English

Français

Español

YAMAHA

AUDIO INTERFACE / INTERFACE AUDIO / INTERFAZ DE AUDIO

Rio3224-D3
Rio1608-D3

Owner’s Manual

Mode d'emploi

Manual de instrucciones

EN

FR

ES

I/O RACK

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 cannot locate the appropriate retailer, please contact Yamaha Corporation of America, 6600 Orangethorpe Avenue, Buena Park, CA 90620, U.S.A.

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

(529-M04 FCC class B YCA 02)

COMPLIANCE INFORMATION STATEMENT
(Supplier's declaration of conformity procedure)

Responsible Party:	Yamaha Corporation of America
Address:	6600 Orangethorpe Avenue, Buena Park, CA. 90620, U.S.A.
Telephone:	714-522-9011
Type of Equipment:	AUDIO INTERFACE
Model Name:	Rio3224-D3, Rio1608-D3

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.

(529-M02 FCC sdoc YCA 02)

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Accessories (Make sure that all items are included.)

- Power cord × 2
  (Multiple AC power cords which have different kinds of plug shapes may be included depending on the region.)
- Open-Source Software License (English only)
  (Separate literature: Refer to this literature for more information on the open-source software license.)
- Owner's Manual (This book)

English

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:

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, or water has been dropped into the product.
  - There is a sudden loss of sound during use of the product.
  - Cracks or other visible damage appear on the product.

  Then have the product inspected or repaired by qualified Yamaha service personnel.

Power supply

- 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 product. The required voltage is printed on the name plate of the product.
- Use the supplied power cord/plug only.
  If you intend to use the product in an area other than in the one you purchased, the included power cord may not be compatible. Please check with your Yamaha dealer.
- Do not use the supplied cord/plug for other products.
- Check the electric plug periodically and remove any dirt or dust which may have accumulated on it.
- Make sure to fully insert the electric plug to prevent electric shocks or fire.
- This product receives power from multi sources. When setting up the product, 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 all plugs 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 product will not be disconnected from the power source.

- Remove the electric plug from the outlet when the product is not to be used for extended periods of time.
- Do not touch the product or the electric plug during an electrical storm.
- Be sure to connect to an appropriate outlet with a protective grounding connection. Improper grounding can result in electrical shock, fire, or damage.

Do not open

- This product contains no user-serviceable parts. Do not attempt to disassemble the internal parts or modify them in any way.

Water warning

- Do not expose the product 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.
- Never insert or remove an electric plug with wet hands.

Fire warning

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

Hearing loss

- Before connecting the product 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 hearing loss, electric shock, or device damage.
- 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.
- Do not use headphones 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.

⚠ CAUTION

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

Power supply

- When removing the electric plug from the product or an outlet, always hold the plug itself and not the cord. Pulling by the cord can damage it.

Location and connection

- Do not place the product in an unstable position or a location with excessive vibration, where it might accidentally fall over and cause injury.
- Keep this product out of reach of children. This product is not suitable for use in locations where children are likely to be present.
- Do not block the vents. This product has ventilation holes at the front/rear to prevent the internal temperature from becoming too high. In particular, do not place the product on its side or upside down. Inadequate ventilation can result in overheating, possibly causing damage to the product(s), or even fire.
- To ensure proper heat dissipation of the product, 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 product in a confined, poorly-ventilated location.

Inadequate ventilation can result in overheating, possibly causing damage to the product(s), or even fire.

- If the product 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 product(s), malfunction, or even fire. If this product is to be used in a small space other than an EIA-standard rack, make sure that there is adequate space around the product: at least 1 cm above, 1 cm at the sides and 5 cm behind.
- Do not place the product in a location where it may come into contact with corrosive gases or salt air. Doing so may result in malfunction.
- Before moving the product, remove all connected cables.

Maintenance

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

Handling caution

- Do not insert your fingers or hands in any gaps or openings in the vents of the product.
- Do not rest your weight on the product or place heavy objects on it.

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 connect this product to public Wi-Fi and/or Internet directly. Only connect this product to the Internet through a router with strong password-protections. Consult your router manufacturer for information on security best practices.
- Do not use the product in the vicinity of a TV, radio, or other electric products. Otherwise, the product, TV, or radio may generate noise.
- Do not expose the product to excessive dust or vibration, or extreme cold or heat, in order to prevent the possibility of panel disfiguration, unstable operation, or damage to the internal components.
- Do not install in locations where temperature changes are severe. Otherwise, condensation may form on the inside or the surface of the product, causing it to break.
- If there is reason to believe that condensation might have occurred, leave the product for several hours without turning on the power until the condensation has completely dried out, in order to prevent possible damage.
- Do not place vinyl, plastic or rubber objects on the product, since this might cause alteration or discoloration of the panel.
- Clean the product with a dry and soft cloth. Do not wipe product surfaces with sodium hypochlorite, alcohol, benzene, paint thinners, cleaning fluids, or a chemical-impregnated wiping cloth, which could cause discoloration or change surface characteristics.

Information

About copyrights

- Copying of the software or reproduction of this manual in whole or in part by any means is expressly forbidden without the written consent of the manufacturer.

