Linn AV System Controller User's Guide

preface

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 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.

WARNING: SHOCK HAZARD. DO NOT OPEN.
AVIS: RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.

CAUTION: REPLACE FUSE WITH SAME TYPE AND RATING.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE.

DISCONNECT SUPPLY CORD BEFORE CHANGING FUSE.
ATTENTION: DEBRANCHER AVANT DE REMPLACER LE FUSIBLE.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

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. 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.

8. Heat. Site the appliance away from heat sources such as radiators, heaters, stoves or other appliances (including amplifiers) that produce heat.

9. Power Sources. Connect the appliance to a power supply only of the type described in the operating instructions or marked on the appliance.

10. Grounding or Polarisation. Do not defeat the precautions taken to ground or polarise the supply to the appliance.

11. 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.

12. 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.

13. Cleaning. The product should be cleaned only as recommended by the manufacturer.

14. Non use periods. Unplug the power cord from the outlet if the product will be unused for a long period of time.

15. Objects and liquid entry. Take care not to let objects or liquids fall into the product.

16. 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.

17. Servicing. Do not attempt to service this product. All servicing should be referred to qualified service personnel.

UK users please read this important safety information

The AV 5103 System Controller is fitted with a non-rewireable 13 Amp mains plug. The plug contains a 5 Amp fuse.

Fuse ratings

The AV 5103 System Controller uses an 800mA anti-surge fuse for all voltage settings due to the switch mode power supply technology utilised in this product.

Replacing the fuse

Should the mains fuse blow replace it only with an equivalent part. The fuse holder is located just below the mains inlet socket. To replace the fuse disconnect the product from the mains supply. Using a flat blade screwdriver remove and replace the fuse. If the fuse blows a second time there is a fault in the product. Contact your local retailer.

Mains voltage operating range

115V, 230V +/- 10%, 50-60Hz.

Setting the mains operating voltage

Both products have a voltage selection switch which must be set to the local mains supply voltage before connecting to the mains supply.

Please check the setting of the voltage selector switch at the mains input socket before connecting the product to a mains supply.

To set the mains operating voltage unplug the mains supply cable and using a flat blade screwdriver turn the selector switch to the appropriate voltage.

Warning!! The power supply may be destroyed if it is connected to 240V when set for 120V.

Power consumption

Operate mode	45W
Standby mode	5W

Switching the product on and off – standby operation

The AV 5103 can be placed in standby mode during periods of non-use by pressing the STANDBY button on either its front panel or the AV 5101 Personal Handset. In standby mode the AV 5103 shuts down the bulk of its circuitry, thereby using only a fraction of the on state power. To switch the AV 5103 back on either press the STANDBY button on the front panel or the AV 5101 Personal Handset. The source selected prior to standby and its preset volume level are displayed.

Positioning the products and heat

All electronic products generate some heat. Audio products, in particular audio power amplifiers, have to handle and dissipate large amounts of power. It is essential to provide adequate ventilation to allow this heat to dissipate into the environment. All Linn products are fully protected against overheating and will shut down before any component becomes over heated. However the products will last longer and perform better if they are kept cool.

Copyright and acknowledgements

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Part no: PACK 739

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introduction

The Linn AV System

To get the most out of a film you have to do more than simply watch it: you have to experience it fully, exactly as its creators intended. That means images and sound must be married together perfectly, giving you the same emotional impact you would receive in the cinema itself. Without sound of the very highest quality, every film lacks an essential dimension – and so does your pleasure in viewing it.

In designing your Linn AV system, we have set out to create the ultimate experience of cinema and music in the home and every component has been carefully designed to give you exactly that. No-one knows more than Linn about designing music systems for the home and we have used that unique experience and know how to create an AV system which gives you the same accuracy and purity of sound, even when you are listening to special effects in an action movie.

AV 5103 System Controller

The heart of the system is the AV 5103 System Controller. This controls your audio and video sources, to let you choose what you want to watch or listen to. It can control analogue signals, from a tape recorder or FM tuner, for example; digital signals, from a CD player or a LaserDisc player, and video sources, from a TV tuner, video recorder and LaserDisc player. It also decodes surround encoded materials, including AC-3, to give you a complete surround sound experience. With its informative two-line text display, and the option of on-screen graphics, the AV 5103 System Controller is both powerful and simple to use. Most operations involve just one key-press on the front panel or handset.

Despite the simplicity of its front panel, however, almost every aspect of the System Controller can be configured in exactly the way you want. You can define and control everything: the inputs you use for each of your sources, the name of those sources, the surround-sound decoding options and loudspeaker settings. The System Controller also provides a sophisticated range of audio and video recording options, allowing you to record several sources simultaneously without affecting what you are watching or hearing.

AV 5101 Personal Handset

The power and flexibility of the Linn AV system is entirely under your control, from wherever you are in the room, with the AV 5101 Personal Handset. This uses a powerful infra-red signal to allow you to select any of the AV 5103 System Controller's functions with a few simple key presses.

Its uniquely contoured shape makes it extremely comfortable to hold, and the keys are large, and easy to read and use. It is also equally suitable for table-top use, if you prefer.

As well as controlling the Linn AV system, and any other Linn products you may own, the Personal Handset can also learn the commands for your other equipment, so that your whole system can be controlled with a single handset.

AV 5105 Stereo Power Amplifier

The AV 5105 Stereo Power Amplifier is the ideal companion to the System Controller in your AV system. It has the power to cope with the most demanding cinema effects, while providing the purity and low distortion needed for the perfect reproduction of music.

Each AV 5105 Stereo Power Amplifier will drive two of the loudspeakers in your system, and for the best possible sound we recommend you divide the output of one AV 5105 Stereo Power Amplifier to drive the bass and treble sections of your centre speaker separately.

AV 5140 Floor-Standing Loudspeaker

The AV 5140 Floor-Standing Loudspeaker is the perfect choice for use as the front speakers in a surround sound installation. With film, TV, video, or music the outstanding bass performance of the AV 5140 Floor-Standing Loudspeakers, combined with their natural reproduction of voice and music, will provide you with a totally absorbing and breathtaking cinematic experience. Their unique stylish shape ensures that they enhance, rather than dominate, your home.

AV 5120 Compact Loudspeaker

The centre loudspeaker is fundamental to a good AV system because it has the task of reproducing the most critical information for music and cinema sources. We therefore designed the AV 5120 Compact Loudspeaker without any compromises to give a superior full-range response, together with especially good bass handling.

As well as giving superb reproduction of music it reproduces speech with particular accuracy, making it ideal for use with film soundtracks. We also carefully matched it to the AV 5140 Floor-Standing Loudspeakers so that sounds which pan across and move between the speakers sound both accurate and highly dramatic. This gives you the most realistic possible impression when listening to film and video soundtracks.

The AV 5120 drive units are screened to ensure that there is no interference if you place it next to your television.

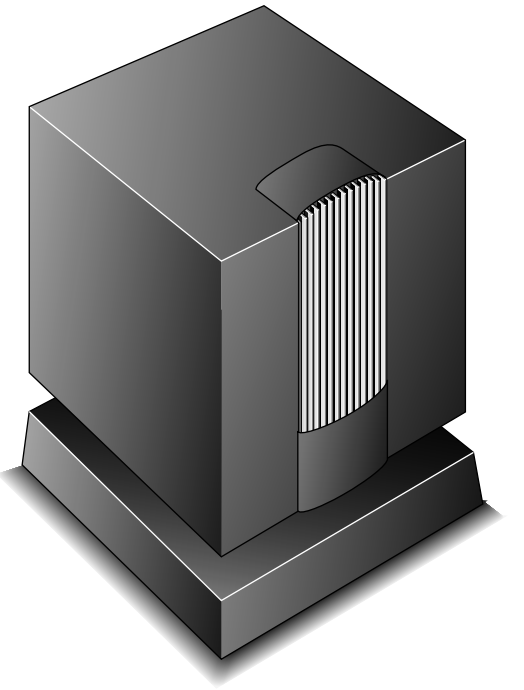
AV 5110 Local Loudspeaker

The rear loudspeakers in a surround system are important in creating a spacious sound for music and provide background noises and special effects in film soundtracks. These need to be capable of handing the full dynamic range for AC-3 but only limited range for ProLogic. The AV 5110 Local Loudspeakers were designed to be compact and stylish, so that they can be positioned easily in any room.

Despite their size they produce a deceptively full sound with excellent bass response. For even better performance, and especially if you are using AC-3, a recommended alternative is to use a pair of AV 5120 or AV 5140 Floor-Standing Loudspeakers as the rear surround speakers.

