

VELOCE

A U D I O L L C



OWNERS MANUAL

Lithio LS-1 Line Stage

1/1/2013

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GENERAL INFORMATION

Thank you for selecting the Veloce Audio LS-1 Linestage. Our relentless pursuit of the best in all elements of the design and manufacture of the LS-1 has only one goal – to provide you, the serious audiophile and music lover, with the best and most natural musical reproduction possible.

We recognize that you had many choices of equipment and appreciate the confidence you showed by investing in a USA based atelier like Veloce Audio. We look forward to meeting and exceeding all your expectations as far as sound reproduction and support are concerned. Making your ownership experience a positive one is a corporate “first principal” for everyone at Veloce Audio.

The balance of this owner’s manual provides information that will allow you to realize all the potential of the Lithio Series LS-1 Linestage. Please read all sections carefully. Should you have any questions during the installation of the Veloce LS-1 Linestage, do not hesitate to contact your dealer or Veloce Audio directly. Either will be glad to assist you.

SAFETY INSTRUCTIONS

Read the following instructions and precautions carefully before using your Veloce LS-1 Linstage.

1. Always disconnect your entire system from the AC mains before installing any piece of equipment or testing or cleaning any piece of equipment or any connection
2. This product is shipped with a three conductor 100-230V AC mains power cord. To avoid electric shocks the LS-1 SmartSupply must always be grounded. If your electrical outlets will not accept this type of plug an adapter may be needed. In this case, make sure that this adapter conforms to all local safety regulations and includes a ground prong (or wire). If you are not sure of the integrity of your home electrical service, contact a licensed electrician for assistance.
3. AC extension cords are not recommended for use with this product. If an extension cord must be used, ensure that it is an approved type and is sufficient for the load.
4. Never use flammable or combustible chemicals to clean this unit
5. Never operate this product with any covers removed. Unplug the unit prior to removing any exterior covers.
6. Never pour, spill or in any way allow liquids of any kind to enter the unit.
7. Never insert any objects into the cooling slots at the rear of the unit or into any other openings.
8. Never replace any fuse with a type or value other than those specified.
9. Never attempt to repair this product. If a problem occurs contact your dealer or Veloce Audio directly.
10. Never expose this product to extremely high or low temperatures.
11. Always keep electrical equipment out of the reach of children.

TRANSPORTING AND UNPACKING

The packing materials for the Veloce Audio LS-1 Linestage have been designed to protect your investment to the maximum during shipping. The unit is shipped as a single container, double boxed in heavy duty cardboard with a protective corners in between the two boxes. The inner box contains the LS-1, the SmartSupply™, manuals, remote and cords. The packing box is large and heavy – take care when lifting and unpacking.

Open the outer box first. You will then see instructions for unpacking fixed to the top of the inner box. Follow these instructions carefully. Once you have the inner box out and opened, remove the SmartSupply™ unit (on top) and place in near the outlet you intend to use. This unit can be placed on a shelf in your equipment rack or on the floor behind your equipment. Be sure that it has adequate ventilation. You will generally not need access to the SmartSupply™ unit after it has been installed. Also remove the accessories box which includes umbilical cord, remote control and mains power cord and manual. Do Not Connect the Umbilical Cable to the SmartSupply™ or AC mains cord at this time. Remove the remote control as you will need it for many functions of the line stage. The remote uses 2 AAA batteries. Lithium batteries are installed at the factory.

Carefully lift out the LS, reaching down the sides of the hard foam end caps. Feel for the hand holds which are above the unit on either side. Lift the unit AND two foam end pieces out at the same time. Do not use the handles to lift the unit or lift the unit from the front/rear. Enlist help if you feel you need it. Once you have the unit out, remove the two foam side panels. Then position the LS-1 on a sturdy shelf or rack. Allow ventilation around the top of the unit. If you experiment with system enhancements products please note that many will have no effect on the LS-1 because of the nature of its design. **Some, such as cones used to replace the feet as an interface to the rack can be harmful! THE UNIT IS HEAVY – IF CONES ARE USED WE SUGGEST TWO IN THE FRONT OF THE UNIT CLOSE TO THE STOCK FEET AND ONE CENTERED IN THE REAR OF THE UNIT.**

There are 4 tubes factory installed in the front panel of the LS-1. All 4 tubes are 6H30 type in two parallel gain stages for the Left and Right channels. Please check to make sure these tubes are NOT DAMAGED. Should you need to remove and replace tubes, no special tools are required and no covers to be removed. To install tubes simply align the pins on the tube with the socket (clearly visible from the front of the unit – through the holes in the polished bar – flanking the display) and seat firmly. **NOTE:** Tube Rolling – is possible using new old stock (NOS) versions of the 6H30.

