

forté HP2X™

Owner's Manual



!!!WARNING!!!

Mute amp before Powering Down to avoid loud pop thru speakers!





Bergantino

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**All Features and specifications are subject to change without notice.
This list is subject to change without notice.*

WARNING: This amplifier can produce sound pressure levels that may damage your hearing. Always operate at a safe listening level or use hearing protection if operating at higher levels.

	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		
	<p>The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.</p>	
	<p>The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.</p>	
<p>WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.</p>		
<p>CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT. ATTENTION: POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU'AU FOND.</p>		

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IMPORTANT SAFETY INSTRUCTIONS

READ THESE INSTRUCTIONS:

Please read all safety and operating instructions before connecting and operating this product. This manual should be kept for future reference.

VERIFY AC CIRCUIT CAPACITY BEFORE USE:

Your new Bergantino **forté HP2X** comes equipped with a UPS (Universal Power Supply) capable of operating from 100 – 240VAC (~), 50/60Hz with no user adjustments or switching necessary. The high-power output of your amplifier may require heavy current draw under full-load conditions. Connecting multiple amplifiers to the same circuit, or connecting the amplifier to the same circuit used by other heavy power devices, such as high-wattage lights, may cause circuit breakers to trip. It is always a good idea to avoid using any audio equipment on the same AC circuit as equipment with motors, such as air conditioners or refrigerators. This will lessen the possibility of power variation and electrical start-up noise affecting your sound.

EARTH GROUNDING CONNECTION:

To prevent electric shock, do not remove the grounding plug on the power cord. Do not use any plug or extension cord that does not have a grounding plug provided. Make certain that the AC outlet is properly grounded as well. Do not use an adapter plug with this product.

PROTECT THE POWER CORD:

Do not walk on or let the cord become pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus. To avoid safety hazards, use only the power cord supplied with your unit. We do not recommend using an extension cord with this product. Damaged power cords should be replaced immediately with cords meeting factory specifications. If a replacement cord is used, make certain that it is of consistent quality and gauge as the original and is UL/IEC Certified. When disconnecting the power cord from an AC outlet, always pull the plug, never pull the cord. If you do not intend to use the amplifier for a considerable length of time, disconnect the plug from the AC outlet.

DO NOT USE THIS APPARATUS NEAR WATER:

Never expose the amplifier to rain, moisture, dripping or splashing water. Do not place objects filled with liquids on or nearby the amplifier.

DO NOT OPEN THE AMPLIFIER ENCLOSURE:

There are no user-serviceable components inside this product. Opening the amplifier enclosure may present a shock hazard and modification to the product will void your warranty. If liquid enters the unit or any metal object, such as a piece of wire accidentally falls inside the enclosure, immediately disconnect the unit from the AC power source immediately and consult an authorized service station.

UNPACKING:

The carton and packing materials used in shipping your new amplifier were specially designed to cushion it from the shocks and vibration that occur during transport. We suggest that you save the carton and packing materials for use in shipping, in the event you move, or the amplifier needs repair.

INTRODUCTION

Congratulations on your choice of the Bergantino Audio Systems' **forté HP2X** as your amplifier and welcome to the Bergantino family! First, we would like to thank you for choosing Bergantino Audio Systems as your amplifier company. This is something we never take for granted. We are confident that your new amplifier will bring you many years of trouble free use and we feel that our high quality design and build standards will help you reach your creative goals.

The Bergantino Audio Systems' **forté HP2X** is a state-of-the-art bass amplifier, designed to deliver maximum tone and performance, yet is extremely simple to operate.

Design features include:

- DSP, Embedded System Controlled, Bass Amplifier
 - 4 Tone Controls and Bright filter:
 - **Bass:** +/- 10db @ 65hz
 - **LoMid:** +/- 10db @ 250hz
 - **HiMid:** +/- 10db @ 1khz
 - **Treble:** +/- 10db @ 3.5khz
 - **Bright:** +6db @ 2khz or +8db @ 7khz software selectable
- **VHPF** (Variable High Pass Filter) 30hz – 120hz
- **VLPF** (Variable Low Pass Filter) 1khz – 10khz
- **Auxiliary** input and **Headphone** jack for personal monitor and practice use
- **VRC** (Variable Ratio Compressor)
- **Drive** for tube-like sound
- **Punch** +4.0db @ 100hz
- Effects send and Return loop
- Studio quality Direct Output, user selectable Pre or Post EQ
- UPS – Universal power supply 115VAC- 240VAC 50/60Hz
- Power Section: 600W RMS at 8-ohm, 1200W RMS at 4-Ohms or 2-Ohms
 - User selectable, speaker impedance matching for optimal power transfer down to 2-Ohm minimum load.

