



Class A+D Integrated Amplifier
with DAC

IDA-6

USER'S MANUAL

FCC Notice - Declaration of Conformity Information

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 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 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.

WARNING: Only peripherals complying with the FCC class B limits may be attached to this equipment.

Changes or modifications made to this equipment, not expressly approved by us or parties authorized by us could void the user's authority to operate the equipment. This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

EU Declaration of Conformity

CE Hereby, NuPrime Audio, Inc. declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2004/108/EC.

The manufacturer of this product is NuPrime Audio, Inc., 1712 Pioneer Ave. Ste 1817, Cheyenne, Wyoming 82001, USA.

The Authorized Representative for EMC and product safety is NuPrime Audio, Inc., 1712 Pioneer Ave. Ste 1817, Cheyenne, Wyoming 82001, USA.

For any service or guarantee matters please refer to the addresses given in separate service or guarantee documents.

For customers in Europe

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)



This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local Civic Office, your household waste disposal service or the shop where you purchased the product.

SAFETY INSTRUCTIONS

There are two categories of Safety Instructions included in this manual:

- Product Warnings, (i.e., what must never be done to assure avoiding those hazards that could cause bodily injury or property damage); and
- User Directions (i.e., what must always be done to assure the safe use of your device).

The Safety Instructions contained in this manual have been categorized in accordance with the seriousness of the potential hazards through the use of Signal Words. Those Signal Words, and their intended meanings, are as follows:

DANGER: Indicates that a failure to observe the Safety Instructions could result in death or catastrophic bodily injury.

WARNING: Indicates that a failure to observe the Safety Instructions could result in serious bodily injury.

CAUTION: Indicates that a failure to observe the Safety Instructions could result in minor bodily injury or property damage.

NOTE: Designates important information that relates to activities and/or conditions that might result in loss of data and/or damage to your device.

Safe Use and Operation of Your Device

This equipment emits stray RF energy and will interfere with the reception of signals by airborne electronic navigational devices or medical devices. Do not operate this equipment near any sensitive medical devices.

WARNING: Use only grounded AC power cords.

Always immediately disconnect the power to the equipment in the event the device emits an unusual odor or sound or generates smoke.

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WARNING: Never attempt to disassemble, repair or make any modification to your device. Disassembly, modification or any attempt at repair could cause bodily injury or property damage, as well as damage to the device itself.

WARNING: Your device is not a toy. Never allow children to play with your device. Misuse, rough or improper handling of your device by children could result in serious bodily injury for any of the enumerated safety warnings in this manual. In addition, always keep all accessories and components out of the reach of small children as small parts might present a choking hazard. Seek immediate medical attention if choking occurs or if any small part has been swallowed.

CAUTION: Never raise the sound volume level too high when using your device with earphones. An excessive sound volume level could cause damage to your hearing.

WARNING: To reduce the risk of fire or electric shock, do not expose the unit to moisture or water.

Do not allow foreign objects to get into the enclosure. If the unit is exposed to moisture, or a foreign object gets into the enclosure, immediately disconnect the power cord from the wall. Take the unit to a qualified service person for inspection and necessary repairs.

Read all the instructions before connecting or operating the component.

Keep this manual so you can refer to these safety instructions.

Heed all warnings and safety information in these instructions and on the product itself. Follow all operating instructions.

Do not use this unit near water.

You must allow a minimum 10 cm or 4 inches of unobstructed clearance around the unit. Do not place the unit on a bed, sofa, rug, or similar surface that could block the ventilation openings. If the unit is placed in a bookcase or cabinet, there must be ventilation of the cabinet to allow proper cooling. Keep the component away from radiators, heat registers, stoves, or any other appliance that produces heat.

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The unit must be connected to a power supply only of the type and voltage specified on the rear panel. Connect the component to the power outlet only with the supplied power supply cable or an exact equivalent. Do not modify the supplied cable.

Do not route the power cord where it will be crushed, pinched, bent, exposed to heat, or damaged in any way. Pay particular attention to the power cord at the plug and where the cord exits the back of the unit.

The power cord should be unplugged from the wall outlet during a lightning storm or if the unit is to be left unused for a long period of time.

Immediately stop using the component and have it inspected and/or serviced by a qualified service agency if:

- The power supply cord or plug has been damaged.
- Objects have fallen or liquid has been spilled into the unit.
- The unit has been exposed to rain.
- The unit shows signs of improper operation.

