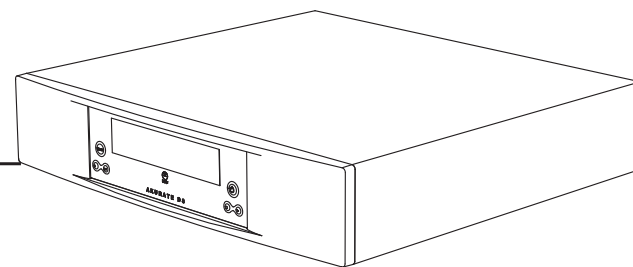


LINN

# AKURATE DS

DIGITAL MUSIC PLAYER



OWNER'S MANUAL



# IMPORTANT SAFETY INSTRUCTIONS

Explanation of symbols used in this manual or on the rear/underside of the apparatus:

This symbol is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure of sufficient magnitude to cause electric shock.



This symbol is intended to alert the user to the presence of important operation, maintenance and servicing information in the instruction and service manuals.



## For apparatus connected to the mains electricity supply

### CAUTION

- **To reduce the risk of electric shock do not remove the cover.**
- **No user serviceable parts inside.**
- **Refer servicing to qualified service personnel.**
- **Replace the mains fuse in the plug with one of the same type and rating.**
- **Disconnect supply cord before changing fuse.**

### WARNING

**To reduce the risk of fire or electric shock do not expose this apparatus to rain or moisture. Shock hazard - do not open.**

## MAINS PLUGS

- This apparatus is supplied with a non-rewireable mains plug for the intended country.
- Replacement mains leads can be obtained from your Linn retailer. Should you need to change the plug please dispose of it carefully. A plug with bared conductors is dangerous if engaged in a live socket.
- The Brown wire must be connected to the Live (Line) supply pin.
- The Blue wire must be connected to the Neutral supply pin.
- The Green/Yellow wire must be connected to the Earth (Ground) supply pin.

Please contact your retailer or a competent electrician if you are in any doubt.

Refer to the rear or underside of the product for fuse and power consumption information.



## General Safety Instructions

1. **Read these instructions.**
2. **Keep these instructions.**
3. **Heed all warnings.**
4. **Follow all instructions.**
5. **Do not use the apparatus near water**, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool etc.
6. **Clean only with dry cloth.**
7. **Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.** Site the apparatus so that its location or position does not interfere with its proper ventilation. For example, the apparatus should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
8. **Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.**
9. **Do not defeat the safety purpose of the polarised or grounding type plug.** A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. **Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and at the point where they exit from the apparatus.**
11. **Only use attachments/accessories specified by the manufacturer.**
12. **Use only with the stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus.**
13. **Unplug this apparatus during lightning storms or when unused for long periods of time.**
14. **Refer all servicing to qualified service personnel.** Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug has been damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. **Wall or ceiling mounting.** Mount the apparatus to a wall or ceiling only as recommended by the manufacturer.
16. **Power sources.** Connect the apparatus to a power supply only of the type described in the operating instructions or marked on the apparatus.
17. **Mains plug.** Use the mains plug to disconnect the apparatus from the mains supply. The mains plug must be accessible at all times. Use the mains switch (if applicable) when the apparatus is not in use.
18. **Power lines.** An outdoor antenna should be located away from power lines.
19. **Outdoor antenna grounding.** If an outdoor antenna is connected to the apparatus, ensure that the antenna system is grounded to provide some protection against voltage surges and static build up. In the USA see article 810 of the National Electrical Code ANSI/NFPA 70 concerning installation requirements.
20. **Telephone line.** Do not connect the apparatus to a telephone line except where specifically instructed to do so.
21. **Objects and liquid entry.** Do not let objects or liquids fall into the apparatus. Do not expose the apparatus to dripping or splashing. Do not place a vessel containing liquid on top of the apparatus.
22. **No naked flame sources, such as lighted candles, should be placed on the apparatus.**
23. **The apparatus has been designed for use in moderate and tropical climates.**

## UK Users Please Read This Important Safety Information

### Fuse replacement

This appliance is fitted with a non-rewireable 13 amp mains plug. The plug contains a 5 amp fuse. If the fuse has blown it can be replaced as follows:

- a) Pull out the red fuse cover/carrier.
- b) Remove and dispose of the blown fuse.
- c) Fit a new 5 amp BS1362 approved fuse into the carrier and push the carrier back into the plug.

