Linn   System Controller User's Guide

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 MÊME 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. 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 are 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. Unplug this apparatus during lightning storms or when unused for long periods of time.

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

17. 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.

18. Servicing. Don't 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:

a) Pull out the red fuse cover/carrier.

b) Remove and dispose of the blown fuse.

c) Fit a new 5 Amp BS1362 approved fuse into the carrier and push the carrier back into the plug.

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

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

Mains plug replacement

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

a) Disconnect the plug from the mains supply.

b) Cut off the plug and dispose of it safely. A plug with bared conductors is dangerous if engaged in a live socket.

c) Only fit a 13 Amp BS1363A approved plug with a 5 Amp fuse.

d) The cable wire colours or a letter will be marked at the connection points of most quality plugs.

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

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

WARNING

THIS APPLIANCE MUST BE EARTHED.

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.

Fuse ratings. See technical information section.

Mains voltage operating range. See technical information section.

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	1993	General requirements
		Marking
		Ionizing
		Heating under normal conditions
		Shock hazards under normal operating instructions
		Insulation requirements
		Fault conditions
		Mechanical strength
		Parts connected to the mains supply
		Components
		Terminal devices
		External flexible cords
		Electrical connections and mechanical fixings

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	1994	Conducted emissions
EN55013	1994	Absorbed emissions
EN60555-2	1987	Harmonics
EN60555-3	1987	Voltage fluctuations
EN55020	1994	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:

– 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.

Explication des symboles utilisés dans ce manuel et sur le produit :

⚡ Ce symbole avertit l'utilisateur de la présence d'une tension dangereuse localisée à l'intérieur du carter de l'appareil et pouvant être suffisamment élevée pour présenter un risque de choc électrique.

⚠ Ce symbole informe l'utilisateur que ce manuel contient des instructions importantes concernant l'entretien et le dépannage.

ATTENTION
AFIN DE LIMITER LE RISQUE DE CHOC ELECTRIQUE, NE PAS RETIRER LE CAPOT.

L'NTERIEUR NE COMPORTE QUE DES COMPOSANTS REPARABLES PAR UN SPECIALISTE.

EN CAS DE PROBLEME CONTACTER UN REPARATEUR AGREE.

AVIS : RISQUE DE CHOC ELECTRIQUE. NE PAS OUVRIR.

ATTENTION : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE.

ATTENTION : DEBRANCHER AVANT DE REMPLACER LE FUSIBLE.

AVERTISSEMENT
AFIN DE LIMITER LE RISQUE D'INCENDIE OU DE CHOC ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

FICHES SECTEURS
Cet appareil est livré avec une fiche secteur non démontable adaptée aux normes électriques du pays d'utilisation.

Procurez-vous des cordons de secteur de remplacement auprès de votre revendeur Linn.
Si vous devez remplacer la fiche, manipulez-la avec soin.

Une fiche présentant des conducteurs nus est dangereuse si elle est branchée dans une prise sous tension.

Le fil marron doit être connecté à la broche de ligne sous tension.
Le fil bleu doit être connecté à la broche du neutre.
Le fil vert/jaune doit être connecté à la broche de la masse.

En cas de doute, veuillez contacter votre revendeur ou un électricien qualifié.

INSTRUCTIONS GENERALES DE SECURITE

1. Veuillez lire toutes les instructions de sécurité et de fonctionnement avant d'utiliser l'appareil.

2. Veuillez conserver les instructions de sécurité et de fonctionnement pour pouvoir vous y reporter ultérieurement.

3. Tenez compte des avertissements. Respectez tous le avertissements figurant sur l'appareil et sur la notice d'utilisation.

4. Suivez les instructions. Suivez toutes les instructions relatives à l'utilisation et au fonctionnement.

5. Eau et humidité. N'utilisez pas cet équipement à proximité d'une baignoire, d'une bassine, d'un évier, d'une cuve à lessive, dans un sous-sol humide, près d'une piscine ou de toute autre source d'humidité.

6. Chariots et socles. Placez ce système uniquement sur un chariot ou sur un socle recommandé par le fabricant.

6a. L'ensemble appareil-chariot doit être déplacé avec précaution. Il peut basculer en cas d'arrêt brusque, de poussée excessive ou de parcours accidenté.

7. Montage au mur ou au plafond. Suivez scrupuleusement les recommandations du fabricant si vous décidez de fixer le système au mur ou au plafond.

8. Ventilation. Positionnez l'appareil de façon à ne pas obstruer sa ventilation. Ne le posez pas sur un lit, un canapé, un tapis ou autre surface similaire, car les ouvertures prévues pour la ventilation pourraient être bloquées. Ne le placez pas dans un meuble encastré (bibliothèque ou placard, par exemple) car cela risquerait également d'empêcher la circulation de l'air à travers les évents.

9. Chaleur. Eloignez l'appareil de toute source de chaleur : radiateurs, chauffe-eau, poêles, ou tout autre appareil électrique (y compris un amplificateur) produisant de la chaleur.

10. Alimentation électrique. Connectez l'appareil à une source de courant adéquate, en suivant les instructions de fonctionnement ou d'utilisation inscrites sur l'appareil.

11. Raccord à la masse ou polarisation. Ne touchez pas au dispositif de sécurité de raccordement à la masse et de polarité. Une fiche polarisée a une broche plus épaisse que l'autre. Une fiche de terre a trois broches : une pour le neutre, une pour la phase, une pour la terre. La broche de mise à la masse est prévue pour votre sécurité. Si la fiche fournie ne correspond pas à la prise de secteur, consultez un électricien et faites remplacer votre prise murale.

12. Protection du cordon d'alimentation. Placez les cordons d'alimentation électriques afin qu'on ne puisse pas marcher dessus ni les écraser. Prenez grand soin des cordons, en particulier au niveau des fiches, des prises murales et à la sortie de l'appareil.

13. Fiche de raccordement de protection. Dans un souci de sécurité, ce produit a été équipé d'une fiche de raccordement dotée d'une protection contre les surtensions. Reportez-vous aux instructions relatives au remplacement ou au réenclenchement de la fiche. Si la fiche doit être remplacée, veillez à ce que la nouvelle fiche soit également munie d'une protection contre les surtensions.

14. Nettoyage. Nettoyez l'appareil en suivant les recommandations du fabricant.

15. Périodes de non-utilisation. Débranchez le cordon d'alimentation de la prise murale si vous avez l'intention de ne pas utiliser l'appareil pendant une longue période.

16. Pénétration d'objets et de liquides. Veillez à ce qu'aucun objet ne tombe à l'intérieur et qu'aucun liquide ne coule dans l'appareil.

17. Dégâts exigeant une réparation. Le système doit être confié à un réparateur agréé si :
    a) le cordon d'alimentation électrique ou la fiche ont été endommagés,
    b) des objets sont tombés à l'intérieur ou un liquide a été répandu dans l'appareil,
    c) l'équipement a été exposé à la pluie,
    d) il ne semble pas fonctionner normalement ou présente un changement notoire de performance ou
    e) le système est tombé ou son boîtier a été endommagé.

18. Réparations. N'essayez en aucun cas de réparer ce système vous-mêmes. Conformez-vous aux instructions de fonctionnement. Toute intervention doit être confiée à un réparateur agréé.

INSTRUCTIONS DE SECURITE À L'INTENTION DES UTILISATEURS RÉSIDANT AU ROYAUME-UNI

Remplacement du fusible
Cet appareil est livré avec une fiche secteur non démontable de 13 A. La fiche comporte un fusible de 5 A. Si le fusible a sauté, remplacez-le en suivant la procédure ci-dessous :

a) Ouvrez le compartiment du fusible.
b) Retirez le fusible endommagé.
c) Remplacez-le par un fusible neuf de 5 A conforme à la norme BS1362 et refermez le compartiment fusible.

Vérifiez que le compartiment a été correctement refermé. Si le couvercle du logement est absent, n'utilisez pas la fiche. Procurez-vous un autre couvercle auprès de votre revendeur Linn.

Les fusibles servent à protéger contre les incendies, mais en aucun cas contre les risques de choc électrique.

Remplacement de la fiche secteur
Si vous devez remplacer la fiche secteur et ne vous sentez pas suffisamment compétent pour le faire, adressez-vous à votre revendeur Linn ou à un électricien qualifié.

a) Débranchez la fiche de l'alimentation secteur.
b) Coupez la fiche et placez-la en lieu sûr. Une fiche présentant des fils dénudés est dangereuse si elle est branchée dans une prise sous tension.
c) Seule une fiche de 13 A conforme à la norme BS1363A avec un fusible de 5 Amp peut être utilisée.
d) La couleur des fils du câble ou une lettre sera indiquée sur les bornes de contact de la plupart des fiches de bonne qualité.
   Fixez chaque fil sur la borne qui lui correspond. Reliez le fil marron au secteur, le fil bleu au neutre et le fil vert/jaune à la terre.
e) Avant de replacer le couvercle de la fiche, assurez-vous que la gaine du câble pénètre bien dans la fiche et qu'elle est fermement maintenue. Vérifiez également que les fils ont été connectés correctement.

