

# AUNEX

AUDIO FOR THE **NEXT** GENERATION



## AP-9EQ

### 9 Band Premium Performance Equalizer

### Installation and Operation Manual

Please take time to thoroughly read through this manual to familiarize yourself with your new equalizer. This will ensure that your equalizer will perform at its optimum capabilities.

Para obtener una copia de este manual en español, visite [www.aunexusa.com](http://www.aunexusa.com) y luego vaya a la página del producto que necesita. Haga clic en la pestaña Soporte y descargue su manual en español.



Congratulations and thank you for purchasing an Aunex Premium In-Dash Equalizer with a Built-In Line Driver. This product has been engineered and manufactured utilizing precision quality parts and craftsmanship. Improvements in sound quality and system performance will be greatly enhanced with the use of this equalizer.

To ensure maximum performance we highly recommend you have your new Aunex product installed by an Authorized Aunex Dealer. Should you decide to install this product yourself, please make sure to read this manual thoroughly to familiarize yourself with the necessary installation requirements and tuning procedures.

Please read your warranty and retain a copy of your purchase receipt and original carton should your equalizer ever needs to be serviced and warranted.

Visit our website for the latest information on all Aunex products at: [www.aunexusa.com](http://www.aunexusa.com). If you have any questions regarding this product, please contact your Authorized Aunex Dealer for assistance or call / email Aunex Technical Support Department at (909) 589-5010 / [tech@aunexusa.com](mailto:tech@ aunexusa.com).

**Caution: Continuous exposure to sound pressure levels over 100dB may cause permanent hearing loss. High powered audio systems can produce sound pressure levels that can exceed over 150dB. Please limit your exposure to continuous high listening volumes.**



## **Features of the AP-9EQ**

- 9-Band In-Dash Equalizer; -18dB to +18dB level adjustment
  - o Center Frequencies: 80Hz, 120Hz, 200Hz, 500Hz, 1kHz, 3kHz, 6kHz, 10kHz, 15kHz
- Line Driver with 9 Volts Maximum Output
- Master Volume Control Knob
- Fader Control Knob
- Independent Subwoofer Level Control Knob
- Front Variable Subwoofer Frequency Knob (40Hz – 150Hz)
- Dual Input Source Selector - Main Input or Auxiliary Input
- Rear 3.5mm Auxiliary Input
- Balanced Differential Front, Rear, Subwoofer RCA Outputs
- Low Level RCA Input Compatible
- PWM Ultra-Fast Switching Power Supply
- Blue Backlight Illumination

## **What's Included**

- (1) AP-9EQ Equalizer
- (1) 2 Amp In-Line Fuse
- (1) 3 Pin Power Connector Plug
- (2) Mounting Brackets
- (4) Self Tapping Screws
- (4) Machine Screws
- (4) Lock Washer
- (1) Instruction Manual
- (1) Sticker

## **Important Safety Considerations**

- To prevent personal injury and damage to the unit, please read the following instructions in this manual.
- This product is designed to use in vehicles with 12Volt, negative-ground electrical systems.
- Install this product in a dry location away from your vehicles' safety equipment (airbags, seat belt system, etc.). Water and humidity may damage internal components.
- Use the included mounting accessories to secure this product so that it does not come loose.
- Check before drilling to make sure you do not drill into any vital vehicle system.
- Protect all system wiring from sharp metal edges.
- Do not disassemble or modify this unit; doing so will void your manufacturer's warranty.

## **Important Installation Precautions**

Installation of mobile audio equipment requires experience. Although this manual provides general installation procedures, it will not show the exact installation method for your particular vehicle.

If you do not have the required knowledge and experience, we recommend that you have your equipment installed by an Authorized Aunex Dealer.

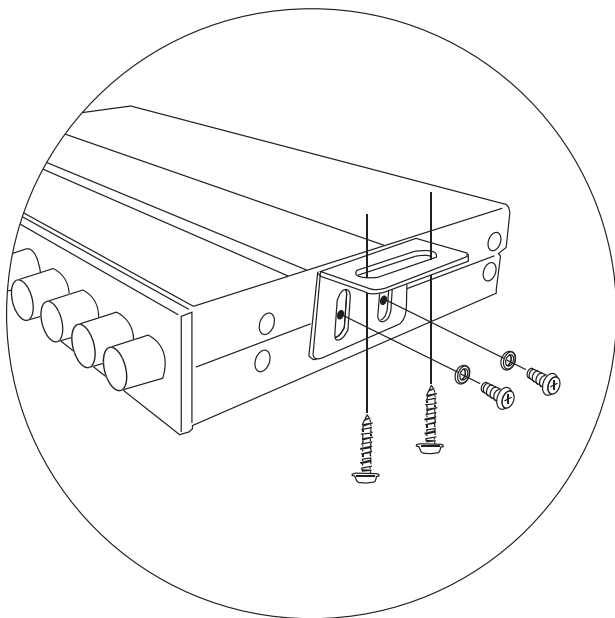
- Turn off all stereo and other electrical devices before you begin.
- Disconnect the negative (-) lead from your vehicle's battery to avoid an electrical short.
- Check the mounting depth to make sure there is sufficient room for your installation placement preference.
- When running power cables through sheet metal it is best to use grommets and loom to properly insulate the metal edges.

