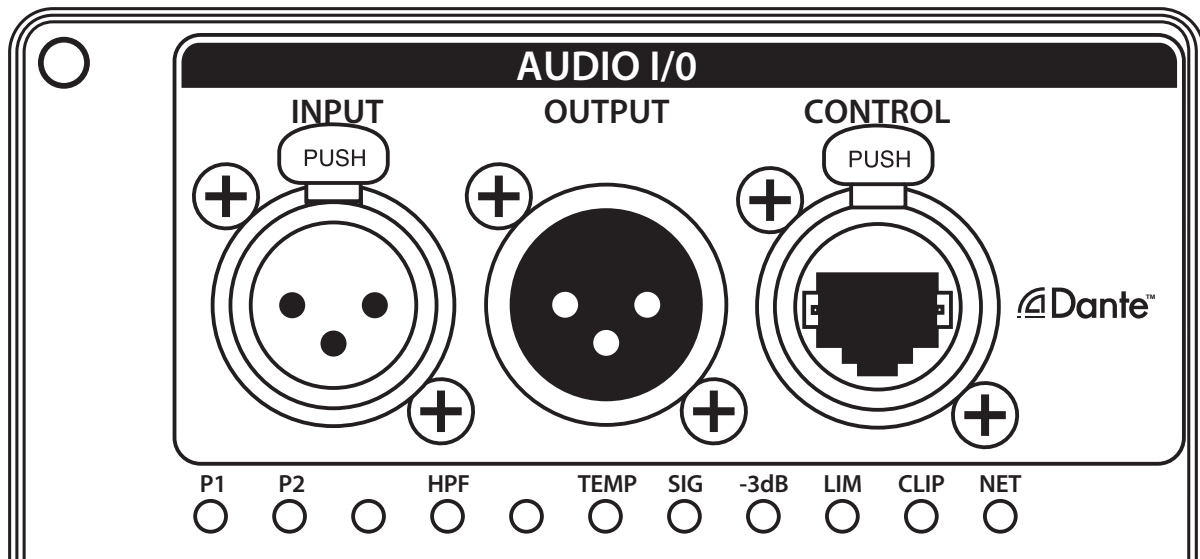


# PDA1000

## 1000W Class D Amplifier

### Owner's Manual



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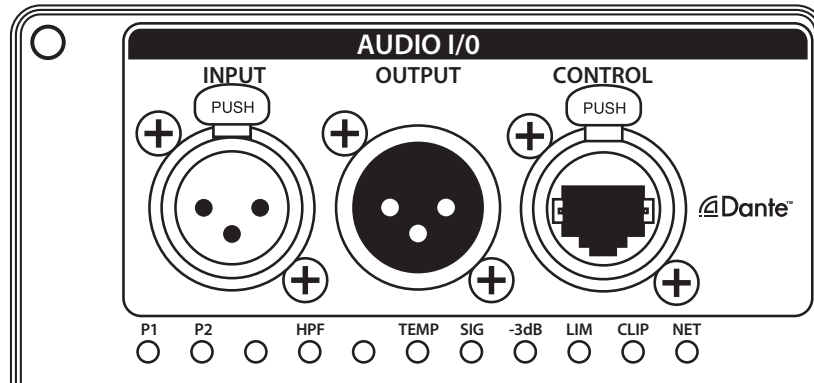
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## 1 Overview

### 1.1 Introduction



**Thank you** for purchasing a WorxAudio® PDA1000 amplifier or PDA1000-equipped loudspeaker. The PDA1000 is a heavy-duty 1000W Class D power amplifier with robust onboard DSP that can be connected to a standard LAN network and remotely controlled using WorxControl software for macOS® and Windows®. WorxControl provides speaker-management tools that include compression, limiting, and 800 ms of delay. The locking Ethernet connection on the integrated PDA1000 power amplifier also provides audio networking capability via Dante. Dante's multi-channel digital media networking technology delivers near-zero latency and synchronization and has been adopted by many pro-audio manufacturers, facilitating the PDA1000's interoperability with a wide range of equipment.

We encourage you to contact us with questions or comments regarding this product. PreSonus Audio Electronics is committed to constant product improvement, and we value your suggestions highly. We believe the best way to achieve our goal of constant product improvement is by listening to the real experts: our valued customers. We appreciate the support you have shown us through the purchase of this product.

