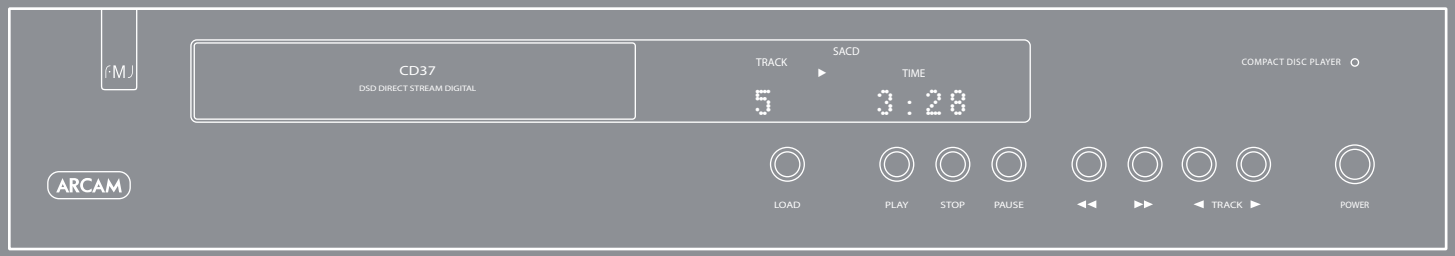
ARCAM

English

fMJ CD37

HANDBOOK Compact Disc player



safety guidelines

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 point 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.

Class I product

This equipment is a Class I electrical appliance. It requires safety connection to electrical earth ('ground' in the U.S.).

Warning

Mains plug/appliance coupler is used to disconnect device and it shall remain readily operable.

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.

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

You should read all the safety and operating instructions before operating this equipment. Retain this handbook for future reference and adhere to all warnings in the handbook or on the equipment.

2. Water and moisture

The presence of electricity near water can be dangerous. Do not use the equipment near water – 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 into the enclosure through any openings. Liquid-filled objects such as vases should not be placed on the equipment.

4. Placing the equipment

Only use a rack or shelf that is stable and strong enough to support the weight of this equipment.

5. Ventilation

Do not place the equipment on a bed, sofa, rug or similar soft surface, or in an enclosed bookcase or cabinet, since ventilation may be impeded.

6. Heat

Locate the equipment away from naked flames or heat-producing appliances such as radiators, stoves or other appliances that produce heat.

7. Climate

The equipment has been designed for use in moderate climates and in domestic situations.

8. Cleaning

Unplug the unit from the mains supply before cleaning.

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

We do not advise the use of furniture cleaning sprays or polishes as they can cause permanent white marks.

9. Power sources

Only connect the equipment to a power supply of the type described in the operating instructions or as marked on the equipment.

The primary method of isolating the equipment from the mains supply is to remove the mains plug. The equipment must be installed in a manner that makes disconnection possible.

10. Power-cord protection

Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to the point where they exit from the equipment.

11. Non-use periods

If the equipment is not being used for an extended period, we recommend that you unplug the power cord of the equipment from the outlet, to save power.

12. Abnormal smell

If an abnormal smell or smoke is detected from the equipment, turn the power off immediately and unplug the equipment from the wall outlet. Contact your dealer and do not reconnect the equipment.

13. Servicing

You should not attempt to service the equipment. Contact your dealer to arrange servicing.

14. Damage requiring service

The equipment should be serviced by qualified service personnel when:

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

Safety compliance

This equipment has been designed to meet the IEC/EN 60065 international electrical safety standard.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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welcome

English

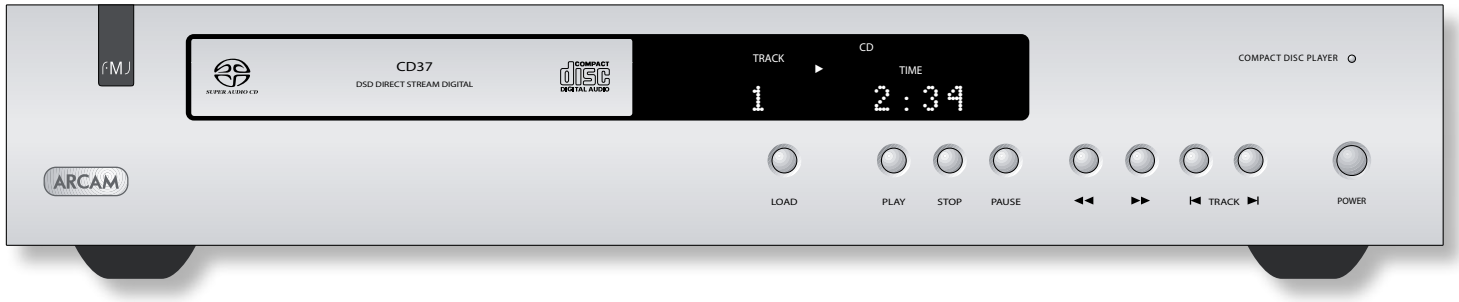
Thank you and congratulations for purchasing your Arcam FMJ CD player.

