# **Audiobahn**°

QUALITY, RELIABILITY, & PURE BLISS

INTAKE SERIES AMPLIFIERS
A2002T / A4002T / A8002T
A4004T / A6004T / A8000T
OPERATING INSTRUCTIONS

PLEASE READ THIS MANUAL BEFORE OPERATING UNIT. RETAIN FOR FUTURE REFERENCE.

# The Audiobahn Way

To bring the product to market that excites the consumer through sound and vision from an orientation of integrity and customer service. We make you look as good as you sound. We strive to take car audio to an extreme the world has never seen, and a world that never stops evolving.

Audiobahn was established in 1997 with one long-term goal in mind, "Build it Bigger, Badder, & Better, and the people will take notice!" We back this statement with an engineering team that has brought home several Innovations, Design & Engineering Showcase Awards, and a marketing team from around the world that spends countless hours developing our no compromise products to satisfy the most discriminating enthusiasts.

Our global manufacturing facilities feature ISO9002 ratings (the highest level of quality control awarded in the electronics manufacturing industry), fully robotic assembly lines and a state of the art, California based R & D laboratory.

Due to overwhelming response from our competitors, and our goal to participate in even more events this year, we created \*"TEAM AUDIOBAHN." This organization is designed to create a support network along with shirts and perks for team members. "TEAM AUDIOBAHN" is not only for the diehard competitor, but also for anyone that loves car audio as much as we do. With four levels of play, one is right for you to get started in the Audiobahn family.

Our Technical Department and entire staff look to strive above and beyond the rest of the pack by going that extra mile to help you out. Whether you happen to be a veteran competitor, or a beginner car audio enthusiast that does not know a voice coil from a spider. We are all here to help you get the best system you can with what you have.

Judge for yourself, and remember what it's all about, "If it's not Bigger, Badder & Better, it's not Audiobahn." If audio is your life, Audiobahn is the brand for you! We make you look as good as you sound. People never stop trying to get the best product, so we will never stop making it.

\*To learn more about "TEAM AUDIOBAHN" please give us a call, see our website at www.audiobahninc.com, or email us at team@audiobahninc.com to learn about all the details.

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Dear Customer.

Congratulations on your purchase of the worlds finest brand of car audio products. Here at Audiobahn Inc. we are devoted to making our musical reproduction the very best, and we are pleased you have chosen our product. Through years of engineering expertise, hand craftsmanship, and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your Audiobahn product installed by an Authorized Audiobahn Dealer, as we provide specialized training through our Audiobahn Installer Training Programs. Please read your warranty, keep your receipt, and original carton for possible future use.

Great products and proper installation are only a small piece of the puzzle when it comes to your system. Make sure that your installer is using only 100% authentic installation accessories from the Audiobahn Connections. The Audiobahn line has everything ranging from the smallest terminal, to power wires up to 0 gauge, and 4 channel RCA cables.

To get a free brochure on Audiobahn products in the U.S. call (714) 988-0400 or e-mail us at sales@audiobahninc.com.

# **WARNING**

Continuous exposure to sound pressure levels over 100 dB may cause permanent hearing loss. High powered autosound systems may produce sound pressure levels well over 135dB. Need we say more! Use common sense.

If after reading this manual, you still have questions regarding your product, we recommend that you see your nearest Audiobahn Dealer. A list of Authorized Audiobahn Dealers can be found on our web page. If you need further assistance, feel free to call us at (800)488-8595 and ask for the Technical Department. Be sure to have the model number, date of purchase, and invoice number available when you call.

The model number can be located on the outside of the carton. Record this in the space provided below along with the date of purchase. It is a good idea to keep your receipt with this, as you will need it in the case of a warranty repair or exchange.

# Features and Specifications

#### **FEATURES**

- Class A/B MOSFET Power Amplifier
- 2 Ohm Stable
- MOSFET High Speed Switching Power Supply
- RCA (Low Level) and Speaker (High Level) Inputs
- RCA Outputs
- Bridgeable
- Variable High Pass Filter: 50Hz~750Hz
- Variable Low Pass Filter: 50Hz~120Hz
- Bass Boost Control : ON / OFF
- Variable Bass Control Remote 0dB ~ 18dB
- Phase Shift Switch: 0°~180°
- Air induction Fan Cooled
- OPTIONAL ITEM Digital Displayed Volt Meter, and Bass Remote Control
- 4-Way Protection Circuitry: Thermal, Short Circuit, Overload, & DC offset

