# THE EPICENTER™

## CONCERT SERIES
## Bass Maximizer, Patent # 4,698,842
## Owners Enjoyment Manual

Congratulations on your acquisition of the finest bass restoration processor known to the autosound world. Whether this is your first AudioControl product, or you are already a firm believer, you will definitely enjoy The Epicenter Concert Series.

Now before we get too far along here, we need to give you a simplistic explanation of bass and its multitude of applications. Regardless of your age or musical preference, the addition of low frequency bass to your autosound system is truly an enjoyable experience. Whether you listen to the kettle drums of Beethoven's fifth symphony or you prefer the tones of rap music, bass will truly enhance the performance of your system. Of course, some people enjoy more bass than others, and for that reason The Epicenter comes with a dash mountable control knob which allows you to increase or decrease the level of the bass restoration effect. No matter what your choice of music, you will absolutely love The Epicenter.

Now before you start salivating too much just thinking about what The Epicenter can add to your system, take a few minutes to sit back, have a latté, decaffeinated if necessary, and read through this manual. It contains lots of useful facts and information (and besides, we spent a lot of time writing it)!!

### Features Of The Epicenter Concert Series

Here are some of the nifty features that are enclosed in your magical box:

- Patented Bass Maximizer™
- Dash mount control
- Bass restoration lighted display
- Parametric bass control
- PFM Subsonic Filter
- Balanced inputs
- Bass Output Control

What all this means is more bass. . . louder bass with speaker protection.

AudioControl®
22410 70th Avenue West • Mountlake Terrace, WA 98043
Phone 425-775-8461 • Fax 425-778-3166 • www.audiocontrol.com

## FEATURES

### Patented Bass Maximizer™

The Epicenter contains a bass maximization circuit that accurately recreates and injects low frequency information back into the signal path. What that means in everyday terms is that The Epicenter will give more bass impact to your best compact discs or even your old tapes. US Patent #4,698,842

### Para-Bass™

What's the use of having good bass if you can't control it? The Epicenter has a unique equalization circuit that contours the restored bass to your speaker system.

### Dash Mount Control

The Epicenter is designed to be mounted anywhere in the vehicle, with the exception of the front bumper or radiator. It comes with a dash mountable control that allows you to enjoy the effects of The Epicenter without having to leave the drivers seat. The dash mount control also has a dual color LED indicator that can be rainforest green or sunshine amber. This LED will grow brighter as you add more bass or dimmer when you decrease it.

### Bass Maximizer Indicator

Not only does The Epicenter Concert Series provide magic to your ears, but it also gives you some visual enjoyment as well. On the chassis of The Epicenter is a backlighted logo that flashes when the bass maximization circuit is activated. Special effects in your trunk!

### PFM Subsonic Filter

This unique feature is legendary with many AudioControl fanatics for its ability to fine tune the bass response of any system. Why waste power on nasty subsonic information when your Programmable Frequency Match (PFM) filter can help you clean things up?

### Bass Output Control

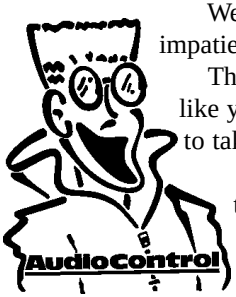
The Epicenter circuitry has the ability to produce large amounts of deep, mind shattering bass without damaging your speakers. The Bass Output Control circuit allows The Epicenter to maximize the bass output of any autosound audio system while restraining destructive bursts. Yeh!!

**Five Year Warranty**




The most important feature of all. Every AudioControl product is selflessly designed and manufactured by the occupants of our rainforest factory. We take every effort to ensure that you will have many years of enjoyment out of The Epicenter. To further ensure the performance of your new toy, we highly recommend that you allow your authorized AudioControl dealer to perform the installation. Not only do they have all the right knowledge and tools, but in the unlikely chance The Epicenter should fail, we will back it with a limited five year parts and labor warranty. Should you choose to install it yourself, we will still give you a one year parts and labor warranty. To activate your warranty, you need to FILL OUT AND SEND IN YOUR WARRANTY CARD!

We also recommend that you save your invoice or sales slip as proof of installation and ownership. Not only is it necessary for warranty purposes, but should your Epicenter turn up missing some day while you are out watching the submarine races, you will find insurance companies very unforgiving.