AV 5150 Active Isobarik Bass Speaker

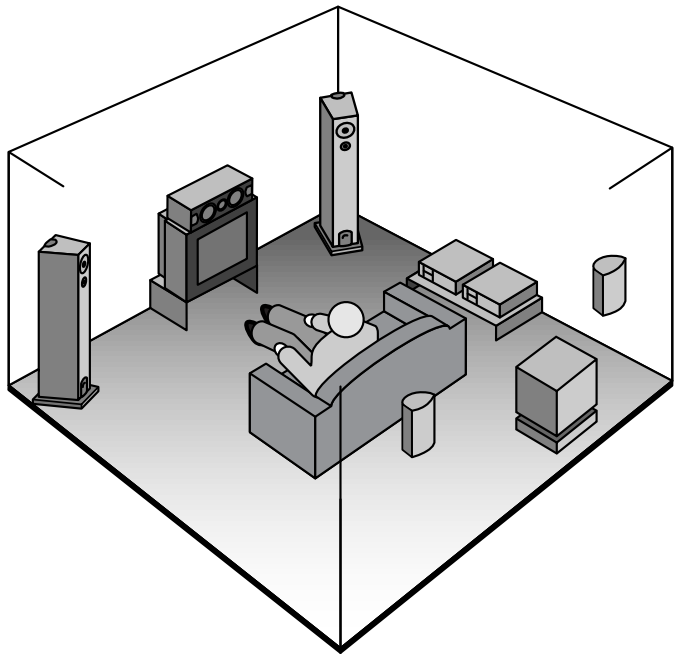
The AV 5150 Active Isobarik Bass Speaker extends the bass performance of the whole system to give you totally involving cinematic effects and enhance the impact of music. We designed the AV 5150 Active Isobarik Bass Speaker to reproduce bass sounds as faithfully as our full-range loudspeakers, with the result that its contribution to the overall sound is extremely natural and unobtrusive. Because low frequency sounds are not directional you can position the bass speaker anywhere convenient in the room.



...Making it real

The Linn AV system has been designed to give you the most exciting and satisfying experience of cinema it is possible to achieve in the home. Our aim is to bring you the complete film as its creators intended: with images and sound working together in the most memorable way. To achieve this demanding objective we have designed each of our components to give outstanding performance in their own right while ensuring that each of them work perfectly with each other.

The result is an integrated system that will give you the most rewarding experience you can achieve from watching a film, or listening to a music recording: bringing a new dimension to the way you experience cinema in the home.



About the AV 5105 Stereo Power Amplifier

The Linn AV 5105 Stereo Power Amplifier is intended for use in high performance audio and audio/video systems. It combines high output power, ruggedness, and ease of use with our passion for quality. It draws on years of experience of designing and making high quality audio power amplifiers.

Inside the compact case are two completely independent electrically isolated channels with fully regulated power supplies giving 'dual mono' performance. The signal path is DC coupled and servo controlled for the lowest distortion, cleanest, least coloured sound. The output stage is highly derated for cool, reliable operation, and the protection circuitry protects extensively against accidents or abuse.

A signal sensing circuit detects the presence of audio above a very low level and turns on the main power supplies to the amplifier, bringing the power amplifier channel from a very low standby power consumption to full operation. It reverts to the standby condition a few minutes after the input signal disappears. This is particularly useful in multi-channel surround sound systems.

The AV 5105 accepts the Linn active crossover modules, automatically detecting their presence and switching them in circuit as soon as they are plugged in. This makes playback system upgrades easy.

using the AV 5103 System Controller

The Linn AV 5103 System Controller lets you control what you are watching and listening to using either the keys on the front panel, or the AV 5101 Personal Handset.

Front panel

The following illustration explains the function of each of the buttons on the AV 5103 front panel.

1. Display Shows the currently selected audio and video sources, and the volume setting.

2. STANDBY Switches the unit to standby, or switches it on from standby.

3. SELECT Allows you to adjust the speaker level and balance. Also used to select menu options during setup.

4. SETUP Displays the main set-up menu to allow you to configure the System Controller.

5. RECORD FROM Allows you to select the source to record from.

6. RECORD TO Allows you to select the output or destination to record to.

7. NORM Normalises the volume and balance.

8. VOLUME - and + Change the volume, or the currently displayed item. They are also used to select menu options during setup.

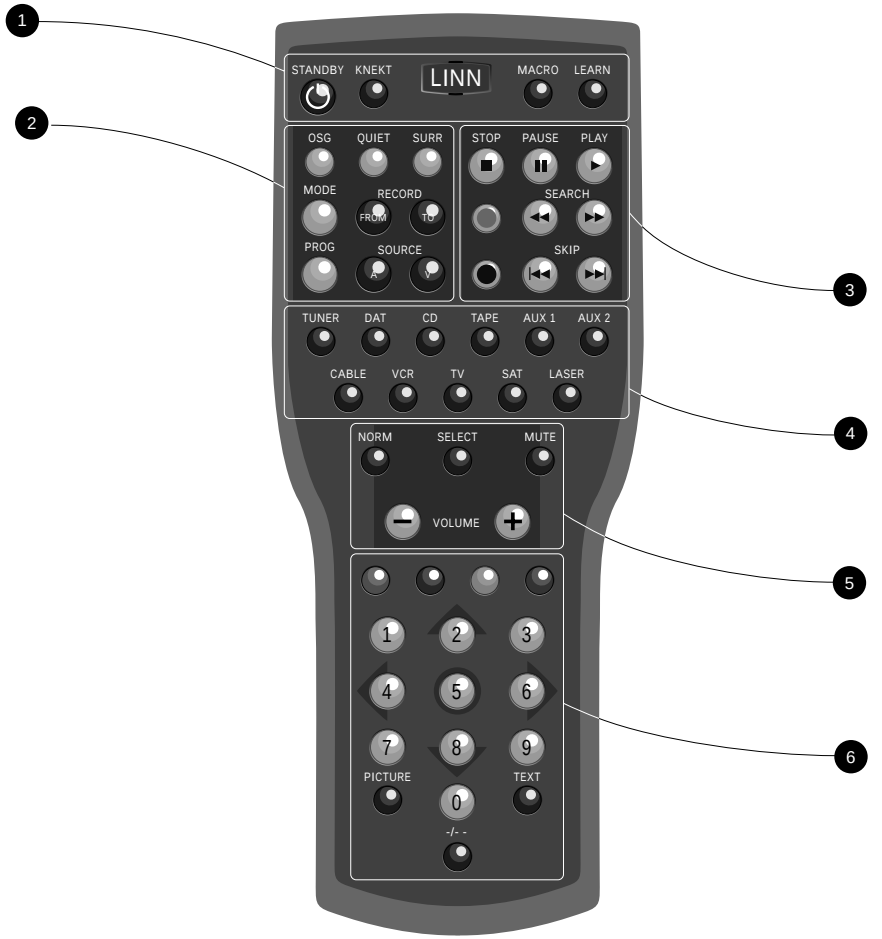
9. SURR Shows the surround processing option for the current source, and lets you change it with the - and + keys.

10. SOURCE V Shows the video source you are watching, and lets you change it with the - and + keys.

11. SOURCE A Shows the audio source you are listening to, and lets you change it with the - and + keys.

12. MUTE Mutes or restores the sound.

The following diagram shows the AV 5101 Personal Handset, and explains the function of the handset keys that operate the AV 5103 System Controller.



1. STANDBY Switches the unit to standby, or switches it on from standby.

2. AV System functions:

   OSG Displays the On Screen Graphics display.

   QUIET Selects Midnight Movie mode (AC-3 sources only).

   SURR Shows the surround processing option for the current source, and lets you change it with the - and + keys.

   MODE Not currently used.

   RECORD FROM Allows you to select the source to record.

   RECORD TO Allows you to select the output or destination to record to.

   PROG Allows you to select a linked audio + video source.

   SOURCE A Allows you to select an audio source.

   SOURCE V Allows you to select a video source.

3. Programmable source control keys Provide functions for controlling sources.

4. Audio/Video source select keys Select one of the audio/video sources.

5. Volume and speaker balance keys:

   NORM Normalises the volume and balance.

   SELECT Allows you to adjust the speaker level and balance. Also used to select menu options during setup.

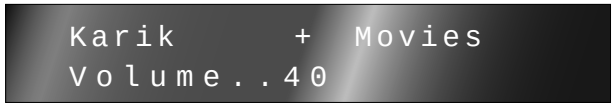
   MUTE Mutes or restores the sound.

   VOLUME - and + Change the volume, or the currently displayed item. They are also used to select menu options during setup.

6. Programmable numeric keys Provide additional functions for controlling sources.

What the displays show

The front panel display shows two lines of information about what you are currently listening to and watching, and the value of the current setting that you are controlling.



On Screen Graphics Display (OSG)

The OSG display shows information about what you are changing superimposed on the current video image:

The display stays on the screen for four seconds, but you can adjust this in the set-up menus. You can also adjust the position of each type of display to whatever you find most convenient.

Switching on and off

It is recommended that during normal operation you leave the AV 5103 System Controller connected to the mains and switched on at the back panel. This allows you to switch the unit on and off using the handset or front panel. The unit draws a negligible amount of power when in standby.

Switch the System Controller on from standby like this

- Press the STANDBY key on the front panel or the handset.

The System Controller will select the last sources you were watching and listening to, and turn up the volume to the standard setting, normally 40.

You can change the default volume setting using the Set-up menu; see *Customising the operation of the System Controller*, page 50.

Switch to standby like this

- Press the STANDBY button on the front panel or handset.

Changing the volume

The volume is displayed on the front panel as a number between 0 and 100, and on the OSG display as a bar indicator.

A setting of 0 corresponds to silence, 40 corresponds to a moderate listening level, and 70 to a typical listening level in a cinema.

Change the volume like this

☒ Press the - or + VOLUME keys on the front panel or handset.

As you change the volume the current volume setting is shown on the front panel display and OSG:

Mute the volume like this

☒ Press the MUTE key on the front panel or handset.

The front panel display shows:

The OSG displays:

To restore the volume press MUTE again, or press one of the - or + VOLUME keys.

