



# REVOLUTION VOLUME CONTROL



OWNERS AND INSTALLATION MANUAL



## Table of Contents

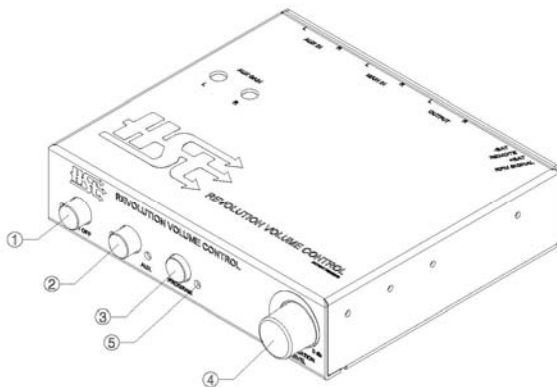
o Introduction and Features	Page 1
o Product Illustrated Overview	Page 2
o Functionality and Operation	Page 3
o Factory Settings, Installation and Mounting	Page 4
o Installation Figures	Page 5-8
o Disclaimer/Troubleshooting/Warranty	Page 9-12
o Warranty Registration	Page 14

## INTRODUCTION

Congratulations on your purchase and welcome to the Revolution! With the one and only, patent pending device of its kind on the marine audio market you no longer have to hit the mute button when your rider falls, we do it for you. The HSE Revolution Volume Control (RVC) is fully programmable to any RPM level and will work with any engine that produces an RPM signal.

## FEATURES

The Revolution Volume Control features state of the art control circuitry and ultra low distortion audio devices to keep your music sonically pure. The highly efficient switching power supply produces 30V rail to rail output allowing up to 28V of signal swing.



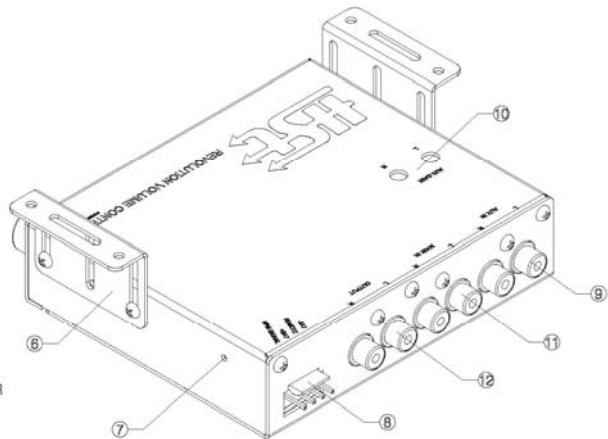
ITEM DESCRIPTION

- 1 ON / OFF BUTTON - THE ON / OFF BUTTON TURNS THE RVC FEATURE ON OR OFF.
- 2 SOURCE BUTTON - THE SOURCE BUTTON SWITCHES THE AUDIO SOURCE BETWEEN THE MAIN AND AUX. INPUT.
- 3 PROGRAM BUTTON - THE PROGRAM BUTTON ALLOWS THE USER TO SET THE DESIRED RPM THRESHOLD.
- 4 ATTENUATION ROTARY KNOB - THE ATTENUATION KNOB ALLOWS THE USER TO SET THE LEVEL OF ATTENUATION OR 'MUTE' AT ANY TIME.
- 5 INDICATION LED - THERE ARE FOUR LED INDICATORS TO SIGNAL THE RVC STATUS OR INDICATE THE OPERATION BEING PERFORMED.

**RVC FRONT ILLUSTRATION**

ITEM DESCRIPTION

- 6 MOUNTING BRACKET / SCREWS - USED TO INSTALL AND SUPPORT RVC WITH MULTIPLE LOCATIONS
- 7 MOUNTING BRACKET HOLES - HOLES PROVIDED TO LOCATE MOUNTING BRACKETS, ONLY USE PROVIDED SCREWS
- 8 MAIN POWER CONNECTION - CONNECTION POINT FOR SUPPLIED WIRING HARNESS
- 9 AUXILIARY RCA INPUT - AUDIO SIGNAL RCA INPUT LOCATION USED FOR MP3 PLAYER OR IPOD TYPE DEVICE
- 10 AUXILIARY INPUT LEVEL - GAIN ADJUSTMENT TO SET INPUT LEVEL OF MP3 PLAYER OR SIMILAR TO MATCH MAIN HEAD UNIT SIGNAL LEVEL
- 11 MAIN RCA INPUT - LOCATION OF MAIN AUDIO SIGNAL RCA CONNECTION
- 12 RCA OUTPUT - RVC RCA OUTPUT SIGNAL TO BE CONNECTED TO AUDIO EQUALIZER OR POWER AMPLIFIER



