

ARCAM f·MJ

MS250

Safety guidelines



CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

ATTENTION

RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user serviceable parts inside. Refer servicing to qualified service personnel.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

The lightning flash with an arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated 'dangerous voltage' within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation mark within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

CAUTION: In Canada and the USA, to prevent electric shock, match the wide blade of the plug to the wide slot in the socket and insert the plug fully into the socket.

Important safety instructions

This product is designed and manufactured to meet strict quality and safety standards. However, you should be aware of the following installation and operation precautions.

1. Take heed of warnings and instructions

It is important that you:

- read all the safety and operating instructions before operating this equipment.
- keep this handbook for future reference.
- follow all instructions and adhere to all warnings in the handbook or on the equipment.

2. Water and moisture

Do not use this appliance near water.

The presence of electricity near water can be dangerous – for example next to a bathtub, washbowl, kitchen sink, in a wet basement or near a swimming pool, etc.

3. Object or liquid entry

Take care that objects do not fall and liquids are not spilled, dripped or splashed into the case through any openings. Liquid-filled objects such as vases should not be placed on the unit.

4. Ventilation

Do not block any of the ventilation openings.

Do not place the unit on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded. We recommend a minimum distance of 50mm around the sides and top of the equipment to provide adequate ventilation.

5. Heat

Do not install the unit near any heat producing equipment such as radiators, stoves or other appliances (including other amplifiers) that produce heat.

6. Climate

The appliance has been designed for use in moderate climates.

7. Racks and stands

Only use a rack or stand that is recommended for use with audio equipment. If the equipment is on a portable rack it should be moved with great care, to avoid overturning the combination.

8. Power sources

The unit is supplied with a market-suitable electrical plug. Do not substitute or modify the supplied plug – see your dealer if a replacement is required.

The mains plug or the appliance connector is used as the disconnect device. The MS250 must be installed in a manner that makes disconnection possible.

9. Grounding

The MS250 is Class I construction and must be connected to a socket outlet with a protective earthing connection. Ensure that the grounding means of the appliance is not defeated.

10. Power-cord protection

Power supply cords should be routed so that they are protected against being walked on or pinched, particularly at plugs and the point where they exit from the unit.

11. Protection from electrical storms

Unplug the unit during lightning storms or when unused for long periods of time.

12. Abnormal smell

If an abnormal smell or smoke is detected from the appliance, turn the power off immediately and unplug the unit from the wall outlet. Contact your dealer immediately.

13. Cleaning

Unplug the unit from the mains supply before cleaning.

The case should normally only require a wipe with a soft, dry, lint-free cloth. Do not use paint thinners or other chemical solvents for cleaning.

We do not advise the use of furniture cleaning sprays or polishes as they can cause indelible white marks if the unit is subsequently wiped with a damp cloth.

14. Servicing and repair

Refer all servicing to qualified servicing personnel.

Servicing is required when the unit has been damaged in any way, such as:

- the power-supply cord or the plug has been damaged, or
- liquid has been spilled, or objects have fallen into the enclosure, or
- the appliance has been exposed to rain or moisture, or
- the appliance does not appear to operate normally or exhibits a marked change in performance, or
- the appliance has been dropped or the enclosure damaged.

Safety compliance

This product has been designed to meet the IEC 60065 international electrical safety standard.

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Welcome, and thank you for buying the Arcam MS250.

The MS250 is designed to act as a central repository and distribution system for all your digital music. It can distribute high quality music programming to multiple rooms in your house using both analogue and digital connections. It can distribute music stored on the MS250, and also music stored on computers connected to your home Ethernet network.

You can use your MS250 to:

- Store and catalogue your entire CD collection
- Play Internet radio stations
- Play CDs
- Create CDs from your own music selections ('playlists')
- Access and play music stored on your computer network
- With four independent Zones, it can direct music from any source (including two external sources, such as a DAB tuner or record deck) around your home.

The MS250 uses very high quality digital-to-analogue conversion to ensure superb reproduction in the analogue output chain. Depending on the system settings, the stored copy of a CD will be identical to the original, with no quality loss. We hope that you have many hours of enjoyment from this product, in whichever room you choose to listen.

End User Licence Agreement ('EULA')

You have acquired a device ('DEVICE') which includes software licensed by ARCAM from one or more software licensors ('ARCAM's SOFTWARE SUPPLIERS').

Such software products, as well as associated media, printed materials and 'online' or electronic documentation ('SOFTWARE') are protected by international intellectual property laws and treaties. The SOFTWARE is licensed, not sold. All rights reserved.

IF YOU DO NOT AGREE TO THIS END USER LICENSE AGREEMENT ('EULA'), DO NOT USE THE DEVICE. INSTEAD, PROMPTLY CONTACT ARCAM FOR INSTRUCTIONS ON RETURN OF THE UNUSED DEVICE FOR A REFUND. **ANY USE OF THE SOFTWARE, INCLUDING BUT NOT LIMITED TO USE OF THE DEVICE, WILL CONSTITUTE YOUR AGREEMENT TO THIS EULA (OR RATIFICATION OF ANY PREVIOUS CONSENT).**

GRANT OF SOFTWARE LICENSE. This EULA grants you the following license:

- **USE.** You may use the SOFTWARE only on the DEVICE
- **NOT FAULT TOLERANT.** The SOFTWARE is not fault tolerant. ARCAM has independently determined how to use the SOFTWARE in the DEVICE and the SOFTWARE SUPPLIERS have relied upon ARCAM to conduct sufficient testing to determine that the software is suitable for such use.
- **NO WARRANTIES FOR THE SOFTWARE.** The SOFTWARE is provided 'AS IS' and with all faults. The entire risk as to satisfactory quality, performance accuracy, and efforts (including lack of negligence) is with you. Also, there is no warranty against interference with your enjoyment of the SOFTWARE or against infringement. If you have received any warranties regarding the DEVICE or the SOFTWARE, those warranties do not originate from, and are not binding on SOFTWARE SUPPLIERS.
- **NO LIABILITY FOR CERTAIN DAMAGES.** Except as prohibited by law, SOFTWARE SUPPLIERS shall have no liability for any indirect, special, consequential or incidental damages arising from or in connection with the use or performance of the SOFTWARE. This limitation shall apply even if any remedy fails of its essential purpose. In no event shall SOFTWARE SUPPLIERS be liable for any amount in excess of U.S. Two Hundred and Fifty Dollars (U.S.\$250.00).
- **LIMITATIONS ON REVERSE ENGINEERING, DECOMPILATION, AND DISASSEMBLY.** You may not reverse engineer, decompile, or disassemble the SOFTWARE except and only to the extent that such activity is expressly permitted by applicable law notwithstanding this limitation.
- **SOFTWARE TRANSFER ALLOWED BUT WITH RESTRICTIONS.** You may permanently transfer rights under this EULA only as part of a permanent sale or transfer of the DEVICE, and only if the recipient agrees in full to this EULA. If the SOFTWARE is available as an upgrade to the DEVICE, any transfer must also include any prior versions of the SOFTWARE.
- **EXPORT RESTRICTIONS.** You acknowledge that SOFTWARE is subject to U.S. and European Union export jurisdiction. You agree to comply with all applicable international and national laws that apply to the SOFTWARE, including the U.S. Export Administration Regulations, as well as end-user, end-use and destination restrictions issued by U.S. and other governments.
- **USE RESTRICTIONS.** This DEVICE is not intended for use in medical, life saving, or life sustaining applications and no liability whatsoever is accepted by ARCAM, nor by the SOFTWARE SUPPLIERS, for any failure of the DEVICE when used in this manner

Before you start!

Using this handbook

This handbook has been designed to give you all the information you need to install, connect, set-up and use your Arcam MS250. The supplied remote control handset is also described.

It may be that your MS250 has been installed and set-up as part of your Hi-Fi installation by a qualified Arcam dealer. In this case, you may wish to skip the sections of this handbook dealing with installation and setting up the unit, and move directly to the sections dealing with operating the MS250. Use the contents list on page 3 to guide you to these sections.

Safety

Safety guidelines are set out on page 2 of this handbook.

Many of these items are common sense precautions, but for your own safety, and to ensure that you do not damage the unit, we recommend that you read them. This is a Class I product and requires an earth connection.

End User Licence Agreement

You must read and agree to the terms of the End User Licence Agreement on the previous page before using the MS250. In common with most software, in buying the MS250 device you have not purchased the software code, but instead have purchased a licence to *use* the code on the device.

What's in the box?

Check that the following items are in the box when you receive it:

- Arcam MS250
- Arcam CR-425 remote control with 2 'AAA' batteries — the remote control model number is shown on the front near the base of the remote control;
- Mains power lead appropriate for the mains supply in your area;
- Product registration card and envelope.

If any of these items are missing or incorrect, please contact your Arcam dealer immediately.

Inserting the batteries into the remote control

The remote control requires 2 'AAA' batteries to operate. To insert the batteries into the remote control, please follow these instructions:

1. Open the battery compartment cover on the back of the remote control.
2. Insert two AAA batteries into the battery compartment, following the polarity indications given inside the compartment itself.
3. Close the cover.

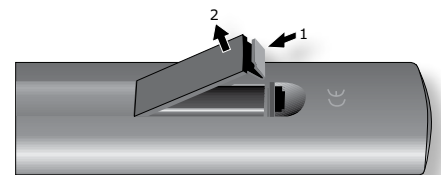
Notes on inserting the remote control batteries

- Incorrect use of batteries can result in hazards such as leakage and bursting.
- Do not mix old and new batteries together.
- Do not use different kinds of battery together—although they may look similar, different batteries may have different voltages.
- Ensure that the plus (+) and minus (–) ends of each battery match the indications in the battery compartment.
- Remove batteries from equipment that is not going to be used for a month or more.
- When disposing of used batteries, please comply with governmental (or other) regulations that apply in your country or area.

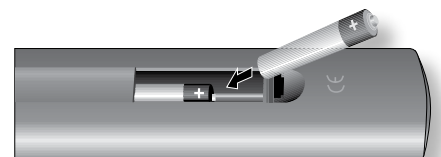
Using the remote control

Please keep in mind the following when using the remote control:

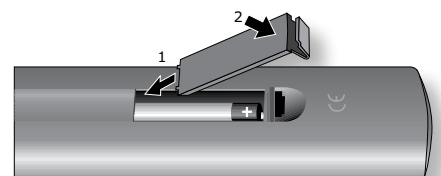
- Ensure that there are no obstacles between the remote control and the remote sensor on the MS250. The remote has a range of about seven meters. (If the remote sensor is obscured, the remote control input jack on the rear panel is available. Please contact your dealer for further information.)
- Remote operation may become unreliable if strong sunlight or fluorescent light is shining on the remote sensor of the MS250.
- Replace the batteries when you notice a reduction in the operating range of the remote control.



A. Open the cover of the remote control battery compartment



B. Insert the batteries into the remote control



C. Close the cover of the remote control battery compartment

Conventions used in this document

Zones

The MS250 supports up to four zones. The term 'Zones' refers to the four stereo analogue outputs supported by this product. Zone 1 corresponds to the room where the MS250 is situated: Zones 2, 3 and 4 are the other three analogue output locations.

Before making connections

Before connecting your equipment it is important to think about the following points, as these will affect your choice of connections and subsequent use of the system.