We interrupt your reading of this manual to provide the impatient people with “Quick Install” information and guidelines:

The AudioControl Epicenter was designed to produce bass like you have never heard before. With that said it is important to take the following precautions during its use.

1. If you have an equalizer in your system, turn down the bass frequencies and use The Epicenter. The results could be, shall we say. . . interesting.

2. You will want to reduce any bass tone control, loudness control, or other secondary bass controls prior to turning on The Epicenter. Once your system is up and running, you may then opt to use them again, although we doubt it!

3. Good bass response requires an appropriate choice of speakers and amplification. Since the bass frequencies always require more power and cone area than higher frequencies...BE PREPARED. Small speakers and lack of power will be detrimental to your system.

## Quick Install Information

The Epicenter Concert Series needs to be installed in the signal path between a source and an external amplifier(s). Although it can be installed after an equalizer, it must be installed BEFORE A CROSSOVER.

Once this is done, you just need to hook up power, ground, trigger, run the wire to the dash remote and tada!!! Instant bass. If you need to know more, then read on. Heck if you don't think you need to know more, you should still read on, because you can never know too much.

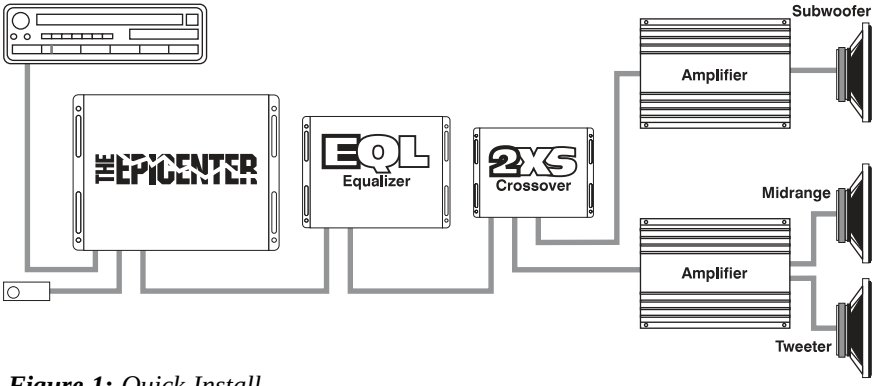



***Figure 1:*** *Quick Install*

| **Factory Settings** | **Shipped** | **Options** | **Page #** |
|---|---|---|---|
| Para-Bass Frequency | 40Hz | 27Hz-63Hz | 9 |
| Para-Bass Bandwidth | Wide | Range from 30Hz-250Hz | 9 |
| Bass Output Control | 5 volts | 2.5, 7.5, or 10 volts | 10 |
| Input Circuit | Balanced | Unbalanced | 6 |
| Ground Isolation | Isolated | 200 ohm or Ground | 6 |
| Choice of beverage | Micro-brew | Latté | 17 |
| PFM subsonic filter | 33Hz | 25Hz, 30Hz, 35Hz, 40Hz, 45Hz Optional PFM modules are sold separately. | 10 |

***Note:*** *These configurations can be changed by moving jumpers, turning knobs or changing modules.*

**The Outside**

❶ **Inputs:** The inputs of The Epicenter use a balanced input circuit to help minimize induced noise. They are also designed to handle very high signal voltages up to 15 volts!!

❷ **Outputs:** These RCA connectors should be connected to the next component after The Epicenter, such as a crossover, equalizer, or amplifier. Just remember, The Epicenter should go inline before a crossover!!

❸ **Dash Control Input:** This allows you to connect The Epicenter to the remote "Dash Control" knob. You can mount the knob anywhere you want, although somewhere in the front of the vehicle is preferable.

❹ **Power Connector:** This nifty little connector allows you to connect the Power, Ground, and Remote Turn-On signals to The Epicenter. Just connect all the wires to their appropriate locations in the bright sunlight and then plug it into The Epicenter mounted in the dark cavern of your trunk.

❺ **Para-Bass Controls:** These 2 knobs control the Para-Bass functions of The Epicenter. The "Sweep" knob allows you to pick the center frequency that you want The Epicenter bass restoration circuit to maximize. The "Wide" knob adjusts how wide of a frequency range The Epicenter will effect. Very cool!!

❻ **Power:** When you have connected all of your wires correctly you should congratulate yourself when this light comes on. No light??? Check your wires.