Always ensure the fuse cover is fitted. If the fuse cover is missing do not use the plug. Contact your Linn retailer to obtain a replacement fuse cover.

Fuses are for fire protection and do not protect against electric shock.

### Mains plug replacement

Should your mains plug need replacing and you are competent to do this proceed as follows. If you are in doubt contact your Linn retailer or a competent electrician.

- a) Disconnect the plug from the mains supply.
- b) Cut off the plug and dispose of it safely. A plug with bared conductors is dangerous if engaged in a live socket.
- c) Only fit a 13 amp BS1363A approved plug with a 5 amp fuse.
- d) The cable wire colours or a letter will be marked at the connection points of most quality plugs.

Attach the wires securely to their respective points. The Brown wire must go to the Live pin, the Blue wire must go to the Neutral pin, and the Green/Yellow wire must go to the Earth pin.

- e) Before replacing the plug top ensure that the cable restraint is holding the outer sheath of the cable firmly and that the wires are correctly connected.

### WARNING

**THIS APPLIANCE MUST BE EARTHED.**

## CE Declaration of Conformity

Linn Products Ltd declare that this product is in conformance with the Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility 89/336/EEC as amended by 92/31/EEC and 93/68/EEC.

The conformity of the designated product with the provisions of Directive number 73/23/EEC (LVD) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN60065	2002	General requirements Marking Hazardous radiation Heating under normal conditions Shock hazards under normal operating conditions Insulation requirements Fault conditions Mechanical strength Parts connected to the mains supply Components Terminal devices External flexible cords Electrical connections and mechanical fixings Protection against electric shock Stability and mechanical hazards Resistance to fire

The conformity of the designated product with the provisions of Directive number 89/336/EEC (EMC) is proved by full compliance with the following standards:

Standard number	Date of issue	Test type
EN55013	2001	Conducted emissions
EN55013	2001	Absorbed emissions
EN55020	2002	Immunity

## FCC notice

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## Waste Electrical and Electronic Equipment (WEEE) Directive

### Waste Electrical and Electronic Equipment Directive Directive 2002/96/EC of the European Parliament and of the Council

The symbol (right) is shown on this product. It indicates that the product should not be disposed of with regular household waste, but should be disposed of separately.



Electrical and electronic equipment can contain materials that are hazardous to the environment and human health and therefore should be disposed of at a designated waste facility or returned to your retailer for the appropriate recycling to take place (see [www.linn.co.uk](http://www.linn.co.uk) for further information).

If you wish to dispose of this product and the product still functions, please consider recycling/reusing it by donating it to a charity shop, selling it or part-exchanging it with your retailer.

## Copyright and Acknowledgements

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# INTRODUCTION

Since Linn's inception with the production of the Sondek LP12 turntable in 1972, our aspiration has been to get you as close to the sound of the original recording as possible.

Over the many years since, we have remained committed to this goal by exploiting the latest developments in hi-fi technology. The Akurate DS digital music player exemplifies this commitment and dedication. Developed from our flagship Klimax DS player, it utilises sophisticated processing of the digital audio signal drawn from an external storage device, to produce crystal-clear, error-free audio. The advanced circuitry, combined with an absence of any mechanical noise due to their being no moving parts, ensures the Akurate DS delivers astounding musical performance. The Linn GUI is a simple and fun interface to use, and provides instant access to your CD and downloaded music collection.

In partnership with the Akurate Kontrol pre-amplifier, Akurate power amplifiers and Akurate loudspeakers, we are certain that you will be astonished by the quality of your Linn system now, and in the years to come.

