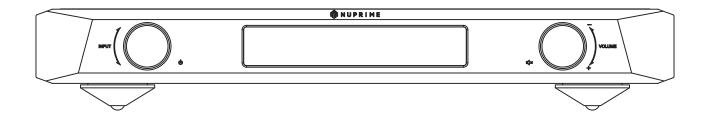


Evolution DAC User Manual









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.

Notice for customers: The following information is only applicable to equipment sold in countries applying EU Directives.

EU Declaration of Conformity



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.

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.

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.

1. Introduction

To meet the highest performance requirement of the NuPrime Evolution Series, the power circuit of Evolution DAC has been redesigned from the ground up using C-Core transformers and AC filter, in addition to the DAC circuit. It utilizes one of the world's highest performing 32-bit audio DACs, the ES9038PRO, and NuPrime PSRC IC chip to not only decode but also provide sampling rate up/down conversion from PCM 44.1kHz to PCM 768kHz and DSD64 to DSD512.

Ultra Clean Power Circuit

AC Filter

To get the cleanest and most stable power to the circuitry, no expense was spared when designing the power supply section of the Evolution DAC. The AC inlet goes right to a filter, which reduces the AC high frequency line noise by at least 20dB in the 100kHz to 5MHz region.

C-Core Transformer and Large Capacitor Bank

The filtered AC power is then fed to the AC power supply that utilizes C-Core transformers which has less stray flux than conventional ring type transformers. The stainless steel enclosures for the power supply provides shielding to minimize the transformer noise interference affecting other sensitive circuitry.

A large capacitor bank (around 70,000uF) using specialized capacitors, supplies ample and stable power to the analog and digital circuitry.

Discrete Transistors and Changeable Op-amps

Taking things further, the analog section benefits from a NuPrime proprietary power circuitry crafted from discrete components. This circuitry provides further power stabilization and exhibits a high PSRR. Hence, the analog section is fed with the cleanest and most stable power we've put into any product. This translates to a superlative gain in audio performance that defines the Evolution series. The Op-amps used in the analog section are socketed, making it possible for DIY customers to experiment with different sounds by changing them to other Op-amps.

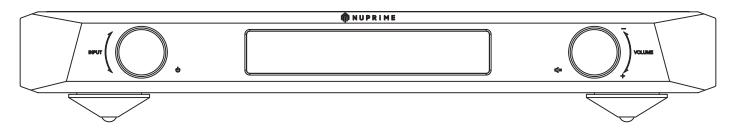
2. Features

- NuPrime PSRC IC chip provides sample rate up/down conversion processing, from PCM 44.1kHz to PCM 768kHz and DSD64 to DSD512 (including PCM to/from DSD).
- The world's highest performance 32-bit Stereo DAC (ES9038PRO). State-of-the-art DAC with warmer sonic characteristics.
- A proprietary NuPrime implementation capable of decoding DoP formats via coaxial and optical inputs (to support NuPrime source and server devices that are able to output DoP stream in addition to S/PDIF).

- · Seven digital filters.
- Output Level variable or fixed mode.
- · Analog outputs phase change
- Analog outputs channel setting (both outputs can be set to Right, Left, R + L or L + R)
- Display brightness adjustment.
- Seven digital inputs for complete system flexibility. Full microprocessor control with memory retention for all inputs.
- Custom designed non-linear volume curve.
- USB Asynchronous transfer mode.
- USB Supports DSD native playback by ASIO and DoP method. DSD is decoded natively with the same sample rate as the input source.
- USB Supports native MQA decode.
- · Individually adjustable volume on each input for precise level matching of sources
- Exclusive driver software for Windows, standard driver software for Mac
- NuPrime vibration-free isolation feet.
- Available in black or silver anodized aluminum finish.

3. Quick Start Guide

3.1 Front Panel



Power, Input and Menu Selection:

Press briefly to Turn On or put in Standby mode. Turn the knob to switch between inputs. In menu mode, turn the knob to switch menu item. In menu mode, briefly press to accept load default function.

Mute, Volume, and Menu Value Selection:

Briefly press to Mute/Unmute.
Briefly press for 3 sec enter Menu / exit Menu.
Turn the knob to adjust volume.
In menu mode, turn the knob to switch item value.

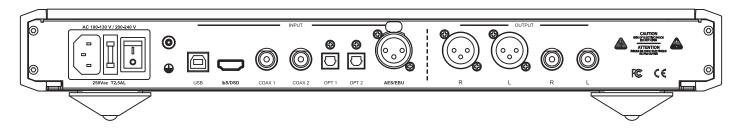
STANDBY LED

LED will light, indicating that the EVO DAC is standby.

DISPLAY OFF LED:

LED will light indicating that the display is off.

