PLINIUS

INSTRUCTION MANUAL

ODEON
MULTICHANNEL
AMPLIFIER

CONGRATULATIONS on your decision to become the proud owner of this Plinius Odeon Power Amplifier.

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

We have designed and manufactured this amplifier to reproduce your favourite music faithfully and accurately. With a little care and a full understanding of the operating recommendations in this manual, your Plinius Odeon Power Amplifier will provide years of high-quality, trouble-free performance.

Serial Number: .....

Final Test Certified By: .....

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

DESIGN PHILOSOPHY

From a distance you can see that the design of the Plinius products is more than an applied styling exercise to the front panel. We have started from the ground up to produce a casing for our electronics that is unrivalled in its physical strength and visual simplicity. Wherever possible we have reduced the number of parts needed and then invested massively in refining and producing the remaining parts to the highest quality achievable with state of the art computer controlled machines allied with expert craftsman. Examples of this approach include the hydraulically formed corners on the amplifiers giving much greater strength and the one piece housing for the remote control unit that eliminates large joints and potential creaks.

The very process of holding the remote tells you that you are controlling both a powerful and precise product. It is designed specifically for the act of listening to music, not channel surfing on a television or changing the room temperature. The distinction is important because we believe that listening to music is a highly selective and emotional experience that requires a much greater level of concentration and precision to fully appreciate and enjoy.

As with music that you are not familiar with, truly innovative new designs can take time to understand and enjoy. How often have you heard music that you were first unsure of, that over repeated listening, has become a firm favourite. Our designs are fundamentally different to many other companies, and we hope that you will take the time to explore their unique character and qualities because we have not made them different simply to be different. We genuinely believe that their visual and tactile qualities do improve the experience of listening to music and that is our design goal!

Ross Stevens
Design Director.

CONTENTS

PRECAUTIONS

Please take special note of the following precautions before operating your new amplifier:

- Each channel of the Plinius Odeon Power Amplifier can deliver in excess of 200 watts into 8 ohms. This amplifier is also capable of a very large peak current delivery.

- The Plinius Odeon Power Amplifier operates in Class AB. It is capable of generating heat that could have an adverse effect on other electronic equipment, furniture, etc. DO NOT leave flammable material on the amplifier whilst running, as this could pose a serious fire risk.

- This amplifier operates at hazardous voltage levels. We recommend that any work requiring removal of the lid be referred to a suitably qualified and experienced service technician.

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

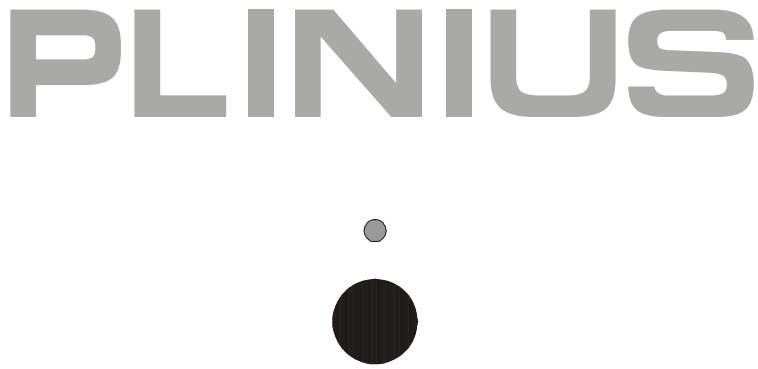
- DO NOT earth any output terminal or connect any of these terminals together without following the instructions in this manual or seeking qualified assistance.

- 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 high fidelity loudspeakers) to the amplifier output terminals.

AMPLIFIER FEATURES – FRONT PANEL

The front of the Plinius Odeon Power Amplifier includes a standby button and power LED.



