A large, stylized letter 'M' in a light gray color, 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 504 Stereo FM Tuner

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Digital Gramophone and Wireless Ltd

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Provides step-by-step instructions on how to operate the FM tuner, using either the front panel or the Meridian System Remote.

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Introduction

In choosing the 504 Stereo FM Tuner you have acquired a component that combines major advances in audio and user interface design. The 504 Stereo FM Tuner uses dual-gate MOSFET RF amplifiers for high sensitivity, together with a Walsh function stereo decoder for low distortion and extra HF bandwidth. The eight-character display can be programmed to show station names for ease of access, and all functions can be remotely controlled from the Meridian System Remote.

This guide is designed to enable you to obtain the best possible results from the unit, whether your requirements are simply to listen to music, or to configure the unit to your preferences.

If you have just purchased the 504 Stereo FM Tuner, you should first turn to the section *Setting up the FM tuner*, page 17, which explains how to unpack and install the FM tuner correctly.

The Meridian 500 Series

The Meridian 500 Series is a unique system of 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 musical and environmental 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 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.

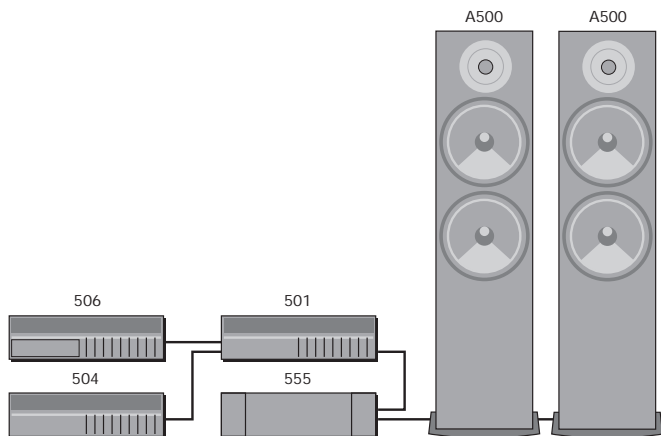
Professional features

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

The following pages give examples of four suggested configurations to illustrate the flexibility of the Meridian 500 Series.

Sample configurations

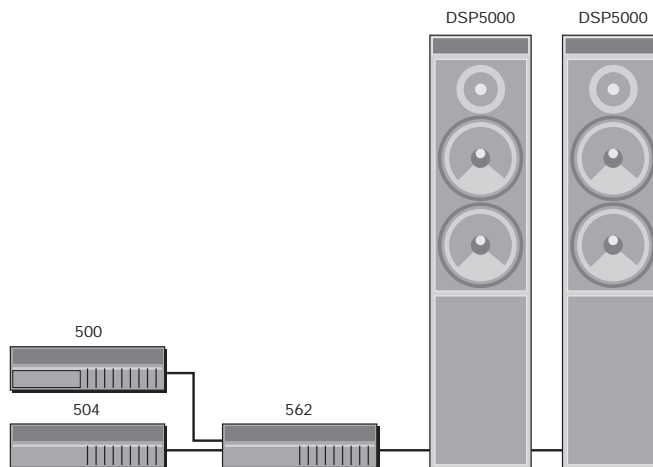
506 20-Bit CD Player



The 506 20-Bit CD Player is an integrated CD transport and converter, providing both digital and analogue outputs.

The 506 20-Bit CD Player is ideally suited for use with the Meridian 555 Stereo Power Amplifier and A500 Loudspeakers, with control over the volume and source selection provided by the 501 Control Unit. The 504 Stereo FM Tuner is an ideal addition to the system if radio reception is required.