Video

Normal, everyday control of the MS250 is by remote handset (or the front panel control buttons) and the front panel display. However, to access certain features of the MS250, you will need to connect a TV or monitor. A USB or PS/2 keyboard can also be added to make text entry more convenient.

Your MS250 supports three different video connection types: VGA, S-Video, or Composite video. Choose a connection that your TV/monitor supports.

Audio inputs

Two stereo line-level inputs are provided on the rear panel to allow routing and recording of analogue sources, such as a DAB tuner. The audio signal from these inputs can be routed to any of the Zones. If you wish to listen to more than two external sources, you may wish to invest in an external switch or pre-amp to use for input selection.

Note that to connect a record deck to the MS250 you will require a phono pre-amp.

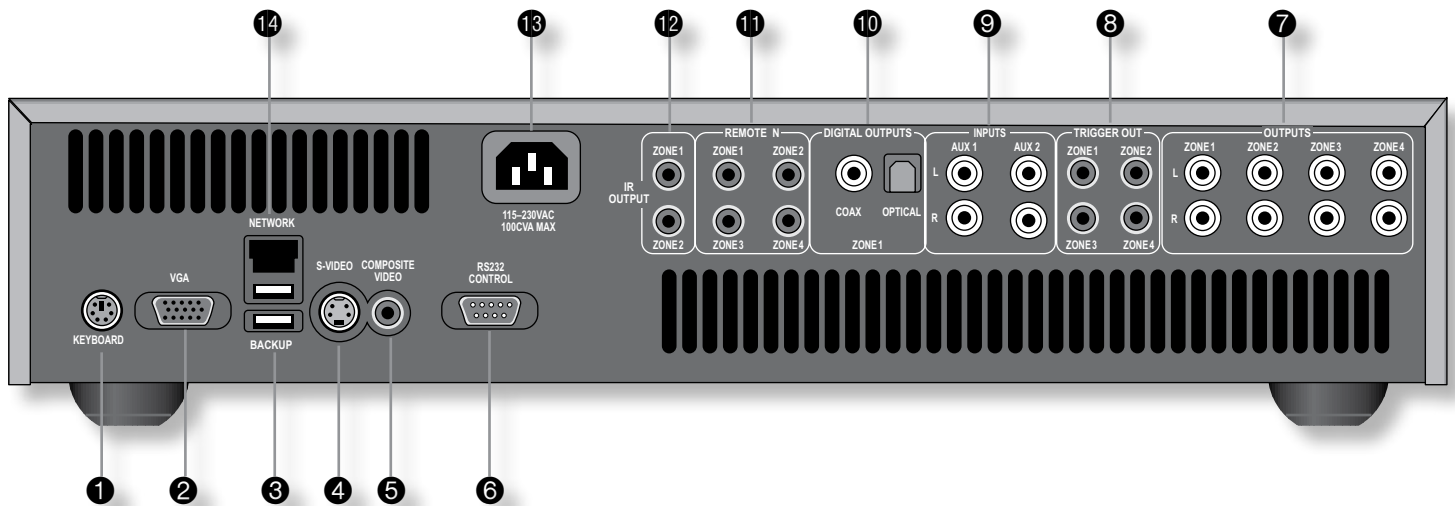
Audio outputs

The MS250 supports analogue, digital (S/PDIF) and networked audio connections.

With the possible exception of networked connections, all of these methods require you to route cables from the MS250 to an appropriate amplifier or receiver in the remote location. Analogue connections require a stereo phono cable to be routed to an amplifier; digital connections require a remote receiver or D/A converter; and networked connections require a PC or similar network audio receiver.

Think carefully about the type of connection you wish to use for each remote location before starting to equip a new multi-room installation: we recommend asking your dealer for advice at the planning stage before installation work is commissioned.

Installing and connecting



Positioning the unit

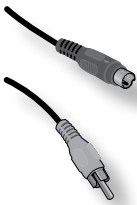
- Place the MS250 on a level, firm surface. Ensure that the surface you have chosen is strong enough to take the weight of the MS250.
- Avoid placing the unit in direct sunlight or near sources of heat or damp.
- Do not place the unit on top of an amplifier or other source of heat.
- **Ensure adequate ventilation.** Do not place the unit in an enclosed space such as a bookcase or closed cabinet unless there is good provision for ventilation. The MS250 is designed to run warm during normal operation.
- Make sure the IR receiver on the front panel is unobstructed or you may find the remote control is unreliable. If line-of-sight is impractical, an infrared remote repeater can be used with the rear panel IR connectors (**REMOTE IN**).
- Do not place your record deck on top of this unit. Record decks are very sensitive to the noise generated by mains power supplies which will be heard as 'hum' if the record deck is too close.

Back panel connections

Video output

A video connection may be used to view the menus of the MS250 on a TV or computer monitor. The MS250 does not have to be connected to a video display for day-to-day use, as all basic functionality is available via the front-panel. However, to gain access to advanced features, for product configuration, and for improved ease-of-use, a video display is required.

There are three different video outputs available from the MS250: VGA, S-Video and Composite Video. Choose one that your display supports, connect it with a suitable cable and, if required, configure the output to match using the 'TV Standard' menu option within Settings > Display.



4 S-Video	The S-Video output (also known as S-VHS or Y/C) is commonly supported by display devices worldwide. Connect the S-VIDEO output of the MS250 to the S-Video input of the display device using an S-Video cable of an appropriate length.
5 Composite video	If your display device offers a composite input (sometimes labelled CVBS or just 'video'), connect this to the COMPOSITE video output of the MS250 using a 75Ω phono cable suitable for video use.
2 VGA	The 15-pin VGA connector is used commonly by computer monitors and is often available on other display devices. The MS250 produces SVGA output for this port.

Note that you may connect equipment such as AV receivers in the signal path between the MS250 and the display device, as long as the connected equipment also supports the type of video signal you intend to use. For instructions on how to connect AV equipment, consult the manual for that equipment.

Keyboard connector 1

Characters can be entered into an on-screen text field using the CR-425 remote control. If you have a large number of track titles to enter by hand, however, you'll find that connecting an external keyboard is much more convenient.

You can connect either a PS/2 or a USB keyboard. If you are using a PS/2 keyboard, connect it to the **KEYBOARD** socket before the MS250 is powered on, otherwise it may not be recognised. A USB keyboard can be connected to the **BACKUP** USB connector on the rear panel or to the front panel USB connector. You can connect or disconnect a USB keyboard at any time.

Backup (USB) ③

This connector allows you to connect an external USB storage device or a USB keyboard to the MS250. A second USB connection is provided on the front panel. These connectors are fully USB 2.0 compliant, but are not designed for use with an iPod®.

RS232 control ⑥

Use this connection to control devices with an RS232 serial port (for example, Crestron and AMX touch screen controllers). Your Arcam dealer has access to specialized documentation for RS232 and IR programming with the MS250.

Analogue audio outputs ⑦

Four stereo pairs of phono outputs are provided, one pair for each Zone. The volume level for each zone can be independently set. The outputs can each carry audio from different sources (stored music, CD, Internet radio etc.), including up to two external line-level inputs (a DAB tuner, for example).

Trigger output ⑧

These outputs can be used for 'triggering' (i.e. powering on and off automatically) power amplifiers or source equipment in Zones 1, 2, 3 or 4 where line-of-sight control by infrared cannot be used. The trigger 3.5mm jack plugs are wired as shown in the table.

Connect on	Funct on	Voltage
Tip	Zone On/Off	On = 12V, 30mA Off = 0V
Sleeve	Ground	0V

Aux Inputs 1 and 2 ⑨

These connections allow you to attach two pairs of auxiliary inputs (for example, an FM tuner or the preamp output from a record player). The inputs can be switched using the **INPUT 1** and **INPUT 2** buttons on the remote control.

Digital audio output ⑩

A digital-audio output is provided for use in Zone 1. This output always carries the audio from Zone 1 and cannot be configured for other zones.

If you have an external surround-sound decoder, receiver or D-A converter that you wish to use with the MS250, then you will need to connect it to the digital-audio output using either a coaxial or optical lead.

If possible, use the coaxial connection as this offers slightly better performance. Connect the **COAX** output of the MS250 to the digital audio coaxial input of the decoder/D-A converter or receiver using a phono cable designed for digital audio interconnection.

Alternatively, connect the **OPTICAL** output of the MS250 to the optical input of the decoder, D-A converter or receiver using a TOSLINK optical lead.

Remote control input ⑪

The **REMOTE IN** input can be used to pass RC5 codes to the MS250 if it is installed in a position (or system) where line-of-sight infrared cannot be used. Independent inputs are provided for each of the four zones. The 3.5mm jack plugs are wired as shown in the table. Contact your dealer for further information if you think you may need this facility.

Connect on	Funct on
Tip	IR in
Ring	Ground
Sleeve	12V supply

IR output ⑫

RC5 code output is available to control equipment in Zones 1 and 2 if line-of-sight infrared cannot be used. The 3.5mm jack plugs are wired as in the table above.

Network (Ethernet/USB) ⑭

This is a standard Ethernet RJ45 connection allowing you to connect the MS250 to your local area network (LAN). See the section on 'Connecting to a network' for further information. An additional USB connection below the RJ45 socket is provided for future use.

General connection advice

We recommend the use of high quality screened analogue, digital and video cables, since inferior quality cables will degrade the overall quality of your system. Use only cables that are designed for the particular application as other cables will have different impedance characteristics that will degrade the performance of your system (for example, do not use cabling intended for audio use to carry video signals). All cables should be kept as short as is practically possible.

Video and digital connections must be made with cables that are designed for this purpose, i.e., coaxial cable with a 75Ω impedance. Using substandard cables may result in poor picture quality, such as ghost images and/or grainy picture quality ('snow').

Speaker cables should be kept short to ensure efficient power transmission and avoid audible distortion.

It is good practice when connecting your equipment to ensure that the mains power supply cabling is kept as far away as possible from your audio and video cables, as this will provide the best sound and picture quality. Failure to do so may result in unwanted noise in the audio and video signals.

Connecting to a power supply

Mains lead

The appliance is normally supplied with a moulded mains plug already fitted to the lead. If for any reason the plug needs to be removed, it must be disposed of immediately and securely, as it is a potential shock hazard when inserted into the mains socket.

