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KISTO System Controller
Owner's Manual

Important Safety Information

Explanation of symbols used in this manual and on the product:



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.

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 APPLIANCE TO RAIN OR MOISTURE.

SHOCK HAZARD. DO NOT OPEN.

MAINS PLUGS

This appliance 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.

GENERAL SAFETY INSTRUCTIONS

1. **Read instructions.** Read the safety and operating instructions before operating the appliance.
2. **Retain instructions.** Retain the safety and operating instructions for future reference.
3. **Heed warnings.** Observe all warnings on the appliance and in the operating instructions.
4. **Follow instructions.** Follow all operating and use instructions.
5. **Water and moisture.** Do not use the appliance near water, for example near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool and the like.
6. **Carts and stands.** Use only with a cart or stand that is recommended by the manufacturer.
- 6a. An appliance and cart combination should be used with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. **Wall or ceiling mounting.** Mount to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation.** Site the appliance so that its location or position does not interfere with its proper ventilation. For example, the appliance 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.
9. **Heat.** Site the appliance away from heat sources such as radiators, heaters, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power sources.** Connect the appliance to a power supply only of the type described in the operating instructions or marked on the appliance.
11. **Grounding or polarisation.** 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. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
12. **Power cord protection.** Route power cords so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, power sockets, and at the point where they exit from the appliance.
13. **Protective attachment plug.** As a safety feature the product is equipped with an attachment plug containing overload protection. See the instruction manual about resetting or replacing the plug. Should the plug need replacing ensure that a replacement is used which has the same overload protection as the original.
14. **Cleaning.** The product should be cleaned only as recommended by the manufacturer.
15. **Power lines.** An outdoor antenna should be located away from power lines.
16. **Outdoor antenna grounding.** If an outdoor antenna is connected to the tuner/receiver, 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.
17. **Lightning storms.** Unplug this apparatus during lightning storms or when unused for long periods of time.
18. **Objects and liquid entry.** Do not let objects or liquids fall into the product. Do not expose the product to dripping or splashing. Do not place a vessel containing liquid on top of the product.
19. **Damage requiring service.** The product should be serviced by qualified personnel if:
 - a) The power cord or plug has been damaged.
 - b) Objects or liquid have fallen into the product.
 - c) The product has been exposed to rain.
 - d) The product does not appear to operate normally or exhibits a marked change in operation.
 - e) The product has been dropped or the enclosure damaged.
20. **Servicing.** Do not attempt to service the product beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

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:

- Pull out the red fuse cover/carrier.
- Remove and dispose of the blown fuse.
- 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.

- Disconnect the plug from the mains supply.
- Cut off the plug and dispose of it safely. A plug with bared conductors is dangerous if engaged in a live socket.
- Only fit a 13 Amp BS1363A approved plug with a 5 Amp fuse.
- 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.

- 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	1998	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.

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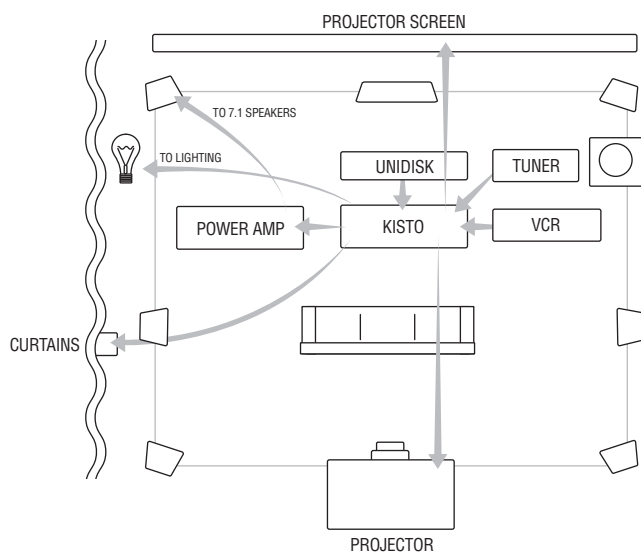
Introduction

The KISTO™ System Controller is Linn's next-generation audio and video control product and represents the new heart of your home entertainment system.

Unlike many AV processor products, or “pass through” solutions, the KISTO is a genuine system controller that lets you manipulate and control each element of your home entertainment system through a single, clear interface. This advanced product handles a comprehensive variety of audio and video standards and offers 7.1 channels of audio at a performance level equivalent to that offered by our respected KLIMAX range of amplifiers.

Based on a truly modular, three-chassis design, the KISTO is one of the most complex pieces of engineering ever undertaken by Linn. The product contains eleven circuit boards, over 6000 individual components, and provides over one hundred sockets for interconnecting your existing audio-visual system. Fortunately, however, we believe that engineering complexity is only worthwhile if it delivers high performance in an easy-to-use package. The KISTO System Controller therefore features a powerful new user interface plus on-screen help to ensure that setup and operation are straightforward, intuitive and enjoyable, allowing you to concentrate on what really matters - your music and movies.

With the KISTO System Controller at the heart of your system, seamlessly integrating your audio and video products and your room environment with Linn control and performance, we are confident that your access to home entertainment will be simpler and your enjoyment from it greater.



Audio formats

The KISTO includes the following surround sound algorithms:



Dolby Pro Logic II



Dolby Headphone



Dolby Digital EX



DTS 96/24, DTS-ES, DTS Neo:6

Along with Linn's proprietary LIMBIK algorithm.

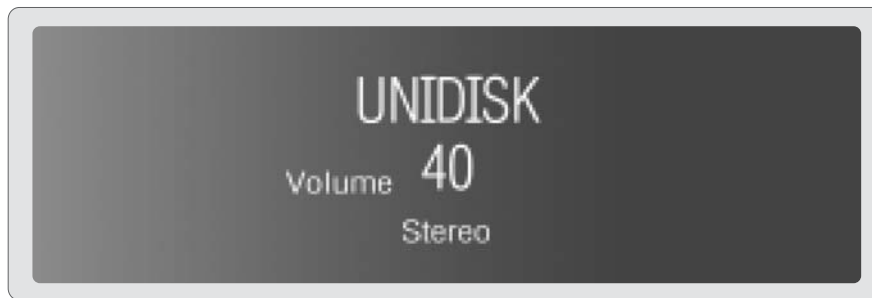
Cleaning

Disconnect the KISTO from the power supply before cleaning. Remove dust and fingerprints with a soft, dry cloth. Avoid using domestic cleaning products on the unit.

