

UNISIS INTEGRATED

Signature

BY TUBE TECHNOLOGY
~USERS MANUAL~

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marks of Tube Technology UK.*



Introduction

Thank you for selecting the Tube Technology Unisis Signature Stereo Integrated Amplifier

Please read through this manual so you will know how to operate your Unisis amplifier properly. After you have finished reading this manual, please put it away in a safe place for future reference.

We have done our utmost in the design and build of the Unisis to ensure you a low maintenance, trouble free amplifier that will bring you many years of pleasure as an important part of your hi-fi system.

Please do not forget to complete and return the enclosed registration card.

We wish you many hours of musical enjoyment !

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Conventions

This manual uses the following conventions;

Bold indicates emphasis or a minor heading.

Italic Bold refers to a sub heading of a chapter.



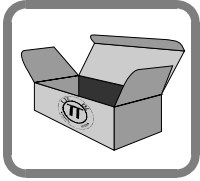
This symbol refers to Notes containing important information set off from the text.



**THIS SYMBOL REFERS TO CAUTION MESSAGES AND PROCEDURES WHICH
IF NOT OBSERVED CAN LEAD TO DAMAGE OR INJURY**

1

Getting Started



This chapter contains information on;

- *Unpacking your Unisis Amplifier*
- *Checking & Installing the Vacuum Tubes*

Unpacking



Your amplifier is packed in "jiffy-cell" support foam. Grip the top of this foam and simply pull it out of the box. The Unisis is then left sitting on its bottom support. Lift out carefully, remembering that the centre of gravity is biased towards the rear of the unit due to the heavy transformers.

All packing should be retained. Amplifiers returned under guarantee are only accepted in their original packaging.

The following items are included in the packaging of a Unisis Integrated;

- 1 x Unisis Integrated Amplifier
- 8 x EL84 Output Vacuum Tubes
- 2 x ECC81 Driver Vacuum Tubes
- 1 x Reference Manual & Registration Card
- 1 x IEC Mains Leads
- 1 x Spare mains fuse (3.15A)

Installing the Tubes

The Unisis is usually shipped with its output tubes packed separately, this helps protect them during transit.

If you have ordered a protection grille with your amplifier the output tubes have already been installed and there is no need to read this section.

The input and driver tubes (the two small tubes at the front of the amplifier) are already in place, please do not remove these, as they have been calibrated.

The vacant tube sockets on the amplifier are numbered 1 to 4 on the left hand channel and 1-4 on the right channel of the amplifier. (See diagram 1)

The output tubes which are packed separately locate in these sockets. The relevant tube number is labelled on the tube packaging. Remove the tube carefully from its packing and install it in its matching socket, as described in Diagram 1.

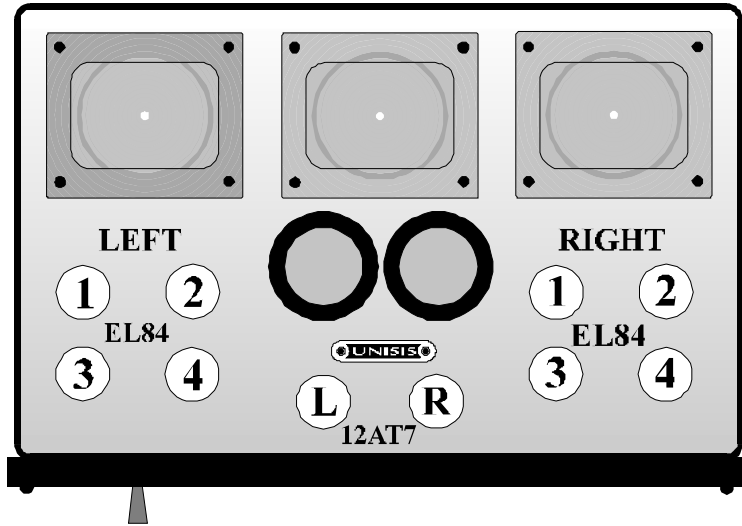
1

Installing the Tubes

Each tube must be inserted carefully.

Ensure the pins of each tube are straight, prior to insertion. Align the tube pins in the centre of the receptacle on the tube base, then apply gentle downwards pressure, firmly pushing the tube home into its base.

