

Microphones

0-150004X 0-11000110

Speaker expansion

Control Pane

(DCP1V4S)

Option 2

Option 3

# POWER AMPLIFIER MA2030 **PA2030**

# **Owner's Manual**

First, please carefully read the "IMPORTANT SAFETY INSTRUCTIONS" on the reverse side.

Thank you for your purchase of the Yamaha MA2030/PA2030 power amplifier. Please read through this manual carefully before beginning use, so that you will be able to take full advantage of the device's various functions. After you have read the manual, keep it in a safe place.

- The illustrations 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
- In this manual, the MA mark indicates content that is unique to the MA2030, and PA indicates content unique to the PA2030. Contents that are common to both have no marks.
- · Amplifier illustrations are mainly from the MA2030. Where necessary, illustrations of the PA2030 are also

#### **Features**

- · Supports both kinds of speaker connection: high-impedance connection and low-impedance
- Equipped with digital processor (Feedback Suppressor, Ducker, Leveler).
- Optional PA2030 expansion amplifier enables connection of additional speakers.

### Included items

Speakers

Portable audio player

To AC outlet

Volume adjustment

Step 1

electrical shock.

CD players, tuners, et

Step 2

Step 2

Step 3

Step 4

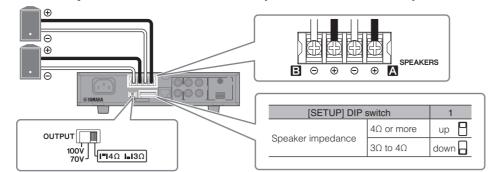
- Euroblock plugs (3-pin, 3.50mm pitch) x 1 MA, x 2 PA
- Technical Specifications (English only): includes block diagram, dimensions, and input/output specifications.

Setup

Front panel

Owner's Manual (this sheet)

## ■ Low-impedance Connections (30W x 2 channels)



- Set the speaker output to low-impedance connection by setting the [OUTPUT] switch
- Set the [SETUP] DIP switch 1 to  $[4\Omega]$  (up, impedance:  $4\Omega$  or more) or  $[3\Omega]$  (down, impedance:  $3\Omega$  to  $4\Omega$ ) corresponding to the specifications of the speakers to be
- Connect the [SPEAKERS A] (+)/- terminals to the "+"/"-" terminals of the first speaker, and the [SPEAKERS B]  $\oplus$ / $\oplus$  terminals to the "+"/"-" terminals of the second

### ■ Configuration of Speaker Output Signal

#### **Connecting Yamaha Speakers** [SETUP] DIP switch 4/5 Setting the [SETUP] DIP switches optimizes the

output signal to match Yamaha speakers designed for commercial installations.

[SETUP] DIP sw	4	5	
Yamaha speakers designed for	Surface mount-type	down 🕞	up 📙
commercial installations	Ceiling-type	down 🖥	down 🖥
Non-Yamaha speakers		up 📙	_

—: Setting is not required. (Either up or down can be used.)

### Setting mono/stereo output [SETUP] DIP switch 7

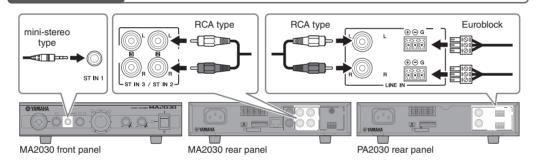
In a low-impedance installation, if speakers are placed in a stereo arrangement, set to stereo output.

[SETUP] DIP switch	7	
High-impedance connections	— Mono output	
Low-impedance	up 📙	Mono output
connections	down 🔲	Stereo output (*1)

—: Setting is not required. (Either up or down can be used.) \*1: When stereo audio is output, the left channel signal is output from the [SPEAKERS A] terminals and the right channel signal is output from the [SPEAKERS B]

# Step 2

## **Connecting External Devices**



Connect a BGM (background music) tuner, a CD player, a portable audio player, etc. to the stereo input jacks of this device.

Jac	ck position	Jack name	Jack type
	Front panel	[ST IN 1] jack	mini-stereo type (unbalanced input)
MA2030	Rear panel	[ST IN 2] jack [ST IN 3] jack	RCA type (unbalanced input)
PA2030	Rear panel	[LINE IN] jack	Euroblock connector (balanced input; connect with supplied Euroblock plugs), RCA type (unbalanced input)

Note Refer to "Attaching Euroblock Plugs" for Euroblock plug installation

- Make sure that this device and all devices to be connected are turned off
- Connect this device and any external devices with appropriate cables.

### Leveler (suppressing wide playback volume variations) [SETUP] DIP switch 6 MA

Turn the [VOLUME] knob all the way to the left.