The unit has been dropped or damaged in any way

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Background

NuPrime is *not* a Switching Digital Amplifier

Switching Digital Amps, commonly known as Class-D, first appeared some decades ago. From the start, Class-D showed enormous potential along with significant shortcomings: limited usable bandwidth, and a fixed saw-tooth waveform for audio- signal modulation, the latter producing jitter that effectively masks low-level signals.

Instead of the conventional saw-tooth configuration, NuPrime's patented circuit design uses a naturally occurring analog-modulating signal that adds neither noise nor jitter. Rather than reverting to off-the-shelf solutions, NuPrime's in-house advances have further unlocked the switching amp's potential without the difficulties pure digital-switching amplifiers simply cannot avoid – in other words, the best of both worlds.

Once upon a time heat and bulk were badges of status. Today, they're the bane of obsolescent technology. NuPrime amps switch at 500,000Hz – more than 10X the CD sampling rate. At these frequencies, transformers and capacitors work far more efficiently, making it possible to reduce their size. Typically, Class-A amps rarely utilize more than 30% of the power they draw; the rest is wasted as heat. High operating temperatures also shorten the useful life of the electrolytic capacitors used in abundance in these designs.

A comparison with traditional designs is mind-boggling. A NuPrime amp, small enough to sit on the palm of one's hand, is, typically, 85% efficient – in practical terms, cool-running and easy on the utility bill.

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Advantages of NuPrime Amplifier Technology

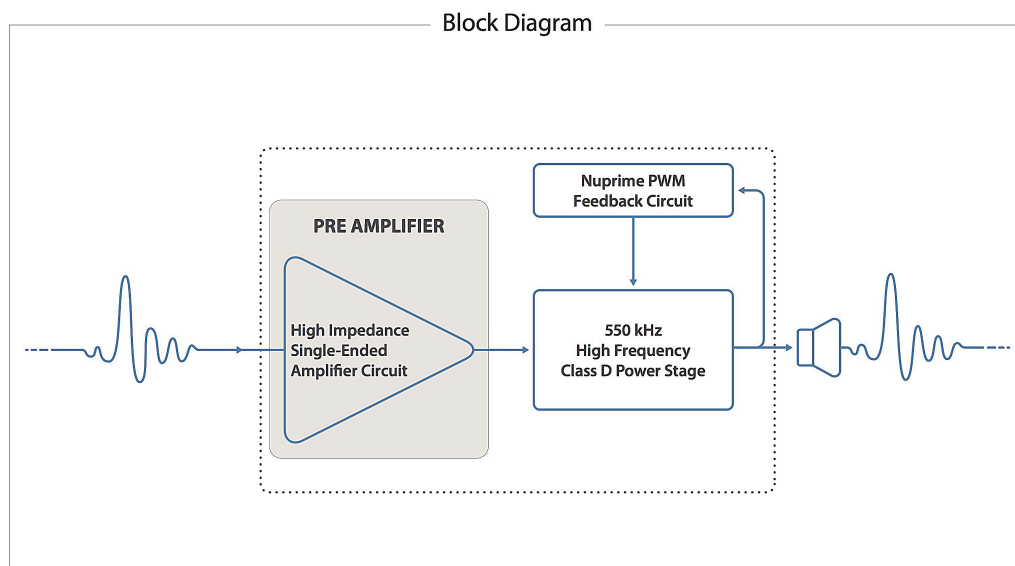
1. High bandwidth. Truly faithful reproduction of music demands bandwidth, and plenty of it. Inadequate bandwidth withholds important spatial information and tonal complexities. NuPrime amps deliver high bandwidth with a ruler-flat response from 20 to 50,000Hz. Only a very few, very expensive linear amplifiers are capable of achieving that. This bandwidth allows NuPrime to amplify complex music with faithfulness far beyond the capability of conventional amps, with particular regard to a vast soundstage – accurate spatial information delivered in full.
2. An extremely high damping factor. Damping factor is simply a measure of an amplifier's ability to drive and control a speaker. The higher the number, the better. An excellent tube amplifier might have a damping factor between 10 and 100. A high-quality Class-A amplifier might reach 200. A NuPrime amplifier has a damping factor about 400. And unlike conventional amps, NuPrime's damping factor is totally unaffected by changes in audio frequencies. Simply stated, NuPrime delivers lightning-fast dynamics to any speaker.
3. No phase shift. Many amps use output filters that create phase shift. When phase shifts, spatial information becomes inaccurate. Most amps present phase shifts of better than 45 degrees at 20 kHz, heading toward 90 degrees as frequency increases. NuPrime amps cancel these distortions owing to a unique closed-loop design producing zero phase shift across all frequencies. Repeat, zero.

