



DIGITAL MIXING SYSTEM

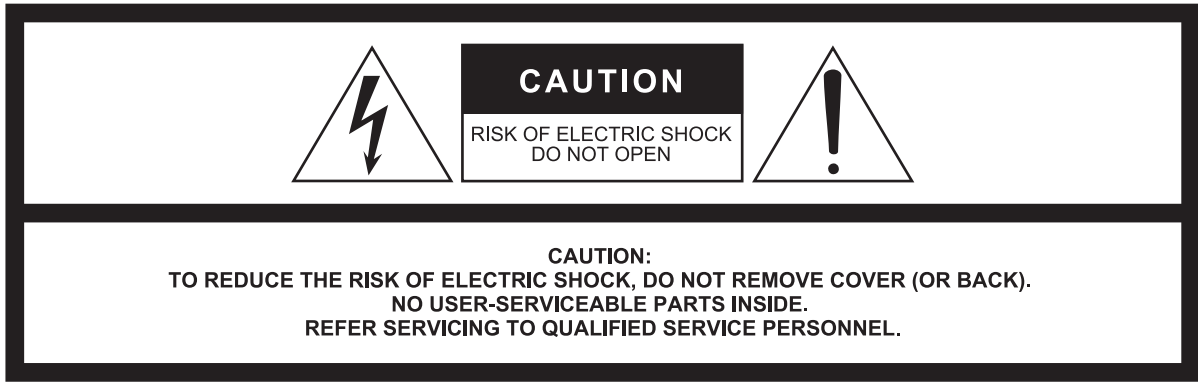
RIVAGE

PM10

I/O RACK

RPio622

Owner's Manual



The above warning is located on the rear of the unit.
L'avertissement ci-dessus est situé sur l'arrière de l'unité.

Explanation of Graphical Symbols Explication des symboles



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.

L'éclair avec une flèche à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'une « tension dangereuse » non isolée à l'intérieur de l'appareil, pouvant être suffisamment élevée pour constituer un risque d'électrocution.



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.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'instructions importantes sur l'emploi ou la maintenance (réparation) de l'appareil dans la documentation fournie.

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.

(UL60065_03)

PRÉCAUTIONS CONCERNANT LA SÉCURITÉ

- 1 Lire ces instructions.
- 2 Conserver ces instructions.
- 3 Tenir compte de tous les avertissements.
- 4 Suivre toutes les instructions.
- 5 Ne pas utiliser ce produit à proximité d'eau.
- 6 Nettoyer uniquement avec un chiffon propre et sec.
- 7 Ne pas bloquer les orifices de ventilation. Installer l'appareil conformément aux instructions du fabricant.
- 8 Ne pas installer l'appareil à proximité d'une source de chaleur comme un radiateur, une bouche de chaleur, un poêle ou tout autre appareil (y compris un amplificateur) produisant de la chaleur.
- 9 Ne pas modifier le système de sécurité de la fiche polarisée ou de la fiche de terre. Une fiche polarisée dispose de deux broches dont une est plus large que l'autre. Une fiche de terre dispose de deux broches et d'une troisième pour le raccordement à la terre. Cette broche plus large ou cette troisième broche est destinée à assurer la sécurité de l'utilisateur. Si la fiche équipant l'appareil n'est pas compatible avec les prises de courant disponibles, faire remplacer les prises par un électricien.
- 10 Acheminer les cordons d'alimentation de sorte qu'ils ne soient pas piétinés ni coincés, en faisant tout spécialement attention aux fiches, prises de courant et au point de sortie de l'appareil.
- 11 Utiliser exclusivement les fixations et accessoires spécifiés par le fabricant.
- 12 Utiliser exclusivement le chariot, le stand, le trépied, le support ou la table recommandés par le fabricant ou vendus avec cet appareil. Si l'appareil est posé sur un chariot, déplacer le chariot avec précaution pour éviter tout risque de chute et de blessure.
- 13 Débrancher l'appareil en cas d'orage ou lorsqu'il doit rester hors service pendant une période prolongée.
- 14 Confier toute réparation à un personnel qualifié. Faire réparer l'appareil s'il a subi tout dommage, par exemple si la fiche ou le cordon d'alimentation est endommagé, si du liquide a coulé ou des objets sont tombés à l'intérieur de l'appareil, si l'appareil a été exposé à la pluie ou à de l'humidité, si l'appareil ne fonctionne pas normalement ou est tombé.



AVERTISSEMENT

POUR RÉDUIRE LES RISQUES D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE, N'EXPOSEZ PAS CET APPAREIL À LA PLUIE OU À L'HUMIDITÉ.

(UL60065_03)

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)

COMPLIANCE INFORMATION STATEMENT (DECLARATION OF CONFORMITY PROCEDURE)

Responsible Party : Yamaha Corporation of America
Address : 6600 Orangethorpe Ave., Buena Park, Calif. 90620
Telephone : 714-522-9011
Type of Equipment : Audio Interface
Model Name : RPio622

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received including interference that may cause undesired operation.

See user manual instructions if interference to radio reception is suspected.

In Finland: Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan.

In Norway: Apparatet må tilkoples jordet stikkontakt.

In Sweden: Apparatens skall anslutas till jordat uttag.

(class I hokuo)

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

(FCC DoC)


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.

(3 wires)

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

- 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.
- Only use the voltage specified as correct for the device. The required voltage is printed on the name plate of the device.
- Use only the supplied power cord/plug.
If you intend to use the device in an area other than in the one you purchased, the included power cord may not be compatible. Please check with your Yamaha dealer.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- When setting up the device, make sure that the AC outlet you are using is easily accessible. If some trouble or malfunction occurs, immediately turn off the power switch and disconnect the plug from the outlet. Even when the power switch is turned off, as long as the power cord is not unplugged from the wall AC outlet, the device will not be disconnected from the power source.
- Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.
- Be sure to connect to an appropriate outlet with a protective grounding connection. Improper grounding can result in electrical shock, damage to the device(s), or even fire.

Do not open

- This device contains no user-serviceable parts. Do not open the device or attempt to disassemble the internal parts or modify them in any way. 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 on it any containers (such as vases, bottles or glasses) containing liquids which might spill into any openings. If any liquid such as water seeps into the device, turn off the power immediately and unplug the power cord from the AC outlet. Then have the device inspected by qualified Yamaha service personnel.
- Never insert or remove an electric plug with wet hands.

Hearing loss

- Do not use speakers for a long period of time at a high or uncomfortable volume level, since this can cause permanent hearing loss. If you experience any hearing loss or ringing in the ears, consult a physician.
- When turning on the AC power in your audio system, always turn on the power amplifier LAST, to avoid hearing loss and speaker damage. When turning the power off, the power amplifier should be turned off FIRST for the same reason.

Fire warning

- Do not place any burning items or open flames near the device, since they may cause a fire.

If you notice any abnormality

- If any of the following problems occur, immediately turn off the power switch and disconnect the electric plug from the outlet.
 - The power cord or plug becomes frayed or damaged.
 - Unusual smells or smoke are emitted.
 - Some object has been dropped into the device.
 - There is a sudden loss of sound during use of the device.
 - Cracks or other visible damage appear on the device.
 Then have the device inspected or repaired 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

- 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.
- To disconnect the device from the mains, unplug both power cords.

Location

- Do not place the device in an unstable position where it might accidentally fall over and cause injuries.
- Do not block the vents. This device has ventilation holes at the front/rear to prevent the internal temperature from becoming too high. In particular, do not place the device on its side or upside down. Inadequate ventilation can result in overheating, possibly causing damage to the device(s), or even fire.
- When attempting to dissipate heat on the device, when installing it:
 - Do not cover it with any cloth.
 - Do not install it on a carpet or rug.
 - Make sure the top surface faces up; do not install on its sides or upside down.
 - Do not use the device in a confined, poorly-ventilated location.