Changing the position of the sound

If you are listening to a conventional stereo source you can change the balance to adjust the position of the sound between the main left and right speakers.

For surround sound sources you can also adjust the balance of the front speakers, and the absolute level of the rear, centre, and subwoofer speakers.

Adjust the position of the sound like this

- Press the SELECT key on the front panel or handset until the function you want to change is displayed.

The following functions are available:

Function	What it does
Rear	Adjusts the rear speaker level.
Centre	Adjusts the centre speaker level.
Sub	Adjusts the subwoofer level.
Balance	Changes the front left and right speaker balance.

Note that the Rear and Centre options are not available for the Stereo or Stereo Sub surround modes.

The current numerical value will be displayed on the front panel display:

The OSG will give a graphical representation of the adjustment:

Use the VOLUME - and + keys to adjust the parameter.

As you adjust the setting you will be able the hear the difference in the source you are listening to.

After a short delay the display will revert to showing the volume.

Normalise the currently selected source like this

- Press NORM on the front panel or handset.

The front panel display will show:

The OSG will show

- This will reset the volume to its default setting, typically 40, and th speaker position controls to zero. You can change the default volum setting using the Set-up menu

Choosing what to watch or listen to

Each audio or video source has a name, which can be any six character label you or your dealer chose when you set up the System Controller. In addition, each source is assigned to one of the eleven Audio/Video source keys on the handset:

TUNER, DAT, CD, TAPE, AUX 1, AUX 2, CABLE, VCR, TV, SAT, and LASER

Choose a source like this

☒ Press the PROG key on the handset, followed by the appropriate Audio/Video source key.

For example, to select the VCR source you have called Movies press PROG VCR.

The display and OSG will show the name of the source; for example:

If you selected a video source with linked audio, the audio will also automatically be selected. For example, the VCR key would usually be set up to select the VCR sound automatically.

If you have more than one source assigned to the Audio/Video source key hold down the key until the name of the source you want to watch is displayed. Then release the key to select the displayed source.

Watch and listen to different sources like this

Sometimes you may want to watch one source while listening to another. For example, you could watch a sports programme on television while listening to a compact disc. To do this:

☒ Press the SOURCE A key on the front panel or the handset.

The display will show the currently-selected audio source:

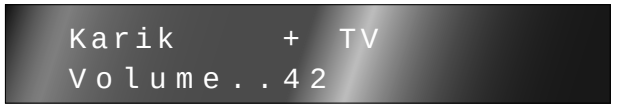
☒ Use the VOLUME - and + keys to change the audio source, or select an audio source by pressing one of the Audio/Video source keys on the handset.

For example, if you have a CD source called Karik you would select it by displaying:

☒ Release the key when the audio source you want is displayed.

You can use the SOURCE V key to change the video source in an identical way.

When you are watching and listening to different sources the display shows the names of both sources, audio followed by video:



You can set the audio or video to No Source to blank that source.

A linked audio/video source displays only one source name, for example:

Choosing the surround option or Midnight Movie mode

Each audio source has a pre-defined surround processing mode associated with it, but you can change the mode used for the source while you are listening to it to see the effect of other surround options, or choose a mode that gives a sound that you prefer.

Change the surround option like this

☒ Press the SURR key on the front panel or the handset.

The display will show the current surround option.

☒ Press or hold down the VOLUME - and + keys to change the mode.

☒ Release the key when the mode you want is displayed.

Alternatively, after four seconds the display will revert to showing the current volume.

The meaning of the different modes is shown in the following table:

Surround option	What it means
Stereo	Stereo; only the front left and right speakers are used.
Stereo Sub	Stereo with subwoofer. The front left and right speakers and the subwoofer are used.
Pro Logic	Dolby Pro Logic decoding. Uses five loudspeakers and a subwoofer if available.
PL Phant	Pro Logic with no centre channel speaker.
PL 3Ster	Pro Logic with no rear speaker.
As Mix	Full AC-3 decoding of all available channels.
Phantom	Redirect the AC-3 centre channel to the main left and right speakers.
3 Stereo	Redirect the AC-3 rear channels to the main left and right speakers.

Note that the modes available will depend on the source, the number of channels it contains, and your speaker configuration.

Choose Midnight Movie mode like this

Press the QUIET key on the handset.

This feature, available for AC-3 sources, quietens loud passages and increases the volume of quiet passages. This is ideal for listening to a film soundtrack or music at a low volume setting; hence the name!

You can also use this setting for listening at a high volume setting with a large amount of background noise, such as at a party.

Recording audio and video sources

The AV 5103 System Controller has an extremely flexible range of recording options, allowing you to record either analogue or digital audio sources to analogue or digital recording outputs, with the appropriate analogue to digital or digital to analogue conversion performed by the System Controller.

In addition it allows you to record video sources, either independently or linked to an audio source.

Start a recording like this

First specify what you want to record. You can leave out the following two steps if you want to record what you are watching or listening to:

- Press the RECORD FROM key on the front panel or the handset.

The display shows the name of the current source; for example:

- If necessary, use the - and + keys to choose the source you want to record, or press the appropriate Audio/Video source key on the handset.

Now specify where you want to record to:

- Press the RECORD TO key on the front panel or the handset.
- Use the - and + keys to choose the record output you want to use, or press the appropriate Audio/Video source key on the handset.

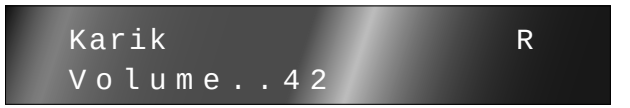
The audio record outputs are assigned to the keys TAPE or DAT and the video record outputs are assigned to the keys VCR or AUX 1.

The display shows the name of the record output. For example, if you have a record output named Reel:

- Press RECORD TO again to set up the record path.

The display changes to:

R is displayed in the top right-hand corner of the front panel display to indicate that a record path is set up:



- Set up additional record paths in the same way.

Clear a record path like this

- Press RECORD FROM.
- Use the VOLUME - and + keys to display the record path you want to clear.
- Press RECORD FROM again.

The display shows:

Clear all the record paths like this

- Hold down the RECORD FROM or RECORD TO key for more than three seconds.

The display shows:

How many simultaneous recordings?

The System Controller provides four audio record connections: three are analogue outputs and the fourth is a digital output. The System Controller can perform up to four recording operations simultaneously, providing the following guidelines are adhered to:

No external DAC

Only one cross mode recording is allowed if the cross mode is either a digital to analogue operation or an analogue to digital one.

External DAC fitted and Always use = Yes

In this situation no cross mode recordings are allowed.

External DAC fitted, Always use = No, and no surround mode active

Only one cross mode recording is allowed.

External DAC fitted, Always use = No, and surround mode is active

In this situation no cross mode recordings are allowed.

If no suitable record path is available the following message is displayed:

When recording video you must record an S-VHS input to an S-VHS record output, and a composite input to a composite record output.

connecting the AV 5103 System Controller

This chapter explains how to unpack your System Controller, and how to install it with your other hi-fi components.

Unpacking

The System Controller comes in a box with the following accessories:

- a mains lead
- one spare fuse
- Personal Handset and its manual
- this manual.

We recommend you retain the packaging in case you need to transport the System Controller at a later date.

WARNING: Do not connect the mains supply until you have verified that the System Controller is set to the correct voltage for your mains supply.

Voltage selection

The System Controller is factory-set for a 240 volts mains supply and must not be connected to a mains supply before it is adjusted for your local voltage, and fitted with the appropriate fuse. To set the voltage, use a screwdriver to rotate the voltage selector on the rear of the unit until the appropriate voltage is selected.

To fit the fuse, first identify the correct fuse for your local voltage – 800mA anti-surge for 220V and 240V, and 800mA anti-surge for 100V and 120V. Pull open the fuse drawer at the left-hand side of the mains inlet, insert the fuse in the rear compartment, and close the drawer.

WARNING: This appliance must be earthed. Use the earthed moulded mains lead supplied. Never use an unearthed plug or adapter.

Important note for UK use

The wires in this mains lead use the following colour code:

Connect this wire	To the terminal
Green and yellow (Earth)	Marked with the letter E, or by the earth symbol, or coloured green or green and yellow.
Blue (Neutral)	Marked with the letter N or coloured black.
Brown (Live)	Marked with the letter L or coloured red.

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured marking identifying the terminals in your plug, proceed as shown in the above table:

Positioning the System Controller

You can position your System Controller almost anywhere you find convenient, but the following considerations may be useful.

