

Read this first

In order to use the complete and customizable ADECIA communications solutions, it is necessary to update the firmware of the devices. Please download the latest firmware from the website below and update accordingly.

U.S.A. and Canada: <https://uc.yamaha.com/support/>

Other countries: <https://download.yamaha.com/>



SIGNAL PROCESSOR

RM-CR

Reference Manual

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INTRODUCTION

Thank you for purchasing the Yamaha RM-CR signal processor. This document provides detailed information on the product setup, functions and specifications as well as the Web GUI. For correct and safe use of this product, be sure to first read this manual carefully together with the RM-CR Installation Manual (included with the product).

Information

- The illustrations and images shown in this manual are for instructional purposes only.
- The company names and product names in this manual are trademarks or registered trademarks of their respective companies.
- We are continuously improving the software for our products. The latest version can be downloaded from the Yamaha website.
- This document is based on the latest specifications at the time of publication. The latest version can be downloaded from the Yamaha website.
- Reproduction of this manual in whole or in part without permission is prohibited.

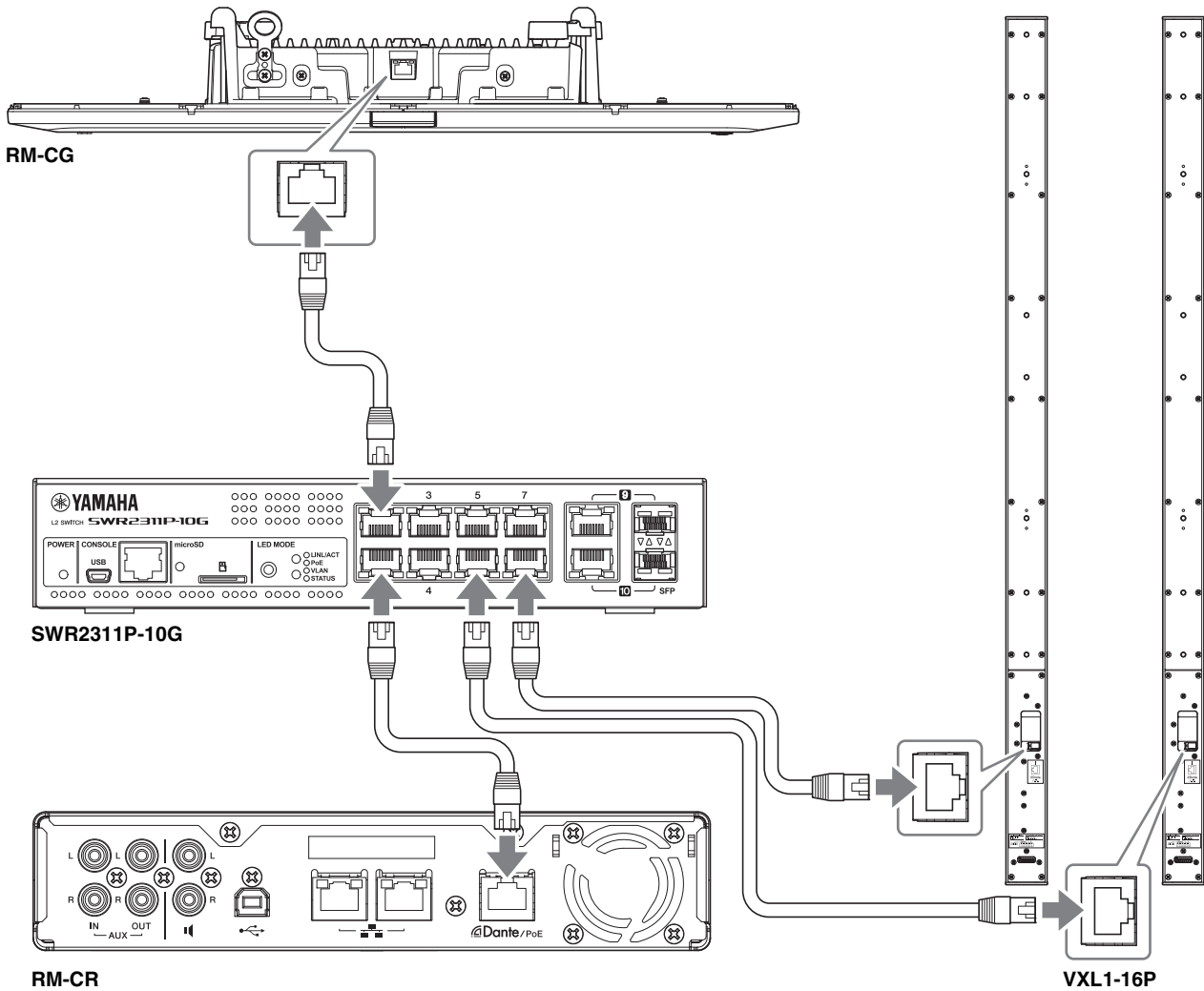
SETUP

In order to use this unit, setup is required. First, connect this unit to peripheral devices, and then perform setup using the Web GUI.

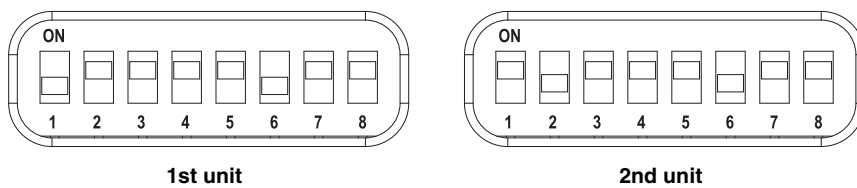
Connecting to peripheral devices

This unit is one of the components of the complete and customizable ADECIA communications solution. Refer to the diagram below to connect this unit to peripheral devices with LAN cables.

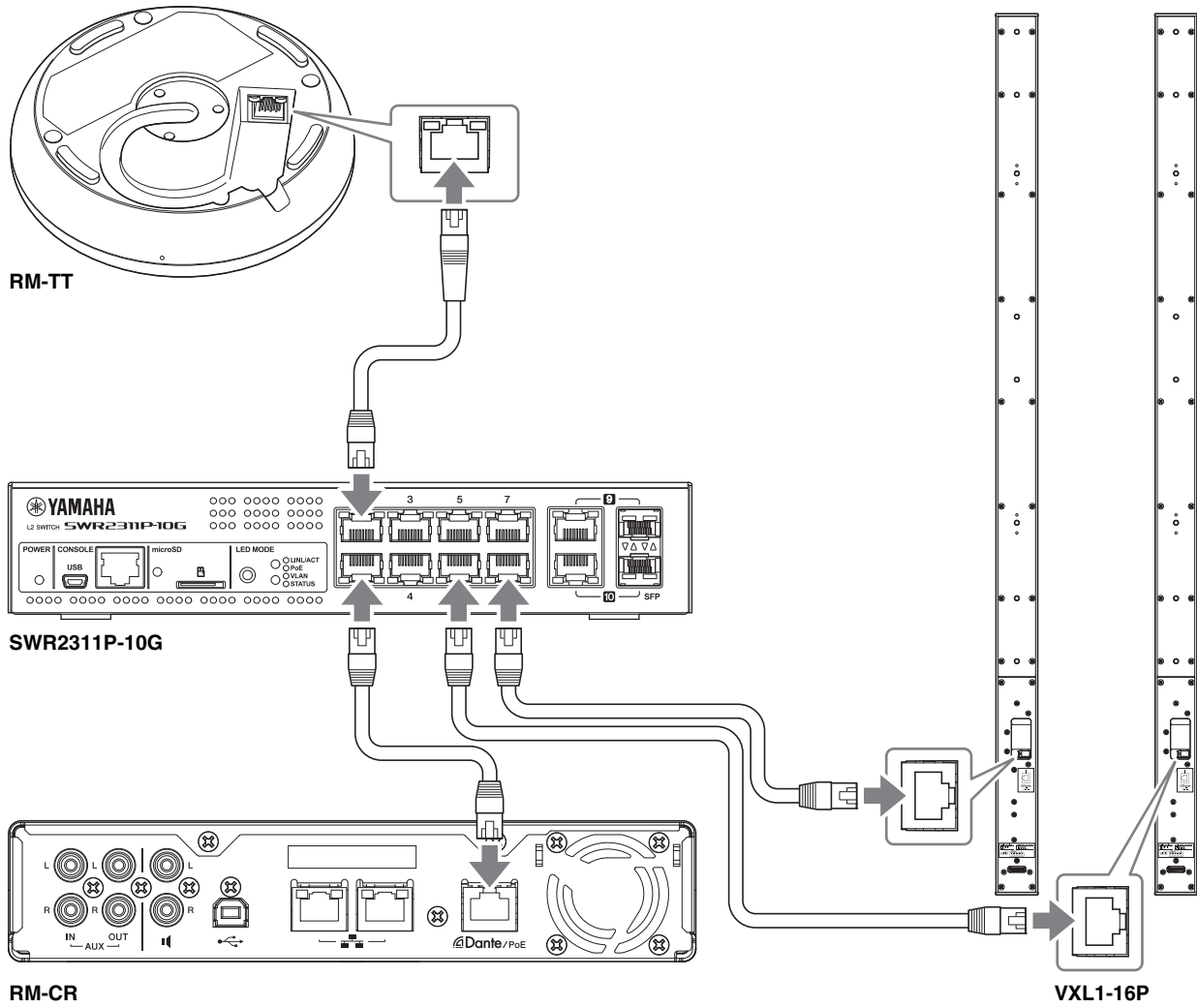
■ For an ADECIA ceiling solution



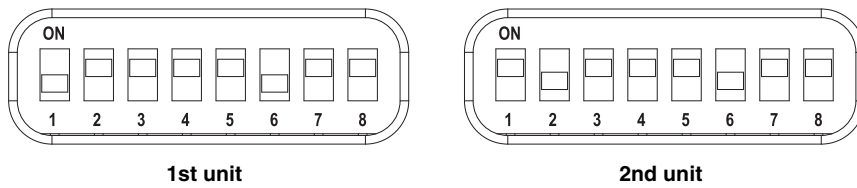
IMPORTANT: There is a DIP switch for specifying settings on the back of each VXL1-16P. Before plugging in LAN cables, set the DIP switches as shown below. The DIP switch settings on the two units must not be the same.