Inadequate ventilation can result in overheating, possibly causing damage to the device(s), or even fire. Make sure that there is adequate space around the device: at least 20 cm above, 10 cm at the sides.

- Do not place the device in a location where it may come into contact with corrosive gases or salt air. Doing so may result in malfunction.
- Avoid being near the device during a disaster, such as an earthquake. Since the device may turn over or fall and cause injury, stay away from the device quickly and move to a safe place.
- Before moving the device, remove all connected cables.
- When transporting or moving the device, always use two or more people. Attempting to lift the device by yourself may damage your back, result in other injury, or cause damage to the device itself.
- If the device is mounted in an EIA standard rack, carefully read the section "Precautions for Rack Mounting" on page 7. Inadequate ventilation can result in overheating, possibly causing damage to the device(s), malfunction, or even fire.
- Keep device away from the reach of children.

Connections

- Before connecting the device to other devices, turn off the power for all devices. Also, before turning the power of all devices on or off, make sure that all volume levels are set to the minimum. Failing to do so may result in electric shock, hearing loss, or equipment damage.

Maintenance

- Remove the power plug from the AC outlet when cleaning the device.

Handling caution

- Do not insert your fingers or hands in any gaps or openings on the device (vents, panel, etc.).
- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device (vents, panel, etc.) If this happens, immediately turn off the power of the amplifier, unplug the power cord from the AC outlet, and 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 to prevent injuries.

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

NOTICE

To avoid the possibility of malfunction/ damage to the product, damage to data, or damage to other property, follow the notices below.

Handling and maintenance

- 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.
- Do not expose the device to excessive dust or vibration, or extreme cold or heat (such as in direct sunlight, near a heater, or in a car during the day), in order to prevent the possibility of panel disfiguration, unstable operation, or damage to the internal components.
- Do not place vinyl, plastic or rubber objects on the device, since this might discolor the panel.
- When cleaning the device, use a dry and soft cloth. Do not use paint thinners, solvents, cleaning fluids, or chemical-impregnated wiping cloths.
- Condensation can occur in the device due to rapid, drastic changes in ambient temperature—when the device is moved from one location to another, or air conditioning is turned on or off, for example. Using the device while condensation is present can cause damage. If there is reason to believe that condensation might have occurred, leave the device for several hours without turning on the power until the condensation has completely dried out.
- When turning on the AC power in your audio system, always turn on the power amplifier LAST, to avoid speaker damage. When turning the power off, the power amplifier should be turned off FIRST for the same reason.
- Always turn the power off when the device is not in use.

Information

About this manual

- The illustrations and LCD screens as shown in this manual are for instructional purposes only.
- The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.

The model number, serial number, power requirements, etc., may be found on or near the name plate, which is at the rear of the unit. You should note this serial number in the space provided below and retain this manual as a permanent record of your purchase to aid identification in the event of theft.

Model No. RPio622

Serial No.

(rear_en_01)

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Introduction

Thank you for purchasing the Yamaha RPiO622 I/O rack. The RPiO622 is an audio interface that enables you to flexibly configure and expand I/Os for the RIVAGE PM10 system as required by your application or the scale of your system.

In order to take full advantage of the RPiO622's superior functionality and enjoy years of trouble-free use, please read this manual before you begin using the product. After you have read the manual, keep it in a safe place together with the warranty for future reference.

Main Features

- Six RY card slots that enable you to expand analog inputs and outputs, and/or digital inputs and outputs.
- Two HY card slots that are capable of transmitting and receiving up to 256 ins/outs of digital audio signals and control signals. HY card slot 1 features 256 ins/outs, and HY card slot 2 features 128 ins/outs.
- Two mini-YGDAI slots to support various audio formats.
- Two power supply units are provided as standard, so that you will be able to continue using the rack with one power supply unit in case a problem occurs with the other.

Accessories

- Owner's Manual (this document)
- AC Power cords (x2)
- Euroblock plug

Firmware Updates

You can update the unit firmware to improve the operation, add functions, and correct possible malfunctions.

Details on updating the firmware are available on the following Yamaha Pro Audio website:

<http://www.yamahaproaudio.com/>

For information on updating the firmware, please refer to the firmware update guide available on the website.

Precautions for Rack Mounting

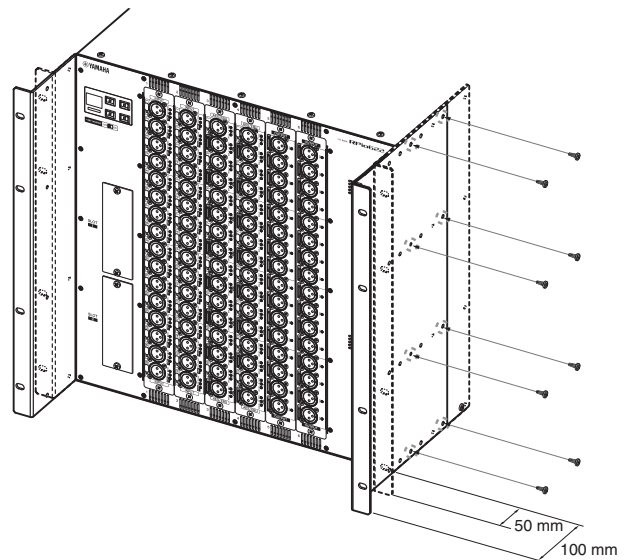
This unit is rated for operation at ambient temperatures ranging from 0 to 40 degrees Celsius. If you mount this unit along with other RPiO622 unit(s) or other device(s) in an EIA standard equipment rack, temperatures inside the rack may rise, possibly resulting in impaired performance.

When rack mounting the unit, always observe the following requirements to avoid heat buildup:

- When mounting the unit in a rack with devices such as power amplifiers that generate a significant amount of heat, leave 1U space or more between the RPiO622 and other equipment. Also, either leave the open spaces uncovered or install appropriate ventilating panels to minimize the possibility of heat buildup.
- To ensure sufficient airflow, leave the rear of the rack open and position it at least 10 centimeters from walls or other surfaces. If the rear of the rack cannot be left open, install a commercially-available fan or similar ventilating option to secure sufficient airflow. If you have installed a fan kit, there may be cases in which closing the rear of the rack will produce a greater cooling effect. Refer to the rack and/or fan unit manual for details.

Recessed Installation

If you want to recess the front panel surface of the unit from the front edge of the rack, you can adjust the position of the rack mount brackets to recess the unit by 50 mm or 100 mm, as shown in the illustration below.