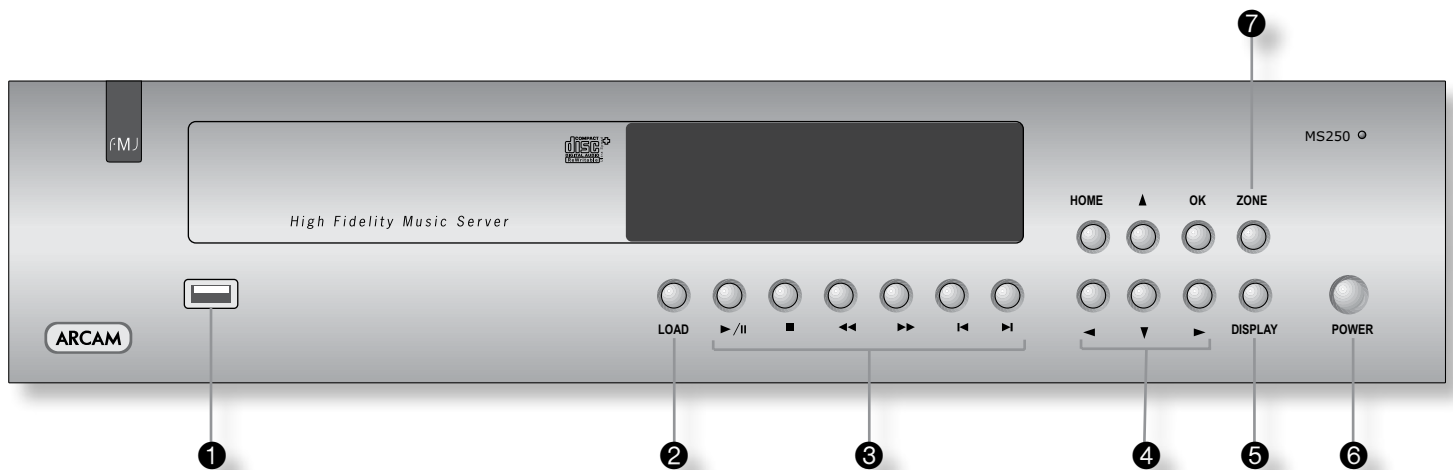
Check that the plug supplied with the unit fits your supply and that your mains supply voltage is within the range 115V to 230VAC. If your mains supply voltage or mains plug is different, or you require a new lead, please consult your Arcam dealer.

Plugging in

Push the plug (IEC line socket) of the power cable supplied with the unit into the socket ⑬ in the back of the unit. Make sure it is pushed in firmly.

Put the plug on the other end of the cable into your power supply socket and switch the socket on.

Front-panel controls



POWER ⑥

Press this button to switch on the MS250. The power indicator light changes from red to green. From power-on, the MS250 will take about 30 seconds to initialise; a start-up message is displayed on the front panel.

When powered-on, press this button for a second time to switch the unit off. The MS250 takes a few seconds to shut down. To avoid risk of data loss, do not remove power from the unit during this period.

NOTE

To put the unit into stand-by, press the power button on the remote control or front panel. The front panel display dims and shows the time and date.

LOAD ②

To load a CD, press **LOAD** (or **OPEN** on the remote control). The CD tray opens to accept 12cm or 8cm discs. Place the CD in the tray with the label facing uppermost. Press **LOAD** again (or press **PLAY**, or gently push the tray in 5mm) to close the tray. After a few seconds, if the CD has been found in the online database, the track names appear on the display.

Music control keys ③

These keys can be used to control CDs and stored music.

Play/Pause: Press ►/|| to play the current music selection. Press again to pause the music. If the music is paused, pressing ►/|| again will resume the music from the point where it was paused.

Stop: Press ■ to stop the current music selection. Pressing ►/|| after the music has been stopped will resume playing at the start of the current track.

Search forwards/backwards: Press ►► or ◀◀ on the front-panel or remote control to search fast forward or backwards. The following speeds for fast search are available: x2, x4, x8, x16 and x32. Press the button repeatedly to cycle through the different speeds. To resume normal playback speed (and play the CD or stored music), press ►/||.

Skip track: To start a CD with a track other than the first, press ►| or |◀ to locate the desired track. To select another track at any time during play, press ►| or |◀.

Menu navigation keys ④

These keys allow navigation through the MS250 menu system – they match the cursor keys on the remote control. Use the up-down-left-right keys to move the menu highlight to the item of interest, then press **OK** to open or select the highlighted item. The **HOME** key returns you to the top-level menu.

DISPLAY ⑤

This key changes the brightness of the display. Press repeatedly to reduce the brightness in steps from full brightness to off. Press once more to restore to full brightness.

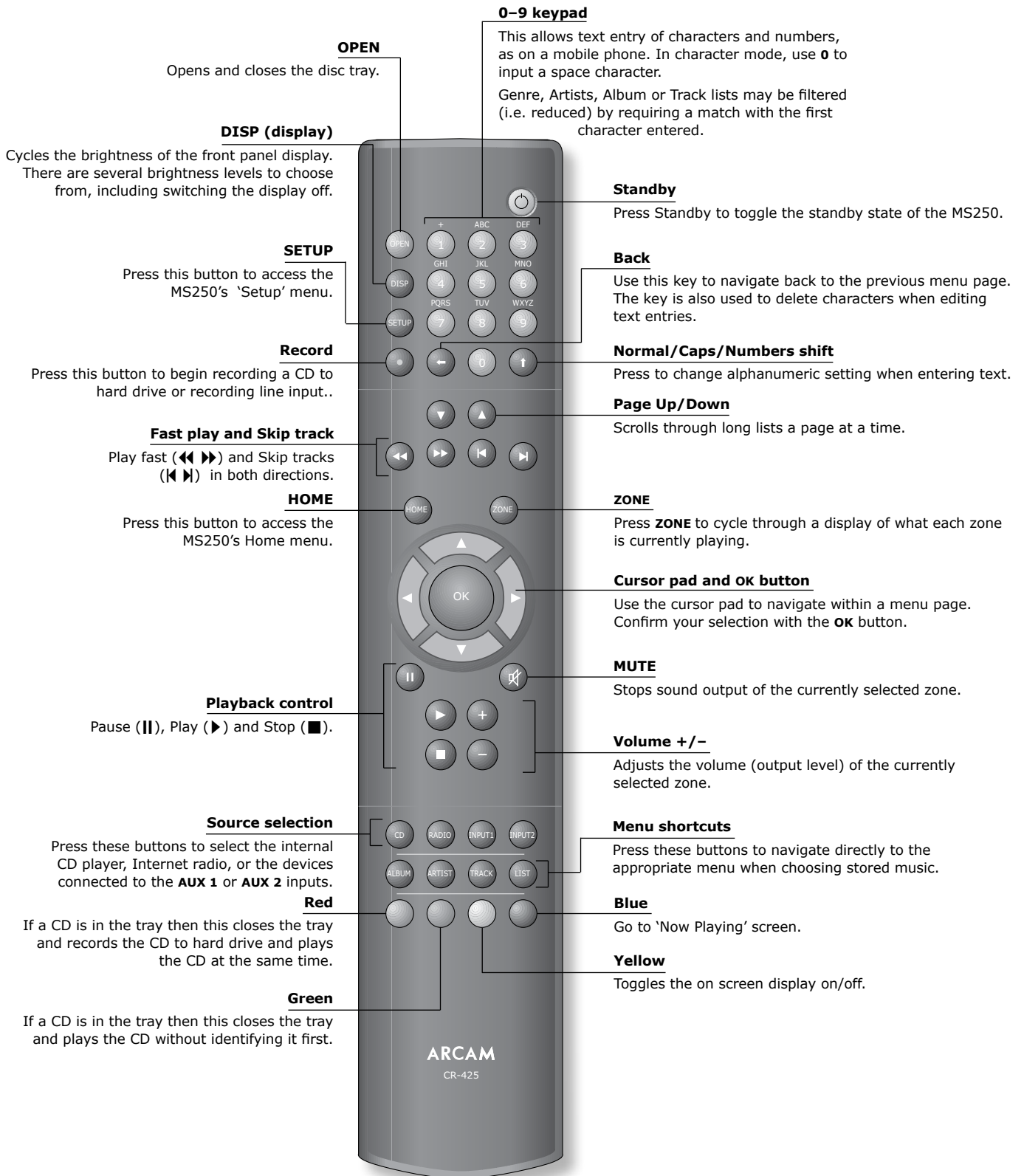
ZONE ⑦

Press the Zone button to select the zone you wish to view or control. There are four output zones, which in a typical installation will be routed to different rooms in the house. The zone number is shown on the display along with the audio settings for that zone. You can route different audio sources to different zones. For example, you can play a stored CD in one zone and Internet radio in another zone at the same time.

USB connector ①

The front panel USB connector is in addition to the two USB connectors on the back panel of the MS250. It allows easier access to the MS250 for playing music or transferring music files from portable music sources. You can also attach a USB keyboard here to make text editing easier.

Using the CR-425 remote control



TIP

If the remote control receiver (located on the right of the front-panel window) is not 'visible' to the remote control hand-set, then the remote control will not work! Either locate the unit elsewhere, or take advantage of the remote control input on the rear of the player. See your dealer for further information on this option

Operating the MS250

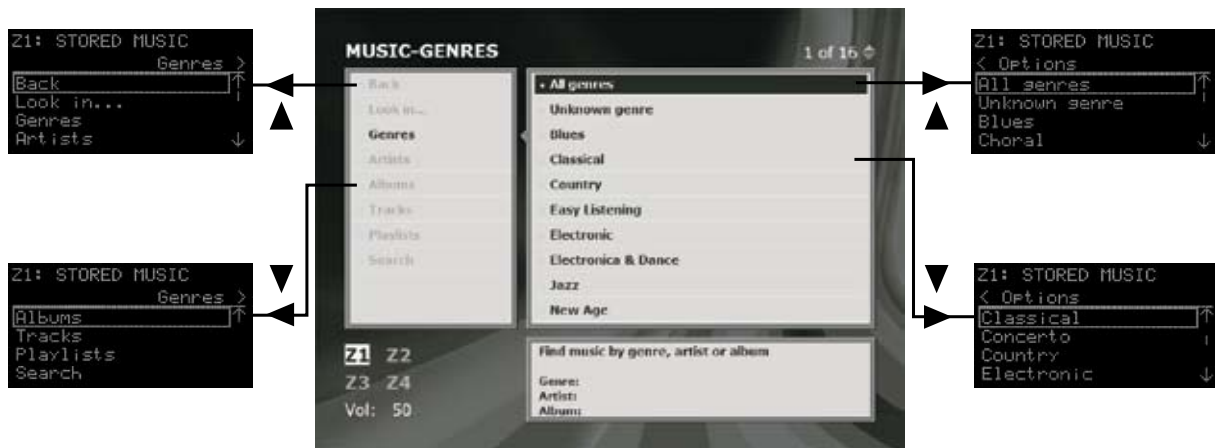
The menu system

The MS250 is controlled using its menu system. This is best viewed on a TV or a computer monitor, connected as described on page 7. The menu system is also displayed on the front panel display, which is sufficient for routine control, especially when you have become familiar with the MS250's capabilities.

Navigation around the menus is performed using either the remote control or the buttons on the front panel. The remote control includes useful shortcut keys and is easier to use.

The front panel display acts as a 'window' on the menu system showing a necessarily restricted view of the whole. Use the up, down, left and right keys to navigate to each corner of the menu displayed.

The picture below shows an example.



Switching on

On first powering on, the front panel display displays the power on message. After initialization has completed, the **MUSIC SOURCE** home page appears:



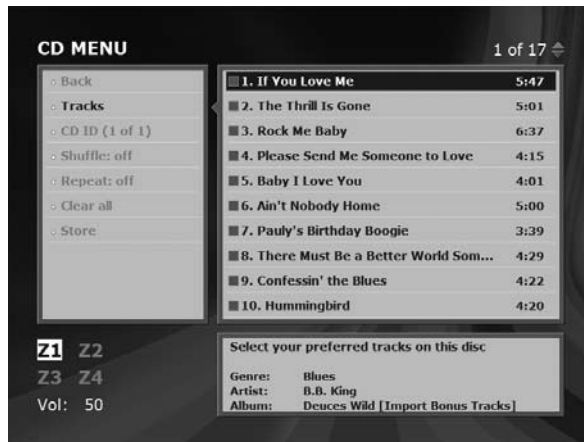
Any time you wish to return to the **MUSIC SOURCE** (or 'Home') page, you can do so by simply pressing **HOME** on the remote or on the front panel.