INTELLIGENT COOLING:

The **forté HP2X** utilizes a Class D amplifier that generates less than half the heat of conventional amplifiers. In order to maintain a cooler running amp, we've incorporated an intelligent cooling system to ensure many years of trouble free service. When the amp is under light load, the fan is off. If the amp should reach a specified operating temperature, the micro-controller in the **forté HP2X** will engage the fan automatically until it is cooled to a safe operating temperature. In addition to sensing the temperature of the amp, our unique system also features an anticipated cooling condition by monitoring the position of the Master Volume control. Beginning at around 11:00 or so, the fan is automatically engaged to preempt hotter temperatures at higher operating levels. In addition, to help maintain silent operation for those quieter environments when no music is being played, the fan is automatically disengaged when the amp is muted to help maintain silent operation. In **2-ohm** mode the fan is always engaged.

QUICK START

!!!Warning!!!

Mute amp before powering down to avoid loud pop thru connected loudspeaker(s) or headphones!

The **Bergantino Audio Systems' forté HP2X** is designed to be simple to operate. These directions will take you through the basics and give you a good start for setting up your sound.

1. PLUG IN THE forté HP2X:

With the power switch in the **Off** position, connect the supplied power cord from the amplifier AC receptacle, to an AC power outlet of proper voltage and power rating.

2. CONNECT YOUR SPEAKER CABINETS:

Connect your speaker cabinet(s) to either of the Speak-On outputs (these are wired in parallel so you can use either one) using a minimum of 16awg cable. Be sure not to exceed the minimum recommended speaker load. The minimum recommended speaker loads for the **forté HP2X** are user selectable via the **Mute** button for 2-Ohm and 4/8-Ohm operation. **The initial default setting is 4/8-Ohm.**

3. PLUG IN YOUR BASS:

Using a quality instrument cable, connect your bass to the input jack and turn the power switch on. If you have active tone controls on your bass, turn all of the controls to the middle or flat position and adjust the volume to the maximum point you would normally use. If you have a passive bass, turn all tone and volume controls all the way up.

4. INPUT LEVEL AND MASTER VOLUME SETTINGS:

When first turning on the **forté HP2X**, set tone controls to the flat (12:00 position), and the Instrument Gain and Master Volumes to off (fully CCW).

For proper operation, it is **very** important to adjust the input gain level properly. To adjust the input gain level, turn the master volume and input gain of the **forté HP2X** all the way down (CCW). Next, put the volume controls on your instrument at the maximum level you will be using them at and play your bass like you normally would, including hard dynamic attacks. Gradually increase the input gain control (clockwise) until the OL (overload) indicator just begins to flash. Once flashing, reduce the Input Gain (CCW) slightly for some additional headroom before clipping. It is acceptable if you have the input gain level all the way up with lower output instruments without being able to engage the OL indicator.

Once you've matched the maximum signal from your bass without overloading the input stage of the amplifier, increase the master volume of the **forté HP2X** by turning the master volume knob clockwise to the desired level. You should be hearing your bass quite well at this point. You should now **only** use the Master volume now to achieve your desired sound level.

- ⇒ For clear, undistorted sound, it's **very** important not to overdrive the input stage of the **forté HP2X**. If you increase in level any tone or volume control on your bass after adjusting the input gain, check to make sure the OL indicator isn't constantly flashing.

