



MATRIX PLUS ACR-1 Six Channel Ultimate Performance Line Driver Instruction Manual

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MATRIX PLUS ACR-1 Six Channel Ultimate Performance Line Driver



Let the Good Sounds Start!

You have just purchased an ultimate-performance autosound product; the AudioControl Matrix Plus six channel line driver. The Matrix Plus allows 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 (we can't recommend any near us), take a load off and spend a few moments reviewing this Enjoyment Manual. Here we go!

Features of the Matrix Plus:

- High signal voltage capability: 13 volts peak output
- 24 dB of gain
- Six channels of input and output
- Balanced differential inputs
- Low-impedance outputs
- Optional Remote Level Control (ACR-1)
- PFM Subsonic filter
- Output level controls
- Ultra-low distortion, ultra-quiet operation
- Selectable ground isolation
- Optimum voltage indicator LED's

FEATURES AND HIGHLIGHTS

High-Voltage Line Driver

The Matrix Plus is a pre-amp line driver that takes the input signal from up to three source units, increases it (up to 13 volts peak) and then delivers it downstream. No more low signal output voltages to allow noise into the rest of your performance car audio system.

Six Channel Inputs & Outputs

The Matrix Plus was designed for ultimate pre-amp flexibility. With that in mind we have provided six channels for input and six for output! For even more flexibility, the Matrix Plus inputs can be linked internally whereby one input channel can feed one, two, or three output channels.

Balanced Inputs

The Matrix Plus features balanced differential input circuit that rejects noise that radiates into the signal path between the source unit and your Matrix Plus. Even better, this circuit uses standard RCA connectors.

Anti-Oscillation 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 Matrix Plus's low-impedance, high-current output circuitry easily handles long cable runs without their associated problems.

Output Voltage Indicators

Setting voltage levels for optimum 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 Matrix Plus's voltage indicator LED's, you can say good-bye to that headache. Just turn the Matrix Plus gain control until your favorite light flickers and you're done!

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.

Programmable Frequency Match (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 force the speakers to play lower than expected. The net result is wasted amplifier power and damaged speakers. The AudioControl PFM (Programmable Frequency Match) 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.

Remote Level Control (optional)

You can purchase separately, the ACR-1 remote control to adjust volume output from the comfort of the driver's seat.

The Most Important Feature Of All: Reliability.

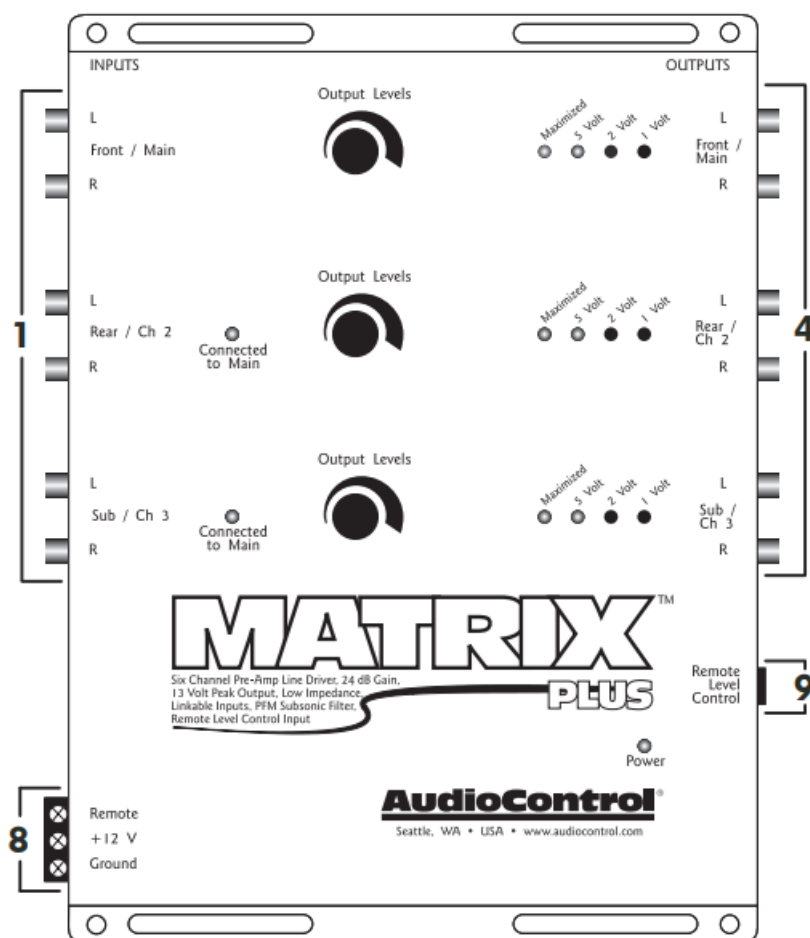
That's right, your AudioControl Matrix Plus comes with a full 5 year parts and labor warranty when it is installed by an authorized United States AudioControl dealer. These seasoned pros have the training and the equipment to take care of the job quickly and not leave your installation looking like some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

