

OVERDRIVE

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/output level	9Vrms/13V peak
Frequency response	10Hz-100kHz;±1dB
Total harmonic distortion	0.005%
Signal to Noise ratio	>110dB
Input Impedance	20Kohms
Output Impedance	45ohms
Input gain	0-24dB
Power supply	transformer isolated PWM DC/DC converter
Power draw	150mA
Recommended fuse rating	1 Amp
Size	5.00" x 4.25" x 1.25"
Weight	2 lbs
Balanced Differential Inputs	Yes
Input Ground Isolation Jumpers	Yes
Output Ground Isolation Jumpers	Yes
Country of origin	USA

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This literature was conceived, designed, and written under the protective canopy of the lush, green, misty rain forest on a drizzly, gray overcast day at our home in the Pacific Northwest.



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P/N 9130380

A GUIDED TOUR OF THE OVERDRIVE The Outside

① **Inputs:** The OVERDRIVE's balanced inputs get their signals directly from the main source unit/head unit. You'll get noise rejection and fewer ground loops from these guys. Don't worry if your source is not balanced. The OVERDRIVE will still reject the noise. We designed it that way.

② **Input Gain Control:** Used to increase the amount of signal to your downstream signal processors or amplifiers. With this control you can get up to 24dB of gain or 13 volts peak (9 volts RMS) to your signal processors or amplifiers inputs. If your head unit's maximum output is only 500mV, the OVERDRIVE will be able to squirt out 8 volts RMS into the rest of your system. Even if your head unit's output is as little as 250mV, you can still get 4 volts RMS out of the OVERDRIVE Line Driver. However, be careful about overdriving your average crossover or amplifier. Many can't handle more than about 2 volts input without clipping (AudioControl units can take much more). If in doubt, check with the manufacturer.

③ **Outputs:** Next to the inputs are the balanced outputs which should be connected to the next component in your system. This could be an equalizer, crossover, amplifier, or virtually any other electronic gadget you may have in your system. If you connect the outputs to any AudioControl component, you can rest assured it can handle the hot signal voltage from the OVERDRIVE, up to 7.5 volts RMS.

Output status LEDs

④ **Power:** If you see this one lighted, pat yourself on the back for properly connecting the power terminal.

⑤ **Maximized:** When this light flickers while music is playing, you're pushing the limit — nearing the redline — entering the danger zone. Try backing off on the Gain Control until it stops flickering.

2, 5, 7.5 Volt: These lights will tell you when the signal level is at 2 volts, 5 volts or 7.5 volts RMS. You'll most likely want at least the 2 volt light to



Concert Series

Line Driver

Owner's Enjoyment Manual

Congratulations!

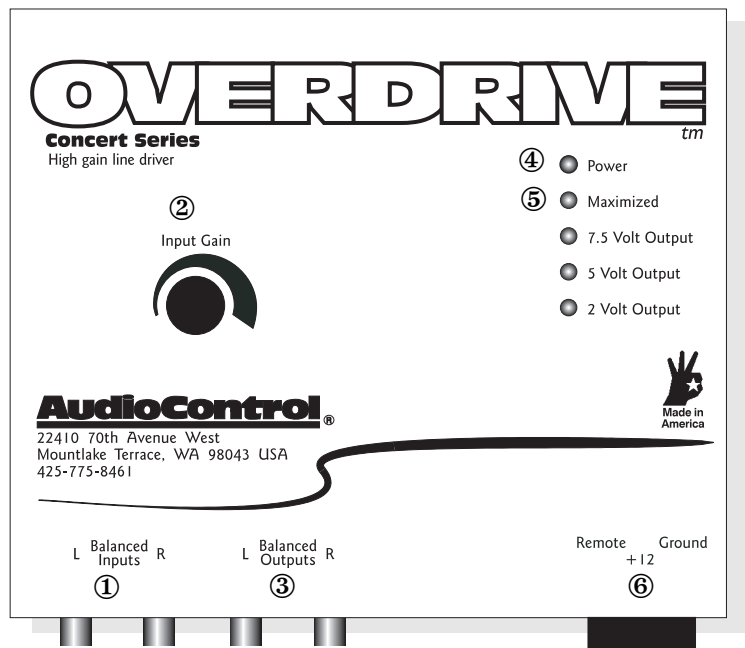
You have just purchased a high-performance autosound product, the AudioControl OVERDRIVE Line Driver. The OVERDRIVE will allow you to utilize every last bit of performance and sound quality that you've always strived for from your vehicle's sound system. So find a nice dry spot well away from the rainforest drizzle, and take in the clean air along with this Enjoyment Manual for the OVERDRIVE Line Driver.