NOTE

The front panel display is shown on this page, but for clarity, only the TV/Monitor display is shown in the rest of this section. Most of the features may be operated using the front panel buttons to navigate, using information shown on the front panel display.

Playing CDs

To play a CD, press **LOAD** (or **OPEN** on the remote control) to open the CD tray. Place the CD in the tray with the label facing uppermost. Press **LOAD** again (or **OPEN** again on the remote control) to close the tray.



After a few seconds, the track names appear on the display.

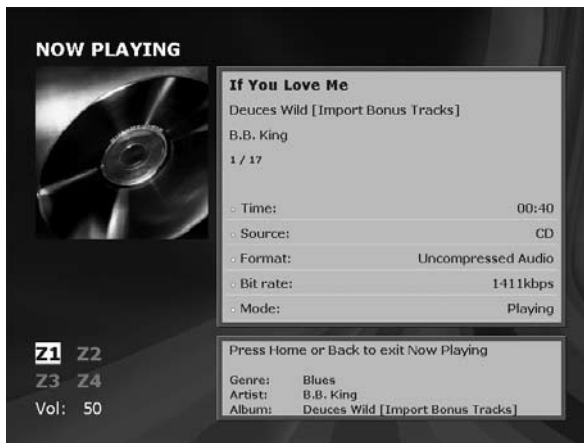
To select particular tracks, use the and keys on the remote (or and keys on the front panel) to move down and up the tracklist.

OK toggles a track from selected (red square before the track number) indicating that the track is to be played; to unselected (open square before the track number), indicating that the track is to be skipped.

The MS250 plays all selected tracks from the highlighted track to the end of the selection. If you have set the 'Repeat' item to 'Repeat: on', playing starts again from the first selected track. The default setting is 'Repeat: off'. You can also instruct the MS250 to play tracks in a random order from the CD by changing the 'Shuffle' menu item to 'Shuffle: on'.

See pages 9 and 10 ('Front panel controls' and 'Using the CR-425 remote control') for how to pause, stop, skip tracks, etc.

To play the whole CD, simply press **PLAY** on the remote or front panel. After a delay to collect the information, the display on the TV/monitor (and a version of the information on the front panel) appears:



NOTE

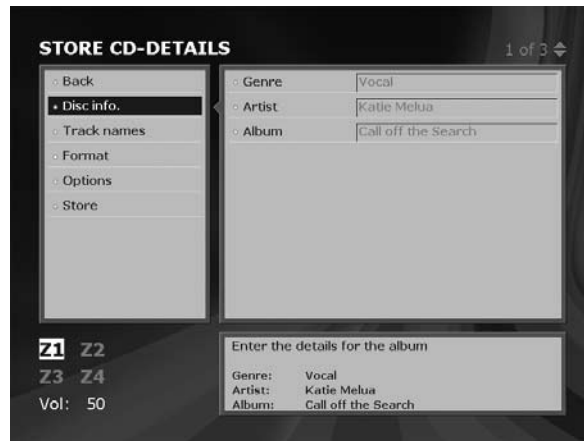
If the MS250 is not connected to the Internet, or the database does not contain details for the CD inserted, tracks will be listed by number only

NOTE

The front panel display indicates the volume level (0-100) This is the output level of the signal fed to your amplifier. If you can access your amplifier's volume control, you should set the MS250 volume control to maximum (100) and adjust the volume level on the amplifier to your requirements

Storing a CD on the MS250

To store the contents of a CD on the MS250, select **Store** from the left hand window of the CD menu. The **STORE CD** menu page is displayed with **Disc info.** selected:



Editing CD details

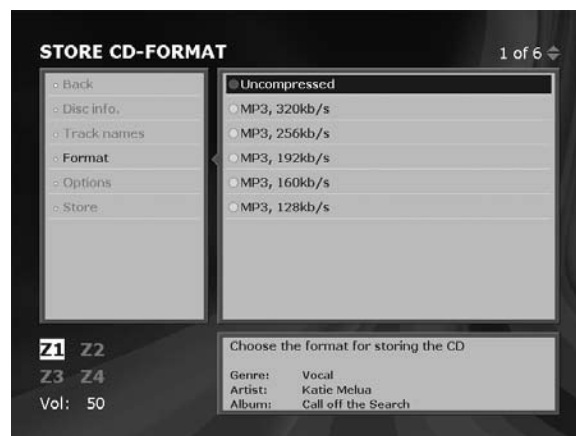
This page allows you to enter or modify information for the CD. This is useful if the details for the CD could not be retrieved by the MS250 or if you wish to modify any of the details shown. Navigate to the desired info box (e.g. Genre) and press **OK** to select it. You can now enter the text required using the number keys on the remote:

- To make an alphabetic selection using the number keys, press the key once for the first letter below the key, twice for the second letter, etc., as on a mobile phone. The space character is entered by pressing the **0** key.
Press the **←** key on the remote to delete a character. Press the **←** and **→** keys to move the cursor left and right.
- To enter uppercase letters, press the **↑** key on the remote once. The word 'Capitals' appears in brackets on the menu page. Press **↑** again to enter digits. Press **↑** once more to revert to entering lower case letters.
- When you're happy with the wording, press **OK** to confirm the text entry.

You can edit track names for the CD by choosing the **Track names** option on the left-hand window of the menu page, editing the text in the same way.

Choosing storage options

Choose **Format** from the left-hand window of the menu page to display the storage options for the CD.



Navigate to the quality level required and press **OK** to select it.

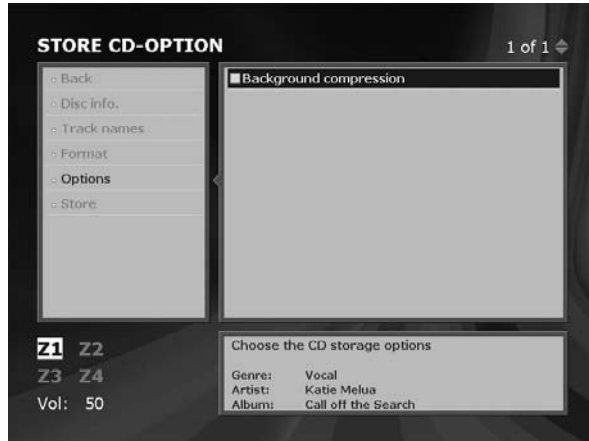
Note that the 'Uncompressed' option stores an exact bit-for-bit duplicate of the CD on the MS250 hard disk. This results in the highest possible quality but takes up the most space on the hard disk. You can store around 450 CDs on the MS250 with this option.

TIP

This menu page is not shown on the front panel display. You'll need a TV or monitor to edit CD details. Attaching a USB or PS/2 keyboard to the MS250 will make the task quicker and easier.

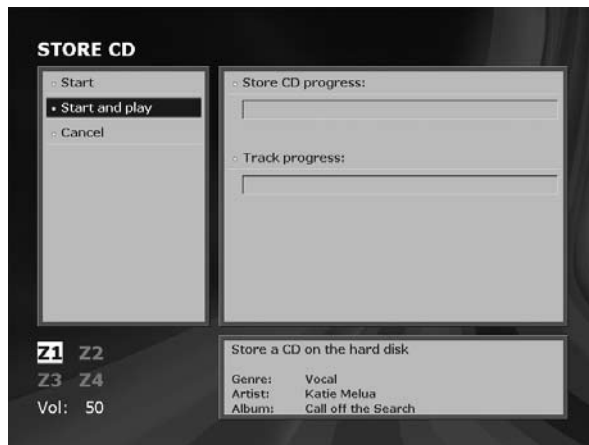
Store CD option

You might like to select the 'Background compression' option to carry out data compression as a background task. Compression takes place when the MS250 is in Standby mode: a simple 'Ooo' animation on the front panel display shows that compression is in progress.



Storing the CD

Choose **Store** from the left-hand window of the menu page. The following screen is displayed:

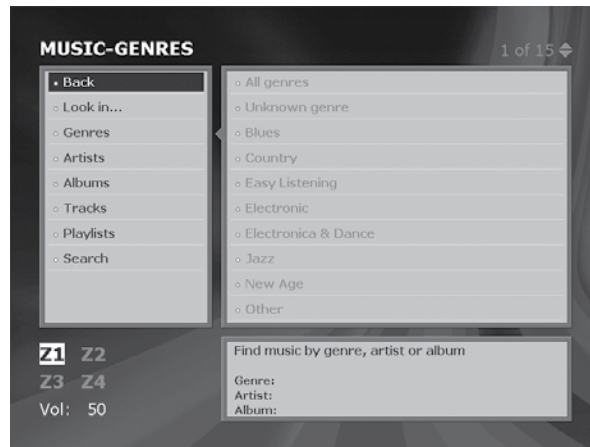


Select 'Start' (storage onto hard disc), 'Start and Play', or 'Cancel'.

Press **OK** to start the storage process. When the MS250 has completed storing the CD, the display returns to the **MUSIC GENRES** Home page.

Playing stored music

From the **MUSIC SOURCE** home page, navigate to **Stored music** and press **OK**. The following menu page is displayed:



Music stored on the MS250 is catalogued by genre (Rock, Classical etc.), album title, artist and track names. The catalogue is hierarchical, working down from genre to tracks, and sorted alphabetically. For example, to find a Blues album by B.B. King, you might:

- Select **Genres** from the left-hand window of the menu page
- Select **Blues** – the **Artists** option is automatically selected and a list of Blues artists is displayed
- Select **B.B. King** from the list of artists – the **Albums** option is automatically selected and the list of albums by B.B. King stored on the MS250 is displayed
- Select the album desired – the track names are displayed.
- Press **PLAY** to start playing the tracks.

You can also choose music by going directly to album, artist or track lists as follows.

Finding music by artist

To find a particular artist, choose **Artists** from the left-hand window of the **STORED MUSIC** page and navigate down the list to the artist you'd like to listen to. Press **OK** and choose the album you'd like to listen to from the list that appears. Press **▶** to start playing the album from track 1. Alternatively, press **OK** and select the tracks you'd like to listen to from the list of tracks that follows.

Finding music by album title

To find a particular album, choose **Albums** from the left-hand window of the **STORED MUSIC** page and navigate down the list to the album you'd like to listen to. Press **▶** to start playing the album from track 1. Alternatively, press **OK** and select the tracks you'd like to listen to from the list of tracks that follows.

Finding music by track name

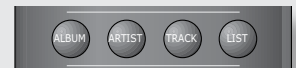
To find a particular track, choose **Tracks** from the left of the **STORED MUSIC** page and navigate down the list to the track you'd like to listen to. This option lists every track in every album stored on your MS250 in alphabetical order, so it could be a long list! You can filter the list by entering an initial letter using the remote control's alphanumeric keypad. Only those tracks matching their initial letter are selected for listing.

TIP

A quick "no fuss" way of playing music is to press **▶** when **STORED MUSIC** is highlighted. The MS250 plays the music library continuously in random order.

