

Wyred 4 Sound

ST_{mkII}



Stereo Amplifier Owner's Manual

****IMPORTANT****

Check position of AC mains switch prior to connecting the unit to a power source.

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v2.2



Marking by the “CE” symbol (shown left) indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community.




Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Table of Contents

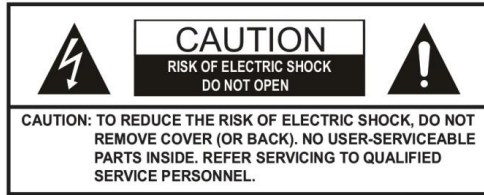
Safety Guidelines	4-5
Register Your Product	5
READ FIRST Important	6
Package Contents	6
Introduction	6-7
Design and Feature Overview	7
AC Mains Voltage Switch	7-8
Getting Connected	8
Powering your Amplifier	8-9
“Break-In” Period	8-9
RCA/XLR Input Select	9
DC Trigger	9
Back Panel Diagram	10
Troubleshooting	10-11
Got Hum?	11
Warranty Coverage	12-13
Service	13-14
Specifications	15
Contact Information	16

Safety Guidelines


1. Read these instructions – All the safety and operating instructions should be read before this product is operated.
2. Keep these instructions – The safety and operating instructions should be retained for future reference.
3. Heed all warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow all instructions.
5. Do not use this apparatus near water – The appliance should not be used near water or moisture – for example, in a wet basement or near a swimming pool, and the like.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding plug. A polarized plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12.  Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way such as the power cord or plug is damaged. Other damage may occur if liquid or objects have been dropped or spilled into the apparatus. Dropping the apparatus, exposure to rain, and excessive moisture may cause additional damage.
15. Please keep the unit in a good ventilation environment with a minimum of 4" clearance around all sides.
16. **CAUTION:** These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.
17. **WARNING:** To reduce the risk of electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or

splashing and that objects filled with liquids, such as vases, shall not be placed on apparatus.

18. **WARNING:** The mains plug/appliance coupler is used as disconnect device, the disconnect device shall remain readily operable.



19. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
20. The exclamation point within an equilateral triangle is intended to alert the user to presence of important operating and maintenance instructions in the literature accompanying the appliance.
21. No naked flame sources, such as lighted candles, should be placed on the apparatus.
22. **WARNING:** The terminals marked with symbol of “+/-” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready made insulated leads or cords.

23.  Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it

responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmentally safe recycling.

Register Your Product!

It is very important to complete the warranty registration form located on our website. You **MUST** complete and submit the form within 30 days of purchase to activate your warranty. When you navigate to our website there is a tab called “Support” that will lead you to the warranty registration form which needs to be filled out and submitted.

****Keep your packaging! It is custom made for your unit and will effectively protect it for possible future use.****

READ FIRST Important

Please read the entire manual before connecting this product to any other component. This manual contains detailed information regarding the design, operation and features of the Wyred 4 Sound ST_{mkII} amplifier. Damage due to misuse or failure to properly follow instructions will not be covered under warranty. See “Warranty” for an in depth understanding of warranty restrictions regarding this product.

****Caution****



The ST_{mkII} has external AC mains voltage selection that must be properly configured before connecting to AC power. Any damage as a result of failure to set the voltage switch properly is not covered under warranty. Please refer to the “AC Mains Voltage switch” section in the manual for the fuse value and configuration instructions.

Unpack carefully

The ST_{mkII} packaging contains:

- 1 – Owners Manual
- 1 – 6’ AC Power Cable
- 1 –3.5mm mono trigger cable
- 1 – ST_{mkII} Stereo amplifier

Introduction

The transparent nature of a Wyred 4 Sound product will reproduce your favorite recording with an abundance of detail and transparency. Carefully designed circuits are built with premium grade components to produce optimum performance. Nothing is better than having neutral power behind your music!

We understand that there are other products on the market which have similar features and internal parts. To release a product ahead of its time, we experiment with numerous variations of each design to ensure the most elite configuration is selected for final production. Each of our products goes through many variations to fully optimize performance. We design and manufacture our products in the USA to ensure excellent quality, and still offer prices comparable to those produced in regions where manufacturing is much less costly. In addition to impressive performance, you can expect superb build quality and excellent customer service.

Design and Feature Overview

The STmkII stereo amplifier utilizes the latest generation of ICEpower® technology in conjunction with a completely redesigned input stage. This new amplifier design reproduces audio with negligible wasted energy and unparalleled transparency. Although the STmkII is a featherweight amongst amplifiers, it's able to provide powerful dynamics and jaw dropping micro-details. Power is delivered to your speakers through 14 AWG OFC wiring connected to gold plated, insulated 5-way binding posts. In standby, the amplifier's power consumption is less than a 0.5w and remains under 15 watts at idle!