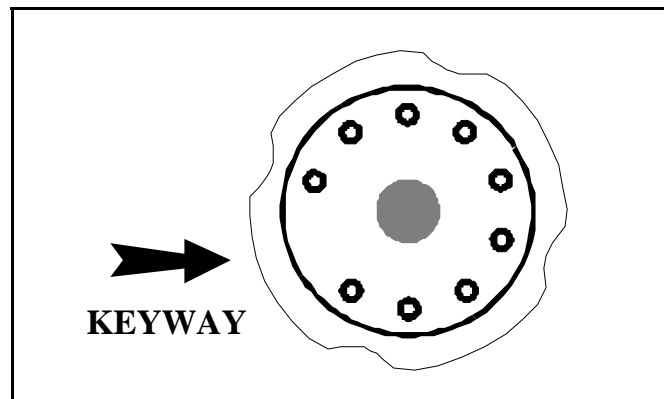
Diagram 1



Keep the tube box safely as it may be required at a later date.

Diagram 2 shows the arrow pointing to the positions of the key-way on the EL84 .

Diagram 2



If the glass on any of the tubes is cracked or broken do not use, consult your dealer for a replacement and refer to the **Maintenance** chapter for instructions on how to replace a faulty tube.



Remove the tubes from their cartons and fit - one at a time. This will ensure that each tube is in its correct socket as calibrated when leaving the factory. If you should mix up the order refer to *replacing a tube* in the maintenance chapter.

Mains Connection



Mains Connection



Wiring a Mains Plug



This chapter contains information on;

- *Connecting the Unisis to the household mains supply.*
- *Wiring a mains plug (UK)*


Your Unisis amplifier plugs into the mains supply via the IEC socket located on the back panel (see diagram 3). Connect your amplifier to the wall socket using the IEC mains lead supplied in the packaging. The amplifier has been factory set to the correct mains voltage for your country. The voltage setting is marked on the serial badge, located on the rear panel. (See diagram 3). Check that this voltage complies with your local supply. Also make sure that your mains outlet is able to deliver the required current for the equipment plugged into it. The wattage rating is also marked on the serial badge.

WARNING - THIS APPARATUS MUST BE EARTHED

DO NOT CONNECT/SWITCH-ON THE MAINS SUPPLY TO THE AMPLIFIERS BEFORE COMPLETING ALL OTHER CONNECTIONS. IF YOU ARE IN ANY DOUBT REGARDING MAINS CONNECTIONS PLEASE DO NOT PROCEED ANY FURTHER WITHOUT CONSULTING YOUR DEALER.

Export units for certain markets have a moulded mains plug fitted to comply with local standards. If your mains supply lead does not have a plug fitted, the coloured wires should be connected to the appropriate plug terminals in accordance with the following code.

Wire Colour Label on Plug

GREEN/YELLOW **E** or EARTH or 
 BLUE **N** or NEUTRAL or BLACK
 BROWN **L** or LIVE or RED

If your mains plug has a fuse, please fit a fuse with **13A** rating.

If your amplifier is not set correctly for the local supply or if you intend to move the amplifier to a location where the supply is at a different voltage, it will be necessary to change the voltage taps on the mains transformer. We recommend that this is done by an experienced technician. Refer to *changing voltage* in the maintenance chapter.

Audio Connection



This chapter contains information on;

- *Connecting the Unisis's Inputs & Outputs*
- *Connecting the Unisis to the loudspeakers*

Your amplifier uses high quality connectors to ensure that maximum signal transfer is possible, therefore ensure that all cables used for connection to the amplifier are terminated with connectors of similar quality.

GROUND

This terminal is used to ground any interconnecting leads which have a separate ground connection.

AUX 2 /PHONO

These inputs are used to connect the audio output of a tape deck or audio section of a video recorder or any other audio hi-fi component that produces output voltage within the range 150mV - 1V. ***If you have a PHONO Unisis this input is as follows;*** The PHONO input is suitable for both moving magnet and high output type moving coil cartridges, with outputs in the order of plus 0.5 millivolts. An external step-up device is required for use with low output moving coil cartridges. *If you have a Super Line Unisis this input is not functional.*

AUX 1 CD TAPE TUNER

These line-level inputs are used to connect the audio output of a digital compact disc player or any other audio hi-fi component that produces output voltage within the range 150mV- 3 VRMS.