Features of the Concert Series OVERDRIVE:

- High signal voltage capability: 13 volts peak output
- 24 dB of gain
- Balanced differential inputs
- Low-impedance balanced differential outputs
- Ultra-low distortion, ultra-quiet operation
- Anti-oscillating, high-current output circuitry
- High-headroom PWM switching power supply
- Selectable ground isolation
- Optimum voltage indicator LEDs



making good stereo sound better®



flicker, more if the rest of your components can handle it. Any AudioControl component that you connect after the OVERDRIVE Line Driver won't mind the 7.5 volt RMS light flickering. Go ahead. Light it up!

⑥ **Power Connector:** This convenient little connector allows you to hook up all the power and turn-on wires for your OVERDRIVE Line Driver in the convenience of a well-lighted area and then plug them in by feel all at once in your trunk's cavernous darkness. Screws on top of the connector should face up. But if you put the plug in upside down, nothing will be damaged, the Overdrive just will not power up!

FEATURES

High-Voltage Line Driver

The OVERDRIVE is a line driver that takes the input voltage of a source unit and increases it (up to 13 volts peak) and then delivers it downstream. No more feeble output voltage to send or allow noise into the rest of your system.

Balanced Inputs & Outputs

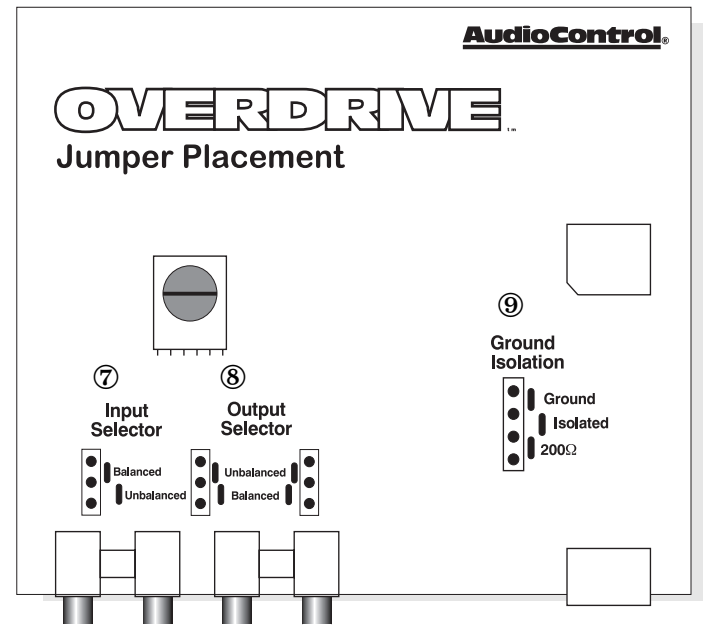
The OVERDRIVE uses balanced differential input circuitry that rejects any noise that radiates into the signal path between the source unit and your OVERDRIVE. The OVERDRIVE can then send a balanced signal downstream to another processor or amplifier that has balanced inputs, (or not) i.e., AudioControl signal processors and System90 powered signal processors. The balanced output will ensure that the signal will remain noise free.

Anti-Oscillating Output Circuitry

Driving long lengths of cable can present a nasty capacitive load to the source that has to drive them. This capacitance can cause instabilities which can lead to oscillations, radio interference and excessive system hiss. The OVERDRIVE's low-impedance, high-current output circuitry can easily handle long cable runs without their associated problems.

Four Output Voltage Indicators

Setting voltage levels for best signal-to-noise performance can be a real pain — especially when you have to get out the old digital voltmeter and find a way to make those probes stay put while you try to read the dancing LCD display. With the OVERDRIVE's voltage indicator LEDs, you can say good-bye to that headache. Just turn the OVERDRIVE gain control until your favorite light flickers and you're done!