### **Recommended Fuse Size**

A2002T : 25A x 1 A4002T : 40A x 1 A8002T : 30A x 2 A4004T : 20A x 2

A6004T : 25A x 2 A8000T : 30A x 2

# **Power Output**

A2002T: 400 watts ACH Power

50 watts x 2 @ 4 Ohms RMS power

100 watts x 2 @ 2 Ohms RMS power

A4002T: 800 watts ACH Power

100 watts x 2 @ 4 Ohms RMS power 200 watts x 2 @ 2 Ohms RMS power

A8002T: 1600 watts ACH Power

200 watts x 2 @ 4 Ohms RMS power 400 watts x 2 @ 2 Ohms RMS power

A4004T: 400 watts ACH Power

watts x 4 @ 4 Ohms RMS power

100 watts x 4 @ 2 Ohms RMS power

A6004T: 1200 watts ACH Power

75 watts x 4 @ 4 Ohms RMS power 150 watts x 4 @ 2 Ohms RMS power

A8000T: 1600 watts ACH Power

400 watts x 1 @ 4 Ohms RMS Power 800 watts x 1 @ 2 Ohms RMS power

# **Dimensions**

A2002T (W x H x L) : 11 1/16" x 1 7/8" x 6 13/16"

281 x 47.6 x 173.0mm 281 x 47.6 x 212.7mm

A4002T ( W x H x L) : 11 1/16" x 1 7/8" x 8 3/8" A8002T ( W x H x L) : 11 1/16" x 1 7/8" x 11 7/8"

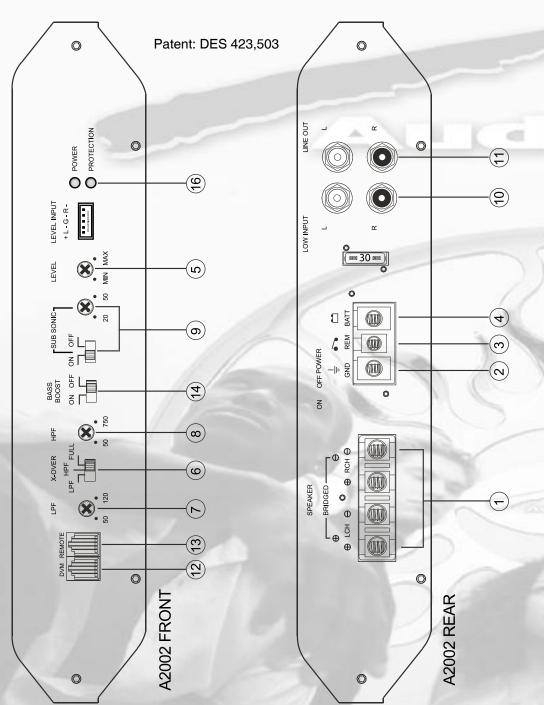
281 x 47.6 x 282.6mm

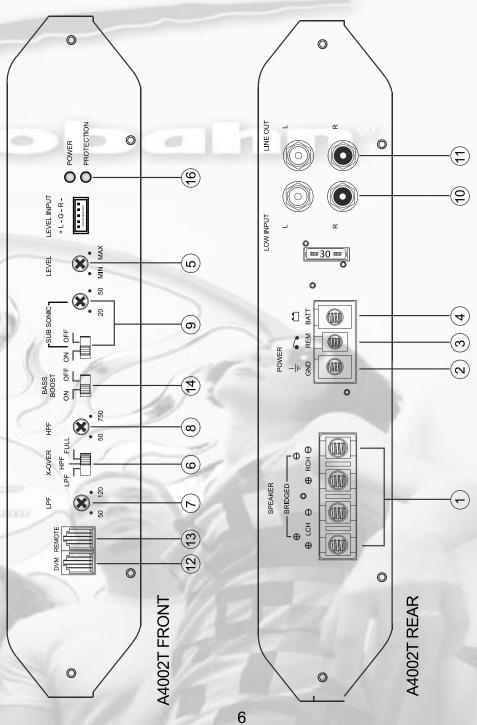
A4004T ( W x H x L) : 11 1/16" x 1 7/8" x 9 1/8" A6004T ( W x H x L) : 11 1/16" x 1 7/8" x 9 7/8"