Once you have completed these steps, you are ready to begin the hook up process.

CONNECTIONS –The Back Panel

At this point we are ready to make connections to the LS-1. Before making any connections to your systems make sure that all power is disconnected. The rear panel is laid out logically, with inputs and outputs in groups, to facilitate connection to the rest of your system. Refer to the picture in the addendum for a close up view of the rear panel.

There are two special connectors to the far left of the rear panel. Plug the umbilical cord into the 5-pin din connector marked POWER – DC IN at the upper left of the rear of the unit. PLEASE MAKE THIS CONNECTION CAREFULLY – ALIGN THE CONNECTOR PINS PROPERLY AND PUSH STRAIGHT INTO THE REAR PANEL CONNECTOR! Plug the other end of this cable into the corresponding connector on the SmartSupply™. At this end there are two connectors – either will work as they offer duplicate functionality.

We are now ready to make other connections. Source components are first. Start making connections to CD, Phono Stage, etc. using inputs marked 1 – 6. Note that input 6 accepts balanced XLR style connectors.

Next connect the outputs. Plug in the interconnect cables for your amplifier(s) into either output 1, which is configured with RCA jacks, or Output 2 which is configured with XLR jacks. Output 2 is set from the factory in the TRANSFORMER BALANCED CONFIGURATION. This is a requirement for bridged stereo amps used as monoblocks and works well for other XLR input amps. For connection to single ended amplifiers the balancing transformers can be switched off internally. Switches are next to the transformers at the left of the rear panel. A special jack marked “REC” is provided as a fixed level (tape) output and is suitable for connection to an open reel recorder or other such device. This output can be factory configured as another variable output.

You are now ready to plug the AC mains cable into the charger unit. The supplied AC cable connects to the standard IEC socket on the SmartSupply™ unit. Make sure that the power switch on the back of the unit is in the off position. You can now plug the unit into the AC outlet. There is no need to use a special filtered outlet or special power cord. That is the beauty of the Veloce technology you have purchased. The moment has come to turn on the master SmartSupply™ switch on the rear panel. Do so and please note that the blue LED on the front panel of the SmartSupply™ will light. The LS-1 may go into charge mode for a brief period of time (to top off the batteries). If so, the blue light on the SmartSupply will turn purple. This is normal.

CONTROL/DISPLAY –The Front Panel

The front panel of the LS-1 is simple and all business. It is comprised of only 3 discreet elements; the display, the two control buttons, and the 4 tube sockets. Refer to the picture in the addendum for a close up view of the front panel.

Let's deal with tube sockets first. The tubes are pre-installed. You should check them to insure that they are firmly seated in the sockets. Do this by holding the end of each tube between your thumb and forefinger and pushing the tube straight back into the unit. The display has all the important information – and nothing else. The blue LED display indicates LEVEL (volume) in large numbers – from 1 (lowest) to 61 (maximum) in 1dB increments. When first turned on, the display will show blinking green lights indicating a soft start period. Then the green lights stop blinking and only “- -” remain, this indicates that the LS-1 is in MUTE mode and ready to go.. Numbers will replace the mute dashes as the volume is adjusted. Above the LEVEL in the display, is an area showing a series of lights indicating that BALANCE has been adjusted from L/R parity. When no indicator lights are lit the system is at equal L/R level. When lights are lit to the left or the right, a difference in channel balance is indicated. The lights show green/ orange/red respectively to indicate the relative amount that the balance has been adjusted. See addendum for picture.

The control buttons are equally simple. There are two, with up and down triangles associated with each. The right button has an up triangle designation. This button has multiple functions. With the unit off, press and hold it and the unit turns on in mute mode. Press this button again and the level will increase with the display showing the change in level. The right button has a down triangle designator. This button will lower the level and at the very bottom of the level range, the unit will go into mute mode. If you depress and hold the right button down when in mute, the unit will turn off. These functions as well as additional functions can be accessed via the remote control. Some functions, such as BALANCE AND INPUT SELECTION can only be accessed using the remote.