3.2 Rear Panel



• Digital Inputs:

USB Input: USB slot is for connecting with the B Type USB to A Type USB 2.0 version cable to PC's USB port which is able to send digital audio up to PCM 384KHz and DSD 256.

IIS/DSD Input: With HDMI cable to transfer IIS and DSD data from NuPrime source devices. Do not connect to the HDMI output of Set Top Box or BD / DVD player.

Coaxial Input: Both COAX1 and COAX2 accept up to 768KHz. For DSD DOP standard input up to DSD256.

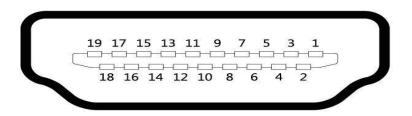
Optical Input: Both OPT1 and OPT2 digital inputs accept up to 192KHz. For DSD DOP standard input up to DSD64.

AES/EBU Input: Professional digital input accepts up to 192KHz. For DSD DOP standard input up to DSD64.

Ground terminal: Chassis ground.

AC Inlet: Connect the supplied mains lead to the AC IN (115V or 230 V) terminal on the rear of the DAC.

IIS / DSD Pin define:



• PIN1 : SDATA - / DSD L-

• PIN2 : GND

• PIN3 : SDATA + / DSD L+

• PIN4 : BCK + / DSD CLK +

• PIN5: GND

• PIN6 : BCK - / DSD CLK -

• PIN7: LRCK - / DSD R -

• PIN8 : GND

• PIN9 : LRCK + / DSD R +

• PIN10 : NC

• PIN11 : GND

• PIN12 : NC

• PIN13 : NC

• PIN14 : NC

• PIN15 : NC

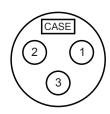
• PIN16 : NC

• PIN17 : GND

• PIN18 : NC

• PIN19: + 3.3V OUTPUT

AES / EBU (XLR FEMALE) Pin define:



Pin 1: Ground

Pin 2: Positive (+)

Pin 3: Negative (-)

Analog Outputs:

1x Stereo Audio Output (RCA)

1x Balanced Stereo Audio Output (XLR MALE)



Output Phase: Normal

Pin 1: Ground

Pin 2 : Positive (+)

Pin 3: Negative (-)

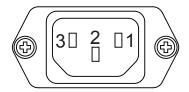
• Output Phase: Invert

Pin 1: Ground

Pin 2 : Negative (-)

Pin 3 : Positive (+)

• AC Inlet:



Pin 1: Live Conductor: L

Pin 2: Ground Conductor: PE

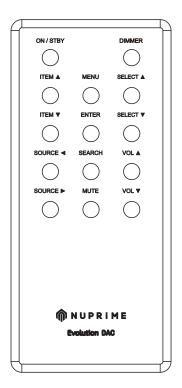
Pin 3: Neutral Conductor: N

AC Inlet Voltage Selector:



Make sure that the AC voltage selector switch at the bottom of the unit is switched to the appropriate voltage for your country. All EVO DACs are shipped with the switch set to 230V AC in order to prevent accidental damage.

3.3 Remote Control



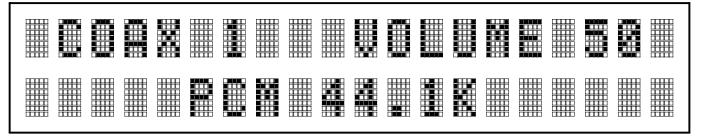
- ON / STBY: Toggle power STANDBY and ON
- DIMMER: Toggle between 4 dim presets
- ITEM ▲▼: Navigate Menu item
- MENU: Enter / exit the Setup Menu
- ENTER: Only used to confirm loading default function.
- SELECT ▲▼: Navigate item value
- SOURCE **◄►** : Digital input selection
- SEARCH: Quickly search for input with valid signal
- MUTE: Mute / Unmute audio
- VOL▲▼: Increase / Decrease volume

Battery Replacement:

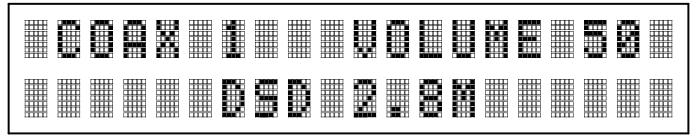
To change the battery, please remove the 4 screws and the bottom cover to reveal the battery casing.