# INSTALLATION

## Important:

The Akurate DS must be installed by an engineer/technician trained in networks and network security. Linn Products Limited cannot be held responsible for any network security compromise and/or loss of data due to improper installation.

## Unpacking

The Akurate DS is supplied with the following:

- handset
- 2 x AAA batteries for the handset
- 1 pair of black interconnect cables
- RS232 lead
- mains lead
- CD-ROM (contains system software, installation manual and owner's manual)
- warranty pack

We recommend that you retain all packaging in case you need to transport the Akurate DS at a later date.

## Positioning

You can position your Akurate DS almost anywhere you find convenient, but please consider the following points:

- The unit should be placed on a flat, stable and rigid surface.
- Do not position the unit where sunlight can shine (whether directly, diffused or reflected) on its display as the infra-red (IR) radiation in sunlight will be picked up by the unit's IR remote sensor and this can adversely affect its operation. Similarly, some electrical devices such as plasma TVs, fluorescent lights and energy saving lamps can emit IR which can likewise affect the operation.
- For best performance do not stack the unit with other products. Ideally, position the unit on a shelf by itself or, if proximity to other products is unavoidable, positioning side-by-side is preferable to stacking.

- The unit should not be situated above, or directly adjacent to, sources of heat such as radiators, power amplifiers etc. Nor should it be enclosed in a cabinet with such devices.
- The unit itself produces very little heat; however it is advisable to allow a little space to the sides, rear and above the unit (ideally 10 cm / 4") for air circulation which will allow any heat to dissipate.

## Cleaning

Disconnect the Akurate DS from the power supply before cleaning. Remove dust and fingerprints with a soft, dry cloth.

## Connecting to the mains supply

The Akurate DS contains an automatic internal mains voltage switch. This switch operates on all worldwide mains voltages from 100 V to 240 V. The unit can be connected to any worldwide mains voltage with no adjustment.

This unit must be earthed. Use the earthed moulded mains lead supplied, or if no mains earth is available, ensure the product's EARTH GROUND connector is connected to an earthing terminal.



# OPERATION

## Playing music

If you are using a Linn Akurate Kontrol pre-amplifier with the Akurate DS, switch on the Akurate Kontrol first and wait for it to show the ⏻ (standby) symbol before powering-up the Akurate DS. When the Akurate DS is switched on, a flashing dot will appear on the display. Wait until the dot is replaced by the ⏻ symbol before following the steps below.

## Selecting music

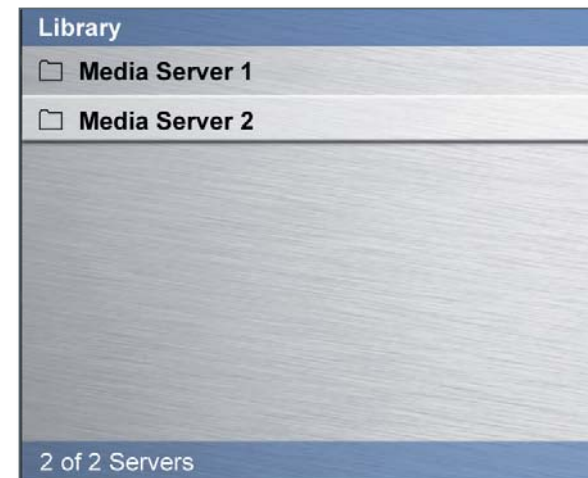
1. Turn on your control device. If the Linn GUI does not run automatically, double-click the Linn GUI icon.
2. From the Room window, select the appropriate room. This will automatically bring your Akurate DS (and Akurate Kontrol) out of standby.