## Mounting Placement

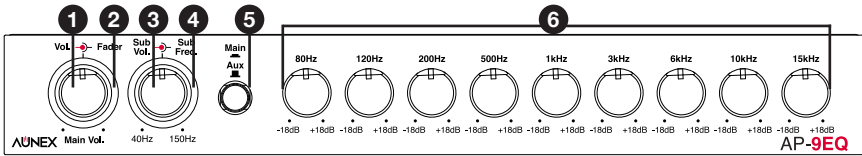
The AP-9EQ was designed to be installed in or near the dashboard of most vehicles. The front panel was designed so that the equalizer would be mounted flush to your vehicles' dash. There are dash kits from many brands that allows for the equalizer to be mounted alongside your headunit. Check with your Authorized Aunex Dealer for additional information and options.

Other popular mounting options are under the dashboard or in your glove compartment. For these methods, you will use the supplied mounting brackets as shown below. Make sure there are no items behind the area where the screws will be driven.

For optimum sound quality, it is highly recommended that you purchase Aunex wiring accessories as they are designed to give your equalizer and amplifiers the high-quality signal it needs to operate at peak performance levels. Aunex has everything from RCA cables and power wire to speaker wire and battery connectors.

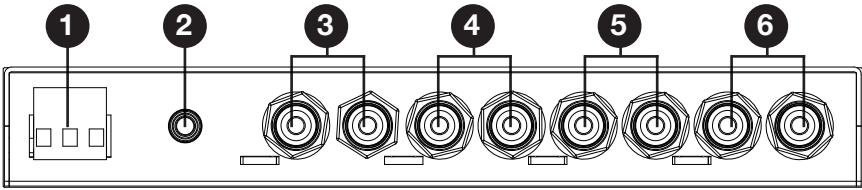


## Front Panel Controls



- 1. Main Volume:** This inner knob controls the volume level of your Front, Rear and Subwoofer outputs. It is recommended that you set your radio volume at the desired listening level and make your sound adjustments from your equalizer.
- 2. Fader:** This outer knob on the Main Volume Control will allow you to fade the signal level between your Front and Rear outputs. This will allow you to have Front and Rear fading capabilities with only one pair of inputs.
- 3. Subwoofer Volume:** This inner knob controls the volume level of your Subwoofer Outputs. The Main Volume Knob will also decrease the volume of your subwoofer output but will not increase the output of the subwoofer(s) volume pass where the Subwoofer Volume Knob is set to.
- 4. Subwoofer Frequency:** This outer knob allows you to select the center frequency range of your subwoofer output from 40Hz to 150Hz.
- 5. Dual Input Selector:** This button allows you to select the input signal from either your main Head Unit or Aux Input.
- 6. Equalizer Knobs:** These 9 knobs allow you to control 9 bands of equalizations (Bass) 80Hz, 120Hz, (Upper Bass to Lower Midrange) 200Hz, 500Hz, (Midrange) 1kHz, (Upper Midrange) 3kHz, (Presence / Sibillance Register) 6kHz, (Brilliance / Sparkle Register) 10kHz and (Open Air) 15kHz with a 18dB of defeat or boost.

## Rear Panel Controls



**1. Power Connector:** This connector has inputs for Ground, Remote and Power.

**a. Ground:** Use the same gauge wire that is being used for the Power connection and run your ground wire to this negative terminal. Good ground points are from your battery, a ground buss or a verified ground location that is clean. This will minimize the possibility of noise induced into the system. (Factory head unit ground is not recommended as it can induce unwanted noise.)

**b. Remote:** Use a 22 to 18 Gauge wire from your head unit's remote turn-on (+12VDC Switched) and run it to remote terminal.