The Inside

⑦ Input Grounding Jumpers

Leave this one set to BALANCED for most applications. Occasionally a head unit may require that its output RCA shield be connected to ground. In that event, go ahead and change the jumper position to UNbalanced.

⑧ Output Grounding Jumpers

We ship the OVERDRIVE with these in the BALANCED position. We know you prefer balanced-input AudioControl components downstream, so we set this one for you. If, however, you have an unbalanced input after the

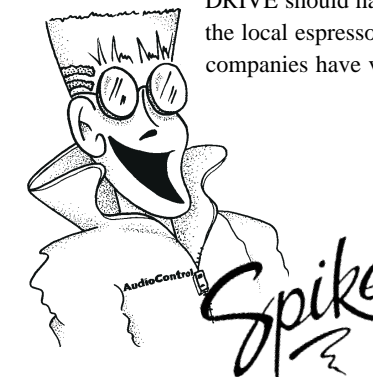
Selectable Ground Isolation

Avoiding ground loops and grounding-related noises are of paramount importance in any installation. For this reason we have provided a flexible scheme of isolating signal grounds and power grounds.

The Most Important Feature Of All: Reliability.

That's right, your AudioControl OVERDRIVE comes with a full 5 year parts and labor warranty when it is installed by an authorized United States AudioControl dealer. These seasoned pros have the training and the equipment to take care of the job quickly and not leave your installation looking like some of those things in the back of the refrigerator. Keep in mind that if you or your friends are "good with electronics" and you choose to install it yourselves, your OVERDRIVE still has a 1 year parts and labor warranty.

To activate your warranty, you need to **FILL OUT AND SEND IN YOUR WARRANTY CARD!** Also, save your invoice or sales slip as proof of purchase. Not only are these necessary for warranty purposes, they are also important if the unforeseen disappearance of your OVERDRIVE should happen while you are socializing at the local espresso and salmon bar. Insurance companies have very little imagination.



OVERDRIVE like The Epicenter or ESP-2, it is important that you change these two jumpers to their Unbalanced position. The OVERDRIVE will thank you.

⑨ Ground Isolation Jumpers

Should alternator whine rear its ugly head during the installation, we have provided some alternate power supply grounding choices. Experiment with different settings if you run into this problem. To change the settings, turn system power OFF, move the black jumpers from the center two pins (fully isolated) to either the top two pins (ground) or the bottom two pins (200Ω).

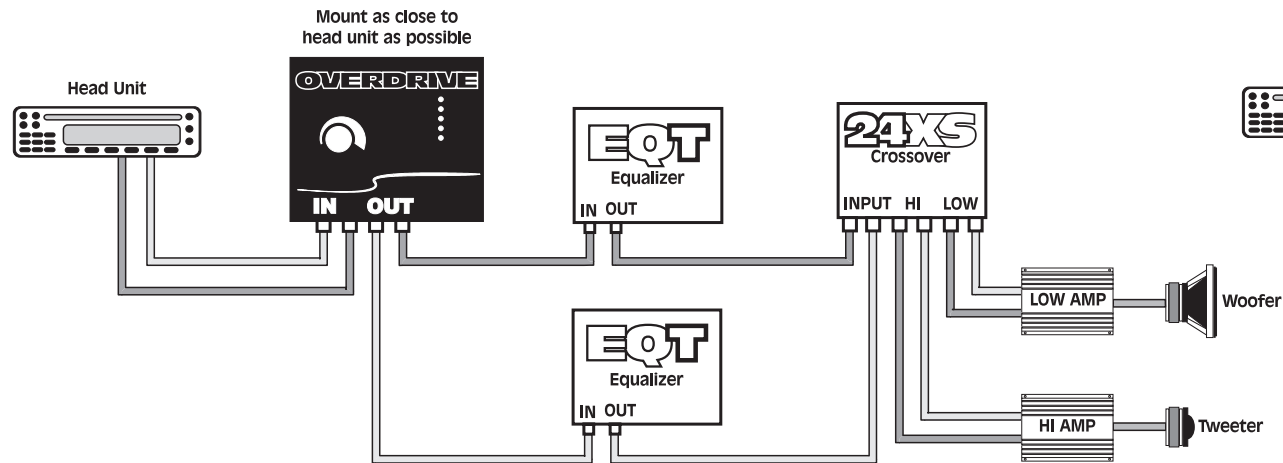
Short course in Signal-to-Noise Ratio and Level Matching