3. From the Source window, select 'Akurate DS'.



4. From the Library window, select the storage device that contains the music you want to listen to by tapping it twice.



5. Tap 'Music' twice.

**Note:**

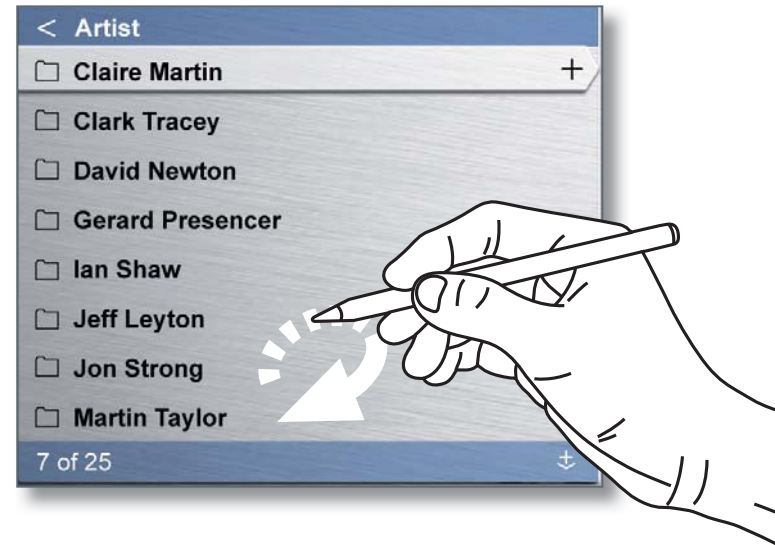
When using the Linn GUI, tap  in the top of the left-hand window to return to the previous screen.




6. Select the category you want to browse by tapping it twice.




7. Scroll to the music you want to play by placing the control device's stylus in the left-hand window and 'drawing' circles (clockwise to scroll downwards, anti-clockwise for upwards).





8. The folder symbol  indicates that an item contains sub items (e.g. a folder will be shown next to the name of an album to indicate that the album's tracks are held within the folder). Tap an item to highlight it, then tap it again to reveal the contents of the folder.
9. To play an album, track, or all tracks by a particular artist (depending on the view you are currently on), tap the selection to highlight it, then tap



Your selection will move to the Current Playlist window and playback will begin.

Alternatively, tap the  symbol to add the selection to the Current Playlist window. To start playback, tap the selection within the Current Playlist window to highlight it, then tap



10. Continue to add selections to the Current Playlist by highlighting artists/ albums/tracks and tapping the + symbol. You can add new selections to the bottom of the playlist, or place them after the currently playing track (if playback has not started they will be added to the top of the playlist). The icon shown at the bottom-right of the left-hand window determines where the selection will be placed. This icon  means that the selection will be placed at the bottom of the playlist. This icon  means that the selection will be placed after the currently playing track. Tap the icon to change it.

**Note:**

Up to 1,000 tracks can be added to the Current Playlist. The bar at the bottom of the Current Playlist window tells you how many tracks are in the playlist.

## Controlling playback

Control playback by using the      icons.

While a track is playing, tapping  will restart it, unless another selection is currently highlighted in which case the highlighted track will begin playing.

Tap on the progress bar to jump forward or backwards within the currently playing track.




**Note:**

You can also control playback using the front panel keys or the supplied handset, see *Front panel and handset*, pages 7 to 9.

## Current Playlist

Scroll up and down through the playlist by placing the control device's stylus in the Current Playlist window and 'drawing' circles (clockwise to scroll downwards, anti-clockwise for upwards).

Play any track in the Current Playlist by highlighting it, then tapping . Playback of the playlist will continue from that point.

### Note:

The tracks in the Current Playlist will remain there if the Akurate DS is put into then brought out of standby.

### To delete individual tracks from the playlist:

- Tap on the track you wish to delete.
- Tap the **X** symbol next to the track's title.

### To delete the entire playlist:

- Tap the  symbol at the top-right of the Current Playlist window.

## Volume


You can use the    icons on the Linn GUI to control volume if your Akurate DS is connected to a Linn Akurate Kontrol pre-amplifier.