500 Compact Disc Transport

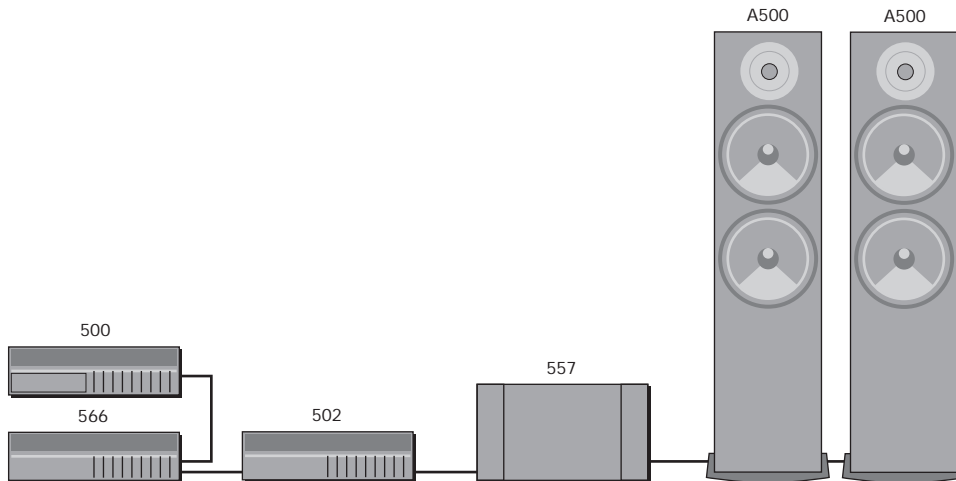


The 500 Compact Disc Transport provides a precision digital output, and can drive DSP5000 Digital Loudspeakers directly.

A 562 Digital Controller can be added to cater for conventional analogue sources, such as the 504 Stereo FM Tuner, and provide source selection between up to 12 different analogue or digital sources.

566 20-Bit Digital to Analogue Converter

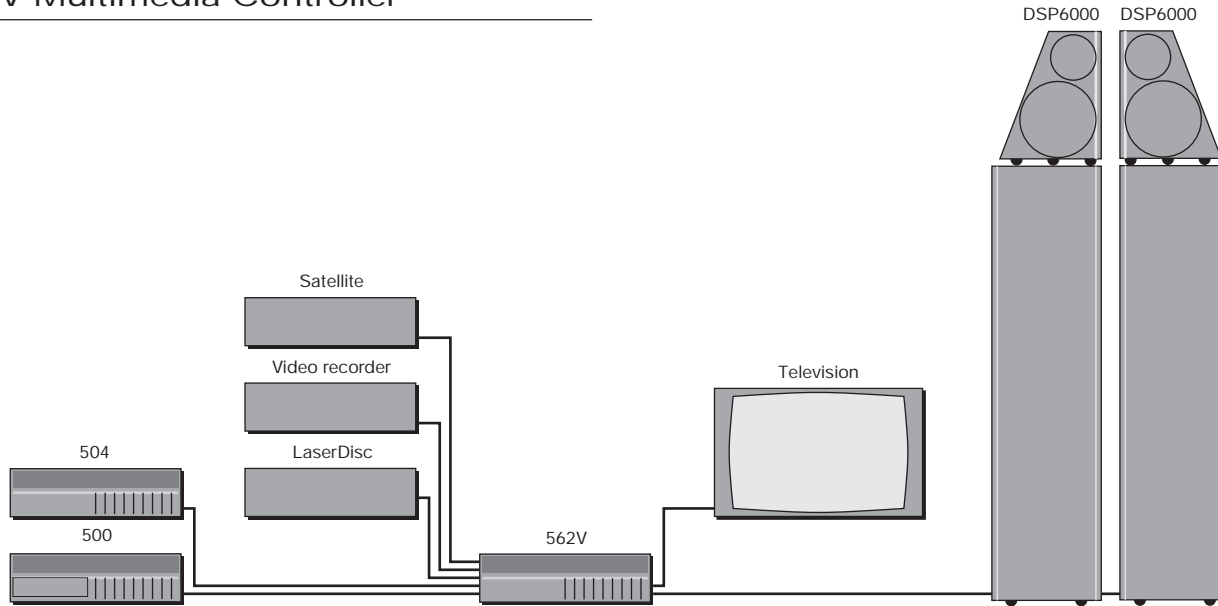
502 Analogue Controller



The digital output provided by the 500 Compact Disc Transport can be decoded by the 566 20-Bit Digital to Analogue Converter to provide a high-quality audio output for use with a conventional audio preamplifier. The 566 20-Bit Digital to Analogue Converter can also decode digital signals from other sources, including LaserDisc players and Digital Audio Tape.

The 502 Analogue Controller is a full function preamplifier for use with any analogue source, and includes balanced inputs to allow you to take advantage of balanced sources, including the 566 20-Bit Digital to Analogue Converter. It provides balanced outputs which are ideal for use with the 557 Stereo Power Amplifier.

562V Multimedia Controller



The 562V Multimedia Controller is the ideal control unit for use with the Meridian DSP6000 Digital Loudspeakers.