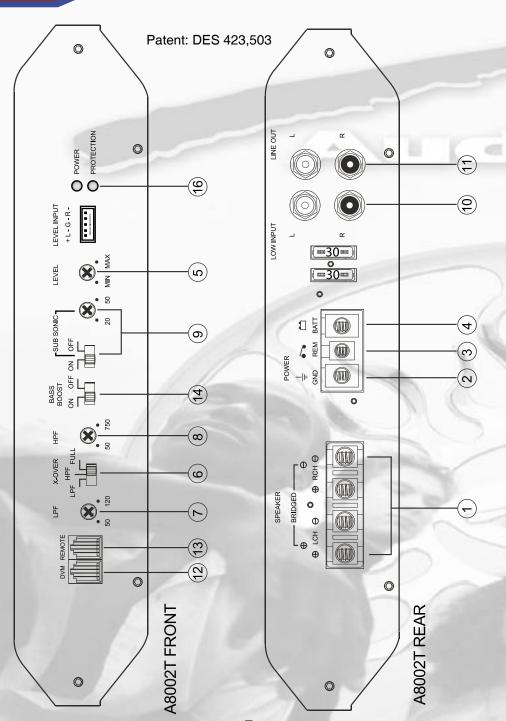
281 x 47.6 x 231.8mm 281 x 47.6 x 250.8mm

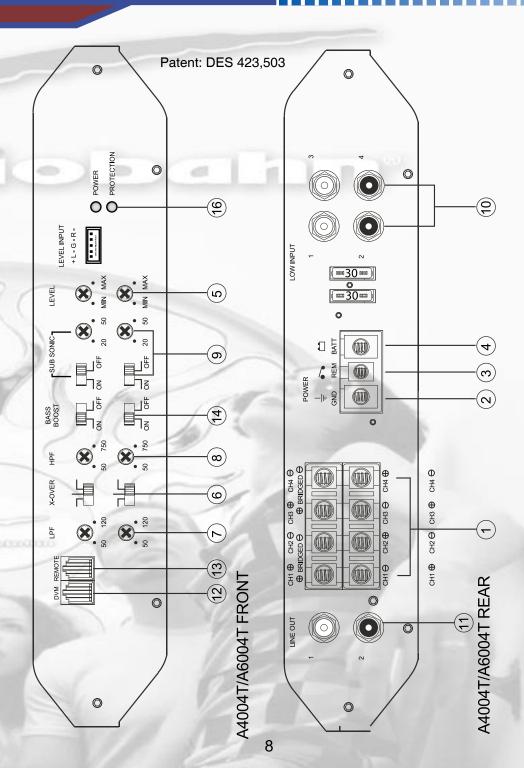
A8000T (W x H x L) : 11 1/16" x 1 7/8" x 11 7/8"

