








INSTRUCTION MANUAL

P500A

500W High Efficiency Power Amplifier

 <div style="background-color: black; color: white; padding: 5px; text-align: center; font-weight: bold; font-size: 1.2em;">CAUTION</div> <div style="text-align: center; font-size: 0.8em;">RISK OF ELECTRIC SHOCK, DO NOT OPEN!</div> 
 <p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT OPEN COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>

	<p>WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE UNITS NOT SPECIFICALLY DESIGNED FOR OUTDOOR USE TO RAIN OR MOISTURE.</p>
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	<p>WARNING: REMOVAL OF THE COVER SHOULD ONLY BE PERFORMED BY QUALIFIED SERVICE PERSONNEL - NOT USER SERVICEABLE. THE UNIT SHOULD ALWAYS BE UNPLUGGED BEFORE REMOVING THE COVER, AND REMAIN UNPLUGGED WHILE THE COVER IS REMOVED.</p>
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PRECAUTIONS

1. Unpacking

After removing the amplifier from the carton, inspect for any exterior damage to the unit. If damage is noted, notify the carrier at once so that a claim can be justified. Save all packing material. This is important when the claim is processed.

2. Ventilation

To offset heat generated by the unit, it is necessary to provide ample ventilation around the unit. Avoid blocking or impeding the ventilation holes on the unit. To prevent unnecessary problems, install the unit in a place free from any vibrations, direct sunlight, humidity or dust circulation.

3. Prevent liquids or other materials to enter cabinet

If the unit gets wet or any foreign material enters the amplifier cabinet, immediately disconnect the AC power cord and consult your dealer or qualified technician.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions completely.
2. Keep these instructions for future reference.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block ventilation openings. Install in accordance with instructions.
8. Do not install on or near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade and the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and where connected to the apparatus.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus.
When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
16. **WARNING** – To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. **CAUTION** – Use of any controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



Thank You!

We at Speco Technologies thank you for your purchase of our P500A power amplifier. The P500A is the first in Speco Technologies next generation of digital, class D, high-efficiency power amplifiers.

With 500W of power, the P500A is an economical way to provide power to large numbers or high-wattage speakers. Class D technology allows an amplifier to generate high levels of speaker power while generating minimal heat and weighing a fraction of traditional amplifiers. The P500A has been optimized for seamless performance with Speco Technologies' new PBM-A series of amplifiers.

Please review this checklist of components to make sure you received all items with your amplifier:

Inside the box (P500A)

- One amplifier
- One product manual
- One audio input screw connector
- One audio output screw connector
- AC Power Cord

Please make sure you have all accessories and your box and unit did not suffer any noticeable damage during transit prior to connecting your amplifier.

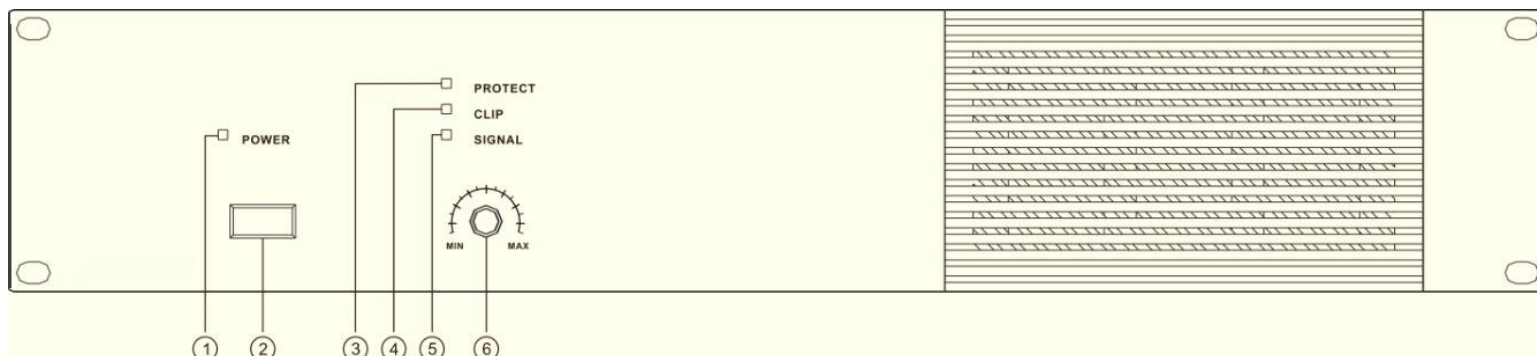
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SECTION 1: FEATURES AND SPECIFICATIONS

