main room.

The main room can use a second 541 Surround Controller, a 501, 501V, 562, or 562V Control Unit, or a 551 integrated Amplifier.

- Configure the 541 Surround Controller in the second room to Type 7; see *Choosing standard settings*, page 36.
- Configure the main room to an appropriate type; eg Type 1.

# Setting up sources

The 541 Surround Controller provides six sources corresponding to the following source selection keys on the remote control:

**CD, Radio, TV, Tape1 (or LP), VCR1, and LD.**

When the surround controller is set to one of the standard settings the six sources are set up with standard labels and inputs, as shown in the table below.

<i>Source</i>	<i>Audio Input</i>	<i>Sensitivity</i>	<i>Video Input</i>	<i>Preset</i>
CD	A2	2.0V	LV	Music
Radio	A3	2.0V	LV	Music
TV	A5	1.4V	V2	ProLogic
Tape1	A1	1.4V	LV	Music
VCR1	A6	1.4V	V3	ProLogic
LDisc	A4	2.0V	V1	Cinema
LP	A1	2.0V	Blank	Music

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

For most settings there is a last valid, or L.V., option that leaves the corresponding setting unchanged from its previous value when the source is selected. For example, selecting CD after TV would leave the TV picture.

For each source you can configure:

- The preset to be used.
- The label used for it on the front panel display, from over 50 alternative labels.
- The audio and video inputs it selects.
- The input sensitivity.
- The comms type and address, to identify other Meridian 500 Series equipment.

The procedure for doing this is as follows.

---

## To configure a source

---

- Turn off the control unit, using the power switch on the back panel.
- Turn on the power again while holding down the **Display** key on the front panel.

The display will show:



Config

- Press **Source** until the left-hand pair of characters identifies the source you want to configure.

For example, to configure the CD source the display initially shows:



CD Music

The options are summarised in the table opposite:

---

## To change an option

---

- Press **Copy** (front panel) or ► and ◀ (remote) to change. The left-hand side of the display shows the source you are configuring, and the right-hand side shows the current value of the option.
- Press ▲ or ▼ to step between the alternative values for the option.

When you have finished programming sources:

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

<i>Option</i>	<i>Initial value</i>	<i>Alternative values</i>	<i>Explanation</i>
Preset	CD Music	Music, Trifield, etc, or No Preset.	See <i>To change a source preset</i> , page 52.
Label	CD CD	CD, RD, LP, etc.	See <i>To change a source label</i> , page 52.
Audio input	CD Audio A2	A1 to A6, L.V.Audio, and Mute.	Choose A1 to A6 to specify the input, L.V.Audio to use the last valid input, or Mute to mute the sound.
Audio sensitivity	CD 2.0V In	1.0V, 1.4V, or 2.0V.	Choose the input sensitivity for the source.
Video input	TV Video V2	V1 to V3, L.V.Video, and Blank.	Choose V1 to V3 to specify the input, L.V.Video to use the, last valid input, or Blank to blank the video.
Function Select	V1 F.S. High	F.S. High, F.S. Low, or Last F.S.	Choose F.S. High to select the television SCART input, or F.S. Low for the television's internal tuner.
Trigger	TV Trig High	Trig High, or Trig Low.	Choose the trigger level to operate an external switch.
Comms type	CD 1C	1C to 9C, or NC.	Choose 1C for a Meridian CD player, 2C for a Meridian tuner, otherwise NC (no comms).
Address	CD 1A	1A – 8A.	Allows you to have up to eight of each source type.

# Examples of configuring the sources

The following examples illustrate how you can configure the source options to your own requirements.

## To change a source preset

- Display the source you want to configure, together with its current preset, as described in *To configure a source*, page 50.

For example, to configure the CD source preset choose:



CD Music

- Press ▲ or ▼ to select the built-in or user-defined preset you want to use, or No Preset to leave the preset unchanged.

For example, to use the Trifield preset set it to:



CD Trifield

## To change the video input for a source

- Display the source you want to configure, together with the current video input, as described in the previous sections.

For example, to configure the CD video input choose:



CD L.V.Video

- Press ▲ or ▼ to choose the video input.

For example, if you always want the TV picture when you select CD, set it to:



CD Video V2

## To change a source label

- Display the source you want to configure, together with its current label, as described in *To configure a source*, page 50.

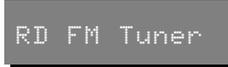
For example, to configure the Radio source label choose:



RD Radio

- Press ▲ or ▼ to step between the alternative labels.

For example, to use the label FM for the Radio source set it to:



RD FM Tuner

Over 50 alternative labels are provided to allow you to choose the most appropriate ones for your sources.

---

## To use a source key to change preset

You can use the unused source keys on the remote to change the preset for your current source.

For example, you can make the CDR key on the remote switch the preset to Stereo for comparison, whatever source you are listening to:

- Configure the source key you are going to use with the required preset, and the Audio input set to Last Valid.