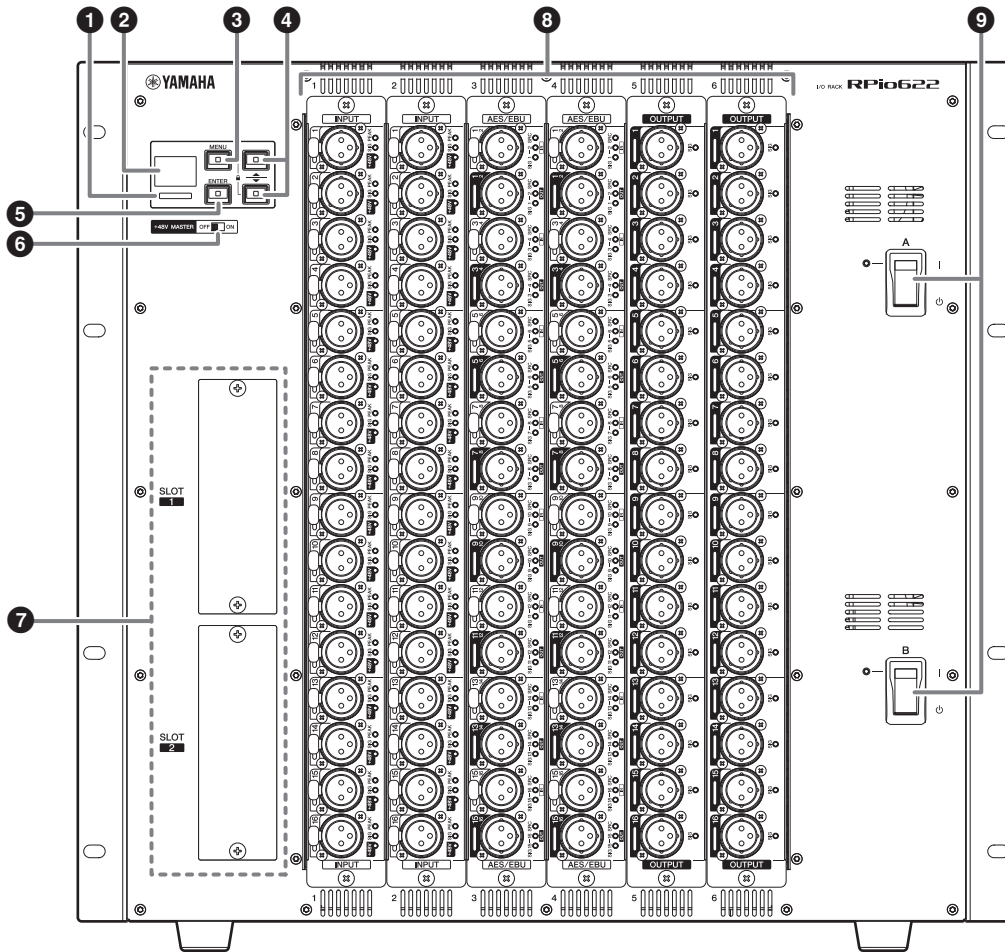


NOTE

When you install the brackets, use the same screws that you just removed.

Part Names & Functions

Front Panel



This figure illustrates the rack with various RY cards already installed.

1 Color Indicator

Indicates the status of the unit.

Red (flashing)	A critical error has occurred.
Yellow (lit steadily)	Indicates a minor issue, but you can continue using the unit.
Green	Normal

Refer to the Message List (page 17) for more information on errors.

2 LCD

Indicates the setting parameters for the unit.

3 [MENU] key

The following setting parameters are indicated on the LCD:

Unit ID	Specifies the Unit ID for the unit. You must set a unique ID for each device connected to the same I/O network so that they will be identified correctly. For more information on setting the Unit ID, refer to "Setting the Unit ID" in the RIVAGE PM10 System Setup Guide.
Fan Spd	Specifies the speed of the cooling fans on the unit. This setting does not affect the speed of the cooling fans on the power supply units.
Brightns	Adjusts the brightness of the LCD.
Contrast	Sets the contrast of the LCD screen.

FaultOut	Specifies the conditions under which an alert for abnormality is transmitted from the FAULT OUTPUT connector. Red: An alert is transmitted if an error occurs that causes the color indicator to flash red. Y&R: An alert is transmitted if an error occurs that causes the color indicator to light up yellow steadily or flash red.
F/W Ver.	Indicates the current firmware version number of the unit.
Initialz	Initializes the unit.

4 [▲]/[▼] keys

Enable you to select a setting parameter or value.

5 [ENTER] key

Confirms the setting parameter or the value.

6 [+48V MASTER] switch

This is the master switch for the unit's +48V phantom power supply.

If the [+48V MASTER] switch is off, no phantom power will be supplied to the unit's input connectors even if phantom power to individual channels is turned on.

[+48V MASTER] switch	Channel phantom power	Channel +48V indicator
On	On	Light up steadily
Off		Flash
On	Off	Dark
Off		

NOTICE

- Make sure that the master switch for the phantom power is turned OFF unless it is needed.
- If you plan to turn phantom power ON, first make sure that no equipment other than phantom-powered devices are connected to the INPUT connectors. Applying phantom power to a device that does not require phantom power can damage the connected device.
- Do not connect or disconnect a device to an INPUT while phantom power is applied. Doing so can damage the connected device and/or the unit itself.
- To prevent possible damage to speakers, make sure that power amplifiers and/or powered speakers are turned OFF when switching phantom power ON or OFF. We also recommend that you set all output controls on the control surface to minimum when turning phantom power ON or OFF. Otherwise, sudden high level peaks caused by the switching operation can damage equipment as well as the hearing of those present.

7 Mini-YGDAI SLOT1/SLOT2

Enable you to install optional Mini-YGDAI I/O cards.

8 RY card slots 1–6

Enables you to install optional RY cards to configure I/O ports.

The unit supports the following RY cards.

(as of August 2015)

- RY16-ML-SILK
- RY16-DA
- RY16-AE

For the latest information, refer to the Yamaha Pro Audio website.

<http://www.yamahaproaudio.com/>

9 [I]/[⏻] (Power switch)/ Power indicator

Toggles between power on (I) and off (⏻). When the power unit is turned on, the indicator lights up.

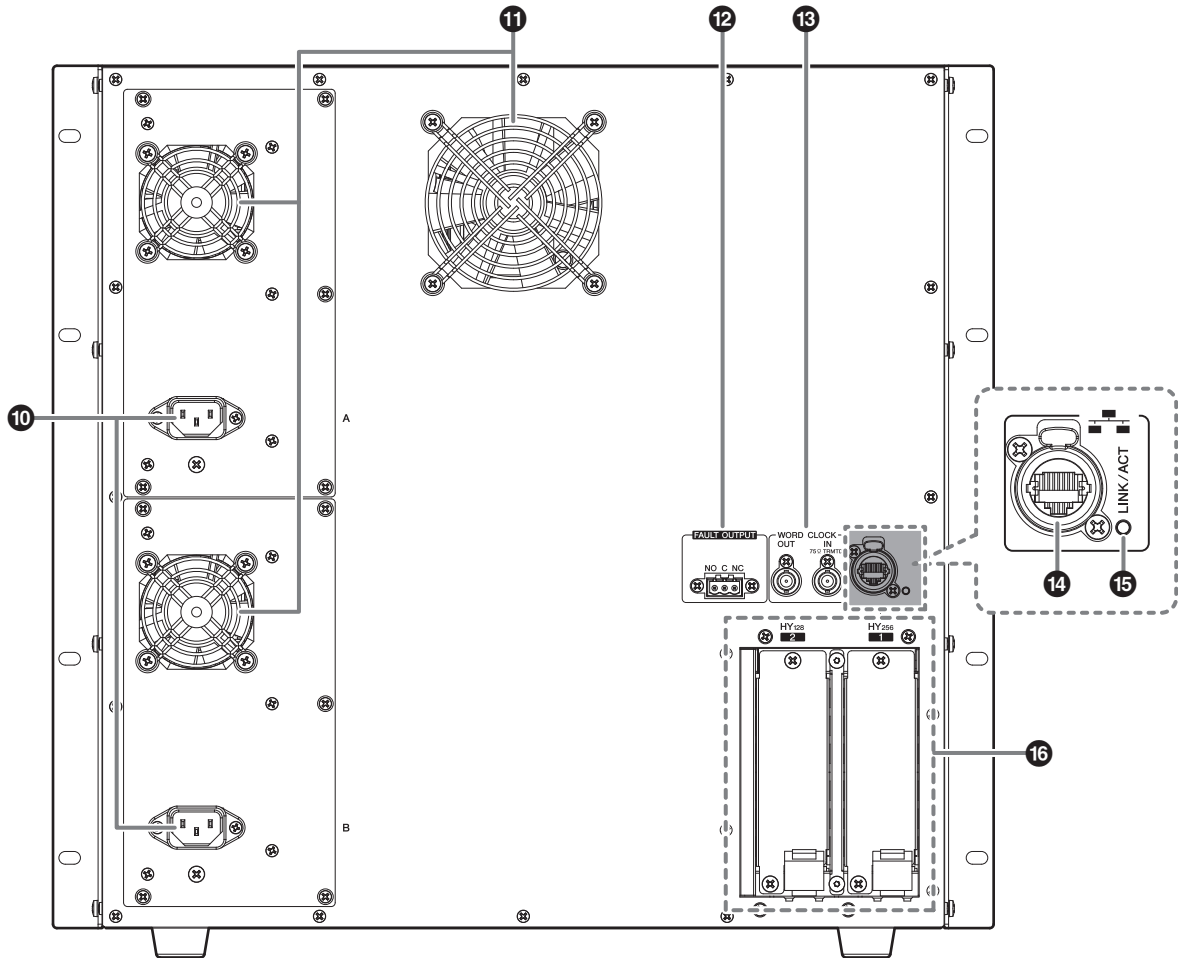
⚠ Caution

- Rapidly turning the unit on and off in succession can cause it to malfunction. After turning the unit off, wait for at least 6 seconds before turning it on again.
- Even when the power switch is turned off, a small amount of current is flowing through the unit. If you plan not to use the unit for a long period of time, remove the power cord from the AC outlet.