TIP

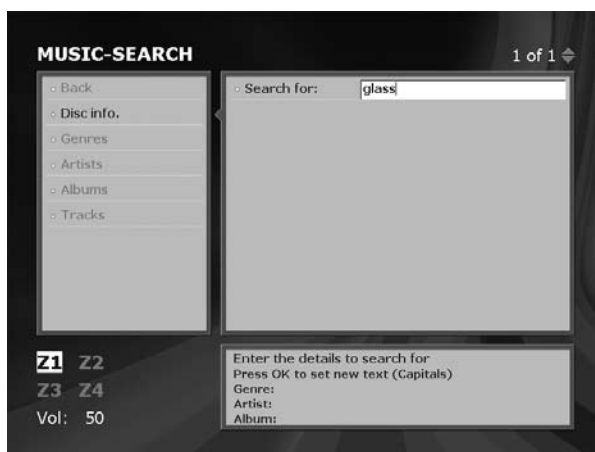
The remote control includes shortcut buttons that take you directly to the **Album**, **Artist**, **Track** or **Playlist** menu pages.



Searching for stored music

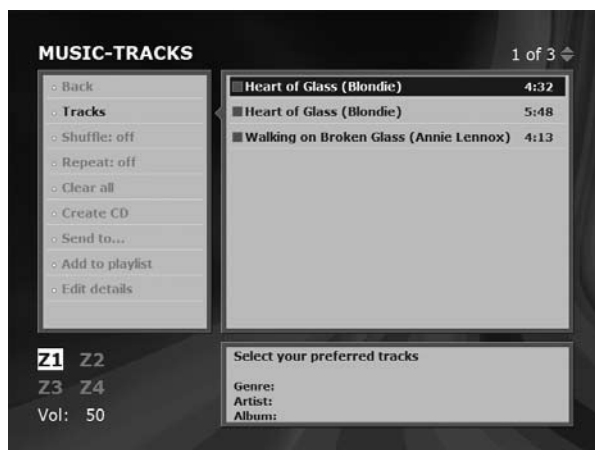
You can search for tracks, album titles or artists in your stored music using the Search function. You can enter part of a title to search to save time. For example, you could type 'glass' to search for any track with glass or Glass in the title – the search function is not case-sensitive.

1. Select **Search** from the left-hand window of the **MUSIC-GENRES** page.



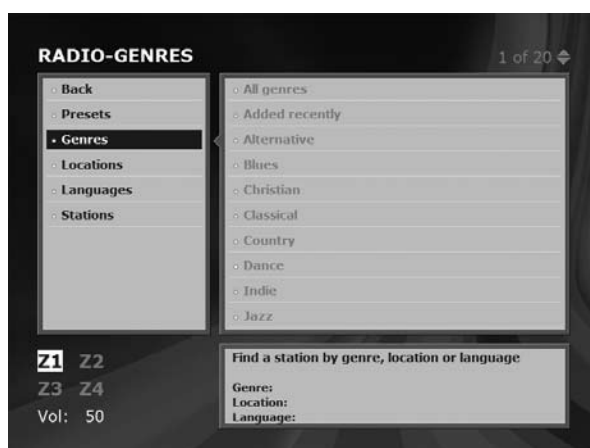
2. Press **OK** to select the search text box and enter the track/artist/album name you want to search for. Press **OK** again to set the text.
3. Now choose **Artists**, **Albums** or **Tracks** from the left-hand window of the menu page.

The list of artists, albums or tracks that contain the words entered in the search box is displayed:



Internet radio

From the **MUSIC SOURCE** home page, navigate to **Internet radio** and press **OK**. The following menu page is displayed:



The radio stations are listed hierarchically by Presets, Genres, Locations and Languages, and there is also a complete alphabetical list of all available stations ('Stations').

There is a default list of Internet radio stations installed on the MS250. In addition, every time you switch on the MS250 it automatically downloads the latest list of available stations from the Arcam website (given that the unit is connected to the Internet).

Playing an Internet radio station

To play an Internet radio station, simply select it from the list of available stations.

For example, to select a station called J-Wave from a list of all those currently playing Blues music, select Internet radio, Genres, Blues, All locations, All languages, Play, ►J-Wave.

TIP

Create an Internet radio preset by finding a favourite station and pressing . The station is added to your list of presets immediately.

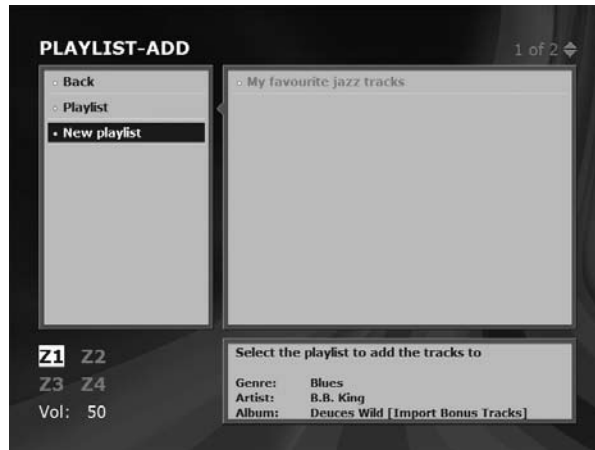
Playlists

Playlists are a convenient way to gather together and sort tracks stored on the MS250 in any order you'd like to listen to them. For example, you might put together a list of tracks from various albums suitable for a party. You can give your playlists names to make them easy to find. You can also record the tracks in a playlist onto a CD (see 'Creating a CD').

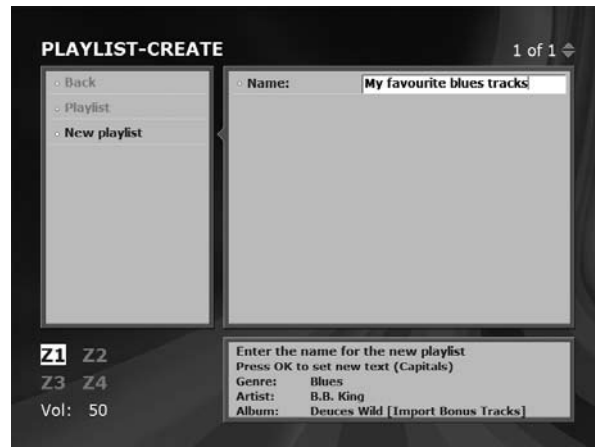
Creating a playlist

To create a playlist:

1. Choose the first selection of tracks you'd like to include in your playlist, so that they are listed on the **MUSIC-TRACKS** menu page. Any selected tracks are included in your playlist – deselect any you don't want.
2. From the left-hand window of the menu page choose **Add to playlist**. The **PLAYLIST-ADD** menu page is displayed. Any previously created playlists appear on the right-hand window of the menu page:



3. Choose **New playlist** from the left-hand window of the menu screen.



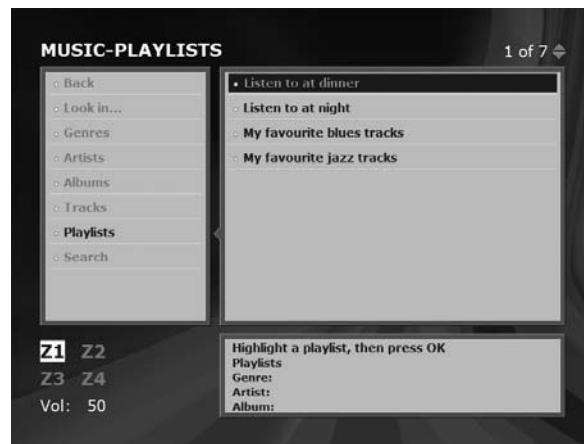
4. Enter a name for your new playlist and press **OK**.

The **PLAYLIST-MENU** page appears with the tracks you've added displayed on the right-hand window.



Listening to a playlist

Choose **Playlists** from the **MUSIC-PLAYLISTS** menu page. The playlists you have created are listed in alphabetical order. Navigate to the desired playlist and press ►.



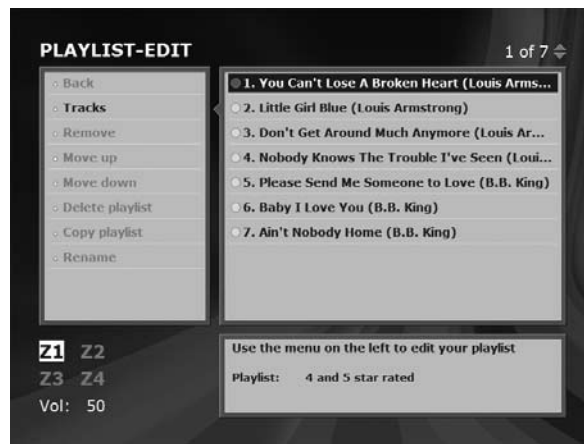
Adding tracks to a playlist

To add tracks to a playlist, you first need to choose the tracks you'd like to add, so they are displayed on the **MUSIC-TRACKS** menu page (as you did when creating your playlist). Now choose **Add to playlist** and choose the playlist you'd like to add the tracks to. After a brief pause, the new tracks are added at the end of the list of tracks in the chosen playlist.

Editing a playlist

You can remove tracks, change the order in which they are played, delete the entire playlist, make a copy of a playlist and rename a playlist from the **PLAYLIST-EDIT** menu page.

To navigate to the **PLAYLIST-EDIT** menu page, select the playlist you'd like to modify and then choose **Edit playlist** from the left-hand window of the menu page.



- **To remove a track**, highlight the track and click **OK**. The box next to the track changes to red to show that it's selected. Now choose **Remove** from the left-hand window of the menu page.
- **To move a track up or down the playlist** highlight the track as above and choose **Move up** or **Move down** from the left-hand window of the menu page. Continue to click **OK** until the track has moved to the desired location.
- **To delete the entire playlist** choose **Delete playlist** from the left-hand window of the menu page. The playlist is deleted and the remaining playlists are displayed. Note that deleting a playlist does not delete the tracks in the playlist from the albums where they came from.
- **To copy (duplicate) a playlist** choose **Copy playlist** from the left-hand window of the menu page. Click **OK** and enter the new name for the playlist.
- **To rename a playlist** choose **Rename** from the left-hand window of the menu page. Click **OK** and enter the new name for the playlist.

Managing your stored music library

You can edit album or playlist details including the album/playlist title and individual track titles. You can also add or remove tracks from a stored album.

- Choose the album you'd like to work on so that the track names are displayed. Choose **Edit details** from the left-hand window of the menu screen to display the **MUSIC-EDIT** screen:



- Choose **Disc info** or **Track names** to edit details of the album or playlist (genre, artist, album title, and track names). A warning message is briefly displayed if you try to enter a name that is too long.
- To remove tracks from the album, first select the tracks you'd like to remove on the **MUSIC-TRACKS** menu page. All selected tracks are removed from the album – deselect any you want to keep. Now choose **Edit details** and then choose **Delete** from the left of the **MUSIC-EDIT** menu page.

Deleting an album

There is no 'Delete album' command, but you can erase an album from the MS250 hard disk, freeing up the space previously used by it, by selecting all the tracks from an album and then deleting the selected tracks. This command does **not** delete files on other networked devices (for example your PC), but they are removed from the MS250's music library.