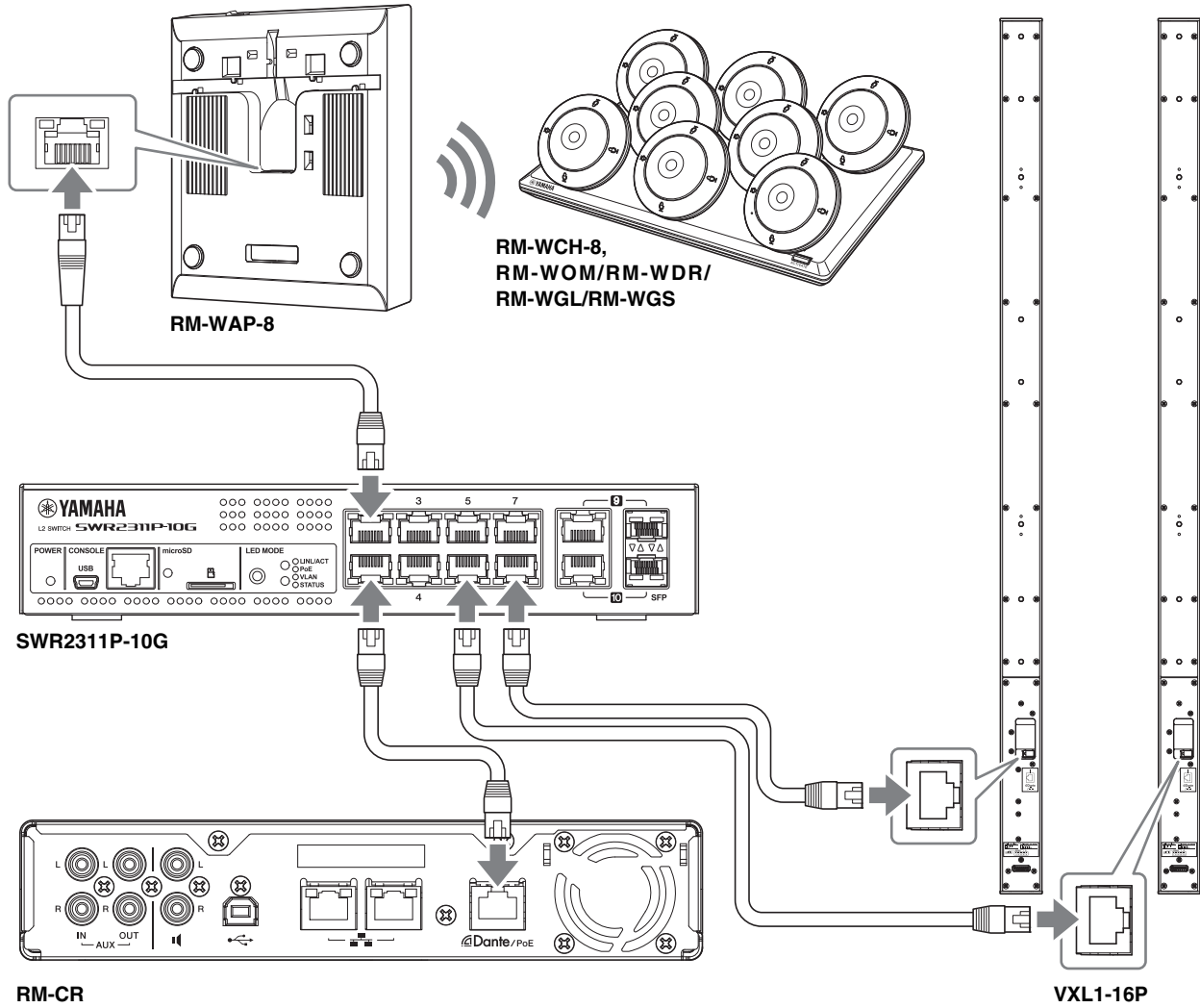
■ For an ADECIA tabletop solution



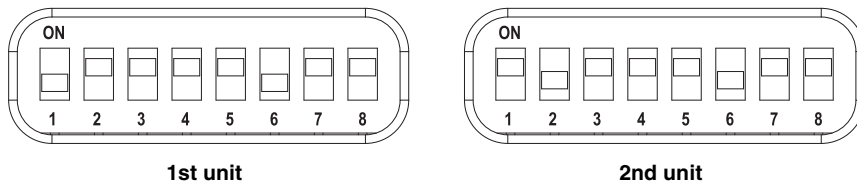
IMPORTANT: There is a DIP switch for specifying settings on the back of each VXL1-16P. Before plugging in LAN cables, set the DIP switches as shown below. The DIP switch settings on the two units must not be the same.



■ For an ADECIA wireless solution



IMPORTANT: There is a DIP switch for specifying settings on the back of each VXL1-16P. Before plugging in LAN cables, set the DIP switches as shown below. The DIP switch settings on the two units must not be the same.



The ADECIA uses PoE or PoE+ as the system for supplying/receiving power. In addition, Dante is used as the connection format.

- NOTICE:**
- When disconnecting the LAN cable from the Dante/PoE port, wait at least five seconds before reconnecting the cable. Otherwise, damage or malfunctions may result.
 - With a Dante network, do not use the EEE function* of the network switch. Although mutual power consumption settings are automatically adjusted between switches that support the EEE function, some switches do not perform that properly. As a result, the switch's EEE function may be enabled inappropriately in the Dante network, possibly degrading clock synchronization performance and interrupting audio. Therefore, please note the following.
 - When using managed switches, turn off the EEE function on all ports used for Dante. Do not use a switch that does not allow the EEE function to be turned off.
 - When using unmanaged switches, do not use switches that support the EEE function. In such switches, the EEE function cannot be turned off.
 - * EEE (Energy-Efficient Ethernet) function: Technology that reduces the power consumption of Ethernet devices during periods of low network traffic; also known as Green Ethernet or IEEE802.3az.
 - With an ADECIA wireless solution using RM-WAP, be sure to first use the SITE SURVEY function in the Web GUI "RM-WAP Device Manager" to check the signal conditions in the area. For details, refer to the Reference Manual for the RM Series Wireless Microphone System.

Setting up using the Web GUI

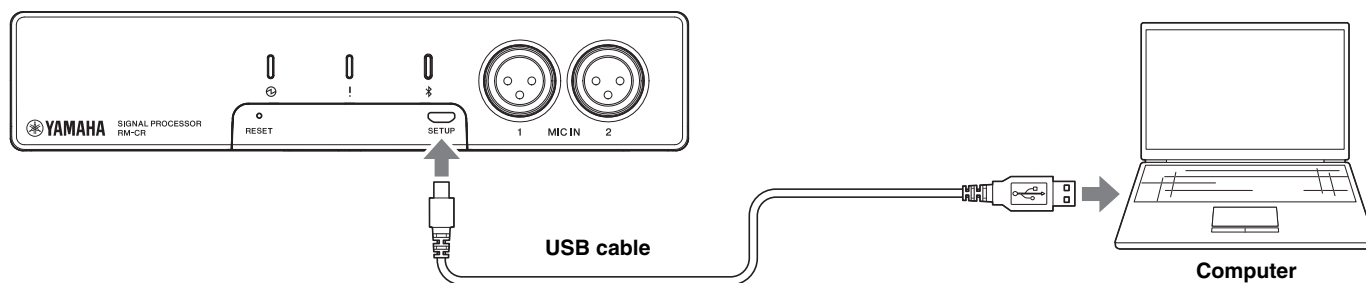
After connecting this unit to peripheral devices, set it up using the Web GUI "RM-CR Device Manager".

Prepare the following.

- Computer
- A-micro B type USB cable (included with the unit)

1. Make sure that this unit and all peripheral devices have been turned on.

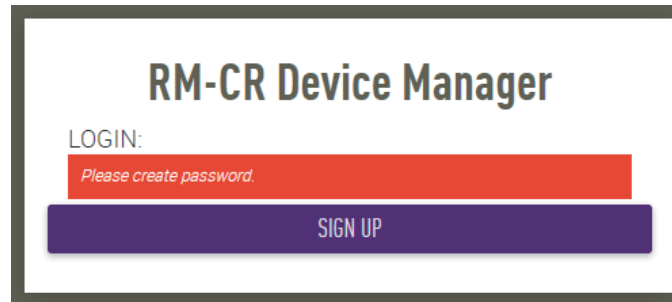
2. Connect this unit and the computer with an A-micro B type USB cable.



3. Start a browser (Google Chrome or Safari) on the computer and type "172.16.0.1" in the address bar.

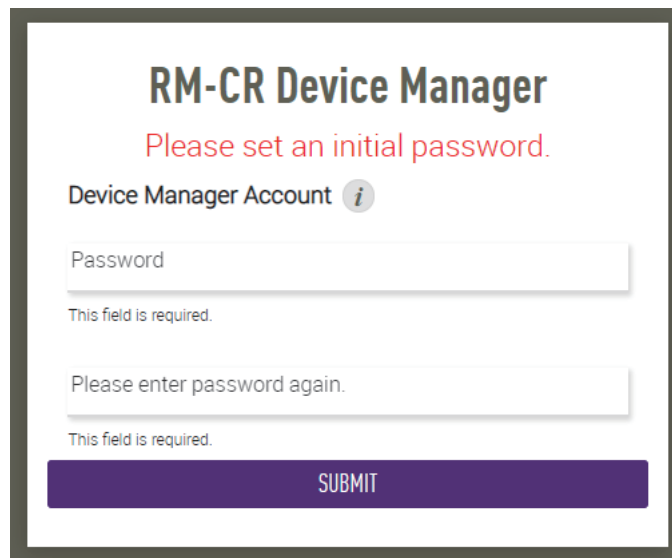
The first login window of RM-CR Device Manager appears.

4. Click the [SIGN UP] button in the first login window.



The screenshot shows the 'RM-CR Device Manager' login window. At the top, the title 'RM-CR Device Manager' is displayed in a large, bold, dark font. Below the title, the word 'LOGIN:' is followed by a red rectangular box containing the text 'Please create password.' in a smaller, lighter font. At the bottom of the window, there is a prominent purple button with the text 'SIGN UP' in white, centered on the button.

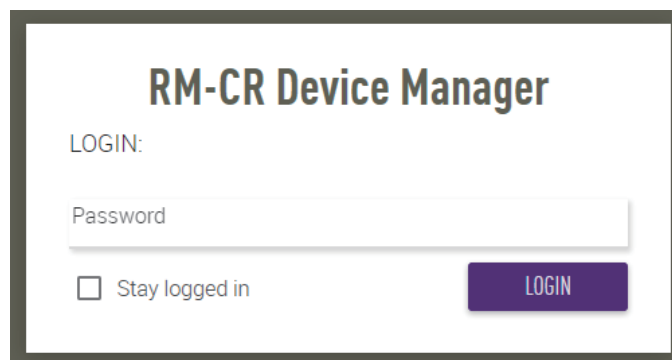
5. Specify a password in the password settings window, and then click the [SUBMIT] button.



The screenshot shows the 'RM-CR Device Manager' password settings window. The title 'RM-CR Device Manager' is at the top. Below it, the instruction 'Please set an initial password.' is written in red. Underneath, the text 'Device Manager Account' is followed by a small information icon (a lowercase 'i' in a circle). There are two input fields: the first is labeled 'Password' and has a red error message 'This field is required.' below it; the second is labeled 'Please enter password again.' and also has a red error message 'This field is required.' below it. At the bottom, there is a purple button with the text 'SUBMIT' in white, centered on the button.

6. Type the password into the login window, and then click the [LOGIN] button.

The wizard starts up.

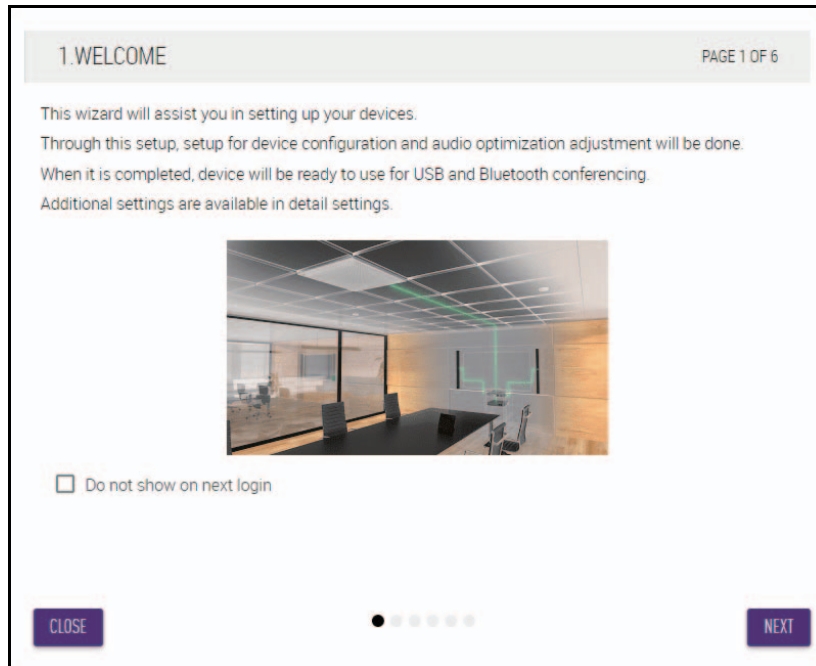


The screenshot shows the 'RM-CR Device Manager' login window. The title 'RM-CR Device Manager' is at the top. Below it, the word 'LOGIN:' is followed by a white input field with the placeholder text 'Password'. Below the input field, there is a checkbox with the text 'Stay logged in' next to it. At the bottom right, there is a purple button with the text 'LOGIN' in white, centered on the button.

7. Follow the wizard's instructions to continue the setup.

[1. WELCOME]

Click the [NEXT] button.

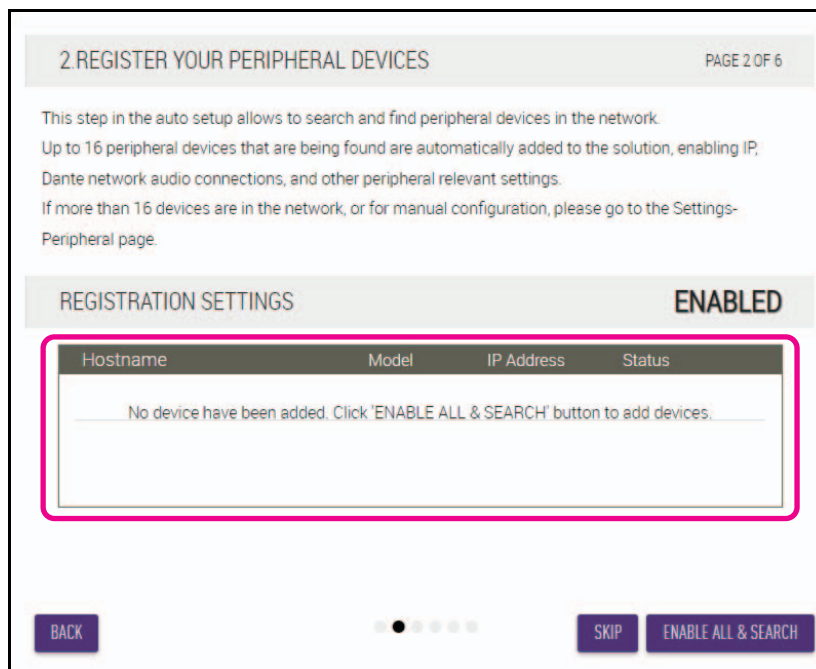


[2. REGISTER YOUR PERIPHERAL DEVICE]

① Click the [ENABLE ALL & SEARCH] button.