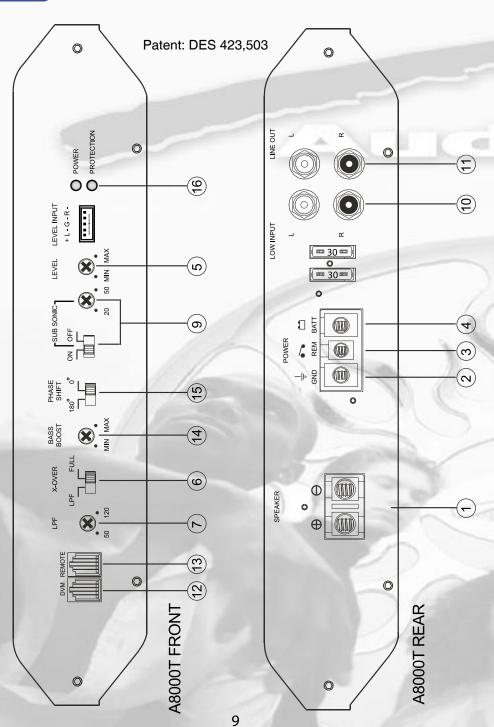
281 x 47.6 x 301.6mm

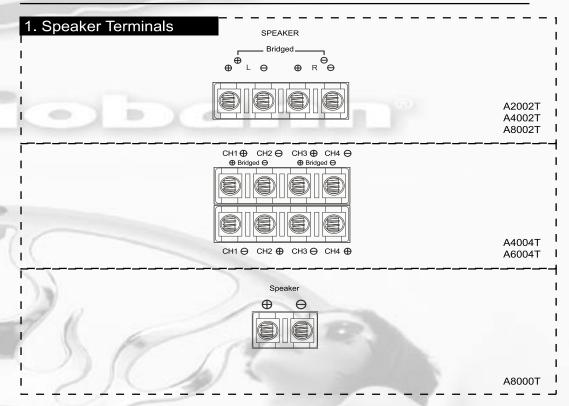




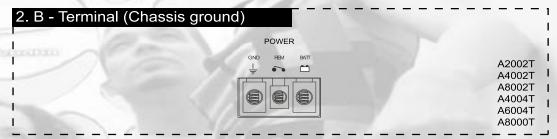






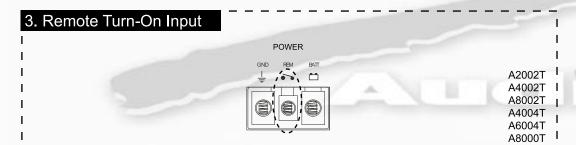


These chrome plated connectors can accept from 16 to 8 gauge wire. Be careful to observe proper polarity when connecting the cables



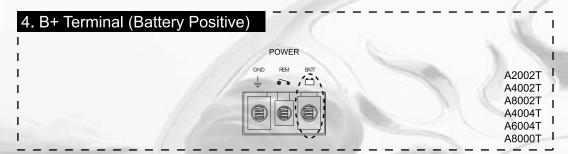
To avoid unwanted ignition noise caused by ground loops, it is essential that the amplifier be grounded to a clean, bare, metal surface of the vehicles chassis.

Note: GROUND WIRE SHOULD NOT BE EXTENDED MORE THAN 3 FT. (1 METER)



To remote or power antenna output of car stereo. This amplifier is turned "ON" remotely when the vehicle's stereo is turned "ON".

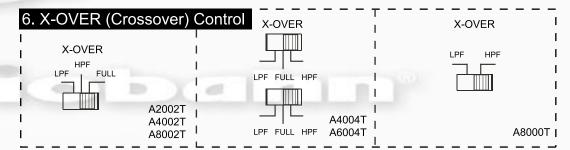
**Note:** IF YOUR RADIO DOES NOT HAVE +12 VOLT OUTPUT LEAD WHEN THE RADIO IS TURNED ON, THE "REMOTE" TERMINAL ON THE AMPLIFIER CAN BE CONNECTED TO THE VEHICLE'S ACCESSORY CIRCUIT THAT IS LIVE WHEN THE KEY (IGNITION) IS "ON".



Due to the power requirements of the amplifier, this connection should be made directly to the positive (+) terminal of the battery. For a safety measure, install an in-line fuse holder (not included) as close to the battery positive (+) as possible with an ampere rating not to exceed the total value of fuses in the amp.



This control adjusts the amplifier's sensitivity. Input sensitivity is variable from 200 Millivolts to 4 volts. Clockwise increases sensitivity. Counterclockwise decreases sensitivity. **THE KNOB IS NOT A VOLUME CONTROL**. A lower signal level will require increased sensitivity for full power. A higher signal will require decreased sensitivity.

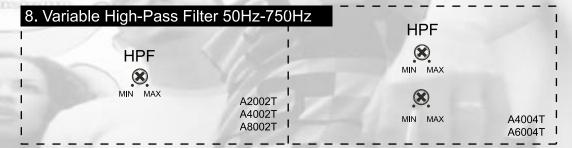


Adjust the crossover for your chosen installation method.

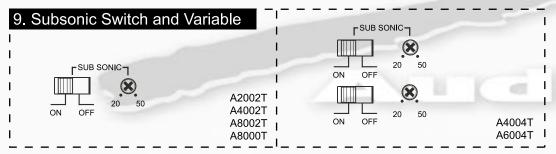
- -- LPF: (Low-pass filter) Only bass tones go to the speakers. Use with woofer or subwoofer.
- -- FULL: (No filter) All tones go to speakers. Use with full-range speakers or with external crossovers.
- -- HPF: (High-pass filter) Blocks very low tones from speakers. Use with tweeters or full-range to eliminate bass tones



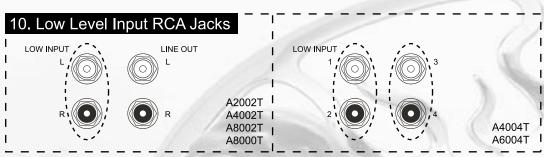
Variable Low-Pass Filter (50Hz-120Hz): For use as a dedicated subwoofer channel, set filter switch to "LPF". Adjust variable crossover frequency with control as desired. The amplifier input circuit filters out everything above 50Hz.....120Hz (dependant on the adjustment of the frequency control), so only the deepest bass notes are amplified.