With a meticulously refined input stage optimized for excellent frequency response, low distortion, and overall performance the STmkII accepts balanced or unbalanced inputs with exceptional sound quality. Benefiting from advances in technology with new designs, this amplifier offers improved performance while holding true to our signature sound. The redesigned circuit includes a dual differential common mode converter which has been derived from our world famous DAC-2. Regardless of input type, the high quality differential input stage feeds the amplifier with a pure balanced signal. Another function of the input stage is to isolate impedance mismatches which would otherwise degrade audio quality. Consequently, this is an amplifier that has superior synergy with W4S components as well as tube and passive preamps. Furthermore, our third generation technology will significantly reduce the detrimental effects of a noisy source through balanced circuitry, audio grade capacitors, and the quad-paralleled FET buffer.

Finally, the part that makes all of this possible is what many have been waiting for! The new chassis is more attractive than ever while keeping the functionality that we have come to love. A front view of the unit reveals only three screws tucked neatly in the rear of the top cover. The front panel is meticulously machined from a solid piece of 3/4" aluminum, line grained, and anodized in black. A radius on either side of the front panel rounds the corners off elegantly where the extrusions extend to the rear of the unit and bare the same high quality anodized finish. The top cover is available in clear (silver) or black anodize and has stylish venting allowing heat to escape. Having a structure with so much forward thinking creates a rigid product that is immune to frequencies and vibrations which can be generated by the various components in a HiFi system.

AC Mains Voltage switch



Located on the left side of the rear panel is an AC mains switch. When changing the two position slider switch, the STmkII will need to be unplugged and powered down for at least two minutes. **It is very important to ensure that the slide switch is in the proper position before applying power. Failure to do so will likely result in damaging the internal components and will not be covered under warranty.**

The fuse is located above the IEC plug on the rear of the unit. It can be inspected by sliding the fuse holder out (It has a symbol of a fuse on it).

Fuse size: 5x20mm Slow Blow / T10A H 250Vac

Getting connected

CAUTION: Disconnect the power cord or put the power switch in the “off” position before making any connections to your amplifier to minimize the risk of electric shock and possible loudspeaker damage. Power your STmkII “on” after all final connections have been made.

Each binding post is made of highly ductile “OFC” copper alloy. Both clamping nuts are built out of one piece, and offer an excellent grip. All metallic surfaces offer a 24-karat gold-plating, and are made from non magnetic materials.



NEVER connect a power amplifier’s output terminals to any device other than a loudspeaker. NEVER short-circuit the amplifier’s output terminals. NEVER connect the output terminals of one amplifier to the output terminals of another amplifier.

Powering your amplifier

In order to activate the STmkII, the switch located on the rear must be in the “on” position. A green light surrounding the power button on the front will illuminate. There is a built-in two second delay after initially turning the rear switch “on” before the front power button becomes active. Pressing the power button will turn the unit on and the light around the power button will switch to blue. It is recommended to turn the amp off with the switch on the back when you are connecting or disconnecting wires from the binding posts. We also recommend turning the main power switch “off” when experiencing electrical storms in the area, or perhaps leaving town for a long duration. To prevent damage from power surges, we suggest using high quality surge suppressor equipment. Turning the switch “off” on the rear of the unit will protect it for when you have doubts concerning power stability.

“Break-in” period

This amplifier will deliver outstanding performance right out of the box. However, there will be improvements once all of the components have a chance to settle in. Our experience has shown that the STmkII will improve during its initial 300 hours of music playback. After the first 100 hours of music playback, the unit will start to shed any initial brightness and slightly harsh transitions. During the second 100 hours, the STmkII will start to become more fluid, and smoother overall. As you approach the 300 hour mark, you can expect the amp to show its true character.

RCA/XLR Input select

The STmkII has both RCA and XLR analog inputs. A balanced connection is recommended if your source components offer XLR connections. There are two 2-position switches located on the rear of the unit that select either RCA or XLR input type. When the switch is in the “In Position”, it will select the RCA input. If the switch is in the “Out Position”, it will select the XLR input.