Peripheral devices are detected and displayed in the list.

NOTE: If no peripheral devices are detected, recheck the LAN cable connections. For VXL1-16P units, recheck the DIP switch settings. (Refer to page 5.)



② Check that [connected] appears below [Status] for all peripheral devices, and then click the [NEXT] button.

2. REGISTER YOUR PERIPHERAL DEVICES PAGE 2 OF 6

This step in the auto setup allows to search and find peripheral devices in the network.
Up to 16 peripheral devices that are being found are automatically added to the solution, enabling IP, Dante network audio connections, and other peripheral relevant settings.
If more than 16 devices are in the network, or for manual configuration, please go to the Settings-Peripheral page.

REGISTRATION SETTINGS SEARCHING

Hostname	Model	IP Address	Status
Y001-Yamaha-RM-WAP-8-a29...	RM-WAP-8	169.254.7.249	connected
Y001-Yamaha-RM-TT-BF76FE	RM-TT	169.254.192.212	connected
Y001-Yamaha-RM-TT-A28918	RM-TT	169.254.31.107	connected
Y002-Yamaha-RM-CG-000002	RM-CG	169.254.212.85	connected

BACK ● ○ ○ ○ ○ SKIP NEXT

NOTE: Items [2-1] to [2-3] below appear only in an ADECIA wireless solution that comprises RM-W.

[2-1. CHECKING WIRELESS ENVIROMENT]

Peripheral devices are detected by RM-WAP and displayed in the list.

Click the [NEXT] button.

2-1. CHECKING WIRELESS ENVIRONMENT PAGE 2 OF 6

To ensure that the wireless microphones will work without problems in the environment, perform a SITE SURVEY first to ensure the wireless spectrum provides enough availability to operate the wireless microphones.
SITE SURVEY is available through the RM-WAP Web UI. Please access to RM-WAP IP Address directly.

Hostname	Model	IP Address
Y001-Yamaha-RM-WAP-8-a29...	RM-WAP-8	169.254.7.249

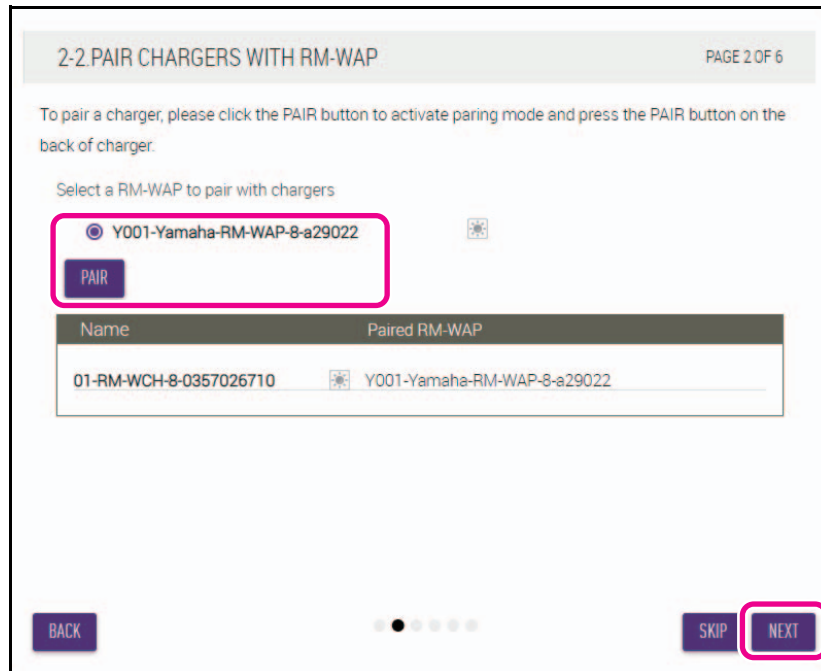
Wireless interference might cause disruption to the operation of wireless microphones, including sudden audio loss and loss of connectivity between microphones and RM-WAP.
For more details, please refer to RM-WAP documentation.

BACK ● ○ ○ ○ ○ NEXT

[2-2. PAIR CHARGERS WITH RM-WAP]

Pair the RM-WAP and charger.

- ① Select the RM-WAP, and then click the [PAIR] button.
- ② Long-press the PAIR button on the RM-WCH for at least two seconds.
- ③ Click the [NEXT] button.

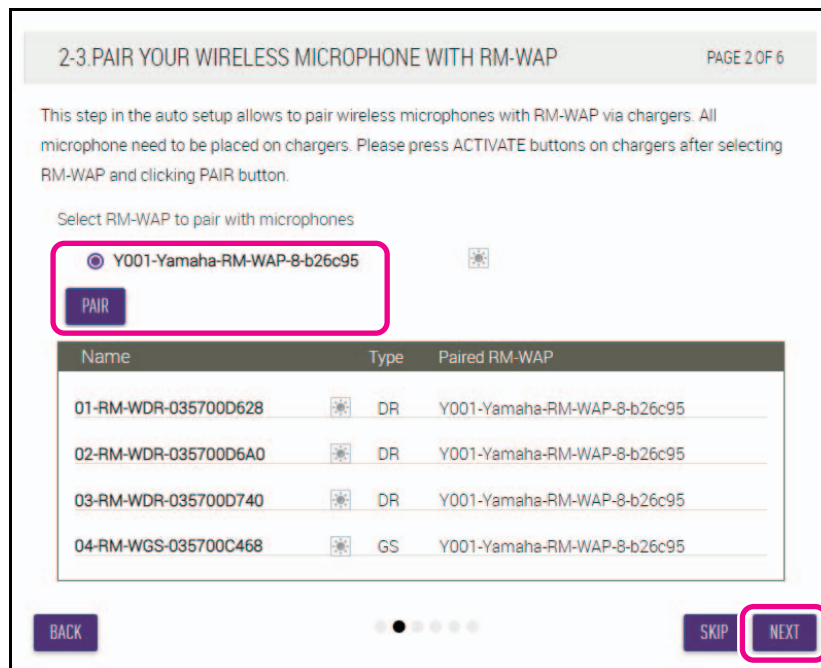


[2-3. PAIR MICHROPHONE WITH RM-WAP]

Pair the RM-WAP and wireless microphones.

IMPORTANT: Place all wireless microphones on the charger.

- ① Select the RM-WAP, and then click the [PAIR] button.
- ② Long-press the ACTIVATE button on the RM-WCH for at least two seconds.
- ③ Click the [NEXT] button.



[3. CHECK FIRMWARE VERSION]




Check the versions of the firmware, and then click the [NEXT] button.

3.CHECK FIRMWARE VERSION PAGE 3 OF 6

This step in the auto setup process allows checking the current firmware version. If necessary, please update firmware of devices via the Update page.

NOTE: Firmware of microphones and chargers connected to the RM-WAP can be updated in the Peripheral Detail page. The Peripheral Detail page can be accessed via REGISTRATION SETTINGS on the Peripheral page.

NOTE: Components showing Firmware version in red require update.


Hostname	Model	Version(Main / Dante)
Y001-Yamaha-RM-WAP-8-a29...	 RM-WAP-8	1.7.7b.120 / 4.2.6.4
Y065-Yamaha-VXL1-16P-3344...	 VXL1-16P	R1.2.0a0.2 / 4.02.02.03
Y066-Yamaha-VXL1-16P-4E30...	 VXL1-16P	R1.2.0a0.2 / 4.02.02.03

BACK CLOSE NEXT

- NOTE:** If the firmware must be updated, the version number appears in red.
- Update the firmware of RM-CR, RM-CG, RM-TT, RM-WAP and VXL1-16P via TOOLS→Update→FIRMWARE UPDATE in the Web GUI “RM-CR Device Manager”. (Refer to page 48.)
- Update the firmware of RM-WCH, RM-WOM, RM-WDR, RM-WGL and RM-WGS via SETTINGS→Peripheral→REGISTRATION SETTINGS→Details→VIEW→FIRMWARE UPDATE in the Web GUI “RM-CR Device Manager”. (Refer to page 35.)

[4. LOCATE PERIPHERAL DANTE SPEAKERS]



Set [Position] for each speaker to [Left] or [Right] according to the actual mounting position, and then click the [NEXT] button.

- NOTE:** If  (Identify button) on the right below [Hostname] is clicked, the indicator on the corresponding speaker flashes, allowing you to confirm the mounting position.

4.LOCATE PERIPHERAL DANTE SPEAKERS PAGE 4 OF 6

Depending on position of the speakers, choose output source type from RM-CR to Dante speaker.

NOTE: For mono use only, choose Left for all devices.

Hostname	Model	Position
Y065-Yamaha-VXL1-16P-3344...	 VXL1-16P	Left
Y066-Yamaha-VXL1-16P-4E30...	 VXL1-16P	Right

BACK SKIP NEXT

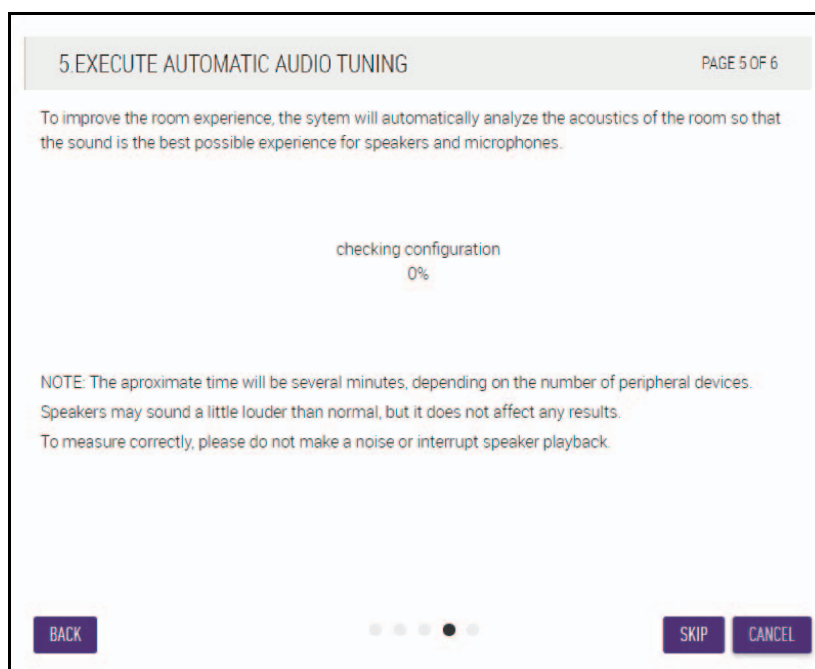
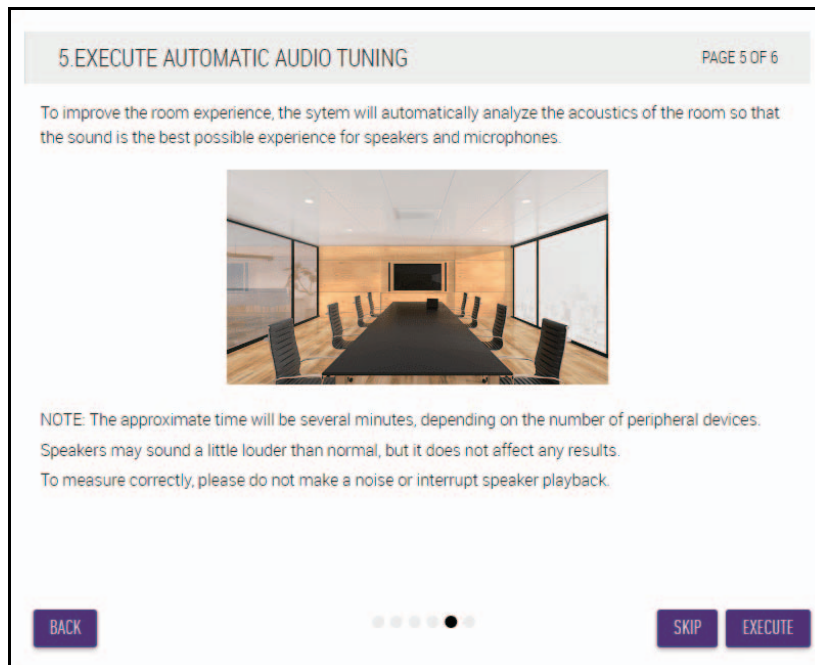
[5. EXECUTE AUTOMATIC AUDIO TUNING]

① Click the [EXECUTE] button.