Arcam has been producing specialist audio products of remarkable quality for over three decades and the CD37 – which plays both conventional audio CDs and Super Audio CDs – is the latest in a long line of award winning HiFi equipment. The design of the FMJ range draws upon all of Arcam's experience as one of the UK's most respected audio companies and is built to give you years of trouble-free listening enjoyment.

This handbook has been designed to give you all the information you need to install, connect and use the Arcam CD37 compact disc player. The CR90 remote control handset supplied with this equipment is also described. Use the contents list shown on this page to guide you to the section of interest.

We hope that your FMJ compact disc player will give you years of trouble-free operation. In the unlikely event of any fault, or if you simply require further information about Arcam products, our network of dealers will be happy to help you. Further information can also be found on the Arcam website at www.arcam.co.uk.

The FMJ development team



installation

Arcam's CD37 provides class-leading sound quality from compact discs.

The CD37 has a Delta-Sigma DAC (Digital-to-Analogue Converter) with DSD (Direct Stream Digital) filtering, allowing fine details to be reproduced with startling clarity from conventional CDs or Super Audio CDs. The CR90 'universal' remote control supplied with the CD37 is simple to use and can control up to eight audio devices – such as an amplifer, television or Personal Video Recorder.

The high performance CD37 audio disc player is designed to truly bring your music to life.

Placing the unit

- Place the CD player on a level, firm surface, avoiding direct sunlight and sources of heat or damp.
- Do not place the CD player on top of an amplifier or other source of heat.
- Do not place the CD player in an enclosed space such as a bookcase or closed cabinet unless there is good provision for ventilation. The CD player is designed to run warm during normal operation.
- Do not place any other component or item on top of the CD player as this may obstruct airflow around the unit, causing the CD player to run hot.
- Make sure the remote-control receiver (behind the FMJ badge on the front panel) is unobstructed, or remote control will be impaired.
- 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 a background 'hum' if the record deck is too close.

Power

The CD player is supplied with a moulded mains plug already fitted to the lead. Check that the plug supplied fits your supply – should you require a new mains lead, please contact your Arcam dealer.

If your mains supply voltage or mains plug is different, please contact your Arcam dealer immediately

Push the IEC plug end of the power cable into the socket on the back of the CD player, making sure that it is pushed in firmly. Plug the other end of the cable into your mains socket and, if necessary, switch the socket on.

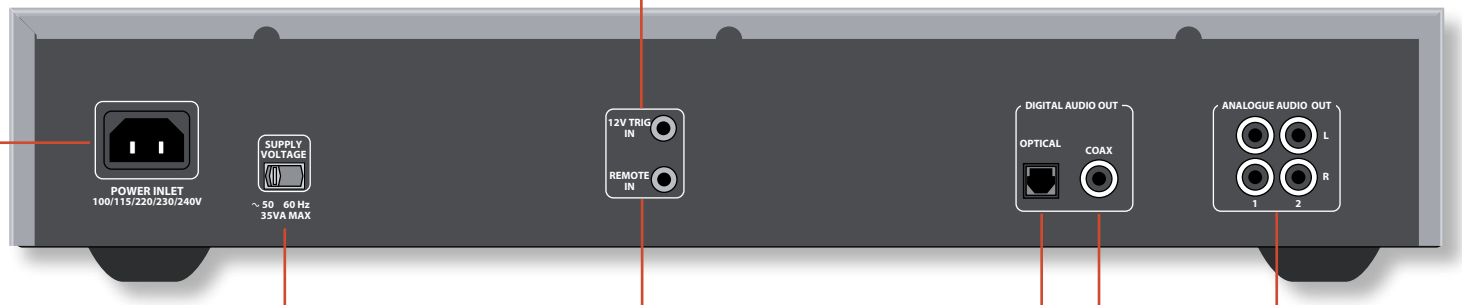
Interconnect cables

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

It is good practice when connecting your equipment to make sure that the mains power-supply cabling is kept as far away as possible from your audio cables. Failure to do so may result in unwanted noise in the audio signals.

12V trigger input

This socket allows the CD37 to be switched on remotely by an amplifier (or another item of AV equipment) with a **12V TRIG OUT** function.



Power inlet

Connect the correct mains cable here.