FRONT PANEL LAYOUT SHOWING POWER LED AND STANDBY SWITCH

POWER LED

An LED below 'PLINIUS' indicates that the power is on. When in standby mode, the LED will pulsate on a ten-second cycle, signifying the amplifier is on, but in standby mode to conserve power. When the standby button is first pressed, the power LED will blink on and off for five seconds - this is an initialisation sequence, after which the power LED remains lit during the time the amplifier is powered on. Some or all lid LEDs will also light to show how many modules are fitted and operating correctly.

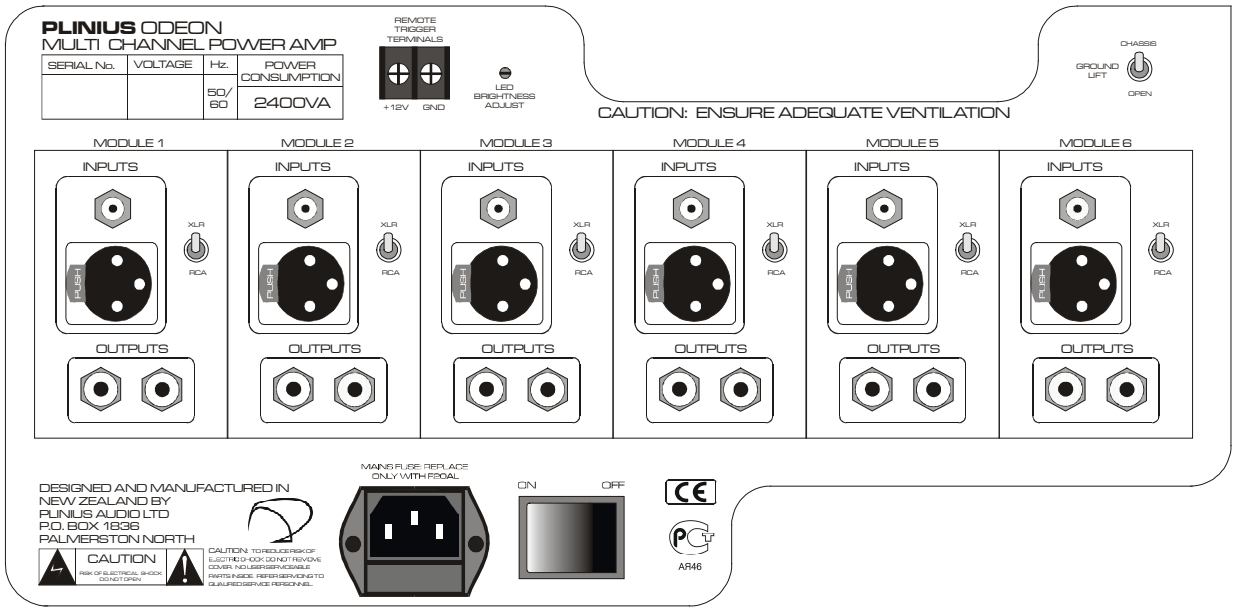
STANDBY BUTTON

Pressing this button once takes the amplifier out of standby and any incoming signal is amplified. Another press of the button and the amplifier goes into standby mode, which disconnects power to all of the amplifier circuitry except the microcontroller to conserve power. Standby state is shown by the pulsating power LED.

AMPLIFIER FEATURES – REAR PANEL

This panel incorporates the terminals for connecting input signals from the source, as well as outputs to the loudspeakers, power switch, and mains supply.

Please remember that your Plinius Odeon Power Amplifier is a high quality electronic instrument capable of an exceptional level of performance. Be sure that you understand your system's requirements fully before you make any connection to this amplifier.



REAR PANEL SHOWING MODULE INPUT AND OUTPUT TERMINALS, REMOTE TRIGGER TERMINALS, LED BRIGHTNESS ADJUST, GROUND LIFT SWITCH, MAINS SWITCH AND MAINS SOCKET (SHOWS 6 SINGLE AMP MODULES FITTED).