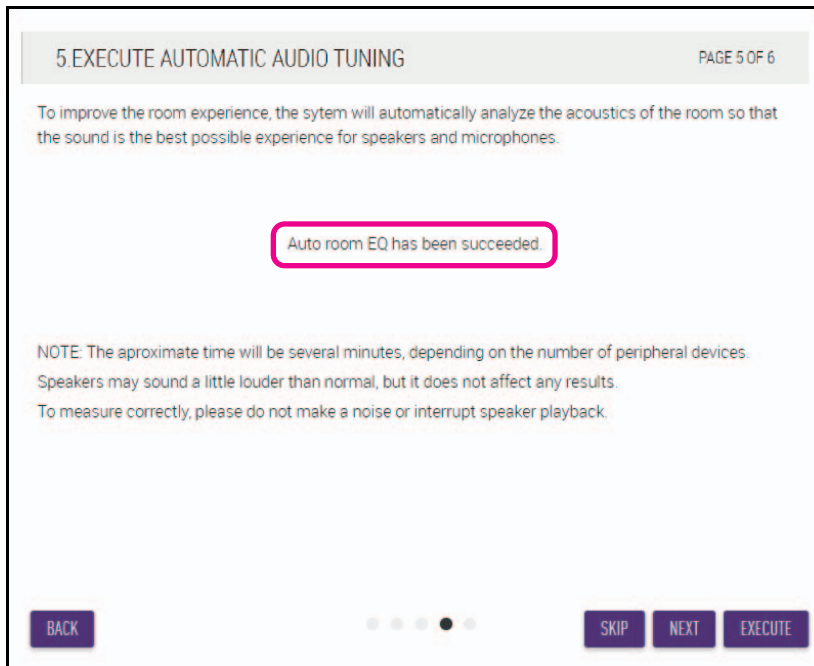
The window changes, and automatic audio tuning begins.

IMPORTANT: For better accuracy, as much as possible, avoid making noise during tuning.

NOTE: Sound is output from the speakers during tuning.

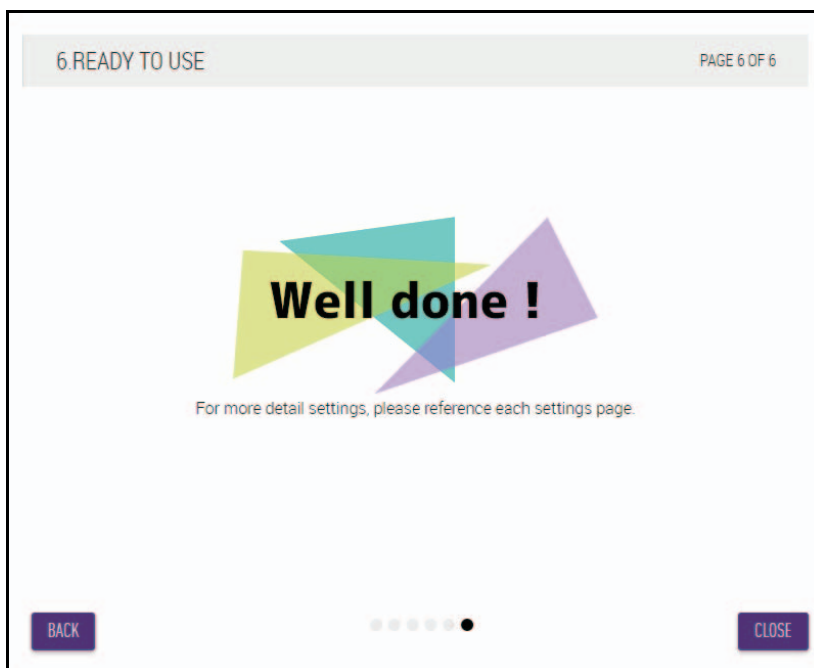


② Confirm that tuning has completed, and then click the [NEXT] button.



[5. READY TO USE]

Click the [CLOSE] button.

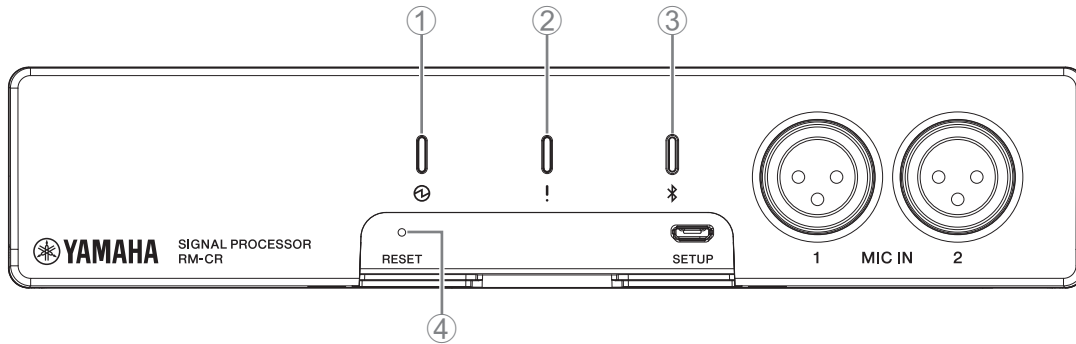


This completes the setup.

NOTE: Use the Web GUI “RM-CR Device Manager” to specify detailed settings for this unit. For details, refer to page 22.

CONTROLS AND FUNCTIONS

Front panel



① (Power) indicator

Condition	Power indicator	Unit status
LAN cable plugged into Dante/PoE port	Lit green	Operating
LAN cable plugged into Dante/PoE port	Flashes green	Starting up
–	Flashes green quickly	Supplied power insufficient

② ! (Status) indicator

Condition	Status indicator	Unit status
Identify icon in Web GUI clicked	Flashes white	Responding (to Identify function)
Updating firmware	Flashes white quickly	Firmware being updated
Updating firmware	(After flashing white quickly) Flashes green quickly	Firmware updated successfully
–	Flashes red	Error occurring
–	Flashes red quickly	Severe error occurring

NOTE: Occurrences of errors and severe errors are recorded in the alert log. For details, refer to page 54.

③ (Bluetooth®) button/indicator

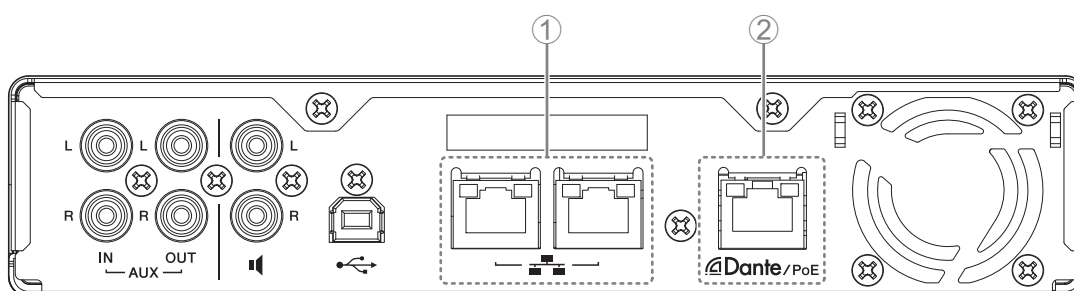
Condition	Bluetooth indicator	Unit status
Making Bluetooth connection	Brightly lit blue	Bluetooth connection being made
Bluetooth in Web GUI enabled	Dimly lit blue	Not connected (although Bluetooth can be used)
Long-pressing the Bluetooth button (with Bluetooth enabled) for 4 seconds or more	Flashes blue quickly	Waiting for pairing/Pairing
Bluetooth in Web GUI not enabled	Unlit	Bluetooth cannot be used

④ [RESET] button

Condition	Status indicator	Unit status
[RESET] button long-pressed for 4 seconds to less than 8 seconds, then released	Flashes blue twice per second (during long-pressing/resetting)	Network-related settings Waiting for resetting/Resetting
[RESET] button long-pressed for 8 seconds to less than 12 seconds, then released	Flashes blue three times per second (during long-pressing/resetting)	All settings Waiting for resetting/Resetting

NOTE: Use a fine-tipped object such as an ejector pin to press the [RESET] button.

Rear panel



① Network port indicators (Network port)

Network port indicator	Unit status
Left indicator lit green	Link up
Left indicator flashes green	Transferring data
Left indicator unlit	Link down
Right indicator lit green	Connection speed: 1000M Link
Right indicator unlit	Connection speed: 10M Link/100M Link

② Network port indicators (Dante/PoE port)

Network port indicator	Unit status
Left indicator lit green	Link up
Left indicator flashes green	Transferring data
Left indicator unlit	Link down
Right indicator lit green	Operating on word clock of peripheral device (leader)
Right indicator flashes green	Acting as word-clock leader
Right indicator flashes orange	Word clock unlocked

CONNECTING COMMUNICATION DEVICES

The following are examples of a connection with a communication device.

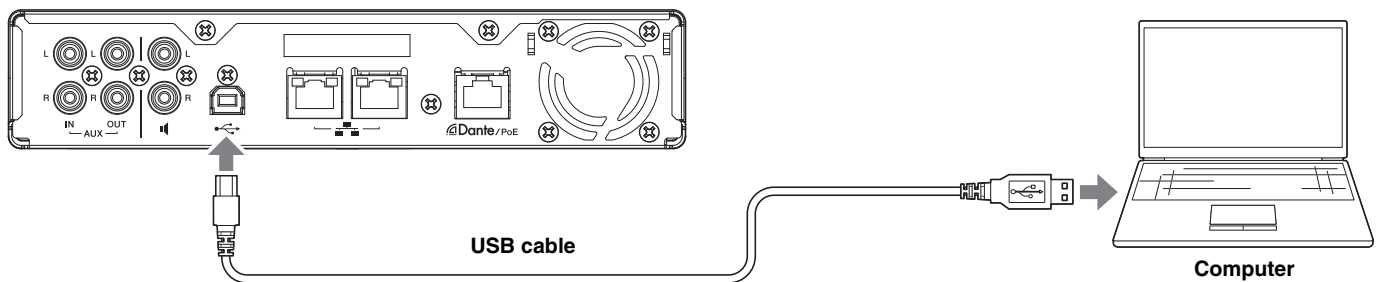
Connecting a computer

Prepare the following.

- Computer
- A-B type USB cable (included with the unit)

NOTE: No installation of a USB driver is necessary.

1. Connect this unit and the computer with a USB cable.

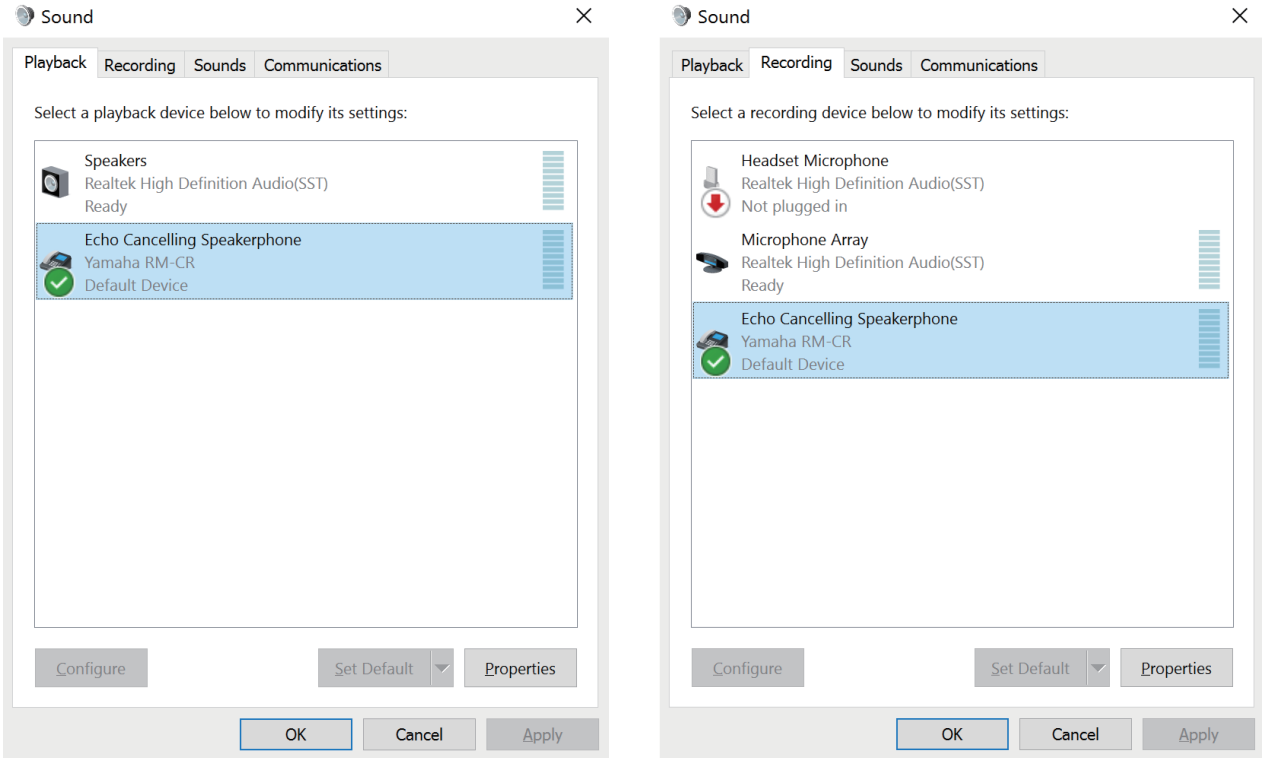


This completes the connection. Referring to the following pages, confirm that a proper connection can be made.