Voltage select

Ensure the voltage selected matches the local power supply.

Remote in

This allows remote-control signals to be received by the CD37 if the remote sensor is covered (or otherwise not 'visible' to the remote-control).

See page 7 for more information.

Optical digital output

Use this socket if you are using a separate DAC or digital recorder with an optical connection. Connect using a suitable optical cable.

Coaxial digital output

Use this socket if you are using a separate digital to analogue converter (DAC) or digital recorder. Connect to the DAC or recorder's digital input using a suitable 75Ω screened cable.

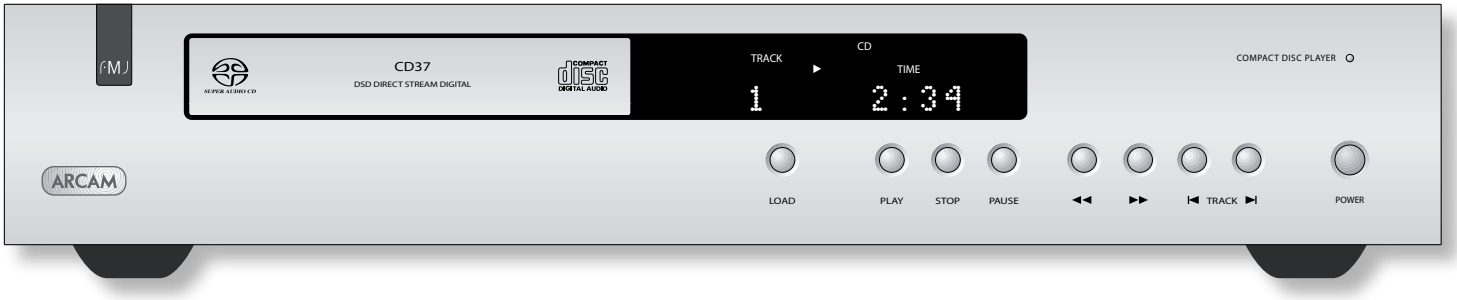
CAUTION: Never connect the digital output socket to a conventional audio input.

Analogue audio outputs

Connect these to your amplifier's CD (or other line-level) input using suitable high quality interconnect cables. Ensure that the left and right audio outputs from the CD player are connected to the same left and right inputs on your amplifier.

The second set of sockets can be used to connect to a second amplifier set up for multi-room use.

operation



Front panel operation

These functions can also be controlled by the CR90 remote control. (See pages 8–9.)

Power

Press the front panel **POWER** button (or ⏻ on the remote) to switch the CD player on and off. The CD37 initializes and (with no CD installed) displays:

Load

To install a CD, press **LOAD** (or ⏏ on the remote). The CD tray opens – it accepts 12cm and 8cm discs. Place the CD in the tray with the label facing uppermost.

Press **LOAD** again (or or ⏏ on the remote, or gently push the tray in 5mm) to close the tray. The total number of tracks and total playing time for the disc are displayed.

The disc is now ready to play.

Play

Press the front panel **PLAY** button (or ▶ on the remote) to play the CD. To restart from track 1, press **STOP** and then **PLAY**.

Make sure your amplifier's input source selector is set to 'CD'.

Stop

Press the front panel **STOP** button (or ■ on the remote) to stop the CD playing. The display shows the number of tracks and the total playing time for the disc.

Pause

Press **PAUSE** (or ❚❚ on the remote) to pause the disc (interrupt play). Press **PLAY** or **PAUSE** to resume play from the same point.

Shuffle play

Press **SHUFF** on the remote to play tracks in random order (`Shuffle On` is briefly displayed). Press **SHUFF** again to restore sequential playing order (`Shuffle Off` is briefly displayed).

Search (◀◀ ▶▶)

Press and hold ◀◀ to search backwards, or press and hold ▶▶ to search forwards, for a particular passage within the currently playing track. If the player is in 'PAUSE' mode the search is made at high speed.

Skip Track (⏮ ⏭)

To start a CD with a track other than the first, press ▲ or ▼ on the remote to locate the desired track, then press ▶ to play.

To select another track during play, press ⏮ or ⏭ on the front panel or remote. The track is played automatically after selection.

Advanced operation

MODE (Display Mode)

Press **MODE** on the remote control to cycle through information about a currently playing disc.

Press **MODE** once to display the number and elapsed time of the currently playing track. Press again to display the number and remaining time of the currently playing track. Press again to turn the scrolling text display on and press again to return to displaying track number and elapsed time.

For CDs with text (all SA-CDs are of this type), pressing **MODE** while the disc is loaded but not playing toggles between a scrolling text display and displaying the total number of tracks and the total playing time.