INPUT TERMINALS

The input terminals for your Plinius Odeon Power Amplifier are easily accessible at the top of the channel module panels. Depending on the configuration of your amplifier when it was purchased, there will be up to six modules fitted, each with it's own input connection/s. The Dual Amp modules have two RCA input connectors, one for each of the two amplifier channels on the module itself.

RCA INPUT: This standard RCA terminal is for use with unbalanced signals from most signal sources such as home theatre processors and stereo preamplifiers.

XLR BALANCED INPUT: XLR connectors fitted to this amplifier are for use with balanced line signals from audio preamplifiers. Balanced signals are carried via a three way cable that connects all three pins at each end of the interconnect cable.

NOTE: Because of the way our XLR and balanced inputs are configured it is not possible to connect both XLR and RCA at the same time.

RCA / XLR SELECTOR SWITCH (SINGLE AMP MODULE ONLY)

Each fitted module incorporates a switch that selects the input terminal to be used. It is possible to use different input types for each channel. Note that there should never be an RCA input and XLR input connected to one module at the same time, and the selector switch should correspond with the input that is in use.

OUTPUT TERMINALS

Connections for the loudspeakers are provided on each module panel. A pair of five way binding posts are fitted – these provide ease of use with cables requiring a large contact area. The Dual Amp modules have two pairs of binding posts, one for each of the two amplifier channels on the module itself.

GROUND LIFT SWITCH

This switch is located to the top right of the rear panel, and allows the signal ground to be disconnected from the chassis. In some installations a hum loop may exist due to duplicate ground paths from different equipment. Use this switch to remove the connection from 0V to ground thus allowing some flexibility in your particular set-up.

MAINS POWER CORD IEC SOCKET

This connector is where the mains supply cable from your wall connects to the amplifier. You will notice that a fuse holder is mounted within this connection, and it holds a mains fuse to provide surge and overload protection for your amplifier.

MAINS SWITCH

This heavy-duty rocker switch in the centre of the panel turns the Mains/Line Power to the amplifier ON or OFF. An LED in the centre of the front panel indicates that the power is on. When first switched on the power LED will be lit, pulsating approximately every ten seconds. The amplifier draws a moderately high current when switched on. Despite the "Soft Start Circuit" within the amplifier reducing current demand on the mains as the amplifier is switched on, it is not good practice to rapidly turn the Mains switch on and off repeatedly.

LED BRIGHTNESS ADJUSTER

This small variable resistor can be adjusted from the rear panel, which will alter the brightness of all external blue LEDs at the same time.

REMOTE TRIGGER TERMINALS

In order to integrate more effectively into a home theatre system, the Plinius Odeon has remote trigger terminals fitted to the top of the rear panel. By connecting a processor with a 5-12V remote trigger signal to these terminals, the Odeon can be put in and out of standby by the processor to which it is connected. This enables the user to control the power usage and “ON” state of the Odeon without actually touching it.

INSTALLATION AND OPERATION

PLACEMENT AND VENTILATION

Your Plinius Odeon operates at a moderately high temperature, especially when being operated at high volume. The ideal location is upon a rigid stand, or floor mounted away from direct contact with any temperature sensitive materials or deep pile carpets. Ventilation through and around the amplifier should also be kept unimpeded, so ensure that the heat vents (slots in the lid and base) are not covered or restricted in any way. If the Odeon is to be installed in an enclosed cabinet, ensure that the entire lid of the amplifier is unimpeded and has at least 50mm (2") of free space above it. It would also be advantageous to ensure that the cabinet itself had as many vent holes as possible.

The Plinius Odeon design incorporates a very high level of mechanical de-coupling 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.

MAINS VOLTAGE CONNECTION

Firstly, check that the mains supply voltage printed on the rear of this amplifier is similar to the mains supply voltage in your area. If in doubt, please consult your **PLINIUS** dealer.

Mains supply power connection is via the supplied plug-in lead. A standard IEC socket connects the mains power at the amplifier end, while a local mains plug is required at the wall end.