It provides direct digital inputs for digital sources, such as the 500 Compact Disc Transport and LaserDisc sound, together with precision Delta Sigma Analogue to Digital Conversion, for

conventional analogue sources such as the 504 Stereo FM Tuner and video sound.

It also includes video switching for CVBS and S-VHS signals, such as from a satellite receiver, LaserDisc player, or video recorder.

Specification and accessories

Specification

Sensitivity	1.5 μ V mono, 23 μ V stereo, 100 μ V ult.
Distortion	<0.2% mono, <0.4% stereo.
Noise	-70dB.
Display	Eight character alphanumeric dot matrix display for station name, frequency, and preset. Stereo indicator.
Finish	Black textured enamel and glass.
Dimensions	88mm x 321mm x 332mm (3.46" x 12.64" x 13.07").
Weight	6.4kg (14lbs).
Input	87.0 – 108MHz. FM 75 Ω unbalanced.
Outputs	Analogue: 2V.
Communications	Two 5 pin 240° DIN sockets.
Consumption	20VA.

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

Available accessories

The following accessories are available from your dealer:

- Meridian System Remote.
- Power cord Europe.
- Power cord Canada and USA.

The Meridian System Remote provides access to all the facilities provided by the 504 Stereo FM Tuner, including those available from the front panel controls. In addition, it allows you to control any other 500 Series units in your system.

If you have problems purchasing these items, you can order them direct from Meridian Audio Limited, who can also supply a range of digital cables suitable for connecting the 504 Stereo FM Tuner to other equipment.

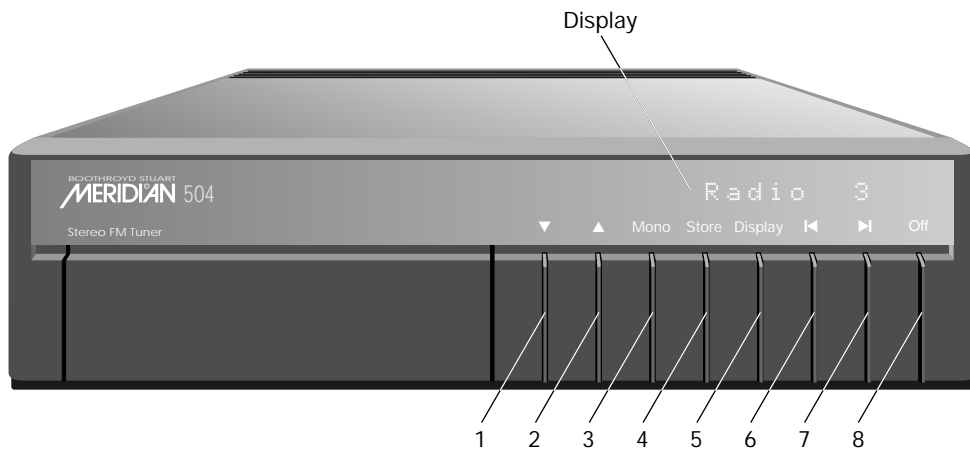
Using the FM tuner

This chapter provides a visual summary of the functions of the FM tuner in order to identify and help explain each of the controls which you will use to operate the unit.

It also describes all aspects of using the FM tuner, beginning with essential instructions such as switching on and selecting a station, to the more advanced setup options.

Unless otherwise specified, each function is available from the front panel or the remote.

Front panel



- 1 ▼ (Down)**
Scans or steps down in frequency.
- 2 ▲ (Up)**
Scans or steps up in frequency.
- 3 Mono**
Selects mono/stereo.
- 4 Store**
Stores a preset frequency.
- 5 Display**
Selects the information displayed.
- 6 ◀ (Previous)**
Selects the previous station.
- 7 ▶ (Next)**
Selects the next station.
- 8 Off**
Switches to standby.

Selecting a station

During normal use the FM tuner should be left in the standby state. This uses a negligible amount of electricity, but ensures that the components of the FM tuner operate at maximum efficiency from the moment you start listening to a station.

If you are not going to use the FM tuner for a period of 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 ◀ (Previous) or ▶ (Next).
- Switch on any other equipment connected to the FM tuner which is not part of the Meridian 500 Series.

To select a preset station

- Press ◀ (Previous) or ▶ (Next) until the display shows the station you want to listen to, or type the number of the preset (remote only).