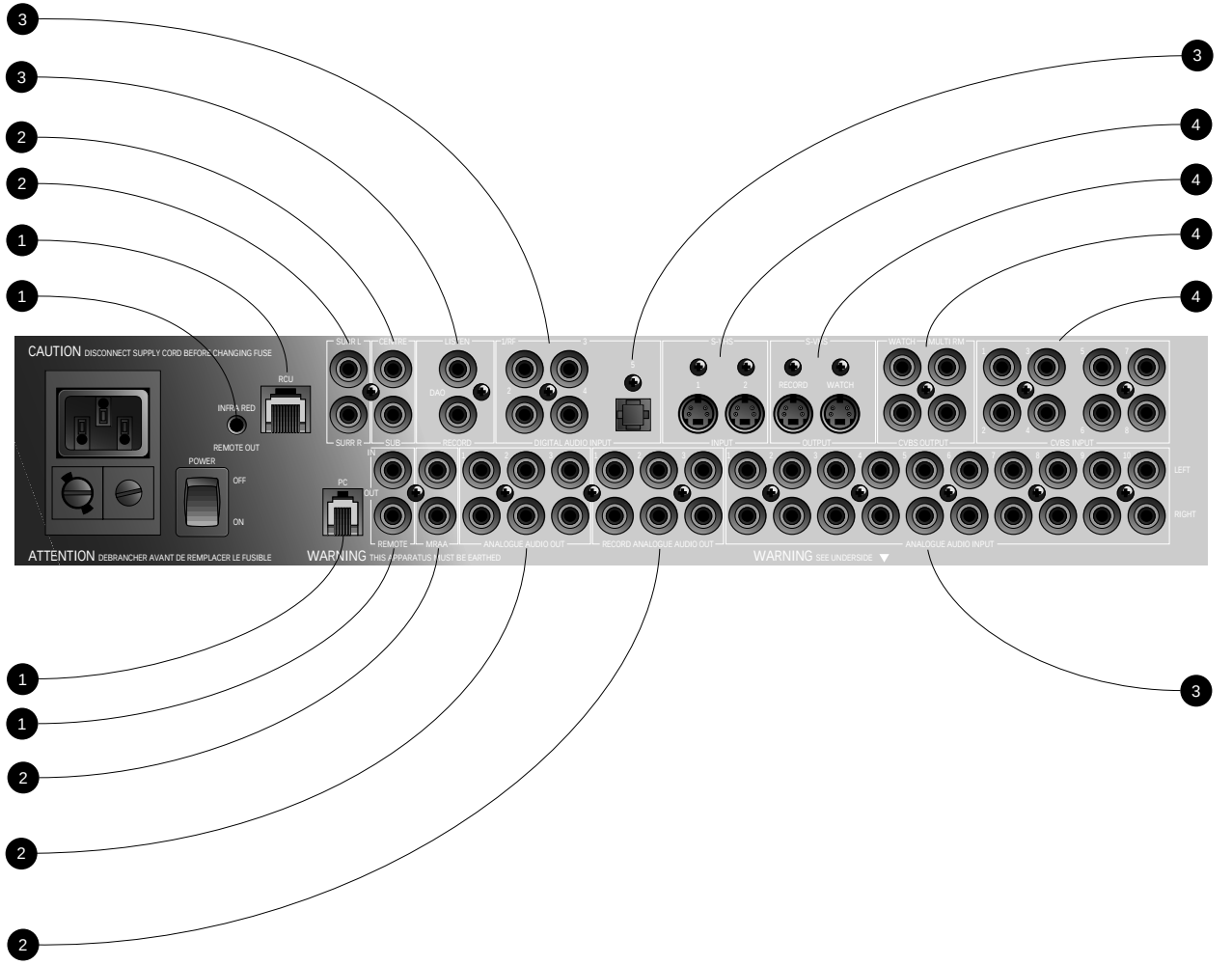
The AV 5101 Personal Handset is exceptionally sensitive. You should have no problems operating the System Controller with the handset wherever it is placed in a room, provided you keep it out of direct sunlight and you do not obscure the control window. It can even be operated when placed behind smoked-glass cupboard doors.

Rear panel connections

The following diagram shows the connections for the rear panel of the System Controller.

Note that the System Controller should be switched off before connecting or disconnecting any of the plugs on the rear panel, or you may generate surges which could damage other components in your AV system.

1. Control connections
2. Audio outputs
3. Audio inputs
4. Video connections



Connections

Audio inputs

The following table gives details of the back panel audio input connections:

Connection	Description
ANALOGUE AUDIO IN 1 to 10	Analogue line level phono inputs, referred to as Ana 1 to Ana 10.
DIGITAL AUDIO INPUT 1 to 4	Digital cable audio inputs, referred to as Dig 1 to Dig 4.
DIGITAL AUDIO INPUT 5	Optical digital input, referred to as Dig 5.

Audio outputs

The following table gives details of the back panel audio outpus ßonnections:

Connection	Description
ANALOGUE AUDIO OUT 1 to 3	Main left and right analogue outputs for front speakers. Outputs 1, 2, and 3 are identical.
CENTRE	Centre speaker audio output.
SURRL	Left surround speaker audio output.
SURRR	Right surround speaker audio output.
SUB	Subwoofer phono audio output.
DAO LISTEN	Output to external DAC.
RECORD ANALOGUE AUDIO OUT 1 to 3	Analogue record outputs, referred to as R-Ana1 to R-Ana3.
DAO RECORD	Digital record output, referred to as R-Dig.
MRAA	Multi-room audio outputs, for KNEKT system.

Video connections

The following table gives details of the back panel video connections:

Connection	Description
CVBS INPUT 1 to 8	Composite video inputs, referred to as Comp1 to Comp8.
S-VHS INPUT 1 and 2	S-VHS video inputs, referred to as SVHS1 and SVHS2.
CVBS OUTPUT WATCH	Composite video output.
S-VHS OUTPUT WATCH	S-VHS video output.
S-VHS OUTPUT RECORD	S-VHS video record output, referred to as R-SVHS.
CVBS OUTPUT REC 1 and REC 2	Composite video record outputs, referred to as RComp1 and RComp2.
CVBS OUTPUT MULTIRM	Composite video multi-room output.

Control connections

The following table gives details of the back-panel control connections:

Connection	Description
REMOTE IN and OUT	Remote handset repeater connections for KNEKT system.
RCU	Room Control Unit connection.
PC	PC connection, for remote programming of the System Controller.
INFRA RED REMOTE OUT	To allow RC-5 control of other units which are hidden, for example in cupboards, use an infra red repeater.

Connecting the System Controller

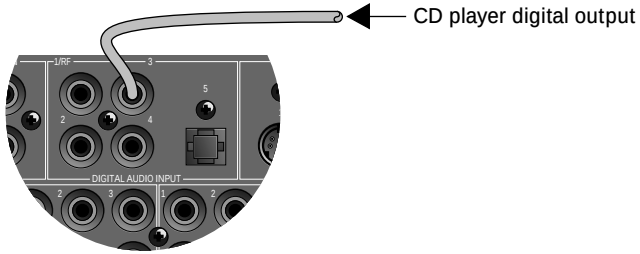
Connecting the mains supply

Connect the System Controller to a mains supply using the mains lead provided.

When you first supply power to the AV 5103 the front panel displays:

Connecting to a CD player

If the CD player provides a digital output, connect this to one of the System Controller's DIGITAL AUDIO INPUT sockets 1-4, using a digital audio cable.



Alternatively if the CD player provides an optical output you can connect this to the System Controller's DIGITAL AUDIO INPUT 5, using an optical cable.

If the CD player only provides an audio output connect this to one pair of the System Controller's ANALOGUE AUDIO INPUT sockets, using a stereo phono lead.

Connecting to a radio tuner

Connect the left and right audio outputs from the radio tuner to one pair of the System Controller's ANALOGUE AUDIO INPUT sockets, using a stereo phono lead.

Connecting to a LaserDisc player with AC-3 output

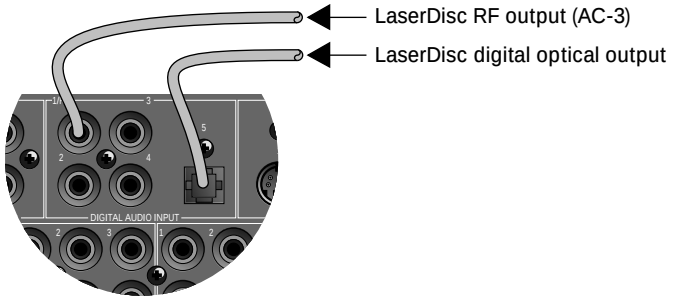
LaserDisc players usually provide a number of audio outputs, comprising some or all of the following types:

Output type	System Controller connection to use
AC-3 RF digital	DIGITAL AUDIO INPUT 1/RF
Digital optical stereo	DIGITAL AUDIO INPUT 5
Digital stereo	DIGITAL AUDIO INPUT 1–4
Analogue stereo	ANALOGUE AUDIO INPUT 1–10

If an AC-3 RF output is available then DIG1 should be configured in the System Controller's Set-up menu as an AC-3 input. One of the other outputs should also be connected to the System Controller, and configured as the Fallback input.

If the LaserDisc player has no AC-3 output, one of the other outputs should be connected to the System Controller and configured in the Set-up menu.

The preferences to use for other digital, optical, or analogue sources are a function of the LaserDisc player itself and therefore are not discussed in this guide.



