



POWER SUPPLY

PW 5000

For PM5000 Series Mixing Consoles

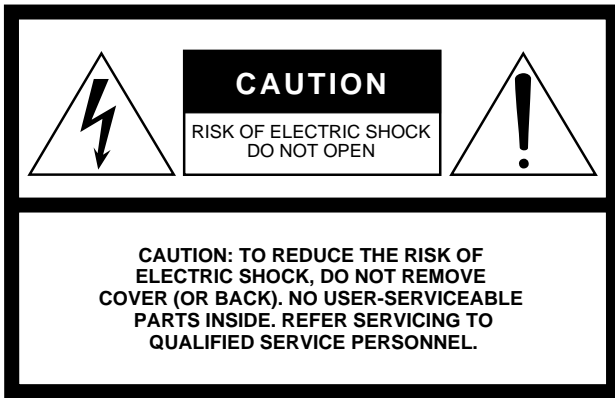
Owner's Manual

Thank you for purchasing a PW5000 Power Supply.

The PW5000 has been specifically designed for use with Yamaha PM5000 Series Mixing Consoles.

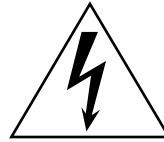
In order to achieve optimum performance from the PW5000, and take full advantage of the features it provides, please read this manual carefully and keep it handy for future reference.

- * The illustrations as shown in this Owner's Manual are for instructional purposes only, and may be different from the ones on your device.
- * The company names and product names in this Owner's Manual are the trademarks or registered trademarks of their respective companies.



The above warning is located on the rear of the unit.

Explanation of Graphical Symbols



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

IMPORTANT SAFETY INSTRUCTIONS

- 1 Read these instructions.
- 2 Keep these instructions.
- 3 Heed all warnings.
- 4 Follow all instructions.
- 5 Do not use this apparatus near water.
- 6 Clean only with dry cloth.
- 7 Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
- 8 Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 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 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 the point where they exit from the apparatus.
- 11 Only use 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.



WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

PRECAUTIONS

PLEASE READ CAREFULLY BEFORE PROCEEDING

* Please keep this manual in a safe place for future reference.



WARNING

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, short-circuiting, damages, fire or other hazards. These precautions include, but are not limited to, the following:

Power supply/Power cord

- Only use the voltage specified as correct for the device. The required voltage is printed on the name plate of the device.
- Do not place the power cord near heat sources such as heaters or radiators, and do not excessively bend or otherwise damage the cord, place heavy objects on it, or place it in a position where anyone could walk on, trip over, or roll anything over it.

Do not open

- Do not open the device or attempt to disassemble the internal parts or modify them in any way. The device contains no user-serviceable parts. If it should appear to be malfunctioning, discontinue use immediately and have it inspected by qualified Yamaha service personnel.

Water warning

- Do not expose the device to rain, use it near water or in damp or wet conditions, or place containers on it containing liquids which might spill into any openings.
- Never insert or remove an electric plug with wet hands.

If you notice any abnormality

- If the power cord or plug becomes frayed or damaged, or if there is a sudden loss of sound during use of the device, or if any unusual smells or smoke should appear to be caused by it, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Yamaha service personnel.
- If this device should be dropped or damaged, immediately turn off the power switch, disconnect the electric plug from the outlet, and have the device inspected by qualified Yamaha service personnel.



CAUTION

Always follow the basic precautions listed below to avoid the possibility of physical injury to you or others, or damage to the device or other property. These precautions include, but are not limited to, the following:

Power supply/Power cord

- Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.
- When removing the electric plug from the device or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.
- Turn the unit ON or OFF using only the front-panel POWER switch. Turning the unit ON or OFF by plugging or unplugging the power cord, using a switch on a power tap, a breaker switch, or similar external means can result in damage.
- Do not turn the POWER switch OFF and ON in rapid succession. Doing so can result in excessive voltages that can cause damage. Wait at least 5 seconds before turning the POWER switch ON after it has been turned OFF.