**c. Power:** Use the supplied in-line fuse and connect it to a constant positive +12 volt source. Use the same gauge wire that is used for the ground; preferably 18 Gauge or larger and run it to the +12 Volt terminal.

**2. Auxiliary Input:** This rear 3.5mm input jack allows you to connect your phone or portable audio player directly to your equalizer. Be sure to select Aux Input mode when in use from the front panel button.

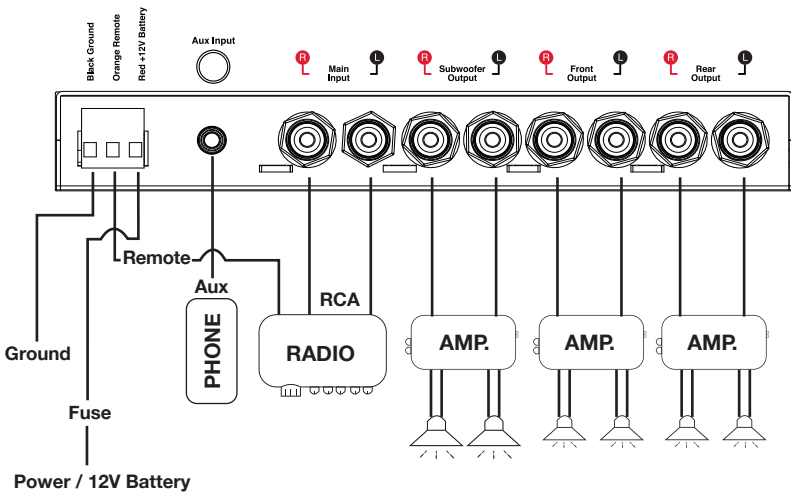
**Low Level RCA Connections:** Aunex recommends using high quality RCA Interconnects such as the Aunex AP RCA and AE RCA series. Consult with your Authorized Aunex Dealer to see what cable and length works best for your installation. (Note: Avoid crossing your power and wire ground with your RCA cables. This will help prevent noise interference.)

**3. Main:** Use this pair of inputs to connect your main source / headunit.

## Rear Panel Controls Continued

- 4. Subwoofer:** Use this pair of outputs to connect to your subwoofer amplifier or subwoofer channels of your amplifier.
- 5. Front:** Use this pair of outputs to connect to your front amplifier or front channels of your amplifier.
- 6. Rear:** Use this pair of outputs to connect to your rear amplifier or rear channels of your amplifier.

## Installation Diagram



The above example illustrates the most common use of the AP-9EQ utilizing 3 amplifiers and a headunit.



## Equalization Adjustments

Tuning the 9 Bands of equalization is set by your listening preference as different music genre are produced with different quality and different equalizations. The AP-9EQ was designed to help you compensate these recording differences by allowing you to fine tune your system for your listening enjoyment.

The 9 Bands of equalization does not affect your subwoofer channel as your subwoofer channel already has its own independent frequency range and volume knob. Instead the equalization bands will only affect the Front and Rear Outputs.

- **Bass (80Hz Centered):** Use this knob sparingly as most coaxials speakers and components cannot handle 18dB of boost. However, in some music you will find that turning up this knob will enhance the low frequency output.
- **Upper Bass (120Hz Centered):** Use this knob to control frequencies that are above subwoofer bass and below midrange which is also called low order harmonics. This range is normally associated with Male vocals, brass instruments.
- **Upper Bass (200Hz Centered):** Use this knob to control frequencies that are associated lower end of vocals, deeper notes from synthesizers, low brass and piano.
- **Lower Midrange (500Hz Centered):** Use this knob to control the lower midrange frequencies. Adding too much boost in this region makes things sound muddy and congested. Not adding enough boost in this region can make sound seem thin and weak.
- **Midrange (1kHz Centered):** Use this knob to control the midrange frequencies. Adding volume here should be used sparingly as too much can give things a metallic sound and can wear down on your ears quickly if raised too much.
- **Upper Midrange (3kHz Centered):** Use this knob to control the upper midrange frequencies. Adding or reducing here can raise or lower the snap of higher instrumentation quickly such as acoustic and electric guitar and piano.

## Equalization Adjustments Continued

- **Presence / Sibilance Register (6kHz Centered):** Use this knob to control what is referred to as the presence zone and includes the highest range of pitches produced by most natural instruments. Boosting this range can make the music sound more forward. Reducing this range can open the sound and push instruments away for more depth.
- **Brilliance / Sparkle Register (10kHz Centered):** Use this knob to increase or decrease the vibrancy and clarity of this frequency region. The sound of cymbal floats around this region.
- **Open Air (15kHz Centered):** Use this knob to control the higher overtones of instrumentation and synth effects from electronic music. Boosting this region too much can make things start to sound synthetic.