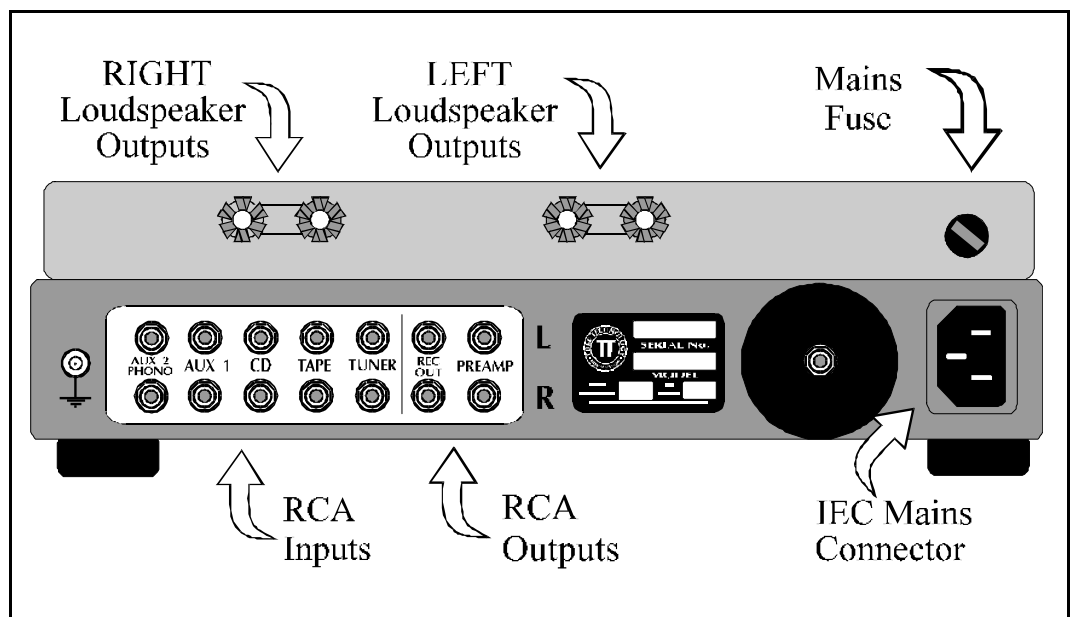
REC OUT

These outputs provide an audio output suitable for connection to the RECORD input of a tape deck. The source to be recorded is selected by means of the input selector switch on the right hand side of the front panel. See Diagram 4.

PREAMP OUT

These outputs provide an output directly from the preamp of the amplifier, useful for connection to a headphone amplifier, a second power amplifier or subwoofer. The Volume control on the front panel sets the level of this output.

Diagram 3



3



IEC INLET

The IEC connector on the rear panel, connects to the mains supply via the mains cable supplied.

MAINS FUSE

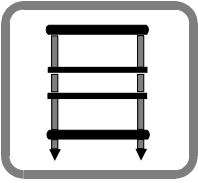
The mains fuse is for protection in the event of any major failure. It is rated at 3.15A (T) and a spare is provided in the packaging. The fuseholder can be opened with a coin, or large bladed screwdriver.

Connection to Loudspeakers

-  + The loudspeaker outputs are suitable for driving loudspeakers with impedances in the range of 6-8 ohms. The output terminals are 4mm terminal posts and each will accept two 4mm (banana) plugs or bare wire. For bi-wiring use the side entry holes together with the front entry holes. Connect the positive or (+) of the speaker cable to the red terminal on the amplifier, and the negative or (-) to the black terminal on the amplifier.
-  -



DO NOT SWITCH-ON THE SYSTEM UNTIL YOU HAVE READ CHAPTER 5 *Operating Your System.*

Installation***Installing & Ventilation***

This chapter contains information on;

- ***Installing and Ventilating your amplifiers***

Ensure that the amplifier is placed in a stable location that is able to accept its weight, each unit weighs 16 kilograms.