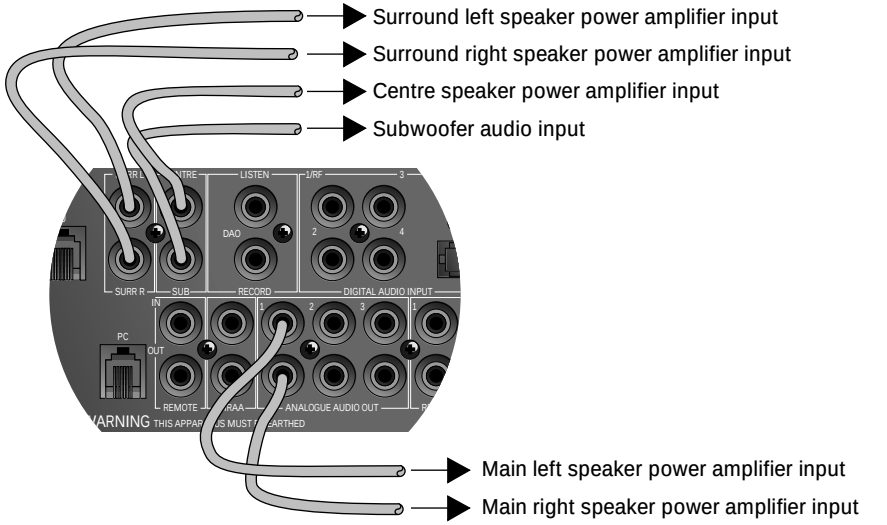
Connecting to loudspeakers

Connect one pair of the System Controller's ANALOGUE AUDIO OUT sockets to the left and right audio inputs of the power amplifier driving the main left and right loudspeakers, using a stereo phono lead.

If your system includes rear surround speakers connect the SURRL and SURRR outputs from the System Controller to the left and right audio inputs of a second power amplifier, driving the left and right rear loudspeakers.

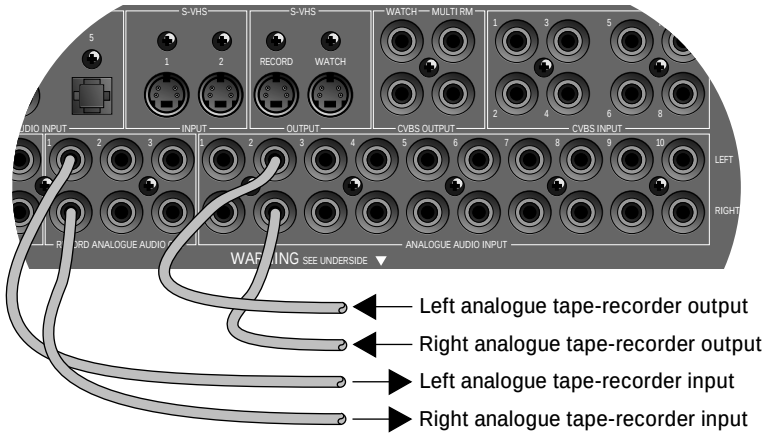
If your system includes a centre speaker connect the CENTRE output from the System Controller to one channel of a third power amplifier driving the centre loudspeaker. Alternatively we recommend you use both channels of a stereo power amplifier to bi-wire to the centre speaker. In this case connect the right and left audio inputs of the power amplifier together, using a phono lead, and connect the left and right speaker outputs independently to the bass and treble connections on the centre speaker.

If your system includes an active subwoofer, such as the Linn AV 5150, connect the System Controller's SUB output to the subwoofer audio input, using a phono lead.



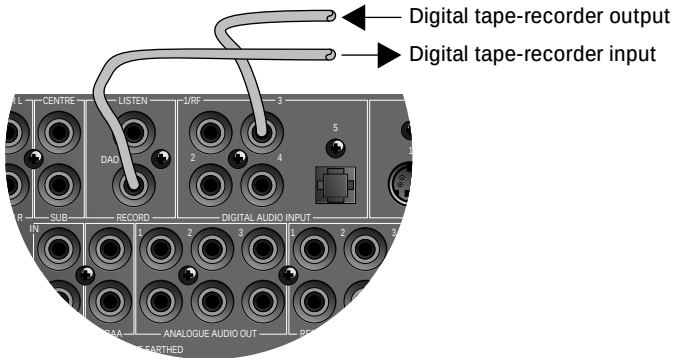
Connecting to an analogue tape recorder

Connect the audio output from the tape recorder to one pair of the System Controller's ANALOGUE AUDIO INPUT sockets, using a stereo phono lead. Connect the tape recorder line input to one pair of the System Controller's RECORD ANALOGUE OUTPUT sockets, using a stereo phono lead.



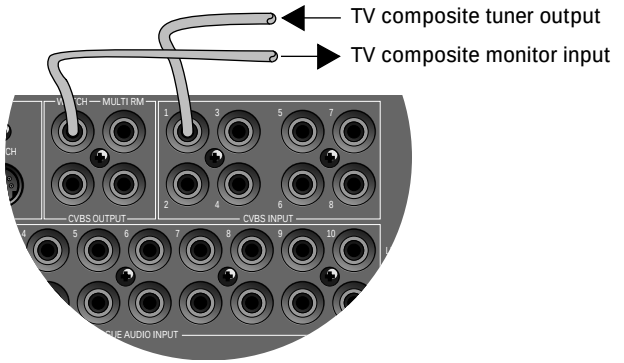
Connecting to a digital tape recorder

Connect the tape recorder's digital input to the System Controller's DAO RECORD OUTPUT, using a digital audio cable. Connect the digital tape recorder's digital audio output to one of the System Controller's DIGITAL AUDIO INPUT connectors 1-4, or if the tape recorder provides an optical output connect this to the DIGITAL AUDIO INPUT 5.



Connecting the video inputs and outputs

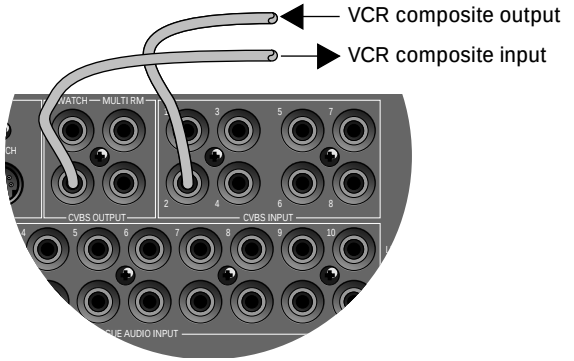
Connect the System Controller's WATCH CVBS output to the composite input of your television monitor or projection screen. Connect the TV tuner output from your television to one of the System Controller's CVBS INPUT connectors 1-8.



If your television provides S-VHS inputs and outputs connect the S-VHS WATCH output from the System Controller to the monitor input and the tuner output from the television to one of the System Controller's S-VHS INPUT 1 or 2 sockets.

Connecting to a video recorder

If the video recorder provides composite inputs and outputs connect the input to the System Controller's REC1 or REC2 CVBS output, and connect the video recorder output to one of the System Controller's CVBS inputs.

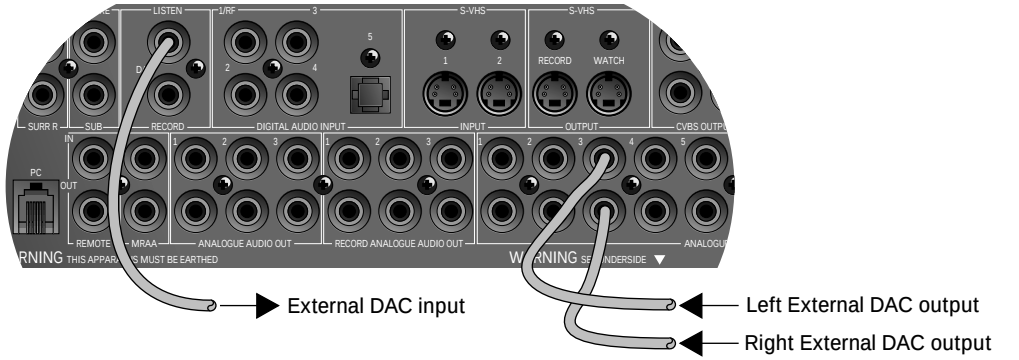


If the video recorder provides S-VHS inputs and outputs connect the System Controller's S-VHS record output to the video recorder's input, and the output from the video recorder to the System Controller's S-VHS INPUT 1 or 2.

Connecting an external DAC

The System Controller provides the option of using an external high-quality Digital to Analogue Converter (DAC), such as the Linn NUMERIK, to perform the conversion for the front channels.

To use an external DAC connect the digital input of the DAC to the System Controller's DAO LISTEN output, using a digital audio cable. Connect the audio outputs from the DAC to one pair of the System Controller's ANALOGUE AUDIO INPUT sockets, using a stereo phono lead.



setting up the AV 5103 System Controller

Unlike conventional preamplifiers, almost every aspect of the AV 5103 System Controller can be configured, using the Set-up function, to suit the particular requirements of your AV System. For example you can configure:

- The physical connector used for each of the sources, and the name displayed when you select that source.
- The handset key used to select that source.
- The association between video and audio sources.
- The options available for recording video and audio sources.

You also use the Set-up function to calibrate your system and specify information about the types of loudspeakers in your system, and the position of each loudspeaker in the room. These options ensure that you get perfect surround sound, irrespective of the size and shape of your listening area.

Standard settings

For convenience the AV 5103 System Controller allows you to store three separate sets of settings.

The Factory settings are the default settings which are active when the unit is first supplied. You cannot use the unit with just the Factory settings because no inputs are defined. You can reset the unit to its Factory settings at any time to restore it to its original state.

The Installer settings will usually be used to store the state of the System Controller when it is configured by a dealer or installer. You can restore the unit to the Installer settings at any time to restore it to the same state as when it was first installed.

Finally, there is a set of User settings for any changes you have made to the Installer settings. The User settings will normally store additional sources you have defined, or changes you have made to the calibration or configuration settings.

