



PA PUBLIC ANNOUNCEMENT AMPLIFIER

User's Manual



CAUTION
READ
INSTRUCTIONS
BEFORE OPERATING

Contact Information
support@singeasy.com
<https://singeasy.com>

IMPORTANT SAFETY INFORMATION

WARNING FOR YOUR PROTECTION READ THE FOLLOWING:

KEEP THESE INSTRUCTIONS
HEED ALL WARNINGS
FOLLOW ALL INSTRUCTIONS

The apparatus shall not be exposed to dripping or splashing liquid and no object filled with liquid, such as vases, shall be placed on the apparatus.

CLEAN ONLY WITH A DRY CLOTH.

DO NOT BLOCK ANY OF THE VENTILATION OPENINGS. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

DO NOT INSTALL NEAR ANY HEAT SOURCES SUCH AS RADIATORS, HEAT REGISTERS, STOVES, OR OTHER APPARATUS (INCLUDING AMPLIFIERS) THAT PRODUCE HEAT.

ONLY USE ATTACHMENTS/ACCESSORIES SPECIFIED BY THE MANUFACTURER.

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME.

Do not defeat the safety 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 or third prong are provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Use only with the cart stand, tripod bracket, or table specified by the manufacture, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



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.

POWER ON/OFF SWITCH: If the equipment has a Power switch, the Power switch used in this piece of equipment DOES NOT break the connection from the mains.

MAINS DISCONNECT: The plug shall remain readily operable. For rackmount or installation where plug is not accessible, an all-pole mains switch with a contact separation of at least 3 mm in each pole shall be incorporated into the electrical installation of the rack or building.

FOR UNITS EQUIPPED WITH EXTERNALLY ACCESSIBLE FUSE RECEPTACLE:
Replace fuse with same type and rating only.

MULTIPLE-INPUT VOLTAGE: This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. Connect this equipment only to the power source indicated on the equipment rear panel. To reduce the risk of fire or electric shock, refer servicing to qualified service personnel or equivalent.

If connected to 240V supply, a suitable CSA/UL certified power cord shall be used for this supply.



CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN



ATTENTION: RISQUE DE CHOC ELECTRIQUE - NE PAS OUVRIR

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE

The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the owner's manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

IMPORTANT SAFETY INFORMATION

SAFETY INSTRUCTIONS

NOTICE FOR CUSTOMERS IF YOUR UNIT IS EQUIPPED WITH A POWER CORD.

WARNING: THIS APPLIANCE SHALL BE CONNECTED TO A MAINS SOCKET OUTLET WITH A PROTECTIVE EARTHING CONNECTION.

The cores in the mains lead are coloured in accordance with the following code:

GREEN and YELLOW - Earth BLUE - Neutral BROWN – Live

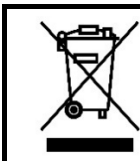
As colours of the cores in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

- The core which is coloured green and yellow must be connected to the terminal in the plug marked with the letter E, or with the earth symbol, or coloured green, or green and yellow.
- The core which is coloured blue must be connected to the terminal marked N or coloured black.
- The core which is coloured brown must be connected to the terminal marked L or coloured red.

This equipment may require the use of a different line cord, attachment plug, or both, depending on the available power source at installation. If the attachment plug needs to be changed, refer servicing to qualified service personnel who should refer to the table below. The green/yellow wire shall be connected directly to the units chassis.

CONDUCTOR		WIRE COLOR	
		Normal	Alt
L	LIVE	BROWN	BLACK
N	NEUTRAL	BLUE	WHITE
E	EARTH GND	GREEN/YELLOW	GREEN

WARNING: If the ground is defeated, certain fault conditions in the unit or in the system to which it is connected can result in full line voltage between chassis and earth ground. Severe injury or death can then result if the chassis and earth ground are touched simultaneously



If you want to dispose this product, do not mix it with general household waste. There is a separate collection system for used electronic products in accordance with legislation that requires proper treatment, recovery and recycling

Private household in the 25 member states of the EU, in Switzerland and Norway many return their used electronic products free of charge to designated collection facilities or to a retailer (if you purchase a similar new one).

For countries not mentioned above, please contact your local authorities for a correct method of disposal. By doing so you will ensure that your disposed product undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health.