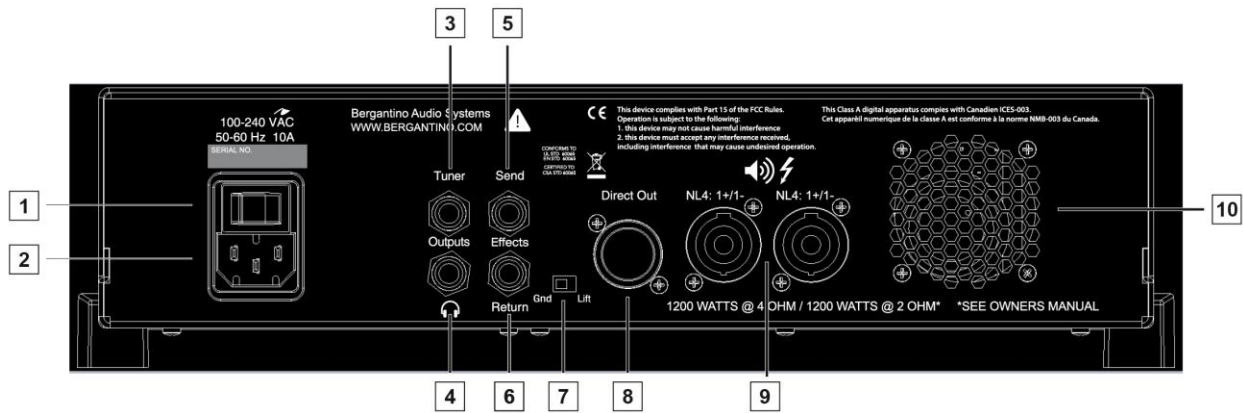
FRONT PANEL CONTROLS AND OPERATION



- 1. Aux Input:** A standard 1/8" mini stereo jack to plug in an external sound source (iPod, MP3 player, etc.). Maximum, unclipped input level is 2Vrms.
- 2. VRC (Variable Ratio Compressor):** Controls the amount of compression. Turning CW will increase amount of compression.
- 3. Input:** A 1/4" unbalanced input jack to plug in an active or passive bass into a studio quality, high impedance, input buffer.
- 4. Gain:** Gain control for the Instrument input. Adjust this level to obtain maximum input gain before any flashing of the OL indicator occurs.
- 5. OL (overload) Indicator:** Indicates the input stage of the **forte HP2X** is being overdriven when flashing yellow. If an overload condition is indicated, turn appropriate gain knob (Aux or Input) counterclockwise to reduce gain until no flashing occurs and then adjust master volume to achieve desired volume.
- 6. Master (volume):** This control raises and lowers the Master volume of the **forte HP2X**.
- 7. Protect Indicator:** Should the amp experience a fault (overheat, over-current) the amp will mute the output and this LED will turn red until the condition is corrected. Check and make sure there are no obvious conditions causing the amp to enter protect mode such as a shorted speaker cable or the fan or vent holes being blocked on the outside of the unit.
- 8. Clip Indicator:** This indicator will flash yellow when the **forte' HP2X** senses an overdriven or clipped signal at its output. This is an indication that the amplifier is being driven beyond its ability to produce a clean, undistorted output signal.
- 9. Drive Button:** Determines the signal level into the drive effect of the **forte HP2X**.
- 10. Engage Button:** This button engages/disengages the Drive effect and is also switchable via our Bluetooth Footswitch (**BTFS**). Press and hold for 2 seconds (or the Drive switch on the BTFS) to toggle between primary and secondary Drive functions. Amp will always power up with Primary Drive function selected, regardless if it's engaged or not.