**RVC REAR ILLUSTRATION**

## FUNCTIONALITY

The RVC functions as an automatic volume control for your boat stereo. The audio level increases and decreases as your engine speed passes a programmable threshold. The RVC can also be put into the Control Off state with the push of a button, which will allow the audio signal to pass through without attenuation.

## OPERATION

- To turn Control On press and release the On/Off button; the On/Off LED will illuminate signifying that the RVC is now controlling your audio level. Pressing the On/Off button again will turn Control Off and the audio level will be increased to the level set by your head unit.
- To switch between audio sources press the Source button. When the source button is in the “out” position the Main source input is selected and the Main LED will be illuminated. When the source button is in the “In” position the Auxiliary source input will be selected and the Aux LED will be illuminated.
- To program the RPM level of the RVC, turn Control On by pressing the On/Off button. Verify that the On/Off LED is illuminated. Increase the boats RPM level to the desired set point. Press and hold the Program button until the Program LED starts blinking. Once the Program LED begins blinking release the Program button. When the Program LED stops flashing, programming is complete. If the program LED turns solid for approximately 5 seconds after flashing this indicates that there is a problem reading your RPM signal, and the previous programmed set point will be maintained. If you see the solid illumination from the Program LED make sure that you have an analog RPM signal present at the gray wire of the wiring harness. Note: The audio level will be muted during programming. The RPM set point can be reprogrammed at any point by repeating the procedure detailed above.
- To adjust the attenuation level, simply rotate the attenuation knob at any time. In order for the attenuation to be audible, the RVC must be in the Control On mode with the engine RPM level below the programmed set point.

## **FACTORY SETTINGS**

The RVC is shipped to you in Control Off mode with the Main Audio source selected. The factory programmed RPM set point at which the RVC increases/decreases your audio level is approximately 1800 RPM for an 8-cylinder engine, 2700 RPM for a 6-cylinder engine and 3600 RPM for a 4-cylinder engine.