- 500W RMS/1000W Max Power
- AC 110V-120V, 50/60Hz
- Power Consumption: <720W
- Frequency Response: 70Hz~18kHz
- Input sensitivity: 1.2V
- Input impedance: 20K Ohm
- Signal to noise ration: >90dB
- Non-linear distortion: <0.1% (1kHz, 1/3 nominal output power)
- Operating conditions: 95% RH, 0-104°F (with no condensation)
- Storage temperature: 14°F~130°F
- Auxiliary inputs: 1 XLR and 1 Screw Terminal (only one can be used)
- Line Outputs: 1 XLR
- Auto-detecting 70V or 8 Ohm speaker output
- Master volume control

SECTION 2: Controls and Connections

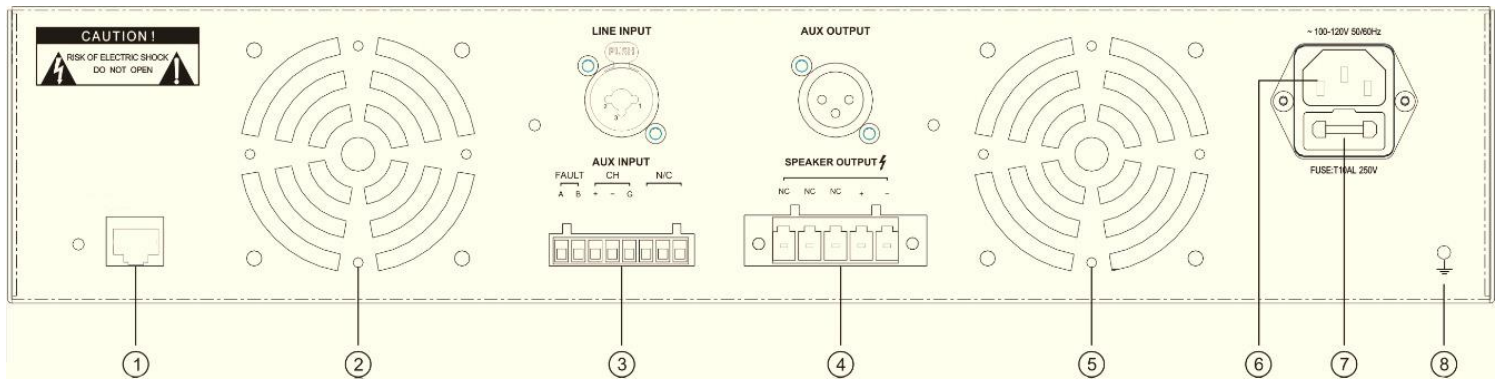
FRONT PANEL



- 1) Power indicator light:** Light is green when power is on and the P500A is functioning normally
- 2) Power switch:** Press to turn unit power on and off
- 3) Protection indicator light:** In the rare event the P500A overheats, experiences over-current, over-voltage or under-voltage, the unit will enter protection mode. If this happens, this indicator will turn yellow. *Disconnect power and determine the cause of the fault prior to re-powering.*
- 4) Peak clipping indicator light:** if the input signal exceeds the rated peak value, this indicator will turn red. *Operating the amplifier at sustained peak clipping can damage your unit and voids the warranty.*
- 5) Signal indicator light:** This indicator illuminates green and fluctuates depending on the intensity of the signal. If the light is off, there is no input signal.
- 6) Master volume control knob:** Turn left to decrease volume, and turn right to increase volume.

