



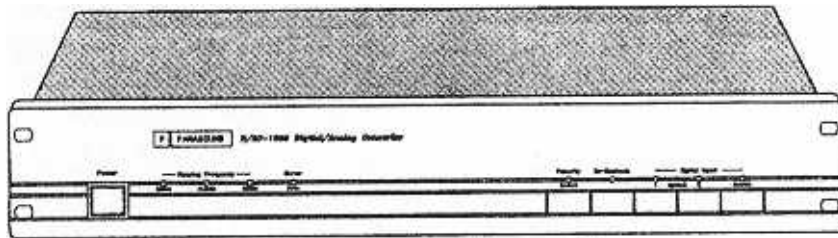
PARASOUND

affordable audio for the critical listener

D/A C-1000 Digital/Analog Converter

Congratulations on the purchase of your new Parasound D/AC-1000 Digital to Analog Converter. It has been designed to extract greater musical detail from any digital source. If you are using it to upgrade your CD player, you will find the D/AC-1000 makes a world of improvement. You will enjoy more of the warmth and depth that has previously been associated only with the finest analog sources.

Your D/AC-1000 sets new performance standards at its modest price. Its high quality parts, triple power supply, high current drive analog stages, plus hookup and operating flexibility are superior to even many far more expensive D-A converters. To assure fullest musical enjoyment, please take a few moments to read these instructions completely.



Unpacking

Open the carton of your D/AC-1000 carefully and inspect the unit for possible shipping damage. Now is the time to report any damage to your dealer. You will find the detachable AC line cord packed separately inside the carton. We do not recommend use of any other line cord.

Save the plastic bag, styrofoam inserts and carton. You may need these later for transporting the D/AC-1000 or for shipment in the event it ever requires factory servicing. Record the serial number (on rear panel) here for reference in case your unit is stolen: _____.

Placement

You should locate your D/AC-1000 as close as possible to your digital source. Keep your unit out of direct sunlight, away from heat sources such as a hot air register or radiator and away from windows which might be left open to let in rain.

If you are stacking your components, you should avoid placing your D/AC-1000 on top of heat-producing components, such as power amplifiers or tube-type preamps. You should keep it as far as possible from your tuner or receiver to avoid interference from their RF local oscillator circuits.

Connecting Your D/AC-1000

When you make connections, be careful to avoid tension on either wires or fiber optic cables which might cause damage to the connectors or cause them to pull loose later on. Do not attempt to bend either coaxial or optical digital cables at a sharp angle, as this may permanently damage them. It is safest to turn off the power of your preamp and power amp while making connections, not only for the connections you are making, but to avoid the chance of disturbing adjacent connections. As an additional safeguard, turn your preamp's volume control to minimum before making new connections.

Digital Inputs

The D/AC-1000 offers you three different digital interface options:

- **Coaxial:** RCA jack - 75Ω standard
- **Optical 1:** Fiber Optic - ST module
- **Optical 2:** Fiber Optic - TOSlink

• **Coaxial** output connections are provided on most high quality CD players. You should use only a good quality cable which has been designed for digital data transmission. Cables designed for audio frequencies are not suitable and will not give you satisfactory results.

• **TOSlink fiber optic** connections are also popular and are found on most high quality video laser disc players as well as CD players and CD transports. Your dealer can assist you to select an appropriate optical cable with TOSlink connectors. According to the TOSlink standard, you are restricted to TOSlink cable lengths from 0.2m (≈8") to 10m (≈30').

• **ST module fiber optics** are considered state-of-the-art. They are superior to either coaxial or TOSlink connectors for data transmission. The ST module employs the AT&T standard; both plastic and glass fiber optic connectors are available for ST modules connectors.

You should experiment among the connector options to determine which sounds the best in your system. You may find careful extended listening required in order to hear the subtle differences between the different interface technologies accommodated by the D/AC-1000.

It is possible to connect three separate digital sources to your D/AC-1000 and select among them from the front panel, however RF radiations from the unused digital inputs may "contaminate" the sound of the selected input source. If you have more than one digital source connected, make sure you turn off the power of the unused source(s) until you are ready to listen to it.

Outputs

Connect the **Analog Output jacks** to any line-level input on your preamplifier or even your power amplifier if it is equipped with level controls. Use only high quality hookups to preserve detail and clarity. Make sure your preamp is either turned off or its volume set to minimum when making these connections.