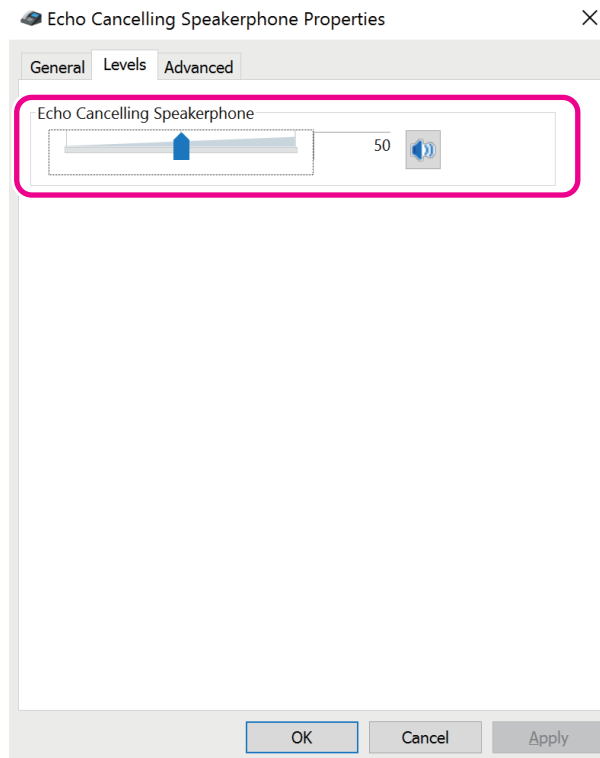
NOTE: The windows may differ depending on the computer.

[For Windows]

Open the Sound Control Panel, and then confirm that [Yamaha RM-CR] is set to [Default Device] on the [Playback] and [Recording] tabs. Otherwise, select [Yamaha RM-CR], click [Set Default], and then click [OK].



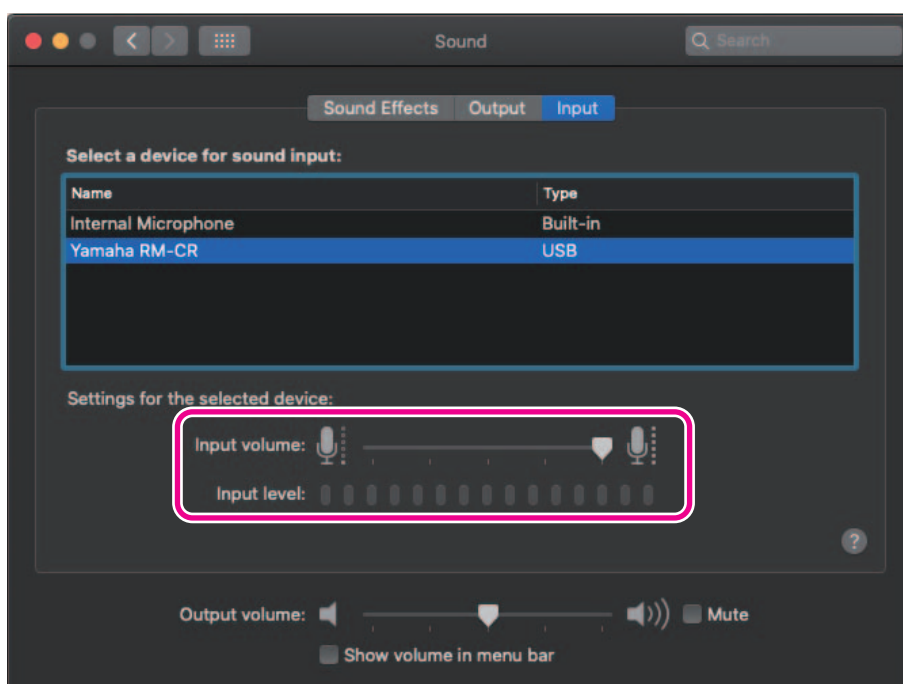
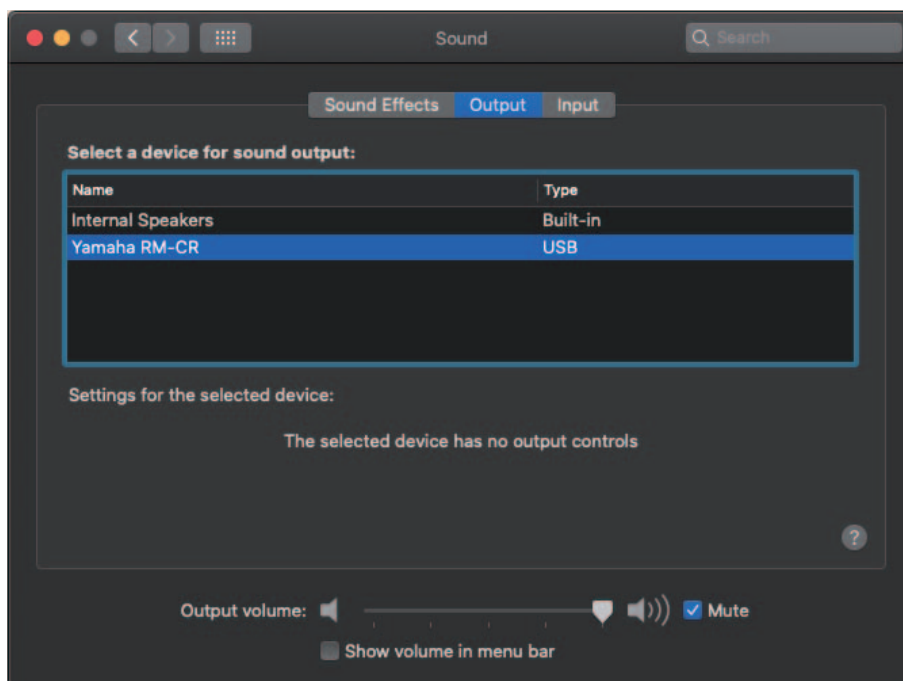
NOTE: Adjust the microphone sensitivity (input volume) as necessary. Select [Yamaha RM-CR] on the [Recording] tab, and then click [Properties] to open the [Echo Cancelling Speakerphone Properties] window. Click the [Levels] tab to display the adjuster.



[For macOS]

Open the [Sound] preferences, and then confirm that [Yamaha RM-CR] is selected on the [Output] and [Input] tabs. Otherwise, click [Yamaha RM-CR].

NOTE: Adjust the microphone sensitivity (input volume) as necessary. The adjuster is available on the [Input] tab.



Connecting a smartphone

Prepare the following.

- Smartphone

IMPORTANT: • Bluetooth must first be enabled in the Web GUI. For details, refer to page 29.

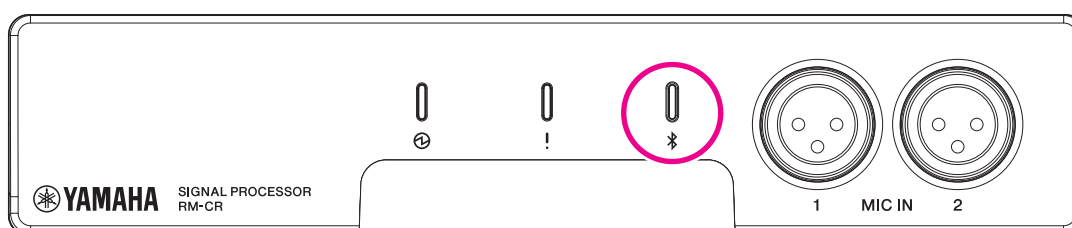
- This unit cannot be connected with multiple smartphones at the same time via Bluetooth.

[Connecting for the first time]

1. Long-press the Bluetooth button on the front panel of the unit for four seconds or more.

The unit enters the pairing standby mode, and the Bluetooth indicator flashes blue quickly.

NOTE: Pairing means that the unit and the smartphone register each other with the information required for a Bluetooth connection.

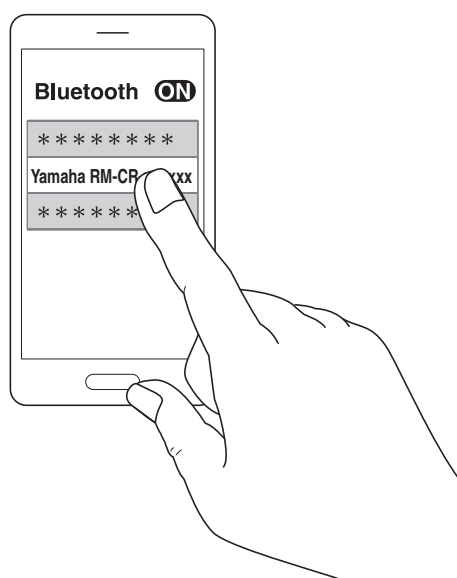


2. Enable Bluetooth on the smartphone, and select [Yamaha RM-CR-XXXXXX] (where “XXXXXX” is the MAC address of this unit).

The connection is completed as soon as pairing is finished. Check the completion of the connection from the screen of the smartphone.

IMPORTANT: As a factory default, the passkey is set to “0000” (numbers). The passkey can be changed in the Web GUI.

- NOTE:**
- If 60 seconds have elapsed without completing pairing, the pairing standby mode of this unit will be canceled.
 - To cancel the pairing standby mode, press the Bluetooth button while the Bluetooth indicator is flashing.
 - This unit can be paired with up to eight smartphones. When pairing with the ninth device has completed, the pairing with the oldest date and time of the nine smartphones will be canceled.



[Connecting a paired smartphone]

1. Enable Bluetooth on the smartphone, and select [Yamaha RM-CR-XXXXXX] (where “XXXXXX” is the MAC address of this unit).

This completes the connection. Check the completion of the connection from the screen of the smartphone.

[Disconnecting]

The Bluetooth connection can be cut by using any of the following methods.

- Press the Bluetooth button on the unit.
- Turn off Bluetooth from the smartphone.
- Turn off the unit or smartphone.

NOTE: Bluetooth operation of this unit can also be performed using the Web GUI.

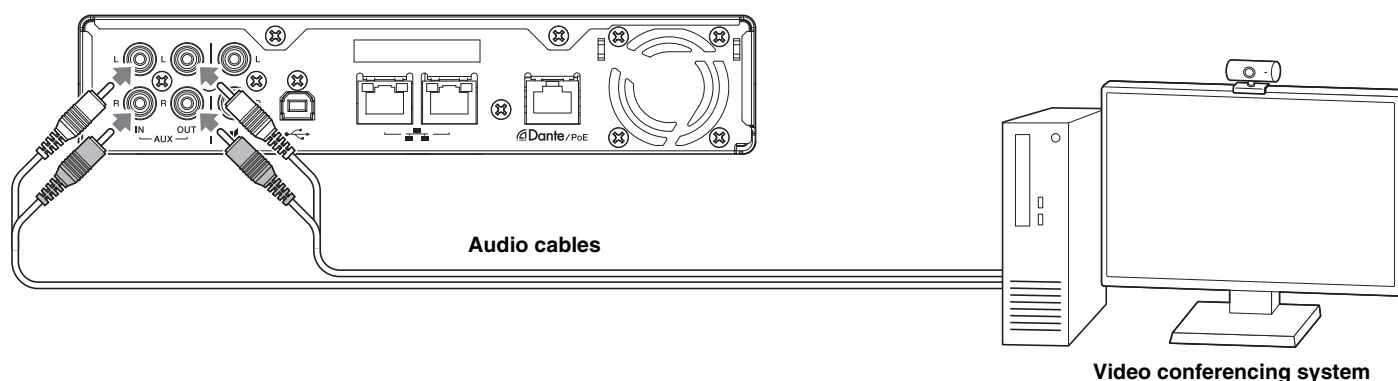
Connecting a video conferencing system

Prepare the following.

- Video conferencing system
- Audio cable with stereo RCA jacks on one end or both ends x2

NOTE: The audio cable jacks that connect to the video conferencing system do not necessarily have to be stereo RCA jacks. Prepare cables that meet the specifications of the video conferencing system.