Front Panel and Handset

Front panel display

The front panel display shows you information regarding what you are watching and listening to. The current source is shown at the top, with the volume below and the input audio signal and processing at the bottom.



The display also shows the setup menus and other information depending on the current operation.

Front panel connectors

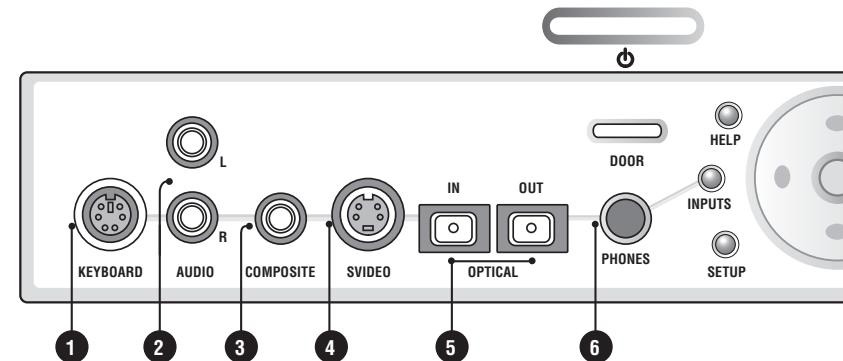
The KISTO features connectors on the front panel to allow you to connect additional AV components such as a camcorder or games console.

To access the front panel keys and connectors:

- Lift the front panel door until it locks in place.

To close:

- Press **DOOR**. The door will close automatically one second later.



- 1 **KEYBOARD** PS2 keyboard connector.
- 2 **AUDIO L and R** Analogue stereo inputs.
- 3 **COMPOSITE** Composite video input.
- 4 **S VIDEO** S-video input.
- 5 **OPTICAL IN/OUT** Digital optical audio input and output.
- 6 **PHONES** Headphones socket.

After connecting a source the KISTO must be correctly configured before the new source can be used. Once a source has been setup, you do not need to set it up again.

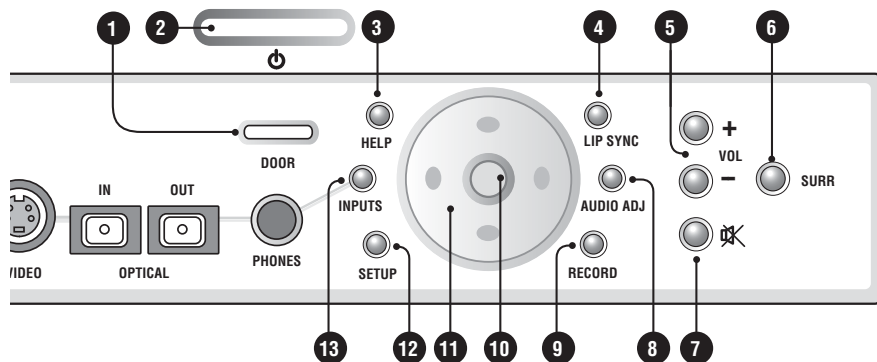
To add a source component:

- Press **SETUP** on the front panel or handset.
- Select Source Setup.
- Select Add Source.
- Change the settings as appropriate.
- Save your settings and exit setup.

On-screen help information for setting-up sources can be accessed by pressing **HELP** on the front panel or handset.

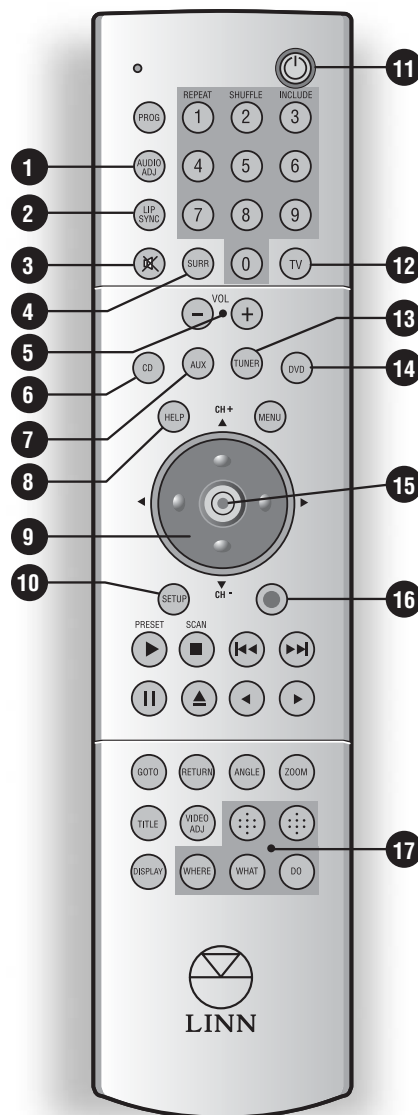
For further information on setup see the *Setting up the KISTO* chapter.

Front panel keys



- 1 **DOOR** Closes the front panel door.
- 2 **⏻ (standby)** Brings the unit out of, or puts into, standby mode.
- 3 **HELP** Accesses on-screen help information.
- 4 **LIP SYNC (synchronization)** Adjusts audio/video synchronization.
- 5 **VOL + / -** Adjust the volume level.
- 6 **SURR (surround)** Selects a surround sound format.
- 7 **⊘ (mute)** Mutes/unmutes the audio output.
- 8 **AUDIO ADJ (adjust)** Adjusts speaker balance and trim.
- 9 **RECORD** For setting up a record path.
- 10 **'enter'** Executes certain commands.
- 11 **⬆ ⬇ ⬅ ▶** For navigating setup menus and adjusting settings.
- 12 **SETUP** Enters/exits the setup menus.
- 13 **INPUTS** Selects a front panel input.