Volume range on the Akurate Kontrol is from 0 to 100 (unless Volume Limit on the Akurate Kontrol has been set to less than 100).


### Note:

If the Linn pre-amplifier in your system is not an Akurate Kontrol, you can adjust the volume using the handset supplied with the Akurate DS or pre-amplifier, or the pre-amplifier's front panel keys.

## Standby

To put the Akurate DS into standby using the Linn GUI, tap the source/room key at the top-right of the GUI, then tap the  icon for the appropriate room, in the left-hand window.



The Akurate DS can also be put into or out of standby using the  key on the front panel or handset.

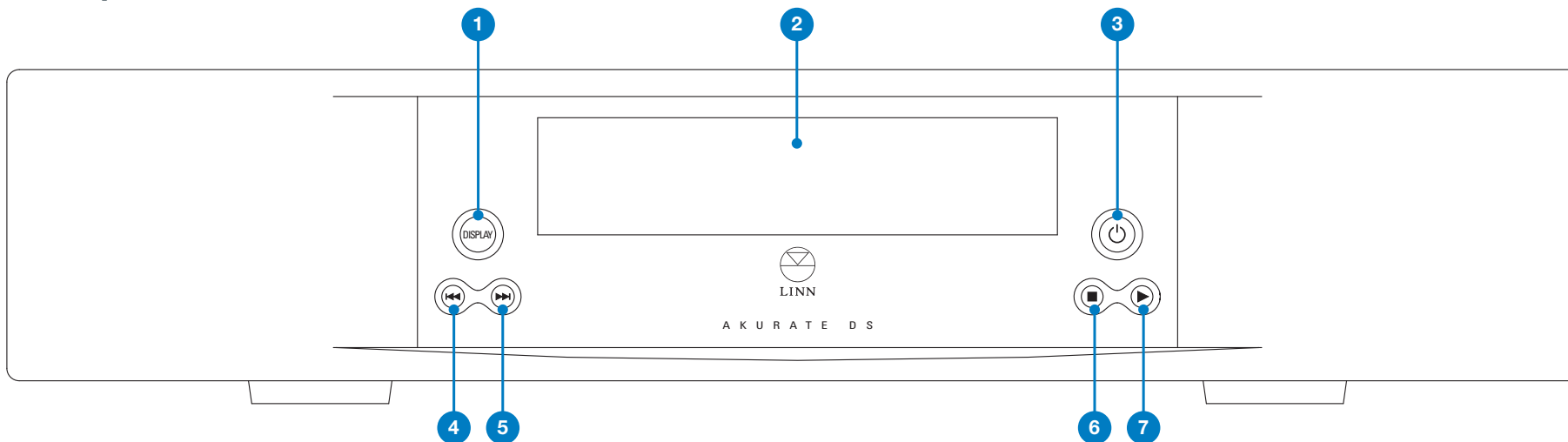
### Note:

The tracks in the Current Playlist will remain there if the Akurate DS is put into then brought out of standby.

## Front panel and handset

Once you have added tracks to the Current Playlist, you can use the front panel keys or supplied handset to control playback.