NOTE

To maintain power supply redundancy, turn both power supply units A and B ON or OFF together. If only one power supply unit is ON, the LCD will display an error message and the color indicator will light up yellow.

Rear Panel



10 AC IN connectors

Use these sockets to connect the supplied power cords. First connect the AC power cords to this unit, and then insert the power cord plugs into AC outlets. Insert the cord plugs all the way until they lock in place securely. The supplied AC power cords feature a Vlock mechanism via a latch, which prevents the power cords from disconnecting accidentally.

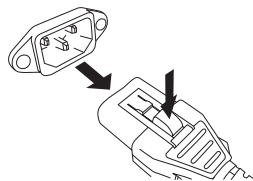
NOTE

Be sure to connect the power cords to power supply units A and B. In this way, if one of the power supply units malfunctions, the other unit will supply power to continue the operation.

⚠ Caution

Be sure to turn off the power to the unit before connecting or disconnecting the power cord.

To disconnect the power cord, remove it while pressing the latch on the plug.



11 Vent

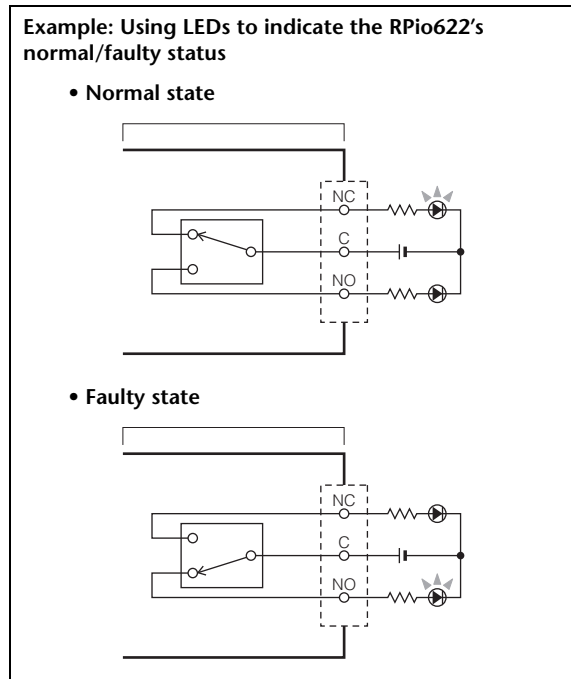
This unit is equipped with cooling fans. These vents let warm air out from the unit. Please make sure that you do not block the vents with any object.

12 FAULT OUTPUT connectors

This Euroblock connector is used to abnormal status information to the outside of the unit. Connect a lamp or buzzer here. The NC and C terminals will short-circuit if the unit is operating normally. The NO and C terminals will short-circuit if an abnormality is detected.

NOTE

The NO and C terminals will also short-circuit if you intentionally turn off the power to the unit, just as they will if a problem with power occurs.



13 WORD CLOCK IN/OUT connectors

These are BNC connectors used to transmit/receive word clock signals to/from an external device. The WORD CLOCK IN connector is internally terminated by a 75 ohm resistor. (This feature will be supported by a future update.)

14 NETWORK connector

This RJ-45 connector enables you to connect an external device via an Ethernet cable (CAT5 or higher). (This feature will be supported by a future update.)

NOTE

- Use an STP (Shielded Twisted Pair) cable to prevent electromagnetic interference. Make sure that the metal parts of the plugs are electrically connected to the STP cable's shield by conductive tape or comparable means.
- The use of Ethernet cables with Neutrik etherCON CAT5 compatible RJ-45 plugs is recommended. Standard RJ45 plugs can also be used.
- Cable length can span up to 100 meters between devices. Maximum practical distance may vary depending on the cable used.

15 LINK/ACT indicator

This indicator flashes or lights up green, depending on the connection status.

16 HY card slots 1/2

Enables you to install optional HY cards to expand I/O ports.

HY card slot 1 features 256 ins/outs, and is used for a TWINLANe network card exclusively. HY card slot 2 features 128 ins/outs, and is used for a general-purpose I/O card. This unit supports the following HY cards (as of August 2015):

- HY256-TL (available only for HY card slot 1)
- HY144-D (available only for HY card slot 2)

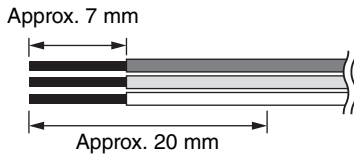
For the latest information, refer to the Yamaha Pro Audio website.

<http://www.yamahaproaudio.com/>

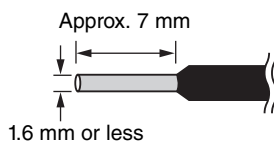
Installing a Euroblock plug

You must use the supplied Euroblock plug to connect to the FAULT OUTPUT connector.

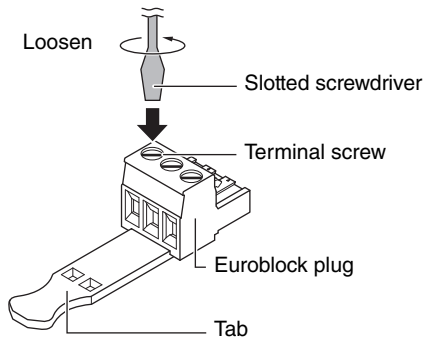
Preparation (Cable preparation)



- Use strand wires for the Euroblock plug. First, strip the strand wire insulation as shown below. After the strand wires are connected to the Euroblock plug, the wires may break due to metal fatigue caused by the weight of the cable or vibration. For a rack mount, use wire binding bar if possible, to bind the wires together and secure them.
- If you plan to connect or disconnect the plug often, for example in mobile installations, we recommend that you use a rod terminal jack with insulating sleeves. Be sure to use a rod terminal jack that features a conducting part with an outer diameter of 1.6 mm or less, and a length of approx. 7 mm (such as AI0,5-6WH by Phoenix Contact).



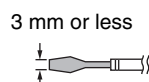
1. Loosen the terminal screws.



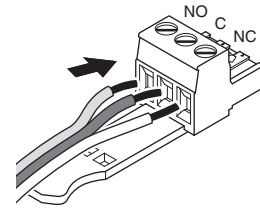
* The following explanation uses a Euroblock plug that features a tab as an example.

NOTE

Use a slotted screwdriver of 3 mm or less.



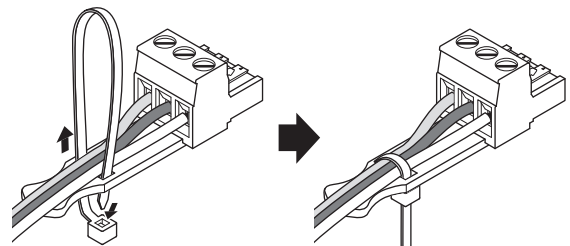
2. Insert the cables.