Handset



- 1 **AUDIO ADJ (adjust)** Adjusts speaker balance and trim.
- 2 **LIP SYNC (synchronization)** Adjusts audio/video synchronization.
- 3 **⊘ (mute)** Mutes/unmutes the audio output.
- 4 **SURR (surround)** Selects a surround sound format.
- 5 **VOL - / +** Adjust the volume level.
- 6 **CD** Selects a CD source.
- 7 **AUX** Selects an auxiliary source.
- 8 **HELP** Accesses on-screen help information.
- 9 **⬆ ⬇ ⬅ ▶ / CH +, CH -** For navigating setup menus and adjusting settings.
- 10 **SETUP** Enters/exits the setup menus.
- 11 **⏻ (standby)** Brings unit out of, or puts into, standby mode.
- 12 **TV** Puts handset into TV mode.
- 13 **TUNER** Selects a tuner source.
- 14 **DVD** Selects a DVD source.
- 15 **'enter'** Executes certain commands.
- 16 **● (record)** For setting up a record path.
- 17 **KNEKT functions** Used if the unit is installed in a KNEKT system.

The other keys do not function with the KISTO System Controller.

Note:

If your KISTO is not responding as expected to handset keys, it is likely that the handset is in TV mode. To correct this, press any of the source keys (DVD, CD, TUNER or AUX) on the handset.

Operation

Help information

To make learning how to operate your KISTO more convenient, we have placed operating instructions in the product itself. This information can be accessed by pressing **HELP** on the front panel or handset. The information shown depends on the previous key that was pressed, for example if you press the **LIP SYNC** key, then **HELP** within four seconds, information on the Lip Sync Delay feature will appear. The help information is shown on your display device and can be accessed at any time while the KISTO is on.

Because full operating instructions are included on the KISTO, this manual contains the minimum amount of information.

Selecting a source

To select the source you want to watch or listen to:

- Use the \triangle / ∇ keys on the front panel or handset.
- or
- Press the appropriate source type key (DVD, CD, TUNER or AUX) on the handset, then use the \triangle / ∇ keys to cycle through available sources of that type.

Splitting a source

You are able to split a source and define a different audio or video component to the current one. This is a useful feature if, for example, you want to watch one source while listening to another.

To split a source:

- With the source that you wish to split showing on the front panel display, press \triangle or ∇ on the front panel or handset.

\blacklozenge arrows appear to the left of the source name. (If you have just selected that source the \blacklozenge arrows will already be showing and the source name will be on your display device.)

- Press \blacktriangleright .

The source's audio and video components are shown one above the other.

- Press \blacktriangleright to toggle between the audio and video components.
- Use the \triangle / ∇ keys to change the audio or video source.

To return a split source to its previous state:

- Use the \triangle / ∇ keys to switch to another source, then return to the previous source.

Note:

If there is a certain combination of sources you use frequently, you may find it easier to setup the combination as a source configuration in the setup menus (see the *Setting Up the KISTO* chapter).

Changing the sound

Volume

To change the volume:

- Repeatedly press or hold **VOL -/VOL +** on the front panel or handset.

Volume range is from 0 to 100 in 200 steps.

Balance

To change the balance for all speakers (bar subwoofer(s)):

- Press **AUDIO ADJ** on the front panel or handset.

'Balance' is shown on the display device/front panel display.

- Repeatedly press or hold **▷** to shift the balance to the right, or **◁** to shift the balance to the left.

Balance range is from 25 increments to the left to 25 increments to the right, with neutral balance being 0.

Volume trim

You may find that when watching a DVD-Video or listening to a multi-channel disc that you want to adjust the volume level of the centre, surround or back speakers, without affecting any of the other speakers. This is done by adjusting speaker volume trim.

To change the volume trim:

- Repeatedly press **AUDIO ADJ** (adjust) on the front panel or handset until the desired speaker(s) is/are shown on the display device/front panel display.
- Repeatedly press or hold **▲/▼** on the front panel or handset to increase/decrease the level of volume trim.

Volume trim range is from -10.0 to 10.0 (in 40 steps) with neutral trim being 0.

Note:

The speakers shown when **AUDIO ADJ** is pressed is dependent on the number of speakers in your system and the currently selected surround sound format.

Lip Sync Delay

You may find with certain DVD-Videos that the movement of the actors' lips and the sound are not synchronized. You can correct this on the KISTO using the Lip Sync Delay feature.

To adjust Lip Sync Delay:

- Press **LIP SYNC** on the front panel or handset.
- Press **▲** to increase the delay of the audio signal until the picture and audio are synchronized.

Lip Sync Delay range is from 0 to 300 milliseconds in 30 steps.

Note:

The setting for Lip Sync Delay is retained for that source.

Surround sound formats

The KISTO is equipped with a wide range of surround sound formats to enhance your audio/home cinema experience. For information on the surround sound formats, press **SURR** on the front panel or handset, then **HELP**.

To change the surround sound format:

- Repeatedly press **SURR** on the front panel or handset until the desired format is shown on the front panel/display device.

Notes:

The available surround sound formats are dependent on the type of signal being processed.

The default surround sound format for the current audio signal is shown in brackets on the front panel/display device.

Dolby Headphone

The KISTO features Dolby Headphone. This signal-processing algorithm replaces the 'in your head' effect of regular headphone listening with a spacious, natural soundfield. Dolby Headphone works with any stereo or multi-channel audio signal and can reproduce the acoustics of three different virtual rooms.

To access Dolby Headphone:

- Plug headphones into the PHONES socket on the front panel.

The headphones will automatically be detected by the KISTO which will mute the sound to your speakers.

To change the Dolby Headphone option:

- While the headphones are plugged in, repeatedly press **SURR** on the front panel or handset until the desired option is shown on the front panel/display device.

For more information on Dolby Headphone, press **SURR** then **HELP**.

Midnight Movie mode

This feature allows you to add compression to the audio signal of any source. Adding compression reduces sudden increases in volume such as the sound of an explosion on a DVD-Video.

To switch Midnight Movie mode on/off:

- Press and hold **SURR** on the front panel or handset.

When the mode is on, 'Midnight Movie' is shown on the front panel display next to the volume level.

Restoring the original audio settings

To reset all the above audio items to their neutral/default settings:

- Press and hold **AUDIO ADJ** until 'Normalizing' is shown on the front panel/display device.

Record function

The record function allows you to direct a source signal to a recording device such as a VCR or DAT recorder.

Note:

For reasons of copyright protection some audio and video discs incorporate protection systems that prevent them from being recorded.

To set a record path:

- Press **RECORD** on the front panel or handset.
- Use the \triangle / ∇ keys to select the source you want to record, then press '**enter**'.
- Use the \triangle / ∇ keys to select the record option you want to use for making the recording, then press '**enter**'.