❼ **Display:** Lights on. Lights off. That's what happens to this display when The Epicenter circuit is activated. Even if bass has numbed your ears, you can still enjoy The Epicenter.

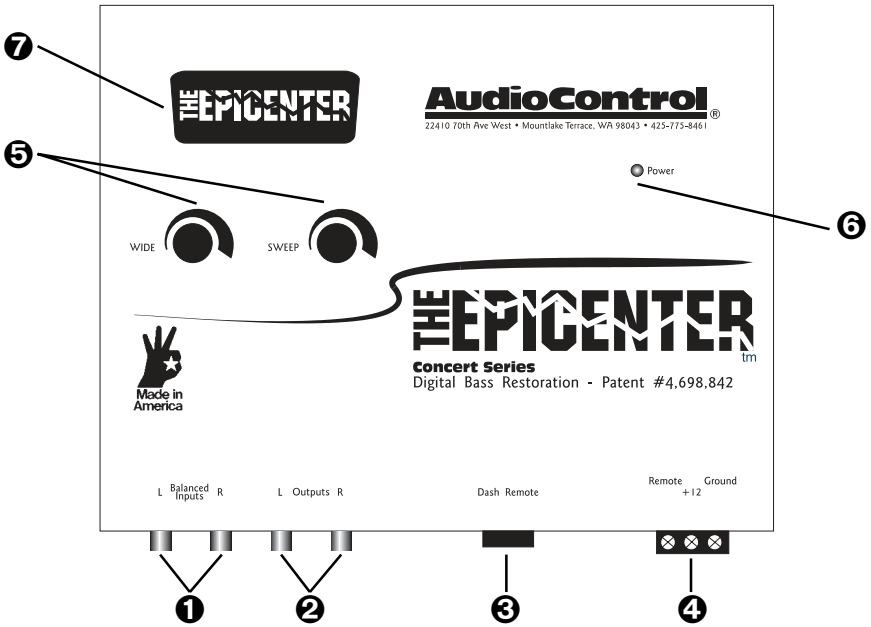



***Figure 2:*** *Outside View of The Epicenter*

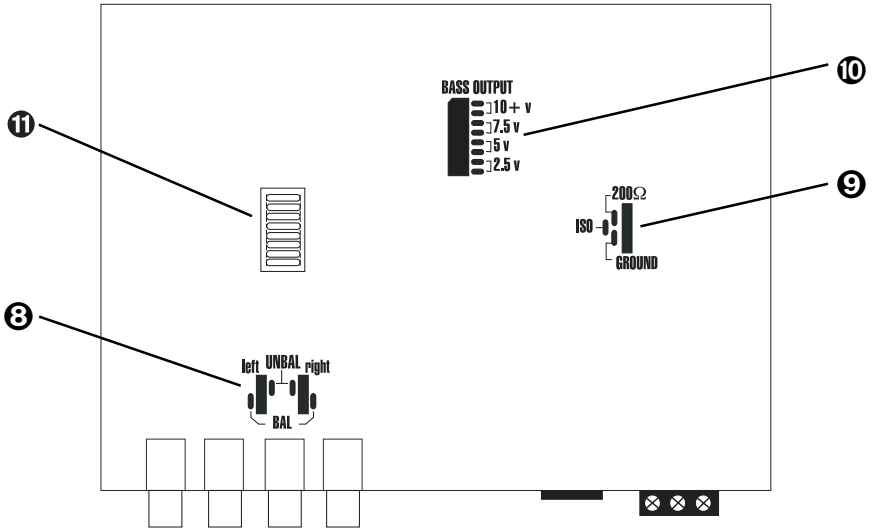



***Figure 3:*** *Inside view of The Epicenter*

## The Inside

❽ **Input Grounding:** For most systems you can leave this jumper set in the BALANCED position. In some systems, the source unit may look for a ground through the RCA connectors. In that event, you should go ahead and change the jumpers to the UNBALANCED position.

❾ **Ground Isolation Jumpers:** Occasionally alternator whine may appear in a system because the source unit and amplifier may use different grounding. To help in this situation, we have provided alternative grounding connections. Make sure your system is turned OFF before you move these jumpers.