3. Securely tighten the terminal screws.

Pull the cables (not too strongly) to confirm that they are securely connected.

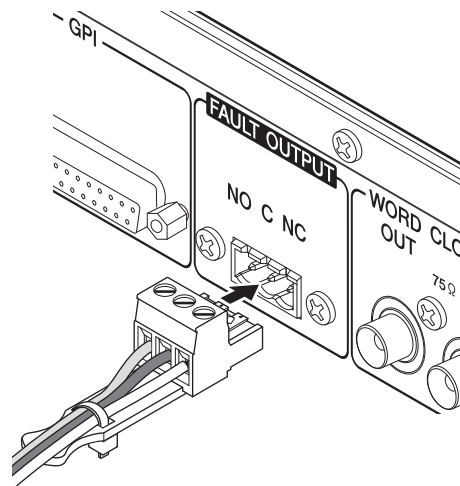
4. Affix the cables to the tab using the supplied cable binder.



NOTE

After affixing the cables, you can cut off the unnecessary part if you prefer.

5. Insert the Euroblock plug into the FAULT OUTPUT connector on the rear panel on the unit.



Installing and Removing Optional Cards

Installing an RY Card

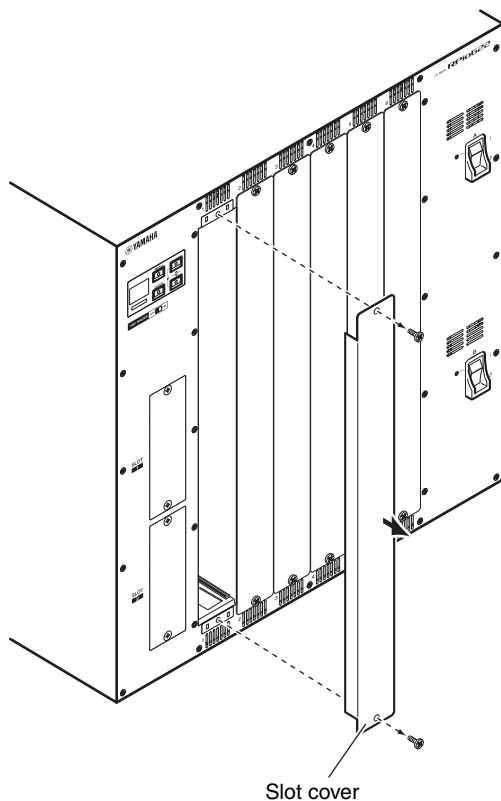
1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

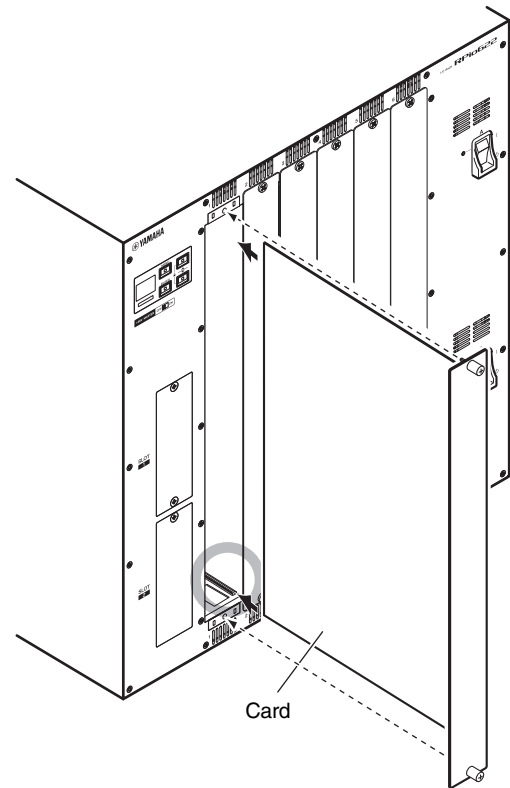
2. Remove the screws that fasten the slot cover to remove the slot cover.

Keep the cover and fixing screws in a safe place for future use.



3. Align both edges of the card with the guide rails inside the slot, and then insert the card into the slot.

Push the card all the way into the slot so that the connector at the end of the card is correctly inserted into the connector inside the slot.



4. Fasten the card using the screws attached to the card.

If the card is not fastened securely, component failure or malfunction may occur.

NOTE

Use a tool, such as a screwdriver, to tighten the screws securely and affix the card.

The unit's card slots are designed so that all cards will be installed without any gap between them to improve shielding quality.

If the screws are tightened incorrectly or insufficiently, the shielding quality will fall short. Also, you might have difficulty in installing additional cards.

Removing the RY Card

1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

2. Completely loosen the screws that hold the card in place.
3. Pull the card toward you while holding the screws on the card.
4. Replace the stored slot cover and affix it with the screws.

Installing a Mini-YGDAI Card

Before you install the card, you must check the Yamaha website to see whether the RPi0622 supports that card, and to verify the number of other Yamaha cards or third-party cards that can be used in conjunction with this card.

<http://www.yamahaproaudio.com/>

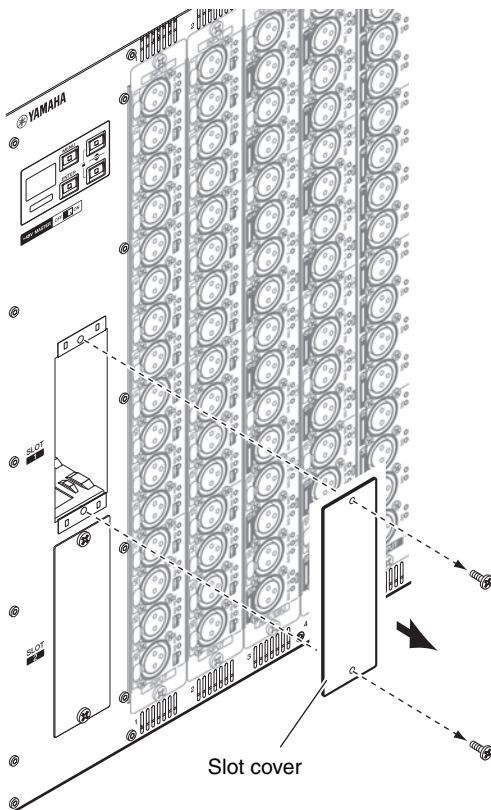
1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

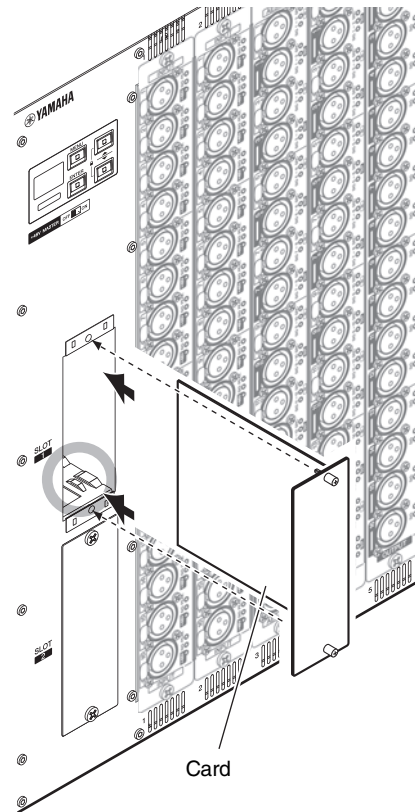
2. Remove the bottom screw and then the upper screw (that fasten the slot cover) to remove the slot cover.

Keep the cover and fixing screws in a safe place for future use.



3. Align both edges of the card with the guide rails inside the slot, and then insert the card into the slot.

Push the card all the way into the slot so that the connector at the end of the card is correctly inserted into the connector inside the slot.



