

**CONGRATULATIONS** on your decision to become the proud owner of the **PLINIUS 8150** fully Integrated Amplifier.

This manual has been prepared to help you understand the operation of your amplifier and to provide some information about its design and the variety of ways it may be used.

We have designed and manufactured this amplifier to faithfully and accurately reproduce music. This hand built instrument should give a lifetime of pleasure and with a little care and a full understanding of the operating recommendation in this manual the Plinius 8150 should provide trouble free performance.

Every component used within the 8150 has been chosen for sonic excellence and the potentiometers have been selected from Audiophile quality types.

Serial Number:

Date of Manufacture:

Final Test Certified by:

Phono stage set for:       Moving Magnet.       Moving Coil.

**PLEASE TAKE TIME TO READ THIS MANUAL THOROUGHLY BEFORE USING YOUR AMPLIFIER.**

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## **WARNING**

The 8150 control amplifier can be operated in excess of 150 Watts into 8 Ohms. This amplifier is also capable of a very large peak current delivery.

This 8150 control amplifier operates in Class AB and is therefore capable of generating a moderate temperature and requires careful placing to avoid any effect this heat may have on other equipment, furniture and fittings etc.

DO NOT remove the top cover from this amplifier. Hazardous voltages are present. Any repair work should be referred to a suitable qualified and experienced service person.

DO NOT attempt to connect any input of this amplifier to any of its outputs.

DO NOT earth any output terminal or connect any of these terminals together without following the instructions in this manual or seeking qualified assistance.

DO NOT place this amplifier in any position where liquids or any foreign material may accidentally enter it.

DO NOT connect any voltage source, short circuit, earth / ground or appliance ( other than suitable HiFi quality loudspeakers ) to any output terminal.

## AMPLIFIER FACILITIES AND FEATURES FRONT PANEL

The front panel of the 8150 power amplifier incorporates a panel fitted with one switch, and three knobs. These control the day to day functions of the amplifier. These controls are from the left;

**MAINS SWITCH.** This heavy duty rocker switch to the left of this panel switches the MAINS / LINE Power to the amplifier ON or OFF. A LED immediately adjacent to the switch illuminates to indicate that the power is ON. This LED will flash for approx. 10 seconds after switch on to allow the 8150 to stabilise.

It is not good practice to repeatedly active this switch ON and OFF rapidly.

### RECORD

The Record Selector allows recording of any chosen source and will not interfere with any source that is being listened to eg. it is possible to be listening to the CD Input and be making a recording from the Tuner. Two Tape decks can be fitted and dubbing in either direction is possible.

### SOURCE

The Source Selector allows any of the inputs chosen to appear at the Main Outputs.

### VOLUME

The volume control is an ALPS Motorised type and will accurately convey the source signals to the high level amplification stages. This can be used either manually or via the supplied Remote control.

The Remote Control will operate in two modes. If the Volume Up/Down button is depressed momentarily the volume will increase/decrease in very small increments. This allows fine adjustment to listening levels. If the Volume Up/Down button is depressed continuously, the volume will increase/decrease rapidly.

## FRONT PANEL LAYOUT SHOWING CONTROLS



## PANEL FACILITIES AND FEATURES CONTINUED

### REAR PANEL

**RCA INPUTS LEFT & RIGHT.** These standard type **RCA** terminals are for use with unbalanced signals, facilities are provided for Phono, CD, Tuner, & connection of two Tape decks.

The Phono Stage fitted allows the use of Moving Coil and Moving Magnet cartridges. The 8150 in standard form is fitted with Moving Magnet settings but can be ordered from the factory with a Moving Coil option. We have included the components to change the operation of the Phono Stage from Moving magnet to Moving Coil. If the 8150 has been ordered from the factory with Moving Coil as standard the parts supplied will be for conversion to Moving magnet. Your local Plinius Service Agent should be able to convert your Phono stage to and from Moving Coil, should the need arise. See Appendix 1 for component details.