Please note that the unit goes through a short timer controlled preconditioning cycle when first turned on, during which time the volume control is locked out. The LS-1 will automatically turn on in the MUTE mode after about 30 seconds.

START UP

As you learned above, the unit can be turned on with the front panel “triangle up” button. The remote can also turn the unit on. Once switched on, the unit will go through a several minute warm up period – indicated by blinking orange and red led's at the top of the display. When the blinking stops you are ready to play.

REMOTE CONTROL

The remote control is a key element in the LS-1 system. The enclosed remote is machined entirely from billet aluminum stock. It is elegant and functional and is designed to offer the maximum features with the minimum complexity! There is no learning curve with this remote – and no hunting for the button you want.

The upper left button on the remote control is the power button. Push and hold it and the unit will turn on in the MUTE mode. Push and hold it when the unit is on and it will turn the LS-1 off. To the right of the on off button is the tape loop button. Pressing this button engages the line level pass through.

Below this are 4 buttons at 12/3/6/9 o'clock with a small button in the center. The center button is MUTE. Press this and the unit mutes from any volume level. Press MUTE again and the unit returns to the previous volume level. The 12/6 o'clock buttons are LEVEL up and down and the 3/9 o'clock buttons are BALANCE left and right. LEVEL is self explanatory save for the range which runs from 1 to 61 (in 1 dB steps)– with a normal listening range of between 15 and 45 depending on the output of your source device, gain of your amplifier and sensitivity of your loudspeakers. BALANCE adjustment can only be accomplished using the remote. Push the buttons at the 9/3 positions to steer the balance left or right. The display will light accordingly showing green, orange or red depending on the amount of adjustment. To return to normal L/R balance, simply hold down the opposite button – the logic circuit will stop the balance operation at center.

Below the LEVEL/BALANCE/MUTE buttons is an array of buttons marked 1 through 6. These are the INPUT selector buttons and correspond to the inputs on the rear panel. INPUT selection can only be made using the remote.

The remote unit is powered by two AA batteries. These are located inside the unit and are accessed through a bottom panel secured with 6 screws. The remote is shipped with high quality AA batteries already installed.



BATTERIES

The LS-1 Linestage is unique. All of its primary audio circuits are powered by battery. The SmartSupply™ unit installs between the LS-1 and the wall socket and controls charging of the batteries and the supply of certain non-audio voltages when the unit is playing. The LS-1 is shipped with the batteries installed and is ready to play out of the box. All aspects of the batteries and their charging are transparent to the user.

There are 6 main batteries for audio power in a dual mono configuration. These batteries are a Lithium type and require no service in their lifetime. In addition, there are 6 smaller "AA" type rechargeable batteries which provide bias current for our UltraBias™ circuit. Replacement batteries can be purchased from Veloce Audio or from other reputable battery suppliers.

Typical life of the supplied batteries will be quite long and is expected to easily surpass 12 years. These batteries are commercially available and can also be supplied by Veloce Audio or your dealer. The specifications for these batteries are:

Six (6) 12 V K2 Energy 12V7 LiFePO4 Batteries

Six (6) 1.2V NiMH "AA" Batteries

Maximum "ON" time is programmed into the LS-1 to protect your batteries from accidental deep discharge and provide for the longest battery life. A timer will shut the unit off after 16 hours of continuous use. Impending shut down is indicated by flashing lights on the front display. This is NOT the run time of the battery supply from full charge! The unit can be immediately turned on after this programmed shut down MULTIPLE TIMES for longer listening sessions. Further, the rapid charger, designed into the SmartSupply, provides for short recharge cycles. A listening session of 3 to 4 hours may result in a charge time (after shut off) of 10 minutes or so!

NOTE

PROPER DISPOSAL OF THE BATTERIES IS A SERIOUS RESPONSIBILITY. PLEASE RESPECT OUR ENVIORNMENT– RECYCLE THE SLA BATTERIES IN THE PROSCRIBED AND PROPER WAY. PLEASE REFER TO THE "CARE AND MAINTENANCE" SECTION FOR BATTERY REPLACEMENT PROCEEDURE.