The wiring code used inside all Plinius product is:

Green to Earth/Ground
Blue to Neutral
Brown to Phase/Live

Should a 'local' plug need fitting to the wall end of the lead, ensure that a suitably qualified service technician wires the plug correctly.

IMPORTANT: **DO NOT POWER UP YOUR AMPLIFIER UNTIL YOU HAVE CONNECTED YOUR INPUT/OUTPUTS CORRECTLY FOR YOUR SYSTEM, (AS EXPLAINED IN THE NEXT SECTION).**

INPUT / OUTPUT CONNECTION

It is important that you connect your loudspeakers (outputs) and processor (inputs) to the Plinius Odeon Power Amplifier correctly to ensure the amplifier is not damaged, and sounds its best with your system. Now that you have read and familiarised yourself with the connections on the back of the amplifier, as covered in the previous section, we will describe in detail how to connect the amplifier to your system.

Connect your preamplifier or processor to the RCA or XLR inputs on the back of the Plinius Odeon. Use any Dual Amp modules (if fitted) as rear only channels. Also make sure the RCA connectors are a snug fit and are inserted all the way in.

Next, connect your loudspeaker wires to the output posts. Connect the corresponding loudspeaker (e.g. left front) to the same output terminals and module as the corresponding input signal is connected to, ensuring that the red positive (+) terminal is connected to the red terminal on your loudspeaker. Do the same with the black or negative (-) terminals.

OPTIMUM 2 CHANNEL OPERATION

The two channels in the middle of the amplifier have the shortest ground return paths and will, by a subtle margin, give the best audio performance. It is suggested that these be used for front left and right.

TERMINATION QUALITY

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

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 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** dealer for advice.

Naturally it is also important to make sure all the leads carrying signals for the RIGHT channel loudspeaker are connected to the RIGHT input to the amplifier from your preamplifier or CD player etc. Signals for the LEFT channel should be wired in a similar fashion.

CONNECTING THE MAINS SUPPLY

Now that your Plinius Odeon Power Amplifier is configured correctly, the mains cable can be plugged into the IEC socket on the back of the amplifier. Turn on the power switch on the rear panel. The power LED on the front panel will pulsate from dim to bright. Press the front panel button and the power LED will flash on and off for approximately five seconds as the internal microprocessor allows the internal circuitry to stabilise. After this time the amplifier will automatically open the mute circuit of the amplifier, and the module LEDs on the lid will light to show which modules are fitted and operating. You can now enjoy your new Plinius Odeon Power Amplifier.

WARM-UP PERIOD

You will find that the Plinius Odeon will sound its best after being on for a period of time. We usually recommend waiting at least 24 hours before expecting the best quality of sound reproduction from your amplifier. Also, as the Plinius Odeon uses very little power while on, we suggest leaving the unit turned on so that it will always be at it's sonic best.

ODEON FEATURES

ERROR DETECTION

The Plinius Odeon Power Amplifier has in-built error detection. This will function under the following conditions:

- When an amplifier module is overdriven/clipped
- If any internal fuse is damaged

Should either of these circumstances arise the amplifier will disconnect the output of the channel/s that have an error condition. This condition will remain until the input signal level is reduced or the damaged fuse replaced. Whenever error detection is triggered, the power LED and the lid LED of the module that is going into error will flash on and off.

FUSE PROTECTION

When any rail fuse is damaged one or more fuse warning LEDs will light. These LEDs can be seen through the lid and are located next to the fuse that has blown. If any of the rail fuses need to be replaced, do so only with 10 amp normal blow fuses for Single Amp modules and 5 amp normal blow for Dual Amp modules.

IMPORTANT: DO NOT FIT A FUSE WITH A HIGHER RATING.

Note that fuse failure may indicate a severe problem. Check all speakers and speaker cables for damage/short circuit, etc. Should the amplifier continue to demonstrate rail fuse failure, contact your **PLINIUS** dealer.