### 1.2 About This Manual

This manual covers hardware features and functions for the PDA1000 amplifier only. A separate wiring guide is also available from commercial.presonus.com for use with passive WorxAudio loudspeakers. Separate companion guides for the Worx Control application and recommended Dante deployment guidelines are also available at PreSonus.com

We suggest that you use the manual to familiarize yourself with the features, applications, and connection procedures for your PDA1000 amplifier before trying to set up and operate it.

Thank you, once again, for buying our product. We are confident that you will enjoy your PDA1000 amplifier!

## 2 Application and Deployment

### 2.1 Getting Started

Before you begin, here are a few general rules of thumb:

- Always make sure your loudspeakers are powered off when making connections.
- Do not allow your inputs to clip. Watch the Clip LED on the back of your loudspeaker. When this LED illuminates, it indicates that the analog-to-digital converters are in danger of being overdriven. Overdriving the converters causes digital distortion, which sounds terrible.


Your PA and attached equipment should be powered on in the following order:


1. Sound sources (keyboards, D.I. boxes, etc.) connected to your mixer
2. Mixer
3. PDA1000 amplifier or PDA1000-equipped Loudspeakers

When it's time to power down, your system should be turned off in the reverse order.


### 2.2 Cooling

Whether installed in a rack or in a powered WorxAudio loudspeaker, PDA1000 amplifiers require a minimum of 6" (152.4 mm) clearance for cooling. Do not restrict airflow to the rear of the speaker enclosure or rack.

 **CAUTION:** To avoid overheating, do not install with the amplifier panels exposed to direct sunlight. This can heat the amplifier module and reduce performance. Install sunshades to avoid direct exposure. The maximum ambient temperature for full performance should not exceed 104° F (40° C).

 **CAUTION:** Do not install amplifiers where they will be exposed to rain or other moisture. PDA1000-equipped loudspeakers and PDA1000 amplifiers are not weatherproof. Protection from the elements must be provided in outdoor installations.

### 2.3 Important Safety Instructions

 **WARNING:** Failure to observe the following safety precautions may result in severe injury or death. Installations such as described in this guide should only be attempted by a trained professional.

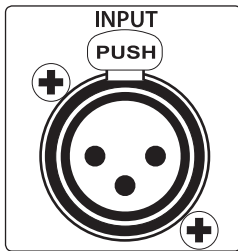
- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Before installing or suspending any PDA1000-equipped loudspeaker, inspect all hardware, the enclosure, and associated equipment for damage. Missing, corroded, or deformed components, or components without correct load ratings, could significantly reduce the strength of the installation or placement and should immediately be repaired or replaced.
- Always make sure that the structure the loudspeaker is to be suspended from has been approved by the building or structural engineer and will support the weight of all the components of the speaker system including speakers, speaker cable, wire rope, etc.
- Consult a licensed professional structural engineer regarding physical equipment installation.
- Do not suspend loudspeakers directly over people.
- Use only hardware that is rated for the load conditions of the installation and that allows for a possible short-term, unexpected overload. Never exceed the rating of the hardware or equipment.
- PreSonus strongly recommends that the system be inspected at

least once a year and logged. If any sign of weakness or damage is detected, remedial action should be taken immediately.

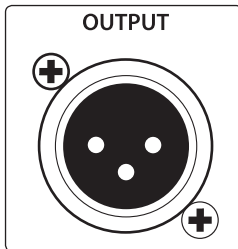
- All installation crew members must be trained for loudspeaker rigging and mounting.
- Make sure that all relevant health and safety regulations are known, are followed by the installation crew, and are in compliance with applicable local laws. Local government offices can help with this information.
- Suspended installations must be completed or supervised by a certified rigger.
- The system should be designed so that it is a static suspension. There should be no dynamic or shock loading.
- Personal protective equipment (hard hats, steel-toed footwear, safety glasses, etc.) should be worn at all times by the installation crew.
- If called for in the design, make sure all installation personnel are trained to work at height and have certifications for scissor lifts, theatrical hoists, etc.
- Make sure all lifting equipment (slings, span-sets, deck chain, scaffolding, etc.) is in good working order. Thoroughly inspect all components prior to use.
- Inspect all the components associated with the project for damage before assembly. Any parts with damage or suspected damage should not be used. Contact the component manufacturer for replacement parts if necessary.
- Keep a tidy workplace. Do not leave tools, rigging items, etc., on top of loudspeakers during installation. Loose items can fall and cause injury.
- Never leave the system unattended during the installation process. Make sure that the workspace is isolated from public access. No one should be allowed to pass beneath the loudspeakers during installation.
- Do not suspend any other components or loudspeakers from WorxAudio loudspeakers other than the supported configurations.
- If secondary steel safeties are required, they should be installed once the entire system is at operating height and before public access is allowed.

