

Sonnet

KRATOS



KRATOS owner's manual

Updated 05-11-2021

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Introduction

Dear Customer,

Our Kratos power amplifier is designed for use in conjunction with our digital preamp Morpheus or Pasithea. However based on normal standards as used in hifi the Kratos can be used with almost any analog or digital pre amplifier. Both RCA or XLR inputs are selectable on the bottom side of the unit.

The front end of the Kratos is not based on classic differential circuits (having too much gain) but based on class A tube simulated circuitry running on the same high voltage (200V) as tubes normally doing. As a result the circuit has very high bandwidth and very low distortion without any feedback. Just a little feedback is used to give this amp the right amplification and damping factor. As a result the Kratos sounds as a hybrid without the disadvantages like aging as normal tubes will have over time.

As a lot of power is available your loudspeakers are protected against any form of malfunction and will be disconnected immediately in such cases.

The inputs of the Kratos can be switched between balanced or single ended by a switch situated at the bottom of the unit. Next the Kratos can be controlled by our Morpheus or Pasithea dac by using a so called remote cable. This remote option is not available in case that the Kratos is used in conjunction with other brands. In such case the Kratos can be switched to "music sense". If using "music sense" the Kratos will detect any incoming signals above a certain level and will be switched on for at least for 30 minutes. After this period (when no signals are coming in) the Kratos will switch back into standby mode.

Remark

The Kratos will reach its maximum performance after a two weeks of regularly use!

You're sincerely

Sonnet Digital Audio

IMPORTANT SAFETY INSTRUCTIONS

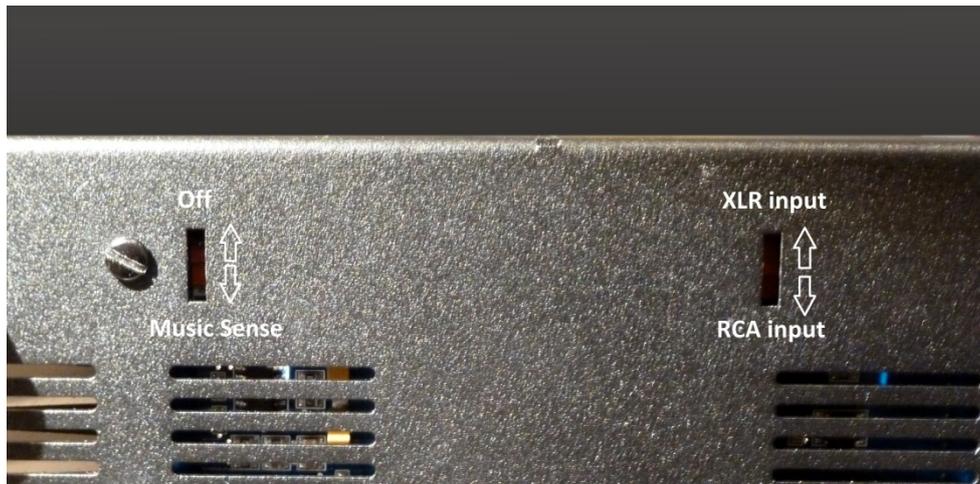
1. Read Instructions.
2. Keep these Instructions.
3. Heed all Warnings.
4. Follow all Instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Unplug this apparatus during lightning storms or when unused for long periods of time.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as a power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. The Kratos power amplifier must be placed on a firm, level surface where it is not exposed to dripping or splashing.
11. Before making connections to the amplifier, ensure that the power is off and other components are in mute or stand-by mode. Make sure all cable terminations are of the highest quality, free from frayed ends, short circuits, or cold solder joints.
12. THERE ARE NO USER SERVICEABLE PARTS INSIDE THE "Kratos" power amplifier.
Please contact Sonnet Digital Audio if you have any questions not addressed in this guide.
13. Sonnet Digital Audio cannot be held accountable and/or responsible for any form of damage or health issues inflicted to you, other people, pets, companies and non-living objects, that are caused by any form of usage of the product which is not described in this manual.
14. By actually using this product and turning it on for the first time, you agree to these terms

WHAT IS IN THE BOX

1. The Kratos amplifier
2. Power cord (only Euro or USA based power cords)
3. Remote cable (Optional)

FIRST STEPS

1. **Power requirements:** Check if the product is made conform the power requirements of your area. On the back side the product is marked for the specific mains voltage.
2. **Switch settings:** On the bottom of the product you will find two tiny slots. Behind each slot there is a slide switch. One switch is used to set the input for the RCA or XLR input. The next switch will activate the “music sense” circuitry. Please set these switches in the desired mode first by using a thin object such as a jeweler’s screwdriver. The default setting is Music sense to “Off” and XLR input selected which is the upper position of both switches.



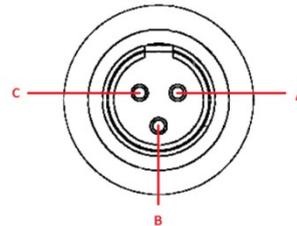


Caution! Please connect your interconnects first before connecting the mains power cable!

Power requirements: Check if the product is made conform the power requirements of your area. On the back side the product is marked for the specific mains voltage.