RPT (Repeat)

To repeat the entire disc or a pre-programmed selection of tracks press **RPT** on the remote control.

To repeat a particular track, select that track and then press **RPT** twice.

To cancel the repeat function press **RPT** a third time.

Programmed playback (CD Only)

This function is only available when a CD is loaded allows up to 100 tracks from an audio disc to be programmed to play in any order.

In normal playback mode (display does not show the letter P) select the track you want to add to the program list using the up and down keys. When the desired track is shown press the **MENU** key to store the track at the end of the program list. The display briefly shows "Stored". Select further tracks each time, followed by **MENU** to add the track to the list. The same track can be added to the list more than one time if required.

To play the programmed tracks press **SETUP** to enter Program playback. Press **PLAY** or ▶ on the remote to start playback.

When in 'Program Playback' mode, the programme can be reviewed using the ▲ and ▼ keys on the remote.

In 'Program Playback' mode, tracks can be removed from the program when playback is stopped. Use the ▲ and ▼ keys on the remote to select the unwanted track and then press **MENU** to remove the track. The display briefly shows 'deleted'. If the last track of the program is deleted (i.e. the program list is empty) the display shows briefly 'All Deleted', and the unit returns to 'Normal Playback'. The programme can be deleted in one step by stopping playback and then pressing stop again.

AUDIO (Repeat A-B)

This button on the remote control enables you to repeat any section of music within a track.

While a disc is playing, press the **AUDIO** button at the start of the section you wish to repeat. 'Repeat A&' is shown on the display with the symbol 'A--'.

Press the button a second time when you reach the end of the section you wish to repeat. 'Repeat A-B' is shown on the display with the symbol 'A--B'.

The selected loop repeats until you press ■ or ▶| or |◀ to terminate. The forward search button (▶▶) moves forward only within the selected loop. Pressing **AUDIO** again cancels the Repeat A-B function and 'Repeat Off' is displayed in confirmation.

SUBT (Changing layers in an SA-CD)

Hybrid SA-CDs contain a conventional 'CD layer' and a 4.7GB SA-CD layer – the 'HD layer'. The much less common Dual-layer SA-CDs contain two 'HD layers' but are not compatible with legacy CD players.

To switch layers, press **SUBT** on the remote. 'Layer Change' is briefly displayed and the disc is reloaded in the new mode.

A note on Super Audio CD

SA-CD are discs which share the 12cm format of audio compact discs but they encode the audio data in a different way from CD or DVD-Audio discs. A carefully mastered SA-CD recording allows an extended dynamic range and can avoid the amplitude compression or digital clipping that is present in some full-scale PCM signals.

SA-CD uses Direct Stream Digital (DSD) – a 1-bit delta-sigma modulation at the very high sampling rate of 2.8224 MHz. This is 64 times the sampling rate used in Compact Disc Digital Audio (CDDA), which specifies 44.1 kHz at a resolution of 16-bit in Pulse Code Modulation (PCM) format. Because the resolution of SA-CD is 1-bit, the bitrate for each channel is only 4 times as large.

The three types of SACDs – Hybrid, Single-layer and Dual-layer – are all playable on Arcam's CD37. Of course, the CD37 also plays conventional audio CDs (CDDA) impeccably.

For further information, see:

www.sa-cd.net – this includes an expanding list of available material on SACD and a useful FAQ section.

http://en.wikipedia.org/wiki/SA-CD – a useful technical overview, including explanations of DSD (Direct Stream Digital) and PSP (Pit Signal Processing).

remote control

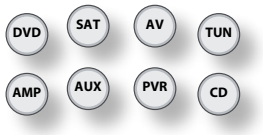
The CR90 Universal remote controller

The CR90 is a sophisticated 'universal' remote control that can control up to eight devices, it can also 'learn' functions and store macros. For detailed information on these features please refer to the CR90 handbook.

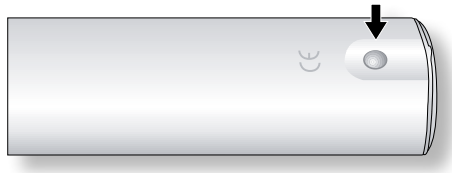
Select the source key first

Remember to select a source key ***before*** pressing command buttons – commands vary depending on the source selected!

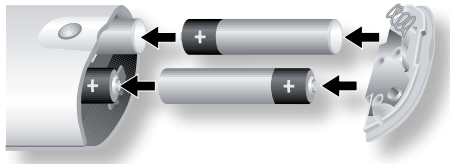
To operate the CD37, press the **CD** source button.