## 3 Hookup

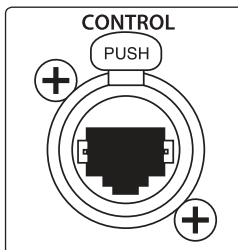
### 3.1 Rear-Panel Connections and Controls



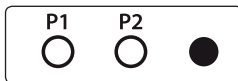
**Line Input.** This is a balanced XLR connection for line-level input. Use the Line input to connect the loudspeaker to a StudioLive digital mixer or another mixing console, either directly or through the Line out connector on a PDA1000 amplifier.



**Direct Out.** This is the Direct Out for the line input. Use this to connect to other PDA1000 amplifiers. *See Section 3.4 for a connection example.*



**Dante / Control.** This locking Ethernet connection can be used for control via the Worx Control application as well as Dante audio networking. A standard RJ45 connector may be used, but we recommend the protection provided by using the mating male locking Ethernet connector. *For more information on creating a wired LAN network and using Dante, see the Worx Control Reference Manual.*



**Preset Toggle.** This button toggles between Preset 1 and Preset 2. Please review the WorxControl Software Reference Manual for information on the presets available for each supported WorxAudio loudspeaker model.



**High Pass Filter.** This button enables/disables the 90 Hz High Pass Filter. When the LED is illuminated, the 90 Hz High Pass Filter is active. When active, frequency content below 90 Hz is removed.

### 3.2 Onboard Performance Monitoring



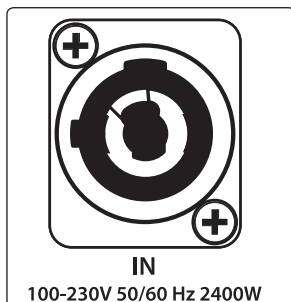
**Performance Monitoring.** These six LEDs display the performance status of the internal amplifier:

- **TEMP.** The LED will illuminate when the internal temperature of the amplifier module has exceeded the recommended operating limit (64° C).
- **SIG.** This LED illuminates when the input signal exceeds -50 dB.
- **-3 dB.** When this LED illuminates, the input signal has exceeded -3 dB, and you are in danger of clipping the ADC.
- **LIM.** The protection limiter has been engaged when this indicator illuminates.
- **CLIP.** The clip LED illuminates when the input signal has exceeded 0.5 dBFS, and the ADC is clipping, or when the amplifier exceeds the maximum upper limit (load dependent).

- **NET.** This LED has three states:
  - **Solid Red.** Network not available.
  - **Solid Blue.** Network available.
  - **Flashing Blue.** Network packets are being sent or received.

*Power User Tip: Never run your input levels higher than the channel inputs can handle. If you overdrive the A/D converters, it will cause digital distortion (digital clipping), which sounds terrible.*

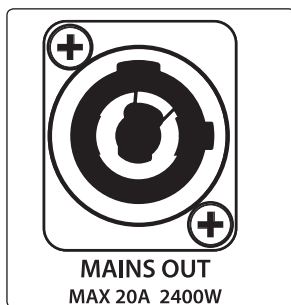
### 3.3 Power



**AC Line Connection.** PDA1000 amplifiers have a universal power supply that accepts AC power input between 100 and 250 VAC at 50/60 Hz. Each loudspeaker is supplied with an AC powerCON® power cord appropriate for the country of sale.

**WARNING:** Do not remove the center grounding prong or use a ground-lift adapter, as this could result in electric shock.

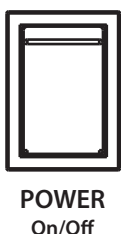
**WARNING:** Connect the powerCON connector on the AC powerCON power cord to the AC In connection on the amplifier *before* connecting the IEC connection to the AC mains power source.



**Power Thru.** PDA1000 amplifiers provide loop-thru power. Using powerCON® Loop-thru cables and an AC powerCON Power cord, you can power up to six CDL-series loudspeakers on a single 15 amp / 120V (8 am / 240V electrical circuit).