Protection of copyright

- Do not use this product for any purpose that may infringe upon the rights of any third party including copyrights, as established by law in each country or region.
- Yamaha bears no responsibility for any infringement upon third party rights that may occur as a result of using this product.

About functions/data bundled with the product

- This product uses a Dante module provided by Audinate Pty. Ltd. You can use Dante Controller to display information about the Dante module used in this product.
  Visit the Audinate website for more information on the open-source software license applicable to each Dante module.
  https://www.audinate.com/software-licensing
- XLR-type connectors are wired as follows (IEC60268 standard): pin 1: ground, pin 2: hot (+), and pin 3: cold (–).

About this manual

- The illustrations and screens as shown in this manual are for instructional purposes only.
- Yamaha Corporation makes no representations or warranties with regard to the use of the software and documentation and cannot be held responsible for the results of the use of this manual and the software.
- The company names and product names in this manual are the trademarks or registered trademarks of their respective companies.
- Software may be revised and updated without prior notice.

About disposal

- This product contains recyclable components.
  When disposing of this product, please contact the appropriate local authorities.

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

Introduction

Thank you for purchasing the Yamaha Rio3224-D3 or Rio1608-D3. This product is a Dante-compatible I/O rack for use in an audio mixing system.

To take full advantage of the product's functionality, please read this manual before you begin using the product. Afterwards, please keep this manual in a safe place.

NOTE

- Where specifications for the Rio3224-D3 differ from the Rio1608-D3, this manual places specifications that apply only to the Rio1608-D3 in curly brackets { } (e.g., [INPUT] 1-32 {1-16}).
- Unless otherwise noted, illustrations for the Rio3224-D3 are used in this manual.
- If certain specifications are common to both the Rio3224-D3 and Rio1608-D3, both units are collectively called "Rio-D3."
- In this manual, digital mixers, R Remote devices, and other devices that can control the head amp of the Rio-D3 are collectively called "supported devices."

Intended User

This product is intended for people who can set up audio mixing systems, such as mixing engineers and operators.

Intended Usage

This product is used in audio mixing systems for halls, events, and broadcast production.

Available Documentation

Owner's Manual (this book)

This book primarily explains panel controls and functions.

Reference Manual for Rio3224-D3 and Rio1608-D3

This manual provides detailed explanations of the functions and step-by-step procedures required to operate the product. This manual can be downloaded from the Yamaha Pro Audio website.

https://www.yamahaproaudio.com/

Status/Message list

This list explains the meaning of lit or blinking [SYSTEM] and [SYNC] indicators, and the messages displayed on screen.

https://manual.yamaha.com/pa/dante/status/

All of these manuals can be downloaded from the Yamaha website. If necessary, you can view updated manual information, which is always posted on the Yamaha website.

https://download.yamaha.com/

Firmware Updates

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

Information on updating the firmware can be found on the following website:

https://www.yamahaproaudio.com/

For information on updating and setting up the unit, please refer to the firmware update guide available on the website.

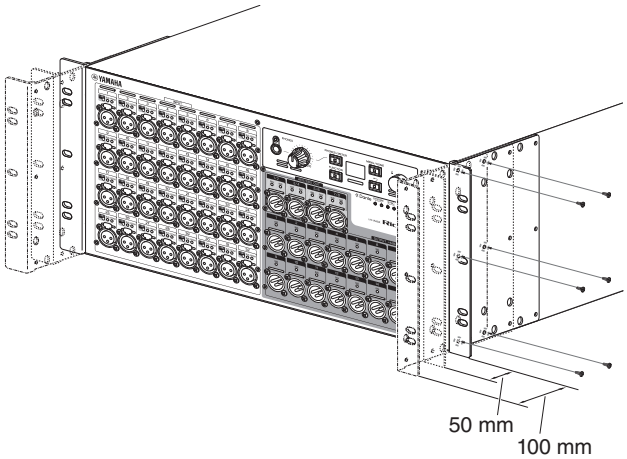
Precautions for Rack Mounting

Operation of this device is guaranteed within a temperature range of 0 to 40°C. If you mount this unit along with other Rio-D3 unit(s) or other device(s) in an EIA standard rack, the heat from each device will raise the temperature inside the rack, which may prevent the unit from achieving full performance. When rack mounting the unit, always observe the following requirements to avoid heat buildup:

- If three or more Rio-D3 units are mounted without space in the same rack, set the fan speeds to HIGH.
- If multiple units are mounted in the same rack with their fan speeds set to LOW, leave 1U space between every two units. In addition, ensure sufficient ventilation by installing a ventilation panel in these spaces, or simply leave the open spaces uncovered.
- When mounting the unit in a rack with devices such as power amplifiers that tend to generate a significant amount of heat, leave 1U or more space between this unit and other equipment. In addition, ensure sufficient ventilation by installing a ventilation panel in these spaces, or simply leave the open spaces uncovered.
- To ensure sufficient airflow, leave the rear of the rack open and position it at least 10 cm from walls, ceilings or other surfaces. If the rear of the rack cannot be left open, install a commercially-available fan kit or similar forced ventilation system 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. For more information, refer to the instruction manuals for the rack and fan kit.