If you have a digital recorder (DAT, MD, DCC, CD-R), you may connect its record input to the D/AC-1000's **Digital Output Record jack**. This is an RCA type connector; use only digital quality cable.

AC Power

Your D/AC-1000 has an IEC standard detachable power cord which has been specially selected for its contribution to the sound quality of this unit. Try to connect only this cord directly to a nearby AC wall outlet and avoid extension cords or connection to accessory outlets on your preamp.

If you are considering an AC line conditioner, be advised that it may not have a positive influence on the sound of your D/AC-1000.

Operating your D/AC-1000

Power On/Off

Push the upper section of the button to turn on; lower section for off.

Sampling Frequency LEDs

Your D/AC-1000 will recognize the digital signal of whatever type of digital source you connect and will switch to the correct sampling rate automatically. The 44.1kHz sampling rate is standard for compact discs.

Error/Data LED

In case there is an interruption of data from the digital source or a malfunction of the digital source or connection, the Error/Data LED will illuminate. This shows you that your D/AC-1000 is not receiving correct digital data to process and convert to analog. In this case, a muting circuit will prevent a "garbage" signal passed to Analog Out or the Digital Out Record jacks.

Input Select Buttons and LEDs

The three Input Select buttons correspond to the three different types of input connectors on the rear panel: Coaxial, Optical 1, Optical 2.

Polarity Invert Button and LED

This button allows you to select between 0° normal operation and 180° inverted polarity. Even if you know if your preamplifier and power amplifier are inverting or non-inverting designs, you have no way to know which of your CD's may have been recorded with inverted absolute polarity.

- Absolute polarity is not the same as Left-Right loudspeaker phasing. Absolute polarity means the + and - of both channels are reproduced so the compression wave of an initial musical attack correlates to the compression wave (+) from outgoing speaker diaphragm motion rather than rarefaction (-) of ingoing speaker diaphragm motion.

Your choice of 0° or 180° polarity will be strictly a matter of taste. It may be easier to detect differences between 0° and 180° polarity with some recordings than with others. Don't be discouraged if you cannot hear the difference - not everyone can identify absolute polarity.

De-Emphasis LED

Some digital recordings are encoded with pre-emphasis contouring. Your D/AC-1000 automatically recognizes and processes them. An LED illuminates as a beacon for visual confirmation.

"Burning-in" your D/AC-1000

Like most other great audio components, your D/AC-1000 needs to operate for at least 72 hours before it will start sounding its best. This allows the materials of various internal parts to "form" so they can better process the complexities of musical waveforms. While your unit will sound spectacular right out of its carton, you'll find it worthwhile to listen again after a few days. You'll discover details in your music you wouldn't have guessed were there.

Maintaining your D/AC-1000

Your D/AC-1000 needs no routine maintenance. We do recommend that you remove and twist the various RCA connections once a year to remove any corrosion buildup on plugs and jacks. Make sure the power is turned off before attempting this. It is not a bad idea to do this for each of your other components while you're at it.

Never use any commercial cleaners or abrasives on the front panel or top cover - they will likely scratch or disfigure them. Use only a soft cloth, if necessary slightly damp to remove fingerprints.

In Case of Trouble

The D/AC-1000 has an external fuse which may blow as a result of an internal fault condition. This protects the unit from possible damage to internal parts. *Never* replace this or any internal fuse with a larger value. Substitution of any larger fuse may create serious stress or damage to internal parts and will void your warranty.

If you suspect a problem with this unit, first recheck all your connections. If one channel is inoperative, the trouble may be caused by another component or even a defective hookup cable. If only one channel is out for all sources, try reversing the Left and Right cables to your preamplifier (turn it off before moving wires). If the same channel stays out, it indicates trouble other than with the D/AC-1000. We suggest you contact your authorized Parasound dealer or call Parasound Technical Service if you suspect a problem. We will suggest other diagnostic tests you can easily perform yourself and which will save you a lot of trouble.

If it is determined that your D/AC-1000 should be returned for inspection and possible servicing, you must first obtain a Return Authorization number. You are expected to re-pack the unit in its original styrofoam packing and both its original cardboard carton plus a slightly larger outer carton for proper protection in transit. You should send the unit by UPS with adequate insurance specified.