❿ **Bass Output Control Jumpers:** Not all systems are designed the same, Some systems are designed strictly for SPL (sound pressure level) while others are a little more tame. The Bass Maximizer circuit can either increase or decrease the signal voltage of the bass restoration circuit. Depending upon your system, you may opt to change these jumpers to a higher or lower setting to maximize your bass output and protect your speakers. In most systems the factory setting will suit you fine. We recommend you try the factory setting first.

⓫ **PFM Subsonic Filter:** The Epicenter Concert Series utilizes a PFM (Programmable Frequency Match) filter which will help with speaker control and amplifier power management. To change the PFM frequency, you need to remove the top of the chassis and change the modules. Your local AudioControl dealer generally carries an assortment of these replacement modules. This is discussed in detail on page 10.

## Bass Maximization Technology

You may ask yourself, “Why would I need to restore bass?” The truth is that during the recording process, low frequency information can be “mixed” down or filtered out. It’s not that recording engineers are out to get you; in fact they are looking out for your best interests and are concerned that many speaker systems cannot handle “truly” low bass information.

The patented circuit inside The Epicenter is designed to reproduce the low frequency information by looking at the upper frequency ranges and detecting musical harmonics. These harmonics then allow The Epicenter to drop down a few octaves and reproduce the “missing” bass notes.

The bottom line is that The Epicenter technology gives you deep, body shuddering, heart stopping bass. Can you handle it??

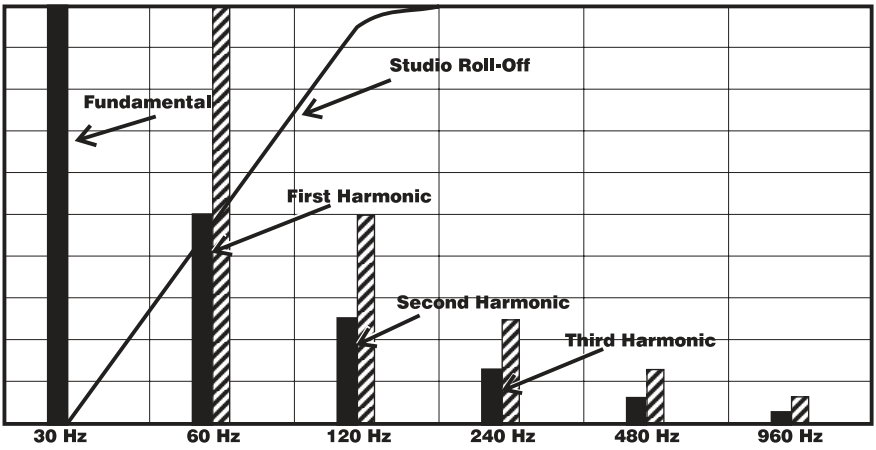



***Figure 4:*** *How The Epicenter Works*

## INSTALLING THE EPICENTER CONCERT SERIES

Up to this point everything you have read has served to educate you on the operations of The Epicenter. We are sure that you are chomping at the bit to install The Epicenter so we recommend you read the following sections very carefully.

### Placement & Mounting The Epicenter

**Placement:** The Epicenter needs to be installed in the signal path as close to your source unit as possible, but definitely BEFORE any crossover circuit. Although the Epicenter is close to the source unit's signal, the chassis is usually mounted in the rear of the vehicle as close to the amplifiers as possible.

**Mounting:** Once you have selected a permanent mounting location, position the unit and mark the appropriate mounting holes with a felt-tip pen or scratch awl. Before doing anything else, make sure you are not about to drill a hole in a gas tank or pierce any existing wiring. Nothing ruins your day more than an expensive repair bill. Drill a small pilot hole and secure the chassis of The Epicenter with self tapping screws.

### Electrical Connections

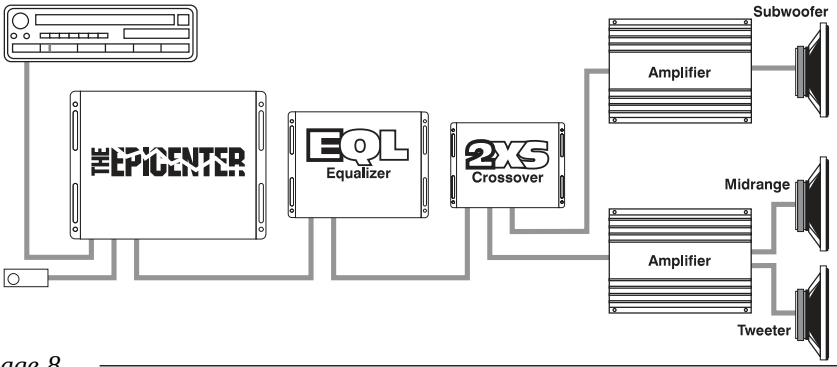
**WARNING:** ***Failure to disconnect the negative terminal of your battery prior to the installation of The Epicenter Concert Series can result in a warm tingly feeling.***

**Remote In:** Connect a 22 to 18 gauge wire from the head-unit's remote turn-on to the "Remote In" connector on The Epicenter.