For example, for Radio 3 the display will show:



- Keeping either key held down will step through the preset stations in turn.

Note that before using the FM tuner for the first time you may need to set the preset frequencies for your area; see *To programme a preset*, page 13.

To switch to standby

- Press **Off**.

The display will show:



If you have other Meridian 500 Series equipment connected to the FM tuner, these units will also switch to standby.

Tuning manually

You use manual tuning to programme the preset stations, or to select stations that you have not assigned to one of the presets.

The 504 Stereo FM Tuner is initially set up to use seek tuning. In this mode it automatically searches for stations, and stops when it finds one.

You can also select step tuning. In this mode you can step through the frequencies in steps of 0.05MHz. To set step tuning see *To set up the FM tuner options*, page 15.

You can adjust the criterion for adequate signal strength using the Setup Stop Strength option; see *To set up the FM tuner options*, page 15.

To search for a station

- Press ▲ (Up) to seek upwards in frequency, or ▼ (Down) to seek downwards in frequency.

The FM tuner will switch to the frequency display, and then search in the direction you have specified until a station is found.

The display will show the station frequency.



Selecting stereo or mono

The 504 Stereo FM Tuner will automatically decode a stereo transmission when one is received, and the front panel **Stereo** indicator will appear.

You may wish to turn off the stereo decoder on a marginal transmission, to reduce the background hiss or birdies.

The **Mono** setting can be stored with the station frequency in presets; see *Defining preset stations*, page 12.

To switch to mono

- Press **Mono**.

The display will show the current setting:



- Press **Mono** again.

The display will show:



The **Stereo** indicator will not be displayed.

To switch to stereo

- Press **Mono** twice.

The display will show:



The **Stereo** indicator will be displayed if the transmission is stereo.

Defining preset stations

The FM tuner allows you to define up to 30 preset stations, so that you can select them immediately from the front panel or remote.

You can also choose which preset station is selected when you switch on the FM tuner; see *To choose the station at switch-on* opposite.

For convenience you can assign a label to the presets to make them easy to identify. The 504 Stereo FM Tuner is supplied with the following labels already set up:

<i>Preset</i>	<i>Label</i>	<i>Preset</i>	<i>Label</i>	<i>Preset</i>	<i>Label</i>
1	Radio 1	5	Radio 5	9	Local 2
2	Radio 2	6	Radio 6	10	ILR 1
3	Radio 3	7	Classic	11	ILR 2
4	Radio 4	8	Local 1	12	ILR 3

To programme a preset

- Press ◀ (**Previous**) or ▶ (**Next**) until the preset you want to programme is displayed, or type the preset number (remote only).
- Tune the station by pressing ▲ (**Up**) or ▼ (**Down**); see *Tuning manually*, page 10.
- If the station is marginal, and you want it to be preset to Mono, press **Mono**.
- Press **Store**.

The display will show:



Stored

The preset is now programmed to the station you tuned.

To choose the station at switch-on

- Select the preset you want to choose.
- Press **Store**.

The display will show:



Stored





This station will now be selected when the tuner is turned on.

Choosing the display

To change the display

- Press **Display**.

Each time you press the key, the display will step between the following display options:





<i>Display</i>	<i>Example</i>
Preset label. This is the usual display.	
Blank.	
Preset number and tuning meter.	
Preset number and frequency. This is the usual display when tuning.	

To use the tuning meter

- Press **Display** until the tuning meter is displayed.

This shows the preset number, the signal strength from 1 to 8, and the tuning position.

The following table shows what the different displays mean:

<i>Display</i>	<i>What it means</i>
	Below station; press ▲ (Up) to tune.
	Strong station perfectly in tune.
	Above station; press ▼ (Down) to tune.
	No station.

- After tuning, revert to a normal preset or frequency display as the tuning meter slightly degrades the output quality.

Setting up the FM tuner

For many users the only change they will want to make to the standard operation of the 504 Stereo FM Tuner is to define the preset stations.

However, the 504 Stereo FM Tuner contains several customisable features that you can programme to suit your requirements.

To set up the FM tuner options

- Turn off the FM tuner, using the power switch on the back panel.
- Turn on the power again while holding down the **Mono** key on the front panel.

The display will show:



It will then show the first setup option:



- Press **Mono** to move between the options.
- Press **▲ (Up)** or **▼ (Down)** to change the value of the current option.

The following table shows the options you can set up.