Two User Selectable Gain settings are available. The unit is factory configured to high gain. To change this setting:

1. Disconnect the unit from power supply.
2. Remove lid by removal of four base screws.
3. The Phono Gain Jumpers are situated on the right hand side of the top board. Reposition the two purple contact wires to their forward positions for low gain.

There is approximately 6 dB gain difference between the two setting. Please note these jumpers only change the gain and do not affect the cartage type. The cartridge type is factory set.

### OUTPUT TERMINALS

**OUTPUT CONNECTIONS** For the loudspeakers are provided on the left and right hand side of the rear panel.

Two pairs of heavy duty, gold plated five way binding posts for each channel are supplied for bi-wiring or standard speaker connection.

**PRE OUT** is provided to allow connection of another Power Amplifier/s, for bi-amping or multi speaker installations.

**PROCESSOR LOOP** allows connection of an external home theatre type processor. When connected to the 8150 the selection of **PROCESSOR** from the switch above the input sockets will divert the signal directly from the processor to the amplification stages by-passing the amplifiers volume control. This means that all control is managed by the processor and the amplifier becomes a slave unit.

**MUTE FUNCTION** is operated either from the Remote control or from the white push switch on the rear of the amplifier. This will short the input to the amplifier regardless of volume or selected source. One should always return the volume control to minimum at the end of a listening session to prevent a muted loud signal being accidentally selected via the Remote control.

**CONNECT** your Right hand loudspeaker positive terminal to the amplifiers Right channel + output terminal. Connect your Right hand loudspeaker negative terminal to the Right channel - output terminal. Signals for the **LEFT** channel should receive corresponding attention.

**PHASING** (or Polarity). It is important to achieve good stereo imaging in your listening room. By observing the wiring instructions above, each power amplifier / loudspeaker combination should be in phase. If you experience a poor stereo image and / or a lack of bass, check that the loudspeaker wiring has been connected correctly. We recommend that you use one of the easily obtainable "test discs" to help you ensure both phasing and channel orientation are correct. If in doubt, consult your **PLINIUS** / loudspeaker dealer for advice.

**QUALITY** of the connections must be examined to ensure a high performance trouble free operation is enjoyed. Check that the connections are tight, but do not overtighten with excessive use of spanners etc. If bare wires are used, make sure that no loose strands of wire short across to the other terminals or the amplifier chassis. When using plugs such as Banana, be sure to use good quality ones with a firm fit.

Output connections are provided to allow the use of most types of high quality loudspeaker cables.

The terminals are very robust 5 way binding posts which allow the use of banana plugs, bare wires, pins, spades and looped wire or terminals. Do not over tighten these terminals.

**STEREO.** This 8150 is a dual channel or stereo amplifier.

**UNBALANCED** or single-ended or RCA or coaxial leads are the most common of all and are used in the majority of audio signal systems. The terminal plug and socket are most commonly called RCA and can be found on the 8150 for use as the standard input terminals for both Left and Right inputs.

## **INSTALLATION & OPERATION**

### **MAINS VOLTAGE.**

**CHECK** that the mains voltage printed on the rear of this amplifier is similar to the mains voltage normally supplied to your area.

If in doubt, please consult your **PLINIUS** dealer.

### **PLACEMENT AND VENTILATION.**

This 8150 is designed to operate at a moderate temperature.

The ideal location is on a rigid stand or floor mounted away from direct contact with any objects, materials or deep pile carpets which may interrupt the flow of air around and through the amplifier.

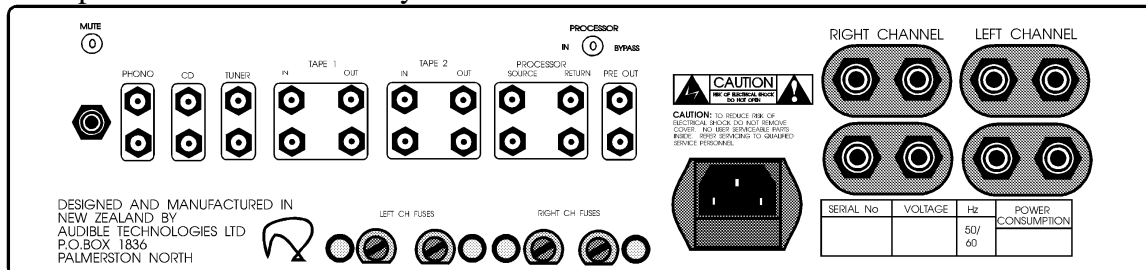
Make sure that no objects are placed on top of the amplifier and that the ventilation holes are not covered or restricted in any way. Always ensure adequate ventilation.