ATTENTION
CET APPAREIL DOIT ETRE RELIE A LA TERRE.

Remplacement du fusible
Si le fusible secteur saute, remplacez-le par un fusible identique. Le porte-fusible se trouve juste sous la prise d'entrée secteur. Pour remplacer le fusible, débranchez tout d'abord l'appareil de l'alimentation secteur. A l'aide d'un tournevis, ôtez le fusible et changez-le. Si le fusible saute à nouveau, cela signifie qu'il y a un problème au niveau de l'appareil. Adressez-vous à votre revendeur local.

Valeur nominale du fusible. Voir la section Spécifications.
Tolerance secteur. Voir la section Spécifications.

CE Déclaration de conformité
Linn Products Ltd certifie que ce produit est conforme à la directive 73/23/EEC concernant la basse tension et à la directive 89/336/EEC concernant la compatibilité électromagnétique comme amendé par les circulaires 92/31/EEC et 93/68/EEC.

Les normes suivantes prouvent la parfaite conformité du présent produit aux provisions de la directive 73/23/EEC (LVD) :

Numéro de norme	Date	Type de test
EN60065	1993	Conditions requises
		Marquage
		Ionisation
		Chauffage dans des conditions normales
		Risque de chocs dans des conditions normales de fonctionnement
		Exigences relatives à l'isolation
		Anomalies
		Force mécanique
		Pièces connectées à l'alimentation secteur
		Composants
		Périphériques terminaux
		Cordons externes flexibles
		Connexions électriques et accessoires mécaniques

Les normes suivantes prouvent la parfaite conformité du présent produit aux provisions de la directive 89/336/EEC (EMC) :

Numéro de norme	Date	Type de test
EN55013	1994	Emissions par conduction
EN55013	1994	Emissions absorbées
EN60555-2	1987	Harmoniques
EN60555-3	1987	Fluctuations de la tension
EN55020	1994	Immunité

Déclaration FCC
REMARQUE : cet équipement a été testé et déclaré conforme aux limitations prévues dans le cadre de la catégorie B des appareils numériques défini par la section 15 du règlement de la FCC. Ces limitations sont stipulées aux fins de garantir une protection raisonnable contre les interférences gênantes en installation résidentielle. Cet équipement génère, utilise et diffuse des ondes radio, et s'il n'est pas installé ni utilisé en conformité avec les instructions dont il fait l'objet, peut causer des interférences gênantes avec les communications radio. Cependant, nous ne pouvons vous garantir qu'une interférence ne se produira pas dans une installation particulière.

Si cet équipement produit des interférences graves, lors de réceptions radio ou télévisées qui peuvent être détectées en allumant et en éteignant l'équipement, vous êtes invités à les supprimer de plusieurs manières :
– Augmentez la distance séparant l'équipement et le récepteur.
– Connectez l'équipement à un circuit différent de celui du récepteur.
– Contactez votre revendeur ou un technicien radio/TV qualifié.

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copyright and acknowledgements

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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.

System Controller

The heart of the system is the 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 sounds from a CD player or a LaserDisc player. It also decodes surround encoded material, such as AC-3 and DTS, which help to give a complete surround sound experience. In addition, the System Controller feature's Linn's own Limbik decoding process, which can be experienced when listening to any two channel (stereo) input. With its informative two-line text display, and the option of on-screen graphics, the 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.

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 5101 Personal Handset. This uses a powerful infra-red signal to allow you to select any of the 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 whol**e system can be controlled with a single handset.

...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.

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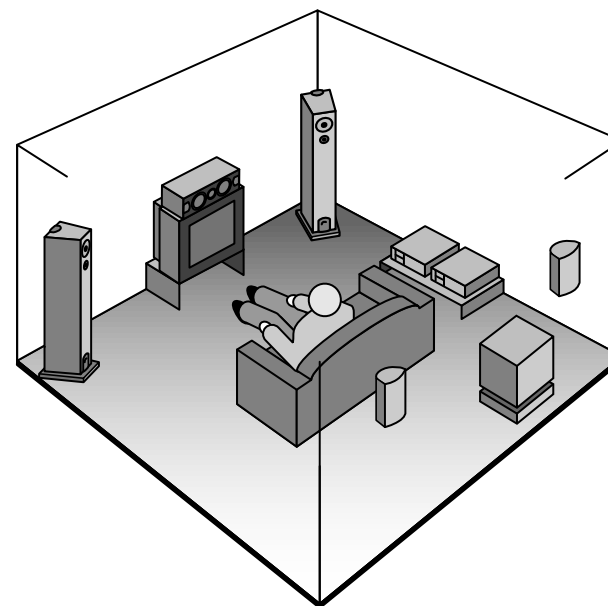
connecting the System Controller

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:

● 5101 Personal Handset and its manual
● a mains lead
● one spare fuse
● 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.

Positioning the System Controller

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

The 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.

3

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

4
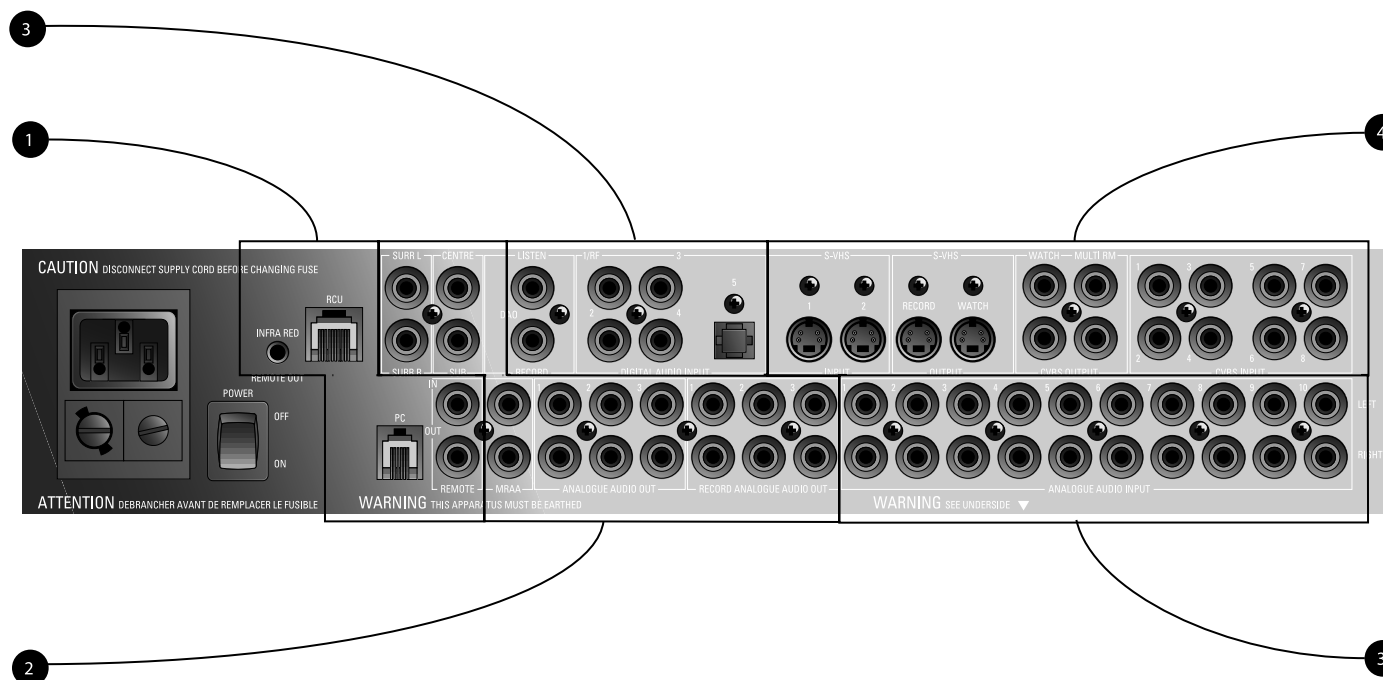
Connections

Control connections

The following table gives details of the rear 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 and control 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.

Audio outputs

The following table gives details of the rear panel audio output connections:

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.

Audio inputs

The following table gives details of the rear 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**.

Video connections

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

Connection	Description
CVBS INPUT 1 to 8	Composite video inputs, referred to as **Comp 1** to **Comp 8**.
SVID INPUT 1 and 2	S-video source inputs, referred to as **Svid 1** and **Svid 2**.
CVBS OUTPUT WATCH	Composite video output.
SVID OUTPUT WATCH	S-video output.
SVID OUTPUT RECORD	S-video record output, referred to as **RSvid**.
CVBS OUTPUT REC 1 and REC 2	Composite video record outputs, referred to as **RComp 1** and **RComp 2**.
CVBS OUTPUT MULTIRM	Composite video multi-room output.

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 System Controller the front panel displays:

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The following section gives brief, simple examples of how to connect your System Controller to other devices such as a video recorder and loudspeakers. When any input or output connections have been made they must be configured before they will operate. This is explained in *Setting up the System Controller*, page 11.