Isolated shelves and/or isolating feet under the unit helps prevent micro-vibrations (generated in the room while playing music) from disturbing the internal vacuum tube structure, implementing the use of these will further enhance sound quality.

It is not recommended that tube amplifiers are installed in cupboards or in any enclosed area if there is not sufficient air space and ventilation to keep them cool. A minimum distance of six inches above the amplifier should be allowed as this is where most of the heat is generated.

Dedicated racks are available for housing your tube equipment, contact your dealer or Tube Technology for further information.

Do not locate the amplifier close to radiators or any other heat source, this could increase the operating temperature.

Do not locate the amplifier too close to a turntable, as the cartridge could pick up hum from the power transformers.



THE OUTPUT TUBES REACH VERY HIGH TEMPERATURES!! DO NOT TOUCH UNDER ANY CIRCUMSTANCES. FOR EXTRA PRECAUTIONS A TUBE PROTECTION GRILLE IS AVAILABLE.

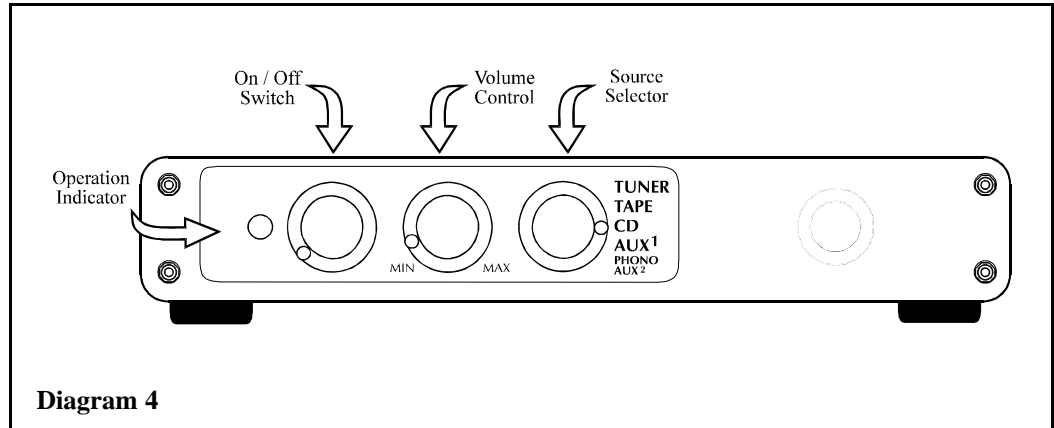
Operating your System



Front Panel

This chapter contains information on;

- **Switching your amplifier ON and OFF.**
- **Front Panel Functions**
- **Operational Notes**



ON/OFF

Rotating the knob located on the left hand side of the panel (see Diagram 4) in the clockwise direction switches the amplifier ON and counter-clockwise switches it OFF. After switch on an audible thump is heard from the mains transformer on the amplifier, this is due to pole reversal which is quite normal for a large power transformer.

Operation Indicator

This LED is illuminated RED indicating that the unit is switched on and functional.

Source Selector

Selects the source of the input signal.

- PHONO - Selection for listening to a Vinyl Recording from a Turntable
Not functional in a Unisis Super Line
- CD - Selection for listening to a Compact Disc
- AUX 1 - Selection for listening to an Auxiliary Input such as TV or Video
- AUX 2 - Selection for listening to an Auxiliary Input such as TV or Video
Not functional in a Unisis Phono
- TAPE - Selection for listening to a cassette tape
- TUNER - Selection for listening to a radio broadcast

Volume Control

Controls the sound output level for both left and right channels. Counter-clockwise rotation provides minimum output and clockwise rotation provides maximum output.

Operational Notes

Some users of tube amplifiers believe that because tube amplifiers take some time to warm up that they should be left on all the time. The Unisis amplifier reaches peak performance levels 15-20 minutes after switch on. Unless absolutely necessary it is not recommended that you leave your amplifier permanently switched on, this only wastes electricity and tube life, but if necessary the Unisis is quite capable of being left switched on for very long periods of time.