Inserting batteries into the remote control



1. Open the battery compartment by pressing the button on the back of the handset.



2. Insert four 'AAA' batteries into the battery compartment – two facing the top of the unit, and two facing the end, as in the diagram.
3. Lower the end cap onto the plastic locating plate in the handset. This acts as a hinge, and you can now push the end cap firmly into its locked position with a click.

CD player commands

Source keys	Selects the amplifier input: **DVD** DVD input **SAT** Satellite decoder input **AV** AV (television sound) input **TUN** DAB/FM/AM tuner input **AMP** Amplifier input **AUX** Auxiliary line input **PVR** Personal Video Recorder input **CD** CD input
0 to **9**	The numeric keys allow direct access to individual tracks on the disc. To select a track, press the corresponding keypad button. For tracks greater than 9, enter the digits in sequence. For example, to play track 15, press **1**, then press **5**.
LOAD ⏏	Open/close disc tray
PLAY ▶	Play
PAUSE ⏸	Pause playback
STOP ■	Stop playback
	Decrease (–) or increase (+) amplifier volume
	Toggles the mute function of a compatible amplifier.
	Press and release to skip back to the beginning of the current/previous track.
	Press and release to skip forwards to the beginning of the next track.
	Fast search backwards
	Fast search forwards
DISP	Cycles through the front panel display's brightness options (off, dim, bright).
MODE	Cycles through the available display modes (see page 7).
MENU	Used to enter a track number in a programmed track list (see page 7).
SHUFF	Toggles random ('shuffle') track selection on and off
AUDIO	A-B repeat function (see page 7).
SUBT	Toggle between selecting the HD- and CD-layer of SACD disc.
SETUP	Toggles between Program and Normal play

CD player panel – IR commands

These are the IR commands generated from the CD player 'page' on the CR90 remote control, and accepted by the CD37. The codes are useful if you wish to programme another remote handset to control the CD37.

Key name	Decimal
0	20-0
1	20-1
2	20-2
3	20-3
4	20-4
5	20-5
6	20-6
7	20-7
8	20-8
9	20-9
MODE	20-11
DISP	20-18
SHUFF	20-28
RPT	20-29
⏭	20-32
⏮	20-33
'PROG'	20-41
LOAD	20-45
PAUSE	20-48
⏪	20-50
⏩	20-52
PLAY	20-53
STOP	20-54
A-B	20-59
'PROG'	20-64
SUBT	20-65
STORE	20-67
MUTE	16-13
VOL+	16-16
VOL–	16-17

specifications

Digital to Analogue conversion	24-bit multilevel Delta-Sigma DAC
Laser pick-up	3 beam
Laser wavelength	780nm
Numerical aperture	0.45
Signal to noise ratio	109dB (20Hz–20kHz bandwidth)
Harmonic distortion (1kHz)	0.002%
Frequency response (±0.5dB)	0.3Hz–20kHz
Output level (0dB)	2.3Vrms
Output impedance	47Ω
Minimum recommended load	5kΩ
Physical	
Dimensions	W430 x D355 x H85mm
Weight	6.2kg nett/8.0kg packed
Power consumption	32VA maximum
Digital output connection	75Ω co-axial optical TOSLINK
Supplied accessories	
	Mains lead CR90 remote control 2 x AAA batteries
E&OE	
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.

Radio interference

The CD37 compact disc player is a digital audio device which has been designed to very high standards of electromagnetic compatibility.

All CD players generate, and can radiate RF (radio frequency) energy. In some cases this can cause interference with FM and AM radio reception. If this is the case, keep the CD player and its connecting cables as far from the tuner and its aerials as possible. Connecting the CD player and the tuner to different mains sockets can also help to reduce interference.

EC COUNTRIES – This products have been designed to comply with EMC Directive 2004/108/EC.

USA – These products comply with FCC Part 15 Class B.

Laser radiation

If the CD37 compact disc player is operated whilst the outer casing is removed, invisible laser radiation could cause eye damage.

product 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 unauthorized 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.

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.**

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

or via *www.arcam.co.uk*.

Problems?

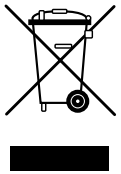
If your Arcam dealer is unable to answer any query regarding this or any other Arcam product please contact Arcam Customer Support at the above address and we will do our best to help you.

On-line registration

You can register your product on-line at *www.arcam.co.uk*.

English

Correct disposal of this product



This marking indicates that this product should not be disposed with other household waste throughout the EU.

To prevent possible harm to the environment or human health from uncontrolled waste disposal and to conserve material resources, this product should be recycled responsibly.

To dispose of your product, please use your local return and collection systems or contact the retailer where the product was purchased.