A GUIDED TOUR OF THE Matrix Plus The Outside

1. **Inputs:** The Matrix Plus will accept up to six channels of input signal which means it will work with source units that have six channels of output or it will accommodate three two-channel source units as in the case of multi-

media. All of the inputs utilize a balanced differential input circuit, which can cancel noise that radiates into the signal path.

2. **Linking to Outputs:** There is amazing flexibility with the Matrix Plus for routing one input to one, two, or three outputs. These “Connected to Main” LEDs light when the jumpers under the cover are set to route the main input to outputs “Channel 2” and/or “Channel 3”. See page 7.
3. **Level Control:** These cool little knobs can increase or decrease the amount of signal sent downstream to your signal processors or amplifiers. With this control you can get up to 24 dB of gain (13 volts peak) or 12 dB of cut to maximize the amount of signal sent to your signal processors or amplifiers inputs. Before you start to crank them all of the way up, remember this: Most amplifiers can’t handle input voltages over 3 volts without clipping. If in doubt, check with the amplifier manufacturer.
4. **Outputs:** The Matrix Plus has six channels of low impedance output, which helps when you desire more output because you have too much input. Huh? What we mean is each pair of outputs on your Matrix Plus has the strength and ability to drive more than just one amplifier. In fact, you can drive up to 7 amplifiers off of each pair of outputs, which means you have the possibility of driving 21 stereo amplifiers or even 42 mono amplifiers! Wow!
5. **Power:** If you see this one lighted, pat yourself on the back for properly connecting the power terminal.
6. **Maximized:** When these lights flicker 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.