The glass envelope surrounding the tube can reach temperatures of up to 300 degrees centigrade. A tube is a perfectly safe device if not touched when it is operating, rather like a hot light bulb. If you are concerned for young children we recommend a Tube Technology tube protection grille.

Running-In***Burning-In
Amplifiers******Tube
Information***

This chapter contains information on;

Burning-In your Amplifier***Tube Information***

"Burning-In" is a generic term given to the basic 'running-in' of the amplifier. You may notice a slight 'electronic-smell' from your amplifier during the first few days of operation. This smell is usually caused by various prints and dyes used on the components which takes some time to evaporate. This is quite normal and there is no need for concern as your amplifier has been extensively soak tested before leaving the factory. This burning-in process continues with your use of the amplifier.

This process simply allows for new components like tubes, capacitors and resistors to settle and 'sweeten' enhancing the amplifiers sonic performance. An estimated 80 hours of operation allows your Unisis amplifier this running-in period.

Unlike most other amplifiers, we run our tubes with very little standing current, this conservative use of the tube provides an extended reliable tube life. As with all tubes, their qualities degrade with age due to cathode emission (a natural process common to all tubes) A typical life span of an EL84 output tube in a Unisis would be approx. 4000-5000 hours, after which time they should be replaced, thus keeping your amplifier at it's maximum sonic performance; Refer to the **Maintenance** chapter.



DO NOT REPEATEDLY TURN THE AMPLIFIER ON AND OFF. ONCE YOU HAVE TURNED THE AMPLIFIER OFF, WAIT APPROX. 30 SECONDS BEFORE TURNING IT ON AGAIN.

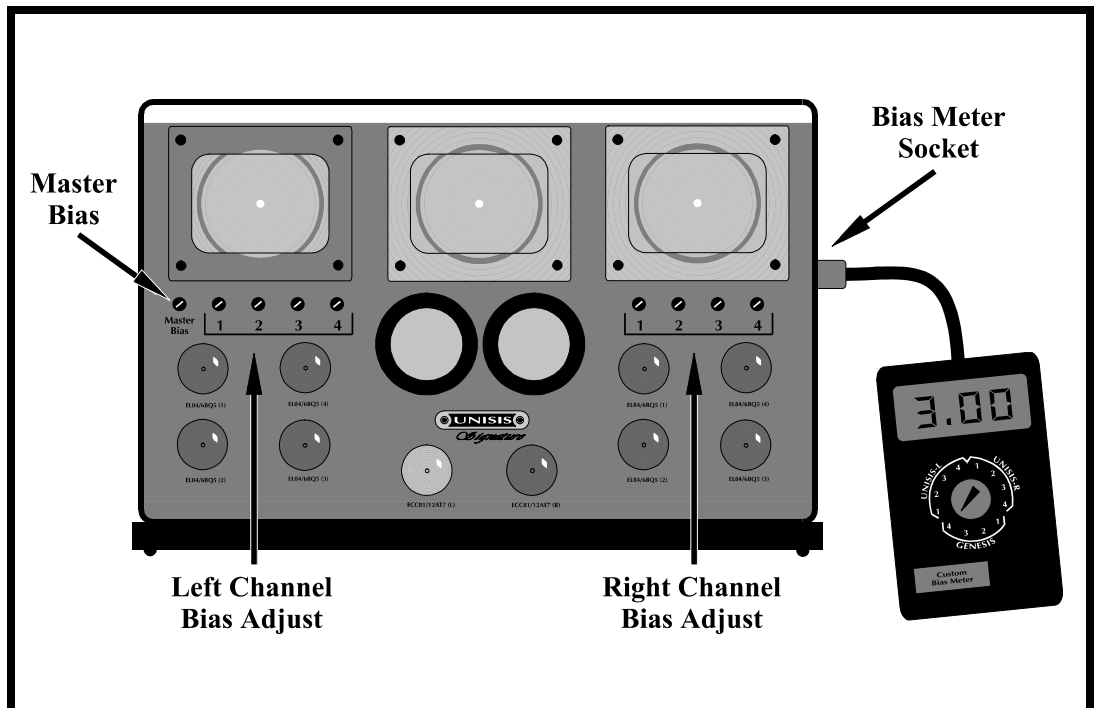
Maintenance



Care & Cleaning

Bias Measurement

Diagram 5



This chapter contains information on;