The **PLINIUS** 8150 design incorporates a very high level of mechanical decoupling of the input and output. It can however still be influenced by acoustical feedback in the operating environment. The use of acoustic cones or a suitably spiked amplifier stand or table may further enhance the performance of this amplifier. Consult your **PLINIUS** dealer for further advice if required.

The **PLINIUS** 8150 Control Amplifier should be left switched on at all times. If the 8150 is switched off between listening sessions you will never hear just how good it really sounds. In our experience a 48 hour warmup period is required during which the sound quality will change quite dramatically. This change will continue for at least 72 hours after which the amplifier will be at its optimum. This warmup period is a nuisance but the results are well worth the wait.

## REAR PANEL CONNECTIONS

All input connections are clearly marked



REAR PANEL LAYOUT

## TAPE CONNECTIONS AND DUBBING

If two tape decks are fitted to the 8150 it is possible to dub in either direction. Selecting either Tape Input with the Record Selector automatically sends the tape playback signal to the other tape deck. eg. Select Tape 1 as a record source and its playback output will go to Tape 2. Select Tape 2 as a record source and its output will go to Tape 1.

A 'Tape Lock' feature ensures that the machine playing back and selected as a record source does not get a signal fed to its input sockets, so inadvertently switching it to record mode will not cause feedback howl. While dubbing, the Source Selector allows easy monitoring of either tape deck.

## MAINS / LINE POWER CONNECTION

**MAINS / LINE POWER** connection is via the supplied plug-in lead.

The standard IEC socket connects the mains power at the amplifier end while a local mains plug is required at the wall end. In the event where a "local" plug needs to be fitted to the wall end of the lead, ensure that the plug is wired correctly by a suitably qualified or experienced person.

The wiring code is;

**Green to Earth,**  
**Blue to Neutral,**  
**Brown to Phase or Live.**

Ensure the mains switch on the front of the amplifier is OFF before attempting any modification of the mains connection.

## **MAINS / LINE FUSE.**

A Mains / Line fuse is fitted within the IEC Mains / Line socket on the rear of the amplifier. A small drawer at the bottom of this socket may be removed ( after the IEC plug is removed ) by levering it out with a flat blade screw driver. The fuse fitted should be rated at no greater than 10 Amps Fast-Blow. A spare fuse is located within the drawer.

In the unusual event that this fuse should blow, you must first establish the cause of this failure, cure the fault and then replace the fuse with one of the same type.

DO NOT FIT A FUSE WITH A HIGHER RATING without consulting your **PLINIUS** dealer first.

In the event that your Mains / Line voltage is different to that printed on the back of the 8150, it may altered by a suitably qualified or experienced person.

There are only two options, **110V - 120V** or **220V - 240V** Operation

Consult your **PLINIUS** dealer for any changes that may be necessary.

## **RAIL FUSE**

At the rear of the 8150 there are four fuses, for each voltage rail of each channel.

Should one of these fail, it will be indicated by the adjacent LED, which will glow ( while the power is still turned on ) to indicate a fuse failure.

Before replacing the fuse, first find out what caused the failure, cure the fault, or if in doubt consult your **PLINIUS** dealer.

To remove the fuse, push the holder in slightly, and turn counter-clockwise, the replacement fuse should be no greater than 7.5 Amps Fast-Blow

## **LOUDSPEAKERS**

This amplifier is designed for use with HiFi quality loudspeakers. It should not be used to operate with any other type of appliance or equipment not intended or designed for use with this amplifier.