- 11. Drive Engage Indicator:** Illuminates orange when Drive is engaged. Also flashes once when Primary Drive function is engaged or twice when Secondary Drive function is engaged.
- 12. VLPF:** This control adjusts the Low-Pass frequency of the amp from 1khz to 10khz.
- 13. VHPF:** This control adjusts the High-Pass frequency of the amp from 30hz to 120hz.
- 14. Bass Control:** This control adjusts the bass frequencies +/- 10db @ 65hz
- 15. LoMid Control:** This control adjusts the LoMid frequencies +/- 10db @ 250hz
- 16. HiMid Control:** This Control adjusts the HiMid frequencies +/- 10db @ 1khz
- 17. Treble Control:** This control adjusts the treble frequencies +/- 10db @ 3.5khz
- 18. Punch Engage Indicator:** This indicator illuminates orange when Punch is engaged
- 19. Punch Engage:** This button engages the Punch filter of the amp and is switchable via our **BTFS**. It also toggles between Pre and Post Eq for the **DI select** when pressed and held for 3 seconds.
- 20. DI Pre/Post EQ Indicator:** Illuminates green when “pre” is selected and yellow when “post” is selected.
- 21. Bright Engage indicator:** Illuminates green when Bright is engaged
- 22. Bright Engage:** This button engages/disengages the bright filter and is switchable via our **BTFS**. It also toggles the **Bright frequency between +6db @ 2khz** (green led) and **+8db @ 7khz** (yellow led) when pressed and held for 3 seconds.
- 23. Bright Frequency Indicator:** Illuminates green when 2khz is selected and yellow when 7khz is selected.
- 24. Mute Engage Indicator:** Illuminates red when Mute is engaged.
- 25. Mute Engage:** When Mute is engaged, the red Mute LED will illuminate and the amplifier’s Main output and DI output will be muted. The tuner output in the back of the amp will remain unmuted for silent tuning operation with external tuner. Pressing and holding the **Mute** button for 3 seconds will toggle the **forté HP2X** between **4/8-ohm** (green led) operation and **2-ohm** (yellow) operation. As a reminder, the cooling fan will continuously run in 2-ohm mode.
⇒ **Remember to always mute the amp before shutdown to avoid loud pop thru connected speaker(s)!**
- 26. 4/8-ohm or 2-ohm Indicator:** Illuminates green when 4/8-ohm operation is selected and yellow when 2-ohm operation is selected. (Fan is automatically engaged when operating in 2-ohm mode).
- 27. USB Port:** Use this port to insert Dongle for **BTFS** operation or to install new firmware.

REAR PANEL CONTROLS AND OPERATION



1. Power Switch: Turns the amplifier on or off

2. AC Receptacle: The power cord is detachable and plugs in here

3. Tuner (output): This connector is a 1/4" unbalanced output and serves as the tuner out

4. Headphone (output): 1/4" Stereo headphone jack designed to drive full-range headphones

5. Effects Send: Unbalanced 1/4" connector used when sending a full range, instrument level, mono signal to an external device (effects, processors, etc.)

6. Effects Return: Is an unbalanced 1/4" connector that accepts an instrument or line level return from external effects that are connected in a "series loop". It has a 1Vrms max. input level. If the OL LED illuminates, turn down levels from previous gain stages in the signal chain.

7. Ground Lift: This switch disconnects the ground on the balanced Direct Out, XLR output to eliminate hum and buzz when the amplifier is connected to equipment that is running on a different ground system.

8. Direct Out: Studio quality DI sends an electronically balanced output signal eliminating the need for an external DI. This output can be selected to be **PRE- EQ** or **POST- EQ** (user selectable with **Bright** button). The DI out is 48V phantom power protected.

9. Speaker Outputs: Parallel Speak-On output connectors (Neutrik NL4 1+/1-). The minimum recommended speaker load for the **forté HP2X** is user selectable down to a 2-ohm minimum. A minimum of 16awg speaker cable is highly recommended.

10: Cooling Fan: The onboard microcontroller monitors the amplifier temperature and engages the cooling fan when needed to reduce the amplifier temperature.

forté HP2X ACCESSORIES

Rack Ears

Optional **Rack Ears** are available to make your **forté HP2X** rack mountable in a standard 19" rack mount system. When rack-mounted, the amp will occupy 2 full rack spaces (3.5").

To mount the optional rack ears, remove bottom feet of amp. Align rack ears' mounting slots with the six threaded inserts on each side of the amp. ****These rack ears offer the convenience of adjusting how far forward or back you want to rack you amp to ensure safe transport**** Use the 12, #6-32 screws supplied to attach the Rack Ears to the sides of the amp.

Bluetooth Footswitch (BTFS)

The optional Bluetooth footswitch will allow the user to toggle On and Off the Drive, Punch, and Bright circuits as well as Mute and Unmute the amp. It will allow wireless control of the above functions up to approx. 30 feet from the amp.