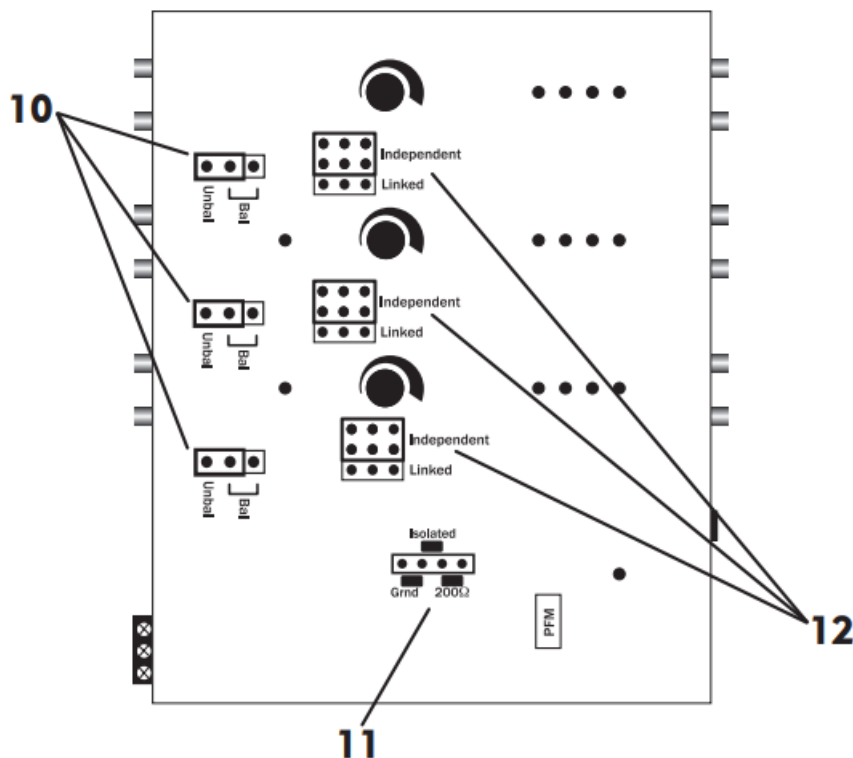
7. 1, 2, & 5 Volt: These lights will tell you when the signal level is at 1 volt, 2 volts or 5 volts. You'll most likely want at least the 2-volt light to flicker, more if the rest of your components can handle it. Any AudioControl component that you connect after the Matrix Plus Line Driver won't mind the 5 volt light flickering. Go ahead. Light it up!
8. **Power Connector:** This convenient little connector allows you to hook up all the power and turn-on wires for

your Matrix Plus 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 Matrix Plus just will not power up.

9. Remote Level Control Input: Input for optional ACR-1 dash mountable remote level control.

The Inside

10. Balanced Input Selector: Located under the cover and behind the Input connectors are jumpers that allow you to utilize or bypass the balanced input circuitry. Although it is shipped in the balanced mode, which is best, it may be necessary to change this depending upon the configuration of the components you use. To change this, move the appropriate jumper on the 3-pin header.
11. Ground Isolation Selector: This feature allows you to change the power supply ground for different systems. When the Matrix Plus is shipped from the factory, the selector is in the fully isolated position (which is generally the best.) To change the settings, make sure you turn the system off, carefully move the black jumper from the center two pins (Isolated) and move it to either the top two pins (200 ohms) or the bottom two pins (ground).
12. Channel Linking: To link the Main input to Ch 2 and 3 outputs, move the main jumper to the (opposite) position to enable the linking function. Then move the jumpers for Ch 2 or 3 or both channels to the "Connected to Main" position. The "Connected to Main" LEDs will illuminate when the three jumpers for each Ch 2 and/or Ch 3 are set correctly. Please see video tutorials on our YouTube channel for more information.



Note: When removing and replacing chassis top be sure to align LED and knob holes.

Signal-To-Noise: An Up and Coming Rock Group?

Your system's signal-to-noise (S/N) ratio is the measurement between your audio signal level, which contains music, and your system's noise floor, which contains hiss, pops, buzzes, and whines. If you are listening to your buddies' car audio systems and it has all of the above obnoxious sounds...even when the music is playing, we call that LOW signal-to-noise. On the other hand, if you have your volume control cranked up on quiet songs, and you hear almost ZERO background noise, that is considered a HIGH signal-to-noise ratio. Most serious sound-off competitors have high signal-to-noise ratios (at least the ones that take home the trophies).

When you talk about signal-to-noise ratios, 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 with a component like the Matrix Plus.

Level Matching

Level Matching is about making sure you run just the right amount of signal into an audio component. 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 produce at least 7.5 volts RMS, and can accept anywhere from 5 to 9 volts RMS. LED voltage indicators on many of our products (like this one!) make it a snap to set levels!