Entering and exiting from set-up

In Set-up mode only the keys shown in the following table are used:

Press this key	To do this
VOLUME - and +	Step between menu options, change the value of an option, or change a character in a text option.
SELECT	Select a menu option.
NORM and MUTE	Move the text cursor to the left or right when editing text options.
STANDBY	Switch the unit to standby, discarding any changes you have made and restoring the original settings.
SETUP (front panel only)	Jump to the Set-up Exit menu. Not available while a parameter is being changed.

You can use all of these keys except the SETUP key from either the front panel or the handset. In Set-up mode none of the other keys have any affect.

Enter Set-up like this

- Press the SETUP key on the front panel.

The Set-up menu will be displayed:

When you enter Set-up mode the sound from your system is automatically muted, except where test signals are played through the loudspeakers during some of the calibration options. In addition, any active record paths will be cleared.

Use the set-up menu options like this

- Press the VOLUME - and + keys on the front panel or the handset to highlight the menu option you want.

The VOLUME - and + keys wrap around the menu, so pressing VOLUME - from the first item will take you to the last item.

- Press SELECT on the front panel or the handset to select it.

For more information about using each of the Set-up menu options see the appropriate sections later in this chapter.

The front panel display shows the name of the menu and the currently selected menu option:

Using the on screen graphics

Although you can perform most of the Set-up functions using the System Controller's front panel display, we recommend that if possible you use the on screen graphics (OSG) display, displayed on your television or monitor, as this gives more information and makes the Set-up menus easier to use.

The OSG display will be most legible if you set your television to a 4:3 aspect ratio.

The OSG display shows the whole menu, with the name of the menu in the top line, and the current option flashing, to highlight it:

The OSG displays shown in this chapter represent the flashing menu option in bold.

Changing value options and entering text

The value options can be switched between different values, such as On and Off, or set to a numeric value, such as a number from 0 to 100.

The text options let you change the text used by the System Controller, such as the name of an input, or the power-on message.

This section explains how to change each type of option.

Change a value option like this

- Move to the option you want to change by pressing or holding down the VOLUME - and + keys on the front panel or the handset.

The option is shown highlighted:

The menu shows the name of the option, in this case Display, and the current value of the option, in this case Bright.

- Press SELECT on the front panel or the handset to select the option.

On the front panel display a flashing rectangle is shown in front of the value:

On the OSG the menu changes so that just the value is highlighted:

- Press the VOLUME - or + keys on the front panel or the handset to step between the alternative values for the option.

For example, the Display option has the alternative values Bright, Dim, or Off.

- When the value you want is displayed press SELECT on the front panel or the handset to select it.

Note that any changes you make (apart from the Change to Installer and Change to Factory functions) do not actually take effect until you exit from Set-up mode and save the set up.

Edit a text option like this

- Use the VOLUME - and + keys on the front panel or the handset to highlight the option you want to edit.

For example:

- Press SELECT on the front panel or the handset to select the option.

On the front panel display a flashing rectangle is shown over the first character.

The OSG display changes so that the first character of the text is highlighted:

- Use the VOLUME - and + keys on the front panel or the handset to change the character you are editing.

The character will step through the sequence A to Z, a to z, space, +, ,, -, ., /, and 0 to 9.

- Press MUTE to edit the next character or NORM to edit the pervious character.

- When you have finished editing the text press SELECT to show the option with the new text:

Exit from a menu like this

- Highlight the Finished menu option.

- Press SELECT.

Exit from Set-up like this

- Highlight the Exit menu option.
- Press SELECT.

Alternatively you can exit from anywhere in the Set-up menus by pressing the SETUP key on the front panel.

On exit the following menu is displayed:

To use the new set-up you have created:

- Change the Save Set-Up option to Yes by pressing SELECT, +, SELECT.
- Highlight the Exit menu option and press SELECT.

To exit without saving the set-up:

- Leave the Save Set-up option set to No and select Exit.

To return to Set-up mode:

- Highlight the Return to Set-up option and press SELECT.

Specifying information about your speakers

The Speakers menu sets up the speakers in your system by letting you specify information about each speaker.

It provides the following options:

Option	What it sets up
Main	The main left and right loudspeakers.
Centre	The centre loudspeaker.
Rear	The rear surround loudspeakers.

Set up the main loudspeakers like this

☒ Select Main from the Speakers menu:

☒ Set the Main Type to Large if the main loudspeakers are large with a full-range frequency response, or Small if the main loudspeakers are small and you want the main left and right bass to be handled by a subwoofer.

For the AV 5140 or AV 5120 loudspeakers set the Main Type to Large. If you are using the AV 5110 as a main loudspeaker set the Main Type to Small.

Set up the centre speaker like this

☒ Select Centre from the Speakers menu:

☒ Set the Centre Type to Large if the centre speaker has a full-range frequency response, or Small if the centre speaker has limited bass handling and you want the bass for the centre to be redirected automatically to another speaker.

If you are using an AV 5120 as the centre speaker set the Centre Type to Large. If you are using an AV 5110 as the centre speaker set the Centre Type to Small.

Set up the rear speakers like this

☒ Select Rear from the Speakers menu:

☒ Set Rear Type to Large if the rear loudspeakers have a full-range frequency response, or Small if the rear loudspeakers have limited bass handling and you want the bass for the rear to be redirected automatically to another speaker.

☒ For AV 5110 Local Loudspeakers set Rear Type to Small.

Setting up the Dolby Surround options

The Dolby Surround menu allows you to set up the options for decoding surround-sound encoded materials, to allow you to get the optimum surround sound effect from your system with any type of material.

Two factors are important in determining how we locate sounds in space. The first is the relative timing of the sound as it reaches our ears. A sound on the right reaches our right ear slightly earlier than it reaches our left ear, and vice versa. This method of localising sounds is particularly affective for brief high-frequency sounds.

The second factor is the relative loudness of the sound reaching our two ears. A sound on the right sounds slightly louder in the right ear then it does in the left ear, and vice versa. This method of localising sounds is most importance for continuous low-frequency sounds.

To make sure you get sounds correctly positioned in space the Linn System Controller includes calibration options to ensure that you hear sounds with the correct timing and intensity, irrespective of the layout and sensitivity of your loudspeakers.

The Seat Position option lets you specify the distance from your seat position to each of the loudspeakers in the system, so that the System Controller can compensate for the time taken for the sound to travel from the loudspeaker to your ear.

The Linn Channel Balance and Channel Balance options provide two alternative ways of balancing the loudspeakers in your system. The Linn Channel Balance option lets you select one speaker at a time, and is recommended if you are setting up the AV system using a sound pressure level (SPL) meter. The Channel Balance option automatically selects each speaker in turn, and is recommended if you are setting up the system up by ear. Whichever method you use, the same set of generated values is produced and used by the System Controller.

Set up the seat position like this

☒ Select Seat Position from the Dolby Surround menu:

☒ Enter the distance from the seating position to the main loudspeakers, rear loudspeakers, and centre speaker, using the Main to Seat, Rear to Seat, and Cntr to Seat menu options respectively.

Each distance can be set between 0.0 and 5.0 metres, or the equivalent Imperial units if selected, in 16 steps.

Set up the channel balance using an SPL meter like this

- Select Linn Channel Balance from the Dolby Surround menu:

- Select Set Main Volume and adjust the volume to a suitable listening level.
- Select Front Left.

A pink noise signal will be played though the front left loudspeaker.

- Adjust the relative level, using the VOLUME - and + keys, until the SPL meter reads 70dB (C weighting, response slow).

You can adjust the relative level between -30 and +30, relative to the main volume you have set. Each step is equivalent to a change in loudness of 0.375dB:

Note that if 70dB cannot be achieved by increasing or decreasing a speaker offset, then the main volume should be changed and the speaker level set again.

- Repeat for the Centre, Front Right, Rear Right, and Rear Left speakers.
- When you have adjusted all the speakers select Finished to mute the test signal and exit from the menu.

Set up the channel balance by ear like this

Note that the Linn Channel Balance option is recommended in preference to the Channel Balance option, as it gives more consistent results.

- Select Channel Balance from the Dolby Surround menu:

- Select Set Main Volume and adjust the volume to a suitable listening level.
- Select Start.

A pink noise test signal will then be played through each speaker in turn, moving clockwise around the room in the sequence:

Front left, centre, front right, rear right, and rear left.

- While the sound is being played through each speaker use the VOLUME - and + keys to adjust its relative level, so that the test signal sounds equally loud as it moves between speakers.

When you are satisfied with the adjustment press SELECT to stop the moving sound source, and then exit from the Channel Balance menu.

Setting other Dolby Surround options

Set auto balance like this

- Select Dolby Pro Logic from the Dolby Surround menu.

- Set the Auto Balance option to Yes (the default) to equalise the level of the two input streams before they are processed using Dolby Pro Logic processing. This usually ensures the best possible surround sound effect.

- Set the Auto Balance option to No if you do not want auto balancing.

Select dialogue normalisation like this

- Select Dolby AC-3 from the Dolby Surround menu.

- Set the Dialogue Norm option to Yes to compress sound levels around the normal dialogue range, or No to leave the relative signal levels unaltered from the original recording.

Dialogue normalisation is a feature of AC-3 encoding which makes it easier to follow the dialogue in a soundtrack by reducing the level of louder sounds, which would otherwise mask the dialogue, and increasing the level of quiet sounds, so that they are not lost when you are listening at low sound levels. This feature also quietens commercials.