For example: Source CDR, Preset Stereo, Label CDR, Audio input L.V.Audio, Audio sensitivity 2.5V In, Video input L.V.Video, Function Select Last F.S.

Selecting the **CDR** source key will now switch the preset to Stereo, leaving all other settings unchanged.

---

## To set up a system with two Meridian CD players

- Configure the source you are going to use for the first CD player.

For example: Source CD, Preset Music, Label CD, Audio input A2, Video input L.V.Video, Function Select Last F.S., Comms type 1C, Address 1A.

- Configure the source you are going to use for a second CD player, with a different address.

For example: Source CDR, Preset Music, Label CDX, Audio input A3, Video input L.V.Video, Function Select Last F.S., Comms type 1C, Address 2A.

The remote control will now automatically control whichever of the CD players you have selected with the **CD** or **CDR** source keys.



# Troubleshooting and maintenance

**T**his chapter describes problems you may encounter when using the surround controller, and includes suggested solutions.

If these suggestions fail to cure the problem, please contact your Meridian dealer for further assistance.

# Troubleshooting

---

## No lights are displayed when switching on

---

- Check that your AC power supply is connected correctly.
- Check that the **ON OFF** switch on the rear panel is in the ON position.
- Check that the fuse on the control unit rear panel and the fuse in the unit's power plug have not blown; see *To change the mains fuse*, page 58.

## There is hum on the LP input

---

The LP input is the most sensitive input on the surround controller.

- Check that the tone arm is connected to the technical ground of the surround controller.
- Check that the tone arm is connected to the power ground in the turntable.
- If you are using a magnetic pickup, check that there is not another piece of equipment too near to the turntable or the left-hand side of the control unit. If so, re-position the equipment to cure the problem.

## There is hum on other inputs

---

- Check your other equipment.
- Consult your dealer.

## There is interference on the radio and/or television when the surround controller is switched on

---

Before following the steps below, ensure all units are switched off.

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 surround controller and its cabling.
- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the control unit.
- Connect the receiver and this product to different AC outlets.

---

## Communication is not working between the surround controller and other Meridian products

---

- Check that all products are interconnected using the correct comms leads.
- If the installation includes 200 Series or 600 Series units, check that all 500 Series units are set to 200 mode.

---

## The sound is not clear

---

- If speech sounds muffled in a system with a centre loudspeaker check that sound is coming from the centre, as there may be a connection problem.
- If speech sounds muffled in a system with no centre loudspeaker you may have selected a layout that expects one; see *Configuring the surround controller*, page 35.

---

## The picture quality is poor

---

- Check that you are using suitable quality cables with good connectors.
- Check that there is not a ground-loop between any of the components connected to the 541.

Remember that reception of broadcast or cable signals can be significantly degraded 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.

---

## There are problems using the SCART connectors

---

- Check that the SCART leads you are using have the correct pins; see *SCART connectors*, page 31.
- Check that you are not making the connections to both the SCART and phono connectors.
- If the TV is not displaying a picture check that the TV is switched to the AV input, or Function Select is working.
- If you are watching an RGB source your TV may need to be switched away from it, or the RGB source turned off.

---

## There is no on-screen display (OSD)

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- Check that you are feeding a composite video signal on either SCART or phono for the current source.

# Maintenance

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## Cleaning

---

When cleaning the surround controller bear in mind that the front of the unit is plastic, and the display panel and lid are glass.

Disconnect the power cord before cleaning the unit.

**Note:** Do not use abrasive cleaners on any part of the control unit.

## To clean the case, display panel, and keypad

---

- Use a slightly damp cloth.

Ensure that no water is allowed to get inside the case, and do not reconnect the power until you are certain that the control unit is completely dry.

## To clean the audio and video connections

---

The audio and video sockets on the rear of the surround controller are gold-plated and need no cleaning if gold-plated phono plugs are used. Otherwise, it is recommended that you unplug and reconnect the plugs at least once a year. A proprietary contact cleaner can be used to some advantage.

## To change the mains fuse

---

- Remove the mains connector, and pull out the drawer next to the power input to access the fuses.

Before replacing a blown fuse, if possible ascertain the cause of the failure.

The fuse drawer includes a spare fuse. This should be replaced by one of the same rating.

# Service and guarantee

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## 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 control unit 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 control unit whilst in transit to the factory or an agent, and customers are therefore advised to insure the unit.

When seeking service under guarantee, proof of the date of purchase will be required.

## Guarantee

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The 541 Surround Controller is guaranteed against defects in material and workmanship for 2 years from the date of purchase.

The guarantee is void if the 541 Surround Controller 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 541 Surround Controller which will not be covered by this guarantee. Attempted servicing by unauthorised people may also invalidate this guarantee. Labour and carriage charges are not covered unless by local agreement.

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

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



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