- *Care and Cleaning of your amplifier*
- *Bias Measurements of the Output Tubes*
- *Troubleshooting*
- *Changing Mains Voltage*

All polished metal parts on your amplifier are unlacquered. These metal parts will in time lack lustre due to oxidisation. They can easily be restored to original condition by using a mild metal polish (such as duraglit) and a soft polishing cloth. Do not clean the units with water as this smears the surface and can leave water marks. When dusting the amplifiers be sure not to catch the tubes as this may crack the glass. Alternatively you can remove the tubes (remembering the order they were removed in) and clean the amplifier. Anodised parts such as the front panel & painted parts such as the bottom cover are best cleaned with a damp cloth then buffed with a dry cloth.

The Unisis amplifier uses a fixed bias system that requires very little attention. It is only necessary to re-adjust the bias if you fit a **new** output tube (EL84) to the amplifier. The smaller input tubes (12AT7) can be simply replaced without adjustment.

If your dealer cannot offer this re-tubing service it is possible to fit a replacement tube and adjust the bias yourself with the aid of a custom TT Bias Meter available from an authorised Tube Technology dealer.

To adjust the amount of bias on each EL84 tube follow the procedure in [Table 1](#), and refer to diagram 5.

Table 1

Step	Action	Remark
1.	Wait 10 minutes after switching on the amplifier. Ensure no signal is playing.	Volume in the minimum position.
2.	Plug the Bias Meter into the 8-Pin receptacle on the amplifier and switch the meter ON.	8 pin receptacle is located in the black ventilation mesh on the right hand side of the Unisis.
3.	Rotate the Selector switch on the meter to the desired tube in the Left or Right hand channel.	Switch to the Unisis Range on the meter, switch slowly, allowing the reading to settle.
4.	Identify the four Bias Potentiometer adjusting screws, each labelled 1-4.	Located just behind the output tubes on the top deck of the chassis.
5.	Adjust the desired potentiometer for the tube you are measuring.	Clockwise turn increases bias current.
6.	Set the meter to read 3.00 +/-1.0	Switch through all the tubes 1-4 Left and 1-4 Right ensuring they all measure approximately the same.
7.	If a tube is either too low or high, adjust the Master Bias to bring into range.	Adjust Master Bias very slowly. This adjustment will change all 8 tubes.
8.	If the Meter displays 1 the protection fuse for that tube has failed. Replace fuse. See	Remove Unisis bottom cover to access fuses located on the base of each output tube. [Fuse type 100mA T, 10 ohm impedance]