Units that arrive without the correct Return Authorization number, without a suitable outer shipping carton or evidence of improper internal packing or collect will be refused. We cannot accept collect shipments. After repair under warranty, the unit will be returned to you via prepaid UPS or RPS. If we can find no problem with the unit, we will ship it collect for return shipping charges.

D/AC-1000 Specifications

Frequency Response:	2.5Hz-20kHz, ^{+0.25dB} _{-0.50dB}
Signal to Noise Ratio:	> 110dB, 115dB typical
Channel Separation:	> 100dB @ 20kHz
Total Harmonic Distortion:	< 0.0025% @ 1kHz
Amplitude Linearity:	>95dB; 98dB typical
Phase Linearity:	±0.1° @ 20kHz
Maximum Jitter (HF):	<150 picoseconds RMS
D-A Converters:	20 bit, push-pull, independent for each channel
Oversampling Rate:	8x (352.8kHz)
Digital Input:	32kHz - 48kHz, Consumer standard SPDIF
Filters:	8x interpolating digital filter two 2/3-order low-pass anti-imaging filters
Absolute Polarity:	0° or 180° switchable
Digital Inputs:	<ul style="list-style-type: none">• Coaxial: 75Ω RCA• Toslink fiber optic: EIAJ Standard CP-340/RC-5720, 660nm typical wavelength• ST module fiber optic: AT&T Standard, 820nm typical wavelength
Outputs:	<ul style="list-style-type: none">• Analog Line Out: 2V nominal, 600Ω, suitable load ≥10kΩ• Digital: 75Ω RCA coaxial, 0.5V peak-to-peak
Power Supplies:	3 separate transformers for digital; each analog channel
Power Requirement:	120V, 60Hz, 15W; may be re-wired for 220-240V, 50Hz
Dimensions:	19" W x 3 3/8" H x 12" D
Net Weight:	15.4 lb.

Specifications subject to change without notice.

"ST" is a registered trademark of AT&T Corporation.

Rewiring for 220-240V 50Hz Operation

The D/AC-1000 can be rewired for operation abroad. Please refer this conversion to a skilled electronics technician to avoid personal injury or possible harm to the unit. There are high voltages present inside the chassis even after the power is turned off.

The main power supply printed circuit board has three separate power transformers. Nearby the transformers you will find jumper wires which correspond to the various primary windings of each power transformer.

For 120V operation, a total of six jumper wires are connected to the circuit board: two jumpers are connected near each transformer, each jumper has "120V" printed alongside of it on the circuit board.

For 220-240V operation, only 3 jumpers are connected to the circuit board; one jumper is connected near each transformer, each jumper has "220V" printed alongside of it on the circuit board.

For 220-240V operation, you must also disconnect the six 120V jumpers.

Parasound Limited Warranty (USA only)

Your Parasound HCA-2200II is covered by a limited warranty against defects in materials and workmanship for a period of two years from date of purchase. This warranty is provided by the Parasound dealer where the unit was purchased. Warranty repair will be performed only when your purchase receipt is presented to validate your ownership, date of purchase and authorized status of the selling dealer. Defective parts will be repaired or replaced without charge by your authorized dealer's store or the location designated by your dealer that is authorized to service Parasound equipment. Additional information is available by calling or writing to the Service Manager, Parasound Products, Inc. at the address below. Charges for unauthorized service and transportation costs are not reimbursable under this warranty.

This warranty becomes void if the product has been damaged by alteration, misuse, accident or neglect. Alteration includes removal, obscuration or defacement of its serial number. This warranty becomes void if unit has been burned out by abusive extended testing or operation with load impedances contrary to printed instructions. This warranty applies only to units used in residential, non-commercial situations. The warrantor assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from the failure of this product. Any and all warranties of merchantability and fitness implied by law are limited to the duration of this expressed warranty.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary state by state.

Please Stay in Touch

We'd like to hear from you about your experience with your Parasound HCA-2200II. Of course we want to assist you with any questions you may have, but we'd also be thrilled to know how much you are enjoying the unit. You don't need to have a problem as an excuse to call.

Reviews on Parasound are coming in from all over the world and we continually have exciting new products in development. If you'd like us to keep you advised, just drop a line and ask to receive updates. We welcome your suggestions and look forward to hearing from you.



PARASOUND

affordable audio for the critical listener

Parasound Products, Inc. 950 Battery Street, San Francisco, CA 94111

800-822-8802 / 415-397-7100 / FAX 415-397-0144