1. Connect this unit to the video conferencing system with the audio cables.



2. Check/change the audio input/output settings of the video conferencing system.

IMPORTANT: Turn off the video conferencing system microphone and speakers.

CONNECTING EXPANSION DEVICES

The following are examples of a connection to an expansion device.

Connecting a handheld microphone

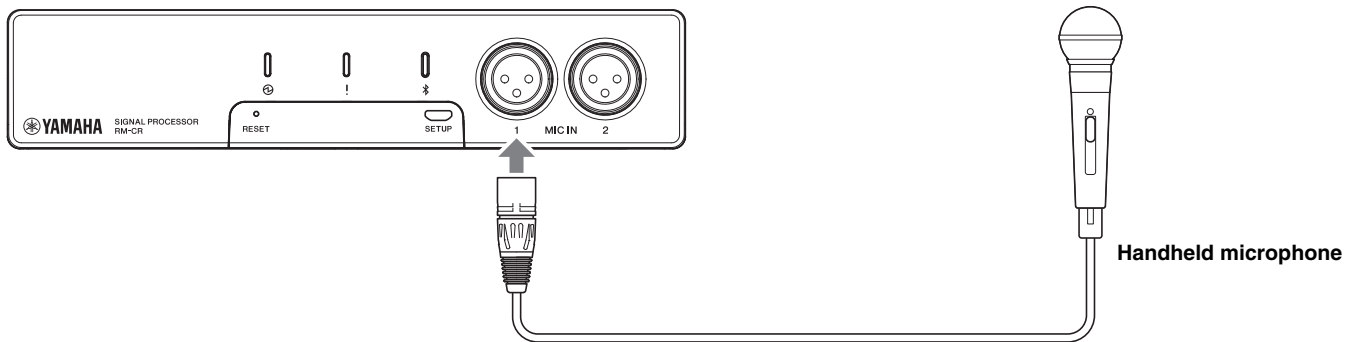
Connect this unit to a handheld microphone to talk with the other party and amplify your voice at your location.

Prepare the following.

- Handheld microphone

1. Connect this unit and the handheld microphone.

NOTE: Two handheld microphones can be connected at the same time.



Connecting a speaker with built-in amplifier

Connect this unit to a speaker with built-in amplifier to expand the playback range at your location.

Prepare the following.

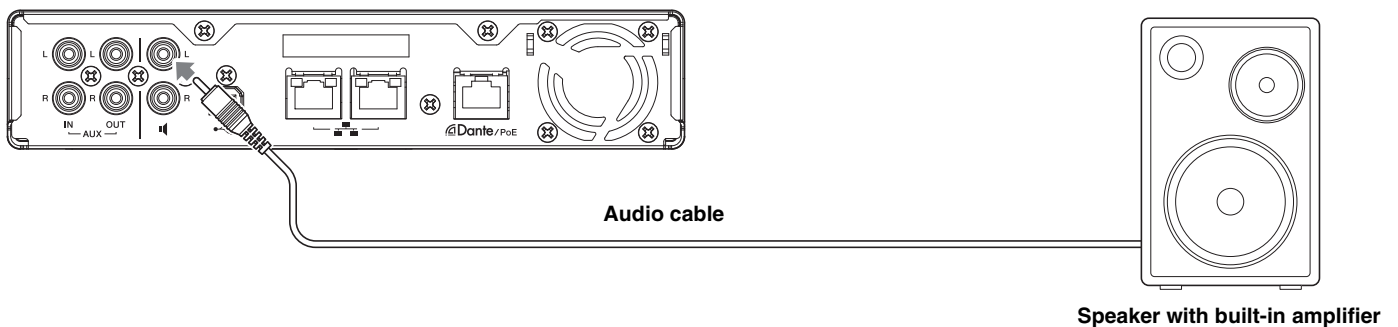
- Speaker with built-in amplifier
- Audio cable with RCA jack on one end or both ends

NOTICE: Use a speaker with built-in amplifier that has little delay and distortion. Using a speaker with a lot of delay or distortion may cause echoing for the other party.

NOTE: The audio cable jack that connects to the speaker with built-in amplifier does not necessarily have to be an RCA jack. Prepare a cable that meets the specifications of the speaker with built-in amplifier.

1. Connect this unit and the speaker.

NOTE: Two speakers with built-in amplifiers can be connected at the same time.



WEB GUI

Use the Web GUI “RM-CR Device Manager” to check/change the settings of this unit and ADECIA.

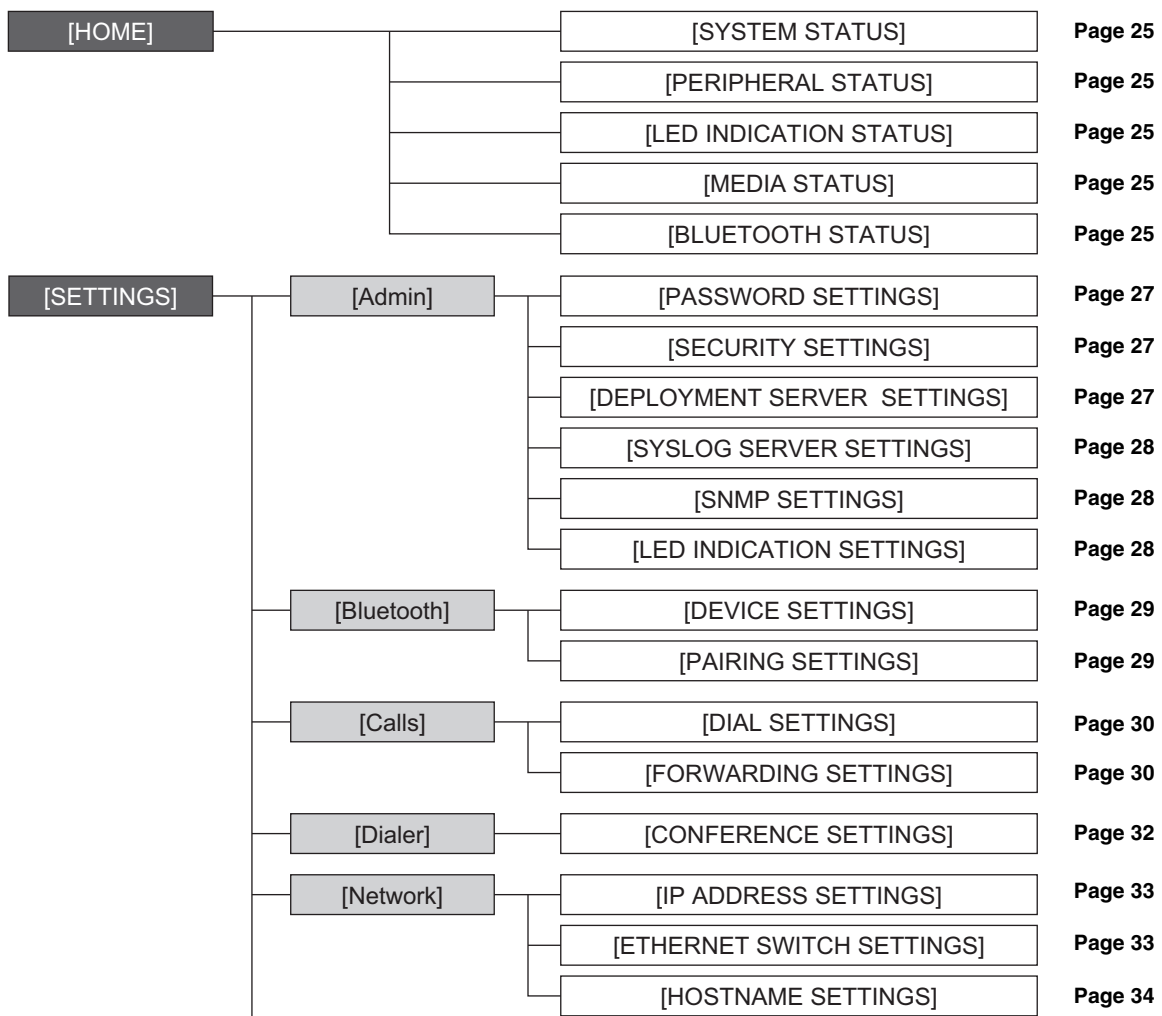
Starting RM-CR Device Manager

- 1. Connect this unit and the computer with an A-micro B type USB cable.**
- 2. Start a browser (Google Chrome or Safari) on the computer and type “172.16.0.1” in the address bar.**
The RM-CR Device Manager starts up.
- 3. Type the specified password into the login window, and then click the [LOGIN] button.**
The [HOME] window appears.

This completes the startup.


Structure of RM-CR Device Manager


Refer to the page listed to the right for details on each item available in the various windows.




	[Peripheral]	[DEVICE SETTINGS]	Page 35
		[REGISTRATION SETTINGS]	Page 35
		[SPEAKER POSITIONING SETTINGS]	Page 36
		[MICROPHONE GROUP MUTE SETTINGS]	Page 36
	[Region]	[SYSTEM SETTINGS]	Page 37
		[TIME SETTINGS]	Page 37
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	[SIP]	[SIP SETTINGS]	Page 38
		[REGISTRATION SETTINGS]	Page 38
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	[Transport]	[PRIORITY SETTINGS]	Page 40
		[TRANSPORT SETTINGS]	Page 40
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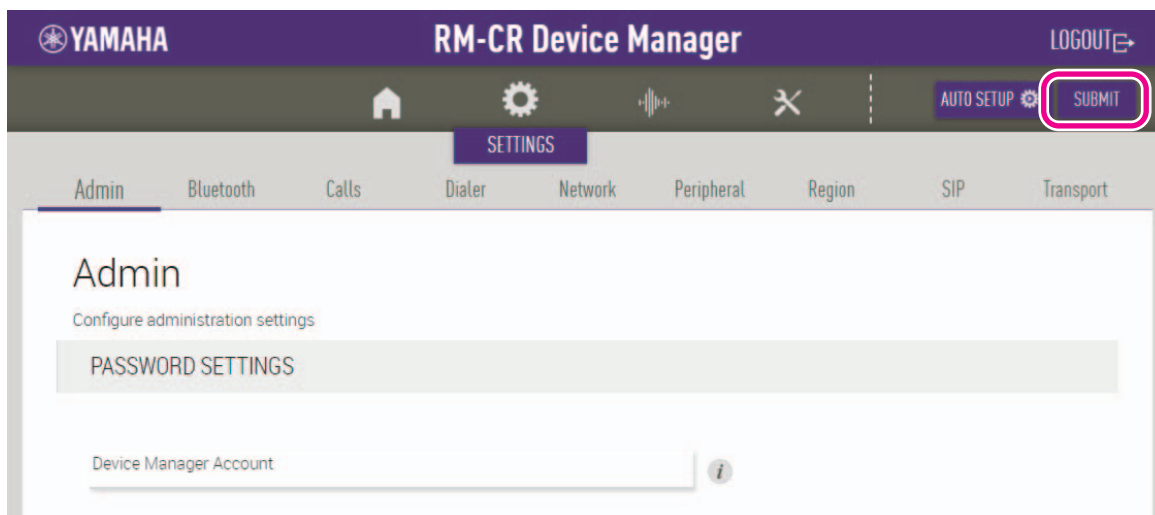
The following icons/buttons are used in RM-CR Device Manager.

 (Information icon): Move the pointer over this icon to see more information about the item.

 (Identify button): Click to cause the indicator of the corresponding device to flash.

 (Link button): Click to go to another window for the item.

IMPORTANT: Be sure to click the [SUBMIT] button after changing settings in RM-CR Device Manager. The [SUBMIT] button always appears in the upper-right corner of the window.



Functions of RM-CR Device Manager

[HOME]

YAMAHA **RM-CR Device Manager** LOGOUT

HOME AUTO SETUP

Home

View status of system and paired devices

- SYSTEM STATUS**

Hostname: Y001-Yamaha-RM-CR-6F084A
Model: RM-CR
MAC Address: AC:44:F2:6F:08:4A
Corporate Network IP Address: 169.254.248.250
Device Network IP Address: 169.254.81.33
USB Network IP Address: 172.16.0.1
Main Version: V1.0.2
Serial Number: S7A000323
- PERIPHERAL STATUS** **ENABLED**

Hostname	Model	MAC Address	IP Address	Status
Y001-Yamaha-RM-CG-3004DE	RM-CG	AC:44:F2:30:04:DE	169.254.232.225	Connected
Y065	VXL1-16P	AC:44:F2:4E:31:84	169.254.133.49	Connected
Y065	VXL1-16P	AC:44:F2:4E:1F:8B	169.254.140.31	Connected
- LED INDICATION STATUS**

Power: Green lit
Status: unlit
Bluetooth: Blue lit
- MEDIA STATUS**

Bluetooth Call Status: Inactive
Bluetooth Audio Stream: Inactive
SIP1 Call Status: Inactive
SIP2 Call Status: Inactive
USB Call Status: Inactive
USB Audio Stream: Inactive
- BLUETOOTH STATUS** **ENABLED**

Bluetooth Name: RM-CR Yamaha-6F122D
Bluetooth MAC Address: 34:81:F4:6F:12:2D

Paired Devices	MAC Address	Status
No phones have been paired.		