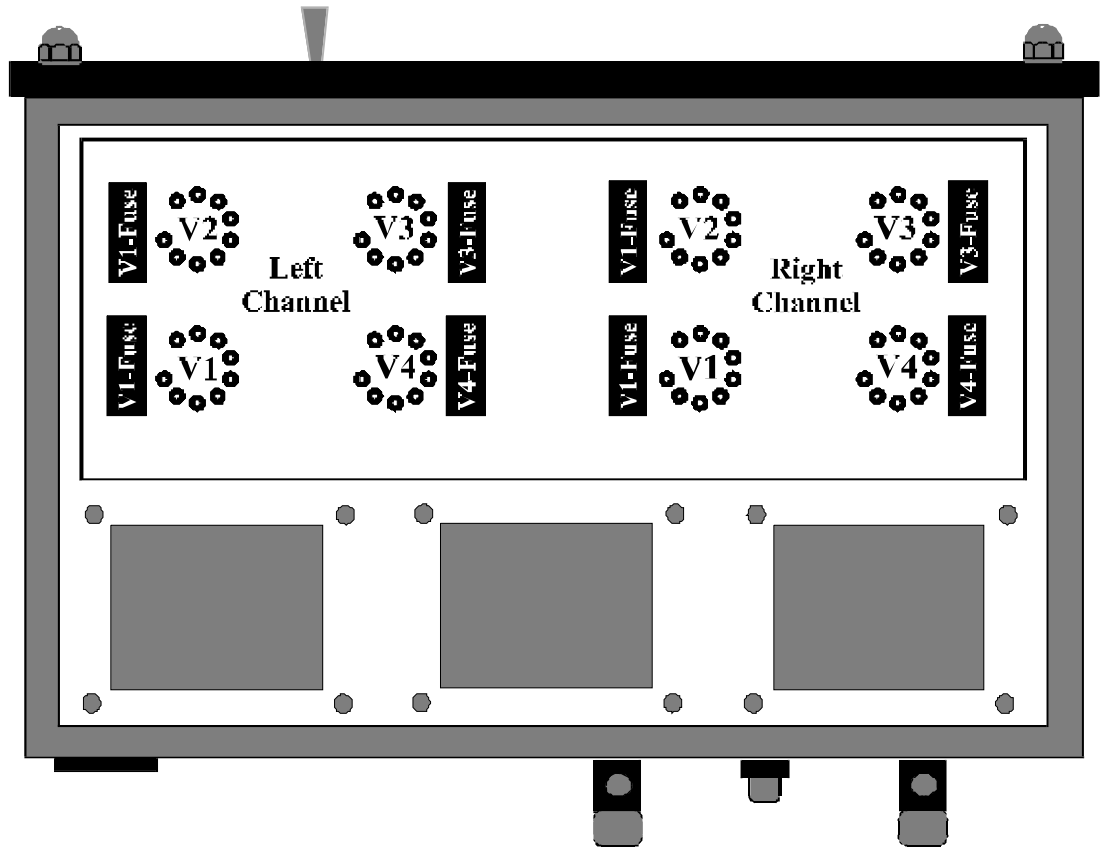
UNDER NO CIRCUMSTANCES SHOULD AN UNQUALIFIED PERSON REMOVE THE COVERS OF AN AMPLIFIER.

Troubleshooting

Symptom	Remedy
Amplifier switches on but there is no sound from the system.	<ol style="list-style-type: none"> 1. Check you have connected the preamp output to the RCA input connector on amplifier 2. Check that the loudspeaker connections have been made.
Amplifier does not switch on	<ol style="list-style-type: none"> 1. Ensure IEC plug on mains lead is a snug fit. 2. Check the mains fuse located on the back panel of amplifier 3.15 A(T), see diagram 4.
Tubes Pulsate and glow blue	<ol style="list-style-type: none"> 1. Ensure you have not switched the amplifier On & Off without waiting at least 30 secs. 2. Dis-connect all inputs & try again..
A tube or tubes glow very bright cherry red, shortly after switch on. <i>(Do not confuse with normal filament glow)</i>	<ol style="list-style-type: none"> 1. Turn amplifier off immediately. 2. Tube is faulty, change tube and try switching ON.. <p>If problem persists refer to a technician.</p>

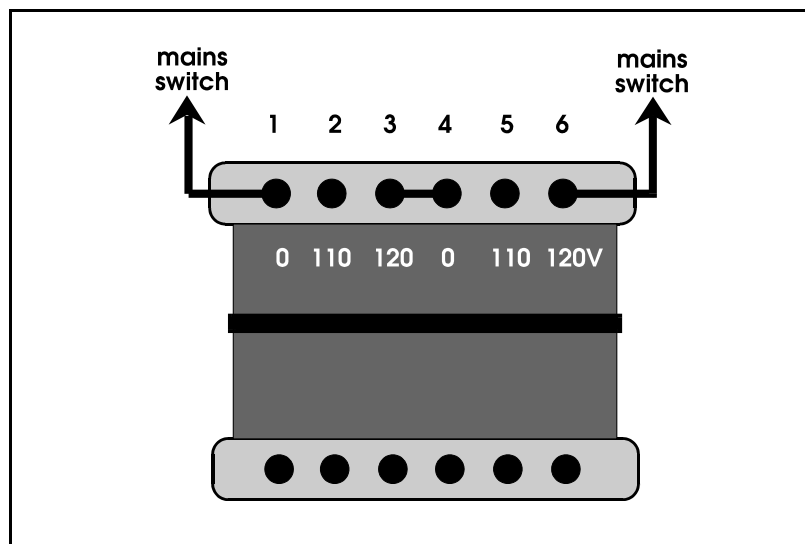
Diagram 6

*Internal Location
of Tube Protection
Fuses.*



*Changing
Mains Voltage*

Diagram 6



The above diagram shows the mains transformer set to 240V. If you need to change the mains voltage, refer to an experienced technician or Tube Technology.