Connect the supplied power cord to the AC IN connector.

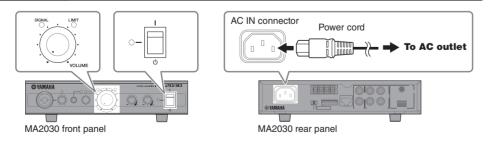
When turning the system off, turn off this device, and then connected devices.

Insert the power cord plug into an appropriate outlet.

The Leveler function automatically suppresses and corrects for large changes in the playback volume from external devices for a more consistent sound, such as when reproducing BGM (background music).

	[SETUP] DIP switch	6
	Leveler disabled	up 📙
S	Leveler enabled	down 🔲

### **Connecting Power Cord and Turning On**



Make sure power switches of this device and devices connected to this device are

After turning on the connected devices (portable audio players, CD players, etc.), turn

· Before turning on the power, please check that there are no problems with the cabling, connections, and so on.

■ High-impedance Connections (60W x 1 channel)

**Connecting Speakers** 

Yamaha Pro Audio site: "Better Sound for Commercial Installations":

Ensure that load is not applied to the speaker cable.

http://www.yamahaproaudio.com/global/en/training\_support/better\_sound/

Change the setting depending on the speaker connection (high- or low-impedance connection), the kind

of speakers, and the installation location of the speakers. Refer to "Connecting Speaker Cables" at the

right bottom on this page and the explanation of high-impedance connection, etc. at the following URL.

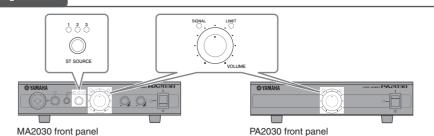
• Before connecting speakers, make sure that the power of the device is turned off. If the power is on, there is a risk of

In a high-impedance installation, make sure that the sum of the power input ratings of the speakers to be connected

In a low-impedance installation, make sure that the total impedance of speakers to be connected is at least 3 ohms

- voltage: 100V voltage: 70V
- Set the speaker output to high-impedance by setting the [OUTPUT] switch to [100V] or [70V] corresponding to the maximum output voltage.
- Use speaker cables to connect the [SPEAKERS A] ⊕ terminal to the positive "+" terminals of the speakers, and the [SPEAKERS B] — terminal to the negative "-"
  - In case of high-impedance connection, the [SPEAKERS A]  $\ominus$  and [SPEAKERS B]  $\oplus$  terminals are not used. Do not connect to the terminals
- Note The speaker output is processed through a high pass filter (80Hz, 18dB/oct.).

# **Adjusting Volume**



- Select a stereo input by rotating the [ST SOURCE] knob. MA
  - The [ST SOURCE] indicator corresponding to the selected input signal lights.
- Input audio signal from the external device, and confirm that sound is being output from the speakers by gradually rotating the [VOLUME] knob to the right. Make sure that the [VOLUME SIGNAL] indicator lights according to the sound input and that sound

## Matching the volume levels of external devices (including microphones) MA

When connecting two or more external devices, you can lower the volume of the louder devices (or microphones) to match the level of the faintest device. If you are using microphones, follow the instructions in "Option 1 Using Microphones" before executing the operation below.

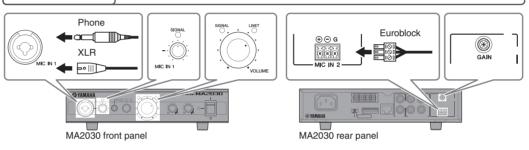
- Select the stereo input with the loudest sound by rotating the [ST SOURCE] knob.
- Press and hold the [ST SOURCE] knob until the [ST SOURCE] indicator flashes.
- Rotate the [ST SOURCE] knob to the left until the volume decreases to the point that lowers as loud as that of the faintest sounding stereo input (or microphones). As the volume becomes fainter, the flashing rate of the [ST SOURCE] indicator becomes slower.
- Push the [ST SOURCE] knob to complete the adjustment.

The [ST SOURCE] indicator lights.

comes from the speakers.