Variable High-Pass Filter (50Hz-750Hz): For use as a dedicated mid high range channel, set filter switch to "HPF". The input circuit filters out all frequencies below 50Hz.....750Hz.



Subsonic Switch: ON and OFF Subsonic Variable: 20Hz - 50Hz

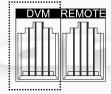


These inputs are for signal cables from the source unit or other processor. Always use high quality shielded RCA cables.



The LINE OUT allows you to build multiple amplifier systems without having to use splitter cords to distribute the signal. Now it is a simple matter of bridging one set of RCA cables into the first amplifier, then using the line out RCA jacks as the feed to the next amplifier.

# 12. DVM (Digital Volt Meter Input) Fig 1



A2002T A4002T A8002T

A4004T A6004T A8000T

Remote Control for Digital Display Voltmeter: Optional ADM100T

# 12. DVM (Digital Volt Meter Input) Fig 1

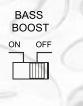


A2002T A4002T A8002T A4004T

A6004T A8000T

Bass Boost Control (MIN / MAX): Optional ABR100T

# 14. Bass Boost Switch and Variable Crossover



| I | A2002T | A4002T | A8002T



LPF HPF

X-OVER

A8000T

Bass Boost Switch: ON and OFF

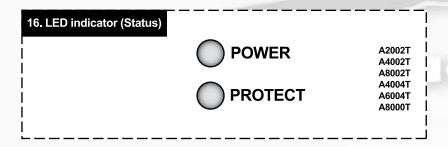
Bass Boost Variable: 0dB - 18dB

# 15. Phase Shift Switch



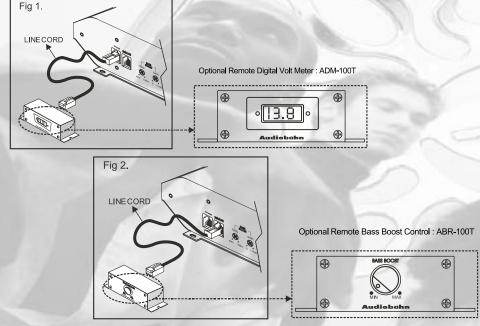
A8000T

PHASE SHIFT SWITCH (0° AND 180°): Allows you to change the phase of your subwoofer from 0 and 180 degrees to help compensate for timing differences between drivers.



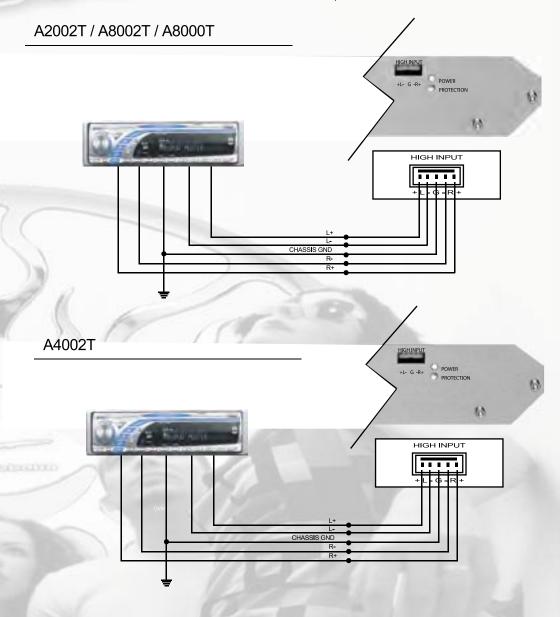
- -PWR (Power): This BLUE LED will illuminate when the amplifier is turned "ON". If it fails to illuminate, check the power connections to the amplifier and fuses.
- PROT (Protection): The amplifier protection circuitry will disable the amplifier if input overload, short circuit, or extremely high temperature conditions are detected. When the protection mode is in operation, the LED indicator on the side panel will be illuminated, indicating the amplifier has gone into a self-preservation mode.

If you observe that the protection LED is lit, please check the system carefully to determine what has caused the protection circuit to engage. The amplifier shut down due to a thermal overload condition, please allow it to cool down before restarting. If the amplifier shut down because of an input overload or short circuit, be sure to repair these conditions before attempting to power up the amplifier again.