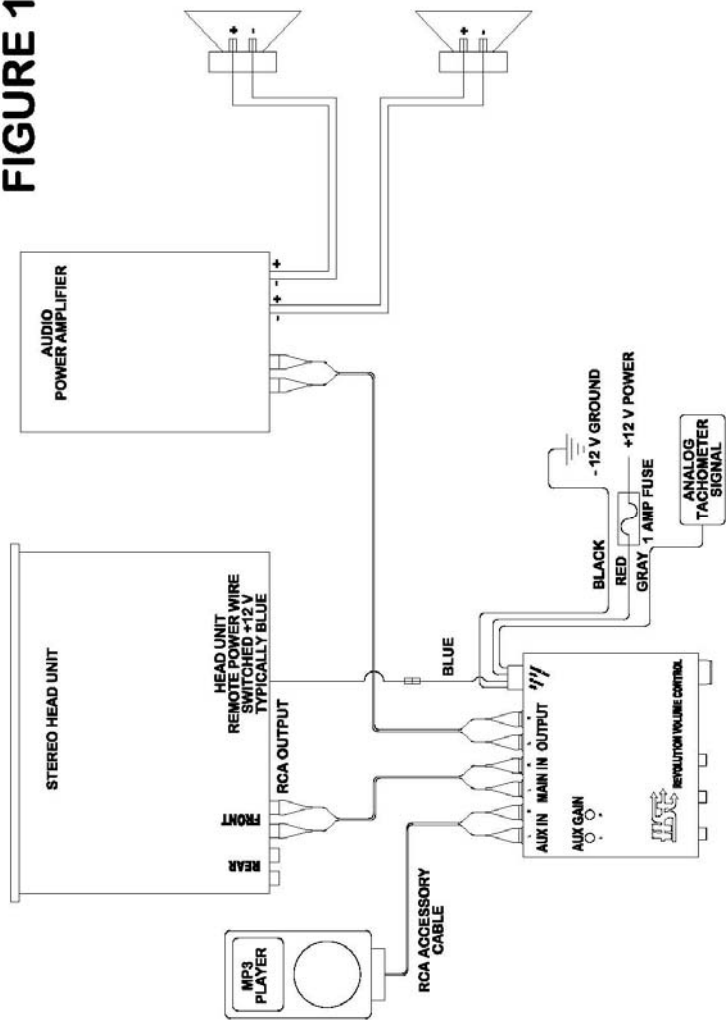
## **INSTALLATION**

The Revolution Volume Control needs to be installed in the signal path between your audio source and amplifiers. If you are using an equalizer in your system HSE recommends installing the RVC between your head-unit/mp3 player and your equalizer. Figure 1 (Page 5) shows a typical installation of the RVC in a system without an equalizer. Figure 2 (Page 6) shows a typical installation of the RVC in a system with an equalizer. Figure 3 (Page 7) shows a typical installation of the RVC in a system with two amplifiers daisy chained. Figure 4 (Page 8) shows a typical installation of the RVC in a system utilizing RCA “Y” splitter cables to connect two amplifiers. The wire harness included with the RVC has four wires: Gray, Red, Blue, and Black. For proper operation, the gray wire should be connected to an analog RPM signal, the red wire should be connected to +Bat, the blue wire connected to the Remote signal from your head unit or other switched +12V signal, and the black wire should be connected to –Bat. In most boats the analog RPM signal can be found at the back of the tachometer, however in many newer boats the RPM signal must be taken from the engine wiring harness. Please contact your boat/engine manufacturer to find out where your analog RPM signal is located.