Location

- When transporting or moving the device, always use two or more people.
- Before moving the device, remove all connected cables.
- Do not expose the device to excessive dust or vibrations, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day) to prevent the possibility of panel disfiguration or damage to the internal components.
- Do not place the device in an unstable position where it might accidentally fall over.
- Do not block the vents. This device has ventilation holes at the front and rear to prevent the internal temperature from rising too high. In particular, do not place the device on its side or upside down, or place it in any poorly-ventilated location, such as a bookcase or closet.
- Do not place the device against a wall or other devices since this can cause inadequate air circulation, and possibly result in the device overheating. Make sure there is adequate space between the device and any surrounding wall or other devices: at least, 15cm behind and 15cm above.
- Do not use the device in the vicinity of a TV, radio, stereo equipment, mobile phone, or other electric devices. Otherwise, the device, TV, or radio may generate noise.

Connections

- Before connecting the device to other devices, turn off the power for all devices. Before turning the power on or off for all devices, set all volume levels to minimum.
- Be sure to connect to a properly grounded power source. A ground screw terminal is provided on the rear panel for safely grounding the device and preventing electrical shock.

Handling caution

- Do not insert your fingers or hand in any gaps or openings on the device (vents etc.).
- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device (vents etc.) If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the device inspected by qualified Yamaha service personnel.
- Do not rest your weight on the device or place heavy objects on it, and avoid use excessive force on the buttons, switches or connectors.

Use the cable supplied with the PM5000 console to connect the PW5000 to the PM5000. When parallel-connecting two PW5000 units use the optional PSL5000 Power Supply Link Cable to connect the second PW5000 to the main PW5000 unit.

This power supply unit cannot be used in place of the PW4000 for the PM4000 and PM3500 series mixing consoles, or in place of the PW1D for the PM1D digital mixing console. The same connectors are used, but with different pin assignments and voltages.

Yamaha cannot be held responsible for damage caused by improper use or modifications to the device, or data that is lost or destroyed.

Always turn the power off when the device is not in use.

The performance of components with moving contacts, such as switches, and connectors, deteriorates over time. Consult qualified Yamaha service personnel about replacing defective components.

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.

2. IMPORTANT:

When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.

3. NOTE:

This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does

not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

Relocate either this product or the device that is being affected by the interference.

Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA90620

The above statements apply ONLY to those products distributed by Yamaha Corporation of America or its subsidiaries.

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

(class B)


IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

| | |
|------------------|-----------|
| GREEN-AND-YELLOW | : EARTH |
| BLUE | : NEUTRAL |
| BROWN | : LIVE |

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

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or colored GREEN or GREEN-and-YELLOW.

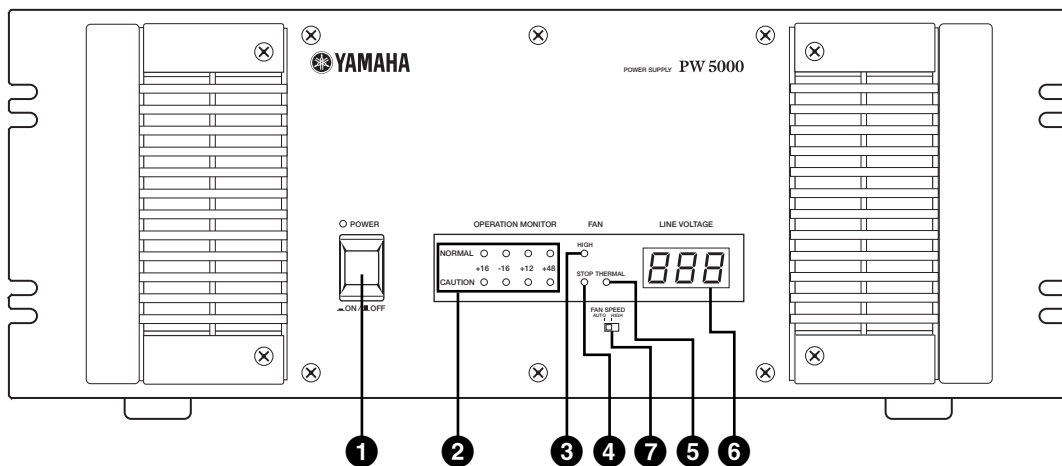
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