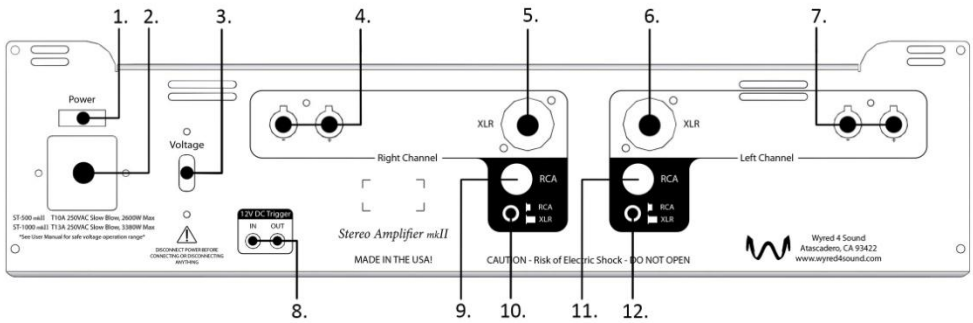
Please refrain from using RCA interconnects that are either the locking type, or have an extremely tight fit on the jack. You may damage the RCA connectors on the STmkII.

Special note: RCA/XLR input type is selected by a two position switch. We will define the “In Position” as when the switch is pressed in and the button is nearly flush with the back of the unit. The “Out Position” will be defined as when the switch is in the extended position and not flush with the back of the unit

DC Trigger

Near the left side of the rear panel is a 12V DC trigger in and out. The trigger “IN” will turn the unit on from standby once it is actively fed 12V DC. This feature is very convenient because it will allow the STmkII to automatically power on and off whenever the source is turned on or off. For example products such as our mPRE, mINT, DAC-2, STP-SE and STI all have 12V DC trigger outputs that you can use for this. You will also find many processors and AV receivers that have a compatible trigger feature. The trigger “OUT” will be active whenever the amp is powered on and allows it to trigger on other components such as another STmkII. There will be a slight delay in the trigger out to help smooth any possible power-up surges.

Back Panel Diagram



1. On/Off power switch
2. Fuse holder and AC power input
3. 120V/230V mains voltage selector switch
4. Right channel speaker output
5. Right channel XLR input
6. Left channel XLR input
7. Left channel speaker output
8. 12V DC Trigger
9. Right channel RCA input
10. Right channel RCA/XLR input select switch
11. Left channel RCA input
12. Left channel RCA/XLR input select switch

Troubleshooting

No sound?

Always check the volume level before starting to play music. Damage to the amplifier or connected components due to an unintended musical blast will not be covered under warranty.

Feel free to test for audio output at any time during this process if you find and correct a potential problem. If you have your source and speakers connected yet music will not play, check the following:

1. Make sure that the Voltage Selector Switch is in the proper position. Also be sure to check the fuse which is located in the IEC inlet.
2. Verify that the power cord is securely plugged into the wall and the STmkII.
3. Check the power switch on the rear to verify that it is in the “on” position. Make sure that the blue light is on around the power button. If the light around the

power button is green, the power button will need to be pressed once to turn the amp on.

4. Make sure that the input select switch is in the proper position for the input type you are using. (ex. RCA/XLR)
5. Next, check to see that your source has the correct input selected and the cables are plugged in securely. Also be sure that the volume is set to an adequate level for the output to be audible.
6. If the input select switch is in the proper position and you are confident that your source is sending a signal but have no sound, try inspecting or replacing the interconnects and speaker cables.

If you are still experiencing problems and have exhausted your available resources and time, please contact the dealer/distributor that you purchased the product from for additional support.

Got hum?

Is there too much hum coming out of your speakers? To clarify, with your ear right next to the tweeter of your speaker it is normal to hear a small amount of hiss. If the noise is easily heard at a distance, try putting your source on mute. If this eliminates the noise, then it's inherent in the source. If muting your source doesn't disconnect the outputs when muted, and the noise still exists while muted, try disconnecting the inputs to the amplifier. If the noise is still there when the inputs are disconnected, then your amplifier may need service. If the noise is not there when the inputs are disconnected, try putting a cheater plug (ground isolator) on one component at a time in order to locate the source of the possible ground loop. Once the source is located you can contact the manufacturer for further information regarding a solution. NOTE: We only recommend using a ground isolator for troubleshooting purposes, and it should be removed after the problem has been found and resolved. Having the ground of any unit disconnected can potentially create a dangerous situation.

An easy way to locate a noisy component is to replicate the problem and then start disconnecting components one at a time, starting with the source end of your system. **Digital cable boxes and satellite receivers are notorious for making ground loop hum.** This is normally caused by the voltage potential on the input wire (shield side) for either of the boxes when referenced to ground. If this is the case in your system, the installation of an isolating transformer would be the easiest solution and they are normally readily available at your local electronics parts store. A better solution is a power strip with grounded and surge protected F-connectors that you can pass your cable or satellite signal through.