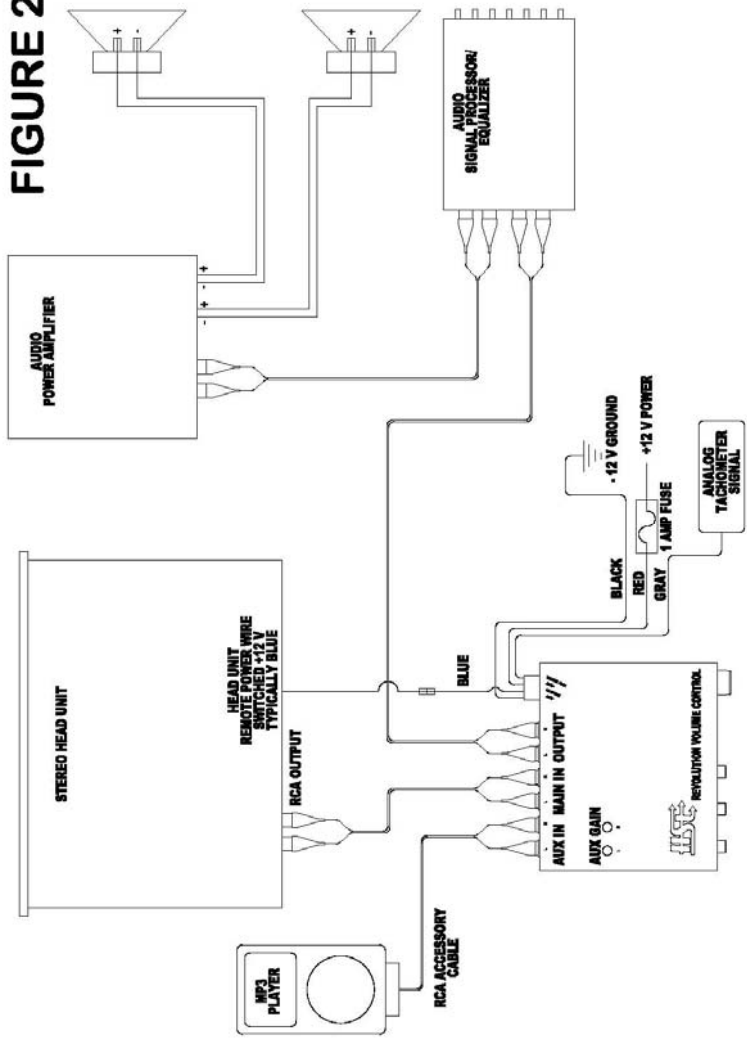
## **MOUNTING**

The RVC comes with two “L” shaped mounting brackets with universal hole patterns and slots which match the mounting holes located on each side of the RVC metal case. Sheet metal screws are provided with the brackets and must not be substituted for a longer screw. If a longer screw is used possible damaged to the circuit board could result. Do not drill or locate any type of fastener or screw in any position except in the provided pilot-hole locations on each side of the RVC case. The angled brackets are designed to allow multiple mounting locations and configurations to compliment many styles of installations.