• This applies only to products distributed by Yamaha-Kemble Music (U.K.) Ltd. (3 wires)

Controls and Connectors

■ Front Panel



❶ POWER ON/OFF Switch

After connecting the PW5000 to the PM5000 console using the cable supplied with the PM5000, and after plugging the PW5000 power cord into an appropriate AC outlet, use this switch to turn power to the PM5000 ON or OFF.

❷ OPERATION MONITOR

Displays the status of the four independent power supply lines to the PM5000. The green NORMAL indicators light when operation is normal. If abnormal operation is detected on any supply line, the red CAUTION indicator for that line will light, and the corresponding supply may shut down. The CAUTION indicator will remain lit even if the supply is shut down. If this happens, note which CAUTION indicator was lit, turn the POWER ON/OFF switch OFF, and contact your Yamaha dealer or maintenance personnel.

❸ HIGH Indicator

This indicator lights when the unit's cooling fan is operating at its highest speed. High-speed operation can be activated by either of the following conditions:

- The FAN SPEED switch is set to HIGH.
- The FAN SPEED switch is set to AUTO and the PW5000's internal temperature exceeds a preset threshold (in this case the THERMAL indicator will also light).

❹ STOP Indicator

This indicator will light if the unit's cooling fan stops operating.

❺ THERMAL Indicator

Lights if the PW5000 internal temperature exceeds a preset threshold. If this occurs it is possible that the unit's cooling efficiency is being adversely affected by the setup location or other external conditions. Check your installation and revise if necessary to allow unimpeded airflow to and from the unit's vents.

❻ LINE VOLTAGE Display

Displays the current AC line voltage. The AC voltage is continuously displayed as long as the PW5000 is plugged into an active AC outlet, regardless of the POWER ON/OFF switch setting.

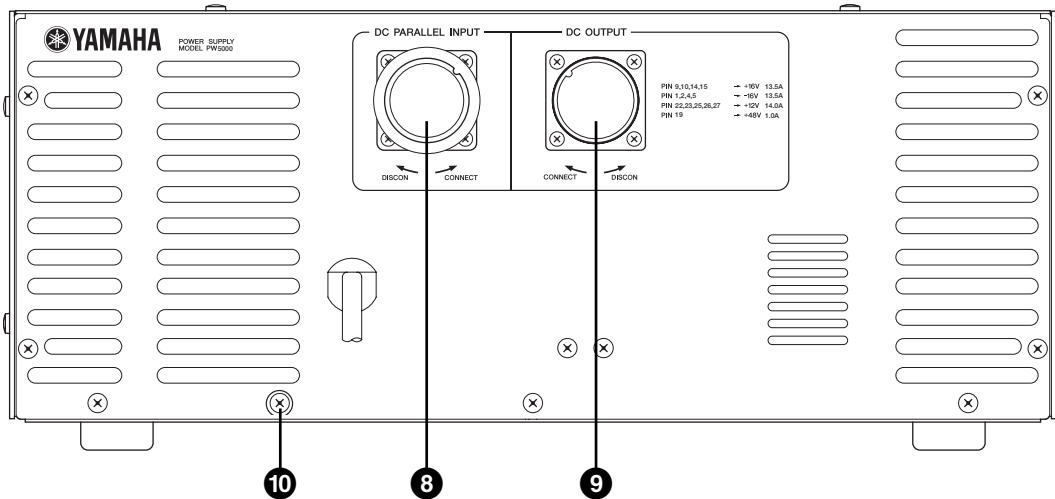
❼ FAN SPEED Switch

Sets the speed or operational mode of the cooling fan. When set to AUTO the speed of the fan will automatically be adjusted in three stages according to the unit's internal temperature. The THERMAL indicator will light when the highest speed is activated. When set to HIGH the fan will operate continuously at the highest speed, regardless of the unit's internal temperature.