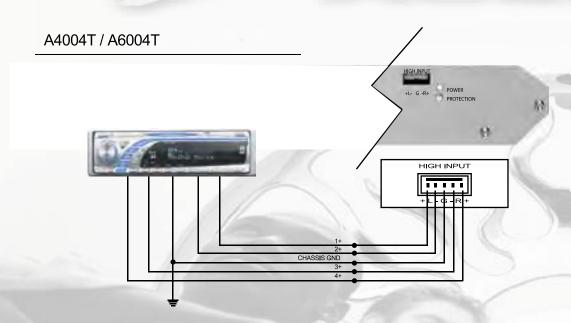


DES. 423,503

If the HIGH LEVEL INPUTS are used, do not use the low level RCA inputs at the same time



DES. 423,503



DES. 423,503

# Planning Your System

Before beginning the installation, consider the following:

a. If you plan to expand your system by adding other components sometime in the
future, ensure that adequate space is left, and cooling requirements are met.
 If your radio/source is equipped with Pre-Amp outputs, it is possible to utilize them
to drive an Amplifier and connecting (amplifier) to the 2 rear speakers.
 Then, use the built-in power of your radio to drive the 2 front speakers.

#### NOTE:

DISTORTION LEVEL IS CONSIDERABLY LOWER FROM PRE-AMP (LOW LEVEL) OUTPUTS, THAN SPEAKER (HIGH LEVEL) OUTPUTS.

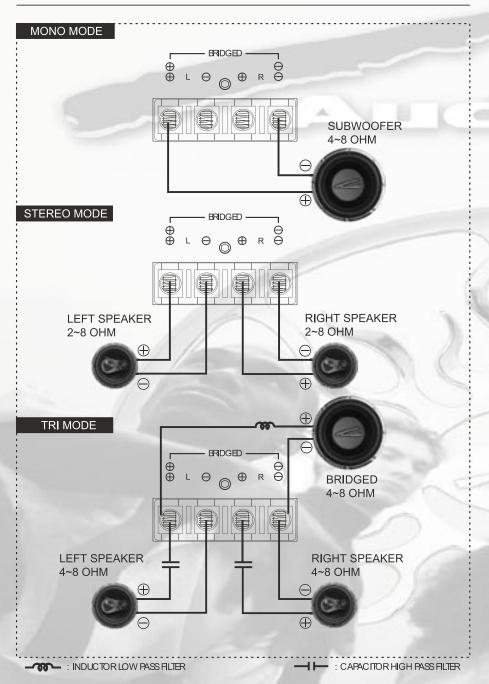
- b. Are your components matched? The RMS power rating of your speakers must be equal or greater than the amplifier's. They also must be 1-8 Ohms impedance (this information is normally printed on the speaker magnet).
- c. Consider both the length of your leads, and routing when determining the mounting location. Pre-Amp input Jacks require a length of high quality shielded male to male RCA patch cord.

# Mounting Your System

The mounting position of your amplifier will have a great effect on its ability to dissipate the heat generated during normal operation. It has an ample heat sink for heat dissipation, and also is designed with a thermal shut-down (for heat protection) circuit, having enough air directed over the cooling fins will improve heat dissipation dramatically. DO NOT enclose the amplifier in a small box or cover it so that air can not flow around the fins. Temperatures in car trunks have been measured as high as (155° F) in the summer time. Since the thermal shut-down point for the amplifier is (158° F) it is easy to see that it must be mounted for maximum cooling capability. To achieve the maximum advantage of convection air flow in an enclosed trunk, mount the amplifier in a horizontal position. Cooling requirements are considerably relaxed when mounting inside the passenger compartment since the driver will not allow temperatures to reach a critical point. Floor mounting under the seat is usually satisfactory as long as there is at least 1 inch (2.54 cm) above the amplifier's fins for ventilation.

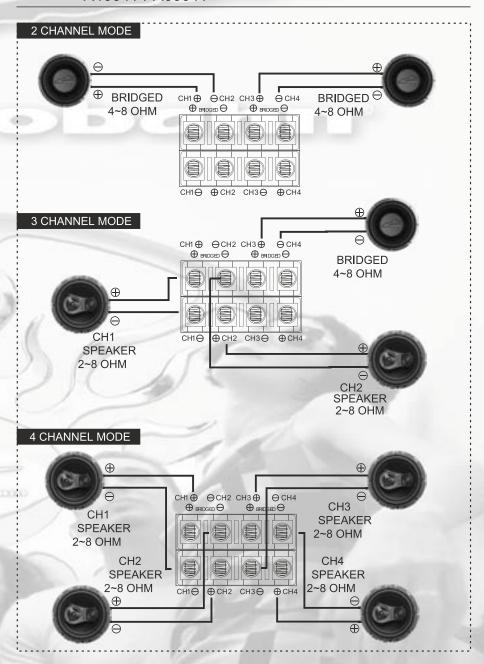
- a. Select a suitable location that is convenient for mounting, accessible for wiring, and has ample room for air circulation and cooling.
- b. Use the amplifier as a template to mark the mounting holes. Remove the amplifier and drill holes. Use extreme caution. Inspect underneath the surfaces before drilling!
- c. Secure the amplifier using the screws provided.
- CAUTION: Before connecting any wires to the amplifier, disconnect the ground lead from the battery. Leave the ground lead disconnected until you are done wiring the amplifier.