Section 2: Controls and Connections

REAR PANEL



- 1) For factory diagnostics only, no user functions.
- 2) **Cooling fan:** *It's very important to never block, cover or impede these vents*
- 3) **Inputs:**
 - a. LINE INPUT: XLR Balanced Input
 - b. AUX INPUT: Screw terminal balanced input
 - i. Fault: If a fault occurs, the amp will enter protection mode and ports A & B experience a short circuit
 - ii. CH:
 1. + is a balanced positive input
 2. - is a balanced negative input
 3. G is for grounding. Connect to the "-" port if the input is unbalanced.
- 4) **Audio output ports:**
 - a. AUX OUTPUT: XLR balanced output
 - b. SPEAKER OUTPUT: Auto-detecting 70V or 8 Ohm speaker output
 - i. + is for the positive speaker connection
 - ii. - is for the negative/common speaker connection
- 5) **Cooling fan:** *It's very important to never block, cover or impede these vents*
- 6) **Main power supply inlet:** Supplies electricity to the main power supply
- 7) **Fuse:** T10AL250V fuse
- 8) **Grounding terminal:** To connect a grounding wire

SECTION 3: REFERENCE INFORMATION

GENERAL

This amplifier is designed only for use with a amplified or preamplified mixer unit as a way to significantly boost speaker power in any given installation. This amplifier is not designed to be used by itself and has no source or microphone inputs or controls.

SPEAKER CONNECTION

The rear panel of the amplifier contains a phoenix terminal connector to connect your speakers. The amplifier is designed to handle either 70V or 8 Ohm speakers without separate outputs or toggles. **It is important to use only one kind of speaker at any given time. Mixing 70V and 8 Ohm speakers can damage the amplifier and will affect the sound quality of the installation.** The impedance or the voltage must be properly maintained during installation. Consult a qualified technician if there is any uncertainty how to do so.

INDICATORS

OVERHEATING PROTECTION

If the internal temperature of the P500A reached 113°F/45°C, the cooling fan turns on. When the temperature falls below 104°F/40°C, the fan will shut off.

If the temperature exceeds 167°F/75°C, the power supply will shut down to prevent overheating, and a fault will be signaled. When the temperature returns to safe levels (under 158°F/70°C), the P500A will resume functioning.

OVERLOAD, SHORT CIRCUIT PROTECTION AND FAULT DETECTION

To protect the unit from short circuits and circuit overloads, the main power supply of the P500A can detect power failures and overheating. If the P500A power supply detects a circuit overload, or if a short circuit occurs, the unit will automatically shut down. The unit will remain in protection and will signal a fault until the problem is fixed. If a fault is detected, the PROTECT indicator on the front panel will illuminate.

INSTALLATION

Please read and follow the following safety suggestions when installing the amplifier:

- 1) The use of a high-grade, high-transmission capacity speaker cable is strongly recommended. The longer the cable, the thicker it should be to retain transmitted audio quality. Select the appropriate audio cable for your installation situation and environment.
- 2) When connecting the grounding, main/backup power, audio input and audio output cables, make sure the power is turned off.
- 3) Plug cables into the correct ports, and if applicable, tighten the cable terminal screws.
- 4) Power and data wires must be separated and not be wrapped in the same cable's insulation.
- 5) Keeping the power and data cables separate helps to avoid signal interference.
- 6) Do not connect the grounding input cable with the grounding output cable as this action causes a short circuit to occur.
- 7) Make sure all cables are connected properly before turning the unit on. Pay particular attention that you are only using one of the audio inputs, and configure the output signal level appropriately as this can save electricity.



Speco Technologies is constantly developing and improving products.

We reserve the right to modify product design and specifications without notice and without incurring any obligation.

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