Operation and Pairing

To operate, simply put the supplied Dongle into the USB port of the amp, turn the BTFS on and then turn the amp on. The continuous flashing blue light on the pedal will slow considerably (every 3 seconds), signaling the pedal is paired with the dongle.

➔ If pedal doesn't pair, or un-pairs after a short while, confirm it is in Mode 1. This can be easily done by pressing and holding the square mode button, **after** turning the pedal on, until one Red LED flash. Quickly release mode button after just the first Red LED flash. You should be in Mode 1 now. Turn amp on with Dongle inserted in USB port. Pedal should now pair.

Charging the Pedal Battery

To charge the battery, insert the supplied charging cable into the port and plug the other end into any USB source. You can also use a center negative power supply that is 5-9 V (9V preferred). A charge will last for about 200 hours.

Pedal LED Indications

LED Indication

3 red flashes when attempting to power on
Red flash every 3 seconds
Red flash once a second
Solid red
Blue flashing rapidly (twice a second)
Blue flashing very rapidly (5 times a second)
Blue flash every 3 seconds
Solid blue

State

Battery is too low to operate
Battery is low
Charging
Fully charged
Ready to connect
Connecting
Connected
Footswitch pressed

Firmware Updates

If new firmware becomes available for your **forte'** **HP2X**, you can upgrade the firmware via the USB port by doing the following:

- Load the firmware *.hex file onto a FAT32 formatted thumb drive. If you are using a Macintosh computer set the scheme to 'Master Boot Record' when you format the USB drive for FAT32.
- Rename the file to **forthp.hex** (all lower case) but do not rename the thumb drive
- With the **forte'** **HP2X's** power off, insert the thumb drive into the amp's USB port.
- While holding in **Bright** button, turn amp on and continue to hold **Bright** button until green **Bright** LED lights. Once illuminated, release **Bright** button and wait for software to install (approx. 12 seconds).
- Once the HP2's LEDs return to their previous state, remove thumb drive. Your new firmware is ready to go!

INSTALLATION AND MAINTENANCE

INSTALLATION:

To ensure proper operation and to avoid potential safety hazards, place the unit on a firm, level surface.

Make certain that proper space is provided for ventilation. Never block the fan or the fan vent holes on the side of the amplifier. If the amplifier will be installed in a rack or other enclosed area, make sure that there is sufficient air movement within the enclosure to allow proper cooling. Consult your dealer or Bergantino Audio Systems for more information if needed.

Avoid installation in extremely hot or cold locations, and areas that are exposed to direct sunlight, or near heating equipment.

MAINTENANCE:

Your new amplifier is rugged. It was built to give you years of trouble-free operation, if it is operated in accordance with the instructions contained in this manual. The only maintenance required is cleaning. If you are going to move your amplifier around frequently, we recommend a travel case to protect it from scratches and road wear. Do not use excessive force in handling control buttons, switches and controls. Do not use solvents such as benzene or paint thinner to clean the unit. Wipe off the exterior with soft cloth.

To avoid damaging your speakers and other playback equipment, turn off the power of all related equipment before making any connections.

No user serviceable parts inside. Refer service to qualified personnel. Always unplug AC power before removing chassis. EXPORT MODELS: Make certain grounding conforms to local standards. Always insure that amplifier is properly grounded. When replacing fuse, use only same type and rating.

READ AND FOLLOW INTRUCTIONS OF PROPER USAGE

forté HP2X SPECIFICATIONS

Output Power: (User selectable – 4/8 Ohm or 2 ohm)

600Watts @ 8-ohm
1200Watts @ 4-ohm
1200Watts @ 2-ohm

Maximum Input Levels:

Main Input: 4Vrms
Aux. Input: 2Vrms
Effects Return:1Vrms

Input/Output Impedances:

Input Impedance	1M ohm
Aux. input Impedance	20k ohm
Send output Impedance	1.0k ohm
Return input Impedance	20k ohm
Tuner Output Impedance	1.0k ohm
DI Output Impedance	600 ohm

Tone Controls (Peaking Type):

Bass: +/- 10db @ 65Hz
LoMid: +/- 10db @ 250Hz
HiMid: +/- 10db @ 1kHz
Treble: +/- 10db @ 3.5kHz

Bright Filters: +6db @ 2kHz, +8db @ 7kHz

Punch: +4.0db @ 100hz

Cooling: micro-controlled fan

Amplifier Protection: Full short circuit and thermal protection.