For more information on the record function, press **RECORD** then **HELP**.

Changing the setup

You can adjust many features of the KISTO's operation via the setup menus. These are accessed by pressing **SETUP** on the front panel or handset. To make setting up the KISTO easier it can be done using a PS2 (PC) keyboard plugged into the front panel. When in setup you can view on-screen help information for any particular menu item by pressing **HELP** on the front panel or handset.

For more information on setup, see the *Setting Up the KISTO* chapter.

Installation

The Linn KISTO System Controller is one of the most complex products Linn has produced. While designing it we always bore in mind the needs of the installer/owner, and so, despite the KISTO's complexity we have endeavoured to make installation, setup and operation as simple as possible.

This chapter will show you how to install and configure a KISTO to your requirements. We are sure you will find the procedure intuitive and straightforward.

Unpacking

The KISTO System Controller is supplied with the following accessories:

- luminescent handset with booklet
- 2 x RO3 (AAA) batteries for the handset
- RS232 lead
- mains lead
- this manual

We recommend you retain the packaging for reuse in case you need to transport the unit at any time.

Voltage selection and fuse replacement

Voltage selection is not needed as the KISTO operates from any mains AC power. There are no user-replaceable fuses inside the unit. The mains lead supplied may be fitted with a fused plug according to local regulations. If this is the case, always replace this fuse with another of the same type and rating.

WARNING: The KISTO System Controller must always be earthed when connected to mains power. Use the earthed moulded mains lead supplied. Never use an unearthed plug or adapter with this unit.

Positioning

You can locate your KISTO almost anywhere you find convenient in your room, but there are a few simple points to note regarding positioning:

- The IR sensor that receives the handset signals is quite sensitive, so the unit should be kept out of direct sunlight to avoid false operation. The IR beam from the handset will pass through semi-opaque glass so operation behind, for example, smoked-glass cabinet doors is possible.
- Never block the ventilation slots on the top and sides of the unit.

- The unit should be protected from anything that generates significant amounts of heat, such as radiators or power amplifiers. In particular, if you mount your KISTO in a rack, put it below the power amplifiers so it will not be heated by hot air rising from the amps, and leave a 1U space above and below to allow free air circulation. For optimum cooling consider installing fan-assisted air circulation (or air-conditioning) in the rack.

Note:

If the KISTO is operated for long periods and/or has restricted ventilation, the unit's internal fan will operate and will remain running until the internal temperature has dropped to a pre-set level.

Using the RAKK-KISTO mounting kit

For rack mounting your KISTO, Linn can supply the RAKK-KISTO mounting kit, which consists of two rack ears that are fitted to the sides of the unit's chassis to provide four M6 clearance holes for cantilever mounting in a standard 19-inch rack. The unit height is 3U.

The cover of the KISTO is reversible to allow neat installation of the RAKK-KISTO through two cut-outs in one end. As supplied, the cover is fitted the normal way for shelf or cabinet-top positioning.

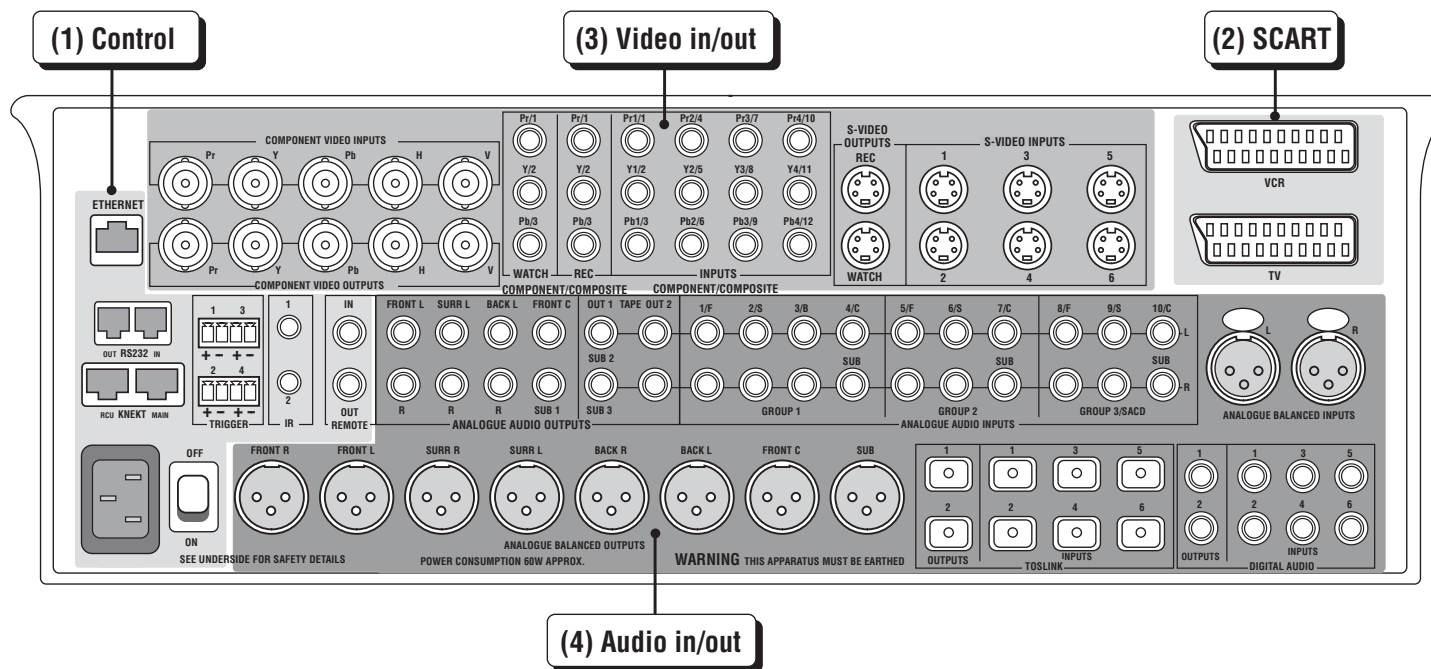
To fit the RAKK-KISTO to the KISTO, follow the procedure below. The only tools you need are a TORX® T-10 driver and an M4 Allen key.