**Positive(+12V) Connection:** Insert an 18 gauge or larger wire into the connector labeled "Power" on the nifty connector of your Epicenter. Connect it to a good constant source of 12 volts (we suggest the battery), fused at 1 amp.

**Ground Connection:** Use the same gauge wire as you did for the "+12v " connector and run it from the "Ground" connector on The Epicenter to the negative terminal of the battery, a ground bus, or a verified ground location. The factory head unit ground is not a good ground!

When the electrical connections are complete, you may reconnect the negative terminal to your battery.



## Dash Control Installation

### Placement And Mounting

The dash control may be mounted under the dash using its own bracket or through a custom hole in the dash. It should be within reach of the driver and in a spot where the LED is plainly visible.

### Dash Bracket Installation

The dash control mounts with two screws which attach to the underside of the dashboard. Slide under the dash and place the dash control in its mounting position, mark the two mounting holes, drill pilot holes, and secure with two screws.

### Custom Installation

For that custom, finished look, the dash control can be flush mounted directly on the dash board (or anywhere else). We have provided an extra label to help make this happen. Referencing Figure 5, disassemble The Epicenter dash control from the mounting bracket. Start by pushing the LED from its holder followed by removing the circuit board and rotary control from the bracket. Drill a 9/32" hole in the dashboard for the control along with a 1/8" hole for the lock tab and a 13/64" hole for the LED holder. Reassemble the dash control components on the dashboard and apply the new label over the openings.

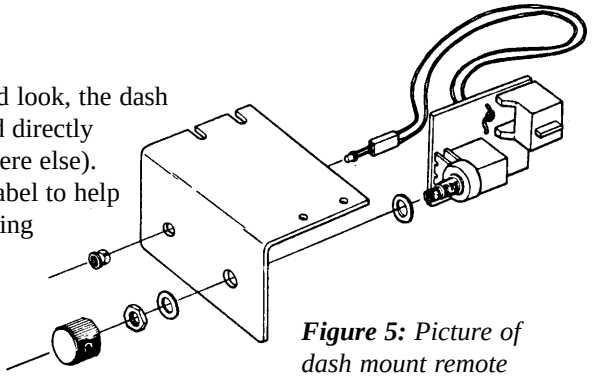


***Figure 5:*** *Picture of dash mount remote*

### Dual-Color Dash Control LED

The LED on your dash control is rainforest green and should brighten or dim when you turn the knob either clockwise or counter clockwise. Should you wish to change the color to amber, remove the plug connected to the LED and turn it 180 degrees and plug it back in.

### Adjusting the Para-Bass Controls

The bass response in a system is affected by four factors; (1) the acoustics of the vehicle, (2) the location of the speakers, (3) the music on the tape, CD, or source unit, and (4) speakers and speaker enclosures. Because of the variations in the recording process, we developed The Epicenter to help restore any low frequencies lost during the recording process, however, the acoustics of various environments are different. With this in mind our coffee-laden engineers developed the unique Para-BASS$^{tm}$ system.

The “Sweep” control allows you to select a center frequency (the frequency most affected) between 27 and 63 Hz. The “Width” control then allows you to control the shape of the filter centered around the “sweep” frequency.

### Setting The Bass Output Control

The Epicenter is the most powerful bass component in the history of autosound. Able to leap tall buildings with a single bound and all that kind of stuff. With that in mind we have equipped The Epicenter with several different Bass Output selections. If you should need to change the settings, please use the chart below for guidance. A word of advice: listen to the factory setting before changing your Bass Output settings.