Recessed Installation

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



In the same way, rack mount hardware can also be attached to the rear panel surface.

NOTE

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

Source Code Distribution

For three years after the final factory shipment, you may request from Yamaha the source code for any portions of the product which are licensed under the GNU General Public License / GNU Lesser General Public License / RealNetworks Public Source License by writing to the following address:

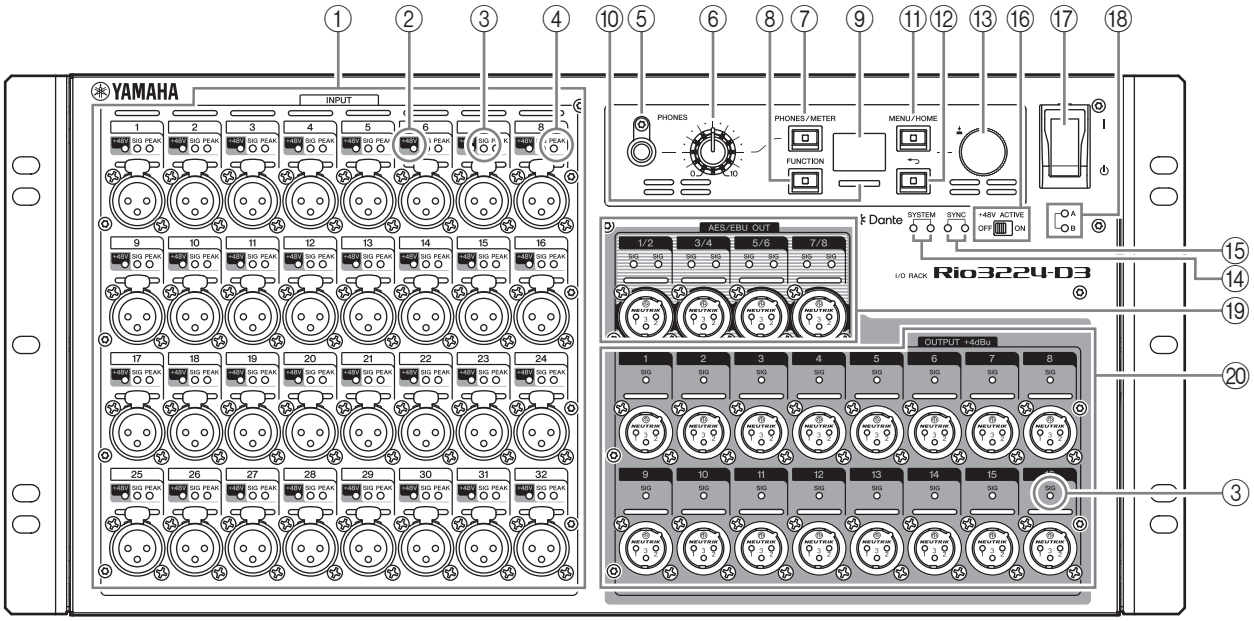
10-1 Nakazawa-cho, Chuo-ku, Hamamatsu,
430-8650, JAPAN
Global Marketing & Sales Department,
Professional Solutions Division,
Musical Instruments & Audio Products Business Unit, Yamaha Corporation

The source code will be provided at no charge; however, we may require you to reimburse Yamaha for the cost of delivering the source code to you. The source code can be downloaded by visiting the following URL:
https://www.yamahaproaudio.com/

- Note that we shall bear no responsibility whatsoever for any damage arising from changes (additions/deletions) made to the software for this product by a third party other than Yamaha (or party authorized by Yamaha).
- Note that re-use of source code released to the public domain by Yamaha is not guaranteed. Yamaha shall not bear any responsibility whatsoever for the source code.

Controls and Functions

Front Panel



① [INPUT] 1–32 {1–16}

These are balanced XLR 3-hole chassis input connectors that enable you to input analog signals to each channel. The rated input level range is from –62 dBu to +10 dBu. Phantom power of +48 V can be supplied to devices that require it via the input connectors.

② [+48V]

These indicators light when +48 V phantom power is turned ON for the corresponding input channels. On/off switching is controlled from this unit's front panel display, or from a supported device. No phantom power will be supplied, however, if the [+48V ACTIVE] switch is OFF, even if phantom power to individual channels is turned ON (the [+48V] indicators will flash). If a serious error occurs on the unit, these indicators will light or flash on all channels.

WARNING

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. In addition, make sure that all output controls on the digital mixing console are set to minimum when turning phantom power ON or OFF. Sudden high level peaks caused by the switching operation can damage equipment as well as the hearing of those present.

NOTICE

- If phantom power is not required, you must turn OFF the [+48V ACTIVE] switch or the phantom power setting.
- When turning phantom power ON, make sure that no equipment other than phantom-powered devices such as condenser microphones are connected to the corresponding [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] connector while phantom power is applied. Doing so can damage the connected device and/or the unit itself.

③ [SIG] (Signal)

These indicators light green when the input or output signal applied to the corresponding channel reaches or exceeds –40 dBFS.

If a serious error occurs on the unit, these indicators will light or flash on all channels.

④ [PEAK]

These indicators light red when the signal level of the corresponding input channel reaches or exceeds –3 dBFS.