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① **[SYSTEM STATUS]**

Allows you to check basic information on this unit.

② **[PERIPHERAL STATUS]**

Allows you to check basic information on peripheral devices and their connection status with this unit.

③ **[LED INDICATION STATUS]**

Allows you to check the status of the indicators.

④ **[MEDIA STATUS]**

Allows you to check if you are in a call or playing back music.

⑤ **[BLUETOOTH STATUS]**

- Allows you to check basic information about Bluetooth for this unit.
- Allows you to check basic information and the connection status of the paired smartphone.

[SETTINGS]

[Admin]

Admin
Configure administration settings

① **PASSWORD SETTINGS**

Device Manager Account *i*

② **SECURITY SETTINGS**

Enable call history *i*

Enable SCP remote control access *i*

③ **DEPLOYMENT SERVER SETTINGS**

Enable deployment server *i*

Enable automatic server discovery *i*

Provisioning interval (minutes) *i*

1440

Primary server *i*
This field is required.

Secondary server *i*

① [PASSWORD SETTINGS]

Allows you to check/change the password for logging in to RM-CR Device Manager.

② [SECURITY SETTINGS]

Allows you to select whether to keep a call history.

③ [DEPLOYMENT SERVER SETTINGS]

- Allows you to select whether to use a deployment server. If using a server, select whether to detect it automatically or configure it manually.
- Allows you to check/adjust the server provisioning interval.

④ SYSLOG SERVER SETTINGS

Enable Syslog *i*

Server address
0.0.0.0 *i*

Port number
514 *i*

⑤ SNMP SETTINGS

Enable SNMP *i*

Server address *i*

Read-only community
public *i*

Device location *i*

Contact name *i*

⑥ LED INDICATION SETTINGS

Brightness
High *i*

LED mute indicator color while system is not in a call
White *i*

④ [SYSLOG SERVER SETTINGS]

Allows you to select whether to use a Syslog server.

⑤ [SNMP SETTINGS]

Allows you to select whether to use SNMP.

⑥ [LED INDICATION SETTINGS]

- Allows you to check/adjust the brightness of the indicators.
- Allows you to check/change the color of indicators when there is no call. Select one of the following: White, Green, No color.

[Bluetooth]

YAMAHA **RM-CR Device Manager** LOGOUT

Admin **Bluetooth** Calls Dialer Network Peripheral Region SIP Transport

Bluetooth

Configure bluetooth settings

① **DEVICE SETTINGS**

Enable Bluetooth *i*

Device name
RM-CR Yamaha-6F122D *i*

Pairing pin
0000 *i*

Pairing and connection timeout (seconds) *i*
60

Enable auto-unpair *i*

② **PAIRING SETTINGS** **ENABLED**

Device Name: RM-CR Yamaha-6F122D
MAC Address: 34:81:F4:6F:12:2D

PAIR **UNPAIR ALL DEVICES**

Paired Devices	MAC Address	Status
No phones have been paired. Click the 'Pair' button to pair a phone.		

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① [DEVICE SETTINGS]

- Allows you to select whether to use Bluetooth.
- Allows you to check/change the name and passkey of the Bluetooth connection for this unit.
- Allows you to check/adjust the length of time that this unit remains in pairing standby mode.
- Allows you to select whether to cancel pairing when the Bluetooth connection with the smartphone is cut.

② [PAIRING SETTINGS]

- Allows you to put the unit in pairing standby mode by clicking the [PAIR] button.
- Allows you to cancel the pairing with all smartphones simultaneously by clicking the [UNPAIR ALL DEVICES] button.

[Calls]

YAMAHA **RM-CR Device Manager** **LOGOUT**

Admin Bluetooth **Calls** Dialer Network Peripheral Region SIP Transport

Calls

Configure calls settings

1 DIAL SETTINGS

- Enable message waiting indication *i*
- Set Do not Disturb (DnD) mode *i*
- Enable auto-answer *i*
- Ring tone type
Ring 1 *i*
- Ring tone volume(x0.01db) *i*
-2400
- Voicemail number *i*
- Maximum call duration
0 *i*
- Dial plan *i*

2 FORWARDING SETTINGS

- Always forward *i*
Forward number
This field is required.
- Forward on busy *i*
Forward number
This field is required.
- Forward on no answer *i*
Forward number
This field is required.
- Delay on no answer *i*
10

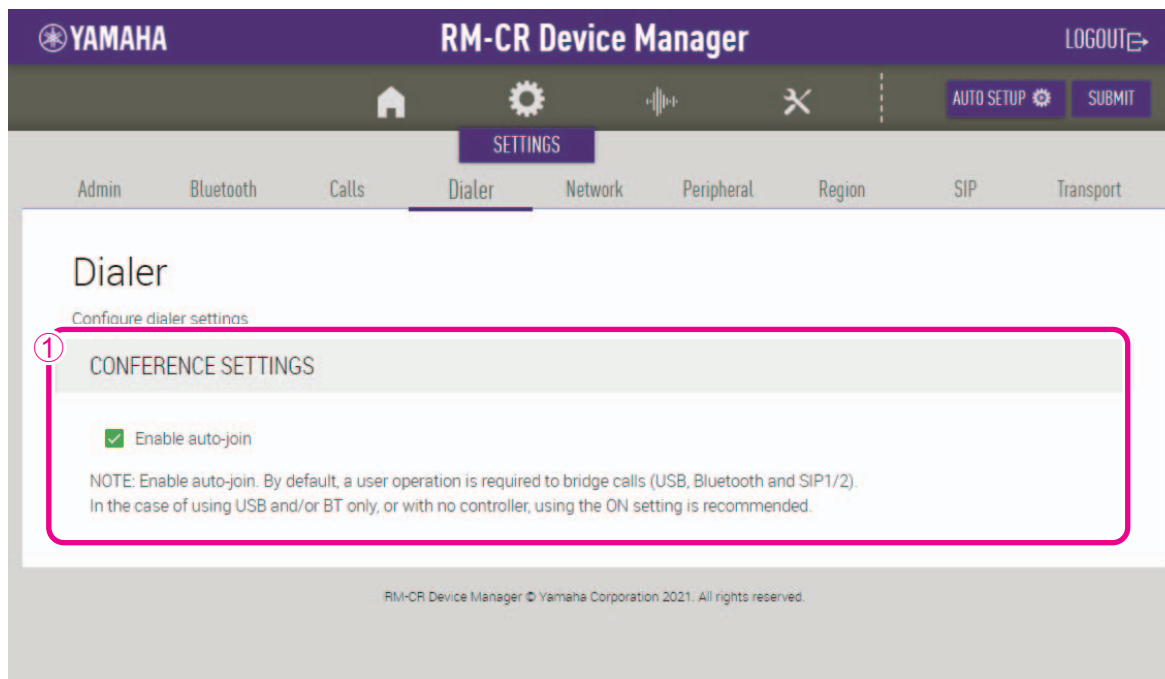
① [DIAL SETTINGS]

- Allows you to select whether to enable MWI.
- Allows you to set this unit to call rejection mode.
- Allows you to set this unit to auto-answer mode.
- Allows you to select the ringtone. Also allows you to adjust the ringtone volume.
- Allows you to specify the number for checking voicemails.
- Allows you to specify a maximum length of time for SIP calls.
- Allows you to specify a dial plan.

② [FORWARDING SETTINGS]

Allows you to specify how to forward incoming calls and the forwarding number.

[Dialer]



① [CONFERENCE SETTINGS]

Allows you to select whether users can join a call without performing any special operation.

[Network]

YAMAHA **RM-CR Device Manager** **LOGOUT**

Admin Bluetooth Calls Dialer **Network** Peripheral Region SIP Transport

Network

Configure network settings

① IP ADDRESS SETTINGS

Corporate Network Device Network including Dante/PoE Front Panel USB Network

Enable DHCP *i*

IP Address
192.168.100.1 *i*

Subnet mask
255.255.255.0 *i*

Default gateway
0.0.0.0 *i*

Primary DNS
0.0.0.0 *i*

Secondary DNS
0.0.0.0 *i*

② ETHERNET SWITCH SETTINGS

Mode
Separated

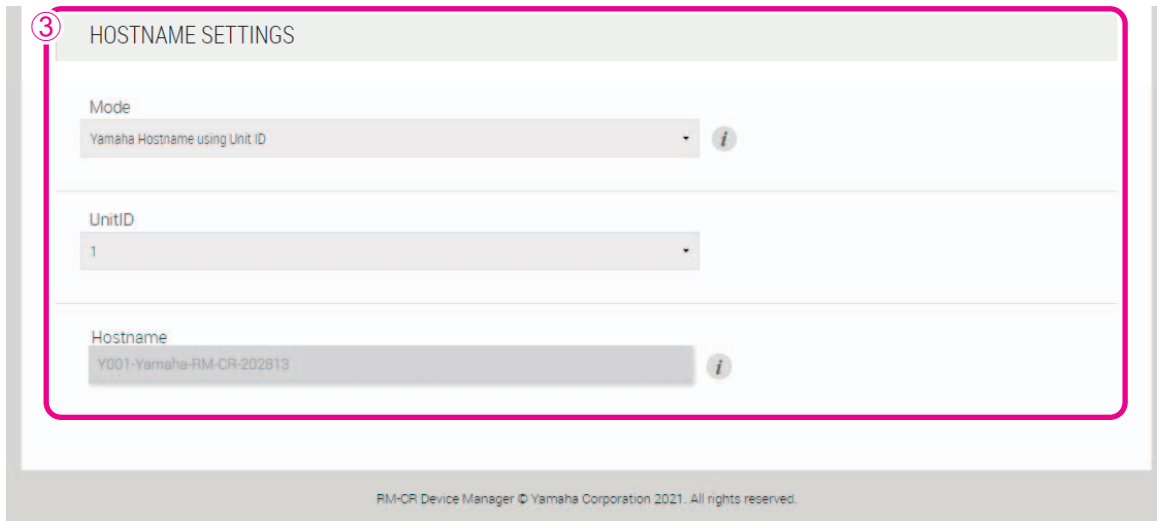
NOTE: Ethernet switch mode. In Separated mode, the ethernet ports for Corporate Network and the Dante/PoE port are isolated. In Switched mode, all ports are internally connected.

① [IP ADDRESS SETTINGS]

- Allows you to specify the network used by this unit.
- Allows you to select whether to use DHCP.

② [ETHERNET SWITCH SETTINGS]

Allows you to select whether to (internally) separate or integrate the network and Dante/PoE ports on the rear panel of this unit.



③ [HOSTNAME SETTINGS]

Allows you to select whether to specify the hostname of this unit automatically or manually.

[Peripheral]

YAMAHA **RM-CR Device Manager** **LOGOUT**

SETTINGS **AUTO SETUP** **SUBMIT**

Admin Bluetooth Calls Dialer Network **Peripheral** Region SIP Transport

Peripheral

Configure peripheral settings

① **DEVICE SETTINGS**

- Enable Peripheral controls *i*
- Enable automatic Dante audio routing *i*
- Enable microphone group mute control *i*

② **REGISTRATION SETTINGS** **ENABLED**

Hostname: Y001-Yamaha-RM-CR-6F0831

MAC Address: AC:44:F2:6F:08:31

Device Network IP Address: 169.254.239.117

SEARCH

Hostname	Model	IP Address	Status	Registration	Details
Y001-Yamaha-RM-WAP-8-a29022	RM-WAP-8	169.254.7.249	connected	REMOVE	VIEW
Y065-Yamaha-VXL1-16P-334455	VXL1-16P	169.254.86.68	connected	REMOVE	
Y066-Yamaha-VXL1-16P-4E3034	VXL1-16P	169.254.53.48	connected	REMOVE	

① [DEVICE SETTINGS]

- Allows you to select whether to link the system for this unit with the system for peripherals.
- Allows you to select whether to automatically route Dante audio.
- Allows you to select whether to enable the group mute function of the microphones.
When enabled, microphones can be grouped and muted as a group.
When disabled, all microphones are muted.

② [REGISTRATION SETTINGS]

- Allows you to detect peripheral devices and register them as components of ADECIA, by clicking the [SEARCH] button. Allows you to cancel the registration by clicking the [REMOVE] button.
- Allows you to open the Web GUI “Peripheral Detail” for the corresponding peripheral device by clicking the [VIEW] button.