### Recommended Settings

| Setting | Amplifier Input Voltage | Minimum Speaker Size |
|---|---|---|
| 2.5 Volt | 3 volts or less | 8" |
| 5 Volt | 5 volts or less | 10" |
| 7.5 Volt | 7.5 volts or less | 12" |
| 10 Volt | Oh My Gosh!!!!!!! | |

### PFM Subsonic Filter

Many car audio systems truly push the limits of their subwoofer...without really knowing it. Tuned enclosures affect the roll-off of many speakers, yet lots of source material forces the speakers to play lower than expected. The net result is wasted amplifier power and damaged speakers. The AudioControl PFM (Programmable Frequency Match or Pure F#@&% Magic) filter is a programmable subsonic filter. It allows you to only let the speaker play as low as it should be playing. Because every system is different, we allow you to change the PFM roll-off frequency to whatever you choose.

On most systems, the factory installed module (33Hz) is fine. If you know the tuning frequency of your speaker enclosure (porting frequency or 3dB down point), you might try setting your PFM module to that frequency. If you want to protect your speaker system even more, you might even try a higher frequency. Oftern a higher frequency actually sounds louder and cleaner.

## TROUBLESHOOTING

**No Power**

If the LED on your dash remote is not on, check the “Power” light on the chassis of The Epicenter. If the “Power” light is on, you will want to check to make sure that the cable connecting the remote to the chassis is not pinched or disconnected. If the “Power” light is off check to make sure that the power wire and remote turn on wires are connected or a fuse has not blown.

**No Restoration**

When your system is playing and yet you don’t hear any difference in the sound, try turning the knob clockwise. If you still don’t hear any affect, then you need to make sure that you have The Epicenter in the right part of the signal chain. It must be installed BEFORE any crossovers in the system.

Note: If you are using a source unit with a built in crossover or processor, you must run a full range output to The Epicenter’s inputs.

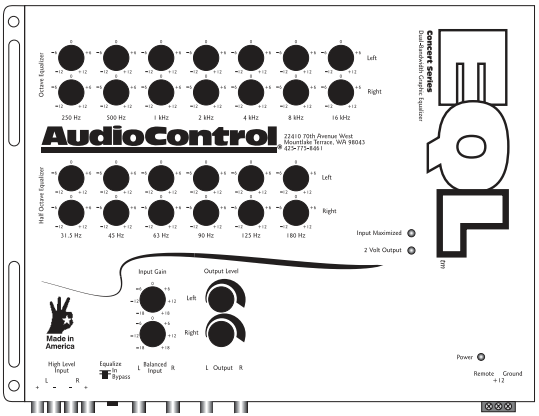
**Sounds Distorted**

Should your system sound distorted or your speakers are moving way too much, you should decrease the amount of bass restoration by turning the dash control knob counter-clockwise. You should also raise the PFM frequency or lower the setting on your Bass Output control.

**Still Distorted**

Adjust the Para Bass controls by turning the sweep control clockwise to raise the center frequency. If you still have distortion, you should power down The Epicenter, remove the cover and change the Bass Output setting to a lower position (i.e. 2.5 volts).

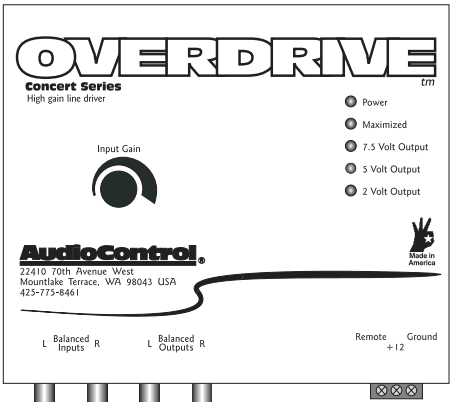
## IF YOU LIKE THE EPICENTER CONCERT SERIES, YOU'LL LOVE . . .




**The EQL Concert Series**[tm] is our award winning dual bandwidth, trunk mount equalizer. Thirteen full octave and 1/2-octave spaced bands help tame even the most wicked acoustical environment, your car. Need a crossover and an equalizer? **The EQX Concert Series**[tm] is just the ticket.

**The 3XS**[tm] is a 4 channel, 2 way crossover with breathtakingly steep 24dB per octave slopes. If performance is important to you, then you will appreciate the 3XS.

If more signal voltage is necessary in your system, don't feel alone. many customers have added **Overdrive**[tm] line drivers and felt like they had new amplifiers in their systems.