### Front panel



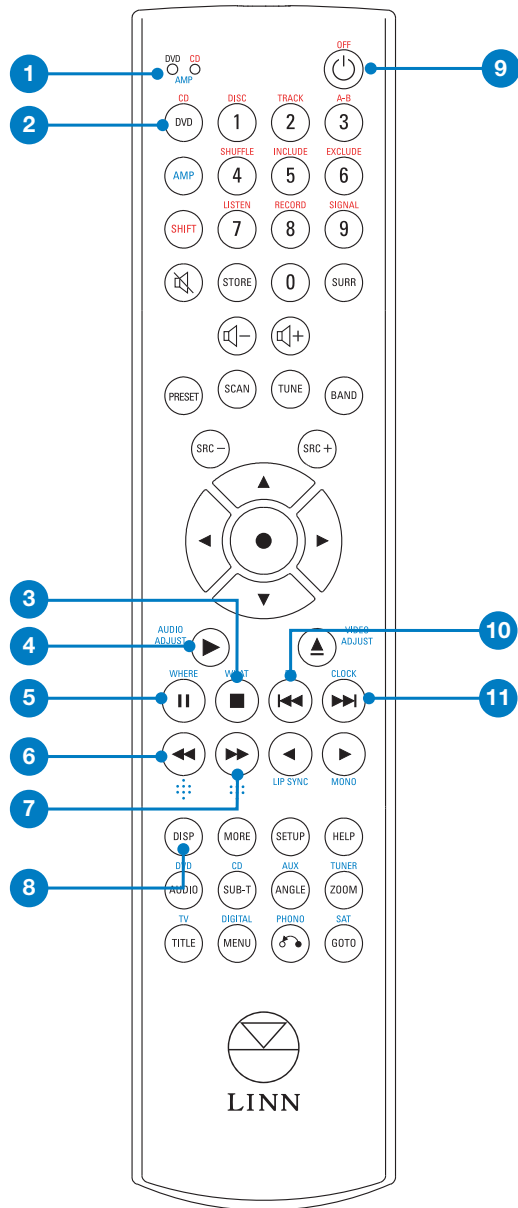
1. **DISPLAY** Cycles through the various display modes
2. **Front panel display**
3. **Power** Brings the unit out of, or puts into, standby
4. **Left arrow** Previous track selection. Press and hold to skip backwards through the tracks in the Current Playlist
5. **Right arrow** Next track selection. Press and hold to skip forwards through the tracks in the Current Playlist

6. **Stop** Stops playback
7. **Right arrow** Starts playback of the Current Playlist. If playback has been started and then stopped, pressing **▶** will begin playback from the start of the last track played. During playback, a quick press of **▶** will pause playback. Press **▶** again to resume playback. Press and hold **▶** for two seconds to replay the current track.

**Note:**

You can control playback of the Current Playlist using the handset or front panel, even if the Linn GUI has been turned off.

# Handset



1. **LEDs** Indicate the mode of the handset when a key is pressed
2. **DVD** Puts handset into Disc mode. Handset should be in Disc mode to operate the Akurate DS
3. ■ Stops playback
4. ► Starts playback of the Current Playlist. If playback has been started and then stopped, pressing ► will begin playback from the start of the last track played
5. || Pauses playback
6. ◀◀ Fast search backwards
7. ▶▶ Fast search forwards
8. **DISP** Cycles through track information on the front panel display
9. ⏻ Enters/exits standby
10. ◀◀ Previous track selection
11. ▶▶ Next track selection

Keys and functions of the handset not listed above do not function with the Akurate DS but may with other Linn products.

**Note:**

You can control playback of the Current Playlist using the handset or front panel, even if the Linn GUI has been turned off.



## Handset modes

The handset has been designed to provide simpler, more intuitive control over a range of Linn products. In order to achieve this, the handset can be operated in various handset modes which assign differing functionality to some of the keys. The handset mode is indicated by the LEDs at the top-left of the handset, which will light when a key is pressed.

The handset should be used in Disc mode for operating the Akurate DS.

**Disc mode** – press the DVD key to set the handset to Disc mode. The DVD functions will be assigned as the primary handset keys and the DVD LED will light when a key is pressed.

### Note:

Volume control is always available, regardless of the mode the handset is in.

If you are using a Linn pre-amplifier or AV system controller with your Akurate DS, you can use the same handset to operate both Linn products. For some functionality you may have to use the DVD and AMP buttons to switch between handset modes.