If a serious error occurs on the unit, these indicators will light or flash on all channels.

⑤ [PHONES] socket

This is a headphone socket that outputs assigned audio signals (INPUT/OUTPUT). You can view the signal assignments and parameter values on the PHONES screen.

⑥ [PHONES] level knob

This knob adjusts the level of the signal output from the [PHONES] socket.

⑦ **[PHONES/METER]**
Press this key repeatedly to display the PHONES screen or one of the METER screens. The screen changes each time you press the key.
Press and hold to clear PEAK HOLD.

⑧ **[FUNCTION]**
Press this key to recall the registered function screen.

⑨ **Display**
This shows information such as the parameter values of each channel's head amp, or error and status indications.

⑩ **Color bar indicator**
Indicates the status of the unit. You can change the color and lighting/off settings that indicate a normal status. You can also change the lighting/flashing/off settings that indicate an error or warning.
For more information, refer to the Reference Manual.

⑪ **[MENU/HOME]**
While the home screen is displayed, press this key to display the MENU TOP screen that enables you to select a menu. While a screen other than the home screen is displayed, press this key to display the home screen.

⑫ **[⮌] (Back)**
Press this key to display the previous screen.
Press and hold to display a popup screen that enables you to set the display contrast and brightness. It also enables you to set the color bar indicator brightness.

⑬ **Encoder with switch**
By turning the encoder, you can select a menu or parameter, or edit a parameter value shown on the display. By pressing the encoder, you can confirm a selection or switch the display.

⑭ **[SYSTEM]**
These indicators show the operating status of the unit. If the green indicator lights steadily and the red indicator turns off, the unit is operating normally.
If the power to the unit is turned on but the green indicator remains off, or if the red indicator lights or flashes, the unit is not functioning properly.
For more information, refer to the Reference Manual or Status/Message list*.

⑮ **[SYNC]**
These indicators show the operating status of the Dante module built into the unit.
A solid green indicator indicates that the device is a clock follower and that the clocks are synchronized.
A flashing green indicator indicates that the device is the clock leader.
If the power to the unit is turned on but the green indicator remains off, the unit is not functioning properly.
For more information on the orange indicator and other details, refer to the Reference Manual or Status/Message list*.

⑯ **[+48V ACTIVE]**
Turns +48 V phantom power on or off. If the [+48V ACTIVE] switch is off, no phantom power will be supplied to the unit's input connectors even if the individual input phantom power settings are ON. In this case, the [+48V] indicators will flash on channels for which phantom power is turned ON. The switch is set to off when the unit is shipped from the factory.

⑰ **Power switch [|]/[⏻]**
Toggles between power on (|) and off (⏻).

NOTICE
Turning the unit on and off in rapid succession can cause it to malfunction. After turning the unit off, wait at least six seconds before turning it on again.

⑱ **Power indicator [A]/[B]**
Lights when the power to the unit is ON.

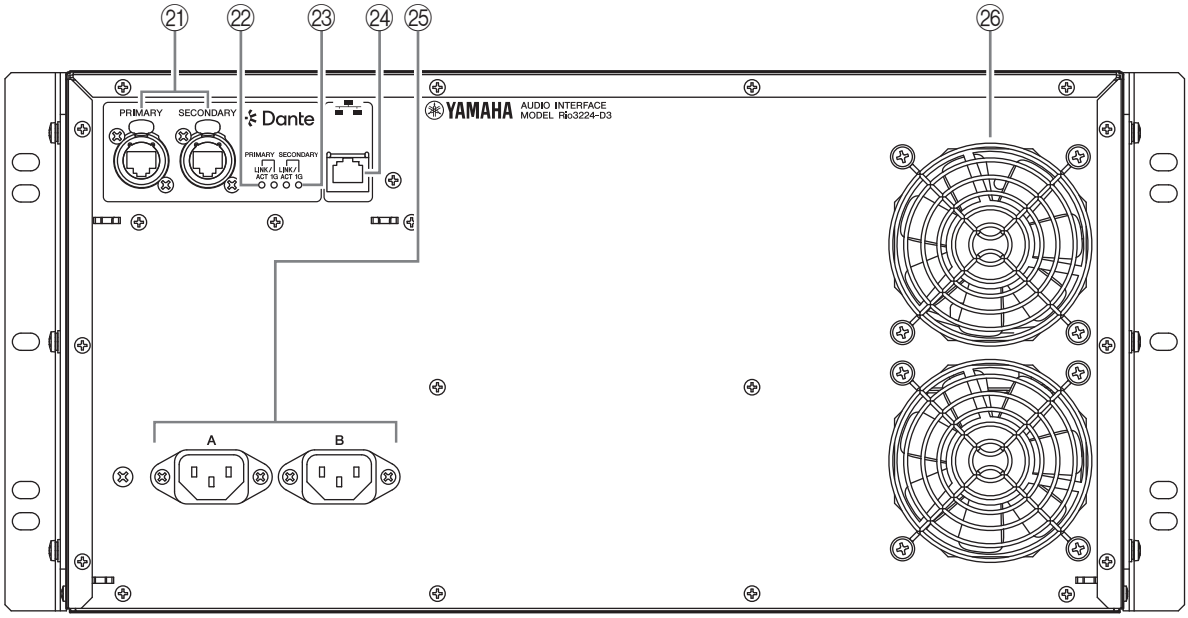
⑲ **[AES/EBU OUT] 1/2–7/8 (Rio3224-D3 only)**
These balanced XLR 3-pin chassis output connectors deliver AES/EBU format digital audio signals from the unit's corresponding output channels. Each connector outputs 2-channel digital audio.