Do you want to make your home audio system sound just as good as your car audio system? Good news!! AudioControl makes a complete line of signal processors that do the same amazing things for your home audio or theatre system. Now that you have fallen in love with The Epicenter, guess what, you can get the same magic in your home by using the AudioControl **Phase Coupled Activator Series III**[tm]. It's awesome!!

And now a word from the legal department...

## THE WARRANTY

People are scared of warranties. Lots of fine print, months of waiting around. Well fear no more, this warranty is designed to make you rave about us to your friends. It's a warranty that looks out for you and helps you resist the temptation to have your friend, "...who's good with electronics", try to repair your AudioControl product. So go ahead, read this warranty, then take a few days to enjoy The Epicenter Concert Series before sending in the warranty card and comments.

"Conditional" doesn't mean anything ominous. The Federal Trade Commission tells all manufacturers to use the term to indicate that certain conditions have to be met before they'll honor the warranty. If you meet all of the conditions, we will warrant all materials and workmanship on The Epicenter for one year from the date you bought it (five years if it is installed by an authorized United States AudioControl dealer). We will fix or replace it, at our option, during that time.

Here are the conditional conditions:

1. You have to fill out the warranty card and send it to us within 15 days after purchasing The Epicenter.

2. You must keep your sales receipt for proof of purchase showing when and from whom the unit was bought. We're not the only ones who require this, so it's a good habit to be in with any major purchase.

3. The Epicenter must have originally been purchased from an authorized AudioControl dealer. You do not have to be the original owner, but you do need a copy of the original sales slip.

4. You cannot let anybody who isn't: (A) the AudioControl factory; (B) somebody authorized in writing by AudioControl to service The Epicenter Concert Series. If anyone other than (A) or (B) messes with The Epicenter Concert Series, that voids your warranty.

5. The warranty is also void if the serial number is altered or removed, or if The Epicenter Concert Series has been used improperly. Now that sounds like a big loophole, but here is all we mean by it.

Unwarranted abuse is: (A) physical damage (don't use The Epicenter Concert Series for a car jack); (B) improper connections (120 volts into the power jack can fry the poor thing); (C) sadistic things. This is the best mobile product we know how to build, but if you mount it to the front bumper of your car, something will go wrong.

6. If an authorized United States AudioControl dealer installs The Epicenter, the warranty is five years otherwise the warranty is one year.

Assuming you conform to 1 through 6, and it really isn't all that hard to do, we get the option of fixing your old unit or replacing it with a new one.

**LEGALESE SECTION**

This is the only warranty given by AudioControl. This warranty gives you specific legal rights that vary from state to state. Promises of how well The Epicenter will perform are not implied by this warranty. Other than what we have covered in this warranty, we have no obligation, express or implied. Also, we will not be obligated for direct or indirect consequential damage to your system caused by hooking up The Epicenter.

Failure to send in a properly completed warranty card negates any service claims.



## THE EPICENTER CONCERT SERIES SPECIFICATIONS

All specifications are measured at 14.4 VDC (standard automotive voltage). As technology advances, AudioControl reserves the right to continuously change our specifications, like our weather.

| | |
|---|---|
| Maximum input level | 15 Vrms |
| Maximum output level | 13.5 Vpeak |
| Frequency response | 10Hz-100kHz;+/-1dB |
| Total harmonic distortion | 0.003% |
| Signal to Noise ratio | - 130dB |
| Balanced input noise rejection | > 60dB |
| Input Impedance | 10 Kohms |
| Output Impedance | 150 Ohms |
| Power supply | High headroom PWM |
| Power draw | 150mA |
| Recommended fuse rating | 1 Amp |
| Size | 8" W x 5.5" D x 1.2" H |
| Weight | 1.7lbs |
| Country of origin | U.S.A. |

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AudioControl, Making Good Stereo Sound Better, Performance Match, Phase Coupled Activator Series III, 3XS, Overdrive, EQL, EQX, and The Epicenter Concert Series are all trademarks of Electronic Engineering and Manufacturing, Inc.

This literature was conceived, designed, and written on a bleak, windy, dreary rain-drenched day at our home in the Pacific Northwest Rainforest. The wheat beer was cold and so was the weather.

AudioControl®
*making good stereo sound better*®
22410 70th Avenue West
Mountlake Terrace, WA 98043
Phone 425-775-8461 • Fax 425-778-3166
www.audiocontrol.com