<i>Option</i>	<i>Initial value</i>
Maximum number of presets (1 to 30).	Max? 30
Tuning method (Seektune or Steptune).	Seektune
Stop strength (1 to 8).	Stop= 4
Tuning meter (Y or N).	Meter? Y

For more information about the tuning method and stop strength see *Tuning manually*, page 10.

For more information about the tuning meter see *To use the tuning meter*, opposite.

To set up the preset labels

- Turn off the FM tuner, using the power switch on the back panel.
- Turn on the power again while holding down the **Store** key on the front panel.

The display will show:



It will then show the first preset number...



...followed by the corresponding preset label:



To alter a preset label

- Press **▶ (Next)** or **◀ (Previous)** to select the number of the preset you want to alter.

After a short delay the existing label is shown:



If there was previously no label the display will be blank.

A flashing block cursor shows which character you can change.

- Press **▲ (Up)** or **▼ (Down)** to change the character.

The character cycles through the symbols: 0 – 9, a – z, A – Z, ., and space.

- Press **Store** to move on to the next character.
- When you have specified all eight characters press **Store** to store the label.

The display will show:



- When you have finished defining labels, switch the power off and on again to restore the FM tuner to normal operation.

Setting up the FM tuner

This chapter explains how to install the FM tuner. It describes what you should find when you unpack the FM tuner, how you should connect it to your other audio equipment, and the siting constraints.

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

You should not make any connections to the FM tuner or to any other component in your system whilst the AC power supply is connected and switched on.

Unpacking

The 504 Stereo FM Tuner comes in a box containing the following components:

- 504 Stereo FM Tuner.
- 1 power cord.
- 1 COMMS lead, to connect the FM tuner to another Meridian 500 Series unit.
- 1 RF connector.
- This manual.

You are advised to retain the packing in case you need to transport the unit.

To position the FM tuner

Do not place the FM tuner:

- In direct sunlight.
- Near heat sources, eg a radiator.
- On top of a power amplifier, as the heat generated may damage the FM tuner.

However, it can be stacked on a 500 Compact Disc Transport or 506 20-Bit CD Player, if you have these Meridian components in your system.

Radio interference

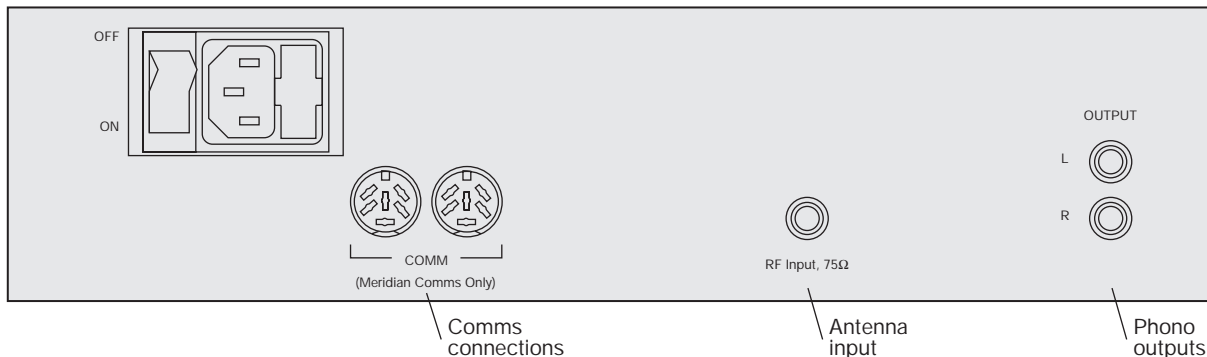
FCC Warning: This equipment generates and can radiate radio frequency energy and if not installed and used correctly in accordance with our instructions may cause interference to radio communications or radio and television reception. It has been type-tested and complies with the limits set out in Subpart 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 to comply with the limits set out in EN55013 and EN55020C.



Connecting the FM tuner

Back panel



To connect an antenna

A suitable VHF antenna or VHF cable signal must be connected to the socket marked 'RF input' on the back of the tuner. You are advised to use a high-quality, low-loss coaxial cable. Cables which have a solid screen will give superior performance.

Please note that the antenna must be intended for unbalanced (ie coaxial) connection. Antennas intended for, or connected with ribbon cable are unsuitable. If your antenna uses a ribbon cable then ask your dealer for a 'balun', or have it reconnected. Ribbon cables are not acceptable proof against RF interference.