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1.1 Welcome

Congratulations on your purchase of the Sing Easy PA Series. The PA Series is a 2U mixer public announcement amplifier gives your entertainment or PA system a boost! Provides convenient 3 microphone inputs, 2 AUX inputs and speaker control with 100V, 70V, 16 ohm, 8 ohm, and 4 ohm speaker outputs, supporting speakers with 4 to 16 ohm impedance. The PA Series amplifier brings more than just basic functionality, reliability and great value to the range for a variety of commercial and industrial installations. Volume control over MIC1 to MIC3, AUX1 and AUX2, master & overall treble/bass controls are provided.

Features

- 2U aluminium oxide black brushed panel
- Two analog auxiliary inputs
- Three microphone inputs
- Master volume and independent input channel volume control
- Independently adjustable treble and bass
- Microphone override attenuation
- Five-unit LED level display
- 100V, 70V, 4Ω, 8Ω, and 16Ω compatibility
- Double-sided SMT circuit

Package Contents

- Sing Easy PA Public Announcement Amplifier
- Owner's Manual
- Power Cable
- Infrared Remote Controller

How to Use This Manual

This manual provides you with the necessary information to safely and correctly setup and operate your amplifier. It does not cover every aspect of installation, setup or operation that might occur under every condition. For additional information, please contact technical support, your system installer or retailer.

We strongly recommend you read all instructions, warnings and cautions contained in this manual. Also, for your protection, please save your bill of sale — it's your official proof of purchase.

1.2 Contact Info

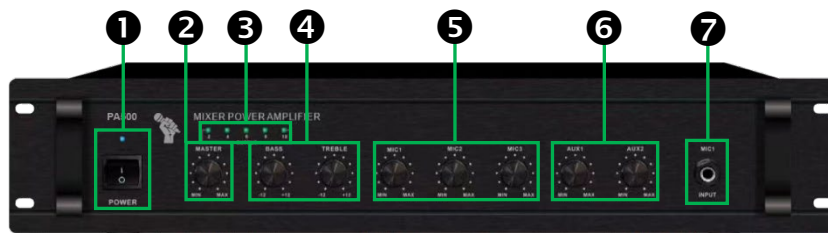
On the World Wide Web:

www.singeasy.com

Professional Contacts, Outside the US:

Contact the Sing Easy Distributor in your area. A complete list of Sing Easy international distributors is provided on our website @ www.singeasy.com

2.1 Front Panel Features

**1 Power Switch & Power LED**

- Amplifier is on when the switch is in the UP position.

2 Master Level Control

- Rotate to adjust the master volume.

3 Five-Unit LED Level Display**4 Bass and Treble EQ**

- Rotate to adjust the bass and treble.

5 MIC 1, 2 and 3 Level Control

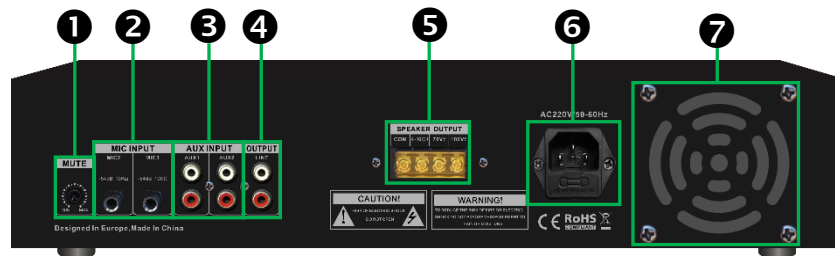
- Rotate to adjust the mic volume.

6 AUX 1 and 2 Level Control

- Rotate to adjust the AUX volume.

7 MIC 1 Input

2.4 Back Panel Features



- 1 Microphone Override Priority Level Adjustment Knob**
- When MIC 1 is activated, MIC 2, MIC 3, AUX1 and AUX2 signals will be attenuated by 0 to 30 dB according to the mute adjustment.

- 2 MIC 1 and 2 Inputs**

- 3 Analog AUX1 and AUX2 Inputs**

- 4 PRE-Output**

- 5 Output Terminal**
- Independent 100V, 70V and 4Ω to 16Ω output terminals
Connect to the bare wire from your speakers to one of the output terminal types.
Note: Do not use more than one type of output terminal, either use 100V or 70V or 4Ω to 16Ω, the COM is the common ground for 100V, 70V and 4Ω to 16Ω output.

- 6 IEC Power Connector & Fuse Holder**

- 7 Cooling Vents**

2.3 Protection Features

PA Series amplifiers provides extensive protection including output current limiting, thermal protection, and circuit breaker.