## Technical Specifications

Total Outputs	3
Total Inputs	2
Output Voltage	9 Volts Maximum
Frequency Response	10Hz – 60kHz
9 Band Eq. Center Freq.	80Hz, 120Hz, 200Hz, 500Hz, 1kHz, 3kHz, 6kHz, 10kHz, 15kHz
Defeat / Boost	-18dB / +18dB
Variable Sub. Freq.	40Hz – 150Hz
THD + Noise	< 0.2%
S/N Ratio A-Weighted	> 120dB
Channel Separation	87dB @ 1kHz
Input Sensitivity	250mV – 10V
Input Impedance	10.2k Ohms
Operating Voltage	9 – 18 Volts DC
Fuse Requirement	2A (Included)
Dimensions (H x W x D)	1.0 x 7.0 x 4.2
Inches / MM	25 x 179 x 106

**\*Due to continuous product improvements; specifications and features are subject to change without notice. Please visit [www.aunexusa.com](http://www.aunexusa.com) for the most current information.**

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## Troubleshooting

Problem	Solution
Equalizer does not work; no LED's on	1. Check to see if Power, Remote and Ground is connected to the equalizer
	2. Check Power and Remote Turn-on lead for proper +12 Voltage
Equalizer powers up; no sound	1. Check to see if Power, Remote and Ground is connected to the equalizer
	2. Check Power and Remote Turn-on lead for proper voltage
	3. Center the Fader knob
	4. Push the source button on the front panel to make sure you have selected the correct input mode
Hissing noise from speakers	1. Readjust your amplifiers gains to a lower voltage setting
	2. Readjust your source unit volume
	3. Make sure your RCA's is routed away from your Power and Ground connections (Eq and Amplifiers)
Distorted sound from speakers	1. Readjust your amplifiers gains to a lower voltage setting
	2. Readjust your source unit volume
	3. Readjust your equalization knobs

## California Prop 65 Warning

California's Proposition 65 (Prop 65) entitles consumers in California to special warnings for products that contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm if consumers are exposed to such chemicals above certain threshold levels.

While this law is only for California and Aunex sells products to consumers in California, Aunex is required to display this warning.

	<p>Warning: This product can expose you to chemicals which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information visit <a href="http://www.p65warnings.ca.gov">www.p65warnings.ca.gov</a>.</p>
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## Warranty

### Limited Warranty – Electronic Processors

Aunex, Inc. warrants this product to be free of defects in materials and workmanship for a period of 2 years from the original purchase date. This warranty is non-transferrable and applies only to the original purchaser from an Authorized Aunex Dealer. Should service be necessary within the warranty period, Aunex will at its discretion repair or replace the defective unit with a new or remanufactured product at no charge. Damage caused by misuse, abuse, accidental damage, product modification, failure to follow installation instructions, unauthorized repairs will not be covered under warranty. This warranty does not cover incidental or consequential damages and does not cover the cost of having the unit removed or reinstalled. Cosmetic damages by accident or normal wear and tear are not covered under warranty. Subsequent damage to other component will be not covered.

## Warranty Continued

Warranty will be voided if the product's serial number has been removed or defaced. Any applicable implied warranties are limited in duration to a period of the express warranty as provided in this manual beginning with the date of the original purchase and no warranties whether express or implied shall apply to this product thereafter. Some states do not allow limitation on implied warranties; therefore, these exclusions may not apply to you. This warranty gives you specific legal rights; however, you may have other rights that vary from state to state.

All warranty returns should be sent to Aunex freight prepaid and must be accompanied by proof of purchase; a copy of the purchase sales receipt. All returns whether sent by the Dealer of purchase or directly from the consumers must have a valid RMA number (Return Merchandise Authorization). Returns without a valid RMA number will be refused. The RMA number must be clearly written on the outside of your return package. Non-defective units will be returned to sender freight collect. Customers are responsible for shipping charges and insurance in sending products back to Aunex. Freight damage on returns is not covered under warranty so be sure to package your return in the original box or packaged securely in another box to prevent possible freight damage. Warranty expiration on items without proof of purchase will be determined from the manufacturing date code.

Products purchased outside of the United States of America are covered by that country's distributor and not by Aunex, Inc. For Service Information in the U.S.A. and to obtain a Return Merchandise Authorization number (RMA) please call Aunex at (909) 589-5010.

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