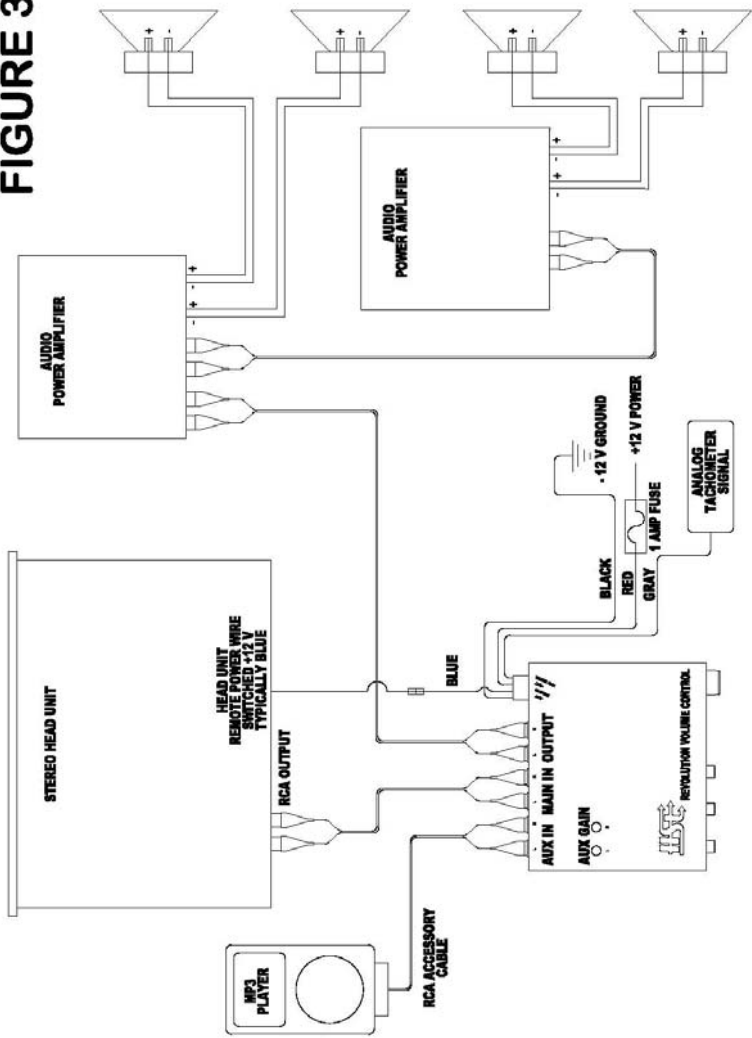
# FIGURE 1



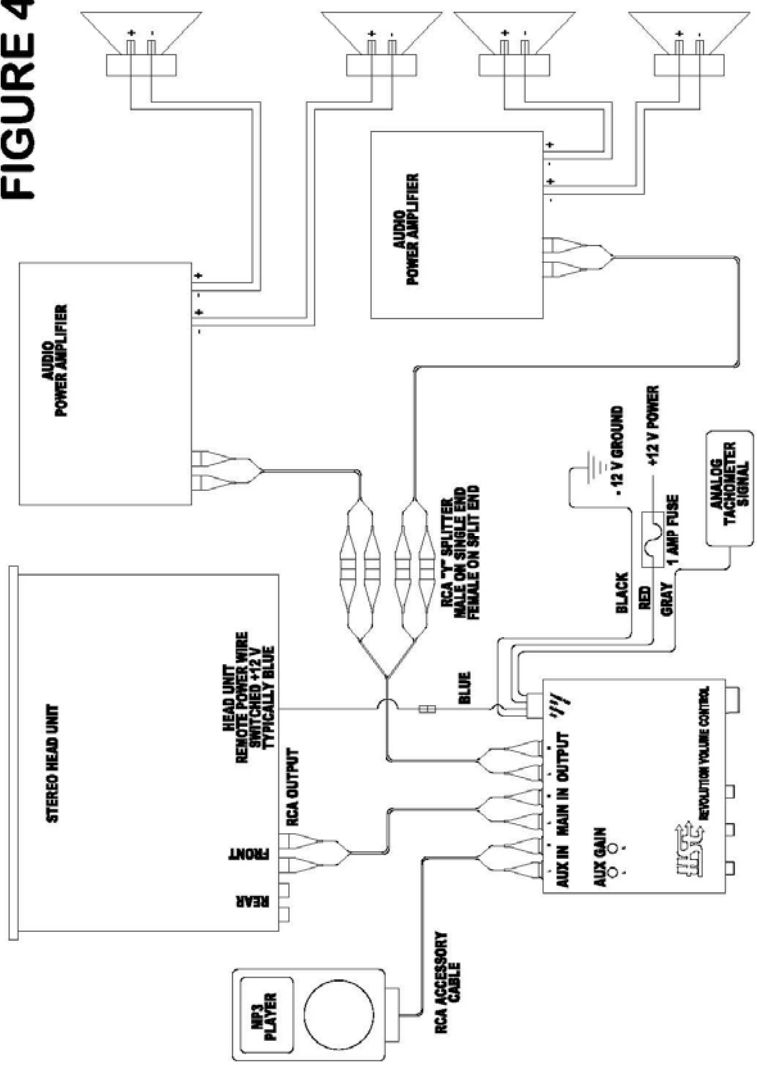
# FIGURE 2



# FIGURE 3



# FIGURE 4



## **DISCLAIMERS / PRECAUTIONS**

- The RVC comes with a 1A fast blow inline fuse on the +12V power line (Red Wire). Replacing the fuse with any other value will void the warranty.
- Excessive exposure to moisture may damage the unit, and HSE is not responsible for replacement of water damaged units.
- Connection of a “Fast” battery charger to the batteries powering your audio system can cause damage to your equipment. HSE recommends disconnecting your audio equipment from the battery when using a “Fast” battery charger. Trickle charging is generally acceptable.
- Jump starting can cause large electrical spikes to be sent through your system which may damage your equipment. HSE recommends disconnecting your audio equipment during a jump start.
- If your boat has a battery selector switch, only change switch positions when the boat engine is off. Changing switch positions while the engine is running may cause what is called a “Load Dump” condition where the output of the boats alternator produces voltage spikes 300V or more. These spikes can severely damage electronic equipment. HSE designs their products to be able to withstand voltage spikes, but nevertheless precautions on the part of the end user should be observed in order to avoid damage to electronic parts.
- The maximum and minimum allowable voltage levels for powering the RVC are 16V and 9V respectively. Operating above the maximum or below the minimum level may damage the RVC.
- If your RVC continually blows its fuse, this is a sign that something is wrong with your system. The RVC is designed to blow the fuse in extreme situations in order to protect the RVC circuitry. If you experience this, please contact our technical support department.