Signal-to-noise ratio is simply the difference between the signal level and the noise floor of an electronic component. The higher the signal, the better. Since you really can't reduce the noise floor, signal-to-noise ratio can be readily improved by raising the signal level. It's best to get the signal level up at the beginning of the signal path. The signal-to-noise ratio will only be as good as the noisiest component. Which is why it's important to have a quiet head unit. This "weakest link" theory is the basic idea behind setting levels in your car's system. And that's why AudioControl provides gain in all of its signal processors.

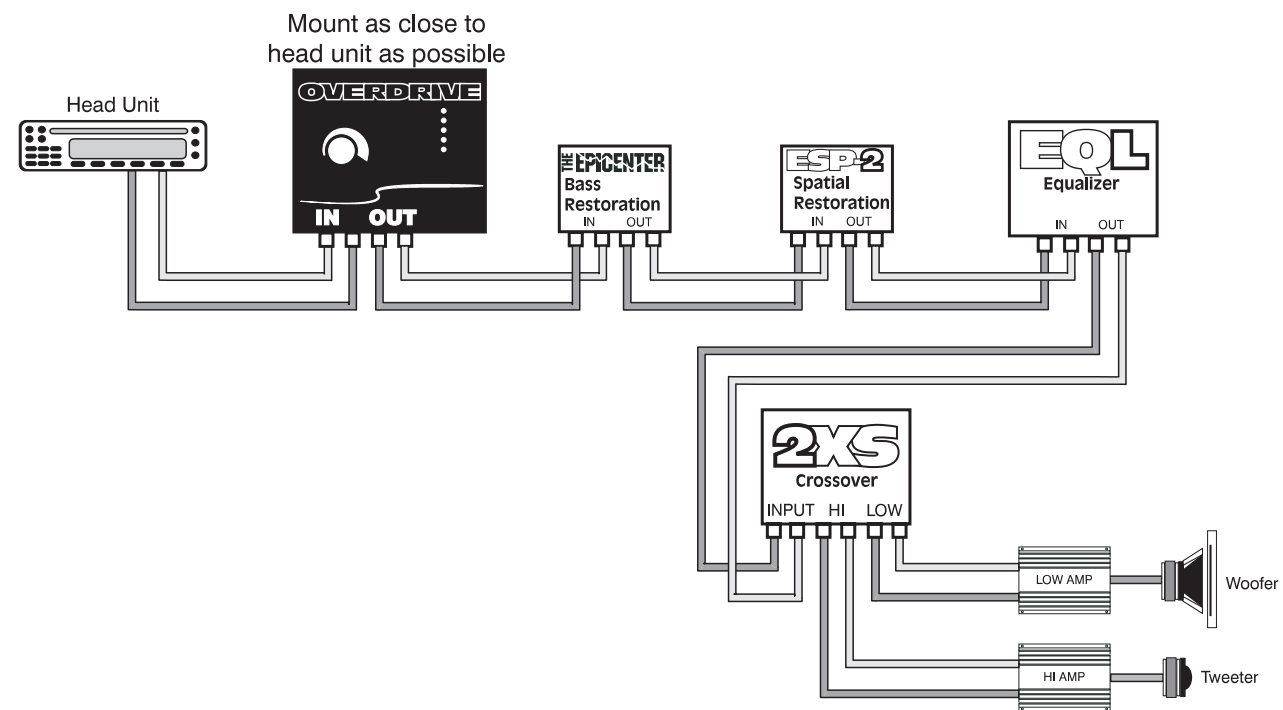
Level Matching is about making sure you run just the right amount of signal into an electronic component. If you send too much, you'll experience the not so joyous sound of clipping. At the same time, you want the highest possible signal levels for best signal-to-noise ratio. Since all AudioControl products are capable of high-voltage input and output, it is important that you MATCH the input voltage of your components. Most crossovers and amplifiers can handle up to about 2 volts before they clip. AudioControl signal processors can all put out at least 7.5 volts RMS, and can take in anywhere from 5 to 9 volts RMS. LED voltage indicators on many of our products make it a snap to set levels! Request Tech Note 1006 for more information on level matching.