1. Invert the KISTO on a flat, non-scratch surface.
2. Remove the four Torx retaining screws from the underside of the cover.
3. Carefully separate the chassis and cover by sliding them apart.
4. Turn the cover around and refit it to the chassis so that the end of the cover with the cut-outs slides onto the chassis first.
5. Refit the four retaining screws in the underside of the cover.
6. Attach each RAKK-KISTO ear to the chassis by positioning it in a cut-out in the cover and fixing to the chassis with three M4 x 12 Allen screws (supplied in the kit).

Your KISTO is now ready for rack mounting.

If your particular rack installation may be subjected to dynamic loads (shock or vibration), consider fitting a shelf under the KISTO as additional support. This will help ensure that any dynamic stress is absorbed by the shelf rather than the fixing between the RAKK-KISTO and the KISTO chassis.

Connections



The diagram above shows the connectors available on the back panel of your KISTO. Connectors are arranged in named groups according to function. The connector groups and connection functions are listed in the manual in sections as shown on the diagram.

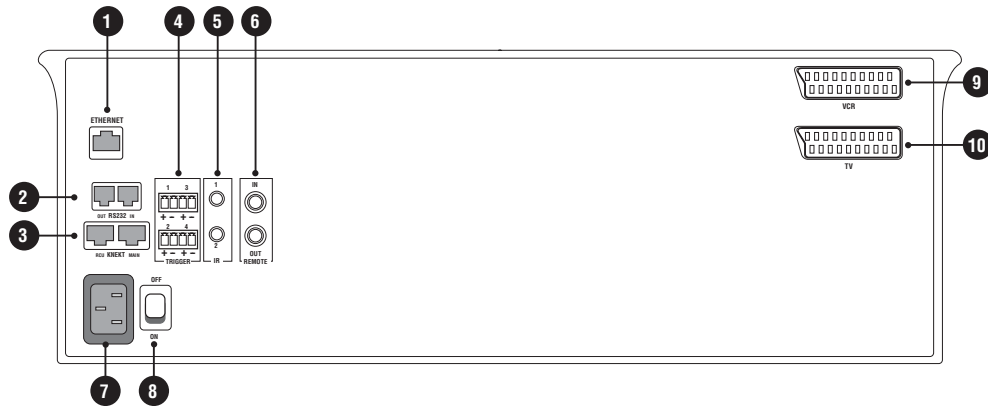


Switch off the KISTO System Controller before connecting plugs to, or disconnecting plugs from, the rear panel to avoid generating an electrical surge that may damage the unit or other components of your AV system.

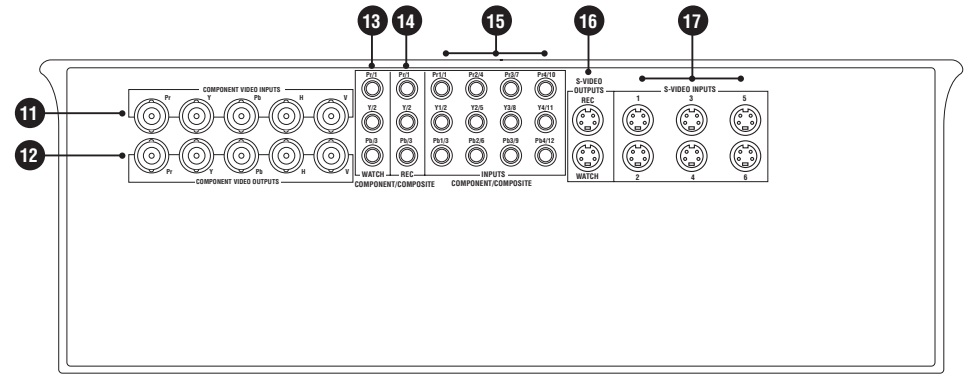
Note:

The outputs marked SUB (subwoofer) carry the information on the LFE (Low Frequency Effects) channel (the .1 in a 5.1 audio signal) if present, plus some or all of the source signal's bass information (depending on how the other speakers are setup).

(1) Control, (2) SCART



(3) Video in/out



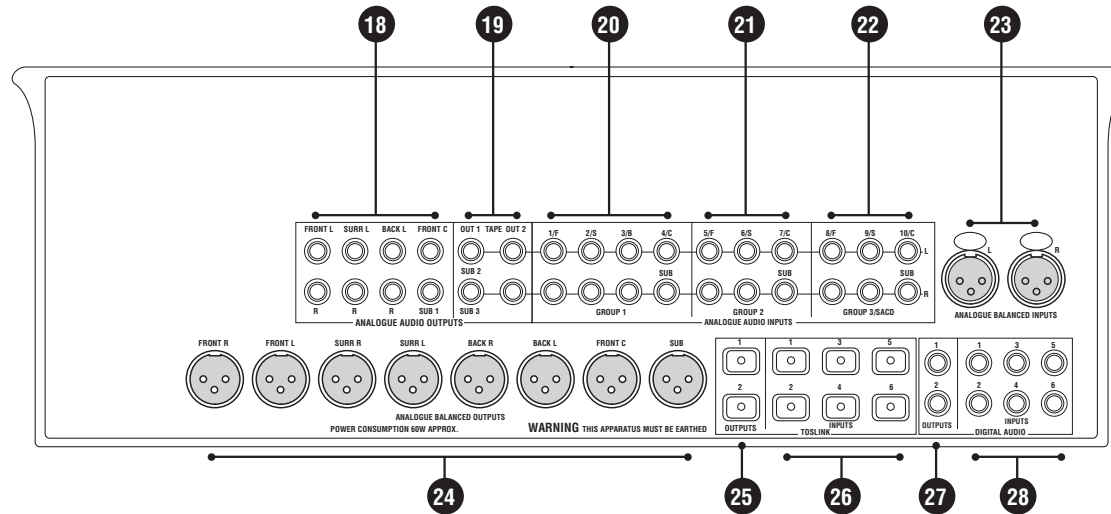
Connector group name (Connector marking)	Connection function	Connector type
1 ETHERNET	For controlling the KISTO from a computer	RJ45
2 RS232 (OUT, IN)	To let the KISTO control other devices or for controlling the KISTO from another device	Twin RJ12
3 KNEKT (RCU, MAIN)	For installing the KISTO in a KNEKT system	Twin RJ45
4 TRIGGER (1, 2, 3, 4)	+12 V switched control output	2 x Phoenix
5 IR (1, 2)	For control of auxiliary devices that accept infrared signals	2 x 3.5 mm
6 REMOTE (IN, OUT)	RC5 in/out local loop for use in a KNEKT system	2 x RCA
7 No name or marking	Mains power inlet	IEC
8 OFF, ON	Mains power switch	Rocker
9 VCR	Can be used as the input from, or output to, a VCR	SCART
10 TV	Output to a TV. Can also be used as an output to a VCR	SCART