NuPrime provides unequalled, fully regulated output without ripple voltage or noise. Absent this electronic smog, music emerges from a pristine background, delicate details and nuances intact. Purity has a sound, and it's beautiful.

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Introduction:

The NuPrime IDA-6 consists of an integrated amplifier and digital-to-analog converter that decode PCM 384 and DoP64 with the convenience of wireless audio in a small, handsomely designed home stereo component. NuPrime's Single End Class A+D hybrid amplification technologies deliver the substance and warmth of Class A amplification and the efficiency and speed of Class D technology. The IDA-6's spacious, transparent, dynamic and luxuriously textured soundstage has to be heard to be believed.



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IDA-6 utilized a design technique that allows it to perform PCM 384 and DoP64 decoding that measured up to the performance of high-end DAC. A SRC (Sampling Rate Converter) FPGA IC chip up samples the input signal to gigahertz range before it is down sampled to a fixed PCM sampling rate for ultra-low jitter and distortion rates. This classified fixed sampling rate simplifies system design that resulted in sound quality that is unprecedented for an integrated amp at this price point.

With all stages in one chassis, the IDA-6 avails itself of the shortest possible signal paths in order to facilitate low levels of noise and distortion for a black-velvet background to music. Volume changes occur in 99 precise 0.5dB increments for each input's individually adjustable volume level. Precise level matching is a breeze, as is the user's ability to make comparisons of music sources.

The NuPrime amp circuit improves on traditional class-D design by using a self-oscillating circuit to generate pulse-width modulation. The amplifier switches at a frequency of 500kHz, well beyond the compact disc's 44.1kHz sampling rate. Most class-D amps switch at 300kHz or lower. In addition, a new low noise switching power supply is designed specifically to complement the IDA-6 amplifier.

The IDA-6's frequency response to 50 kHz elevates vocals into emotional experiences; similarly, instrumental upper registers mimic a live performance's shimmering heights. The IDA-6's features and specifications have few equals. Just one audition will convince you that the IDA-6's performance is unmatched at this price point.

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Features:

- Single End Class A + D design achieves audiophile-quality sound with Class-D's dynamics, speed and efficiency
- Sampling Rate Converter (SRC) IC supporting PCM 384 and DoP 64 decoding
- Extension port for Bluetooth dongle and WiFi audio streaming (optional)
- Full microprocessor control with memory retention for each input volume
- Five digital inputs and one analog stereo input for complete system flexibility
- Capable of decoding DoP formats via coaxial and optical inputs
- Volume adjustment in 99 precise 0.5dB increments
- Advanced switched-resistor ladder network (implemented in FPGA) for controlling volume, with a single resistor in the signal path at any volume setting
- Includes remote control

Specifications:

Inputs:

- A1: 3.5mm Analog Input
- E2: Extension port for optional modules (NuPrime BTR-8 (Bluetooth) or NuPrime WR-100 (WiFi receiver))
- O3: Optical Digital S/PDIF (PCM up to 192K supporting DoP format DSD64)
- O4: Optical Digital S/PDIF (PCM up to 192K supporting DoP format DSD64)
- C5: Coaxial Digital S/PDIF (PCM up to 384K supporting DoP format DSD64)
- C6: Coaxial Digital S/PDIF (PCM up to 384K supporting DoP format DSD64)

Outputs:

- 2 x pair of stereo speaker (binding posts) output
- 1 x Control panel for extended control panel and display (Optional accessory)