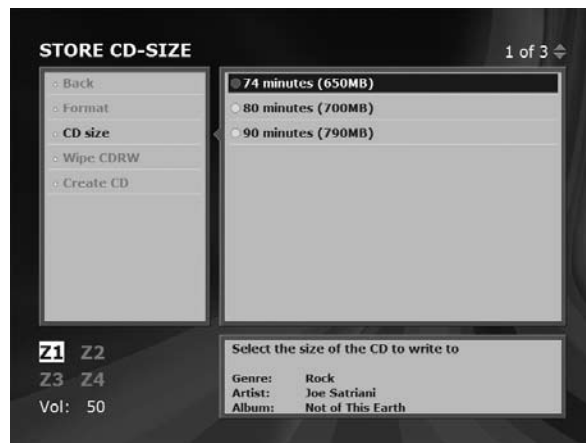
Creating a CD

You can create your own CDs with selections of tracks from an album or playlist. When creating a CD, you can choose between standard audio CD format that can be played by any CD player, or a Data CD format that can be played by a computer, or on a CD player capable of playing MP3 tracks.

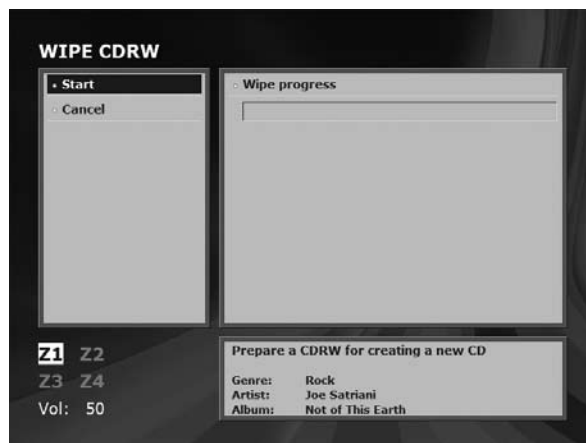
To create a CD, first navigate to the album or playlist you would like to record onto the CD, and press **OK** to display the list of tracks on the **MUSIC-TRACKS** menu page. Now choose **Create CD** from the left-hand window of the **MUSIC-TRACKS** menu page to display the following menu:



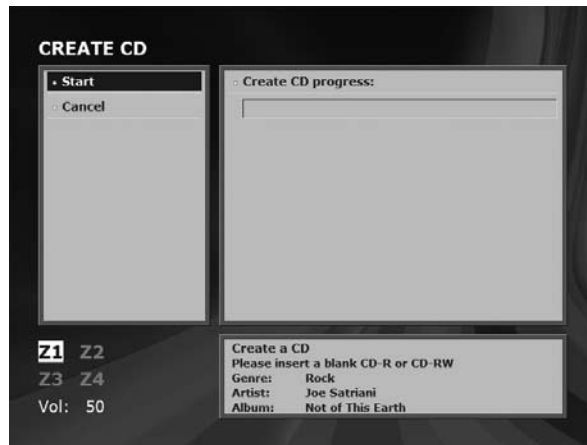
Blank CD-Rs vary in their capacity; the number of megabytes (and the equivalent playing time) is displayed on the box, the case, or the disc itself. The **CD size** option allows you to identify the disc capacity:



For rewriteable media (i.e. CDRW), you need to prepare the disc for a new recording. Select 'Wipe CDRW' from the left-hand window of the menu page. The following menu is displayed:



Select your preferred CD format and insert a blank CD-R into the CD drive, or prepare a CDRW disc, then choose 'Create CD' from the left-hand window of the menu page. The following menu screen appears:



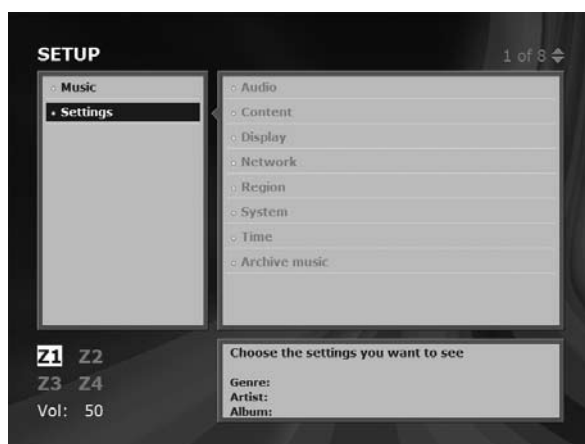
Indicator bars show the progress of CD creation, for each track and for the complete CD.

Once the CD has been completed, the display returns to the **CD MENU** and displays the tracks on the CD you have just created.

System and User Settings

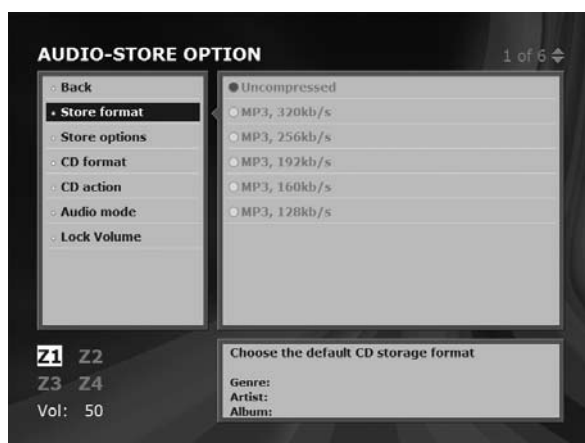
Although you can normally use the MS250 without changing the factory-set options, the Setup preferences allow you to fine-tune the way your MS250 operates to suit your own requirements.

To display the **SETUP** menu page, choose **Settings** from the left-hand window of the **MUSIC-SOURCE** home page:



The Audio menu

Choose this option to set the options for controlling how CDs and MP3s are stored and compressed, default actions on loading a CD, party settings and locking the audio volume for a particular zone.



The options are:

Store format

This option allows you to set the default CD storage format: from the highest quality (uncompressed) through five levels of MP3 compression to the most compact (MP3, 128kb/s compression).

Store options

This option allows you to select or deselect 'Background compression', which ensures that disc compression is only carried out when the MS250 is in standby mode. You can set the standby time manually in the **Time** menu. An indication that compression is taking place is given on the front panel, with a simple 'Ooo' animation.

CD format

Two options are provided for the CD burn format: Audio CD or Data CD. Data CD format is useful for storing a large number of compressed MP3 files.

CD action

These options allow you to choose the default action on loading a CD: Show tracks, Play tracks, Store tracks, or Do nothing (until a command is received from the front panel controls or remote control).

Audio mode

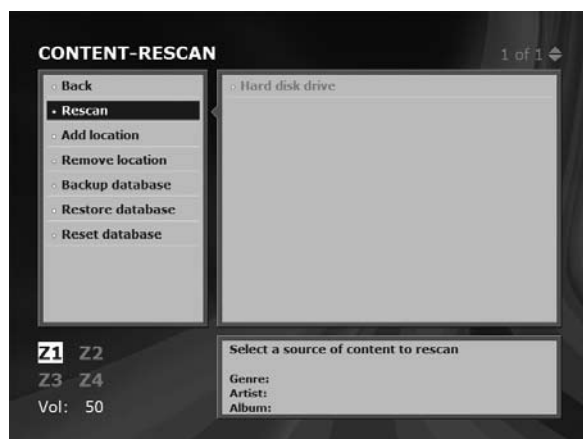
These options are for setting a 'party setting': Independent control of output from each zone, a Party mode playing to all zones, or playback controlled from Zone 1 only.

Lock volume

This option allows you to Lock or Unlock the volume setting on a zone-by-zone basis.

The Content menu

The Content menu allows you to choose where your MS250 looks for music files. By default, this will be the hard disk on the MS250 itself, but you can add other devices including network devices that the MS250 can play files from. This includes some portable MP3 players (those which appear as a disk drive when connected to a PC).



The options are:

Rescan

Select this option to rescan a device to allow the MS250 to update the record it has of the music stored on the device. For example, if you add some music files to your networked PC, you'll need to rescan the PC to allow the MS250 to find the files so it can play them.

Add location

Select this option and enter the details of a networked device you would like the MS250 to access. You will need to enter a 'Friendly name' for the device (e.g. 'Bedroom iMac') along with the Hostname for the device, a User name and Password. Note that this option is not necessary for non-networked devices (e.g. MP3 players or USB drives) since these will appear in the list automatically when they are connected.

Remove location

Select this option to prevent the MS250 accessing a device that had previously been connected. If you remove a non-networked device such as an MP3 player, you can reinstate it by disconnecting and reconnecting it to the MS250.

Backup database

Although your MS250 is very robust, in exceptional cases, such as following a power failure or electrical storm, it is possible that the music database might be corrupted. To insure against this possibility it is a good idea to make a back up of the database occasionally. It is also a good idea to do this before making major changes to the database, for example before scanning a new networked device containing a large number of music files.

Restore database

Choose this option if you want to revert to the most recently backed-up database, for example if you accidentally removed an album or if it has become corrupt for any reason.

Reset database

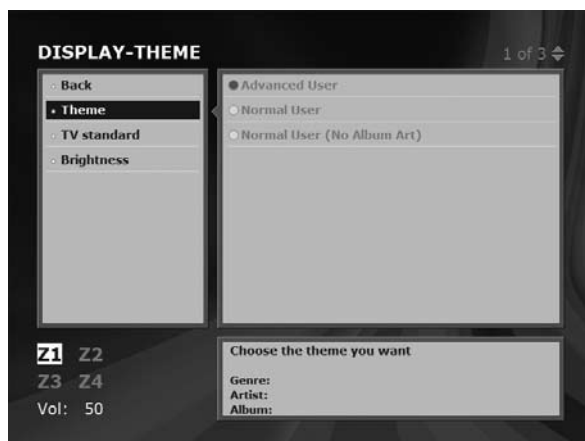
Choose this option if all else fails! This will completely clear the database, removing all entries. You will then need to rescan the hard disk in the MS250 to re-instate the music files stored on it.

NOTE

The database only contains pointers to music files, not the music files themselves if you have deleted music files using the 'Delete' option, you will not be able to recover them using the 'Restore database' option

The Display menu

Choose this option to match the video output style of the MS250 to your display device (TV set or monitor screen).



The options are:

Theme

This option allows you to switch between Normal User, a Normal User with no display of Album Art, and Advanced User.

TV standard

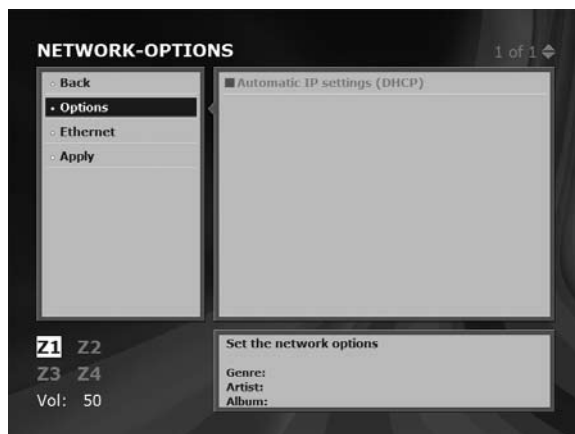
This option allows you to set the default output as PAL (used mainly in Europe) and NTSC (used mainly in the U.S.).

Brightness

This option sets the default Brightness (on power up) of the front panel, from Off, Dim, Medium or Bright. The Brightness can be adjusted subsequently from the front panel **DISPLAY** button or the remote's **DISP** button.

The Network menu

Choose this option to change various network settings.



The options are:

Options

This allows you to select or deselect the automatic allocation of IP settings (DHCP). If this option is deselected, you will have to provide explicit settings for the Ethernet settings (see next option).