CARE AND MAINTENANCE

Very little care and feeding is required to keep the LS-1 in tip top condition. If the unit gets finger printed or dirty, first wipe it off with a soft dry cloth. If the dirt is more stubborn, use a cloth dampened with a little water. Never get moisture inside the unit. Take particular care when cleaning near the ventilating holes located at the back corner of the unit. For the bright metalwork, use a VERY soft, DRY polishing cloth and a buffing action. When you are changing tubes, use your fingers for best grip but wipe the tubes off with a soft cotton towel afterwards. This will extend tube life.

Battery replacement couldn't be easier. When the time comes, some 12 years down the road, follow this procedure to change the batteries"

- Find a suitable flat, clean surface that is sufficiently large and strong enough to hold the LS-1
- Lay a soft, clean towel or other cloth on this surface to protect the finish of the LS-1
- Using a 2 mm Allen wrench, remove the upper rows of bright metal Allen screws which are located on the left and right side of the unit.
- Carefully set all screws aside so as not to lose them
- Remove the top cover by pulling up firmly and set it aside.
- You will see a row of 3 batteries on both the left and right side of the unit flanking the central circuit board. You will be looking at the BOTTOM of the batteries as they are installed with the terminals down ...TOWARDS the main circuit board.
- Remove all batteries by pulling them straight up and set them aside (and retain for proper disposal)
- Prepare the new batteries for installation by checking them for damage, proper specification and by removing terminal protectors if they are installed (small plastic sleeves over the positive and negative terminal on the battery).
- Install the new batteries by replacing them where the old batteries were with the terminals down and towards the center where the circuit board is.
- While you are replacing the main power batteries you should also replace the bias batteries which can be found immediately next to the power batteries on the main board. These are AA type rechargeable batteries and should be installed noting correct orientation of +/- terminals.
- Reverse the above procedure to secure the top panel and you are finished.

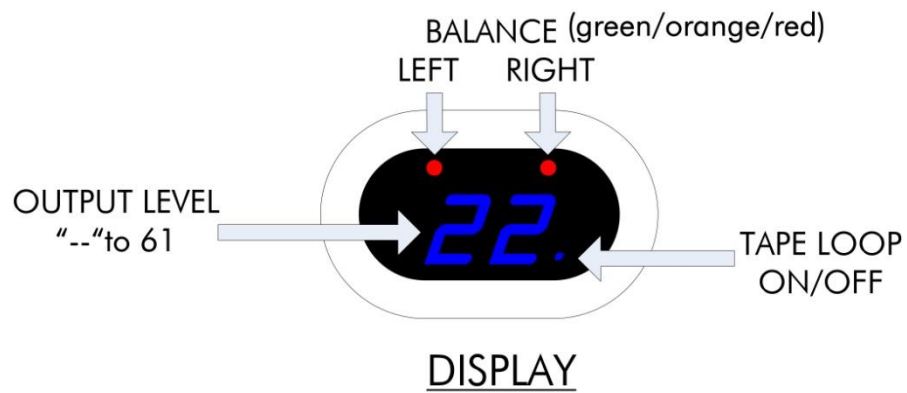
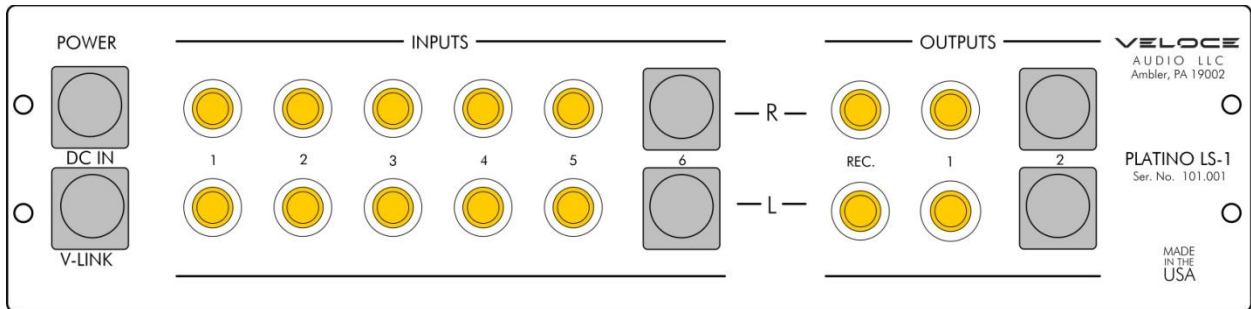
SPECIFICATIONS