Warranty coverage

Wyred 4 Sound's warranty obligations are limited to the terms set forth below:

Wyred 4 Sound, as defined below, warrants this Wyred 4 Sound-branded hardware product against defects in materials and workmanship under normal use for a period of **FIVE (5) YEARS from the date of retail purchase by the original end user purchaser ("Warranty Period")**. **If the product has been transferred from the original owner to a second hand owner it has a ONE (1) YEAR warranty, valid from the original date of purchase by the original owner.** If a hardware defect arises and a valid claim is received within the Warranty Period, at its option, Wyred 4 Sound will either (1) repair the hardware defect at no charge, using new or refurbished replacement parts, or (2) exchange the product with a product that is new or which has been manufactured from new or serviceable used parts and is at least functionally equivalent to the original product. Wyred 4 Sound may opt that you replace the defective parts with new or refurbished user-installable parts that Wyred 4 Sound provides in fulfillment of its warranty obligation. A replacement product or part, including a user-installable part that has been installed in accordance with instructions provided by Wyred 4 Sound, assumes the remaining warranty of the original product or ninety (90) days from the date of replacement or repair, whichever provides longer coverage for you. When a product or part is exchanged, any replacement item becomes your property and the replaced item becomes Wyred 4 Sound's property. Parts provided by Wyred 4 Sound in fulfillment of its warranty obligation must be used in products for which warranty service is claimed. When a refund is given, the product for which the refund is provided must be returned to Wyred 4 Sound and becomes Wyred 4 Sound's property.

EXCLUSIONS AND LIMITATIONS

Wyred 4 Sound does not warrant that the operation of the product will be uninterrupted or error-free. Wyred 4 Sound is not responsible for damage arising from failure to follow instructions relating to the product's use. This warranty does not apply: (a) to damage caused by use with non-Wyred 4 Sound products; (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (c) to damage caused by operating the product outside the permitted or intended uses described by Wyred 4 Sound; (d) to damage caused by service (including upgrades and expansions) performed by anyone who is not a representative of Wyred 4 Sound or a Wyred 4 Sound Authorized Service Provider; (e) to a product or part that has been modified to significantly alter functionality or capability without the written permission of Wyred 4 Sound; (f) if any Wyred 4 Sound serial number has been removed or defaced.

TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, STATUTORY, EXPRESS OR IMPLIED. AS PERMITTED BY APPLICABLE LAW, WYRED 4 SOUND SPECIFICALLY DISCLAIMS ANY AND ALL STATUTORY OR IMPLIED WARRANTIES, INCLUDING, AND WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS. IF WYRED 4 SOUND CANNOT LAWFULLY DISCLAIM STATUTORY OR IMPLIED WARRANTIES THEN TO THE EXTENT PERMITTED BY LAW, ALL SUCH WARRANTIES SHALL BE LIMITED IN DURATION TO THE DURATION OF THIS EXPRESS WARRANTY AND TO REPAIR OR REPLACEMENT SERVICE AS DETERMINED BY WYRED 4 SOUND IN ITS SOLE DISCRETION EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE EXTENT PERMITTED BY LAW, WYRED 4 SOUND IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL

THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF ACTUAL OR ANTICIPATED PROFITS (INCLUDING LOSS OF PROFITS ON CONTRACTS); LOSS OF THE USE OF MONEY; LOSS OF ANTICIPATED SAVINGS; LOSS OF BUSINESS; LOSS OF OPPORTUNITY; LOSS OF GOODWILL; LOSS OF REPUTATION; LOSS OF, DAMAGE TO OR CORRUPTION OF DATA; OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE HOWSOEVER CAUSED INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY, ANY COSTS OF RECOVERING, PROGRAMMING, OR REPRODUCING ANY PROGRAM OR DATA STORED OR USED WITH WYRED 4 SOUND PRODUCTS AND ANY FAILURE TO MAINTAIN THE CONFIDENTIALITY OF DATA STORED ON THE PRODUCT. THE FOREGOING LIMITATION SHALL NOT APPLY TO DEATH OR PERSONAL INJURY CLAIMS. WYRED 4 SOUND DISCLAIMS ANY REPRESENTATION THAT IT WILL BE ABLE TO REPAIR ANY PRODUCT UNDER THIS WARRANTY.