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.

← CD player digital output
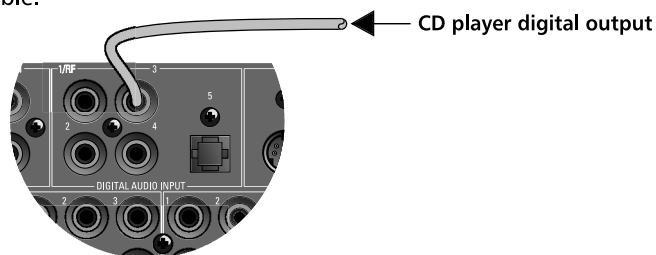
Alternatively if the CD player provides an optical output you can connect this to the System Controller's DIGITAL AUDIO INPUT 5, using an optical cable. If the CD player only provides an audio output, connect this to one pair of the System Controller's ANALOGUE AUDIO INPUT sockets, using a stereo phono 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.

Radio audio phono outputs
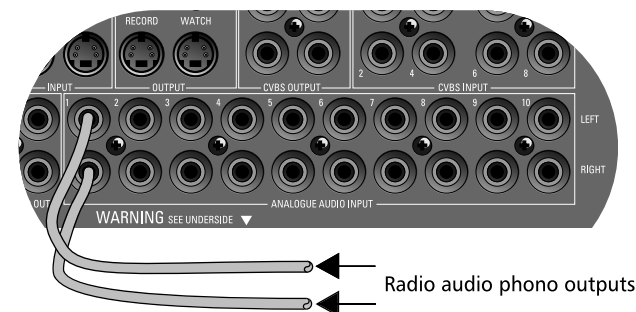
Connecting to a LaserDisc/DVD player with AC-3/DTS output

LaserDisc or DVD 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 bitstream	DIGITAL AUDIO INPUT 1–4
Analogue stereo	ANALOGUE AUDIO INPUT 1–10

If an AC-3 RF output is available, then DIG 1 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. See *Adding new audio or video sources*, page 26.

7

LaserDisc RF output (AC-3)
or
Digital optical output device
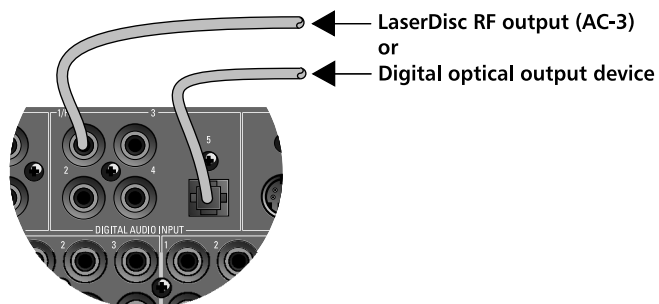
The preference to use other digital, optical or analogue sources are a function of the DVD/LaserDisc itself and therefore are not discussed in this guide.

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 MELODIK, connect the System Controller's SUB output to the subwoofer audio input, using a phono lead.

Surround left speaker power amplifier input
Surround right speaker power amplifier input
Centre speaker power amplifier input
Subwoofer audio input

Main left speaker power amplifier input
Main right speaker power amplifier input
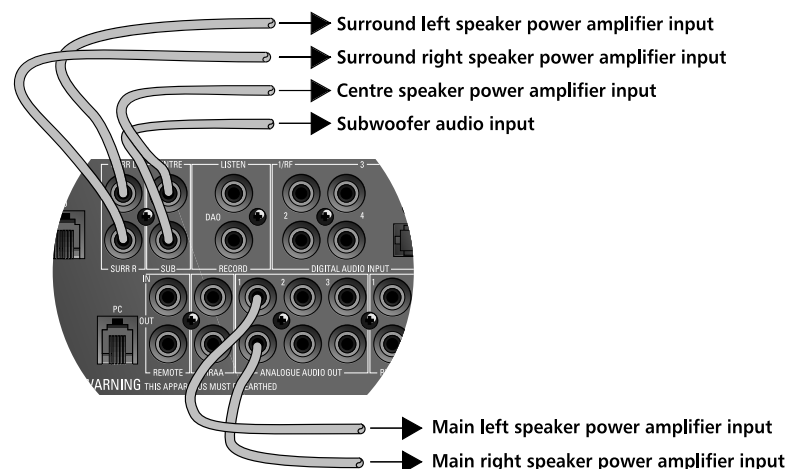
Connecting to an analogue tape recorder

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.

Left analogue tape-recorder output
Right analogue tape-recorder output
Left analogue tape-recorder input
Right analogue tape-recorder input
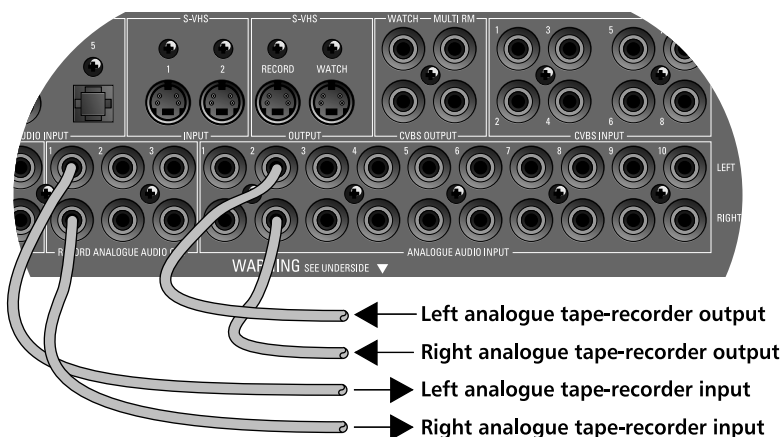
Connecting to a digital tape recorder

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 DIGITAL AUDIO INPUT 5.

Digital tape-recorder output
Digital tape-recorder input
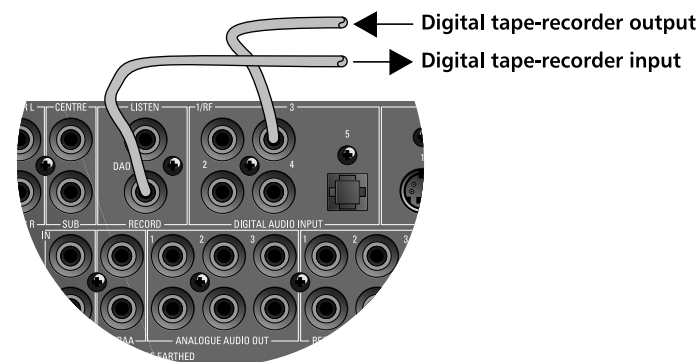
Connecting the video inputs and outputs

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.

TV composite tuner output
TV composite monitor input
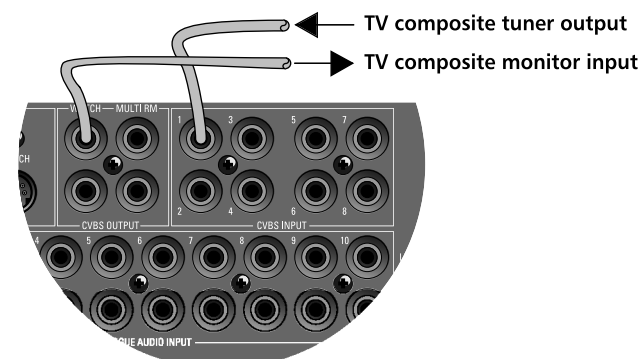
If your television provides Svid inputs and outputs, connect the SVID WATCH output from the System Controller to the monitor input and the tuner output from the television to one of the System Controller's SVID INPUT 1 or 2 sockets.

9

Connecting to a video recorder

If the video recorder provides composite inputs and outputs, connect the input to the System Controller's REC 1 or REC 2 CVBS output, and connect the video recorder output to one of the System Controller's CVBS inputs.

VCR composite output
VCR composite input
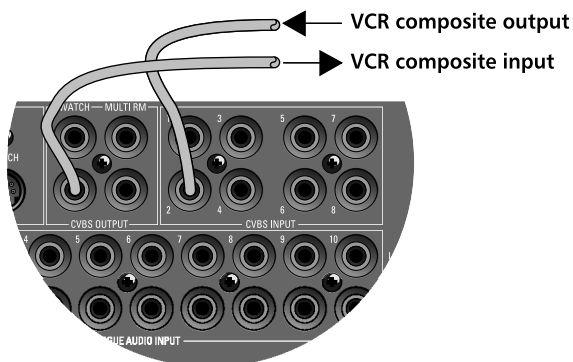
If the video recorder provides Svid inputs and outputs, connect the System Controller's Svid record output to the video recorder's input, and the output from the video recorder to the System Controller's SVID INPUT 1 or 2.

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.