Connector group name (Connector marking)	Connection function	Connector type
11 COMPONENT VIDEO INPUTS (YPrPb, H + V)	Component RGB/YPrPb + H and V Sync input	5 x BNC
12 COMPONENT VIDEO OUTPUTS (YPrPb, H + V)	Component RGB/YPrPb + H and V Sync watch output	5 x BNC
13 WATCH COMPONENT/COMPOSITE (Pr/1, Y/2, Pb/3)	Composite or component video watch output	3 x RCA
14 REC COMPONENT/COMPOSITE (Pr/1, Y/2, Pb/3)	Composite or component video record output	3 x RCA
15 INPUTS COMPONENT/COMPOSITE (Pr1/1, Y1/2, Pb1/3; Pr2/4, Y2/5, Pb2/7; Pr3/4, Y3/8, Pb3/9; Pb2/7; Pr4/10, Y4/11, Pb4/12)	12 x composite or 4 x RGB component inputs	12 x RCA
16 S-VIDEO OUTPUTS (REC, WATCH)	S-video record and watch outputs	2 x 4W mini-DIN
17 S-VIDEO INPUTS (1, 2, 3, 4, 5, 6)	S-video inputs	6 x 4W mini-DIN

(4) Audio in/out

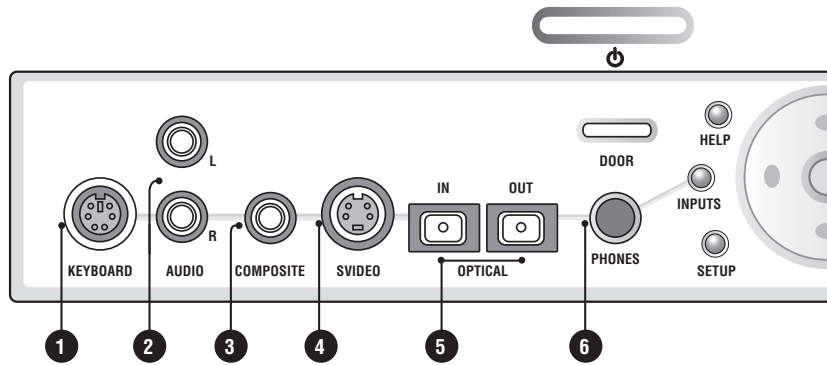
Note:

The outputs marked SUB (subwoofer) carry the information on the LFE (Low Frequency Effects) channel (the .1 in a 5.1 audio signal) if present, plus some or all of the source signal's bass information (depending on how the other speakers are setup).



Connector group name (Connector marking)	Connection function	Connector type
18 ANALOGUE AUDIO OUTPUTS (FRONT L-R; SURROUND L-R; BACK L-R; FRONT C, SUB 1)	One unbalanced 7.1 analogue audio output. SURROUND refers to the two surround speakers in a 5.1 system. BACK refers to the two additional speakers in a 7.1 system - located at the rear of the room.	8 x RCA
19 ANALOGUE AUDIO OUTPUTS (TAPE OUT 1 L [SUB 2], R [SUB 3]; TAPE OUT 2 L-R)	Two unbalanced analogue tape record L-R outputs [or unbalanced analogue subwoofer outputs on SUB 2 and SUB 3 if TAPE OUT 1 connections are not used]	4 x RCA
20 ANALOGUE AUDIO INPUTS, GROUP 1 (IF L-R, 2S L-R, 3B L-R, 4C L-R [SUB])	Four unbalanced analogue audio L-R inputs or one 7.1 unbalanced analogue audio input. S refers to the two surround speakers in a 5.1 system. B refers to the two additional speakers in a 7.1 system - located at the rear of the room.	8 x RCA
21 ANALOGUE AUDIO INPUTS, GROUP 2 (5F L-R, 6S L-R, 7C L-R [SUB])	Three unbalanced analogue L-R audio inputs or one 5.1 unbalanced analogue audio input	6 x RCA
22 ANALOGUE AUDIO INPUTS, GROUP 3/SACD (8F L-R, 9S L-R, 10C L [SUB], R)	Three unbalanced analogue L-R audio inputs or one 5.1 unbalanced analogue SACD audio input	6 x RCA
23 ANALOGUE BALANCED INPUTS (L, R)	One balanced analogue L-R audio input	2 x XLR
24 ANALOGUE BALANCED OUTPUTS (FRONT R-L; SURROUND R-L; BACK R-L; FRONT C, SUB)	One balanced 7.1 analogue audio output. SURROUND refers to the two surround speakers in a 5.1 system. BACK refers to the two additional speakers in a 7.1 system - located at the rear of the room.	8 x XLR
25 TOSLINK, OUTPUTS (1, 2)	Two SPDIF optical digital audio outputs	2 x Toslink
26 TOSLINK, INPUTS (1, 2, 3, 4, 5, 6)	Six SPDIF optical digital audio inputs	6 x Toslink
27 DIGITAL AUDIO, OUTPUTS (1, 2)	Two SPDIF digital audio outputs	2 x RCA
28 DIGITAL AUDIO, INPUTS (1, 2, 3, 4, 5, 6)	Six SPDIF digital audio inputs	6 x RCA