Obtaining warranty service

Please access and review the resources referred to in the documentation accompanying this hardware product before requesting warranty service. If the product is still not functioning properly after making use of these resources, please contact the Wyred 4 Sound representatives or, if applicable, an Authorized Service Provider/dealer using the information provided on the Wyred 4 Sound website. A Wyred 4 Sound representative or an Authorized Service Provider will help determine whether your product requires service, and if it does will inform you how Wyred 4 Sound will provide it. Wyred 4 Sound or its Authorized Service Providers will provide warranty service on products that are tendered or presented for service during the Warranty Period, as permitted by law. **Wyred 4 Sound is not responsible for freight charges to our facility for warranty repairs. We will cover return freight charges (domestic only) if the unit is found to be faulty and still within the warranty coverage period. You will be responsible for delivery and return shipping and handling charges if the product cannot be serviced in the country it is in.** In accordance with applicable law, Wyred 4 Sound may require that you furnish proof of purchase details and/or comply with registration requirements before receiving warranty service. Please refer to the Service page on the Wyred 4 Sound website. For more details on this and other matters on obtaining warranty service contact your dealer. Recovery and reinstallation of system and application software and user data are not covered under this Limited Warranty.

Service

In the unlikely event there is a problem with your Wyred 4 Sound component, please contact your dealer, distributor, or Wyred 4 Sound to discuss the problem before you return the component to our manufacturing facility for repair. Products shipped to the factory will be refused and returned freight collect if not accompanied by a Wyred 4 Sound Service Department issued return authorization number (RA Number). Return authorization numbers must be prominently displayed on the outside of the box and an accompanying letter describing the problem and re-listing the RA number must be inside the box to qualify for service.

To contact the Wyred 4 Sound Service Department:

Telephone: 805-466-9973

(See "Contact" on our website for current hours of operation)

Fax: 805-462-8962

Email: support@wyred4sound.com

Website: <http://www.wyred4sound.com>

If you are located in the United States and purchased directly from W4S use the following procedure:

1. Fill out the Service Request form located on our website and be sure to document all details.
2. If service is approved we will issue a Return Authorization Number (R/A number) from the Wyred 4 Sound Service Department. Be sure to confirm the current shipping address.
3. Insure and accept all liability for loss or damage to the product during shipment to the W4S facility and ensure all freight (shipping) charges are prepaid.

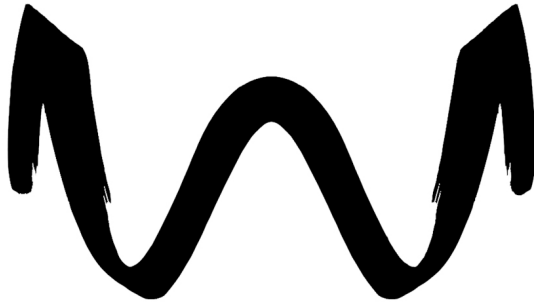
The product may also be hand delivered to the California facility if arrangements with the Service Department have been made in advance. Proof of purchase from an authorized Wyred 4 Sound dealer, distributor or agent will be required for warranty validation at the time of hand delivery. Use the original packaging to ensure safe transit of the product to the factory, dealer, or distributor. **Wyred 4 Sound may, at its discretion, return a product in new packaging and bill the owner for such packaging if the product received by Wyred 4 Sound was boxed in non standard packaging or if the original packaging was damaged to the point it was unusable.** If Wyred 4 Sound determines that new packaging is required, the owner will be notified before the product is returned. To purchase additional packaging, please contact your authorized Wyred 4 Sound dealer, distributor, or the Wyred 4 Sound Service Department for assistance.

If you did not purchase the product directly from us and require service please contact your dealer or distributors' service department for information regarding service.

If you feel your authorized dealer or distributor is either unwilling or unable to service your Wyred 4 Sound products, please contact our service department by emailing support@wyred4sound.com or the phone number listed below to discuss and resolve the situation.

Specifications

	ST-500 mkII	ST-1000 mkII
Typical THD+N 8Ω (10W out)	0.001%	0.001%
Power Output 8Ω @ 0.2% THD+N	245W	460W
Power Output 8Ω @ 1.0% THD+N	277W	480W
Power Output 4Ω @ 0.2% THD+N	430W	723W
Power Output 4Ω @ 1.0% THD+N	460W	775W
Output Idle Noise (A Wt.)	< 125μV	< 215μV
Frequency Response 20Hz--20kHz (8Ω @ 10W)	± 0.1db	± 0.15db
Lower Bandwidth	1.5Hz all loads	1.5Hz all loads
Balanced Input Impedance	100k	92k
Unbalanced Input Impedance	100k	92k
Dynamic Range (A Wt.)	111db	108db
Gain	30.5db	30.7db
Sensitivity	1.31V	1.75V
Output Impedance	0.018Ω	0.021Ω
Min Load	4Ω	4Ω
Max Output Current	30A	30A
Idle Power Consumption	19W	28W
Standby Power Consumption	<0.5W	<0.5W



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