Note Adjustable range: -18dB - 0dB

### Option 1 Using Microphones MA



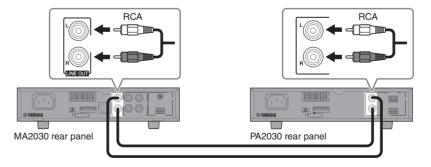
- Turn the [MIC IN 1] knob or the [MIC IN 2 GAIN] trimmer all the way to the left, and connect a microphone to the [MIC IN 1] jack or the [MIC IN 2] connector.
- Set the [VOLUME] knob to roughly a 2:00 position.
- Loudly speak into the microphone, and turn the [MIC IN 1] knob or the [MIC IN 2 GAIN] trimmer to the right until the output signal is not distorted.
  - If you input a loud voice but the output is small, raise the volume with the [VOLUME] knob.
- If the sound out of the speakers is too loud, lower the volume with the [MIC IN 1] knob or the [MIC IN 2
- Make sure the input from external devices matches the volume levels of the microphones and the external devices.
- Refer to "Matching the volume levels of external devices (including microphones)" in "Step 4 Adjusting Volume" for instructions.
- To adjust the [MIC IN 2 GAIN] trimmer, use a slotted screw driver.
- · Refer to "Attaching Euroblock Plugs" for installation of Euroblock plugs. • The input signal is always processed through a high pass filter (120Hz, 12dB/oct.) to cut off low frequency signals
- as well as a Feedback Suppressor to suppress howling.

#### Ducker (lowering the volume of the other channels automatically when a microphone signal is input) [SETUP] DIP switch 2/3

Jack/connector	[MIC IN 1]	[MIC IN 2]
[SETUP] DIP switch	2	3
Ducker disabled	up 📙	up 📙
Ducker enabled	down 🔲	down 📙

- Note If both Duckers of the [MIC IN 1] jack and the [MIC IN 2] jack are enabled, the Ducker for the [MIC IN 1] takes priority.
  - Activating the Ducker lowers the output volume of the stereo inputs by 24dB and mutes that of the other microphone input

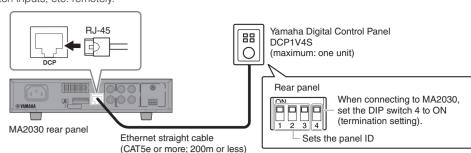
# **Option 2** | Expanding Speakers



Connecting the MA2030 and PA2030 lets you increase the number of driven speakers. Connect the [LINE OUT] jacks of MA2030 and the [LINE IN] jacks of PA2030.

#### Option 3 Operating with Control Panel MA

Connecting Yamaha Digital Control Panel DCP1V4S to MA2030 enables you to control the volume, to switch inputs, etc. remotely.



The functions of the knob and the switches of DCP1V4S can be configured with DIP switches at the back

of DCP1		, a		0 0. 20		o comgan	ou man bin comonido de eno bacin
Panel ID	DIP switch 1 2 3 4	Knob	Switch 1	Switch 2	Switch 3	Switch 4	<b>Volume</b> : Adjusts the volume output to the [SPEAKERS] terminals and
0				_			the [LINE OUT] jacks.  Stereo 1/2/3: Switches to stereo input 1/2/3.
1	8888		Stereo 1	Stereo 2	Stereo 3		Mic. 1/2: Turns on/off microphone input 1/2. When a microphone
2			Mic. 1 ♪	Mic. 2♪	Mic. 1	Mic. 2	is on, the switch indicator of the control panel lights and the stereo input is muted.  If the panel ID is set to 3, the stereo input is not muted even
3	8888	Volume	Mic. 1 ♪	Mic. 2♪	Mic. 1	Mic. 2	
4		volume	Mic. 1 ♪	_	Mic. 1	_	though the microphone is on.  • If the panel ID is set to 7, the
5	8888		Mic. 2♪	_	Mic. 2	_	microphone stays on while holding the switch.
6			Mic. 1	Mic. 2	_	_	A chime sounds when the microphone is turned on/off

Note Refer to "DCP1V4S Owner's Manual" for DCP1V4S installation

Mic. 1

# **Connecting Speaker Cables**

The [SPEAKERS] output connectors on the rear panel are barrier strip type connectors. The connections are described below for two methods: using a spade lug and using a bare conductor.

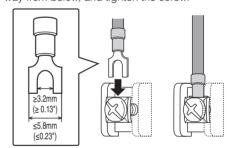
### ⚠ Caution

Ensure that load is not applied to the speaker cable.

Note Connect the cables so that the amplifier's "+" and "-" symbols match those of the speaker. If they are reversed, the phase will be reversed and the sound will not be output correctly

#### When using a spade lug When using a bare conductor Loosen the screw, insert the spade lug all the

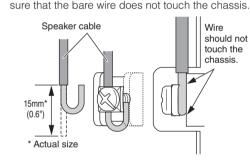
way from below, and tighten the screw.



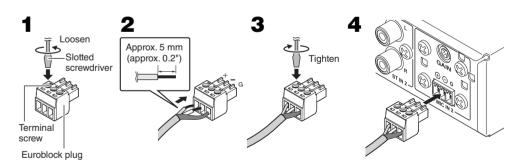
Loosen the screw, wrap the conductor wire around the barrier strip terminal, and tighten the screw. Be sure that the bare wire does not touch the chassis.