4. Fasten the card using the screws attached to the card.

If the card is not fastened securely, component failure or malfunction may occur.

Removing the Mini-YGDAI Card

1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

2. Completely loosen the screws that hold the card in place.
3. Pull the card toward you while holding the screws on the card.
4. Replace the stored slot cover and affix it with the screws.

Installing an HY Card

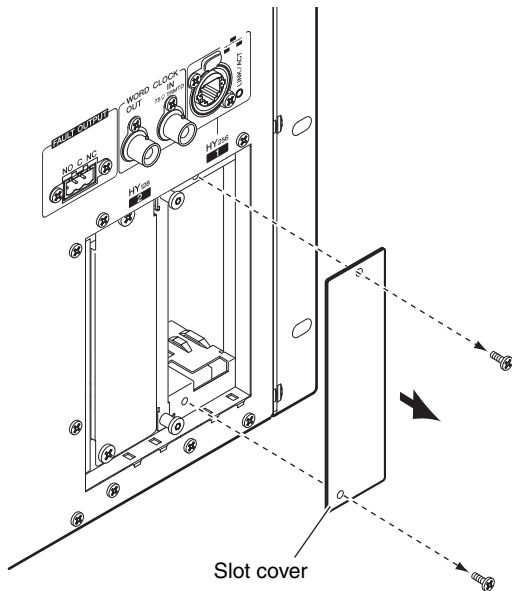
1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

2. Remove the screws that fasten the slot cover to remove the slot cover.

Keep the cover and fixing screws in a safe place for future use.

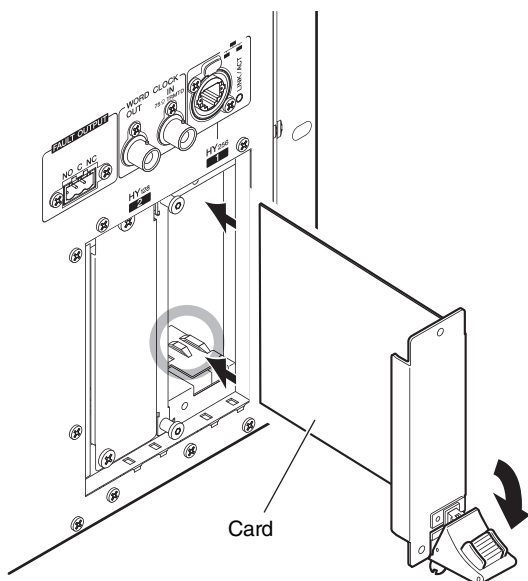


3. Align both edges of the HY card with the guide rails inside the slot, and then insert the card into the slot with the card installation lever pressed down.

Push the card all the way into the slot so that the connector at the end of the card is correctly inserted into the connector inside the slot.

NOTE

For information on which cards support each slot, refer to "Part Names and Functions" on page 11.

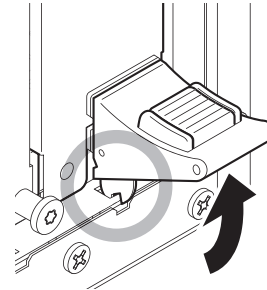


4. Pull up the card installation lever to lock in the card.

Make sure that the lever claw is securely locked under the bottom part of the slot.

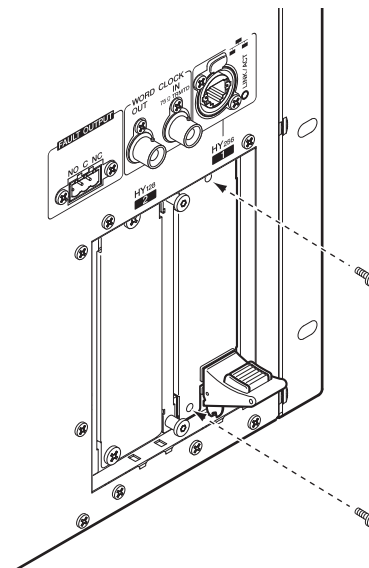
NOTE

If the lever claw does not lock in, pull up the card slightly, then push it in.



5. Affix the card using the screws that were previously used to affix the slot cover.

If the card is not fastened securely, component failure or malfunction may occur.



Removing the HY Card

1. Make sure that both power indicators are off.

⚠ Caution

Installing or removing a card while the power is on may lead to component failure or electric shock.

2. Remove the screws that hold the card in place.
3. Unlock the card by pressing the red button on the card installation lever.
4. Press down the card installation lever to pull out the card.
5. Replace the stored slot cover and affix it with the screws.

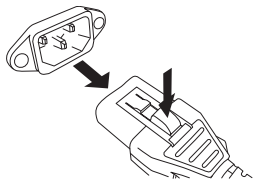
Power Supply

Connecting the AC Power Cord

1. Turn off both power switches A and B on the unit.
2. Connect one of the supplied power cords to AC IN connector (A), and the other to AC IN connector (B).
3. Connect the other end of each power cord to an AC outlet of a different power source.

NOTE

- To disconnect the power cords, remove the cables in the order of steps 1→3→2 in the procedure described above.
- To disconnect the power cord, remove it while pressing the latch on the plug.



⚠ WARNING

- Use only the supplied AC power cords. Using other cables may lead to overheating or electric shock.

⚠ Caution

- Be sure to turn off the power to the unit before connecting or disconnecting the power cords.
- Even when the power switch is turned off, a small amount of current is flowing through the unit. If you plan not to use the unit for a long period of time, be sure to remove the power cords from the AC outlets.

Turning the Power On and Off

When you turn on the power to the unit, be sure to turn on the power to the power amplifier last to avoid speaker damage. Before you turn off the power to the unit, first turn off the power to the power amplifier.

NOTE

To maintain power supply redundancy, turn both power supply units A and B ON or OFF together. If only one power supply unit is ON, the LCD will display an error message and the color indicator will light up yellow.

Troubleshooting

Please visit the Yamaha Pro Audio website for an FAQ list (Frequently Asked Questions).

<http://www.yamahaproaudio.com/>

No audio input is present.

- Make sure that the cables are connected properly.
- Confirm that the SIG indicator for the input connector on the RY card is lit steadily.
- If a phantom-powered microphone is connected, make sure that the [+48V MASTER] switch and channel's phantom power are set to on.
- Confirm that the input port is patched to the proper input channel.
- If you are using an optional I/O card, make sure that it is installed properly.
- Make sure that the TWINLANe network card is installed in SLOT 1.

The input level is too low.

- If a condenser microphone is being connected, make sure that phantom power for the corresponding channel is not turned OFF.

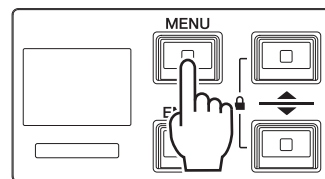
Indicators or LCD on the front panel are too dark or too bright.

- You can adjust brightness using the setting parameter accessed via the [MENU] key.

Restoring the Factory Programmed Settings

Follow the steps below to initialize the internal memory of the unit to the factory programmed settings.

1. While the unit's power is on, press the [MENU] key on the front panel.



2. Use the [▲]/[▼] keys to select "Initialz."
3. Press the [ENTER] key.

4. Press and hold the [ENTER] key for two seconds or longer.

**Press&Hold
[ENTER] to
initialize**

The internal memory is initialized and the unit automatically restarts. After the unit restarts, the initialization process is complete.

To cancel the initialization process, press the [MENU], [▲] or [▼] key, instead of pressing the [ENTER] key.

Message List

An error message for caution or attention will be displayed on the front panel LCD, and will be indicated via the color indicator.

Error messages indicating caution

Repair might be required. Contact your Yamaha dealer.