Ethernet

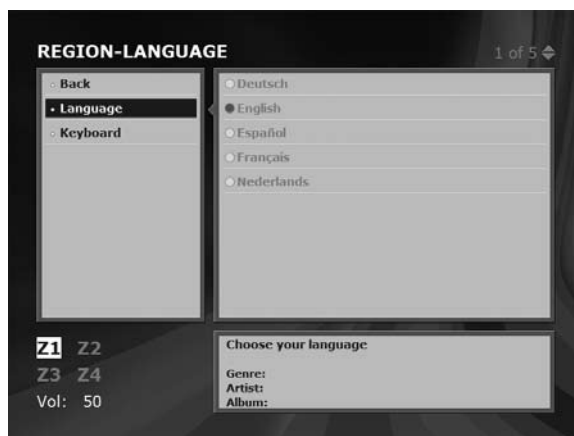
This option allows you to enter explicit values for the Ethernet IP settings: the IP address, Subnet mask, Gateway, Name server, and Unit name (default = 'Arcam'). Press **OK** to edit the text fields.

Apply

Select 'Apply' to enact the Ethernet settings set up in the previous two options.

The Region menu

Choose this option to set the default language and keyboard settings.



The options are:

Language

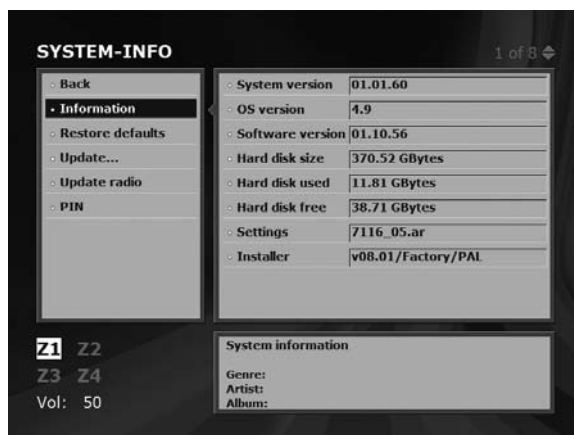
Choose the language for onscreen display from the list of languages available: the default setting is English.

Keyboard

Choose the keyboard character setting for the (optional) keyboard attached to a USB or the PS/2 socket.

The System menu

Choose this option to retrieve system information, restore default settings and control updates.



The options are:

Information

This displays a panel of information about the System, Operating System and software version installed, the Hard disk size and usage, and other details. This information may be useful to note if you are reporting a service issue to Arcam technical personnel.

Restore defaults

This option returns various options to their factory settings.

Update...

This option is used to start the update procedure when an Arcam software update CD is loaded.

Update radio

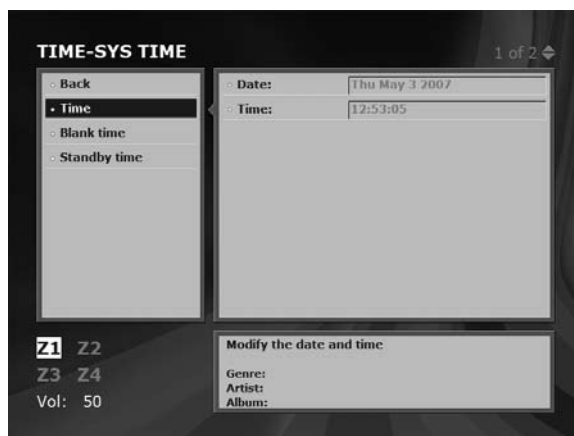
This option calls the Arcam website and checks for updates in the list of available Internet radio stations.

PIN

The Personal Identification Number restricts access to the user settings so that only authorised users may change them. In selecting your PIN you are not restricted to four figures, and you can also use characters.

The Time menu

Choose this option to modify the system date and time, the screen display and standby periods.



The options are:

Time

This option allows you to set the system Date (the entry format is MM/DD/YYYY) and Time (the entry format is HH:MM:SS in 24-hour notation). You can use the format as displayed, or use the ▲ or ▼ cursor keys to decrease or increase one unit at a time.

The system date and time settings are retained for several days after the unit has been unplugged, but may need to be reestablished after a long period without power.

Blank time

This sets the screen blank time in minutes (the default is 5 minutes).

Standby time

This sets the standby time in minutes (the default is 60 minutes).

The Archive music menu

This option allows you to move music files between the MS250 and an external USB disk.



The options are:

Archive disk

This option is for selecting an attached archive disk. Navigate to the external disk (from a list if more than one disk is present) and press **OK** to select.

Backup

This option backs up all music files to an attached USB storage device. If you are backing up to an archive disk you have backed up to before, the backup is 'incremental' (i.e. it only copies new content).

Restore

This option Restores (i.e. copies back to the internal hard disk unit) data from an archived copy of the music files. This facility is useful in circumstances of serious data loss or unintentional deletion of files.

Advanced features

Zones

The MS250 has four 'zoned' outputs, so you can send different music streams to different zones. For example, you might play the currently inserted CD to Zone 1, an Internet radio stream to Zone 2, a playlist on the MS250's hard drive to Zone 3 and music from one of the two Aux inputs to Zone 4. For example:

- To play the current CD to Zone 1, select Music, CD, Tracks and select the tracks you want to play, then press the **ZONE** button to select Z1, then press **PLAY**.
- To play an Internet radio stream to Zone 2, select the Internet radio station, press the **ZONE** button to select 'Z2', then press **PLAY**.

External audio sources

The MS250 has two auxiliary audio inputs. You can connect a line-level device (such as a MiniDisc player or radio tuner) to each of these inputs. Once you have connected an auxiliary audio input device, you can:

- route the audio to any one of the MS250's four zones (see 'Zones' above)
- record the audio stream onto the MS250's hard disk.

Routing audio from an external source to a zone

As an example, to route audio from **AUX INPUT 2** to Zone 4, select **Aux in** from the **MUSIC-SOURCE** menu, then select **Aux input 2** in **Play**.

To do this from the remote, press the **ZONE** button until **Z4** is highlighted, then press the **INPUT 2** button, then press **▶** or **OK**.

Recording audio from an external source to the hard disk

You can record audio from an external source onto the MS250's hard disk. This type of audio is always recorded uncompressed.

For example, to record audio from Aux input 1 to the hard disk:

1. Select **Music > Aux in > Play**
2. Cue the device connected to the Aux 1 input so that it is ready to play your chosen music.
3. Select **Music > Aux in > Record**.
4. Start the music playing on the external audio device.
5. When you're done, select **Music > Aux in** and press **■** to end recording.

You'll see a message telling you the name of the track to which the audio has been saved (you might want to make a note of this, so it's easy to find later):

Recordings are stored under the genre 'Recordings'.

Working with recorded tracks

Once you have recorded a track from an external source to the hard disk, you can perform any of the standard operations on it (e.g. play it, rename it or delete it). A sensible first step is to rename any recorded tracks.

1. Search for the tracks you're interested in – select **Music > Stored music > Search** and press **OK**.
2. Enter part of the track name (e.g. enter 'Line 1' to search for all the tracks recorded from **AUX INPUT 1**) then go back and select **Tracks** on the **MUSIC-SEARCH** menu screen.
3. From the resulting list, select the tracks you're interested in.
4. From the menu, perform any of the standard track functions (e.g. Add to playlist, Edit tracks).

Playing music stored on a portable MP3 player or other USB storage device

To play music stored on an MP3 player or other USB storage device:

1. Connect the device to a USB port on the MS250. The music server will automatically scan the device to check for music files already stored on it. This could take a few minutes.
2. Navigate to the **STORED MUSIC** menu page and select **Look in** from the left-hand window of the menu.
3. Choose the device that contains the music you'd like to play and press **OK**.

You can now search for tracks and play them in the usual way.

NOTE

These comments do not apply to Apple iPod®s, but do apply to most MP3 or USB-connected music players

Playing music over the network

The MS250 can play music stored on a PC on your network. To do this:

- 'Share' a logical disk on your PC. Refer to your computer's documentation to find out how to make the PC's hard disk available in this way.
- Tell the MS250 to look in this disk for music files. This is done via the 'System and user settings' menus described earlier.

If you have a large number of music files on your computer, set aside some time for the MS250 to locate them all and register them in its database.

Copying music files

You can copy music files from the MS250 to other devices. These devices could be your PC via the network, or a portable MP3 player for example. To transfer files to an external device:

- If you want to transfer the files to a portable MP3 player or other USB storage device, you must first connect the device to a USB port on the MS250. The music server automatically scans the device to check for music files already stored on it. This could take a few minutes.
- If you want to transfer the files to a disk over the network, make sure the storage device has been added to the list of available locations using the **Add location** option (see Settings).
- Select the playlist, CD or stored tracks you'd like to transfer
- Choose '**Send to..**' from the left of the menu screen and choose the device you'd like to send the music files to.
- Choose the audio format for the files you are copying (if this option is available) and press **OK**.

A progress bar is displayed while the files are being transferred.

You can also copy files from an external device by using **Send to...** to copy the files to the hard disk.

Connecting to a network and the Internet

Once you've connected the MS250 to your existing audio equipment and checked that it works, you can connect it to the Internet. This will enable you to make full use of the MS250's capabilities, such as:

- Playing Internet radio stations
- Automatically downloading CD details (track information etc.) from a music database on the Internet when you insert a CD
- Playing music from existing music libraries on computers on your network

Local Area network configurations

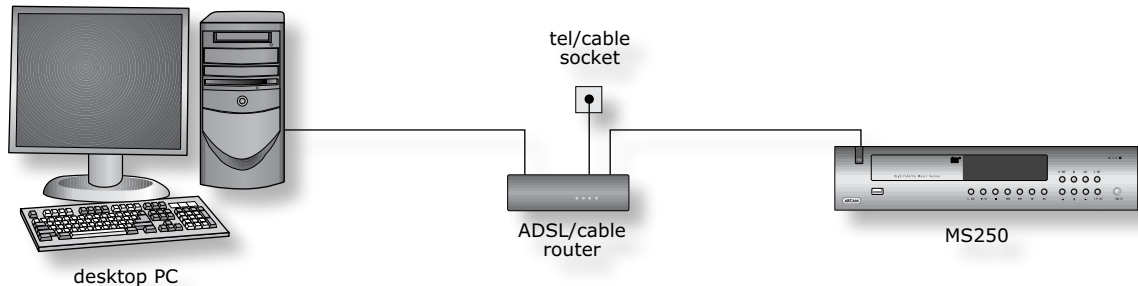
To get the most out of your MS250, it needs to be installed as part of a local area network (LAN) including one or more computers, and have access to a broadband Internet connection.

Note that some Internet service providers offer broadband packages that restrict access to the internet to a single device on a network. You may need to upgrade your package to allow additional devices (such as the MS250) to access the Internet. Contact your Internet service provider if in doubt.

If you have a computer with broadband Internet access but no local area network (e.g. a PC and a USB broadband modem) it may be possible to connect the MS250 to your PC directly, although it is a little more tricky. It also requires that your computer is running any time the MS250 needs to access the Internet.

Finally, if you currently don't have broadband Internet access, then it is quite straightforward to set this up – see below for details.