Loop-thru cable connectors are color coded as follows:

- **Blue.** AC In.
- **Grey.** AC Out.



**Power Switch.** This is the On/Off switch.

*Power User Tip: If connecting multiple loudspeakers to the same electrical circuit, make sure that adequate line current is available. Maximum current draw for each CDL-series loudspeaker is 5.45 Amps.*

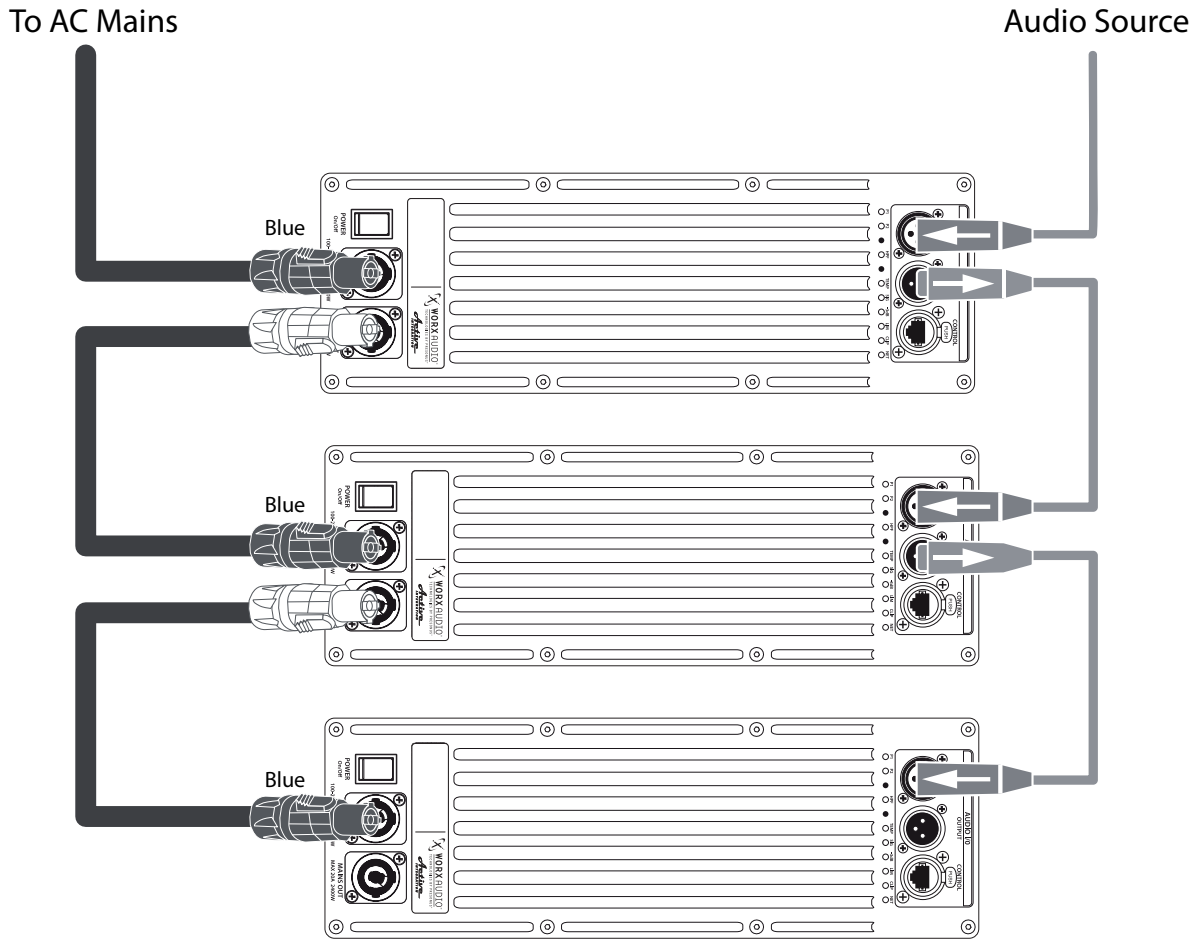
**WARNING:** The power switch does not cut AC mains power from the loop-thru cables. If AC mains power is connected to one PDA1000 amplifier, electrical power will be present on all connected loop-thru cables.