Choice of loudspeakers is one of personal taste, providing the chosen loudspeakers are suitable for use with this control amplifier. Be certain that your loudspeakers can handle most of the rated output power of this amplifier.

You may find your loudspeaker specifications confusing or misleading therefore you should discuss these fully with your audio dealer prior to purchase. The use of higher power (100 Watts RMS or greater) loudspeakers are recommended for this amplifier in stereo mode. Our experience indicates that low power loudspeakers are quite often suitable for use with this amplifier provided the volume is maintained at a level where no distortion is audible.

Impedance of the loudspeaker load is important to ensure the rated performance of this amplifier. Any combination of loudspeakers may be used but the total average impedance load for each channel should be within a range of 4 to 8 Ohms in stereo mode.

### **REMOTE CONTROL MAINTENANCE.**

If the range of your Remote Control starts to diminish, your batteries may need replacing. To do this, remove the two screws holding the bottom end cap, then slide the back panel out. Please ensure batteries are replaced in the correct polarity.

### **SERVICING.**

If the top cover of the 8150 amplifier is taken off for any reason, remove the mains supply plug first. The Voltages present on the circuit board could be harmful.

In the unlikely event that your PLINIUS 8150 should require any service please take it firstly to your Dealer in its original packaging. He will then determine if the unit should be returned to the factory. Your PLINIUS Dealer has a good understanding of our Amplifiers and will be able to advise on any further installation requirements.

### **CLEANING.**

A damp cloth is all that is required to remove dust and finger marks from the 8150's anodised surface.

## **Specifications:**

150 Watts continuous power per channel into 8 ohms, both channels driven from 20Hz to 20kHz at less than 0.1% Total Harmonic Distortion from 0.25 Watts to rated output.  
230 Watts continuous power per channel 20Hz to 20kHz into 4 ohms.

### **Dynamic headroom**

1dB or greater at 8 ohms with music.

### **Frequency response**

20Hz to 20kHz  $\pm$  0.2dB  
-3dB at 5Hz, -3dB at 90kHz.

### **Distortion**

Typically 0.05% and IM at rated power, 0.1% THD and IM worst case prior to clipping.

### **Saturation**

180 Watts per channel or greater into 8 ohms.

### **Current output**

35 Amps short duration continuous per channel.  
Fuse protected.

### **Rise time**

Typically 4 microseconds.

### **Slewing**

50 Volts/uS

### **Hum & Noise**

90dB below rated output 20Hz to 20kHz unweighted.

### **Input sensitivity / Input impedance**

200mV RMS 47k ohms for rated output.  
2mV on Phono Low gain MM. 500uV on High gain MC

### **Input overload**

5V RMS

### **Rated Pre-Out level**

1.5V RMS into 47k ohms or higher.  
Maximum output 6V RMS into 10k ohms or higher.

### **Pre-Out Source impedance**

Typically 5k ohms

### **Tape Output level / Source impedance**

190mV @ 200 ohms.

### **Pre-Out minimum recommended load**

47k ohms.

**Tape loop muting**

at 5V RMS input.

All operational, technical and descriptive material published here is subject to change at any time without notice.

**PLINIUS** amplifiers are designed and manufactured by:

AUDIBLE TECHNOLOGIES Ltd.

P.O. Box 1836,

PALMERSTON NORTH.

NEW ZEALAND.

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**DIMENSIONS:** Height : 120mm Width: 440mm Depth : 350mm Weight 15kg

Appendix 1.

To Change from Moving Magnet to Moving Coil or vis versa:

The Phono stage is that section of the upper circuit board adjacent to the Right hand side heatsink.

This task can be done by soldering the components on the top of the circuit board as through hole plating is standard.

Fit the correct components for the required configuration from the table below.

Components Number.	Moving Magnet.	Moving Coil.
R53/ R54	47000 ohms	470 ohms
R55/ R56	1000 ohms	180 ohms
R57/ R58	12000 ohms	2200 ohms
Q16/ Q18	2SC2240.	Not fitted.
Q16a/ Q18a	Not Fitted.	2SC4382.