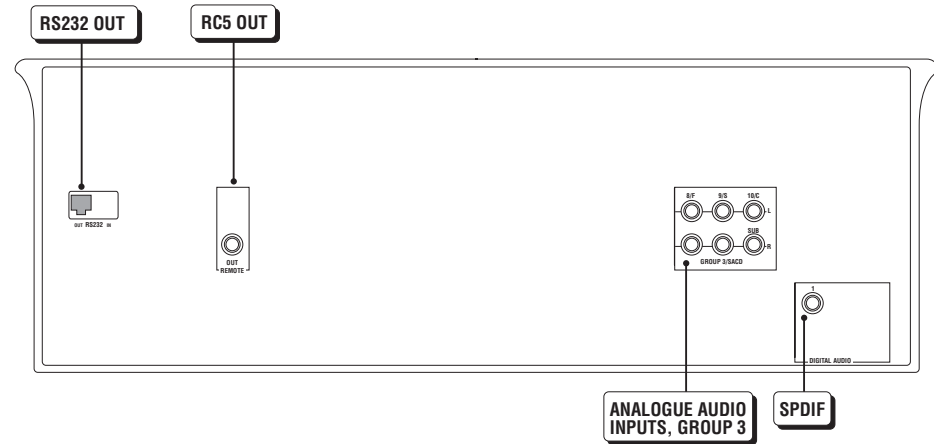
Front panel connectors



Connector group name (Connector marking)	Connection function	Connector type
1 KEYBOARD	For setting up unit via keyboard	1 x PS2 DIN
2 AUDIO L & R	Analogue stereo inputs	2 x RCA
3 COMPOSITE	Composite video input	1 x RCA
4 S VIDEO	S-video input	1 x 4W mini-DIN
5 OPTICAL IN/OUT	Digital optical audio input & output	2 x Toslink
6 PHONES	Headphones output	1 x 6.5mm jack

Connecting the KISTO to a Linn UNIDISK player

The connections indicated below should be used to connect the KISTO to the corresponding connections on a UNIDISK player.



In addition to making the correct connections, the KISTO must be correctly configured for operating with a UNIDISK (i.e. the KISTO must know what connections have been used to connect it to the UNIDISK). In the KISTO setup menus there is a specific menu for doing this.

Setting up the KISTO


The KISTO has been pre-configured with default source settings to make setup easier. Connect each component in your system while following the Default Input Settings chart at the back of this manual. Make note of the connectors you have used for each source.

Important note:

Because video signals are always passed through the unit as is (format unchanged) the input path must be matched to the output path.

Example:

YPrPb to video in connector ➔ YPrPb from video out connector

Once all connections have been made, switch on the KISTO. Loading Operating System flashes on the front panel display for approximately 40 seconds. When the screen changes to show 'KISTO System Controller', press the  key on the front panel or handset.

The next step is to enter setup. Although all information required for setting up components is shown on the front panel display, you may find it more convenient to configure the KISTO while viewing the setup screens on your display device. (The KISTO's on-screen help information is shown on your display device and not on the front panel.)

The default setting for the KISTO's video output signal type is YPrPb. If your display device does not accept a YPrPb signal you must change the Watch: Default Mode setting on the KISTO to the appropriate setting.

To do this:

1. Press and hold **SETUP** on the front panel or handset until the MAIN MENU screen changes to the INSTALLER MENU screen.
2. Change the language setting if required. (See *To navigate menus and change settings* opposite.)
3. Enter the Edit User Profile menu.
4. Enter the Video Options menu.
5. Change the Watch: Default Mode item to the required setting.

Setup modes

The KISTO has two setup modes:

1) General Setup

General Setup can be used for adding a new source, removing an existing source, changing settings for an existing source or speakers, or configuring general settings for the KISTO. The only items that cannot be accessed in General Setup are 'installer only' ones (see below).

Any changes made to settings in General Setup can be returned to those left by the installer.

If you require information on any of the setup items, press **HELP** on the front panel or handset.

To enter General Setup:

- Press **SETUP** on the front panel or handset.

To navigate menus and change settings:

- Use the \triangle/∇ keys on the front panel or handset to move up and down the menu items.
- Press **'enter'** to select a menu item.
- Use the \triangle/∇ keys to change the setting of a menu item.
- Press **'enter'** to select the new setting.

2) Installer Setup

In Installer Setup you are able to setup the KISTO for up to four separate configurations (this is useful if the unit is going to be used in different locations). These configurations are called Profiles. Within each Profile you can setup loudspeakers, sources, audio and video performance, and general settings for the KISTO. If you wish to configure a Profile which is similar to an existing one, you can save time by simply copying the existing one over. The Profiles contain all the Default Input Settings as detailed in the back of this manual.

There are many 'installer only' menu items that are not in General Setup. These are for more advanced settings that, once set, are unlikely to require changing.

We recommend that you do not enter Installer Setup unless you are an installer as changes made in this mode may not be easily corrected.

To enter Installer Setup:

- Press and hold **SETUP** on the front panel or handset until the MAIN MENU screen changes to the INSTALLER MENU screen.

To navigate menus and change settings:

- Use the \triangle / ∇ keys on the front panel or handset to move up and down the menu items.
- Press **'enter'** to select a menu item.
- Use the \triangle / ∇ keys to change the setting of a menu item.
- Press **'enter'** to select the new setting.

Installer Setup - procedure

Remember that on-screen help is viewable at every stage of setup by pressing **HELP**.

1. Enter Installer Setup (see above).
2. Select the required language you want setup menus displayed in. Options are: English, Français, Deutsch, Italiano, Español, Nederlands.
3. Select the required distance units, either feet or meters.
4. Select the Profile you wish to configure then press **'enter'**.

The Main Menu screen appears.

5. Change the Profile Name as required.
6. Enter Speaker Setup. Configure the speaker settings as appropriate.
7. Enter Source Setup. Configure each source you have added as appropriate. Remove source configurations you do not require.*
8. Source Overview is for use after sources have been setup. It shows the settings for each source, allowing you to quickly see how the KISTO has been configured for each source.
9. Enter Audio Options, Video Options and General Setup. Adjust the settings as appropriate.

You have now configured the Profile. The last stage is to transfer the settings in the Profile to the User Profile. These will be the settings the KISTO will use when in normal operation.

10. In the Installer Menu screen highlight Copy Profile, press **'enter'**.

11. In the Copy Profile item select the Profile you have just configured, press **'enter'**.

12. In the To Profile item select User, press **'enter'**.

13. Highlight Overwrite Target Profile, press **'enter'**.

14. Exit Setup.

Configuring other Profiles

If the KISTO is to be used in more than one location you may want to configure other Profiles.

To do this:

- Follow the *Installer Setup - procedure* on the left hand of this page, up to step 9.

Copying an existing Profile

If you want to configure a new Profile which is similar to an existing Profile, you can copy the existing Profile over.