External DAC input
Left External DAC output
Right External DAC output
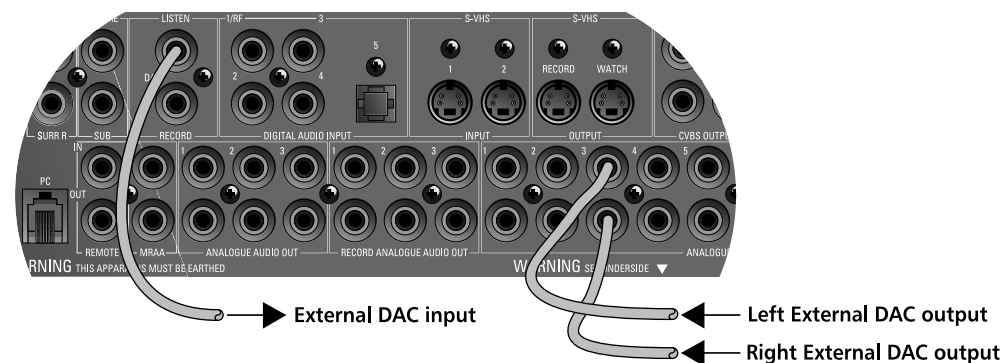
setting up the System Controller

Unlike conventional preamplifiers, almost every aspect of the 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 System Controller allows you to store four 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.

The Linn settings are a predefined configuration. This saves the need for much of the programming necessary for setting up the System Controller.

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.

11

Entering and exiting from set-up

This section explains how to use the Set-up mode functions of the System Controller.

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 effect.

For a full explanation of the front panel and handset controls see *Using the System Controller*, page 41.

Enter Set-up like this

● Press the **SETUP** key on the front panel.

The **Set-up** menu will be displayed:

```
Linn AV5103
Set-up

Speakers
Calibration
External DAC
Sources
Operation
Restore

Exit
```

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 option 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.

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

```
Set-up
Speakers
```

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 highlighted.

```
Linn AV5103
Set-up

Speakers
Calibration
External DAC
Sources
Operation
Restore

Exit
```

The OSG displays shown in this chapter represent the highlighted 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.

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 -** or **+** key on the front panel or the handset.

The option is shown highlighted:

```
Linn AV5103
Options

Screen Timeout..   4s
Display..      Bright
Infra-Red..        On
RC5 Address..   (10)1
Standby On/Off.. Yes
Temp..             No
Video Mute..      Off
Finished
```

The menu shows the name of the option, in this case the front panel **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:

```
Options
Display. ▉Bright
```

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

```
Linn AV5103
Options

Screen Timeout..   4s
Display..      Bright
Infra-Red..        On
RC5 Address..   (10)1
Standby On/Off.. Yes
Temp..             No
Video Mute..      Off
Finished
```
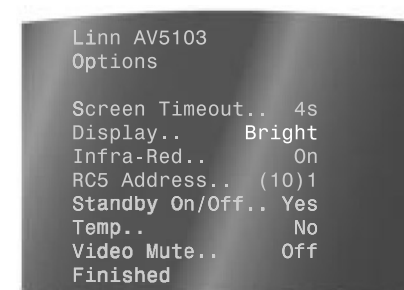
● Press the **VOLUME -** or **+** key on the front panel or the handset to step between the alternative values for the option.

For example, the front panel **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 store it.

Note that any changes you make (apart from the **Linn Set-Up, 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:
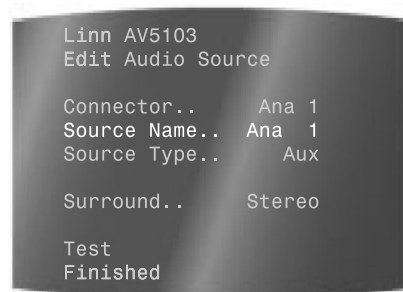
```
Linn AV5103
Edit Audio Source

Connector..      Ana 1
Source Name..    Ana  1
Source Type..       Aux

Surround..       Stereo

Test
Finished
```

● 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.

```
Edit Audio Source
Source name.. ▮na 1
```

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

```
Linn AV5103
Add Audio Source

Connector..      Ana 1
Source Name..    Ana  1
Source Type..       Aux

Surround..       Stereo

Test
Finished
```
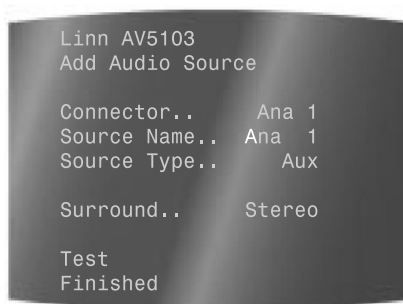
● Use the **VOLUME -** and **+** keys on the front panel or the handset to change the character you are editing.

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 previous character.

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

```
Linn AV5103
Add Audio Source

Connector..      Ana 1
Source Name..  Disc
Source Type..       Aux

Surround..       Stereo

Test
Finished
```
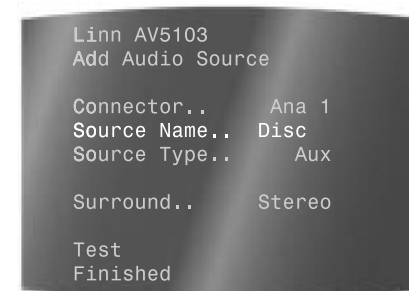
Exit from a menu like this

● Highlight the **Finished** menu option.

● Press **SELECT**.

Exit from Set-up like this

● Highlight the **Exit** menu
   option.

● Press **SELECT**.

```
Linn AV5103
Set-up

Speakers
Calibration
External DAC
Sources
Operation
Restore

Exit
```

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:

```
Linn AV5103
Exit Set-up




Save Set-up..     No
Return to Set-up



Exit
```
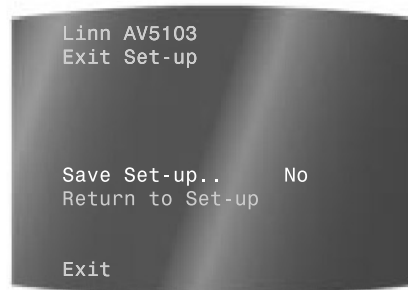
To use the new set-up you have created:

● 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.

```
Linn AV5103
Speakers

Main
Centre
Rear


Finished
```

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

● From the **Speakers** menu select **Main**:

```
Linn AV5103
Main Speakers

Main Type..      Large



Finished
```

● 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 ESPEK or EKWAL loudspeakers, set the **Main Type** to **Large**. If you are using the 5110 Local Loudspeaker as a main loudspeaker, set the **Main Type** to **Small**.

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Set up the centre speaker like this

● From the **Speakers** menu select **Centre**:

```
Linn AV5103
Centre Speaker

Centre Type..    Large



Finished
```

● 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 EKWAL as the centre speaker, set the **Centre Type** to **Large**. If you are using a 5110 Local Loudspeaker as the centre speaker, set the **Centre Type** to **Small**.

Set up the rear speakers like this

● From the **Speakers** menu select **Rear**:

```
Linn AV5103
Rear Speakers

Rear Type..     Large



Finished
```

● 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 5110 Local Loudspeakers, set **Rear Type** to **Small**.

18

Setting up the Calibration options

The **Calibration** 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.

```
Linn AV5103
Calibration

Seat Position
Linn Channel Balance
Channel Balance
Dolby Pro Logic
Dolby AC-3


Finished
```

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 effective 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 than it does in the left ear, and vice versa. This method of localising sounds is most important for continuous low-frequency sounds.

To make sure you get sounds correctly positioned in space, the 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

● From the **Calibration** menu select **Seat Position**:

```
Linn AV5103
Seat Position

Main to Seat..   0.0m
Rear to Seat..   0.0m
Cntr to Seat..   0.0m



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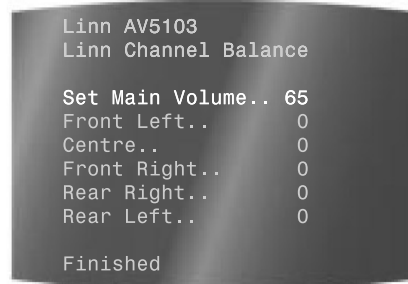
● Enter the distance from the seating position to the main loudspeakers, rear loudspeakers, and centre speaker, using the **Main to Seat**, **Rear to Seat**, and **Cntr to Seat** menu options respectively.

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

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Set up the channel balance using an SPL meter like this

● From the **Calibration** menu
select **Linn Channel Balance**:

```
Linn AV5103
Linn Channel Balance

Set Main Volume.. 65
Front Left..        0
Centre..            0
Front Right..       0
Rear Right..        0
Rear Left..         0

Finished
```
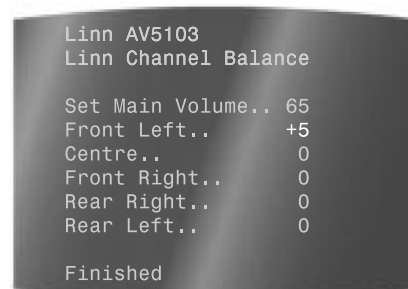
● Select **Set Main Volume** and adjust the volume to a suitable listening level.

● Select **Front Left**.

A white noise test signal will be played through 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:

```
Linn AV5103
Linn Channel Balance

Set Main Volume.. 65
Front Left..       +5
Centre..            0
Front Right..       0
Rear Right..        0
Rear Left..         0

Finished
```

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: The **Linn Channel Balance** option is recommended in preference to the **Channel Balance** option, as it gives more consistent results.

● From the **Calibration** menu
select **Channel Balance**:

```
Linn AV5103
Speaker Set-up

Set Main Volume.. 65
Start

Finished
```

● Select **Set Main Volume** and adjust the volume to a suitable listening level.

● Select **Start**.

A white 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.

20

● 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.
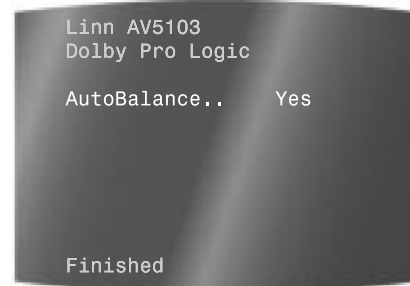
```
Linn AV5103
Speaker Set-up

Front Left..      0

Select to Stop
```

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 Calibration options

Set auto balance like this

● From the **Calibration** menu select **Dolby Pro Logic**.