1. Output Current Limiting

Output Current Limiting circuitry protects the amplifier output stage for damage caused by short-circuit loads

2. Thermal Protection

The Thermal Protection circuit will activate if the internal heatsink temperature exceeds proper operating temperatures (85 °C or 185 °F).

When the heatsink temperature has fallen to a safe level (75°C to 80°C or 167°F to 176°F), this protection circuit will automatically be reset. Principle causes of thermal protection are:

- 1) Inadequate ventilation of the equipment rack
- 2) Incorrect load impedance
- 3) Output cable short circuit
- 4) Blocked air vent
- 5) Heatsinks in need of cleaning
- 6) Cooling fan failure.

The cause of your amplifier's thermal protection state should be determined and corrected as soon as possible. Without correction, the Thermal Protection circuit will typically reactivate.

3. Fuse Protection

The high-voltage power supplies of your Sing Easy amplifier are protected by a fuse.

3.1 Get Started

Choose Output Wire and Connectors

Sing Easy recommends using professionally wired, high quality, two-conductor, heavy gauge speaker wire and connectors.

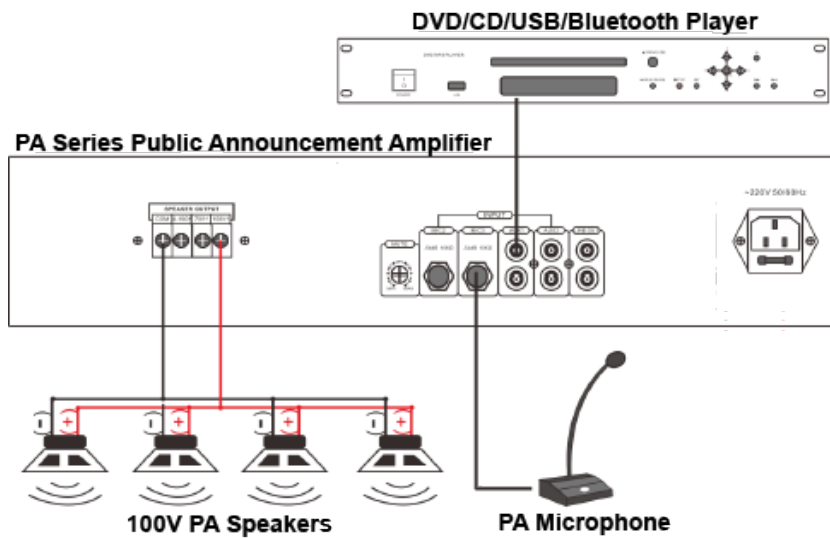
You may connect the bare wire from your speaker to the output terminal to prevent the possibility of short-circuits, wrap or otherwise insulate exposed loudspeaker cable connectors.

Using the guidelines below, select the appropriate size of wire based on the distance from amplifier to speaker.

Distance	Wire Size
up to 7.5m or 25 ft.	16 AWG
7.6 to 12m or 26-40 ft.	14 AWG
12.2 to 18m or 41-60 ft.	12 AWG
18.1m to 30m or 61-100 ft.	10 AWG
31.1 to 45m or 101-150 ft.	8 AWG
45.1 to 76m or 151-250 ft.	6 AWG

CAUTION: Never use shielded cable for output wiring.

3.2 Connect the PA Series



1. Connect the speakers, microphone and music player to the PA Series,
2. Power on all audio output devices then power on the PA Series.
3. While playing back audio, slowly increase the volume of the PA Series to the desired listening level.
4. When powering off the system, remember to first power off the PA Series to avoid speakers clipping.

3.3 Connect to AC Mains

Connect the PA Series to the AC mains power source (power outlet) with the supplied AC power cordset. First, connect the IEC end of the cordset to the IEC connector on the PA Series; then, plug the other end of the cordset to the AC mains.



WARNING: The third prong of this connector (ground) is an important safety feature. Do not attempt to disable this ground connection by using an adapter or other methods.

Amplifiers don't create energy. The AC mains voltage and current must be sufficient to deliver the power you expect. You must operate your amplifier from an AC mains power source with not more than a 10% variation above or a 15% variation below the amplifier's specified line voltage and within the specified frequency requirements (indicated on the amplifier's back panel label). If you are unsure of the output voltage of your AC mains, please consult your electrician.

3.4 Protecting Your Speaker

It's wise to avoid clipping the amplifier signal. Not only does clipping sound bad, but it can also damage high frequency drivers. To prevent clipping, insert a limiter between your mixer output and amplifier input.