- Set the Coding Display option to Yes to display an AC-3 encoding symbol on the front panel showing which of the five main AC-3 channels are present in the source:

The following table shows the meaning of the different AC-3 encoding symbols:

Symbol	What it means
«	Full AC-3 source mix.
«	No centre channel.
«	No rear channel.
«	Mono rear.
F	No AC-3 signal. Fallback input selected.

Using an external Digital to Analogue Converter

If you already own an extremely high quality Digital to Analogue Converter (DAC), such as the Linn NUMERIK, you can use this in conjunction with the System Controller to perform the conversion for the main front left and right speakers. For connection details see *Connecting an external DAC*, page 26.

When a digital source is selected the front channels are routed to the external DAC, and the converted analogue output is fed back to a specified analogue input.

When an external DAC is in use an extra source, called ExtDAC, becomes available so that you can select a source connected directly to one of the external DAC's inputs.

This style of system operation uses external pathways which add additional constraints to the recording capabilities. The System Controller will automatically switch back to the internal DAC if you set up a cross-format recording, unless you prohibit it with the Always Use ED option.

Set up an external Digital to Analogue Converter like this

- Select External DAC from the Set-up menu.

The OSG display shows the number of analogue connectors used:

- Select the External DAC menu option and change its value to Yes.

Two additional menu options will then appear:

- Select the Input menu option and set it to the analogue connector the external DAC is connected to.

This can be any input from Ana1 to Ana10, that has not already been assigned to another source.

- Set the Always Use ED option to No (recommended) if you want the System Controller to switch back to the internal DAC automatically when an analogue to digital or digital to analogue record path is set up.

- Set the Always Use ED option to Yes if you always want to use the external DAC. In this case analogue to digital or digital to analogue recording is prohibited.

Setting up sources

The Sources menu lets you set up the audio and video sources you want to use with the System Controller, and specify the recording options.

The System Controller is totally user configurable, so you can use any analogue or digital connector on the back of the unit for any appropriate source, and you can choose the name that appears on the front panel display and on screen graphics to identify the source. You can also choose which button on the handset selects the source. The only restriction on the connectors is that AC-3 RF must be connected to Dig 1.

When the System Controller is first supplied from the factory no sources are set up, and so unless the unit has been installed for you by your dealer you will need to set up all the sources you want to use, as described in the following sections.

Set up sources like this

- Select Sources from the Set-up menu.

The Sources menu OSG display shows the number of audio and video connectors that you have so far used for sources:

- Select Audio to set up audio sources, Video to set up video sources or linked audio visual sources, or Record to set up recording options.

These three alternatives are described in greater detail in the following sections.

Adding new audio or video sources

Add an audio source like this

- Select Audio from the Sources menu.
- Select Add from the Audio Sources menu.

The Add Audio Source menu will be displayed:

- Select the Connector menu option.
- Press VOLUME - or + to step through all the unused connectors in the sequence Ana 1 to Ana10 (analogue sources), and Dig 1 to Dig 5 (digital sources).

Once you have selected the connector for the source you cannot go back and change it in the Add Audio Source menu. If necessary use the Edit option to edit the source.

- Set the Source Name menu option to the name you want to use to identify the source on the front panel display or OSG.

Initially the source name is set to the name of the connector you chose for the source.

For details of how to edit text options see *Edit a text option like this*, page 31. You can give the source any name of up to six characters.

- Set the Source Type menu option to the handset key you want to use to select the source.

This can be one of the following:

AUX2, LASER, CD, TV, VCR, AUX1, SAT, CABLE, TAPE, DAT, or TUNER.

- Set the AC-3 Source menu option to Yes for an AC-3 source on Dig 1, or No for a conventional stereo source. This option is only available for digital connectors.

- Set the Surround menu option to the surround mode that you want to use with the source.

This option sets the default surround mode for the source. You can select a different mode, when you are listening to the source, using the SURR key on the front panel or handset.

The surround options are shown in the following table:

Surround option	What it means
Stereo	Stereo; only the front left and right speakers are used.
Stereo Sub	Stereo with subwoofer. The front left and right speakers and the subwoofer are used.
Pro Logic	Dolby Pro Logic decoding. Uses five loudspeakers and a subwoofer if available.
PL Phant	Pro Logic with no centre channel speaker.
PL 3Ster	Pro Logic with no rear speaker.
AC-3	Full AC-3 decoding of all available channels.
AC-3 Phant	AC-3 for systems with no centre channel speaker.
AC-3 3Ster	AC-3 for systems with no rear loudspeakers.

Note that the AC-3 options are only available if AC-3 Source is set to Yes.

An additional FallBack option is available for an AC-3 source on connector Dig 1.

This feature is specifically designed for use with LaserDisc Players that supply AC-3 and stereo signals on separate outputs. If AC-3 is not detected then the stereo signal, or fallback, is used. The fallback defaults to Pro Logic.

- Set the FallBack menu option to an alternative input to use for the source if no AC-3 signal is present on Dig 1.
- Select Test to listen to the source you have defined.
- Select Finished to add the source you have defined. Alternatively if you want to exit from the menu without adding the source, such as after making a mistake in the definition, select Finished–No Update.

Add a video source like this

- Select Video from the Sources menu.
- Select Add from the Video Sources menu.

The Add Video Source menu will be displayed:

- Select the Connector menu option.
- Press VOLUME - or + to step through all the unused connectors in the sequence SVHS 1 to SVHS 2 (SVHS inputs), and Comp 1 to Comp 8 (composite inputs).
- Set the Source Name menu option to the name you want to use to identify the source on the front panel display or OSG. You can give the source any name up to six characters. Initially it is set to the name of the connector.
- Set the Source Type menu option to the handset key you want to use to select the source.

The following options are available:

AUX2, LASER, CD, TV, VCR, AUX1, SAT, CABLE, TAPE, DAT, or TUNER.

- Set the Linked Audio menu option to Yes if you want to link an audio input to the video source.

For example if you are defining a video source from a video recorder you would connect the sound from the video recorder to one of the System Controller's audio inputs, and specify this as the linked audio.

- Select Listen Link to specify the characteristics of the linked audio:

The Audio/Video Link menu is displayed.

- Set the Connector menu option to the analogue or digital audio connector used for the audio/video link.

If you specify a digital connector an additional AC-3 Source menu option appears.

- Set this to Yes for an AC-3 source.
- Set the Surround menu option to the default surround decoding to be used for the audio input; for more information see *Add an audio source like this*, page 42.

If you are linking Dig1 to the video source an additional FallBack option appears.

- Set FallBack to a second audio connector to be used if there is no AC-3 signal on Dig 1.

- Select Finished to return to the Add Video Source menu.
- Select Test to test the source you have defined.
- Select Finished to add the source. Alternatively if you want to exit from the menu without adding the source, such as after making a mistake in the definition, select Finished no Update.

Editing and removing sources

After you have defined some sources three additional options appear on the Audio Sources or Video Sources menus:

Edit sources like this

- Select Edit from the Audio Sources or Video Sources menu, depending on the type of source you want to edit.

The Edit Audio Source or Edit Video Source menu appears.

- Set the Connector menu option to the connector associated with the source you want to edit.

The menu will show the current characteristics of the source. Note that you cannot change the connector used for an existing source.

- Edit any features of the source you want to change, then select Finished to exit from the Edit Source menu.

Remove a source like this

- Select Remove from the Audio Sources or Video Sources menu, depending on what type of source you want to remove.

- Repeatedly select the Select menu option until the display shows the connector and output name you want to remove.

- Select Remove to remove the source, or Finished to go out of the menu without removing a source.

List the currently defined sources like this

- Select Current Audio Srcs from the Audio Sources or Video Sources menu, depending on which sources you want to list.

The first source of the type you have selected will be displayed:

- Select Next to step though the sources you have defined, or Finished to exit from the menu.

Note that the front panel display shows only the connector and output name for each source:

Setting up recording options

The AV 5103 System Controller provides an extremely powerful range of video and audio recording options, allowing you to connect a record path for video, digital audio, and analogue audio sources simultaneously without interrupting what you are watching or listening to. The System Controller will also perform the necessary analogue to digital or digital to analogue conversion depending on the type of source you want to record, and whether the recorder is analogue or digital.

One digital record output and three analogue record outputs are provided for audio, and one for S-VHS and two composite outputs are provided for video.

You set up the record options you are going to use from the Record Set-up menu.

Once set up you can connect a record path with two key presses on the front panel or handset.

Add an audio record output like this

- Select Audio Record from the Record Set-up menu.
- Select Add from the Audio Rec. Set-up menu.

The Audio Rec. Add menu is displayed:

- Set the Connector menu option to the audio record connector you want to use.

It can be one of the following:

R Dig, R Ana1, R Ana2, or R Ana3

- Edit the Output Name to the name you want to use to identify the record output.

This can be any name of up to six characters, and is initially set to the name of the output connector.

- Set the Record Type to DAT or TAPE, to specify the handset key used to select the output.

Add a video record output like this

- Select Video Record from the Record Set-up menu.
- Select Add from the Video Rec. Set-up menu.

The Video Rec. Add menu is displayed:

- Set the Connector menu option to the output connector you want to use.