To do this:

1. In the Installer Menu screen highlight Copy Profile, press **'enter'**.
2. Select the number of the Profile you wish to copy, press **'enter'**.
3. In the To Profile item select the Profile you wish to copy to, press **'enter'**.
4. Highlight Overwrite Target Profile, press **'enter'**.

*If you are setting up only a few sources, you may find it more convenient to remove all existing source defaults before adding sources. A Remove All Sources function is included in the SOURCE SETUP menu screen.

Default Input Settings

This section shows the default source input settings for the KISTO System Controller.

Name	CD (IN7)
Type	CD
Audio In	analog7
Video In	...

Name	DVD (DIG1 RGB1)
Type	DVD
Audio In	spdif1
Video In	rgbGroup1

Name	SAT (TOS3)
Type	Satellite
Audio In	tos3
Video In	composite3

Name	FRONT DIG & CVBS
Type	Front
Audio In	tosAux (FRONT DIG & SVID)
Video In	compositeAux

Name	CD (DIG2)
Type	CD
Audio In	spdif2
Video In	...

Name	DAB (TOS2)
Type	Tuner
Audio In	tos2
Video In	...

Name	CABLE (IN4)
Type	Cable
Audio In	analog4
Video In	composite4

Name	FRONT ANG & CVBS
Type	Front
Audio In	analogAux (FRONT ANG & SVID)
Video In	compositeAux

Name	TUNER (IN6)
Type	Tuner
Audio In	analog6
Video In	...

Name	VCR (IN2 CVBS2)
Type	Tape2/VCR
Audio In	analog2
Video In	composite2

Name	CABLE (TOS4)
Type	Cable
Audio In	tos4
Video In	composite4

Name	FRONT DIG & SVID
Type	Front
Audio In	tosAux (FRONT DIG & CVBS)
Video In	svidAux

Name	PHONO (IN5)
Type	Phono1/Laser
Audio In	analog5
Video In	...

Name	VCR (SCART)
Type	Tape2/VCR
Audio In	analogScart
Video In	compositeScart

Name	GAME (TOS1 CVBS1)
Type	AUX
Audio In	tos1
Video In	composite1

Name	FRONT ANG & SVID
Type	Front
Audio In	analogAux (FRONT ANG & CVBS)
Video In	svidAux

Name	BALANCED
Type	CD
Audio In	analogBal
Video In	...

Name	TAPE (IN1)
Type	Tape1
Audio In	analog1
Video In	...

Name	MINIDISC (TOS5)
Type	MD
Audio In	tos5
Video In	...

Name	FRONT DIG
Type	Front
Audio In	tosAux (FRONT DIG & CVBS)
Video In	...

Name	SACD (GROUP3)
Type	DVD
Audio In	analogGroup3
Video In	...

Name	SAT (IN3)
Type	Satellite
Audio In	analog3
Video In	composite3

Source Overview

Profile Name:

This page is for recording the installation source input settings for the KISTO System Controller (for completion by the installer). If more than one overview is required please copy this page as necessary.

Name	
Type	
Audio In	
Video In	

Name	
Type	
Audio In	
Video In	

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Video In	

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Technical Specification

Electrical	
Mains voltage	100-230 VAC @ 50-60 Hz
Physical	
Weight	7.5 kg
Dimensions	381 (W) x 384 (D) x 140 (H) mm

Signal Interfaces - Inputs				
Audio				
DIGITAL				
Type	Connector	Level	Impedance	Notes
SPDIF	6 x RCA	500 mVp-p	75 Ω	Electrical
SPDIF	6 x TOSLINK			Optical
SPDIF	1 x TOSLINK (front panel)			Optical
ANALOGUE				
Type	Connector	Level	Impedance	Notes
Unbalanced	20 x RCA	2 Vrms	10k Ω	
Unbalanced	2 x RCA (front panel)			
Balanced	2 x female XLR	4 Vrms	7.8k Ω	Pin 1 gnd, pin 2 hot, pin 3 cold
Video				
ANALOGUE				
Type	Connector	Level	Impedance	Notes
RGB + Composite + S-video	2 x SCART	1 Vp-p	75 Ω	Standard TV + VCR interface
Component	5 x BNC	1 Vp-p	75 Ω	
Composite/Component	12 x RCA / 4 x RCA	1 Vp-p	75 Ω	
S-video	6 x 4 pin mini-DIN	1 Vp-p	75 Ω	
Composite	1 x RCA (front panel)	1 Vp-p	75 Ω	
S-video	1 x 4 pin mini-DIN (front panel)	1 Vp-p	75 Ω	

Signal Interfaces - Outputs				
Audio				
DIGITAL				
Type	Connector	Level	Impedance	Notes
SPDIF	2 x RCA	500 mVp-p	75 Ω	Electrical
SPDIF	2 x TOSLINK			Optical
SPDIF	1 x TOSLINK (front panel)			Optical
ANALOGUE				
Type	Connector	Level	Impedance	Notes
Balanced	8 x XLR		660 Ω	Pin 1 gnd, pin 2 hot, pin 3 cold
Unbalanced	8 x RCA		330 Ω	Pin 1 gnd, pin 2 hot, pin 3 cold
Unbalanced Stereo	2 x RCA		330 Ω	Pin 1 gnd, pin 2 hot, pin 3 cold
	1/4" jack		10 Ω	Headphones output
Video				
ANALOGUE				
Type	Connector	Level	Impedance	Notes
Component	5 x BNC	1 Vp-p	75 Ω	RGB + H, V syncs
Composite/Component	3 x RCA / 1 x RCA	1 Vp-p	75 Ω	Watch output
Composite/Component	3 x RCA / 1 x RCA	1 Vp-p	75 Ω	Record output
S-video	2 x 4 pin mini-DIN	1 Vp-p	75 Ω	Watch output
S-video	2 x 4 pin mini-DIN	1 Vp-p	75 Ω	Record output

Control Interfaces		
ANALOGUE		
Type	Port name	Pin connections
RS232	In	Rx = 3, Tx = 2, Ov = 5
RS232	Out	Rx = 5, Tx = 4, Ov = 2

Guarantee and Service

This product is guaranteed under the conditions that 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 that 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 stamped by your retailer and returned to Linn as soon as possible.

Warning

Unauthorised servicing or dismantling of the product invalidates the manufacturers 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

Important

- Please keep a copy of the sales receipt to establish 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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