# A2002T / A4002T / A8002T



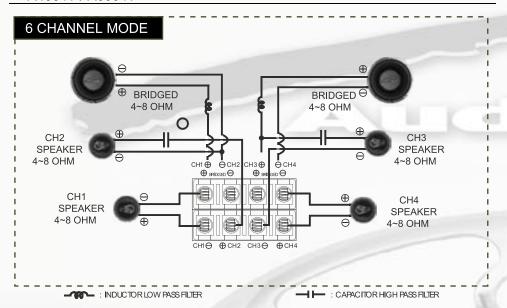
# Wiring Diagrams

### A4004T / A6004T



US 656,000B2

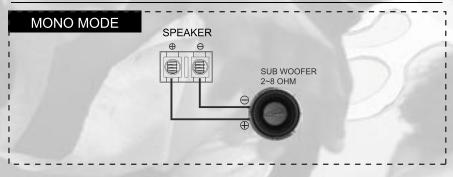
#### A4004T / A6004T



# **COMPONENT VALUES FOR 6 dB PASSIVE CROSSOVER**

FREQUENCY	INDUCTOR	CAPASITOR
80Hz	7.5 mH	470uF
100Hz	6.5 mH	330uF
120Hz	5.5 mH	330uF
150Hz	4mH	220uF

# A8000T



US 656,000B2

#### TURNING ON THE AMPLIFIER

The amplifier automatically turns on a few seconds after you turn your vehicle's ignition switch to ACC or turn on your auto sound system (depending on how you have wired the system). The POWER indicator on the top of the amplifier illuminates when the amplifier is on.

**Important**: Your amplifier requires 30 amps or more of power from your vehicle's battery during operation. To protect your battery from discharging, do not operate the amplifier unless your vehicle is running.

**Note:** Your amplifier temporarily shuts down if it gets too hot, then restarts automatically once it cools.

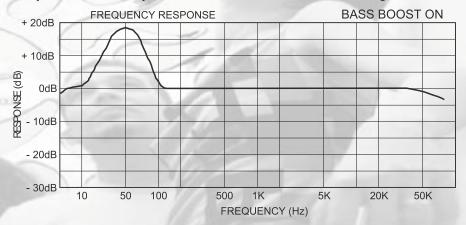
### ADJUSTING THE AUDIO LEVEL

For the best performance, you must set GAIN (4V/0.2V) on the side of the amplifier to adjust the level of the audio signals that enter the amplifier.

- 1. Use a screwdriver to turn GAIN (4V/0.2V) fully counterclockwise to 4V.
- 2. Turn the auto sound system's volume control to about one-third of its full range.
- 3. Adjust GAIN (4V/0.2V) to a comfortable listening level.
- 4. Turn up the auto sound system's volume control until the sound begins to distort. Then immediately turn the volume down to a point just before where the distortion began.

**Caution**: Never turn up the auto sound system's volume control more than needed to adjust the audio level (More than two thirds of its maximum volume).

- 5. Adjust GAIN (4V/ 0.2V) until the sound is at the maximum level you want the amplifier to produce.
- 6. Adjust the auto sound system's volume control to a comfortable listening level.



NOTE: Raising the LPF frequency allows higher frequencies to reach the bass speakers while blocking lower frequencies from midrange speakers. Lowering the LPF frequency allows lower frequencies to reach the midrange speakers while blocking higher frequencies from bass speakers.