Installation Examples and Hookup Diagrams

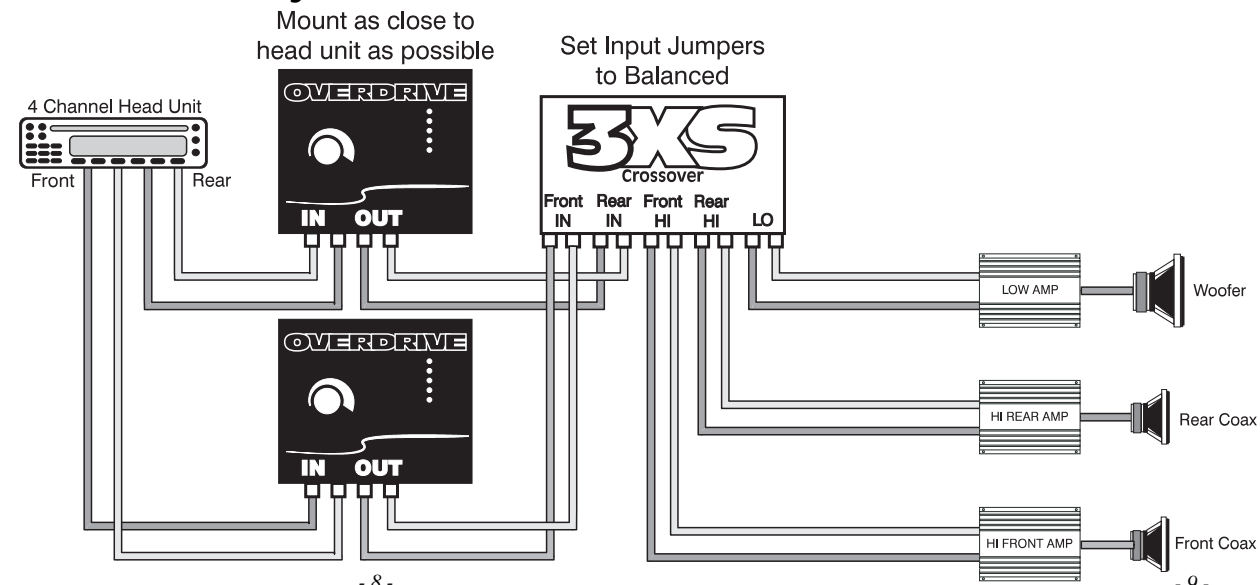
The Simple, but Killer, Competition Two-way system



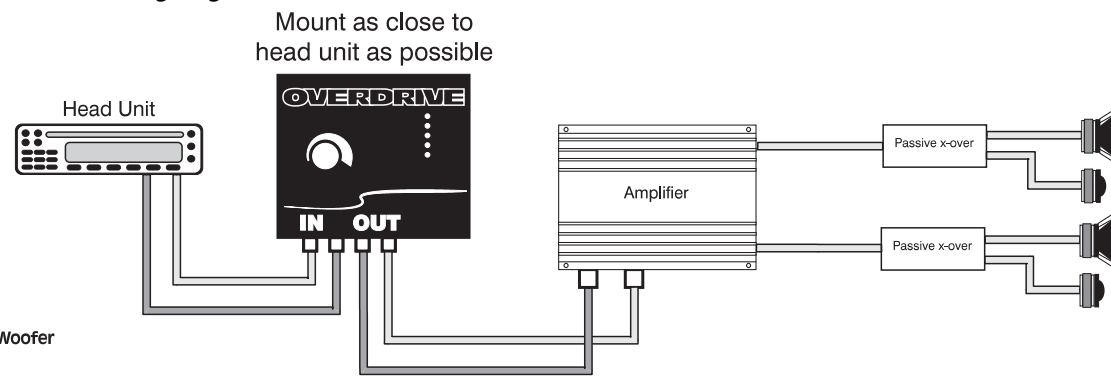
Competition Two-way System



Four Channel System with Two Overdrives



Two-way System with Passive Crossover



Installation Precautions/Hints

Do not mount the OVERDRIVE Line Driver where it will be exposed to outside elements or extreme temperatures. Avoid areas of severe vibration or shock. The front bumper is off limits.