⑳ **[OUTPUT +4dBu] 1–16 {1–8}**
These are balanced XLR 3-pin chassis output connectors that enable you to output analog signals from each channel. The rated output level is +4 dBu.

* Status/Message list

This list explains the meaning of lit or blinking [SYSTEM] and [SYNC] indicators, and the messages displayed on screen.
https://manual.yamaha.com/pa/dante/status/

Rear Panel



㉑ Dante [PRIMARY]/[SECONDARY]

These etherCON (RJ-45) connectors can be connected to other Dante devices such as a RIVAGE PM, DM7, DM3, CL, or QL series unit using Ethernet cables (CAT5e or better recommended).

If SECONDARY port* is set to DAISY CHAIN, the signal that is input from one connector is transmitted to the other connector.

If SECONDARY port* is set to REDUNDANT, the [PRIMARY] connector is used for the primary connection and the [SECONDARY] connector is used for the secondary (backup) connection. If the unit is unable to transmit signals through the [PRIMARY] connector for some reason (e.g., due to damage or accidental removal of the cable, or a failed network switch), the [SECONDARY] connector will automatically take over the connection.

(* To display the SECONDARY port setting screen, first, display the MENU TOP screen, select SETUP, and then confirm your selection. Next, select SEC.PORT (SECONDARY PORT) from the SETUP menu, and then confirm your selection.)

For more information, refer to the Reference Manual.

NOTICE

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 shield by conductive tape or comparable means.

NOTE

- We recommend using RJ-45 plugs that are compatible with Neutrik etherCON CAT5e connectors. Standard RJ-45 plugs can also be used.
- Connect only Dante-compatible devices or Giga-bit Ethernet (GbE)-compatible devices (including a computer).
- Do not use the EEE function of network switches in a Dante network. The EEE function may cause poor synchronization performance, resulting in occasional dropouts. For more information, refer to the Reference Manual.

㉒ [LINK/ACT]

These indicators show the communication status of the [PRIMARY] and [SECONDARY] connectors respectively. They flash fast if the Ethernet cables are connected properly.

㉓ [1G]

These indicators light when the Dante network is functioning as Giga-bit Ethernet.

㉔ Network connector

This RJ-45 connector allows the unit to be connected to a computer via an Ethernet cable (CAT5 or higher recommended).

NOTICE

Use an STP (Shielded Twisted Pair) cable to prevent electromagnetic interference.

㉕ AC IN connectors [A]/[B]

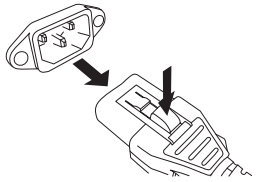
Use these sockets to connect the supplied power cords. First connect each AC power cord to this unit, and then insert the power cord plug into an AC outlet.

CAUTION

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

Insert each cord plug all the way until it locks in place securely. The supplied AC power cords feature a V-lock mechanism via a latch, which prevents the power cords from disconnecting accidentally.

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



㉖ Cooling vent

This product is equipped with a cooling fan. This vent lets warm air escape from the unit. Do not block the vent with any object.

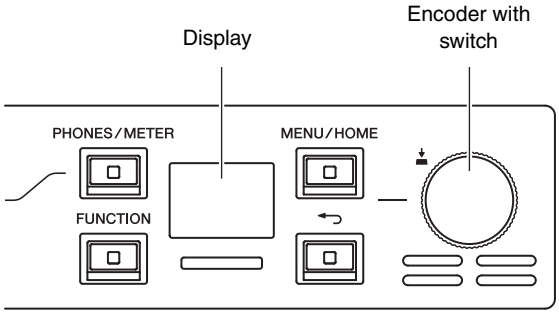
CAUTION

Do not block the ventilation ports on this product. This product has ventilation ports at the front and rear to prevent the internal temperature from becoming too high. If the ventilation ports are blocked, heat will get trapped inside the product, which may cause malfunction or fire.

Display Operations

Basic Operations

You can use the front panel display, [PHONES/METER] key, [FUNCTION] key, [MENU/HOME] key, [⮌] (Back) key, and the encoder with switch to set the various parameters.



Selecting an item	Turn the encoder with switch. (The selected parameter is highlighted.)
Confirming the setting	Press the encoder with switch.
Displaying the previous screen	Press the [⮌] (Back) key.

Main Screens

The screens shown here are examples.