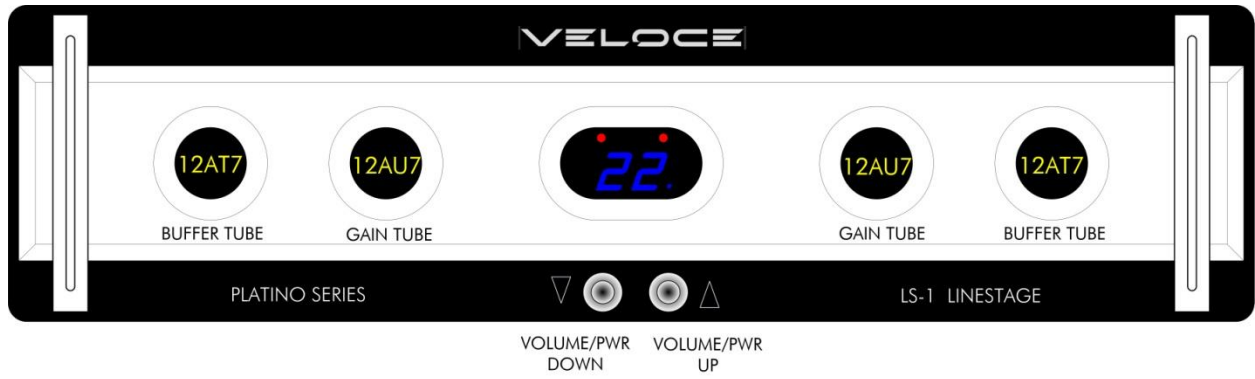
Preamplifier Inputs	1 pair balanced XLR connection 5 pair single-ended RCA connection
Preamplifier Outputs	1 pair Balanced XLR connection* 1 pair RCA connection 1 pair RCA Tape output**
Vacuum Tube Compliment	(4) 6H30 tubes
Volume Control Range	1.0-60.0 dB in 60 steps
Gain	18 dB
Input Impedance	50 kOhms
Output Impedance	<100 Ohms
Rated Output	RCA - 2 Volt (30 volts maximum) XLR - 2 Volts (30 volts maximum)
THD+N	<0.03%
Frequency Response	+/- 0.2 dB from 10 Hz to 65 kHz
Residual Noise	< -90 dB
Power Input	110/117 or 220/234 Volts AC @ 50-60 Hz
Charger Stage Output	40 Volts/4.5Amps (36V nominal)
Hybrid Clean Power™ Supply	Lithium Dual Mono 40 Volts
Battery Life between charges	160 Hours Rated, 16 Hour Timer
Metal Work Finish	Aluminum - black anodized & chrome
Remote Control	Remote control for power, volume, mute, input selection and channel balance
LS-1 Weight	40 lbs
SmartSupply Weight	7 lbs
Shipping Weight	55 lbs
Dimensions	4.5" H x 17.25" W x 15" D