-: Does not work. (No function is

assigned.)



### **Attaching Euroblock Plugs**



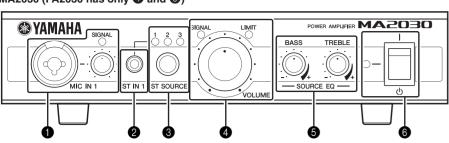
Note • You must use the supplied Euroblock plugs. If the plugs have been lost, please contact your Yamaha dealer. To prepare the cable for attachment to a Euroblock connector, strip the wire as shown in the illustration using stranded wire to make connections. With a Euroblock connection, stranded wires may be prone to breakage use a lacing bar when possible to bundle and fasten the cables

- Do not tin (solder) the exposed end. Loosen terminal screws.
- Insert cables.
- 3 Securely tighten terminal screws.
- Insert the Euroblock plug into the [MIC IN 2] terminal of MA2030 or the [LINE IN] terminal of PA2030.

### Panel Lock

Changes by several knobs can be locked, so that the settings of the device are not affected by accidental touch or unauthorized operation. The [ST SOURCE], [SOURCE EQ BASS] and [SOURCE EQ TREBLE]

- Adjust the [ST SOURCE], [SOURCE EQ BASS] and [SOURCE EQ TREBLE] knobs to the desired fixed settings.
- Turn off the power.
- 3 Set DIP switch 8 to the downward position.
- Turn the power back on again.
- Note To unlock, turn off the power, set DIP switch 8 to the upward position, and turn on the power.



### ① [MIC IN 1] jack MA

Combo input jack that accepts both phone-type and XLR-type. Connect dynamic microphones mainly. Input signal is always processed through high pass filter (120Hz, 12dB/oct.) to cut off low frequency signal and Feedback

#### [MIC IN 1 SIGNAL] indicator MA

### [MIC IN 1] knob MA

the microphone connected to the [MIC IN 1] jack. Turning to the right increases the volume.

#### ② [ST IN 1] jack MA Input jack of mini-stereo type (unbalanced input).

Connect a stereo audio source such as portable audio players

### **❸** [ST SOURCE] indicator 1/2/3 **M**♠

Selecting input signal from the [ST IN 1] jack lights indicator 1, the [ST IN 2] jacks lights indicator 2, and the [ST IN 3]

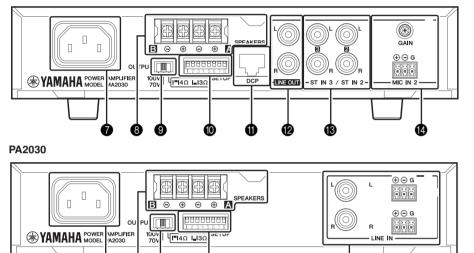
### [ST SOURCE] knob

Rotating this switches among the stereo input signals.

Pressing and holding this lets you adjust the volume balance of stereo inputs. Refer to "Matching the volume levels of external devices" (Step 4)

### Rear panel

#### MA2030



### AC IN connector

nnect the supplied power cord.

### ✓!\ Caution

• When connecting the power cord, connect the power cord to the connector and then plug it into an appropriate AC power

#### Before connecting or disconnecting the power cord, make sure that the power to the device is turned off (8) [SPEAKERS] output terminals

 $3\Omega$ ]). The setting change will be reflected after turning on again.

rrier strip type speaker output connectors. Refer to "Connecting Speaker Cables" for the installation instructions.

### [OUTPUT] switch

is the output type of amplifier: high-impedance connection ([100V], [70V]) or low-impedance connection ([4 $\Omega$ 