LCD Messages	Color Indicator Status	Description
M1[ERR R0*] H/W ERROR RY SLOT*	Red (flashing)	A card inserted in the RY card slot is not accessible. An asterisk mark (*) indicates the slot number in relation with the corresponding error.
M1[ERR M0*] H/W ERROR MY SLOT*	Red (flashing)	A card inserted in the MY card slot is not accessible. An asterisk mark (*) indicates the slot number in relation with the corresponding error.
M1[ERR H0*] H/W ERROR HY SLOT*	Red (flashing)	A card inserted in the HY card slot is not accessible. An asterisk mark (*) indicates the slot number in relation with the corresponding error.
M1[ERR T11] TWINLANe T V B OP IP	Red (flashing)	The optical transceiver module is faulty. T: Temperature, V: Voltage, B: Bias current, OP: Output Power, IP: Input Power This error may be resolved by the possible solution described below for M1[ERR T12].
M1[ERR F01] COOLING FAN ERROR	Red (flashing)	The cooling fans are faulty.

Error messages indicating a need for attention

LCD Messages	Color Indicator Status	Description	Possible solution
M1[ERR T0*] TWINLANe WRONG LOOP	Red (flashing)	Fiber optic cable is not connected properly. An asterisk mark (*) indicates the error description. T01: Signal is looped back to the unit itself. T02: Input connectors are connected to each other (IN-IN). T03: Output connectors are connected to each other (OUT-OUT).	Check the cable connection.
M1[ERR T12] TWINLANe T V B OP IP	Yellow (lit steadily)	The optical transceiver module is faulty. T: Temperature, V: Voltage, B: Bias current, OP: Output Power, IP: Input Power	<ul style="list-style-type: none"> Make sure that the cable is securely inserted. Use a commercially-available cleaning tool for fiber optics to clean both ends of the cable and the connectors on the card. Change to a different cable. If the solutions above do not resolve the issue, have the unit checked by an authorized technician, although the problem will not affect operation of the unit. Please contact your Yamaha dealer.
M1 [ERR P01] POWER A OFF	Yellow (lit steadily)	Power is not supplied from power supply unit A.	Make sure that the power switch on power supply unit A is turned on, and that the power cord is connected to the unit and power supply unit A.
M1 [ERR P02] POWER B OFF	Yellow (lit steadily)	Power is not supplied from power supply unit B.	Make sure that the power switch on power supply unit B is turned on, and that the power cord is connected to the unit and power supply unit B.

NOTE

If multiple issues occur at the same time, press the [▲] or [▼] key to view the corresponding error messages.

Specifications

General Specifications

Sampling frequency

		Conditions	Min.	Typ	Max.	Unit
External Clock	Frequency Range	Fs= 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz	-1000	—	+1000	ppm
	Jitter of PLL ^{*1}	WORD CLOCK IN Fs= 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz	—	—	10	ns
Internal clock	Frequency	Word clock : int 44.1 kHz Word clock : int 48 kHz Word clock : int 88.2 kHz Word clock : int 96 kHz	—	44.1 48 88.2 96	—	kHz
	Accuracy	Word clock : int 44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz	-50	—	+50	ppm
	Jitter ^{*2}	Word clock : int 44.1 kHz Word clock : int 48 kHz Word clock : int 88.2 kHz Word clock : int 96 kHz	—	—	4.5 4.1 2.3 2.1	ns

*1. Input clock jitter must be 1ns or less.

*2. Measured at the WORD CLOCK OUT connector.

Power requirements

	Conditions	Min.	Typ	Max.	Unit
Power consumption	100-240V 50/60 Hz	—	—	300	W
Heating value	100-240V 50/60 Hz	—	—	258	kcal/h

Power cord length and temperature range

	Conditions	Min.	Typ	Max.	Unit
Power cord length		—	250	—	cm
Temperature range	Operating temperature range	0	—	40	°C
	Storage temperature range	-20	—	60	°C

Control I/O standards

Terminals	Format	Level	Connectors
WORD CLOCK	IN	—	TTL/75Ω terminated
	OUT	—	TTL/75Ω
NETWORK	IEEE802.3	10BASE-T/100BASE-TX	etherCON CAT5 ^{*1}
FAULT OUTPUT	NO	—	< DC30V, < 1A
	C ^{*2}	—	—
	NC	—	< DC30V, < 1A

*1. STP cables (CAT5 or higher) are recommended for connection.

*2. The C terminal normally short-circuits with the NC terminal, but it short-circuits with the NO terminal in the event that a fault is detected.

* The contents of this manual apply to the latest specifications as of the printing date. Since Yamaha makes continuous improvements to the product, this manual may not apply to the specifications of your particular product. To obtain the latest manual, access the Yamaha website then download the manual file. Since specifications, equipment or separately sold accessories may not be the same in every locale, please check with your Yamaha dealer.

Dimensions (WxHxD), weight

480 mm x 455 mm x 490 mm (including the rubber feet), 29 kg

Accessories

Owner's Manual (this document),
AC power cords (x2), Euroblock plug (three-pin)

Optional items

RY card, HY card, Mini-YGDAI card

EIA rack mount size

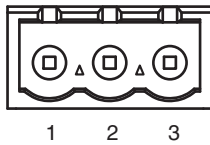
10U

NC value

Low mode: NC=15 / High mode: NC=25
Measuring position: 100cm away from the unit's front panel

Pin Assignment Table

FAULT OUTPUT



Pin No.	Signal
1	NO (Normally Open)
2	C (Common)
3	NC (Normally Closed)

* Relay Contact

Information for Users on Collection and Disposal of Old Equipment



This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste. For proper treatment, recovery and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC.

By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

[For business users in the European Union]

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

(weee_eu_en_01)

European Models

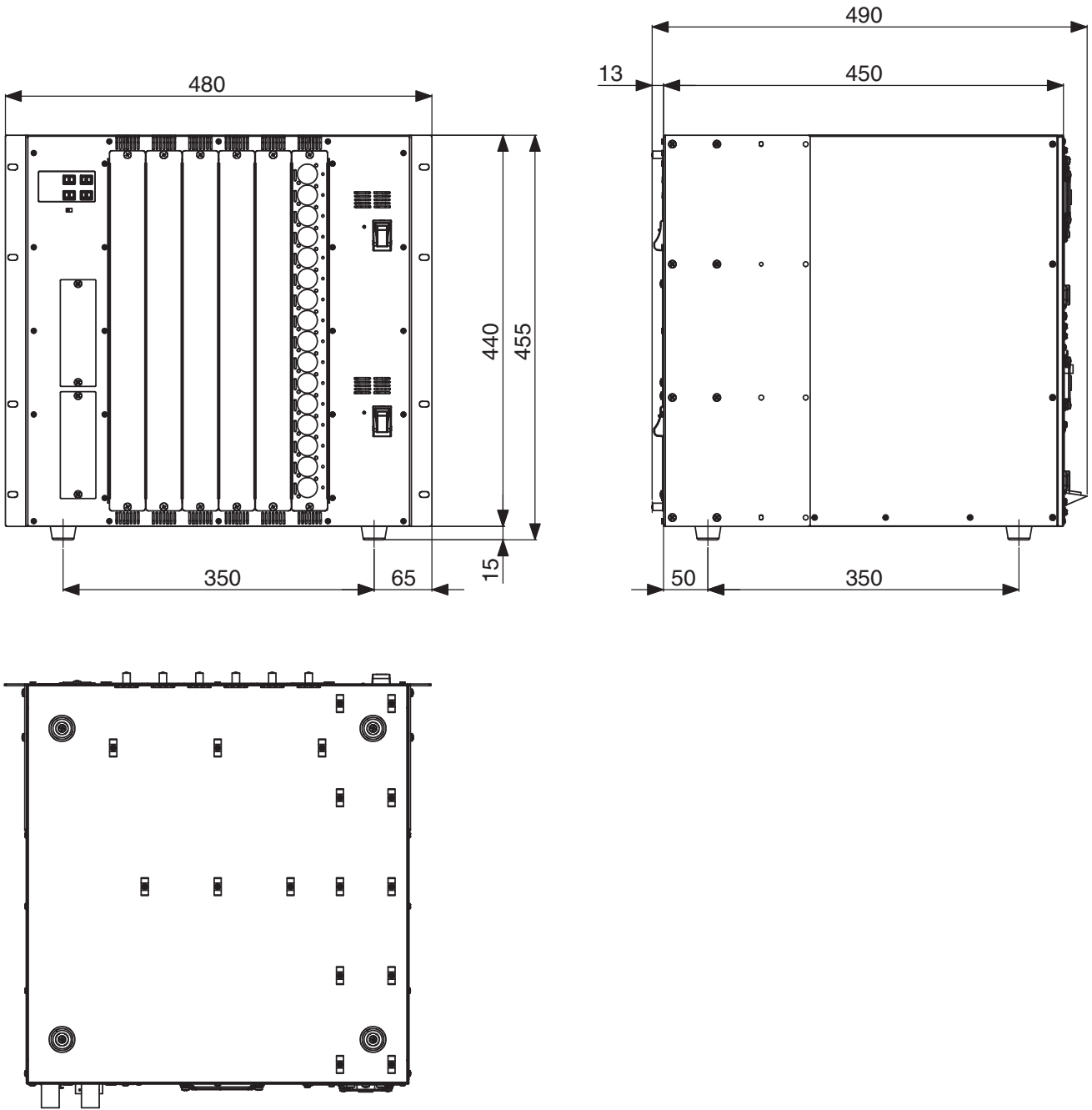
Purchaser/User Information specified in EN55103-1:2009 and EN55103-2:2009.