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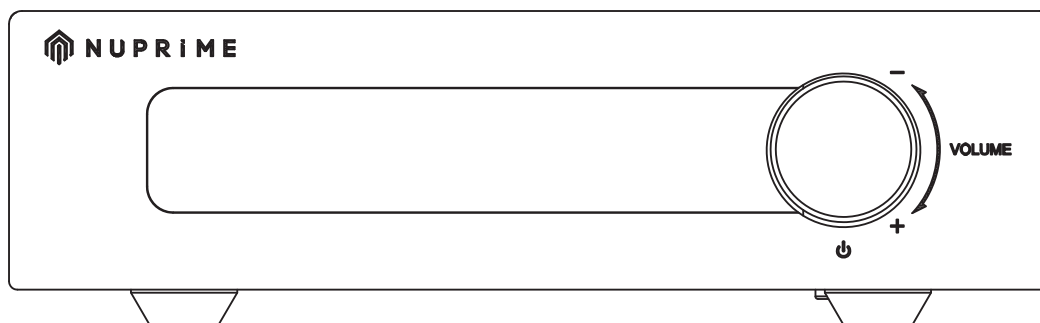
- Optical Sampling Rates: 44.1KHz, 48KHz, 88.2KHz, 96, 176.4KHz, 192KHz
- Coaxial Sampling Rates: 44.1KHz, 48KHz, 88.2KHz, 96, 176.4KHz, 192KHz, 352.8KHz, 384KHz
- Bit Resolution: 24-bits
- Power output: 60W x 2 (8-Ohm) or 35W x 4 (4-Ohm) *
- THD+N: 0.05%
- SNR = > 88dB
- Peak Output Power: 170W
- Frequency Response: 10Hz ~50KHz
- Dimensions: 200 mm W x 198 mm D x 60 mm H (including feet)
- Weight: 1.4Kg
- Worldwide AC voltage: 100VAC~ 240VAC
- Available in black color only.

*Please note it is not recommended to use 2 pairs of 4-ohm speakers, as it will have an impact on sound quality.

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Quick Start Guide

Front Panel View:



Power and Input Selector:

Power:

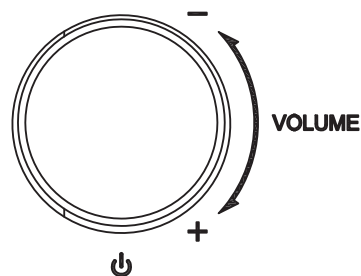
Hold and press for 3 sec to On/Off standby mode

Volume:

Turn the knob to adjust volume

Input Selection:

Briefly press to switch between input channels



Display:

88888

PCM: 44.1, 48, 88.2, 96, 176.4, 192, 352.8, 384

DoP: d2.8

VOL: 00 ~ 99

Inputs:

A1: 3.5mm analog input

E2: Extension port input

O3: Optical digital input

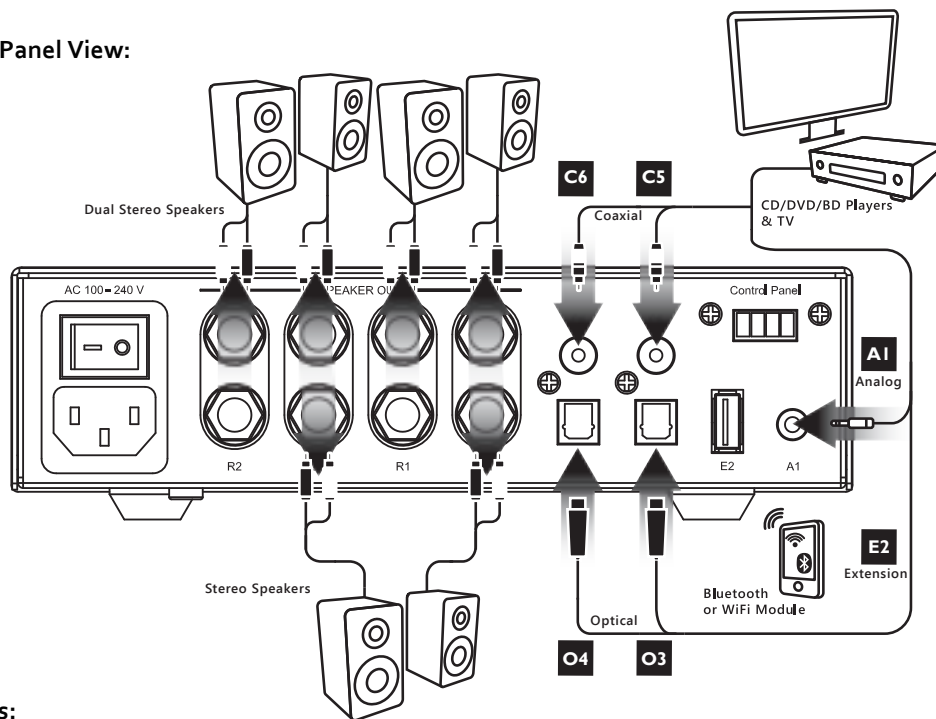
O4: Optical digital input

C5: Coaxial digital input

C6: Coaxial digital input

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Back Panel View:



Inputs:

- A1: 3.5mm stereo analog for CD/DVD/BD players, TV and any analog source device.
- E2: Extension port for Bluetooth and WiFi module. (Optional modules)
- O3: Optical input for CD/DVD/BD players, TV and any device with an optical source.
- O4: Optical input for CD/DVD/BD players, TV and any device with an optical source.
- C5: Coaxial input for CD/DVD/BD players, TV and any device with a coaxial source.
- C6: Coaxial input for CD/DVD/BD players, TV and any device with a coaxial source.

Outputs:

- 2 x pair of stereo speaker (binding posts) output
- 1 x Control panel for optional extended control panel and display.

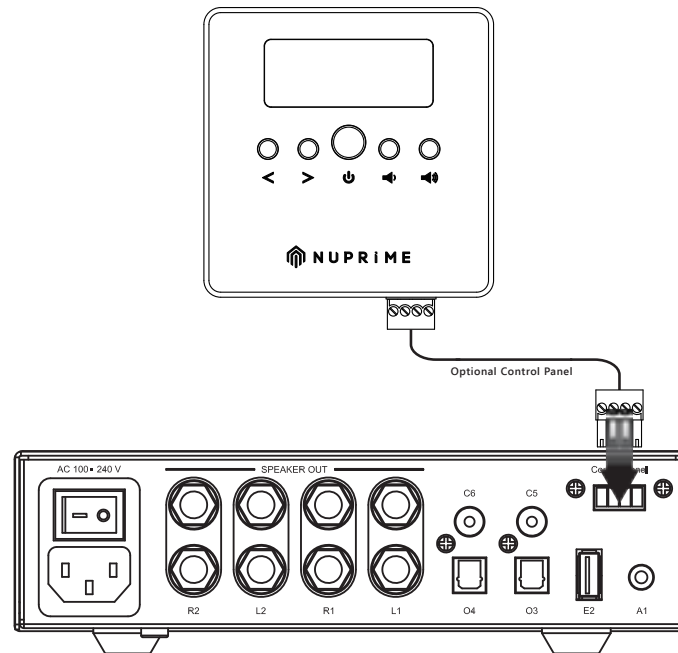
Remote Control:

- Power: Power On/Off
- Ch+: Selection next channel
- CH-: Selection previous channel
- Vol +: Volume up
- Vol -: Volume down
- Mute: Mute/Unmute audio
- A1: Analog input selection
- E2: Extension input selection
- O3: Optical input selection
- O4: Optical input selection
- C5: Coaxial input selection
- C6: Coaxial input selection



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Optional Control Panel:



Power: Power On/Off

Ch+: Selection next channel

CH-: Selection previous channel

Vol +: Volume up

Vol -: Volume down

*This is an optional accessory that is sold separately.

NuPrime's Limited Warranty and Limitation of Liabilities

ADDITIONAL RIGHTS

FOR CONSUMERS, WHO ARE COVERED BY CONSUMER PROTECTION LAWS OR REGULATIONS IN THEIR COUNTRY OF PURCHASE OR, IF DIFFERENT, THEIR COUNTRY OF RESIDENCE, THE BENEFITS CONFERRED BY THIS WARRANTY ARE IN ADDITION TO ALL RIGHTS AND REMEDIES CONVEYED BY SUCH CONSUMER PROTECTION LAWS AND REGULATIONS. THIS WARRANTY DOES NOT EXCLUDE, LIMIT OR SUSPEND ANY RIGHTS OF CONSUMERS ARISING OUT OF NONCONFORMITY WITH A SALES CONTRACT. SOME COUNTRIES, STATES AND PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY OR CONDITION MAY LAST, SO THE LIMITATIONS OR EXCLUSIONS DESCRIBED BELOW MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY BY COUNTRY, STATE OR PROVINCE. THIS LIMITED WARRANTY IS GOVERNED BY AND CONSTRUED UNDER THE LAWS OF THE COUNTRY IN WHICH THE PRODUCT PURCHASE TOOK PLACE.