Never obstruct the cooling vents located on the front and rear panels of the PW5000.

■ Rear Panel



8 DC PARALLEL INPUT Connector

This connector is used to connect two PW5000 units in parallel. Two PW5000's can be connected in this way to distribute the power load, thus reducing the load on each unit, and to ensure uninterrupted failsafe operation in the event that one unit shuts down.

Use only the optional PSL5000 Power Supply Link Cable for this connection. Rotate the connector ring to the left to connect, or to the right to disconnect.

9 DC OUTPUT Connector

Use this connector to connect the PW5000 to the PM5000 console. When using parallel-connected PW5000 units, this connector connects to the DC PARALLEL INPUT connector on the main PW5000 unit. Always use the cable supplied with the PM5000 console to connect the PW5000 to the console. A second PW5000 should be parallel-connected to the main PW5000 only using the optional PSL5000 Power Supply Link Cable. Rotate the connector ring to the left to connect, or to the right to disconnect.

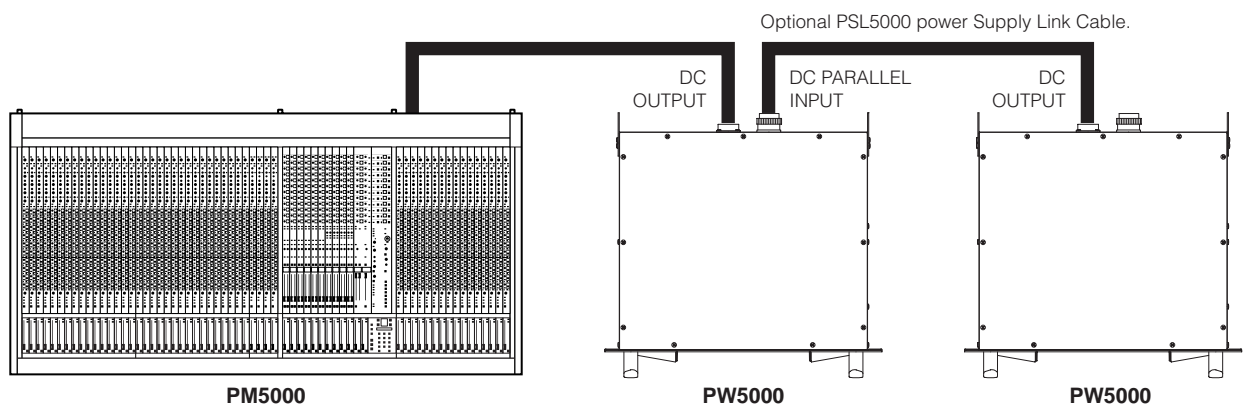
10 EARTH Screw Terminal

For maximum safety be sure to securely attach a confirmed earth line to this terminal. An earth line is also included in the power supply cable, so the unit will be properly earthed if the AC outlet used is earthed. If the AC outlet is not earthed be sure to properly connect the EARTH terminal. Proper earthing not only ensures safety, but it also guarantees minimum noise from hum and interference.