Quick Install Guide

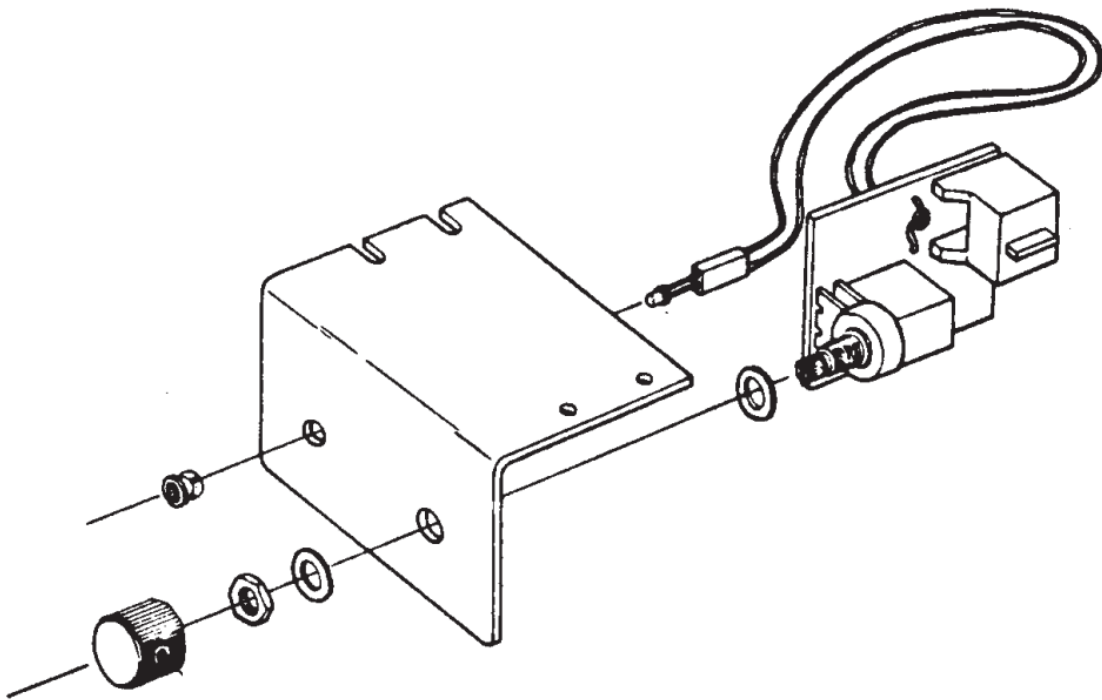
Since some of you will want to install your Matrix Plus on your own we offer a few reminders in the following short section to speed up your installation.

1. Physically mount the Matrix Plus in a location that keeps it away from soda spills, food crumbs, and curious fingers.
2. The Matrix Plus needs to be installed as close to the source unit as possible. Connect RCA cables from source unit to Matrix Plus inputs. If this is not obvious to you, quickly pack up your Matrix Plus and run to your nearest authorized AudioControl dealer to have them perform the installation. You will thank us later.
3. Use RCA connecting cables to connect the RCA outputs of the Matrix Plus to your amplifier(s).
4. Connect +12 power, and ground.
5. Connect your head units Remote turn on 12-volt trigger to the Matrix Plus.
6. Turn your amp gains fully down before turning on the system.
7. Turn on the system and level match your Matrix Plus to your source unit, signal processor and amplifiers. For more help see our technical videos at <http://www.audiocontrol.com/t34/Mobile-Audio.html>

If you have your authorized AudioControl dealer install your Matrix Plus, we will extend the normal one-year warranty to a full five years. AudioControl products are, by nature, more technical than many others and we spend a good deal of time training our dealers and installers so we know our products will be installed correctly.