Connecting the MS250 to an existing Ethernet network with Internet access



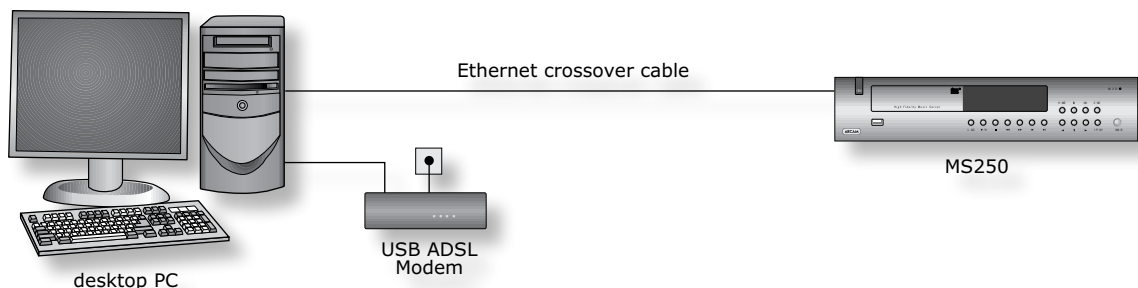
If you already have an Ethernet Local Area Network (LAN) which provides multiple networked devices with Internet access via an ADSL or cable modem, connection is very straightforward. To connect your MS250 to your LAN:

1. Connect a straight-through Ethernet cable from a spare LAN port on the Ethernet Router (or attached Ethernet Switch) to the Ethernet port on the rear panel of the MS250.
2. Switch on the MS250.

In most cases, no further adjustments to the MS250 or the network is required. Follow the procedure described in 'Testing your connection' below to verify if this is the case.

Connecting the MS250 to a computer with a USB modem

If you have a broadband Internet connection using an ADSL or cable modem connected



to a USB port on your computer, it is possible to connect the MS250 to the computer and allow it to 'share' the Internet connection. However, this does mean that your computer must be running any time the MS250 needs to access the Internet (for example when it needs to access the music database or when you wish to listen to an Internet radio station). For this reason, you may find it more convenient to simply buy an ADSL or cable router to replace your USB modem, and proceed as above. Contact your Internet Service Provider (ISP) to confirm if this is possible, and refer to the instructions provided by your ISP to configure your new router before proceeding, but this is usually a straightforward process.

NOTE

Broadband Internet access is typically provided using an ADSL or Cable modem. Typical modems built into computers (often referred to as 'dial-up' or '56k' modems) are not fast enough for use with the MS250.

NOTE

If you have an existing wireless network, you can connect a wireless Ethernet Bridge (e.g. Netgear – see www.netgear.com; or D-Link products – see www.dlink.com) to the MS250 instead of the Ethernet cable. An alternative is to use the home mains wiring to establish a 'wireless' network (e.g. Powerline products – see www.powerlinecommunications.net).

NOTE

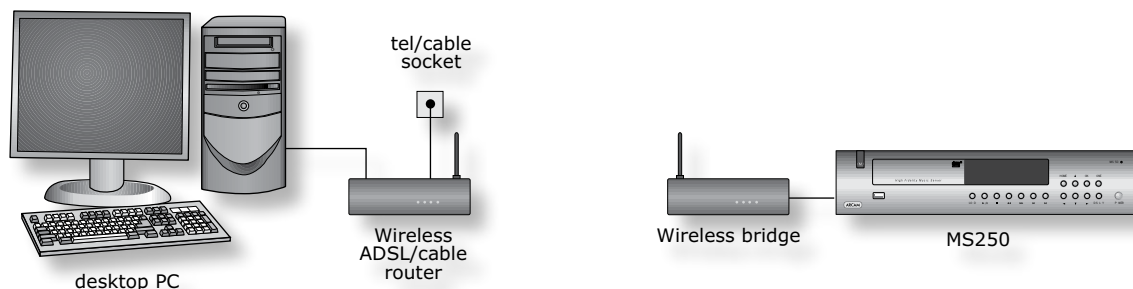
Practically all recent computers come with a built-in Ethernet connection. If yours doesn't, however, you'll need to buy an Ethernet Network Interface Card (NIC) and install it.

If you do wish to 'share' the internet connection on your PC with the MS250, you can do this as follows:

1. Using an Ethernet **crossover** cable (not a straight-through cable), connect the MS250 to the computer's ethernet port
2. Enable Internet Connection Sharing on your computer
3. Switch on the MS250.

You can also use a wireless connection between the MS250 and your computer. To do this, you will need two wireless Ethernet Bridges. These will need to be configured using your PC, then connect one to your computer, and one to the MS250.

If you don't have an Ethernet network or an ADSL or cable modem



The easiest way to establish an Ethernet network with Internet connection for your MS250 is to use an ADSL or Cable Router connected to your PC. To simplify the wiring, you may prefer to use a wireless ADSL or Cable Router and a wireless Ethernet Bridge connected to the MS250. Proceed as follows:

1. Subscribe to a broadband service and specify that you would like to use a wireless ADSL or cable Router. Many ISPs can provide a suitable router when you sign up; if not, you will need to purchase one of these from a computer store.
2. Connect your computer to the router.
3. Configure the router according to the instructions provided with it and the configuration information provided by your ISP.
4. **If you are using a wired Ethernet configuration**, connect the MS250 to a spare LAN port on the Ethernet Router using a straight-through Ethernet cable. Refer to the diagram under 'Connecting the MS250 to an existing Ethernet network with Internet access'.

or

If you are using a wireless Ethernet configuration, use your PC to configure the Wireless Ethernet bridge according to the instructions provided with it and then connect the Wireless Ethernet bridge to the MS250. Refer to the diagram above.

5. Switch on the MS250.

NOTE

Although the MS250 has a total of three USB ports, you cannot connect a USB modem to the unit directly. The USB ports are for use with an external archive disk and/or a keyboard.

Connecting the MS250 to the Internet without a computer.

Although it is usually necessary to use a computer to configure the modem in the setup described above, once the configuration has been completed you no longer need the computer to access Internet radio stations or retrieve track names for CDs. The computer can therefore be disconnected, leaving only a single connection between the ADSL/cable router and the MS250.

Testing your Internet connection

To check that the MS250 is able to use your broadband Internet connection:

1. Insert an audio CD into the MS250's CD drive.
2. Check that the MS250 retrieves track names from the Internet.

It may take a few moments to recover the track names from the Internet database. Also, although track names for most CDs are available, there are a few exceptions. Try another CD before concluding that the Internet connection is at fault.

Advanced network configuration information

By default, the MS250 is configured to use DHCP, which means that it will pick up its network settings automatically from a suitable device (normally the router) on your LAN. However, if your network does not use or support DHCP, you will need to configure the MS250 with a static IP address. To do this, you'll need to know the following settings (either obtain them from your ISP, or configure them to fit in with existing network setup):

1. From the Home page, select **Settings > Network > Ethernet**
2. From the **NETWORK-ETHERNET** menu screen, enter the following information:
 - IP Address – this must be a unique address on your LAN (e.g. if your router has the IP address 192.168.1.1, you might set the MS250's IP address to be 192.168.1.101)
 - Subnet mask – this must match the subnet mask of other devices on your LAN (and is usually 255.255.255.0)
 - Name server – this is the IP address of the device that converts domain names into appropriate IP addresses and vice versa (normally the address of your router)
 - Gateway – the IP address of the device on your LAN that acts as a gateway to the Internet and other networks (this is normally your router)
3. Make sure that **Settings > Network > Options** shows that DHCP is disabled.
4. Select 'Apply' to enact the new network settings (this will take a few moments).

Remote control codes

The following table gives the infrared commands accepted by the MS250. Note that the system code for the MS250 is **21**.

Power commands

Command	Decimal Code
Standby toggle	21-12
Standby-on	21-123
Standby-off	21-124

Playback control commands

Command	Decimal Code
Number and text entry	21-n (e.g., 21-1)
Track forward	21-32
Track back	21-33
Volume up	21-16
Volume down	21-17
Mute	21-13
Fast forward	21-52
Fast rewind	21-50
Page up	21-41
Page down	21-40
Open	21-45
Pause	21-48
Play	21-53
Stop	21-54
Record	21-42
Zone	21-55
Delete character	21-112
Caps	21-113
Home	21-114

Display control commands

Command	Decimal Code
Display	21-71

Advanced control commands

Command	Decimal Code
CD	21-67
Radio	21-68
Input 1	21-69
Input 2	21-70
Album	21-72
Artist	21-73
Track	21-74
List	21-75
Up	21-80
Down	21-81
Left	21-85
Right	21-86
OK	21-87
Setup	21-14
(Red)	21-107
(Green)	21-108
(Yellow)	21-109
(Blue)	21-110

Technical specifications

General	
Power Requirements	Within the range 115V to 230V AC
Power consumption	< 35 VA
Dimensions	435mm x 80mm x 350mm
Weight	net: 5.2kg; packed: 8.0kg
Audio outputs	
Analogue audio outputs	Four zones of stereo output on gold-plated phono sockets
Output level	2.2V rms at 0dB signal
Frequency response	20Hz to 20kHz (+0.1db, -0.5dB)
THD+N	<0.005% for 1kHz 0dB signal, measured 22Hz-22kHz, unweighted
Signal-to-noise ratio	105dB, measured 20Hz-20kHz, unweighted
Digital audio output (IEC958)	PCM on gold-plated phono (coax) and TOSLINK (optical) sockets
Video outputs	
Composite video	1 x gold plated phono. 1V pk-pk in 75Ω
S-Video	1 x 4-pin mini-DIN. Y 1V pk-pk in 75Ω, C 0.3V pk-pk in 75Ω
VGA	SVGA output (800 x 600 pixels, up to 16 million colours) 1 x 15-pin D-subminiature VGA connector
Accessories supplied	
	CR-425 Remote control
	2 x AAA batteries
	mains lead
E&EO	

NOTE: All specification values are typical unless otherwise stated.

Continual improvement policy

Arcam has a policy of continual improvement for its products. This means that designs and specifications are subject to change without notice.

Guarantee

Worldwide Guarantee

This entitles you to have the unit repaired free of charge, during the first two years after purchase, at any authorised Arcam distributor provided that it was originally purchased from an authorised Arcam dealer or distributor. The manufacturer can take no responsibility for defects arising from accident, misuse, abuse, wear and tear, neglect or through unauthorised adjustment and/or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under the guarantee.

Warranty

The warranty covers parts and labour costs for two years from the purchase date. After two years you must pay for both parts and labour costs. The warranty does not cover transportation costs at any time.

Arcam shall not be liable for damage or loss of data including but not limited to music recorded to storage devices. It is the customer's responsibility to maintain the original media and/or appropriate backup copies within the specific rights of the media's copyright holder.

The MS250 can backup music data to an external hard drive. This is explained on Page 28.

Claims under guarantee

This equipment should be packed in the original packing and returned to the dealer from whom it was purchased, or failing this, directly to the Arcam distributor in the country of residence.

It should be sent carriage prepaid by a reputable carrier – NOT by post. No responsibility can be accepted for the unit whilst in transit to the dealer or distributor and customers are therefore advised to insure the unit against loss or damage whilst in transit.

For further details contact Arcam at:

Arcam Customer Support Department,
Pembroke Avenue, Waterbeach, CAMBRIDGE, CB25 9QR, England.

Problems?

If your Arcam dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support at the above address and we will do our best to help you.

Online registration

You can register your Arcam product on line at: www.arcam.co.uk

ARCAM

A&R Cambridge Ltd, Pembroke Avenue, Waterbeach, CAMBRIDGE CB25 9QR, England.