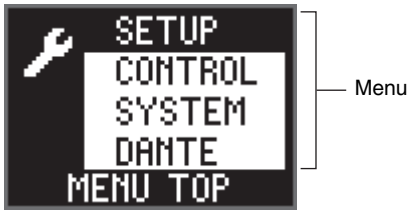
NOTE

For more information on these and other screens, refer to the Reference Manual. The Reference Manual can be downloaded from the Yamaha Pro Audio website.
https://www.yamahaproaudio.com/

Home screen

This is the screen that appears when you turn on the power switch. The upper row displays the UNIT ID. The initial value is Y001. The middle row displays part of the device label. The bottom row displays the status bar, which uses icons to indicate the status of the unit.

MENU TOP screen



This screen enables you to select a menu. To display it, press the [MENU/HOME] key while the home screen is displayed. When you select a menu and confirm the selection, the corresponding menu screen appears.

Contrast / Brightness Adjustment popup screen

This screen enables you to set the display contrast and brightness. It also enables you to set the color bar indicator brightness. Press and hold the [⮌] (Back) key to display it.

Mute on Startup

When you first start up and use this product after purchasing it, the inputs and outputs will be muted until the unit receives HA parameter settings. This is because START UP mode is set to REFRESH with MUTE by default.

START UP Mode

Select the HA parameter settings at start-up from REFRESH with MUTE, RESUME w/o MUTE, or REFRESH w/o MUTE.

To display the START UP mode setting screen, first, display the MENU TOP screen, select SETUP, and then confirm your selection. Next, select START UP in the SETUP menu, and then confirm your selection.

This setting is applied the next time the unit starts up.

REFRESH with MUTE (Initial Setting)

Initializes a portion of the internal memory when starting up. The inputs and outputs will be muted until the unit receives HA parameter settings from the supported device.

NOTE

To control the HA parameters from the supported device, select this option to prevent inadvertently outputting unmuted audio until the settings are received.

RESUME w/o MUTE

Starts up in the state prior to the most recent power-off. The inputs and outputs will not be muted.

REFRESH w/o MUTE

Initializes a portion of the internal memory when starting up. The initial values are the same as for REFRESH with MUTE. However, the inputs and outputs will not be muted.

Initializing the Unit

If an error occurs in the unit's internal memory and you become unable to operate the unit, follow the steps below to initialize the unit (to restore the factory settings).

1. Turns off the power to the unit.

2. Turn the power ON while pressing and holding down the [FUNCTION], [MENU/HOME], and [↩] (Back) keys simultaneously.

The system reverts to factory settings.

NOTE

Alternatively, you can operate the screens as follows to reset the unit to factory settings.

(1) Display the MENU TOP screen, select SETUP, and then confirm your selection.
(2) Select INITIALIZE from the SETUP menu, and then confirm your selection.
(3) The INITIALIZE setup screen appears. Select FACTORY PRESET, and then confirm the selection.

For more information, refer to the Reference Manual.

Specifications/Spécifications

General Specifications

		Rio3224-D3	Rio1608-D3
Number of Analog Inputs		32	16
Number of Analog Outputs		16	8
AES/EBU		8-out	0
PHONES		1	
Sampling Frequency	External	44.1 kHz / 48 kHz / 88.2 kHz / 96 kHz ±200 ppm +4.1667%, +0.1%, −0.1%, −4.0% ±200 ppm	
Signal Delay		Less than 1.7 ms Rio-D3 INPUT to Rio-D3 OUTPUT connect with DM7 using Dante, Fs=96 kHz. Dante Receive Latency set to 0.25 msec	
Power Requirements		100-240 V, 50/60 Hz	
Power Consumption		100 W	60 W
Heat Dissipation		86 kcal/h	52 kcal/h
Dimensions	W × H × D	480 × 220 × 370 mm	480 × 132 × 370 mm
Weight		13.2 kg	9.4 kg
NC Value*1	Fan Speed LOW	20	15
	Fan Speed HIGH	30	25
Operating Temperature Range		Min: 0°C, Max: 40°C	
Storage Temperature Range		Min: −20°C, Max: 60°C	
Accessories		Owner's Manual, Power cord × 2, Open-Source Software License (English only)	