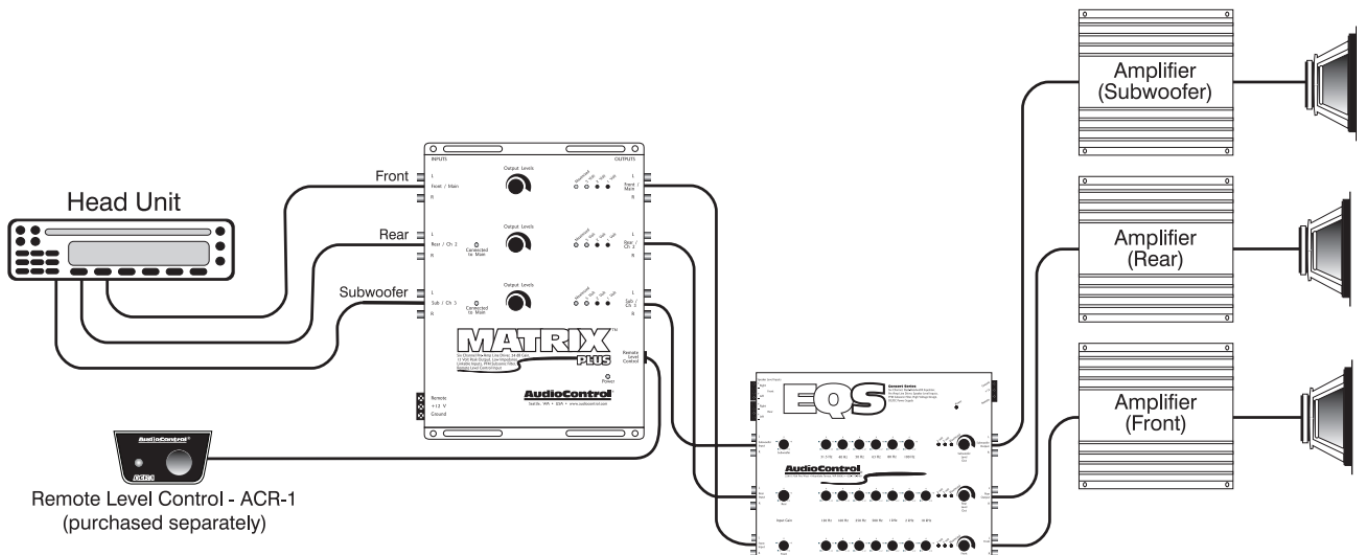
Placement And Mounting of Optional Dash Remote (ACR-1):

(Purchased Separately) 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.