## TROUBLESHOOTING

- RVC is installed and audio system is on and no LED's on RVC are lit.
  - Check power and ground connections and fuse.
- RVC is installed and audio system has little or no music coming from speakers.
  - Check that MAIN/AUX selector switch is in correct position, check RCA input to confirm connection to correct input, check attenuation level control on front of RVC
- RVC is installed and loud static type noise is present in audio system when turned on.
  - Check to be sure all components are grounded well and if multiple batteries are installed, all audio components are using the same common ground.
- During programming the Program LED flashes and then turns solid for approximately 5 seconds.
  - The RVC does not recognize the analog tachometer signal as a valid signal. Check the connection and verify that the connection is to a valid analog tachometer signal.
  - When programming RPM set point, be sure engine RPM is kept constant during the time of programming. If the RPM varies during the programming period, a set point can not be achieved.
- Can't find the analog tachometer signal in the boat.
  - HSE sells tachometer signal generators that mount your boats alternator wire to produce a tachometer signal. Contact an authorized HSE dealer for details or email [sales@hsetrident.com](mailto:sales@hsetrident.com).
  - HSE has a GPS system available that measures your boat speed and sends signals in place of the tachometer signal to your RVC. Contact an authorized HSE dealer for details or email [sales@hsetrident.com](mailto:sales@hsetrident.com).

## HSE CONDITIONAL WARRANTY

HiSound Energy, LLC (HSE) warrants the HSE Revolution Volume Control against defects in material and workmanship for a period of **ONE (1) year** from the original date of purchase directly from **HSE** or an authorized **HSE Dealer**.

**THIS WARRANTY DOES NOT COVER INSTALLATION OR DAMAGE RESULTING FROM MISUSE, ABUSE, IMPROPER WIRING, ACCIDENT, OPERATION OUTSIDE OF UNIT SPECIFICATIONS, OR AGAINST INSTRUCTIONS IN OWNERS MANUAL. IN ADDITION ANY PRODUCT THAT HAS BEEN OPENED, TAMPERED WITH OR MODIFIED, OR IF ANY SERIAL NUMBERS HAVE BEEN REMOVED OR ALTERED THE RVC WILL NOT BE COVERED BY ANY PART OF THE MANUFACTURES WARRANTY. THIS WARRANTY DOES NOT COVER ANY COST TO REMOVE AND REINSTALL THE UNIT.**

This warranty is not transferable and applies only to the **original retail purchaser** of the product from **HSE** or an authorized **HSE Dealer**. Upon inspection by HSE should services be necessary under this warranty for any reason due to manufacture defects HSE will, at its sole discretion, replace or repair the defective product with new or similar conditioned product at no charge.

All warranty returns should be sent to HSE freight prepaid and must be accompanied by proof of purchase (a copy of the original sales receipt). Direct returns from consumers or non-authorized retailers will be refused unless specifically authorized by HSE with a valid return authorization number (ROA).

**All warranty returns must be packed in original packaging and be accompanied by a copy of the original printed sales receipt. Product damaged in shipment due to improper packaging will not be covered under this warranty and the customer or retailer will be charged full cost to repair the specific piece of product back to a like new or similar condition.**

In no event will HSE be liable for incidental, consequential, or other damages resulting from the use of this product, this includes but is not limited to, damage of hearing, property or person, damage based upon inconvenience or on loss of use of the product, and to the extent permitted by law, damages for personal injury. This warranty gives you specific legal rights, and you may have other rights, which vary from state to state. This warranty applies to products sold and used in the United States of America.

**Below are examples of what is not covered under HSE's warranty policy:**

- Any Product that is missing or has altered Serial numbers.
- Any Product that has been damaged as a result of physical abuse.
- Any Product that has been modified or altered from its original form or design and/or repair has been attempted by unauthorized repair facilities.
- Any product that has been previously owned by another user and was sold by a private party.
- Any product purchased from an unauthorized web site or dealer.
- Product that has not been installed as per manufacturer's recommendations including wiring and installation related damage to product.
- Cosmetic damage due to installation, shipping and handling, and normal wear and tear.
- HSE will not be responsible for any product that has any kind of custom finish or customized cosmetic additions that differs from the original form as manufactured from HSE.
- Products damaged by "Acts of God" (Flood, Fire, Infestations, etc.)

**NOTES:**

**WARRANTY REGISTRATION**

**DATE OF PURCHASE:** \_\_\_\_\_

**SERIAL NUMBER:** \_\_\_\_\_

**PURCHASED FROM / RETAILER:** \_\_\_\_\_

**NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**CITY, STATE, ZIP** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_

**PHONE:** \_\_\_\_\_

**HiSound Energy, LLC  
3305 Tiffany Lane  
Modesto, CA 95350**