# **Troubleshooting**

Symptom	Cause	Solution
The power does not	The power cord is disconnected.	Connect the power cord.
turn on.	The protection function of the device has been activated.	Turn off the power switch and make sure the connection is secure. Wait several minutes, and then turn on the power again.
No sound is heard.	The sound is lowered too much with the [VOLUME] knob.	Turn the [VOLUME] knob to the right.
	No audio signal is being input.	Make sure that this device is properly connected to external devices.
		Make sure that the external device outputs audio signal.
	The input is not selected.	Turn the [ST SOURCE] to select input jacks connected to an external device.
	The connected microphone is a condenser type.	Use a dynamic type microphone or supply phantom power to the condenser microphone.
The sound distorts.	The input level from microphones or external devices is too high.	Turn the [MIC IN 1] knob/the [MIC IN 2 GAIN] trimmer to the left to lower the volume of the microphones. Lower the input volume from the external devices.
	The EQ level is too high.	Turn the [SOURCE EQ BASS]/[SOURCE EQ TREBLE] knob to the left to lower the EQ.
The setting does not change even when turning a knob.	The panel is locked. When the panel is locked, even when turning the [ST SOURCE] knob, [SOURCE EQ BASS] knob or [SOURCE EQ TREBLE] knob, the setting of the device does not change.	Set DIP switch 8 to the upward position and turn on the power again.
The sound is small.	The device is set to low-impedance connection; however, speakers with high-impedance input have been connected.	Match the impedance settings of this device and the connected speakers.
The sound drops out and the power indicator flashes three times.	The device is set to high-impedance connection; however, speakers with low-impedance input have been connected or too many speakers are connected.	Match the impedance setting and the input rating setting of this device and the speakers.
	When the device is set to low-impedance connection, the total impedance of the connected speakers is less than the impedance setting of this device.	Match the impedance settings of this device and the speakers.
	The speaker cable is shorted.	Inspect the connection of the speaker cables.
The power indicator continues flashing.	The internal temperature of the device is extremely high.	Turn off the power, leave the device at a well-ventilated place, and turn on the device several minutes later.

http://www.yamahaproaudio.com/

• If taking the above steps does not solve the problem, contact your Yamaha dealer for repair.

### 4 [VOLUME SIGNAL] indicator

Lights when signal output to speakers exceeds a

[VOLUME LIMIT] indicator Lights if signal output to the speakers exceeds the limit value, causing the limiter to activate, or if High-impedance

the internal temperature of the device increases abnormally. If the limiter activates, turn the

[VOLUME] knob to the left so the indicator light goes out. If the device internal temperature increases, leave the device without turning on the power until the internal temperature goes down. [VOLUME] knob

Low-impedance

connections

Setting

[VOLUME SIGNAL]

18.2 dBu or more

-17.0 dBu or more

-0.8 dBu or more

2.3 dBu or more

Adjusts the volume output to the speakers. Turning to the right increases the volume. Turning all the way to the left mutes

### 6 [SOURCE EQ BASS] knob MA

Adjust the volume of the low frequency (around 125Hz) stereo signal from -10dB to +10dB. At the center position, the sound is flat; turning to the left lowers the low frequency signal and turning to the right increases the low frequency signal. Turning to the right 90 degrees or more from the center activates the Enhancer to further emphasize the low frequency signal.

[SOURCE EQ TREBLE] knob MA Adjust the volume of the high frequency (6 kHz or more) stereo signal from -10dB to +10dB. At the center position, the sound is flat; turning to the left lowers the high frequency signal and turning to the right increases the high frequency signal. Turning to the right 90 degrees or more from the center activates the Enhancer to further emphasize the high frequency signal.

### 6 Power indicator

Turns on when the power is on.

If flashing continues for 10 seconds or more, the internal temperature of the device is extremely high. Turn off the power once, and turn on again several minutes later.

Note If the sound distorts when using EQ, turn the knob to the left until the sound is not distorted or lower the volume of the

#### Power switch Turn on/off the powe

### Caution

- To ensure that high-volume noise is not output from the speakers, power on the connected device first and then turn on this
- device. When turning the system off, turn off this device, and then the connected devices.

   After turning the power switch off, wait for about five seconds before turning it on again. Rapidly turning the power switch on and off in succession can cause the unit to malfunction
- . Even when the switch is in the off position, a small amount of electricity is still flowing to the unit. If it will not be used for an inded period of time, therefore, be sure to unplug the power cord from the wall AC outlet

Note Do not turn off the power switch three seconds or less after executing an operation. If you do, some setting information may not be saved.

#### (I) [SETUP] DIP switches

Set the following functions of the device. The setting change will be reflected after turning on again

number	setting function		up 🖰	down 🖥
1	OUTPUT	Sets the speaker impedance if the [OUTPUT] switch is set to $[4\Omega \ 3\Omega]$ (low-impedance connection).	4Ω	3Ω
2	MIC 1 DUCKER MA	Turns on/off the Ducker of the [MIC in 1] jack.	OFF	ON
3	MIC 2 DUCKER MA	Turns on/off the Ducker of the [MIC in 2] jack.	OFF	ON
4	SP EQ	Sets the speaker output to appropriate frequency characteristics for Yamaha speakers designed for commercial installations.	OFF	ON
5		If DIP switch 4 is set to on, this optimizes for the type of Yamaha speakers designed for commercial installations	SURFACE	CEILING
6	LEVELER <b>MA</b>	Turn on/off the Leveler.	OFF	ON
7	MIXER	In low-impedance installation of speakers, this sets the speaker output to stereo or mono.	MONO	STEREO
8	PANEL LOCK MA	Several knobs on the front panel are locked. Refer to "Panel Lock" for details.	UNLOCK	LOCK