LIMITED WARRANTY

For a period of ONE (1) YEAR from the date of retail purchase by the original end-user purchaser ("Warranty Period"), NuPrime warrants (in) this product against defects in materials and workmanship, and (ii) that each Product, unmodified and under normal use and conditions, will substantially comply with NuPrime' applicable written technical documentation for the Product. NuPrime reserves the right to make substitutions and modifications from time to time in the specifications of Products sold by NuPrime, provided that such substitutions or modifications do not materially affect overall Product performance.

If a hardware defect exists and a valid claim is received within the Warranty Period, at its option and to the extent permitted by law, NuPrime will (1) repair the hardware defect at no charge, using new or refurbished replacement parts, (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, or (3) refund the purchase price of the product. NuPrime may request that you replace defective parts with user-installable new or refurbished parts that NuPrime provides in fulfillment of its warranty

obligation. A replacement product/part 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 NuPrime's property. When a refund is given, your product becomes NuPrime's property.

OBTAINING WARRANTY SERVICE

If you purchased the product in the U.S., deliver the product, at your expense, to any NuPrime Service Center located in the U.S. If you purchased the product outside of the U.S., deliver the product to any NuPrime Authorized Importer in the country where you purchased the product. Be aware, however, that not all countries have NuPrime Authorized Service Providers ('NASP') and not all Authorized Service Providers outside the country of purchase have all parts or replacement units for the product. If the product cannot be repaired or replaced in the country it is in, it may need to be sent to a different country or returned to the country of purchase at your expense for repair or replacement. If you seek service in a country that is not the country of original purchase, you will comply with all applicable import and export laws and regulations and be responsible for all custom duties, V.A.T. and other associated taxes and charges. Where international service is available, NuPrime may repair or exchange defective products and parts with comparable products and parts that comply with local standards. You can always deliver the product to NuPrime's U.S. main service center for obtaining warranty service, however, you may have to pay for return shipping cost.

NuPrime may send you user-installable new or refurbished replacement product or parts to enable you to service or exchange your own product ("DIY Service"). Upon receipt of the replacement product or part, the original product or part becomes the property of NuPrime and you agree to follow instructions, including, if required, arranging the return of original product or part to NuPrime in a timely manner.

When providing DIY Service requiring the return of the original product or part, NuPrime may require a credit card authorization as security for the retail price of the replacement product or part and applicable shipping costs. If you follow instructions, NuPrime will cancel the credit card authorization, so you will not be charged for the product or part and shipping costs. If you fail to return the replaced product or part as instructed or the replaced product or part is not eligible for warranty service, NuPrime will charge the credit card for the authorized amount.

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EXCLUSIONS AND LIMITATIONS

This Limited Warranty applies only to hardware products manufactured by or for NuPrime that can be identified by the "NuPrime" trademark, trade name, or logo affixed to them. The Limited Warranty does not apply to any non-NuPrime hardware products or any accessories, even if packaged or sold with NuPrime hardware. Non-NuPrime manufacturers, suppliers, may provide their own warranties. Other accessories distributed by NuPrime under the NuPrime brand name are not covered under this Limited Warranty. This warranty does not apply: (a) to damage caused by accident, abuse, misuse, misapplication, liquid contact, fire, earthquake, non-NuPrime products, or other external causes; (b) to damage caused by service performed by anyone who is not a NASP; (c) to a product or a part that has been modified without the written permission of NuPrime; (d) to consumable parts, such as batteries, or protective coatings designed to diminish over time unless failure has occurred due to a defect in materials or workmanship; (e) to cosmetic damage, including but not limited to scratches, dents, and broken plastic on ports; (f) to defects caused by normal wear and tear or otherwise due to the normal aging of the product; or (g) if any NuPrime serial number has been removed or defaced.

Important: Do not open the hardware product. Opening the hardware product may cause damage that is not covered by this warranty. Only NuPrime or a NASP should perform service on this hardware product.

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Some states and provinces do not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitations on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by state or province.

Proof of purchase in the form of a bill of sale or receipted invoice which is evidence that the unit is within the Warranty period must be presented to obtain warranty service.

REPLACEMENT AS PROVIDED UNDER THIS WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. NUPRIME SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF ANY EXPRESS OR IMPLIED WARRANTY ON THIS PRODUCT. EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THIS PRODUCT IS LIMITED IN DURATION TO THE DURATION OF THIS WARRANTY.

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Beyond ordinary