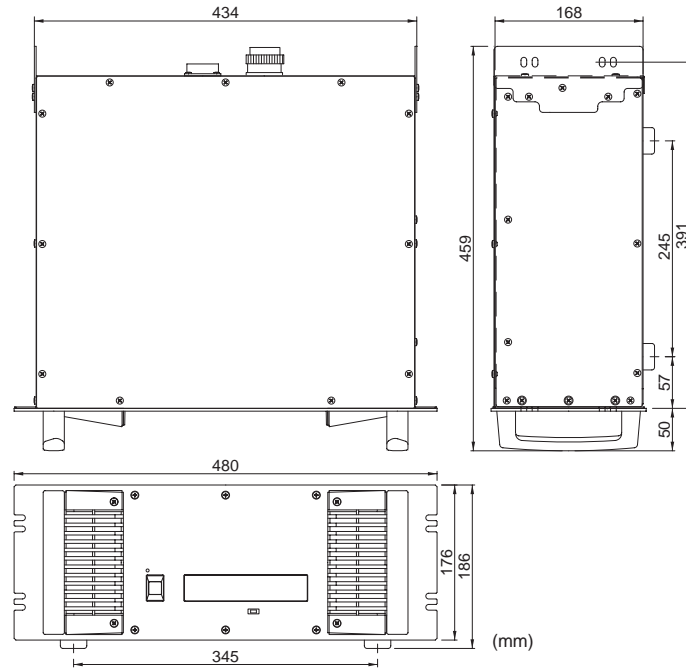


Rack-mounting holes are provided near the rear edges of the side panels. When rack-mounting the PW5000, be sure to use mounting hardware that is the correct size for the rack, and attach securely at both the front and rear ends of the unit.

Parallel-connected PW5000 Power Supplies



■ Dimensions



■ Specifications

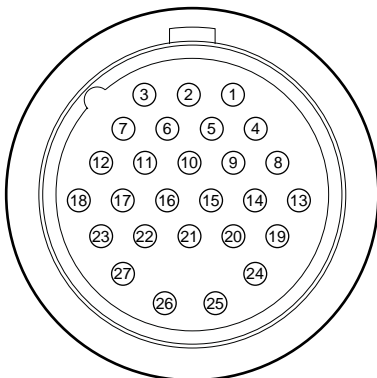
General Specifications

| | |
|----------------------------|---|
| Power Supply | U.S./Canada: 120 V, 60 Hz Australia: 240 V, 50 Hz Other: 230 V, 50 Hz |
| Power Consumption | U.S./Canada: 1100 W, 1250 VA Other: 1100W |
| Dimensions (W x H x D) | 480 mm x 186 mm x 459 mm |
| Weight | 34 kg |
| Cooling Fan Speed Settings | HIGH (continuous operation at max.), AUTO (3-speed automatic) |

Power Supply Cable Pin Assignments

| No. | Function | No. | Function |
|-----|-----------|-----|------------|
| 1 | -16V | 15 | +16V |
| 2 | -16V | 16 | ±16V GND |
| 3 | FRAME GND | 17 | +12V GND |
| 4 | -16V | 18 | +12V GND |
| 5 | -16V | 19 | +48V |
| 6 | ±16V GND | 20 | PW CAUTION |
| 7 | +12V GND | 21 | ±16V GND |
| 8 | REMOTE | 22 | +12V |
| 9 | +16V | 23 | +12V |
| 10 | +16V | 24 | +48V GND |
| 11 | ±16V GND | 25 | +12V |
| 12 | +12V GND | 26 | +12V |
| 13 | REMOTE | 27 | +12V |
| 14 | +16V | | |

Power Connector Pin Diagram (DC OUTPUT)



* DC OUTPUT connector as seen from the rear panel.
DC PARALLEL INPUT pin assignments are flipped horizontally.

Specifications and descriptions in this owner's manual are for information purposes only. Yamaha Corporation reserves the right to change or modify products or specifications at any time without prior notice. Since specifications, equipment, or options may not be the same in every locale, please check with your Yamaha dealer.

European models
Purchaser/User Information specified in EN55103-1 and EN55103-2.
Inrush Current: 55A
Conforms to Environments: E1, E2, E3 and E4

For details of products, please contact your nearest Yamaha representative or the authorized distributor listed below.

Pour plus de détails sur les produits, veuillez-vous adresser à Yamaha ou au distributeur le plus proche de vous figurant dans la liste suivante.

Die Einzelheiten zu Produkten sind bei Ihrer unten aufgeführten Niederlassung und bei Yamaha Vertragshändlern in den jeweiligen Bestimmungsländern erhältlich.

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Yamaha Corporation of America
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