* Transformer Balanced optional

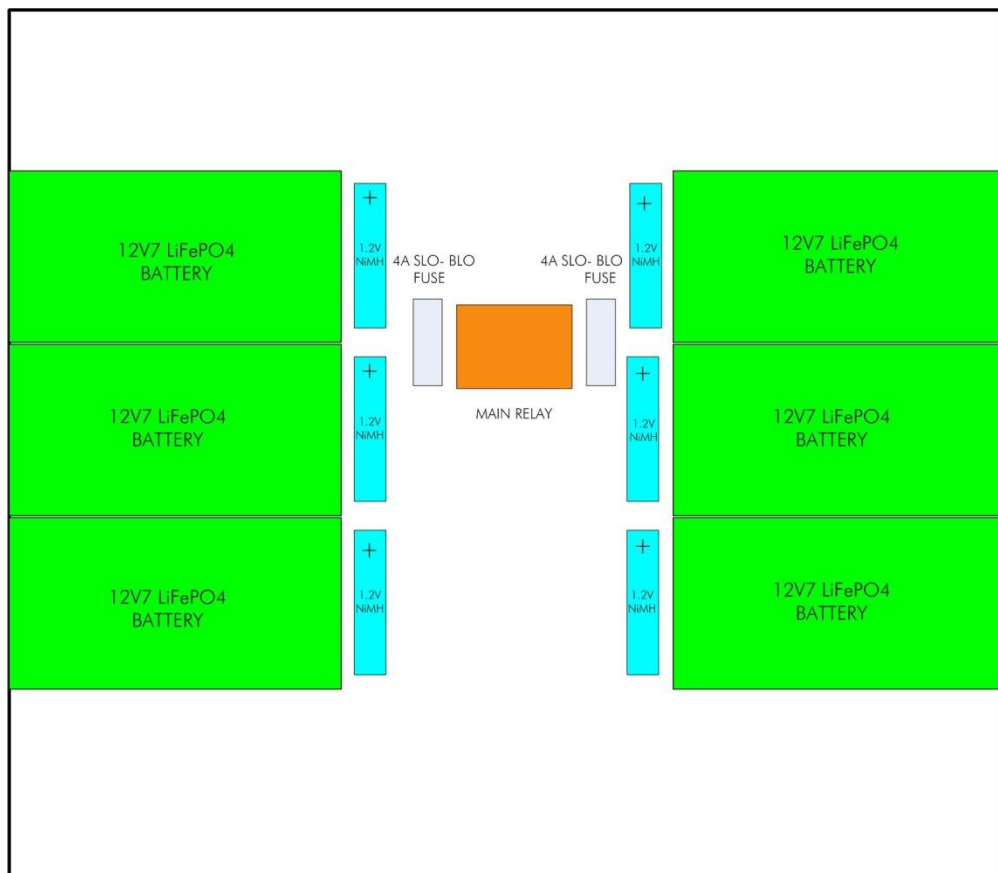
** Variable Gain Output optional

ADDENDUM





ADDENDUM



VELOCE AUDIO LS-1 Battery Relay & Fuse Layout
Rev. 4/2012

TOP VIEW / "FLOOR PLAN"

WARRANTY

This Veloce Audio Product is covered by a 90-day limited warranty. At no additional charge, you can obtain an EXTENDED FIVE-YEAR LIMITED WARRANTY by completing and submitting the enclosed warranty registration along with a copy of your bill of sale within 30 days of purchase. Transfer of warranty requires an email confirmation to Veloce Audio containing contact information (telephone/email) for both the seller and the buyer. Batteries are warranted for a period of 5 years from purchase. In the event of a battery warranty claim, a single battery or set of batteries will be supplied at the sole discretion of Veloce Audio LLC.

This Veloce Audio product is warranted to be free from defects in materials and construction subject to the following conditions. This warranty is void in the presence of the following conditions.

- *has not been used in accordance with the instructions in the Owner's Manual
- * been subjected to misuse or abuse,
- * been modified, repaired, or tampered with by anyone not specifically authorized in writing by Veloce Audio
- * been damaged by accident, neglect, or during transportation.

Should a problem covered by our warranty occur, please take these steps:

1. Contact your Veloce Dealer for verification and validation that a problem exists.
2. Have your Veloce Dealer contact us for a Return Authorization Number.
3. Pack your unit in the original packing materials (new packing materials can be provided for a nominal charge) and include your Return Authorization Number.
4. Ship freight prepaid to Veloce Audio LLC at the address below via insured freight.

We will repair the problem and return it to your Veloce Audio dealer via surface freight without any charge for parts, labor, or return shipping. Any implied warranties relating to Veloce Audio products shall be limited to the duration of this warranty. This warranty does not extend to any incidental or consequential costs or damages to the purchaser. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply. This warranty gives you specified legal rights. You also may have other rights in your State. Veloce Audio LLC reserves the right to modify the design of any products without any obligation to previous purchases and to change the prices or specifications with notice or obligation to anyone

CONTACT US

Veloce Audio is committed to selling products through authorized dealers. We encourage you to maintain good contact with the dealer you purchased this unit from. They will do the same, as we have only chosen the best of the best as far as high end audio retailers are concerned.

Your dealer will be your first line of contact for any questions you have regarding the Lithio Series LS-1 Linestage. This will, of course, give you the highest level of support and will work to make your ownership experience first rate.

We at Veloce Audio also look forward to hearing from you. Without our customers, we would not exist! In the event that you did not purchase your unit from a factory authorized dealer or need to contact us directly, please feel free to do so. Our contact information follows and can also be found on our website.

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