Dimensions (H x W x D): 13.75" W x 8.375" D x 3.75" H

Weight: 6.5 lbs.

Power Requirements:

90VAC-240VAC 50/60Hz
10.0 Amps (Internal T10A/250V fuse)
Power consumption: 250 Watts

PRODUCT REGISTRATION

Please take a moment to register your new product to receive any future updates.
www.Bergantino.com/warranty-registration

WARRANTY INFORMATION

Bergantino Audio Systems, 1 Main Street, Whitinsville, MA 01588 U.S.A. warrants to you, the ORIGINAL PURCHASER of the Bergantino Audio Systems **forté HP2X**, for a period of two (2) years from the date of purchase by the original purchaser (the "warranty period") that the new Bergantino Audio product is free of defects in materials and workmanship. We further warrant the new Bergantino Audio product regardless of the reason for failure, except as excluded in this Warranty.

ITEMS EXCLUDED FROM THIS Bergantino Audio WARRANTY

This Bergantino Audio Warranty is in effect only for failure of a new Bergantino Audio product that occurred within the Warranty Period. It does not cover any product, which has been damaged because of any intentional misuse, accident, negligence, or loss, which is covered under any of your insurance contracts. This Bergantino Audio Warranty also does not extend to the new Bergantino Audio product if the serial number has been defaced, altered, or removed.

WHAT THE WARRANTOR WILL DO

We will remedy any defect, regardless of the reason for failure (except as excluded), by repair or replacement. Warranty work can only be performed at our authorized service centers or at the factory. Warranty work for some products can only be performed at our factory. We will remedy the defect and ship the product from the service center or our factory within a reasonable time after receipt of the defective product at our authorized service center or our factory. The customer will bear the expenses of shipping the product to Bergantino Audio in remedying the defect, including surface shipping costs in the United States, while return shipment will be borne by Bergantino Audio. (You must bear the expense of shipping the product between any foreign country and the port of entry in the United States including the return shipment, and all taxes, duties, and other customs fees for such foreign shipments.)

HOW TO OBTAIN WARRANTY SERVICE

You must notify us of your need for warranty service within the warranty period. All components must be shipped in a factory pack, which, if needed, may be obtained from us for a minimal charge. Corrective action will be taken within a reasonable time of the date of receipt of the defective product by our authorized service center or us. If the repairs made by us or our authorized service centers are not satisfactory, notify our authorized service center or us immediately.

DISCLAIMER OF CONSEQUENTIAL AND INCIDENTAL DAMAGES

YOU ARE NOT ENTITLED TO RECOVER FROM US ANY INCIDENTAL DAMAGES RESULTING FROM ANY DEFECT IN THE NEW Bergantino Audio PRODUCT. THIS INCLUDES ANY DAMAGE TO ANOTHER PRODUCT OR PRODUCTS RESULTING FROM SUCH A DEFECT. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

WARRANTY ALTERATIONS

No person has the authority to enlarge, amend, or modify this Bergantino Audio Warranty. This Bergantino Audio Warranty is not extended by the length of time that you are deprived of the use of the new Bergantino Audio product. Repairs and replacement parts provided under the terms of this Bergantino Audio Warranty shall carry only the unexpired portion of this Bergantino Audio Warranty.

DESIGN CHANGES

We reserve the right to change the design of any product from time to time without notice and with no obligation to make corresponding changes in products previously manufactured.

LEGAL REMEDIES OF PURCHASER

THIS Bergantino Audio WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS; YOU MAY ALSO HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE. No action to enforce this Bergantino Audio Warranty shall be commenced after expiration of the warranty period.

THIS STATEMENT OF WARRANTY SUPERSEDES ANY OTHERS CONTAINED IN THIS MANUAL FOR Bergantino Audio PRODUCTS.