LED BRIGHTNESS CONTROL

Your Plinius Odeon has an LED brightness control that will adjust all lid and front panel LEDs. A small flat bladed screwdriver can be used to adjust the brightness. The LED brightness control is a small multi turn potentiometer and is located on the rear panel of the amplifier next to the remote trigger terminals.

REMOTE TRIGGER TERMINALS

In order to use the remote trigger capability of the Plinius Odeon Amplifier, connect the processor remote trigger signal to these terminals. Polarity of connection is not important. At a change to 0V the Odeon will go into standby, and remain in that state until a positive trigger voltage is again presented, or the standby button on the front panel is used to override the remote trigger. Note that when the remote trigger is used the power LED remains lit at all times. The lid LEDs will turn off when the amplifier is in standby, and turn on again after the start-up sequence and the amplifier is ready for operation.

TEMPERATURE MONITORING

The Plinius Odeon Amplifier has temperature-monitoring circuitry. When the amplifier reaches a predetermined internal temperature of 45°C due to inadequate ventilation, the amplifier will be shut down until the temperature returns to normal. When the temperature has exceeded the set point, the power LED will flash four times in quick succession, pause then repeat. If over-temperature shutdown is occurring frequently, check whether ventilation around the amplifier is adequate.

MAINS/LINE FUSE

A Mains/Line fuse is fitted within the IEC 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 screwdriver. The fuse fitted should be rated at no greater than 20 amps normal blow.

IMPORTANT: DO NOT FIT A FUSE WITH A HIGHER RATING.

In the unusual event that this fuse should blow, you must first establish the cause of this failure (such as power surges, damaged mains cable, etc.) before replacing the fuse with one of the same rating and type. Should the amplifier continue to demonstrate mains fuse failure, contact your PLINIUS dealer.

LOUDSPEAKER SELECTION

Your Plinius Odeon Power Amplifier is designed for use with high fidelity loudspeakers. It should not be used to operate any other type of appliance or equipment.

Choice of loudspeakers is one of personal taste, providing the chosen loudspeakers are suitable for use with your amplifier. Be certain that your loudspeakers can handle most of the rated output power of this amplifier. You may find loudspeaker specifications confusing or misleading, so you should discuss this with your audio dealer prior to purchase. As a general rule, the use of high power (200 Watt RMS or greater) loudspeakers is recommended and desirable. However, our experience indicates that medium to low power loudspeakers (100 to 200 Watt RMS) are quite often suitable for use on 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. Again, if you have doubts about the impedance of your loudspeaker configuration, we recommend you speak to your PLINIUS dealer.

SPECIFICATIONS

200-WATTS RMS PER MODULE INTO 8 OHMS (6 Modules Fitted & Driven).

EACH MODULE DRIVEN FROM 20Hz TO 20kHz AT LESS THAN 0.2% TOTAL HARMONIC DISTORTION.

- **FREQUENCY RESPONSE:** 20Hz to 20kHz ±0.2dB. -3dB at 5Hz and -3dB at 70kHz.
- **DISTORTION**: Typically <0.05% THD at rated power. 0.2% THD and IM worst case prior to clipping.
- **SATURATION:** 220 Watts per module or greater into 8Ω. 300 Watts per module or greater into 4Ω.
- **CURRENT OUTPUT:** 40A short duration per module. Fuse protected.
- **RISE TIME:** Typically 4μs.
- **SLEWING:** 50V/μs.
- **HUM & NOISE:** 90dB below rated output 20Hz to 20kHz unweighted.
- **INPUT SENSITIVITY:** 1.0V RMS for rated output at 1kHz.
- **GAIN:** 32dB.
- **INPUT IMPEDANCE:** 47kΩ.
- **HEIGHT:** 260mm (10 1/4")
- **WIDTH:** 460mm (18")
- **DEPTH:** 585mm (23")
- **WEIGHT:** 54kg (120lbs)

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CONTACT DETAILS

All operational, technical and descriptive material published here is subject to change at any time without notice. For further product information or queries, please contact us at the address below.

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