```
Linn AV5103
Dolby Pro Logic

AutoBalance..    Yes




Finished
```

● 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

● From the **Calibration** menu select **Dolby AC-3**.

```
Linn AV5103
Dolby AC-3

Dialog Norm..    Yes
Coding Display.. Yes




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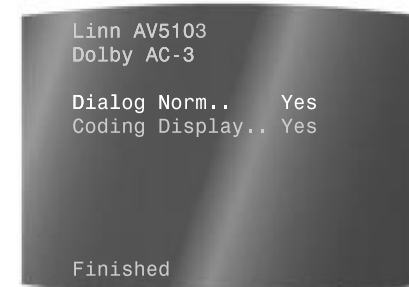
● Set the **Dialogue Norm** option to **Yes** to compress sound levels around the normal dialogue range, or **No** to leave the relative signal levels unaltered from the original recording.

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 encoding symbol on the front panel:

```
Disc
Volume..40       PCM
```

The following table shows the meaning of the different encoding symbols:

Symbol	What it means
PCM	Pulse Code Modulated
▮▮	Dolby Surround
DTS	Digital Theatre Systems format
PRO	Pro-Logic
FB	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 10.

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
● From the **Set-up** menu select **External DAC**.

The OSG display shows the number of analogue connectors used:

```
Linn AV5103
External DAC

Connectors Used..
Analog..  1/10

External DAC..      No



Finished
```
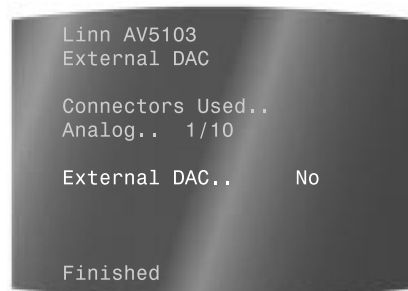
● Select the **External DAC** menu option and change its value to **Yes**.

Two additional menu options will then appear:

```
Linn AV5103
External DAC

Connectors Used..
Analog..  2/10

External DAC..     Yes
Input..           Ana 2
Always Use DAC..  Yes

Finished
```
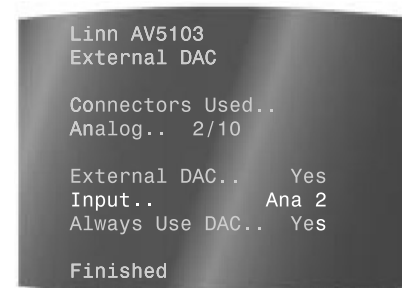
● Select the **Input** menu option and set it to the analogue connector the external DAC is connected to.

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

● Set the **Always Use DAC** 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 DAC** 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.

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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 restrictions on the connectors are that AC-3 RF must be connected to **Dig 1,** and DTS sources must be connected to **Dig 2-5**.

Set up sources like this

● From the **Set-up** menu select **Sources**.

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

```
Linn AV5103
Sources

Connectors Used..
Audio..  2/15
Video..  1/10

Audio Only Source
A/V And Video Source
Record Outputs

Finished
```

● Select **Audio Only Source** to set up audio sources, **A/V And Video Source** to set up video sources or linked audio visual sources, or **Record Outputs** to set up recording options.
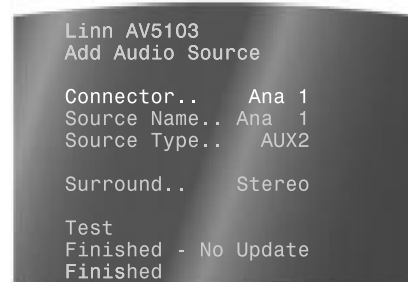
These three alternatives are described in greater detail in the following sections.

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Adding new audio or video sources

Add an audio source like this

● From the **Sources** menu select **Audio Only Source**.

● From the **Audio Only Sources** menu select **Add**.

The **Add Audio Source** menu will be displayed:

```
Linn AV5103
Add Audio Source

Connector..     Ana 1
Source Name.. Ana  1
Source Type..    AUX2

Surround..     Stereo

Test
Finished - No Update
Finished
```

● Select the **Connector** menu option.

● Press **VOLUME -** or **+** to step through all the unused connectors in the sequence **Ana 1** to **Ana 10** (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.

For details of how to edit text options see *Edit a text option like this*, page 15. 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:

AUX, LASER, CD, TV, VCR, DVD, SAT, CABLE, TAPE, DAT, or TUNER.

● When using a digital connecter (**Dig1** to **Dig 5**), an extra option field is shown, **Auto detect?** If set to **Yes** the System Controller will automatically detect the type of input signal and decode it appropriately. If you are using a CD Player on a digital connecter, set **Auto detect?** to **No**.

```
Linn AV5103
Add Audio Source

Connector..     Dig 1
Source Name.. Disc
Source Type..  Laser
Auto detect?..    Yes
Surround..     Stereo
FallBack..     Ana 2
Test
Finished - No Update
Finished
```

● 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.

For a full explanation of the available Surround options, see *Choosing the surround option or Midnight Movie mode*, page 48.

An additional option, **FallBack**, 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

● From the **Sources** menu select **A/V and Video..**

● From the **Video Sources** menu select **Add**.

The **Add Video Source** menu will be displayed:

```
Linn AV5103
Add Video Source

Connector..    Svid 1
Source Name..  Svid 1
Source Type..      AUX

Linked Audio..      No

Test

Finished - No Update
Finished
```

● Select the **Connector** menu option.

● Press **VOLUME -** or **+** to step through all the unused connectors in the sequence **SVID 1**, **SVID 2** (Svid inputs), **Comp 1** to **Comp 8** (composite inputs) and **VSW 1** to **VSW 6** (video switcher).

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

NOTE: **VSW1** to **VSW6** refers to six seperate inputs available on a unit called a video switcher. This device can be connected to either the Svid or composite inputs.

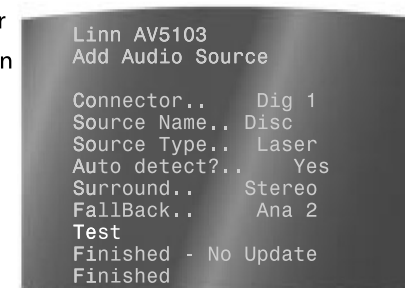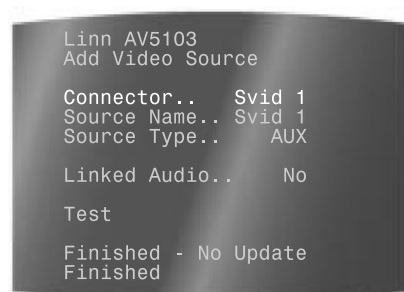● Set the **Source Name** menu option to the name you want to use to identify the source on the front panel display or OSG. You can give the source any name up to six characters.

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

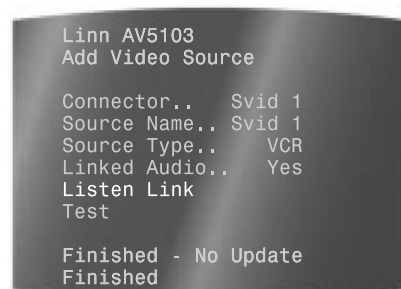The following options are available:

AUX, LASER, CD, TV, VCR, DVD, 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 DVD you would connect the audio output from the DVD to one of the System Controller's audio inputs, and specify that connector as the listen link.

27

● Select **Listen Link** to specify the characteristics of the linked audio:

The **Audio/Video Link** menu
will be displayed:

```
Linn AV5103
Add Video Source

Connector..    Svid 1
Source Name.. Svid 1
Source Type..    VCR
Linked Audio..   Yes
Listen Link
Test

Finished - No Update
Finished
```

● 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 menu option **Auto
detect?** appears.

● Set this to **Yes** for an AC-3 or DTS source.

● 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.

For a full explanation of the available surround options, see *Choosing the
surround option or Midnight Movie mode*, page 48.