That way, no matter how strong a signal your mixer produces, the amplifier will not clip. Set the limiter threshold so that mixer signals above 0 on the mixer meters do not quite drive the amplifier into clipping.

Also, avoid sending strong subsonic signals to the amplifier. High-level, low-frequency signals from breath pops or dropped microphones can blow out drivers. To prevent subsonic signals, insert a high pass filter between mixer output and amplifier input (or between mixer and limiter). Alternatively, switch in high pass filters at your mixer. Set the filter to as high a frequency as possible that does not affect your program. For example, try 35 Hz for music and 75 Hz for speech. On each mixer input channel, set the filter frequency just below the lowest fundamental frequency of that channel's instrument.

3.5 Startup Procedure

Use the following procedure when first turning on your amplifier:

1. Turn down the level of your audio source.
2. Turn down the level controls of the amplifier.
3. Turn on the "Power" switch. The Power indicator should glow.
4. Turn up the level of your audio source to an optimum level.
5. Turn up the Level controls on the amplifier until the desired loudness or power level is achieved.
6. Turn down the level of your audio source to its normal range.

If you ever need to make any wiring or installation changes, don't forget to disconnect the power cord.

4.6 Precautions

Your amplifier is protected from internal and external faults, but you should still take the following precautions for optimum performance and safety:

1. Before use, your amplifier first must be configured for proper operation, including input and output wiring hookup. Improper wiring can result in serious operating difficulties.
2. Use care when making connections, selecting signal sources and controlling the output level. The load you save may be your own!
3. Do not short the ground lead of an output cable to the input signal ground. This may form a ground loop and cause oscillations.
4. **WARNING:** Never connect the output to a power supply, battery or power main. Electrical shock may result.
5. Tampering with the circuitry or making unauthorized circuit changes may be hazardous and invalidates all agency listings.
6. Do not operate the amplifier with the red Clip LEDs constantly flashing.
7. Do not overdrive the mixer, which will cause clipped signal to be sent to the amplifier. Such signals will be reproduced with extreme accuracy, and loudspeaker damage may result.
8. Do not operate the amplifier with less than the rated load impedance. Due to the amplifier's output protection, such a configuration may result in premature clipping and speaker damage.

Remember: Sing Easy is not liable for damage that results from overdriving other system components.

4.1 F.A.Q.

Before submitting the device for repair, please check the below frequently asked questions.

FAULT	REASON	SOLUTION
No sound output and the display does not light up	The power plug is not plugged in properly	Connect the power plug correctly and ensure good contact
	AC 220V fuse blown	Unplug the power cable, replace the fuse with the same specification
No sound output but display is lighted up	The output speaker signal is not connected properly	Check the speaker's connection, reconnect and ensure good contact
	Main volume set to minimum	Turn up the main volume
	The unit is set to mute	Unmute
Audio can only be listened on one side	No output from the input source	Check the input source, reconnect and ensure good contact
	The speaker cable is not properly connected	Check the speaker cables connection and ensure good contact
	Of one the input signal cable is wrongly inserted or loosen	Check the input cables then reconnect and ensure good contact
	Damaged signal cable	Replace the damaged signal cable, reconnect, and make sure good contact

Note: If the fault can't be resolved, please send the equipment to a nearby dealer for troubleshooting.

5.1 Specifications

	PA350	PA500	PA650
Rated Output	350W	500W	650W
Speaker Outputs	4 to 16 ohm, 70V and 100V		
Frequency Response	60 Hz - 15k Hz (± 3 dB)		
Total Harmonic Distortion	<0.5% at 1kHz, 1/3 of the rated output power		
Signal to Noise Ratio	Line: 85dB / MIC: >72 dB		
Mic Inputs	MIC1, MIC2 and MIC3: 600 ohm 10-15 mV, unbalanced		
AUX Inputs	AUX1 and AUX2: 10k ohm 200-470 mV, unbalanced		
Tone Adjustment Range	Bass: 100 Hz (± 10 dB) and Treble: 12k Hz (± 10 dB)		
Power Protection	8A AC fuse, short circuit and over temperature		
Power Requirements	AC 220V $\pm 10\%$ 50-60Hz		
Power Consumption	485W	675W	875W
Net weight	14Kg	16.5Kg	17.5Kg
Dimensions (W x H x D)	483 x 89 x 366 mm		

Note: The design and specifications are subject to change without notice for improvement.