*1. Measurement position: 1 m from the front of the unit

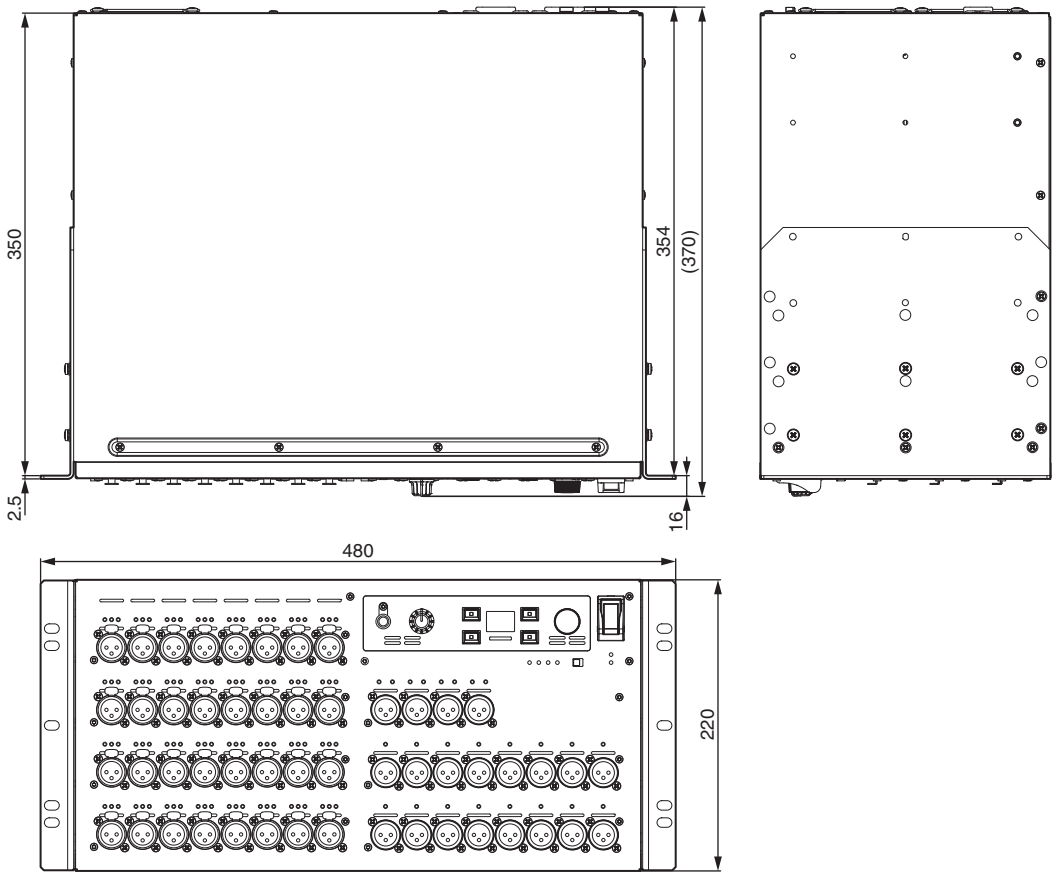
- The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

- Le contenu de ce mode d'emploi s'applique aux dernières caractéristiques techniques connues à la date de publication du manuel. Pour obtenir la version la plus récente du manuel, accédez au site Web de Yamaha puis téléchargez le fichier du manuel concerné.

- El contenido de este manual se aplica a las últimas especificaciones según la fecha de publicación. Para obtener el último manual, acceda al sitio web de Yamaha y descargue el archivo del manual.

Dimensions

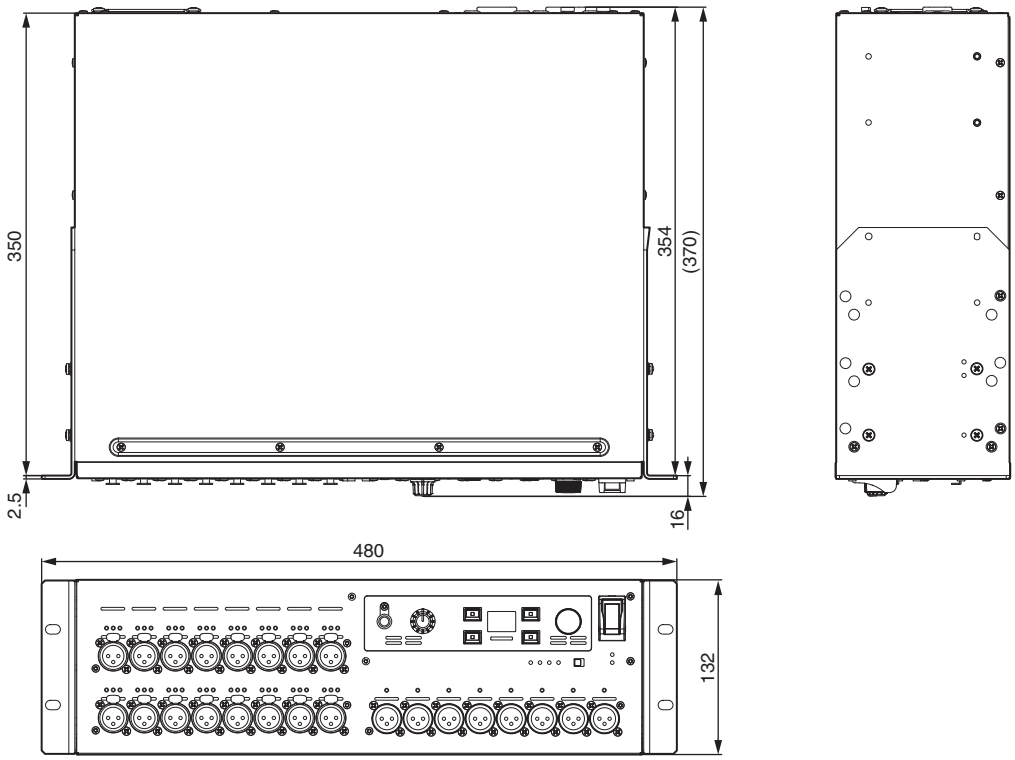
Rio3224-D3



Approximate Munsell value of exterior color: N5

Unit: mm

Rio1608-D3



Approximate Munsell value of exterior color: N5

Unit: mm

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.

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.