4. Front Panel Display

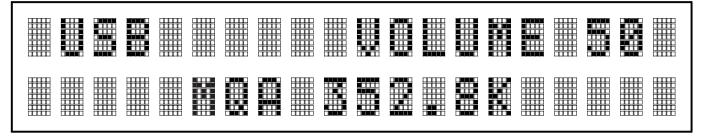
4.1 PCM sample rate



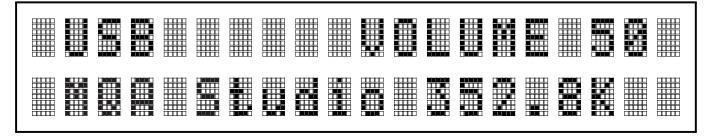
4.2 DSD sample rate



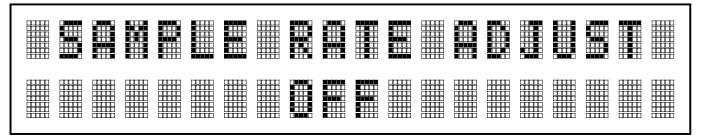
4.3 MQA original sample rate



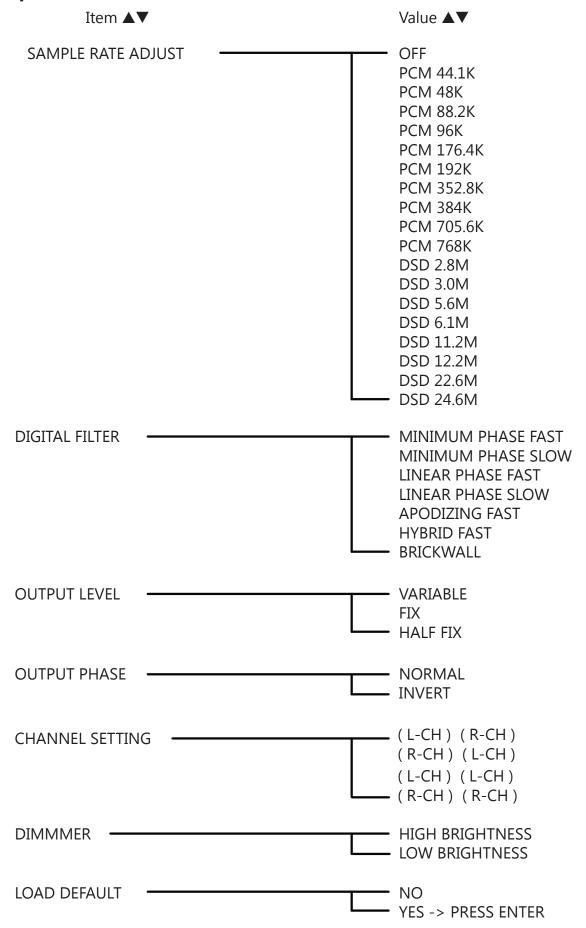
4.4 MQA Studio original sample rate



4.5 Setup Menu



5. Setup Menu structure



6. MQA - Master Quality Authenticated

The EVO DAC includes MQA technology, which enables you to play back MQA audio files and streams, delivering the sound of the original master recording. The front panel display indicates if the MQA stream is detected. 'MQA' or 'MQA Studio' indicates that the product is decoding and playing an MQA stream or file, and denotes provenance to ensure that the sound is identical to that of the source material. "MQA Studio' indicates it is playing an MQA Studio file, which has either been approved in the studio by the artist/producer or has been verified by the copyright owner. For more about MQA please visit: http://www.mqa.co.uk/

'Manufactured under licence from MQA Limited. The MQA logo is a trade mark of MQA Limited'.

Note: During MQA playback, the SAMPLE RATE ADJUST function will be disabled and force to OFF mode. also DIGITAL FILTER function will be disabled and force to MININUM PHASE SLOW.

7. Technical Specifications

DIGITAL

- USB: Type B 2.0 Hi-Speed, data stream up to 384KHz/24Bit and DSD 256.
- IIS/DSD: Supports PCM 768KHz/32Bit and DSD 512 data streams.
- COAXIAL: Supports PCM 44.1KHz ~ 768KHz/32Bit and DSD DOP 64,128 and 256.
- OPTICAL: Supports PCM 44.1KHz ~ 192KHz/32Bit and DSD DOP 64.
- AES/EBU: Supports PCM 44.1KHz ~ 192KHz/32Bit and DSD DOP 64.

ANALOG

- Analog Outputs Connectors:
 - 2 XLR balanced outputs: FIX mode 8Vrms, HALF FIX mode 4Vrms.
 - 2 RCA unbalanced outputs: FIX mode 4Vrms, HALF FIX mode 2Vrms.
- Output Impedance: < 50 Ohm.
- Frequency response: 20 Hz 20 KHz / ±0.3 dB.
- SNR: > 110 dB.
- THD+N: < 0.0003%.

GENERAL

- USB Audio Firmware: upgradable via USB DFU tool.
- Power Supply: AC voltage selector switch at the bottom of the unit, 115V or 230V.
- Dimensions [W x H x D]: 430 mm x 55 mm x 315 mm.
- Weight: 5.2Kg
- Power consumption: 13.5W (0.9W Standby)

8. Package Content

- The NuPrime EVO DAC (Black or Silver)
- Aluminum remote
- Power cord

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 TWO (2) YEARS 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.

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.