Note • When the device is shipped from the factory, the DIP switches are all in the up position

If DIP switches 2 and 3 (MIC 1 DUCKER and MIC 2 DUCKER) are set to on, when both microphones are used simultaneously, the [MIC IN 1] jack is prioritized and the microphone input that connected to the [MIC IN 2] connector is

#### • The output of the [LINE OUT] jacks does not reflect the stereo/mono setting in [SETUP] DIP switch 7 (MIXER). (i) [DCP] connector MA

nnect one Yamaha Digital Control Panel DCP1V4S. Refer to "Option 3 Operating with Control Panel" for connection

### [LINE OUT] jacks MA

RCA type stereo output jack (unbalanced output). Outputs to the [LINE IN] jacks of PA2030 and line input jacks of other external devices. Outputs a mixed signal of the selected stereo input, the [MIC IN 1] jack input and the [MIC IN 2] jack input.

(B) [ST IN 2] jacks/[ST IN 3] jacks MA RCA type stereo input jack (unbalanced output). Connect external devices such as CD player, etc. Select input jacks with

### the [ST SOURCE] knob on the front panel.

MIC IN 2] connector MA Euroblock 3-pin connector for microphone audio input (balanced). Refer to "Attaching Euroblock Plugs" for Euroblock plug installation. The input signal is always processed through a high pass filter (120Hz, 12dB/oct.) to cut off low equency signals as well as a Feedback Suppressor to suppress howling.

[MIC IN 2 GAIN] trimmer MA connected to the [MIC IN 2] connector. Adjust with a slotted driver of the correct size.

### [B [LINE IN] jacks/connectors [PA]

RCA type and Euroblock 3-pin stereo input jacks/connectors (RCA: unbalanced; Euroblock 3-pin: balanced). Connect to the [LINE OUT] jacks of the MA2030 or output jacks of other external devices. The signals input from the RCA type jacks and Euroblock connector will be mixed to the output.

# Specifications (MA2030/PA2030)

Output Power	$3\Omega/4\Omega$	30 W x 2 ch
(20 msec burst, THD+N=1%)	70 V/100 V	60 W x 1 ch
Amplifier Type	(Output circuitry)	Class D
TUDAN	Stereo in → Speaker out, 1 kHz, 15 W, 3Ω/4Ω	≤ 0.1%
THD+N	Stereo in → Speaker out, 1 kHz, 30 W, 70 V/100 V	≤ 0.2%
	Line in → Line out, 20 Hz–20 kHz (MA2030 only)	0 dB, -2.5 dB, +1.0 dB
Frequency Response	Line in → Speaker out, 50 Hz–20 kHz, 1 W, 3Ω/4Ω	0 dB, -3.0 dB, +1.0 dB
	Line in → Speaker out, 90 Hz–20 kHz, 1 W, 70 V/100 V	0 dB, -3.0 dB, +1.0 dB
Crosstalk (MA2030 only)	Stereo in to other Stereo in	≤ -70 dB
AC Power Requirement		100 V/120 V/230 V-240 V, 50 Hz/60 Hz
Power Consumption	1/8 max. power, pink noise at all channel,	30 W
(3Ω, AC 100 V)	Idle	25 W
Operating Temperature		0°C-+40°C
Storage Temperature		-20°C-+60°C
Dimensions	(W x H x D, including knob)	215 x 54 x 288 mm (8.5 x 2.1 x 11.4 inch)
Net Weight		1.8 kg (4.0 lbs)
Optional Accessories		Rack-mount Accessory RKH1 Digital Control Panel DCP1V4S

\* 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.

### European Models

Inrush Current based on EN 55103-1:2009 3.0A (on initial switch-on)

2.0A (after a supply interruption of 5s)

Conforms to Environments: E1, E2, E3 and E4

## **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 heater:
- 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. 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.
  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.

#### Fire warning

 Do not put burning items, such as candles, on the unit. A burning item may fall over and cause a fire

#### If you notice any abnormality

 When one of the following problems occur, immediately turn of the power switch and disconnect the electric plug from the outlet. Then have the device inspected by Yamaha service personnel. The power cord or plug becomes frayed or damaged. - It emits unusual smells or smoke.
- Some object has been dropped into the instrument.

There is a sudden loss of sound during use of the device 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 personne

#### **⚠** 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.
• Remove the electric plug from the outlet when the device is not to be used for extended periods of time, or during electrical storms.