# Troubleshooting

SYMPTOMS	CHECK POINTS	CURE
NO SOUND	Is the power LED illuminated ? ( NO )	Check fuses in amplifier. Be sure Turn-on lead is connected Check signal leads. Check gain control. Check Tuner/Deck volume level. Clean contacts on fuse holders.
	Is the Diagnostic LED illuminated ? ( YES )	Check for speaker short or Amplifier overheating.
AMP NOT SWITCHING ON	No power to power wire	Repair power wire or connections.
	No power to remote wire with receiver on	Check connections to radio.
	Fuse broken	Replace fuse.
NO SOUND IN ONE CHANNEL	Check Speaker Leads	Inspect for short circuit or an open connection.
CHANNEL	Check Audio Leads	Reverse Left and Right RCA inputs to determine if it is occurring before the amp.
AMP TURNING OFF MEDIUM/HIGH VOLUME	Check speaker load impedance	Be sure proper speaker load impedance recommendations are observed. (If you use an ohmmeter to check speaker resistance, please remember that DC resistance and AC impedance may not be the same.)
STATUS LAMP ON	Temperature shut down	Turn radio down
	Speaker wires short	Separate speaker wires and insulate

# **WARNING**

Investigate the layout of your automobile thoroughly before drilling or cutting any holes. Take care when you work near the gas tanks, lines, hydraulic lines, and electrical wiring. Do not use the power amplifier unmounted. Attach the system securely to the automobile to prevent damage, particularly in the event of an accident. Do not mount the system so that the wire connections are unprotected or are subject to pinching or damage from nearby objects.

The +12V DC power wire must be fused at the battery positive terminal connection. Before making or breaking power connections at the system power terminals, disconnect the +12V wire at the battery end. Confirm your radio/head unit and/or other equipment is turned off while connecting the input jacks and speaker terminals. If you need to replace the power fuse, replace it only with a fuse identical to that supplied with the system. Using a fuse of different type or rating may result in damage to this system which is not covered by the warranty.

# Disclaimer

Specifications are subject to change without notice.
For the most updated Specifications call Audiobahn,
your local Authorized Audiobahn Dealer,
or check the Audiobahn website.
www.audiobahninc.com

# Audiobahn Consumer Product Warranty Policy

Audiobahn products are manufactured with the highest quality components and some of the most advanced technology available. Because of this, we recommend that you have your new products installed by an Authorized Audiobahn Dealer.(A list of Authorized Audiobahn Dealers can be found on our web page).

Warranty Period: One year from the original date of purchase.

**Warranty Coverage**: This warranty covers manufacturer defects only. The warranty is applicable to the original purchaser, and is non-transferable. You must have a receipt from an **Authorized Audiobahn Dealer** that shows the location of purchase, price paid, and date of purchase.

(Products purchased by consumers from an **Authorized Audiobahn Dealer** outside the United States, are covered only by that countries Distributor and not by **Audiobahn**).

#### Notes:

Complete subwoofer enclosures (**Audiobahn** will replace defective subwoofers, plexiglass, or neon only. Do not send the entire enclosure, unless the enclosure is defective itself. You must receive prior authorization and an RA# before sending in any complete enclosure).

Audiobahn will only replace L.E.D.(s) found to be defective at the time of purchase.

#### Audiobahn warranties do not cover the following:

- Any product not purchased from an Authorized Audiobahn Dealer (including Internet dealers)
- Damage caused by abuse, misuse, accident, water / flood, or theft (including any cosmetic damage to the body of the product)
- Damage caused by improper installation
- Any cost or expense related to removal or reinstallation
- Any unauthorized services
- Any product that has the serial number removed, altered, or defaced
- Subsequent damage to any other components
- Pinched, cut, or stripped wires
- Any product that is new, and/or found to be in working condition
- L.E.D. indicators on electronics

How to receive warranty service: Contact your local **Authorized Audiobahn Dealer**, or call **Audiobahn** at **(800) 488-8595** between the hours of 9:00 AM and 5:00 PM PST.

If you are having problems with your system, we recommend you check the product carefully and thoroughly to confirm that the product truly has a manufacturer defect; as opposed to abuse, or other components in the system causing the failure. This might include having an **Authorized Audiobahn**Dealer look at the product to confirm the source of the problem. Any product found to have a manufacturer defect will be replaced with a new piece of the same or similar model, or repaired at the discretion of **Audiobahn**. Any product found to have no manufacturer defect will be returned to the sender at their cost.

You must acquire a Return Authorization Number (RA#) prior to returning ANY product to Audiobahn. That Return Authorization Number (RA#) must be prominently and clearly marked on the outside of the shipping carton, or product delivery will be refused (no exceptions will be made).

Please note: All shipping and handling (to and from) charges will be the sole responsibility of the consumer.

Please record and keep your Return Authorization Number (RA#) in the event that further communication is required.

Return Authorization Number (RA#):	
Date product was sent:	300

# Contact Information

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