It can be one of the following:

RComp1, RComp2, or RSVHS

- Edit the Output Name to a name of up to six characters that you want to use to identify the video record output.
- Set the record type to VCR or AUX1 to specify the handset key used to select the output.
- Set the Linked Audio menu option to Yes if you want to link an audio record output to this video record output, and set the Audio O/P menu option to the audio record output you want to use.

Edit a record output like this

- Select Edit from the Audio Rec. Set-up or Video Rec. Set-up menu, depending on the type of record output you want to edit.

The Edit option will only be available if you have already defined some record outputs.

- Set the Connector to the record output connector you want to edit.

The Audio Rec. Edit or Video Rec. Edit menu shows the current definition of the record output:

Note that you cannot change the connector used for an existing record output. If necessary remove the record output, and then define the record output on the connector you want to use.

- Edit any aspects of the record output you want to change, then select Finished to exit from the menu.

Remove a record output like this

- Select Remove from the Audio Rec. Set-up or Video Rec. Set-up menu, depending on the type of record output you want to remove.
- Select the Select option until the record output you want to remove is displayed.

- Select Remove to remove the record output, or Finished to exit from the menu without removing an output.

Set record options like this

- Select the Record Options option from the Record Set-up menu.

The Record Options menu is displayed:

- Select Clear All to clear all the audio and video record outputs you have defined.
- Set Record O/P to Off to turn off all the record outputs.

Customising the operation of the System Controller

The Operation menu lets you customise the AV5103 System Controller in many important ways. In most cases the option you choose is a matter of personal preference, and has no effect on the sound from the system:

Change the general options like this

- Select Options from the Operations menu.

The Options menu will be displayed:

The options are described in the following table:

Option	What it means
Screen Timeout	Specified how long the OSG display remains on the screen. You can set it to any value between 4 and 30 seconds.
Display	Determines the brightness of the front panel display. Can be set to Bright, Dim, or Off.
Infra-Red	Can be set to On or Off to determine whether the infra-red detector on the front panel is active. Set it to Off if you are using the AV 5103 System Controller with a KNEKT Room Control Unit.

Change the volume options like this

- Select Volume Options from the Operations menu.

The Volume Options menu will be displayed:

The volume options are described in the following table:

Volume option	What it means
Volume Ramp	Set to On if you want the volume to change gradually, when you change sources or mute the sound, or Off if you want the volume to change instantly.
Volume Limit	Set to On if you want the volume to be limited when one channel has reached its maximum level; this preserves the correct relationship of gain offsets between channels.
Volume Preset	Can be set to any value between 0 and 100 to determine the initial volume setting when you bring the AV 5103 out of standby, or press the NORM key.
Line Equ. Setup	Set to On when an installer is performing line equalisation, or Off for normal use.
Midnight Movie	Sets the amount of compression applied in Midnight Movie mode to High, Med, or Low. For details of Midnight Movie mode see *Choose Midnight Movie mode like this*, page 15.

Set the On Screen Graphics position like this

- Choose OSG Position from the Operation menu.

The OSG Position menu is displayed:

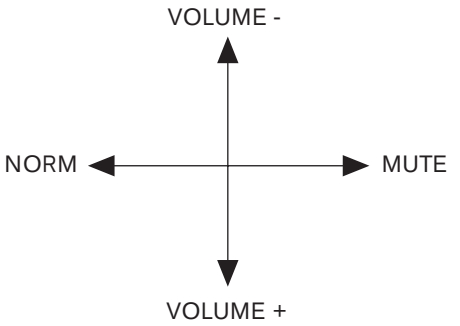
You can independently specify the position on the display of the following objects:

Object	What it means
Bar Objects	Level indicators, such as volume and balance.
Source Objects	Information about the currently-selected audio or video source, or record outputs.
Control Objects	The mute indicator.

- Select the type of object you want to move on the OSG.

A sample display is shown on the OSG.

- Move the display to the position you want using the following keys:



Note that if your screen provides cinema mode (4:3) you may not be able to see the On Screen Graphics if they are too close to the top or bottom of the screen.

- Press SELECT when you have positioned the display where you want it.

Change the power-on message like this

- Choose Power-On Message from the Operation menu:

- Select the line you want to edit.

- Edit the text using VOLUME - and +, NORM, MUTE, and SELECT as before.

Each line of text can be up to 16 characters long.

- Select Finished when you have specified the message you want to display.

Restoring settings

As a safety measure the AV 5103 System Controller allows you to restore the settings to those set up by the original installer of the system, or to the original factory settings.

Restore the settings like this

- Select Restore from the Set-up menu.

The Restore menu is displayed:

- Select Change to Installer or Change to Factory to restore the settings to the Installer settings or the Factory settings respectively.

A screen is displayed which prompts you to confirm your settings before proceeding to the next stage.

The Change to Installer or Change to Factory menu will be displayed.

- Set Proceed to Yes.
- Select Exit from the Set-up menu
- Select Finished if you want to restore the unit to the settings you selected, or select Finished – No Update if you want to leave the original settings unaffected.

Note that changing to Factory does not erase the Installer configuration. Similarly, changing to Installer does not lose the Factory settings. However, either of the above operations will delete any user-defined options that are currently in use.

For further information see *Save your current settings as the Installer settings like this*, page 55.

Physical set-up

The AV 5103 System Controller includes a number of general settings that determine the way the entire system works, including the set-up menus. These are available on a special physical set-up menu that cannot normally be accessed during the operation of the unit.

Change the physical set-up like this

- Switch off the AV 5103 System Controller, using the power switch on the back panel.
- Switch the System Controller on while holding down the SETUP button on the front panel.

The OSG display briefly shows:

After a short delay the Physical Set-up menu is then displayed:

This provides the following options:

Option	What it means
Toggle Video	Select this option to switch the OSG display between the PAL and NTSC video standards.
Centre	Set this option to Yes if there is a centre speaker in the system.
Rear	Set this option to Stereo to drive the rear speakers with two independent channels, Mono to drive the rear speakers with a single channel, or None if the system does not have rear speakers.
SubWoofer	Set this option to Yes if the system includes a subwoofer.
Units	Set this option to Imperial to display measurements in feet, or Metric to display measurement in meters.
Language	Choose English, Français, Deutsch, Español, or Italiano to determine the language in which the menus are displayed.
L1, L2	Allows you to customised the title of the Physical Set-up menu using VOLUME - and +, NORM, MUTE, and SELECT as before.

Some of the options you set in the physical set-up menu will determine the options available in the main AV 5103 Set-up menu. For example, if you set Centre to No in the Physical Setup menu, the centre speaker will be omitted from the configuration options in the Dolby Surround menu.

When you have finished configuring the physical setup select Exit to return to normal operation of the system.

Save your current settings as the Installer settings like this

☒ Exit from the Physical Set-up menu by selecting the Exit option.

Note that changing to Factory does not erase the Installer configuration. Similarly, changing to Installer does not lose the Factory settings. However, either of the above operations will delete any user-defined options that are currently in use.

☒ Select Restore from the Set-up menu.

Because the unit was powered-on in Physical Set-up an additional User to Installer menu option is provided:

☒ Select User to Installer to save the currently-defined set-up as the Installer set-up.

A screen is displayed which prompts you to confirm your settings before proceeding to the next stage.

☒ Set the Proceed option to Yes.

☒ Select Finished.

You can now restore the System Controller to the Installer set-up you have saved at any time by selecting the Change to Installer option on the Restore menu.

guarantee and service

This product is guaranteed under the conditions which apply in the country of purchase.

In addition to any statutory rights the customer may have, we 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.

Warning

Refer all enquiries to authorised Linn retailers only. Unauthorised servicing or dismantling of the product invalidates the manufacturer's warranty.

If you are in any doubt, please contact your nearest Linn retailer. For information on your nearest Linn retailer, contact the Linn factory in Scotland or your national distributor.

Important

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

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

guarantee and service

technical information

AV 5103 System Controller

Type	Professional standard, integrated, single-box audio visual system and device controller
Functions	Studio quality analogue and digital audio preamplification, video switching, digital surround sound processing, digital and analogue audio conversion and cross-format recording, AC-3 RF signal demodulation for direct LaserDisc connection with full on-screen display
Audio decoding	Stereo, Stereo Sub, Dolby Surround, Dolby Pro Logic, and Dolby Digital
Video decoding	PAL and NTSC signal operation
Audio inputs	5 digital audio (4 electrical SPDIF, 1 optical), 10 analogue audio
Video inputs	8 composite video, 2 S-VHS video
Audio outputs	2 digital audio (both electrical SPDIF). Main right and left audio (triple output), centre, sub, right and left rear, surround analogue audio out. 3 pairs analogue stereo audio record, multi-room stereo audio out for connection to the KNEKT multi-room system.
Video outputs	4 composite, 2 S-VHS

Control interfaces	Remote operation input, remote operation output, RC5 infra-red output, KNEKT RCU interface
Upgrading	RS232C PC port to allow software upgrades of user interface and additional signal processing modes
Construction	Professional standard construction with multi-layer circuit boards, ultra short signal paths, extensive screening and ground planes with jitter eliminating multiple signal re-clocking
Power supplies	Low-noise switching power supplies for immunity to mains variation and noise
Supply fuse	100V–120V : T800mA antisurge 220V–240V : T800mA antisurge
Max input power	33W
Standby power consumption	4W
Dimensions	Height 80mm (inc. feet), width 381mm, depth 355mm, weight 4 kg

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