The 504 Stereo FM Tuner is a very sophisticated unit, which will deliver superb quality sound. However, unless the signal delivered to the antenna socket of the 504 is of sufficient strength and quality, you will not enjoy the maximum benefits of your new tuner. We cannot emphasise enough the importance of a good VHF antenna and download.

However, as reception conditions vary so much, it is impossible to give more than broad advice, and we recommend, therefore, that you consult your dealer or antenna supplier who will be familiar with local conditions and will be able to advise you on the right equipment for your installation.

To connect to a conventional preamplifier

- Connect the sockets marked OUTPUT L and R on the back panel of the FM tuner to an appropriate input on your preamplifier.

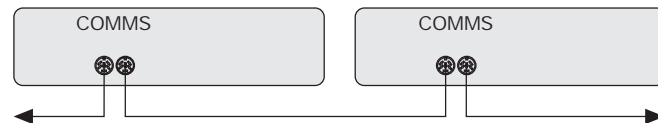
You should consult the manufacturer's manual to determine which input to use, but it will generally be labelled TUNER, RADIO, or AUX.

You should either use a twin-screened audio cable, or a pair of single-screened audio cables. These cables can have a considerable effect on the quality of the sound, and you are advised to seek your dealer's advice on the best type of cables for your system.

To connect to other Meridian 500 Series equipment

- Connect one of the COMMS sockets on the back panel of the FM tuner to one of the COMMS socket on another 500 Series unit, 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 remote.

Each unit will display:

Auto

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

Con.

This is the unit that will respond to the remote.

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



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*, opposite.
- If you want to change the automatic setup configuration refer to the *Meridian 500 Series User Guide*.

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 FM tuner.

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 FM tuner, 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 setup:

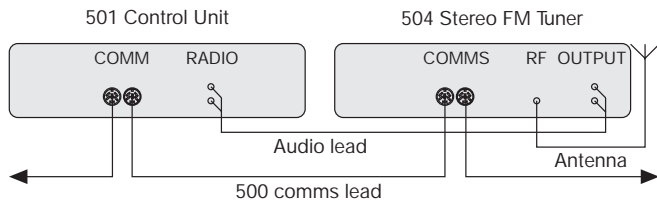


Press **▶ (Next)** on the front panel to change to Type 2:



- Switch the power off and on again to restore the FM tuner to normal operation.
- To return to 500 COMMS operation repeat the above procedure, and select Type 1.

To connect to a 501 Control Unit



- Connect the sockets marked OUTPUT L and R on the back panel of the FM tuner to the RADIO input on the back panel of the 501 Control Unit.

Troubleshooting

This section describes problems you may encounter when using the FM tuner, and includes suggested solutions.

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

No standby display is shown

- Check that your AC power supply is connected correctly.
- Check that the **ON OFF** switch on the back panel is in the ON position.
- Check that the fuse on the FM tuner back panel and the fuse in the unit's power plug have not blown; see *To change the mains fuse*, page 25.

Reception is poor

- In many areas a particular transmission can be received on several frequencies. Check to see if the same station can be received with more signal-strength at a different frequency.
- Check that the RF signal is of good quality.

- Check that all the connections are correctly made.
- Check that the antenna is of good quality, and has a coaxial (unbalanced) output.
- If the RF signal is coming from a head amplifier or distribution amplifier, check that it is switched on.

There is a hum using the analogue output

- A ground-loop may be generated with associated equipment. Check the grounding of associated units.

There is interference to radio and/or television reception when the FM tuner is switched on

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

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 504 Stereo FM Tuner and its cabling.
- Ensure that the receiver uses well-screened antenna cable.
- Relocate the receiver with respect to the FM tuner.
- Connect the receiver and this product to different AC outlets.

Maintenance

Cleaning

When cleaning the FM tuner bear in mind that the front of the FM tuner 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 FM tuner.

To clean the case, display panel, and keypad

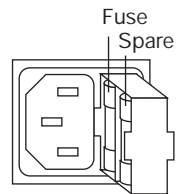
- Use a slightly damp cloth.

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

To clean the audio connections

The audio sockets on the back of the FM tuner 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

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 FM tuner 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 FM tuner 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 504 Stereo FM Tuner is guaranteed against defects in material and workmanship for 2 years from the date of purchase.

The guarantee is void if the 504 Stereo FM Tuner 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 504 Stereo FM Tuner 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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