

PLINIUS

THE HEART OF MUSIC

INSTRUCTION MANUAL

SA-201
POWER
AMPLIFIER



CONGRATULATIONS on your decision to become the proud owner of this
Plinius SA201 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 SA201 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.



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PRECAUTIONS

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

- The Plinius SA201 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 SA201 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

PLINIUS



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 vary in brightness on a ten-second cycle. When the amplifier is in normal operating mode the power LED remains lit.

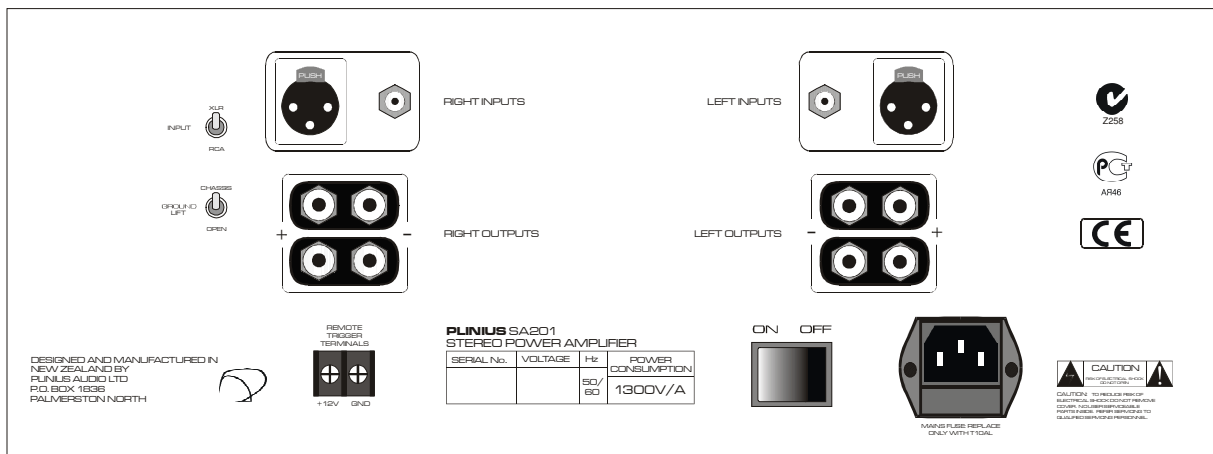
STANDBY BUTTON

Pressing this button once takes the amplifier out of standby and any incoming signal is amplified. The power LED will blink on and off for five seconds – this is an initialisation sequence – before remaining lit. Pressing the button again will put the amplifier into standby mode, which disconnects power to everything except the microcontroller in order to conserve power. The power LED will cycle.

AMPLIFIER FEATURES – REAR PANEL

This panel incorporates the terminals for connecting the input signal from the preamplifier, outputs to the loudspeakers, and mains supply.

Please remember that your Plinius SA201 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 Input And Output Terminals, Remote Trigger, Ground Lift Switch, Input Selection Switch, Mains Switch And Mains Socket.

MAINS SWITCH

The heavy-duty rocker switch on the rear panel turns the Mains/Line Power to the amplifier ON or OFF. The amplifier draws a moderately high current when switched on, so it is not good practice to rapidly turn the Mains switch on and off repeatedly.

INPUT TERMINALS

Input terminals for your Plinius SA201 Power Amplifier are easily accessible at the top centre of the rear panel.

RCA INPUTS LEFT & RIGHT: These standard RCA terminals are for use with unbalanced signals from most signal sources such as audio preamplifiers.

XLR BALANCED INPUTS LEFT & RIGHT: 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.

INPUT SELECTION SWITCH

This switch at the top left of the rear panel is used to select the pair of input sockets required as described above. Up selects the XLR input connections, while down selects RCA input.

OUTPUT TERMINALS

Connections for the loudspeakers are provided on the left and right sides of the rear panel. Two parallel pairs of five way binding posts for each channel are fitted – these provide ease of use with bi-wiring and multiple cables requiring a large contact area.

GROUND LIFT SWITCH

This switch is located below the remote trigger terminals, 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.

REMOTE TRIGGER TERMINALS

In order to integrate more effectively into a home theatre system, the Plinius SA201 has remote trigger terminals fitted to the lower rear panel. By connecting a processor with a 5-12V remote trigger signal to these terminals, the SA201 can be put in and out of standby by the processor to which it is connected. When in standby the amplifier draws less current and will operate at minimum temperature. This may be of advantage in multi-amplifier and or remote installations.

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, this holds a mains fuse to provide surge and overload protection for your amplifier.

INSTALLATION AND OPERATION

PLACEMENT AND VENTILATION

Your Plinius SA201 may operate at a moderately high temperature, especially when being driven hard. 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.