If you are linking **Dig 1** 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.

```
Linn AV5103
Audio/Video Link

Connector..    Dig 1
Auto detect?..   Yes
Surround..    As Mix
FallBack..    Ana 1



Finished
```
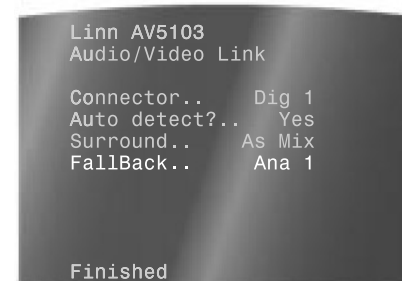
● Select **Finished** to return to the **Add Video Source** menu.

● 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**.

28

Editing and removing sources

After you have defined some
sources, three additional options
appear on the **Audio Only
Sources** or **A/V and Video
Sources** menus:

```
Linn AV5103
Audio Sources

Add
Edit
Remove
Current Audio Srcs




Finished
```

Edit sources like this

● Select **Edit** from the **Audio Only Sources** or **A/V and 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 Only Sources or **A/V
  and Video Sources** menu,
  depending on what type of
  source you want to remove.

```
Linn AV5103
Remove Audio Sources

Connector..    Ana 1
Output Name..  Disc



Select
Remove

Finished
```
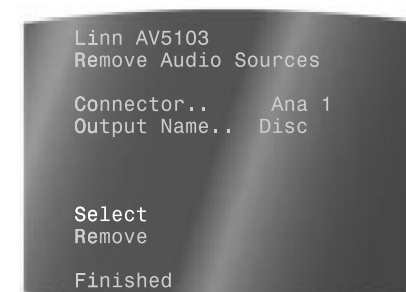
● Repeatedly select the **Select** menu option until the display shows the
  connector and output name you want to remove.

● Select **Remove** to remove the source, or **Finished** to leave the
  menu without removing a source.

29

List the currently defined sources like this

● Select **Current Audio Srcs** from the **Audio Only Sources** or **A/V and Video Sources** menu, depending on which sources you want to list.

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

```
Linn AV5103
Current Audio Srcs

Connector..      Ana 1
Output Name..  Disc
Source Type..      CD
Surround..       Stereo



Next
Finished
```

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

NOTE: The front panel display shows only the connector and output name for each source:

```
Current Audio Srcs
Next → Ana 1/Disc
```
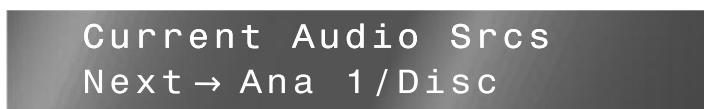
Setting up recording options

The 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 Svid 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.

```
Linn AV5103
Record Set-up

Audio Only Record
A/V And Video Record
Record Options



Finished
```

Once set up you can connect a record path with two key presses on the front panel or handset. See *Recording audio and video sources*, page 49.

Add an audio record output like this

● From the **Record Set-up** menu select **Audio Only Record**.

● From the **Audio Rec. Set-up** menu select **Add**.

The **Audio Rec. Add** menu is displayed:

```
Linn AV5103
Audio Rec. Add

Connector..    R Dig
Output Name.. R  Dig
Record Type..    DAT



Finished - No Update
Finished
```

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

It can be one of the following:
R Dig, R Ana 1, R Ana 2, or **R Ana 3**

● 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.

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

● Select **Finished** to add the audio record output. Alternatively if you want to exit from the menu without adding the output, select **Finished - No Update**.

31

Add a video record output like this

● From the **Record Set-up** menu select **A/V and Video Record**.

● From the **Video Rec. Set-up** menu select **Add**.

The **Video Rec. Add** menu
is displayed:

```
Linn AV5103
Video Rec. Add

Connector..   RComp1
Output Name.. RComp1
Record Type..    VCR
Linked Audio..    No


Finished - No Update
Finished
```

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

It can be one of the following:

R Comp 1, R Comp 2, or **R Svid**

● Edit the **Output Name** to the name you want to use to identify the video record output. This can be any name of up to six characters.

● Record type will be set to **VCR** to specify the handset key used to select the output. There are no options for this setting.

● 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:

```
Linn AV5103
Video Rec. Edit

Connector..   RComp1
Output Name.. RComp1
Record Type..    VCR
Linked Audio..   Yes
Audio O/P..   R Ana1


Finished
```

NOTE: 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.

● Repeatedly select the **Select** option until the record output you want to remove is displayed.

```
Linn AV5103
Vid. Rec. Remove

Connector..   RComp1
Output Name.. RComp1
Linked Audio..R Ana1


Select
Remove

Finished
```

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

Set record options like this

● From the **Record Set-up** menu select **Record Options**.

The **Record Options** menu is displayed:

```
Linn AV5103
Record Options

Clear All
Record O/P..        On




Finished
```

● 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.

33

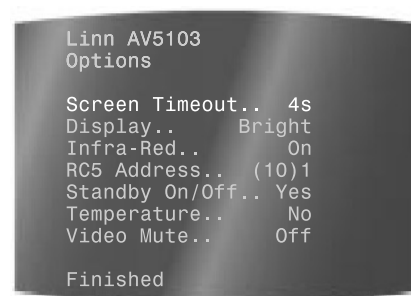# Customising the operation of the System Controller

The **Operation** menu lets you customise the 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:

```
Linn AV5103
Operation

Options
Volume Options
OSG Position
Power-On Message



Finished
```
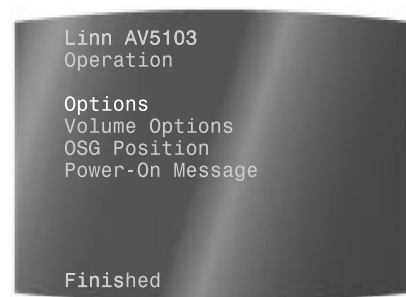
Change the general options like this

● From the **Operation** menu select **Options**.

The **Options** menu will be displayed:

```
Linn AV5103
Options

Screen Timeout..  4s
Display..     Bright
Infra-Red..       On
RC5 Address..  (10)1
Standby On/Off.. Yes
Temperature..     No
Video Mute..     Off

Finished
```
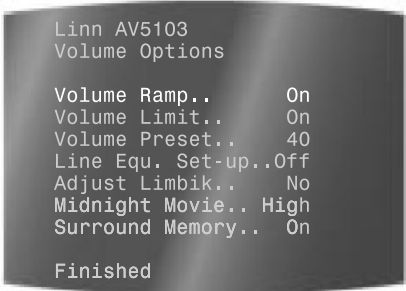
The options are described in the following table:

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 of the System Controller. Can be set to **Bright, Dim, Auto** (brightness of display is automatically chosen depending on room light level), 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 System Controller with a KNEKT Room Control Unit.
RC5 Address	Allows the System Controller to select different addresses for communication with other pieces of equipment.
Standby On/Off	Enables or disables the Standby button.
Temperature	When set to **Yes** will show the internal temperature of the System Controller on the front panel display in ^{0}C. (Increases/decrease in increments of 5^0C.)
Video Mute	Enables or disables the display whenever the mute button is pressed.

Change the volume options like this

● From the **Operation** menu select **Volume Options**.

The **Volume Options** menu will
be displayed:

```
Linn AV5103
Volume Options

Volume Ramp..       On
Volume Limit..      On
Volume Preset..     40
Line Equ. Set-up..Off
Adjust Limbik..     No
Midnight Movie.. High
Surround Memory.. On

Finished
```

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 System Controller out of standby, or press the **NORM** key.

Volume options continued:

Line Equ. Setup	Set to **On** when an installer is performing line equalisation, or **Off** for normal use.
Adjust LIMBIK	Switches on or off the ability to adjust the LIMBIK settings. For details on adjusting LIMBIK see *Adjusting LIMBIK settings*, page 51.
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 49.
Surround Memory	Stores surround settings such as balance and speaker level.

Set the On Screen Graphics position like this

● From the **Operation** menu choose **OSG Position**.
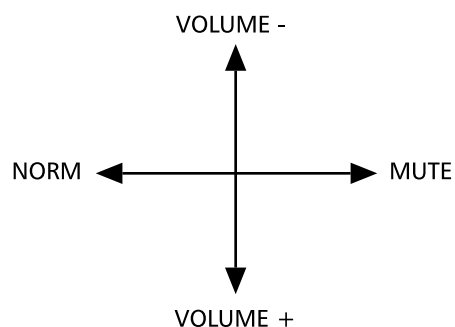
The **OSG Position** menu is
displayed:

```
Linn AV5103
OSG Position

OSG Bar Objects
OSG Source Objects
OSG Control Objects




Finished
```

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:

```
                VOLUME -
                   ▲
                   │
   NORM  ◄─────────┼─────────► MUTE
                   │
                   ▼
                VOLUME +
```

NOTE: 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

● From the **Operation** menu choose **Power-On Message**:

The **Power-On Message** menu is displayed:

```
Linn AV5103
Power-On Message

Enable Message?..   No




Finished
```

If set to **Yes**, the following information will be displayed on the System Controller's front panel when it is next switched on:

> The version of the software that is installed.
> The type of DSP (Digital Signal Processor) that is installed.
> RF Demod will be displayed if a AC-3 RF-demodulator card is fitted.
> DTS will be displayed if a Digital Theatre Systems card is fitted.