#### 3.3.1 Connecting Loop-Thru Power

1. Begin by inserting the grey powerCON connector on the loop-thru cable into the grey AC Out connection on the power amplifier.
2. Once the cable is fully seated, twist the powerCON connector clockwise to lock it into place.
3. Insert the blue powerCON connector into the blue AC In connection on the other CDL-series power amplifier.
4. Once the cable is fully seated, twist the powerCON connector clockwise to lock it into place.

Repeat Steps 1-4 for the other loudspeakers you'd like to power.

3.4 Connecting Multiple CDL Loudspeakers



*Note: AC powerCON jumper cables are sold separately.*



## 4 Networking Overview

### 4.1 Selecting the Right Network Hardware

While Dante is compatible with standard network hardware, there are a few basic requirements to keep in mind when choosing your network switch.

- Non-blocking layer-2 gigabit switch with a packet-forwarding rate of 1.488 Mpps per port. For example, if you purchase an 8-port switch, the packet-forwarding rate would have to be 11.904 Mpps (1.488 Mpps x 8).
- Energy Efficient Ethernet (EEE), also known as Green Ethernet or IEEE 802.3az, reduces power consumption when there isn't much traffic on the network. Unfortunately, this can lead to audio interruptions and can degrade clocking. If your switch provides this feature, make sure that you can and do disable it.
- Most managed switches support Quality of Service (QoS). This allows you to choose Dante clock synchronization as the highest priority and audio data as the next-highest priority. This is especially important if you are transferring large amounts of data over your Dante network or if you are transferring non-Dante data over the same network.
- If you are using multiple switches on your Dante network, we recommend using the same make and model to simplify setup and guarantee compatibility.

### 4.2 Adding a Wireless Router

Dante audio and routing cannot travel over a wireless network. You can still wirelessly remote control your CDL-series loudspeakers over a Dante network using Worx Control on your macOS or Windows computer, but you'll have to do a little more setup.

To connect a wireless router to your Dante network, you will need to purchase a managed switch and dive into its configuration settings. Select the port to which you've connected your wireless router and set Multicast Filtering to "On." This will stop the flow of Dante traffic to that port and allow it to be used for wireless remote control of your loudspeakers. Do not connect Dante devices to the ports on a wireless router. Please consult the documentation that came with your managed switch for instruction about enabling Multicast Filtering on a specific port.

Because your loudspeakers are hardwired to the switch, no additional setup is required to remote control them with Worx Control. Simply connect your device to the wireless router network and launch Worx Control. Complete instructions for Worx Control can be found in the Worx Control Reference Manual, available at [www.presonus.com](http://www.presonus.com).

### 4.3 Downloading Dante Controller

To connect your Dante network, you will need a macOS or Windows computer with an Ethernet port and Audinate's Dante Controller application.

Dante Controller is a free software application that allows you to route audio and configure devices on a Dante network. Thanks to automatic device discovery, one-click signal routing, and user-editable device and channel labels, setting up a Dante network is relatively simple.

Dante Controller also provides essential device status information and powerful real-time network monitoring, including device-level latency and clock stability stats, multicast bandwidth usage, and customized event logging, enabling you to identify and resolve network issues. You can also back up, restore, move, and reuse Dante network configurations using presets and can edit Dante routing configurations offline.

The Dante Controller application and associated documentation are available at [www.audinate.com/products/software/dante-controller](http://www.audinate.com/products/software/dante-controller).

## 5 Technical Information

### 5.1 Specifications

|                    |  |
|--------------------|--|
| Amplifier Type     | Class D  |
| Total System Power | 2000W Peak, 1000W Program (500W RMS)                           |
| LF Driver Power    | 1000W Peak, 500W Program (250W RMS)                            |
| HF Driver Power    | 1000W Peak, 500W Program (250W RMS)                            |
| Input              | Line (XLR)   |
| Output             | Direct Line Out (XLR)  |
| Networking         | Dante™ (Audio and Control), Control (only) (Locking Ethernet)  |
| Mains Connection   | powerCON® In and Out   |
| User Controls      | Preset Select, HPF On/Off                                      |
| Indicators         | Over Temperature, Signal, -3 dB, Limiter, Clip, Network Status |

## 6 Warranty Information

PreSonus' warranty obligations for this hardware product are limited to the terms set forth below:

### 6.1 How Consumer Law Relates To This Warranty

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE (OR BY COUNTRY OR PROVINCE). OTHER THAN AS PERMITTED BY LAW, PRESONUS DOES NOT EXCLUDE, LIMIT OR SUSPEND OTHER RIGHTS YOU MAY HAVE, INCLUDING THOSE THAT MAY ARISE FROM THE NONCONFORMITY OF A SALES CONTRACT. FOR A FULL UNDERSTANDING OF YOUR RIGHTS YOU SHOULD CONSULT THE LAWS OF YOUR COUNTRY PROVINCE OR STATE.