- Mount the OVERDRIVE as close to the head unit as possible. Absolutely mount it at the front of the vehicle.
- Use high quality, 100% shielded audio cables.
- Plan on a single-point (star ground) scheme so all components, including the head unit, connect to a common ground point. Use no less than 14 gauge wire for the power and ground connections.
- Make certain that there are no fuel lines, brake lines, electrical wires or anything else that you don't want to run a drill bit through. That includes things on the back side of that floor panel you're about to punch a hole in.
- Make certain the OVERDRIVE is firmly mounted with screws so it won't come flying off the next time you blast over a speed bump.
- Adjust the Overdrive for the maximum that the next component in the chain can handle. Make certain that whatever component you put after the OVERDRIVE can withstand the output voltage you dial up. The inputs to many crossovers and amplifiers will clip around 2 volts. All AudioControl products can handle inputs from 5 to 9 volt RMS.
- Turn down your amp gains to their minimum setting. Then you can run a higher signal (better signal to noise) into the amplifiers. Don't worry, your amps will still go to full output (unless they actually MUTE when at minimum). For more information on this, ask us for Tech Note 1006.

Blatant Plug

The OVERDRIVE Line Driver is part of the AudioControl Performance Match Series of products. The Performance Match products will extract killer performance from your car stereo system.

There are real world barriers to good autosound such as the fact that doors and trunks rarely make good speaker boxes. AudioControl Performance Match products like the Concert Series 2XS™ and 3XS™ crossovers; the Concert Series EQL™, EQX™, and EQT™ equalizers; and The Concert Series Epicenter bass maximizer will help you overcome those barriers. AudioControl components make it easy to adjust or “voice” components to the specific acoustics and hostile elements of your stereo system whether it's a sleek Honda or stylish ThunderBird. The result is, as one warranty card stated, “A dream come true.”

And now a word from the legal department...

The WARRANTY

People are scared of warranties. Lots of fine print, lots of noncooperation, months of waiting around. Well, don't be scared of this warranty. It's 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 OVERDRIVE. So go ahead and read this warranty, then enjoy your new component for a few days 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 honor these conditions, we will warrant all materials and workmanship on your OVERDRIVE for five years from the date you bought it, if installed by an authorized AudioControl dealer, and will fix or replace it, at our option, during that time.

Here are the conditions that make this warranty conditional:

1. You have to fill out the warranty card and send it to us within 15 days after you purchase your OVERDRIVE.
2. You must keep your sales slip or receipt so you have proof when and from whom you bought your OVERDRIVE. We're not the only company to require this, so it's a good habit to be in with any stereo purchase.
3. Your OVERDRIVE has to have been originally purchased from an authorized AudioControl dealer. You do not have to be the original owner to take advantage of the warranty, but the date of purchase is still important, so be sure to get a copy of the sales slip from the original owner.
4. You cannot let anybody who isn't: (a) the AudioControl Factory; (b) an authorized service center; or (c) someone authorized in writing by AudioControl service your OVERDRIVE. If anyone other than (a), (b) or (c) messes with your OVERDRIVE, that voids the warranty.
5. The warranty is also void if the serial number has been altered or removed, or if the AudioControl OVERDRIVE is used improperly. Now, that sounds like a big loophole, but here is all we mean by it.

Unwarranted abuse is: (a) physical damage (our mobile products are not meant to be used as jack stands for your car); (b) improper connection (we have done the best we can to protect the inputs, however, 120 volts into the jacks can fry the innards of the poor beast); (c) sadistic things.

This is the best mobile product we know how to manufacture, but if you use it for the front bumper of your Baja bug and get it full of water and dirt, things will go wrong.

Assuming you conform to numbers 1 through 5, and it isn't all that hard to do, we get the option of deciding whether to fix your old unit or replace it with a new one.

Legalese Section

This is the only warranty given by AudioControl. This warranty gives you specific legal rights which vary from state to state.

Promises of how well your OVERDRIVE will work are not implied by this warranty. Other than what we've 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 AudioControl OVERDRIVE.

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