The Plinius SA201 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 preamplifier (inputs) to the Plinius SA201 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.

If using single-ended or RCA inputs, connect your preamplifier to the RCA inputs on the back of the Plinius SA201. Make sure you connect the red coded cable to the red RIGHT RCA input, and the black (or white) cable to the black LEFT RCA input. Also make sure the RCA connectors are a snug fit and are inserted all the way in. For XLR input connection, make sure you connect the RIGHT XLR input and LEFT XLR inputs to the right and left outputs from your preamplifier respectively. Also make sure the XLR connectors click into place.

Next, connect your loudspeaker wires to the output posts. Connect your right loudspeaker (i.e. the one on the right of you when seated in your normal listening position) to the right output terminals, ensuring that the red positive (+) terminal is connected to the red terminal on your loudspeaker. Do the same with the black or negative (-) terminals.

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 the amplifier chassis. When using plugs such as bananas, be sure to use good quality plugs with a firm fit.

BI-WIRING

Bi-wiring uses two pairs of loudspeaker cables for each channel loudspeaker. You will notice that the rear panel of your Plinius SA201 has two pairs of output terminals for this purpose. When using bi-wires, always connect positive (+) to positive (+) and the same for the negative (-) terminals.

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.

CONNECTING THE MAINS SUPPLY

Now that your Plinius SA201 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 cycle in brightness. Press the front panel button and the power LED will flash on and off for approximately five seconds as the microprocessor allows the internal circuitry to stabilise. After this time the amplifier will automatically open the mute circuit. You can now enjoy your new Plinius SA201 Power Amplifier.

WARM-UP PERIOD

You will find that the Plinius SA201 will become noticeably 'purer' in sound 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 SA201 uses very little power while on, we suggest leaving the unit turned on so that it will always be at it's sonic best.

SA201 FEATURES

ERROR DETECTION

The Plinius SA201 Power Amplifier has in-built error detection. This will function under the following conditions:

- When an amplifier channel 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 will flash on and off.

FUSE PROTECTION

When any rail fuse is damaged one or more fuse warning LED's will light. These LEDs are under the amplifier lid located near the centre of the front power circuit board with the rail fuse holders. If any of the internal fuse LED's are glowing, turn the mains power off with the switch on the rear panel, remove the amplifier's lid and then the fuse adjacent to the lit LED should be replaced. Replace them with the same type (10 amp normal blow).

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 suffer rail fuse failure, contact your **PLINIUS** dealer.

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 10 amps slow 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 suffer mains fuse failure, contact your **PLINIUS** dealer.

REMOTE TRIGGER TERMINALS

In order to use the remote trigger capability of the Plinius SA201 Amplifier, connect the processor remote trigger signal to these terminals. Polarity of connection is not important. At a change to 0V the SA201 will go into standby, and remain in that state until a trigger voltage is again presented or the standby button on the front panel is used to override this. Note that when the remote trigger is used the power LED remains lit at all times.

TEMPERATURE MONITORING

The Plinius SA201 Amplifier has temperature-monitoring circuitry. When the amplifier reaches an 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.

LOUDSPEAKER SELECTION

Your Plinius SA201 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. The amplifier has a high peak current capability, so impedance dips down to 2 ohms can be accommodated. Again, if you have doubts about the impedance of your loudspeaker configuration, we recommend you speak to your **PLINIUS** dealer.

SPECIFICATIONS

225-WATTS RMS PER CHANNEL INTO 8 OHMS.

BOTH CHANNELS DRIVEN FROM 20Hz TO 20kHz AT LESS THAN 0.2% TOTAL HARMONIC DISTORTION.

- **FREQUENCY RESPONSE:** 20Hz to 20kHz ± 0.2 dB. -0dB at 1Hz and -3dB at 70kHz.
- **DISTORTION:** Typically $< 0.05\%$ THD at rated power. 0.2% THD and IM worst case prior to clipping.
- **SATURATION:** 225 Watts per channel or greater into 8 Ω . 300 Watts per channel or greater into 4 Ω .
- **CURRENT OUTPUT:** 40A short duration per module. Fuse protected.
- **RISE TIME:** Typically 4 μ s.
- **SLEWING:** 50V/ μ s.
- **HUM & NOISE:** 90dB below rated output 20Hz to 20kHz unweighted.
- **GAIN:** 32dB.
- **INPUT IMPEDANCE:** 47k Ω .
- **HEIGHT:** 170mm (7 1/2")
- **WIDTH:** 445mm (17 3/4")
- **DEPTH:** 453mm (17 3/4")
- **WEIGHT:** 25kg (56lbs)

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