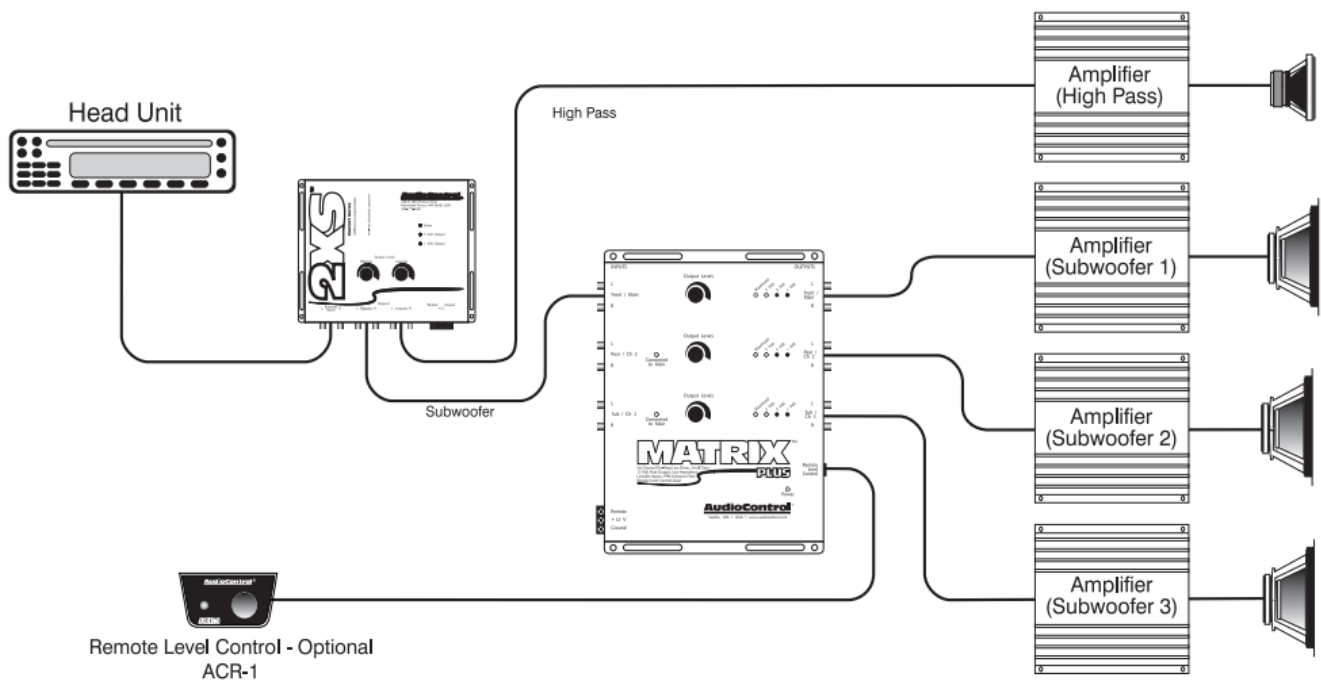
Six-channel Source Unit

Head units with separate front, rear and subwoofer outputs are easily accommodated with the Matrix Plus.



Maximum SPL System

The input channel linking feature allows the Matrix Plus to receive a two channel signal and produce six channels of output.



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 MATRIX PLUS. So go ahead and read this warranty, then enjoy your new component for a few days before going to the AudioControl website and registering for the warranty.

"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 MATRIX PLUS for five years from the date you bought it and will fix or replace it, at our option, during that time.

Here are the conditions that make this warranty conditional:

1. We need to know that you bought your product from an authorized AudioControl dealer. So go to www.audiocontrol.com or audiocontrolregistration.com right away, and register your MATRIX PLUS.
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 get into with any major purchase.
3. Your MATRIX PLUS 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 your MATRIX PLUS. If anyone other than (A) or (B) messes with your MATRIX PLUS, that voids your warranty.
5. The warranty is also void if the serial number is altered, removed, or if the MATRIX PLUS has been used improperly. Now these sound like big loopholes, but here is all we mean by it.
Unwarranted abuse is (A) physical damage (don't use the MATRIX PLUS for a jack stand); (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 your MATRIX PLUS, 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. Validate your warranty: Visit <http://audiocontrolregistration.com> to register your MATRIX PLUS

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 MATRIX PLUS 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 MATRIX PLUS.

Failure to register your MATRIX PLUS at www.audiocontrolregistration.com negates any service claims.

Matrix Plus

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.....	9.5Vrms/13V peak
Frequency response.....	10Hz-100kHz;±1dB
Total harmonic distortion.....	0.005%
Signal to Noise ratio.....	-110dB
Inputs/Outputs.....	2, 4, or 6
Input Impedance.....	20 K Ohms
Output impedance	50 Ohms
Output gain.....	- 12 dB to + 24 dB
PFM Subsonic Filter.....	33Hz/18 dB per octave
Power supply.....	Transformer isolated PWM DC/DC converter
Power draw	250mA
Recommended fuse rating.....	1 Amp
Size.....	8.7" x 6.7" x 1.15"
Weight.....	2.25 lbs
Country of Origin.....	USA

Customer Support

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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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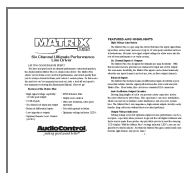
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Documents / Resources



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ACR-1 Six Channel Ultimate Performance Line Driver, ACR-1, Six Channel Ultimate Performance Line Driver, Ultimate Performance Line Driver, Performance Line Driver, Line Driver, Driver

References

- [IstRation.com is for sale | HugeDomains](#)
- [tion.com](#)
- [Home - AudioControl](#)
- [Home - AudioControl](#)
- [User Manual](#)