#### PreSonus Products And EU Statutory Warranty

When you purchase PreSonus products, European Union consumer law provides statutory warranty rights in addition to the coverage you receive from the PreSonus limited warranty. A summary of the EU Statutory Warranty and the PreSonus Limited Warranty is below:

|                                    | EU Consumer Law  | PreSonus Limited Warranty   |
|------------------------------------|--|---|
| Repair or Replacement Coverage For | Defects present when customer takes delivery                                     | Defects arising after customer takes delivery                         |
| Warranty Period                    | 2 years (minimum) from original date of purchase (unless superseded by PreSonus) | 1 year from original date of purchase (unless superseded by PreSonus) |
| Cost of Coverage                   | Provided at no additional cost   | Included at no additional cost  |
| Who to contact to make a claim     | The seller   | PreSonus technical support for your region                            |

#### What This Warranty Covers

PreSonus Audio Electronics, Inc., ("PreSonus") warrants defects in material and workmanship in PreSonus-branded products under normal use. This Limited Warranty applies only to hardware products manufactured by or for PreSonus that can be identified by the PreSonus trademark, trade name, or logo affixed to them.

#### Exclusions and Limitations

This warranty does **not** cover the following:

1. Damage caused by accident, abuse, improper installation, failure to follow instructions in the applicable owner's manual or improper operation, rental, product modification, alteration, or neglect.
2. Damage from improper grounding, faulty wiring (AC and signal), faulty equipment, or connection to a voltage range outside published specifications (see applicable owner's manual).
3. Damage to drivers or diaphragm assemblies found to have burnt voice coils from over/under driving or signal surge from another device.
4. Damage occurring during shipment or improper handling.
5. Damage caused by repair or service performed by persons not authorized by PreSonus.
6. Products on which the serial number has been altered, defaced, or removed.
7. Products purchased from an unauthorized PreSonus dealer (products that have transferable warranties are excluded from this provision provided the customer and the product are registered with PreSonus).

### Who This Warranty Protects

This Warranty protects only the original retail purchaser of the product (products that have transferable warranties are excluded from this provision provided the customer and the product are registered with PreSonus)

### How Long This Warranty Lasts

The Warranty begins on the original date of purchase from the retail purchaser, and the duration is as follows:

| 1-Year Limited Warranty  |  |              |
|--------------------------|--|--------------|
| Product Category         | Model  | Transferable |
| Recording Interfaces     | AudioBox-, Studio-, Studio 192-, FireStudio™-, and Quantum-series  | No           |
| Preamplifiers            | ADL-series, BlueTube DP V2, DigiMax-series, RC500, Studio Channel, and TubePre V2  | No           |
| StudioLive® Mixers       | AI-series, AR-series, Classic, and Series III  | No           |
| Monitoring & Controlling | Central Station Plus, Ceres-series, Eris®-series, FaderPort™-series, HP-series, Monitor Station V2, R-series, Sceptre®-series, Temblor®-series | No           |
| Accessories              | Covers, Dolly, PRM1 mic, Sub Pole, breakout cables, power supplies, M10 Kit  | No           |
| 3-Years Limited Warranty |  |              |
| Product Category         | Model  | Transferable |
| Live Sound               | StudioLive AI 328, 312, 315, 185   | Yes          |
| 6-Years Limited Warranty |  |              |
| Product Category         | Model  | Transferable |
| Live Sound               | PreSonus AIR-series, CDL-series, and ULT-series loudspeakers<br>WorxAudio PDA-series amplifiers and powered loudspeakers                       | Yes          |

### What PreSonus Will Do

PreSonus will repair or replace, at our sole and absolute option, products covered by this warranty at no charge for labor or materials. If the product must be shipped to PreSonus for warranty service, the customer must pay the initial shipping charges. PreSonus will pay the return shipping charges.