240V - 3&4 LINK, 1&6 to switch

230V - 2&4 LINK, 1&6 to switch

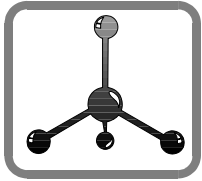
220V - 2&4 LINK, 1&5 to switch

120V - 1&4 LINK, 3&6 LINK, 1&6 to switch

110V - 1&4 LINK, 2&5 LINK, 1&5 to switch

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Specifications



Figures given below are for a typical Unisis Integrated Amplifier

Vacuum Tube Compliment	EL84/6BQ5 x 8 ECC81/12AT7WA x 2 ECC83/12AX7 x 2 (LINE) x 4 (PHONO)
Output Power	30 watts + 30 watts (8 ohms)
Frequency Response	LINE - 5Hz - 120KHz @ 1W +/- 1dB 15Hz - 50KHz @ 30W +/- 1dB PHONO- 30Hz - 30KHz +/- 3dB
Input Sensitivity	LINE - 300 mV (output 1V) PHONO - 0.50 mV (output 1V)
Input Impedance	LINE- 200 Ohms PHONO- 47 KOhms
Output Load Impedance	6-8 Ohms
Power Consumption	Quiescent = 120W Full power = 255W
Voltage	110V, 120V, 220V, 230V, 240VAC
Dimensions	350 (W) x 270 (D) x 135 (H) mm
Weight	16 kG

Guarantee



Guarantee

This chapter contains information on;

- *The Guarantee of your Unisis amplifier*
- *Tube Guarantee*
- *Registration*
- *Claims under this Guarantee*

This equipment has been fully tested and a full record of these tests made before despatch from the factory. Both the workmanship and the performance of this equipment are (*except as set out below) guaranteed against defects for a period of **TEN YEARS** from the date of purchase, provided that it was originally purchased from an authorised dealer under a consumer sale agreement, at or near the recommended retail price. (The words "consumer sale" shall be construed in accordance with section 15 of the Supply of Goods (Implied Terms) act 1973).

This guarantee covers both labour and parts and is transferable to subsequent purchasers but the liability of the manufacturers is limited to the cost of repair or replacement (at the discretion of the manufacturers) of the defective parts and under no circumstances extends to consequential loss, damage or shipping charges.

* Ten year period applies to integrated models or pre/power system only, otherwise a TWO YEAR guarantee applies.

The manufacturers can accept no responsibility for defects arising from accident, misuse, wear and tear, neglect or through unauthorised adjustments and or repair, neither can they accept responsibility for damage or loss occurring during transit to or from the person claiming under this guarantee.

This equipment has a SIX MONTH guarantee on the tubes allowing for any manufacturing defects to arise. If a tube is found to be defective it should be returned to the dealer or failing this, directly to Tube Technology packed in its original packaging.

Registration

Please complete the registration card and return it to Tube Technology. **Your guarantee is invalid without registration.** To transfer this guarantee to subsequent purchasers, the new owner must notify Tube Technology of their name, address and serial numbers of the equipment.

Claims under this Guarantee

This equipment should be packaged in the original packaging and returned to the dealer from whom it was purchased or, failing this, any other authorised Tube Technology dealer. If it is not possible to return the equipment by hand then it should be sent carriage prepaid by a reputable carrier. Should the original packaging not be available replacement packaging can be purchased from the manufacturers. The equipment should not be sent by post.



DO NOT CONSIGN THE EQUIPMENT TO TUBE TECHNOLOGY UNLESS YOU HAVE FIRST BEEN SPECIFICALLY REQUESTED TO DO SO BY THE MANUFACTURERS TECHNICAL SERVICE DEPARTMENT. DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO DISASSEMBLE THE EQUIPMENT BEFORE DESPATCH.