#### Location

Do not place the device in an unstable position where it might

- Do not block the vents. This device has ventilation holes at the top/ bottom/sides 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
- 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 10 cm above, 1 cm below the bottom surface, 10 cm at
- the sides and 10 cm behind. • 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.
- Before moving the device, remove all connected cables.
   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, electricity is still flowing to the product at the minimum evel. When you are not using the product for a long time, make sure to unplug the power cord from the wall AC outlet
- If the device is mounted in an EIA standard rack, carefully read the section "Precautions for rack mounting". Inadequate ventilation can result in overheating, possibly causing damage to the device(s), malfunction, or even fire

## FCC INFORMATION (U.S.A.)

. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT! his product, when installed as indicated in the instructions ontained in this manual meets ECC requirements Modifications not expressly approved by Yamaha may void our authority, granted by the FCC, to use the product. 2. IMPORTANT

When connecting this product to accessories and/or nstallation instructions. Failure to follow instructions could oid your FCC authorization to use this product in the USA

his product has been tested and found to comply with the ements 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 n harmful interference with other electronic devices. This stalled 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 egulations does not guarantee that interference will not occ all installations. If this product is found to be the source of erference, which can be determined by turning the unit OFF" and "ON", please try to eliminate the problem by using

Relocate either this product or the device that is being ffected by the interference Jtilize power outlets that are on different branch (circuit preaker or fuse) circuits or install AC line filter/s.
In the case of radio or TV interference, relocate/reorient he antenna. If the antenna lead-in is 300 ohm ribbon lead.

ange the lead-in to co-axial type cable. f these corrective measures do not produce satisfactory esults, please contact the local retailer authorized to distribute this type of product. If you can not locate the ppropriate retailer, please contact Yamaha Corporation of merica, 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

- Before connecting the device to other devices, turn off the power for all devices. Before turning the power on or off for all devices, set all volume levels to minimum.
- Use only speaker cables for connecting speakers to the speaker jacks. Use of other types of cables may result in fire.

Maintenance Remove the power plug from the AC outlet when cleaning the

### Handling caution

 When the surface of the device heats up, do not touch it until the panel temperature goes down. Touching the surface with ts high temperature may cause burns.

- Avoid inserting or dropping foreign objects (paper, plastic, metal, etc.) into any gaps or openings on the device (vents etc.) If this happens, turn off the power immediately and unplug the power cord from the AC outlet. Then have the ce inspected by qualified Yamaha service person
- Do not rest your weight on the device or place heavy objects on it, and avoid use excessive force on the buttons, switches Do not use the device for a long period of time at a high or uncomfortable volume level, since this can cause permanent
- nearing loss. If you experience any hearing loss or ringing in the ears, consult a physician. Do not operate the device if the sound is distorting. Prolonged use in this condition could cause overheating and result in fire.

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

#### To avoid the possibility of malfunction/ damage to the product, or nage 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
- Do not place vinyl, plastic or rubber objects on/under the
- device, since this might discolor the panel of the device or the objects placed on/under the device.

  Keep input cables of microphone, etc., devices that contain sensitive circuits, and the power cord at a distance from speaker cables and fasten the speaker cables in place.
  Since a large amount of current can flow in a speaker cable. a magnetic field will be generated and may produce radio
- interference and acoustic noise.

   When cleaning the device, use a dry and soft cloth. Do not use paint thinners, solvents, cleaning fluids, or chemicalimpregnated 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. woid setting all equalizer controls and faders to their maximum. Depending on the condition of the connected devices, doing so may cause feedback and may damage the
- Do not use this device for any purpose other than driving
- When turning on the AC power in your audio system, always turn on the device LAST, to avoid speaker damage. When turning the power off, the device should be turned off FIRST for
- the same reason.

  If you put the device on a table or a rack, do not remove the rubber feet from the device.

#### • Always turn the power off when the device is not in use Connectors

XLR-type connectors are wired as follows (IEC60268 standard): pin 1: ground, pin 2: hot (+), and pin 3: cold (-).

# Precautions for rack mounting

This unit is rated for operation at ambient temperatures ranging from 0 to 40 degrees Celsius. If the device is mounted with other devices in an EIA standard equipment rack, internal temperatures can exceed the specified upper limit, resulting in impaired performance or failure. If the device is mounted in a rack, always observe the following requirements to avoid heat

- If the device is mounted in a rack with other devices that generate a significant amount of heat, such as a power amplifier, leave more than 1U of space between the device and other devices (both above and below). Also, make sure to either leave any 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 you've 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 fan unit manual for details

he model number, serial number, power requirements, etc nay be found on or near the name plate, which is at the ottom of the unit. u should note this serial number in the space provided

pelow and retain this manual as a permanent record of your

rchase to aid identification in the event of theft. Model No.