Inrush Current: 5.5 A (on initial switch-on)

3.5 A (after a supply interruption of 5s)

Conforms to Environments: E1, E2, E3 and E4

Dimensions



Unit: mm
Approximate Munsell value of exterior color: N5

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uIP

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This file is part of the uIP TCP/IP stack.

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Vigtig oplysning: Garantioplysninger til kunder i EØ* og Schweiz De kan finde detaljerede garantioplysninger om dette Yamaha-produkt og den fælles garantiserviceordning for EØ* (og Schweiz) ved at besøge det websted, der er angivet nedenfor (der findes en fil, som kan udskrives, på vores websted), eller ved at kontakte Yamahas nationale repræsentationskontor i det land, hvor De bor. * EØ: Det Europæiske Økonomiske Område	Dansk
Tärkeä ilmoitus: Takuutiedot Euroopan talousalueen (ETA)* ja Sveitsin asiakkaille Tämän Yamaha-tuotteen sekä ETA-alueen ja Sveitsin takuuta koskevat yksityiskohtaiset tiedot saatte alla olevasta nettiosoitteesta. (Tulostettava tiedosto saatavissa sivustollamme.) Voitte myös ottaa yhteyttä paikalliseen Yamaha-edustajaan. *ETA: Euroopan talousalue	Suomi
Ważne: Warunki gwarancyjne obowiązujące w EOG* i Szwajcarii Aby dowiedzieć się więcej na temat warunków gwarancyjnych tego produktu firmy Yamaha i serwisu gwarancyjnego w całym EOG* i Szwajcarii, należy odwiedzić wskazaną poniżej stronę internetową (Plik gotowy do wydruku znajduje się na naszej stronie internetowej) lub skontaktować się z przedstawicielstwem firmy Yamaha w swoim kraju. * EOG — Europejski Obszar Gospodarczy	Polski
Důležité oznámení: Záruční informace pro zákazníky v EHS* a ve Švýcarsku Podrobné záruční informace o tomto produktu Yamaha a záručním servisu v celém EHS* a ve Švýcarsku naleznete na níže uvedené webové adrese (soubor k tisku je dostupný na našich webových stránkách) nebo se můžete obrátit na zastoupení firmy Yamaha ve své zemi. * EHS: Evropský hospodářský prostor	Česky
Fontos figyelmeztetés: Garancia-információk az EGT* területén és Svájcban élő vásárlók számára A jelen Yamaha termékre vonatkozó részletes garancia-információk, valamint az EGT*-re és Svájcra kiterjedő garanciális szolgáltatás tekintetében keresse fel webhelyünket az alábbi címen (a webhelyen nyomtatható fájl is található), vagy pedig lépjen kapcsolatba az országában működő Yamaha képviselői irodával. * EGT: Európai Gazdasági Térség	Magyar
Oluline märkus: Garantiiteave Euroopa Majanduspiirkonna (EMP)* ja Šveitsi klientidele Täpsemat teabe saamiseks selle Yamaha toote garantii ning kogu Euroopa Majanduspiirkonna ja Šveitsi garantiiteeninduse kohta, külastage palun veebisaiti alljärgneval aadressil (meie saidil on saadaval printitav fail) või pöörduge Teie regiooni Yamaha esinduse poole. * EMP: Euroopa Majanduspiirkond	Eesti keel
Svarīgs paziņojums: garantijas informācija klientiem EEZ* un Šveicē Lai saņemtu detalizētu garantijas informāciju par šo Yamaha produktu, kā arī garantijas apkalpošanu EEZ* un Šveicē, lūdzu, apmeklējiet zemāk norādīto tīmekļa vietnes adresi (tīmekļa vietnē ir pieejams drukājams fails) vai sazinieties ar jūsu valsti apkalpojošo Yamaha pārstāvniecību. * EEZ: Eiropas Ekonomikas zona	Latviešu
Dėmesio: informacija dėl garantijos pirkėjams EEE* ir Šveicarijoje Jei reikia išsamios informacijos apie šį „Yamaha“ produktą ir jo techninę priežiūrą visoje EEE* ir Šveicarijoje, apsilankykite mūsų svetainėje toliau nurodytu adresu (svetainėje yra spausdintinas failas) arba kreipkitės į „Yamaha“ atstovybę savo šaliai. *EEE – Europos ekonominė erdvė	Lietuvių kalba
Dôležité upozornenie: Informácie o záruke pre zákazníkov v EHP* a Švajčiarsku Podrobné informácie o záruke týkajúce sa tohto produktu od spoločnosti Yamaha a garančnom servise v EHP* a Švajčiarsku nájdete na webovej stránke uvedenej nižšie (na našej webovej stránke je k dispozícii súbor na tlač) alebo sa obráťte na zástupcu spoločnosti Yamaha vo svojej krajine. * EHP: Európsky hospodársky priestor	Slovenčina
Pomembno obvestilo: Informacije o garanciji za kupce v EGP* in Švici Za podrobnejše informacije o tem Yamahinem izdelku ter garancijskem servisu v celotnem EGP in Švici, obiščite spletno mesto, ki je navedeno spodaj (natisljiva datoteka je na voljo na našem spletnem mestu), ali se obrnite na Yamahinega predstavnika v svoji državi. * EGP: Evropski gospodarski prostor	Slovenščina
Важно съобщение: Информация за гаранцията за клиенти в ЕИП* и Швейцария За подробна информация за гаранцията за този продукт на Yamaha и гаранционното обслужване в паневропейската зона на ЕИП* и Швейцария или посетете посочения по-долу уеб сайт (на нашия уеб сайт има файл за печат), или се свържете с представителния офис на Yamaha във вашата страна. * ЕИП: Европейско икономическо пространство	Български език
Notificare importantă: Informații despre garanție pentru clienții din SEE* și Elveția Pentru informații detaliate privind acest produs Yamaha și serviciul de garanție Pan-SEE* și Elveția, vizitați site-ul la adresa de mai jos (fișierul imprimabil este disponibil pe site-ul nostru) sau contactați biroul reprezentanței Yamaha din țara dumneavoastră. * SEE: Spațiul Economic European	Limba română

<http://europe.yamaha.com/warranty/>

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