(58-M02 WEEE en 01)

Informations concernant la collecte et le traitement des déchets d'équipements électriques et électroniques

Le symbole sur les produits, l'emballage et/ou les documents joints signifie que les produits électriques ou électroniques usagés ne doivent pas être mélangés avec les déchets domestiques habituels.
Pour un traitement, une récupération et un recyclage appropriés des déchets d'équipements électriques et électroniques, veuillez les déposer aux points de collecte prévus à cet effet, conformément à la réglementation nationale.

En vous débarrassant correctement des déchets d'équipements électriques et électroniques, vous contribuerez à la sauvegarde de précieuses ressources et à la prévention de potentiels effets négatifs sur la santé humaine qui pourraient advenir lors d'un traitement inapproprié des déchets.

Pour plus d'informations à propos de la collecte et du recyclage des déchets d'équipements électriques et électroniques, veuillez contacter votre municipalité, votre service de traitement des déchets ou le point de vente où vous avez acheté les produits.

Pour les professionnels dans l'Union européenne :
Si vous souhaitez vous débarrasser des déchets d'équipements électriques et électroniques, veuillez contacter votre vendeur ou fournisseur pour plus d'informations.

Informations sur la mise au rebut dans d'autres pays en dehors de l'Union européenne :
Ce symbole est seulement valable dans l'Union européenne. Si vous souhaitez vous débarrasser de déchets d'équipements électriques et électroniques, veuillez contacter les autorités locales ou votre fournisseur et demander la méthode de traitement appropriée.

(58-M02 WEEE fr 01)

Información para usuarios sobre la recogida y eliminación de los equipos antiguos

Este símbolo en los productos, embalajes y documentos anexos significa que los productos eléctricos y electrónicos no deben mezclarse con los desperdicios domésticos normales.
Para el tratamiento, recuperación y reciclaje apropiados de los productos antiguos, llévelos a puntos de reciclaje correspondientes, de acuerdo con la legislación nacional.

Al deshacerse de estos productos de forma correcta, ayudará a ahorrar recursos valiosos y a impedir los posibles efectos desfavorables en la salud humana y en el entorno que de otro modo se producirían si se trataran los desperdicios de modo inapropiado.

Para obtener más información acerca de la recogida y el reciclaje de los productos antiguos, póngase en contacto con las autoridades locales, con el servicio de eliminación de basuras o con el punto de venta donde adquirió los artículos.

Para los usuarios empresariales de la Unión Europea:
Si desea desechar equipos eléctricos y electrónicos, póngase en contacto con su vendedor o proveedor para obtener más información.

Información sobre la eliminación en otros países fuera de la Unión Europea:
Este símbolo solo es válido en la Unión Europea. Si desea desechar estos artículos, póngase en contacto con las autoridades locales o con el vendedor y pregúnteles el método correcto.

(58-M02 WEEE es 01)

Yamaha Worldwide Representative Offices

English

For details on the product(s), contact your nearest Yamaha representative or the authorized distributor, found by accessing the 2D barcode below.

Deutsch

Wenden Sie sich für nähere Informationen zu Produkten an eine Yamaha-Vertretung oder einen autorisierten Händler in Ihrer Nähe. Diese finden Sie mithilfe des unten abgebildeten 2D-Strichodes.

Français

Pour obtenir des informations sur le ou les produits, contactez votre représentant ou revendeur agréé Yamaha le plus proche. Vous le trouverez à l'aide du code-barres 2D ci-dessous.

Español

Para ver información detallada sobre el producto, contacte con su representante o distribuidor autorizado Yamaha más cercano. Lo encontrará escaneando el siguiente código de barras 2D.

Italiano

Per dettagli sui prodotti, contattare il rappresentante Yamaha o il distributore autorizzato più vicino, che è possibile trovare tramite il codice a barre 2D in basso.

Português

Para mais informações sobre o(s) produto(s), fale com seu representante da Yamaha mais próximo ou com o distribuidor autorizado acessando o código de barras 2D abaixo.

Русский

Чтобы узнать подробнее о продукте (продуктах), свяжитесь с ближайшим представителем или авторизованным дистрибьютором Yamaha, воспользовавшись двухмерным штрихкодом ниже.

简体中文

如需有关产品的详细信息，请联系距您最近的Yamaha代表或授权经销商，可通过访问下方的 2D 条形码找到这些代表或经销商的信息。

繁體中文

如需產品的詳細資訊，請聯絡與您距離最近的 Yamaha 銷售代表或授權經銷商，您可以掃描下方的二維條碼查看相關聯絡資料。

한국어

제품에 대한 자세한 정보는 아래 2D 바코드에 엑세스하여 가까운 Yamaha 담당 판매점 또는 공식 대리점에 문의하십시오.

https://manual.yamaha.com/audio/address_list/

Head Office/Manufacturer: Yamaha Corporation 10-1, Nakazawa-cho, Chuo-ku, Hamamatsu, 430-8650, Japan AP01
Importer (European Union): Yamaha Music Europe GmbH Siemensstrasse 22-34, 25462 Rellingen, Germany
Importer (United Kingdom): Yamaha Music Europe GmbH (UK) Sherbourne Drive, Tilbrook, Milton Keynes, MK7 8BL, United Kingdom

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