(bottom\_en\_01)

#### 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 GREEN-AND-YELLOW: EARTH BI UF : NEUTRAL

As the colours of the wires in the mains lead of this apparatus ay not correspond with the coloured markings identifying e 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 tter E or by the safety earth symbol 🕀 or colored GREEN o

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 erminal which is marked with the letter L or coloured RED.

In Finland: Laite on liitettävä suojamaadoituskoskettimilla In Norway: Apparatet må tilkoples jordet stikkontakt. In Sweden: Apparaten skall anslutas till jordat uttag.

This applies only to products distributed by Yamaha Canada

CAN ICES-3 (B)/NMB-3(B)

Operation is subject to the following two conditions ) this device may not cause harmful interference, and this device must accept any interference received,

his device complies with Part 15 of the FCC Rules.

cluding interference that may cause undesired operation

이 기기는 가정용(B급) 전자파적합기기로서 주로 가정에서 사용하는 것을 목적으로 하며, 모든 지역에서 사용할 수 있습니다

(class b korea)

# 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.

negative effects on human health and the environment which could otherwise arise from inappropriate waste

your waste disposal service or the point of sale where you purchased the items.

[Information on Disposal in other Countries outside the European Union] his symbol is only valid in the European Union. If you wish to discard these items, please contact your local

(weee\_eu\_en\_01)

## **Explanation of Graphical Symbols**



within an equilateral triangle is intended to alert the user to the presence of uninsulate "dangerous voltage" within the product's sure that may be of sufficient magnitude to constitute a risk of electric shock to persons



The exclamation point within an equilatera triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the

# **IMPORTANT SAFETY INSTRUCTIONS**

Keep these instructions.

CAUTION

RISK OF ELECTRIC SHOO DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE OVER (OR BACK). NO USER-SERVICE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

- Do not use this apparatus near water
- Clean only with dry cloth.

  Do not block any ventilation openings. Install in accordance with the manufacturer's instructions Do not install near any heat sources such as radiators heat registers, stoves, or other apparatus (including
- amplifiers) that produce heat. 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
- an electrician for replacement of the obsolete out
  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

the provided plug does not fit into your outlet, consult

- 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

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

SPAIN/PORTUGAL

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Cchleiergasse 20, A-1100 Wien, Austria POLAND/LITHUANIA/LATVIA/ESTONIA Tel: 022-500-2925

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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

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

THE PEOPLE'S REPUBLIC OF CHINA

Yamaha Music & Electronics (China) Co.,Ltd. 2F, Yunhedasha, 1818 Xinzha-lu, Jingan-qu, Shanghai, China Tel: 400-051-7700 INDIA
Yamaha Music India Pvt. Ltd.
Occasion building Ground Floor, Tower A, Secto

Spazedge building, Ground F 47, Gurgaon- Sohna Road, G Tel: 0124-485-3300 INDONESIA

PT. Yamaha Musik Indonesia (Distributor Yamaha Music Center Bldg, Jalan Jend. Gatot Subroto Kav. 4, Jakarta 12930, Indonesia Tel: 021-520-2577

aha Music Korea Ltd. 8F, 9F, Dongsung Bldg. 158-9 Sa Kangnam-Gu, Seoul, Korea Tel: 02-3467-3300

SINGAPORE

Denmark Generatorvej 8B, DK-2730 Herlev, Denmark Tel: 44 92 49 00 THAILAND Siam Music Yamaha Co., Ltd. Yamaha Music Europe GmbH Germany -Grini Næringspark 1, N-1361 Østerås, Norway Tel: 67 16 78 00

VIETNAM

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COUNTRIES AND TRUST TERRITORIES IN PACIFIC OCEAN

HEAD OFFICE Yamaha Corporation, Audio Products Sales and Marketing Division

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By disposing of these products correctly, you will help to save valuable resources and prevent any potential

For more information about collection and recycling of old products, please contact your local municipality,

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

authorities or dealer and ask for the correct method of disposal.



The lightning flash with arrowhead symbol



11 Only use attachments/accessories specified by the

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 13 Unplug this apparatus during lightning

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Olimpus Music Ltd.
The Emporium, Level 3, St. Louis Street Msida
MSD06
Tel: 02133-2144 NETHERLANDS/BELGIUM/ LUXEMBOURG amaha Music Europe Branch Benelux

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C.S.G., PA Development Division

http://www.yamaha.co.jp/manua

[For business users in the European Union]



literature accompanying the product