## Front panel display

Key to symbols shown on the front panel display:

▶	<b>Play</b>
	<b>Pause</b>
■	<b>Stop</b>
▶▶	<b>Skip to next track</b>
◀◀	<b>Skip to previous track</b>
▶▶	<b>Fast search forwards</b>
◀◀	<b>Fast search backwards</b>
⏻	<b>Standby</b>

The front panel of the Akurate DS displays information relating to the currently playing track. Repeatedly press **DISP** on the handset, or **DISPLAY** on the front panel, to cycle through the information in the following order:

**Elapsed track time**

**Remaining track time**

**Track audio data (sample rate/bit depth)**

**Track encoding data (kilobits per second/format)**

**Track number within total number of tracks in the playlist**

**Track title \***

**Artist \***

**Album title \***

Regardless of the information shown on the display, you can see the currently playing track title, artist and album title by pressing and holding **DISP** or **DISPLAY** for two seconds.

Whenever a new track begins playing (or playback has been stopped then restarted), the track title, artist name and album title will scroll across the display.\*\* While the text is scrolling, pressing **DISP** or **DISPLAY** will return the display to the previous view.

\* If the text is too long to appear in full on the display, press and hold **DISP** or **DISPLAY** for two seconds to see the whole text scroll.

\*\* This feature can be turned off or on via the Linn Configuration software supplied with the Akurate DS. (Adjustments made to the system via the Linn Configuration software should only be done by your Linn installer.)

## Adding music to the library

If you wish to add a CD to your music library, insert the CD into the PC that is connected to your storage device (NAS) and, using the ripping software configured by your Linn installer, rip the CD. Once the CD has been ripped it will automatically be added to the music library on the Linn GUI.

# TECHNICAL SPECIFICATION

<b>Date of introduction</b>	November 2007
<b>Type</b>	Digital music player
<b>Size</b>	(H) 80 mm x (W) 381 mm x (D) 360 mm (H) 3.1 inches x (W) 15 inches x (D) 14.2 inches
<b>Weight</b>	4.2 kg 9.2 lb
<b>Supported file types</b>	WAV, FLAC, MP3
<b>Audio sample rates</b>	44.1 k, 48 k, 88.2 k, 96 k, 176.4 k, 192 k
<b>Word depths</b>	16 – 24 bits
<b>Analogue audio outputs</b>	Stereo RCA phono sockets, stereo XLR balanced audio outputs
<b>Ethernet interface</b>	100Base-T RJ45
<b>Control protocol</b>	Compatible with UPnP™ media servers, UPnP™ AV 1.0 control points
<b>Local control</b>	Front panel 6 button interface RS232 x 4 Luminous remote control handset 128 x 32 front panel display
<b>Power supply</b>	Switching power supply with auto-ranging (AC 100 – 120 V @ 50 – 60 Hz) (AC 220 – 240 V @ 50 – 60 Hz)
<b>Power consumption</b>	13 W

# GUARANTEE AND SERVICE

This product is guaranteed under the conditions which apply in the country of purchase and your statutory rights are not limited. In addition to any statutory rights you may have, Linn undertake to replace any parts which have failed due to faulty manufacture. To help us, please ask your Linn retailer about the Linn warranty scheme in operation in your country.

In parts of Europe, the United States of America and some other markets, extended warranty may be available to customers who register their purchase with Linn. A warranty registration card is included with the product and should be returned to Linn as soon as possible. Alternatively, you can register your warranty online at [www.linn.co.uk](http://www.linn.co.uk).

## WARNING

Unauthorised servicing or dismantling of the product invalidates the manufacturer's warranty. There are no user serviceable parts inside the product and all enquiries relating to product servicing should be referred to authorised retailers only.

## Technical support and information

For technical support, product queries and information, please contact either your local retailer or one of the Linn offices opposite.

Full details of your local retailer/distributor can be found on the Linn web site: [www.linn.co.uk](http://www.linn.co.uk).

## Important

Please keep a copy of the sales receipt to verify the purchase date of the product.

Please ensure that your equipment is insured by you during any transit or shipment for repair.

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**[www.linn.co.uk](http://www.linn.co.uk)**

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Information on obtaining access to the GPL code used in this product is available at <http://oss.linn.co.uk>

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## **Flac from the Xiph.org foundation:**

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**FreeBSD:**

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