Remote connector: Depending the type of pre amplifier it is possible to switch it “On” or “Off” by using the remote connection. For connection a 3 pole XLR mini connector can be used and depending the way your power amplifier should be powered, it can be wired accordingly. The following connections are available: In case of using a Sonnet Morpheus digital pre amplifier a special set of remote cables can be delivered.

- A) **Common**
- B) **Not connected**
- C) **When connected to Common Kratos will be switched On.**



Loudspeaker terminals: The RED binding post is connected to the amplifier output . Connect to this post the (+) terminal on the loudspeaker. The BLACK binding post is connected to signal ground. Connect to this post the (-) terminal on the loudspeaker. The connected loudspeaker should have a nominal impedance between 4 and 8 Ohms.

The Output binding posts provide three different interconnect options. Combinations may be used when bi-wiring. Cables should be kept as short as practical and should never be terminated with connectors that may become confused for AC power connectors. Cables should be dressed away from input and power cables.

1. Banana plugs offer a quick disconnect option. Before inserting a banana plug into the binding post be sure to tighten the post nut to avoid rattling and to provide full insertion of the banana plug.
2. Spade lugs provide high contact area and secure fastening. Lugs should be gold plated.
3. Stripped bare wire up to 4 mm diameter can be inserted through the hole in the binding post and held in place by tightening the post knob. Note that copper wire is malleable and may require further tightening after the initial installation.

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Connecting

RCA input: Use single ended cables to connect the Kratos to your single ended pre amplifier. Select the input switches to the “RCA input” setting.

XLR input: Use a balanced XLR3 cables to connect the Kratos to your balanced pre amplifier. Select the input switches to the “XLR input” setting.

Mains inlet: Use the supplied power cable to a grounded power outlet. **Never use the Kratos amplifier without proper grounding!!**

Standby position : In standby position all capacitors are charged but quiescent current in both power amps is reduced to zero. The front panel electronics are still watching the state of the power amplifier. When the Kratos is switched to “on” quiescent current will build up slowly.

Standard operation: If the Kratos is connected via its standard inputs like RCA or XLR and none of the remote functions is in use, the display will tell you that the system is running in local mode. In this setting you are able to control the system by using the button on the front.



Remote function: By connecting the remote cable (or setting the switch on the bottom to “Music sense”) the Kratos will tell you that any control is taken over.



The remote sign is only visible if the connected system is switched on or in case of “Music sense” the detection system is activated by an incoming signal!



By using any of these remote options still there is a full control on temperature or any kind of malfunction. The Standby/on button on the Kratos will be disabled in this state.

In a case that a remote cable cannot be used, the Kratos can be set to “Music sense” by using the switch on the bottom. If any signal is coming in having a level above -50 dB the Kratos will be switched on. If no signal is coming in after activation Kratos will be switched off after approx. 30 minutes.

Error indication and protection: During normal operation the display will tell you the state of the amplifier like for instance remote or local control and the temperature. However if the system has a malfunction, the control circuit will immediately switch off the power supply but also disconnect the loudspeaker.

Temperature : As the amplifier partially will operate in class A mode, the most heat is generated by the heatsinks. It is therefore important that ventilation around the Kratos is guaranteed. In the event that conditions will change and the temperature could become too high, the system will detect this and issue a warning via the display. To indicate overheating, the display will flash and indicate "overheating".



Overheating 50C

If the given condition does not change, or if the temperature gets even higher, the Kratos will be switched off. In this condition you should remove the Kratos from mains power to reset the power supply.



Only when the Kratos is disconnected from the mains and a waiting time of 15 seconds is observed the system will try if the conditions are OK for proper operation! However in cases of real hardware troubles the amplifier comes back into the error state again.

- **In case of real malfunction remove your loudspeaker connections first!**
- **Never try to reset the amplifiers with both loudspeakers connected!**
- **During a reset make sure that the problem is solved and the display will show normal readings.**

Working principle:	Class A/B amp using tube simulated circuitry in the gain stage.
Power supply:	400 VA Switched power supply
Power consumption:	35 - 400 Watts
Power requirement:	110/115V AC or 220/230 V AC 60/50Hz
Inputs:	1x XLR3 balanced, 1x RCA single ended 1x mini XLR3 for remote connection
Input voltage:	240 mV RMS for 1 Watt 1.74 Volts RMS for 50 Watts. 8Ohm load.
Input impedance:	Single ended 15 kOhms . Balanced 60 kOhms
Outputs:	Gold plated loudspeaker binding posts.
Output voltage:	22 Volts RMS max.
Output power	50 Watts 8 Ohms load 95 Watts 4 Ohms load
Output current	12 Amps continue delivery by power supply (Output long term protection 6.5 Amps)
Frequency response:	10Hz - 300 kHz -3 dB.
Distortion:	0.04% 50 Watts on 8 Ohms. Clipping point by 60 Watts
Noise:	300 μ Volt RMS
Damping factor:	>200
Slew rate:	50V/ μ Sec
Dimensions h x w x d:	60 x 290 x 250 mm.
Weight:	3.9kg.

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