NOTE: The above information is made available for a Linn engineer if any upgrading of the System Controller is required.

Restoring settings

As a safety measure the System Controller allows you to restore the settings to those set up by the original installer of the system, the original factory settings or to the pre-configured Linn Set-up.

For further information on the Linn Set-up, see *Linn Set-up for the System Controller*, page 53.

Restore the settings like this

● From the **Set-up** menu select **Restore**.

The **Restore** menu is displayed:

```
Linn AV5103
Restore

Linn Set-up
Change to Installer
Change to Factory




Finished
```

● Select **Linn Set-up**, **Change to Installer** or **Change to Factory** to restore the user settings to the Linn settings, 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 **Linn Set-up**, **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: Switching from one of the settings to another does not erase the other two settings. However, switching settings 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 39.

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Physical set-up

The 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.
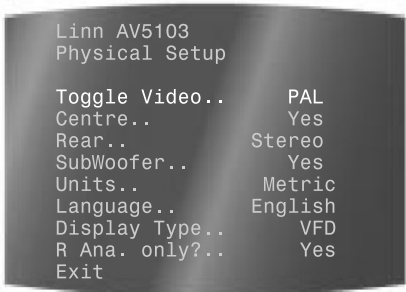
Change the physical set-up like this

● Switch the System Controller off, 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:

```
Physical Setup
Linn AV5103
```

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

```
Linn AV5103
Physical Setup

Toggle Video..      PAL
Centre..            Yes
Rear..              Stereo
SubWoofer..         Yes
Units..             Metric
Language..          English
Display Type..      VFD
R Ana. only?..      Yes
Exit
```

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.
Display Type	This option allows you to select the correct software driver for your unit's front panel display. If your System Controller is new, this should be set to **VFD**. If your unit is an older model which has had new software installed, set the display type to **LCD.**
R Ana only?	Set this option to **Yes** if you want to limit audio recording of digital sources to analogue. Setting to **No** will allow digital recording. NOTE: If set to **No**, DTS and AC-3 will be recorded as noise.

Some of the options you set in the physical set-up menu will determine the options available in the main System Controller 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: Switching from one of the settings to another does not erase the other two settings. However, switching settings 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:

```
Linn AV5103
Restore

Linn Set-up
Change to Installer
Change to Factory
User to Installer




Finished
```

● 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.

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setting up the System Controller

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

Front panel

The following illustration explains the function of each of the buttons on the System Controller's 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.

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, or stops a current recording.

7. *NORM Changes the volume and balance to a pre-set level.

8. *VOLUME - and + For changing the volume.

9. SURR Shows the surround processing option for the current source. Repeated presses changes the option.

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

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

12. *MUTE Mutes or restores the sound.

* These keys perform different functions if the System Controller is in set-up mode. See *Entering and exiting from set-up*, page 12.

5101 Personal Handset

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

For full details on operating the handset, see the 5101 Personal Handset manual.
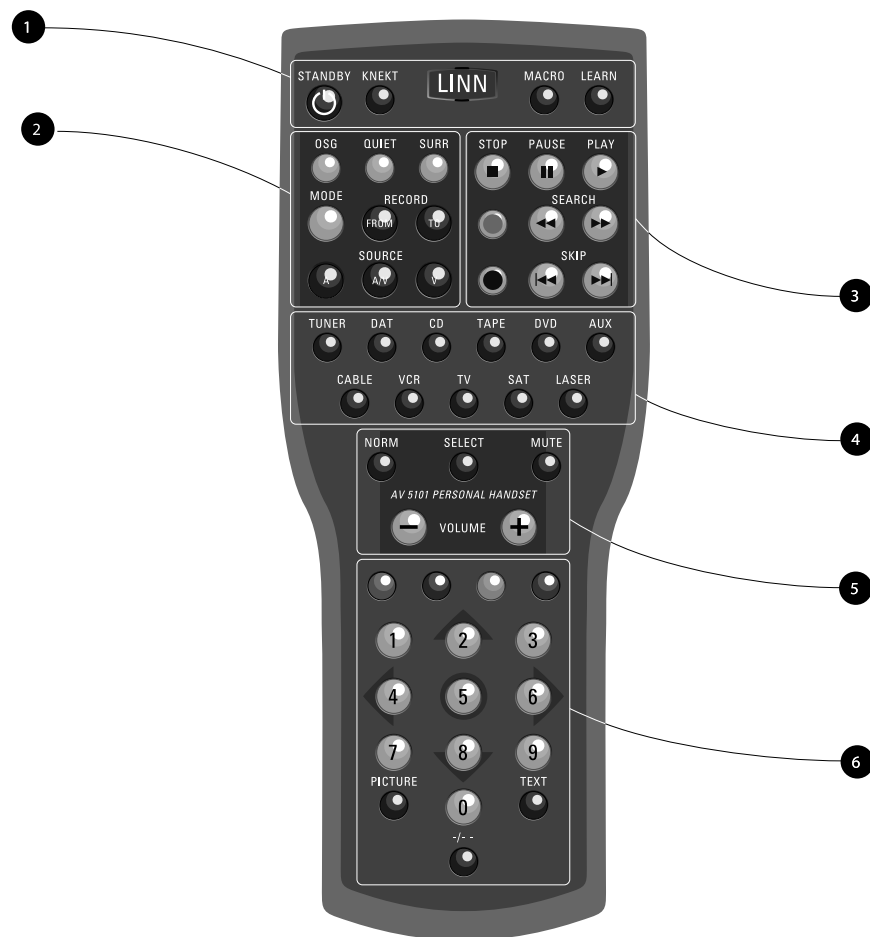
1. **STANDBY** Switches the unit to standby, or switches it on from standby.

2. **AV System functions:**

    OSG Enables/disables 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.

    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 or stops a current recording.

    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** For selecting one of the audio/video sources.

5. **Volume and speaker balance keys:**

    *NORM Changes the volume and balance to a pre-set level.

    *SELECT Allows you to adjust the speaker level and balance.

    *MUTE Mutes or restores the sound.

    *VOLUME - and + For changing the volume.

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

* These keys perform different functions if the System Controller is in set-up mode. See *Entering and exiting from set-up*, page 12.

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.

```
a)...... v)......
Volume..40
```
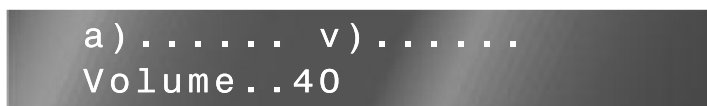
On Screen Graphics Display (OSG)

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

⊿Volume 40

The display stays on the screen for four seconds, but you can adjust this in the **Set-up** menu. You can also adjust the position of each type of display to whatever you find most convenient. See *Customising the operation of the System Controller*, page 34.

Switching on and off

It is recommended that during normal operation you leave the 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 34.

Switch to standby like this

● Press the **STANDBY** button on the front panel or handset.

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Changing the volume

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

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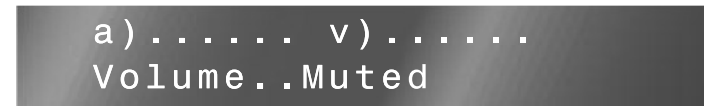- Press the **-** or **+ VOLUME** keys on the front panel or handset.

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

⊿Volume 40

Mute the volume like this
- Press the **MUTE** key on the front panel or handset.

The front panel display shows:

```
a)...... v)......
Volume..Muted
```

The OSG display shows:

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

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 and on the OSG display:

```
a)CD 1   v)......
Balance..-5
```

```
☑Balance..-5
```

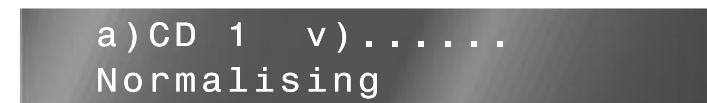Use the **VOLUME -** and **+** keys to adjust the parameter.

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:

```
a)CD 1   v)......
Normalising
```

The OSG will show:

This will reset the volume to its default setting, typically 40, and the speaker position controls to zero. You can change the default volume setting using the **Set-up** menu. See *Customising the operation of the System Controller*, page 34.

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:
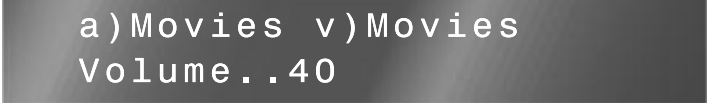
TUNER, DAT, CD, TAPE, DVD, AUX, CABLE, VCR, TV, SAT, and LASER

Choose a source like this
● Press the appropriate Audio/Video source key.

For example, to select the **VCR** source you have called **Movies** press **VCR** on the handset.