### How to Get Warranty Service (USA)

1. You must have an active user account with PreSonus and your hardware must be on file with your account. If you do not have an account, please go to <https://my.presonus.com> and complete the registration process.
2. Contact our Technical Support Department at (225) 216-7887 or log a support ticket at: <http://support.presonus.com>. TO AVOID THE POSSIBILITY OF SENDING IN A PRODUCT THAT DOES NOT HAVE A PROBLEM, ALL SERVICE REQUESTS SHALL BE CONFIRMED BY OUR TECH SUPPORT DEPARTMENT.
3. The return authorization number, as well as shipping instructions, shall be provided after your service request is reviewed and confirmed.
4. The product should be returned for service in the original product packaging. Products may be shipped in a manufactured "flight" or "road" style cases but PreSonus will NOT cover any shipping damage to these cases. Products that are not shipped in the original product package or a manufactured case may not receive a warranty repair, at PreSonus' sole discretion. Depending on the product model and the condition of your original packaging, your product may not be returned to you in the original packaging. The return shipping box may be a generic box that has been fitted for that model tested if the original gift box is not available.

### How to Get Warranty Service (outside of USA)

1. You must have an active user account with PreSonus and your hardware must be on file with your account. If you do not have an account, please go to: <https://my.presonus.com> and complete the registration process.
2. Contact the Technical Support/Service Department for your region at [www.presonus.com/buy/international\\_distributors](http://www.presonus.com/buy/international_distributors) and follow procedures provided by your PreSonus contact.

### Limitation of Implied Warranties

ANY IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE LENGTH OF THIS WARRANTY.

Some states, countries, or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

### Exclusion of Damages

PRESONUS'S LIABILITY FOR ANY DEFECTIVE PRODUCT IS LIMITED TO THE REPAIR OR REPLACEMENT OF THE PRODUCT, AT PRESONUS'S SOLE OPTION. IF PRESONUS ELECTS TO REPLACE THE PRODUCT, THE REPLACEMENT MAY BE A RECONDITIONED UNIT. IN NO EVENT WILL PRESONUS BE LIABLE FOR DAMAGES BASED ON INCONVENIENCE, LOSS OF USE, LOST PROFITS, LOST SAVINGS, DAMAGE TO ANY OTHER EQUIPMENT OR OTHER ITEMS AT THE SITE OF USE, AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY, OR ANY OTHER DAMAGES WHETHER INCIDENTAL, CONSEQUENTIAL OR OTHERWISE, EVEN IF PRESONUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states, countries, or provinces do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

If you have any questions about this warranty or service received, please contact PreSonus (USA) at +1-225-216-7887 or contact one of our authorized international distributors at [www.presonus.com/buy/international\\_distributors](http://www.presonus.com/buy/international_distributors).

Product features, design, and specifications are subject to change without notice.

# Added bonus: PreSonus' previously Top Secret recipe for . . .

## Redfish Couvillion

### Ingredients:

- ¼ C Vegetable oil
- ¼ C flour
- 1 onion diced
- 1 clove garlic minced
- 1 green pepper diced
- 3 celery stalks diced
- 1 14oz can diced tomatoes
- 1 bottle light beer
- 2 bay leaves
- 1 tsp thyme
- 2 lbs Redfish fillets

### Cooking Instructions:

1. In a heavy saucepan or large skillet, heat oil on medium high and slowly add flour a tablespoon at a time to create a roux. Continue cooking the roux until it begins to brown, creating a dark blond roux.
2. Add garlic, onions, green pepper, and celery to roux.
3. Sauté vegetables for 3-5 minutes until they start to soften.
4. Add tomatoes, bay leaves, thyme, and redfish. Cook for several minutes.
5. Slowly add beer and bring to a low boil.
6. Reduce heat and simmer uncovered for 30-45 minutes until redfish and vegetables are completely cooked, stirring occasionally. Break up redfish into bite size chunks and stir in. Add pepper or hot sauce to taste. Do not cover.
7. Serve over rice

### Serves 6-8

While not one of Southeast Louisiana's more famous dishes, Redfish Couvillion is a favorite way to serve our favorite Gulf fish. Also known as Reds or Red Drum, Redfish is not only fun to catch, it's also delicious!

# PDA1000

## 1000W Class D Amplifier

### Owner's Manual