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

```
a)Movies v)Movies
Volume..40
```

If you select 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. See *Setting up sources*, page 25.
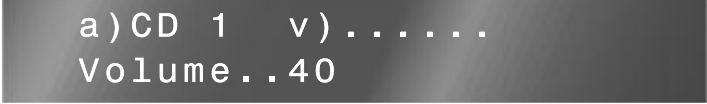
If you have more than one source assigned to an Audio/Video source key, hold down the key until the name of the source you want to watch is displayed. Then release the key to select the displayed source.

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 until the desired audio source is displayed. Alternatively, select an audio source by pressing one of the Audio/Video source keys on the handset.

The display will show the selected audio source:

```
a)CD 1  v)......
Volume..40
```

● Press the **SOURCE V** key on the front panel or the handset until the desired video source is displayed. Alternatively, select a video source by pressing one of the Audio/Video source keys on the handset.

The display will show the selected video source:

```
a)CD 1   v)TV
Volume..40
```

If a linked Audio/Video source is selected, the display will show the source name in both the **a)** and **v)** positions.

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

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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 hear 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 **SURR** to change the mode.

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

After four seconds the display will revert to showing the current volume setting.

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

Surround option	What it means
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 speakers.
As Mix	Full decoding of all available channels for an AC-3 or DTS source.
Phantom	For AC-3 sources, the centre channel is redirected to the front left and right speakers. For DTS sources, the multi-channel signal is reconfigured to omit the centre channel.
3 Stereo	For AC-3 sources, the rear channels are redirected to the main left and right speakers. For DTS sources, the multi-channel input is reconfigured to provide signals to the front left, right and centre channels.
Limbik 3	Converts a conventional stereo signal into three channels: left, right and centre.
Limbik 5	Converts a conventional stereo signal into five channels: left, right, centre, rear left and rear right.
Party	Each channel is sent essentially the same signal. Very convenient for when holding a party.

NOTE: The modes available will depend on the source, the number of channels it contains, and your speaker configuration.

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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 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.

Before starting a recording, recording options have to be set-up. See *Setting up recording options*, page 31.

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:

```
Record
CD 1 →  ......
```

● Repeatedly press record from 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 **RECORD TO** until the record output you want to use is displayed, 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 **VCR** key.
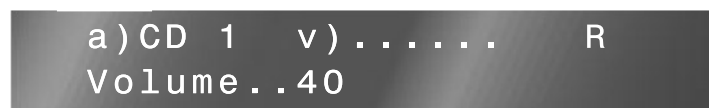
The display shows the name of the record output. For example, if you have a record output named **Dat**:

```
Record
CD 1  →  Dat
```

After a few seconds the display changes to:

```
Connecting Path
```

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

```
a)CD 1  v)......    R
Volume..40
```

Set up additional record paths in the same way.

Clear a record path like this

● Repeatedly press **RECORD FROM** until the record path you want to clear is displayed.

● Press **RECORD TO**.

The display shows:

```
Record....Remove
CD 1  →  Dat
```

Then changes to:

```
Clearing Path
```

Clear all the record paths like this

● Hold down the **RECORD TO** key until the display shows:

```
Rec. Paths Reset
```

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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:

```
No Outputs Available
CD 1 → ......
```

NOTE: When recording video you must record an Svid input to an Svid record output, and a composite input to a composite record output.

Adjusting LIMBIK settings

Linn's LIMBIK processing is a system which converts an analogue or digital stereo signal, into a three or five channel signal that greatly enhances stereo imaging and room ambience.

There are ten parameters which control LIMBIK, each of which can be adjusted.

To adjust the LIMBIK settings, firstly select **Yes** on the Adjust Limbik option found in the Volume Options menu. See *Customising the operation of the System Controller*, page 34.

Change the LIMBIK settings like this

● Use the front panel or the handset keys to select the audio source you wish to listen to.

● Repeatedly press the **SURR** key on the front panel or the handset to switch between the various surround options, including the three LIMBIK modes.

The LIMBIK modes are:

Mode	What it means
LIMBIK 3	Uses the front left, right and centre speakers.
LIMBIK 5	Use the three front and two rear speakers.
PARTY	Sends essentially the same signal to all five speakers.

NOTE: Adjustments to the LIMBIK settings can be made in the LIMBIK 3 and LIMBIK 5 modes only.

If LIMBIK 3 is chosen the OSG
display will briefly show:

```
Surround..Limbik 3
Limbik Set 1
```

⬤ Repeatedly press the circle graphic (number **5**) on the handset to
select which of the LIMBIK Sets you wish to adjust.

Six LIMBIK Sets are available. Set 1 is fixed and therefore cannot be
adjusted. Sets 2 to 6 are user adjustable.

⬤ Use the up arrow (number **2**)
and down arrow (number **8**)
on the handset to move
through the ten parameters.

⬤ Use the left arrow (number **4**)
and right arrow (number **6**) on
the handset to adjust the value
of the parameters.

```
Limbik SET 2
HPF1    250   Hz
AT 1 - 15     dB
LPF1    7100  Hz
CDLY    3     mS
AT 2 - 6      dB
TDe1    20    mS
AT 3 - 27     dB
LPF2    7100  Hz
AT 4 - 6      dB
TRev    55    mS
```

Press the **VOLUME +** or **-** key on the front panel or handset to save the
settings and exit the LIMBIK menu. Alternatively, press the **NORM** key on
the front panel or handset to reset the parameters to the default values
(LIMBIK Set 1).

A full explanation of the function of the ten parameters and further
information on LIMBIK is given in the document *About LIMBIK*.

Linn Set-up for the System Controller

The System Controller has been pre-configured with a group of settings called the Linn Set-up.
This setting eliminates the need for much of the programming necessary for configuring the
System Controller. To use the Linn Set-up, select the **Linn Set-up** option from the **Restore** menu
(see *Restoring Settings*, page 37), then refering to the table below, simply connect your AV
equipment to the appropriate connector on the back panel. For example, if you have a LaserDisc
Player, connect it to **Dig 1**, **Ana 1** or **Comp 1**. The direct source button for your LaserDisc Player
is LASER on the handset, the surround option is initially set at As Mix and the output name is Laser.

SOURCE TYPE	CONNECTORS	DIRECT SOURCE BUTTON	SURROUND OPTION	NAME
LaserDisc, composite video, AC-3 RF, analogue fallback	Dig 1, Ana 1 Comp 1	LASER	As Mix	Laser
DVD Player, composite video, AC-3 optical input	Dig 5, Comp 2	LASER	As Mix	DVD 1
DVD Player, Svid video, AC-3 digital input	Dig 2, Svid 1	LASER	As Mix	DVD 2
CD 1, digital CD input	Dig 3	CD	As Mix	CD 1
CD 2, analogue CD input	Ana 2	CD	Stereo	CD 2
tuner, analogue input	Ana 3	TUNER	Stereo	Tuner
tape, analogue input	Ana 4	TAPE	Stereo	Tape
video 1, composite video, analogue audio input	Ana 5, Comp 3	VCR	Pro Logic	Video 1
video 2, Svid video, analogue audio input	Ana 6, Svid 2	VCR	Pro Logic	Video 2
tape (output), analogue audio output	R Ana 1	TAPE	n/a	Tape
video 1 (output), composite video, analogue audio	R Comp 1, R Ana 2	VCR	n/a	Video 1
video 2 (output), Svid video, analogue audio	R Svid, R Ana 3	VCR	n/a	Video 2

pal and ntsc operation

The System Controller has been factory configured for PAL operation. If NTSC operation is required please complete the instructions below before connecting the System Controller to a tv or monitor.

● Check power on/off switch is in the **off** position.

● Connect mains lead.

● Press and hold **SETUP** on the front panel.

● Put power on/off switch to the **on** position. After five seconds the following is displayed on the front panel:

> Physical Setup
> Toggle Video..PAL

● Release **SETUP** on the front panel.

● Press **SELECT** on the front panel or handset and a cursor will flash on the display next to PAL option.

● Press **VOLUME +** on front panel or handset. Display will change to:

> Physical Setup
> Toggle Video.█NTSC

● Press **SELECT** and the cursor will disappear.

● Press **VOLUME +** repeatedly until EXIT option is displayed on the front panel.

● Press **SELECT** to exit the **Physical Setup** menu.

The System Controller is now configured for NTSC operation.

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pal and ntsc operation

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.

Technical support and information

For technical support, product queries and information, please contact either your local retailer or the offices below.

Full details of your local retailer/distributor can be found at:

www.linn.co.uk/buy_linn/find_retailer.cfm

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.

Linn Products Limited	Linn Incorporated	Linn Deutschland GmbH
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guarantee and service

technical information

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-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
Mains voltage operating range	115V, 230V +/- 10%, 50-60 Hz
Supply fuse	100V–120V : T800mA antisurge 220V–240V : T800mA antisurge
Max input power	33W
Operating power	45W
Standby power consumption	4W
Dimensions	Height 80mm (inc. feet), width 381mm, depth 355mm, weight 4 kg

technical information