③ **SPEAKER POSITIONING SETTINGS**

Depending on position of the speakers, choose output source type from RM-CR to Dante speaker.
NOTE: For mono use only, choose Left for all devices.

Hostname	Model	Position
Y065-Yamaha-VXL1-16P-334455	VXL1-16P	Left
Y066-Yamaha-VXL1-16P-4E3034	VXL1-16P	Right

④ **MICROPHONE GROUP MUTE SETTINGS** **ENABLED**

Microphones can be grouped to share their mute status. If one microphone changes to be muted, others in the same group will follow to be muted.

Hostname	Model	Group
Y001-Yamaha-RM-WAP-8-a29022	RM-WAP-8	VIEW
Y001-Yamaha-RM-CG-123456	RM-CG	1
Y001-Yamaha-RM-TT-258831	RM-TT	1

③ **[SPEAKER POSITIONING SETTINGS]**

Allows you to set [Position] for each speaker to [Left] or [Right] according to its actual mounting position.

④ **[MICROPHONE GROUP MUTE SETTINGS]**

Allows you to group the microphones. Grouping microphones links them when turning one on/off.

[Region]

YAMAHA RM-CR Device Manager **LOGOUT**

Admin Bluetooth Calls Dialer **SETTINGS** Network Peripheral Region SIP Transport

Region

Configure region settings

① **SYSTEM SETTINGS**

Regional call progress tones
USA *i*

Time zone
0:00 GMT *i*

② **TIME SETTINGS**

NTP support *i*

Network time server 1 *i*

Network time server 2 *i*

Network time server 3 *i*

Network time server 4 *i*

③ **DAYLIGHT SAVING SETTINGS**

Enable Daylight Saving Time adjustment *i*

Daylight Saving Time start time *i*

Month: January Week: First Day: Monday Hour: 00:00

Daylight Saving Time end time *i*

Month: January Week: First Day: Monday Hour: 00:00

① [SYSTEM SETTINGS]

Allows you to specify the country or region where this unit is used. Also allows you to specify the time zone.

② [TIME SETTINGS]

Allows you to select whether to use NTP.

③ [DAYLIGHT SAVING SETTINGS]

Allows you to select whether to use daylight saving time with this unit.

[SIP]

Sip
Configure sip settings

① **SIP SETTINGS**

Enable SIP *i*

② **REGISTRATION SETTINGS**

Registrar *i*
This field is required.

Backup register *i*

VoIP realm *i*
*

Proxy *i*

Use proxy for registration *i*

Username *i*
This field is required.

Password *i*

User ID *i*

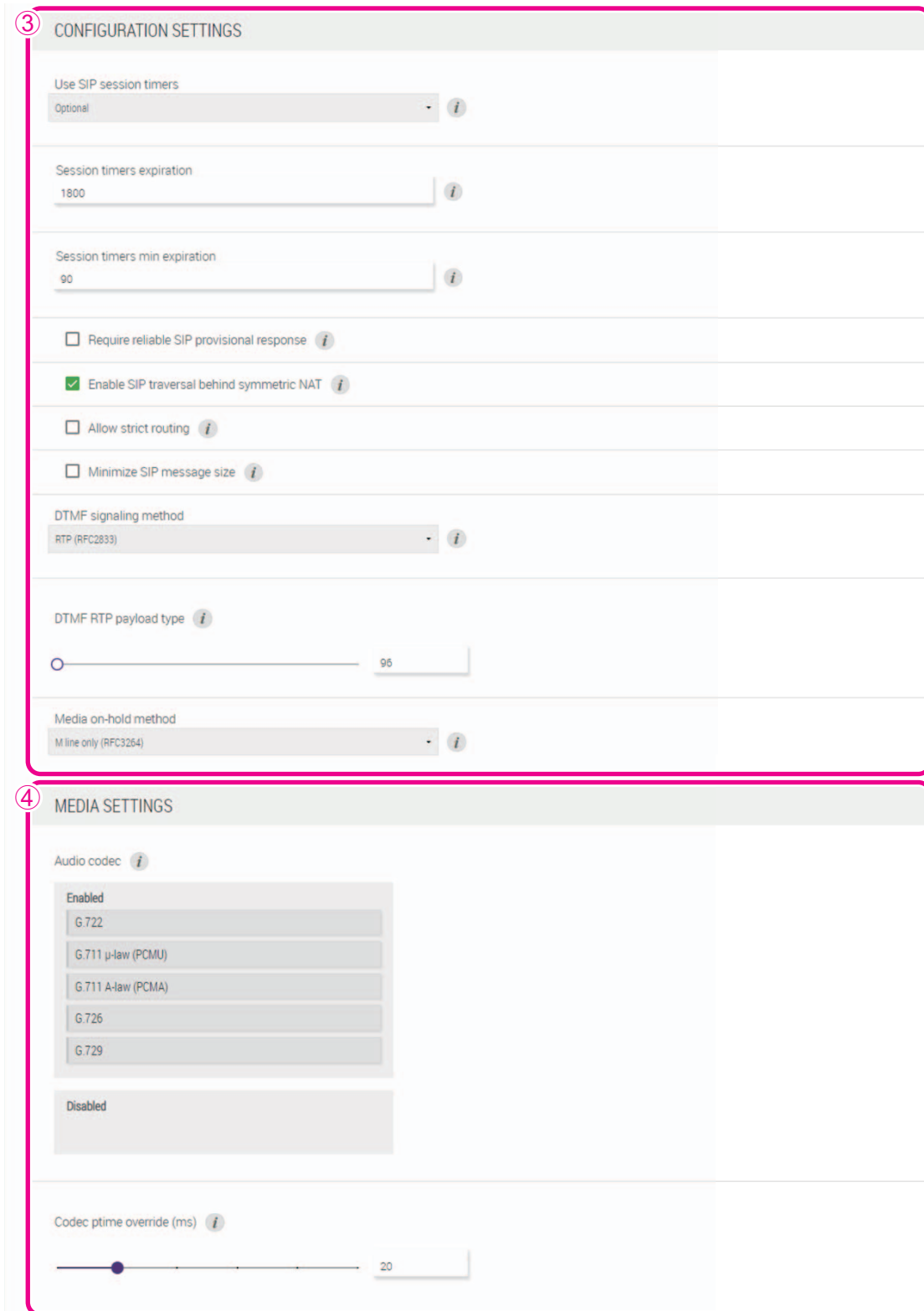
Display name *i*

① [SIP SETTINGS]

Allows you to select whether to use SIP.

② [REGISTRATION SETTINGS]

Allows you to register the SIP server.



③ [CONFIGURATION SETTINGS]

Allows you to check/change the settings related to SIP calls.

④ [MEDIA SETTINGS]

- Allows you to sort audio codecs into [Enabled] and [Disabled] by dragging and dropping them. The codec placed at the top of the [Enabled] box has a higher priority with this unit.
- Allows you to check/adjust the interval at which audio packets are sent.

[Transport]

YAMAHA **RM-CR Device Manager** LOGOUT

Admin Bluetooth Calls **SETTINGS** Dialer Network Peripheral Region SIP **Transport**

Transport

Configure transport settings

① **PRIORITY SETTINGS**

Enable QoS *i*

② **TRANSPORT SETTINGS**

Enable TCP transport protocol *i*

Local port
5060 *i*

Enable SRTP
Disabled *i*

RTP port
4000 *i*

SIP/RTP IP address *i*

① [PRIORITY SETTINGS]

Allows you to select whether to enable QoS for SIP.

② [TRANSPORT SETTINGS]

Allows you to check/change the settings related to the SIP network.

③ NAT TRAVERSAL SETTINGS

STUN server *i*

Enable ICE *i*

Enable aggressive ICE nomination *i*

Disable RTCP in ICE *i*

Max allowed ICE host candidates
5 *i*

Enable TURN relay *i*

TURN server *i*
This field is required.

Use TCP connection to TURN server *i*

TURN username *i*
This field is required.

TURN password *i*
This field is required.

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③ [NAT TRAVERSAL SETTINGS]

Allows you to check/change the settings related to NAT traversal.

[AUDIO]

[Input]

The screenshot shows the Yamaha RM-CR Device Manager interface. At the top, there is a purple header with the Yamaha logo, the title 'RM-CR Device Manager', and a 'LOGOUT' button. Below the header is a navigation bar with icons for Home, Settings, Audio, and a close button, along with an 'AUTO SETUP' button. The main content area is titled 'Input' and has a subtitle 'View status of audio input'. A red circle with the number '1' is placed next to the 'AUDIO INPUT STATUS' section header. This section contains five sub-sections, each with a table of channels and signal status indicators:

- Bluetooth:** No devices connected.
- AUX IN:** Table with 2 channels (1, 2) and signal status indicators.
- SIP:** Table with 2 channels (1, 2) and signal status indicators.
- USB:** Table with 2 channels (1, 2) and signal status indicators.
- MIC IN:** Table with 2 channels (1, 2) and signal status indicators.

AUDIO INPUT STATUS	
Bluetooth No devices connected.	
Ch.	Signal
1(L)	●
2(R)	●
AUX IN	
Ch.	Signal
1	●
2	●
SIP	
Ch.	Signal
1	●
2	●
USB	
Ch.	Signal
1	●
2	●
MIC IN	
Ch.	Signal
1	●
2	●

DANTE Receive			
Ch.	Signal	Connected to	Model
1	●	01@Y001-Yamaha-RM-CG-800162	RM-CG
2	●		
3	●		
4	●		
5	●		
6	●		
7	●		
8	●		
9	●		
10	●		
11	●		
12	●		
13	●		
14	●		
15	●		
16	●		

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① **[AUDIO INPUT STATUS]**

Allows you to check the audio input status for each connection method and connected device.

YAMAHA **RM-CR Device Manager** LOGOUT

HOME GEAR AUDIO MIX

AUTO SETUP SUBMIT

Input **Processing** Output

Processing

Configure audio parameters in detail

① **INTERFACE SETTINGS**

Enable AUX IN for stereo playback

② **DIGITAL SIGNAL PROCESSING SETTINGS**

Audio processing diagram ⓘ

The diagram illustrates the audio processing pipeline. It starts with three main input channels: FAR END INPUT CHANNEL (1-8), ANALOG MIC INPUT CHANNEL (1-2), and Dante INPUT CHANNEL (1-16). The FAR END channel includes 3 BAND EQ, AGC, and FADER. The ANALOG MIC channel includes 5 BAND EQ, GATE, COMP, FBS, AGC, FADER, and ECHO SUPPRESSOR. The Dante channel includes FADER, AUTO MIXER (Gain Share Or Gating), and AGC. A DUCKER block receives KEY IN and processes the signal. All channels feed into a central MIXING BUS WITH DELAY. From the mixing bus, the signal is distributed to FAR END OUTPUT CHANNEL (1-8) and NEAR END OUTPUT CHANNEL (1-2). The FAR END output channel includes a FADER. The NEAR END output channel includes 6 BAND EQ (Room EQ), two SPEAKER PROCESSOR blocks, two FADER blocks, and a ROUTER. The final outputs are Bluetooth Stereo L/R, AUX OUT Mono 1-2, SIP Mono 1-2, USB Stereo L/R, Analog Speaker Output, and Dante Speaker Output.

③

AUTOMATIC AUDIO TUNING

To improve the room experience, the system will automatically analyze the acoustics of the room so that the sound is the best possible experience for speakers and microphones.



NOTE: The approximate time will be several minutes, depending on the number of peripheral devices. Speakers may sound a little louder than normal, but it does not affect any results. To measure correctly, please do not make a noise or interrupt speaker playback.

EXECUTE

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① [INTERFACE SETTINGS]

Allows you to select whether to enable the AUX jacks on the rear panel of this unit.

② [DIGITAL SIGNAL PROCESSING SETTINGS]

Click a button in the [Audio processing diagram] to open a window for checking/changing parameters for digital signal processing.

IMPORTANT: Parameter changes are immediately reflected in the acoustics of the unit.

③ [AUTOMATIC AUDIO TUNING]

Allows you to perform automatic audio tuning by clicking the [EXECUTE] button.

IMPORTANT: For better accuracy, as much as possible, avoid making noise during tuning.

NOTE: A loud sound is output from the speakers during tuning.

[Output]

YAMAHA **RM-CR Device Manager** LOGOUT

HOME SETTINGS AUDIO AUTO SETUP

Input Processing **Output**

Output

View status of audio output

1 **AUDIO OUTPUT STATUS**

Bluetooth
No devices connected.

Ch.	Signal
1(L)	●
2(R)	●

AUX OUT

Ch.	Signal
1	●
2	●

S/P

Ch.	Signal
1	●
2	●

USB

Ch.	Signal
1	●
2	●

Analog Speaker Output

Ch.	Signal
1	●
2	●

DANTE Transmit			
Ch.	Signal	Connected to	Model
1	●	01@Y001-Yamaha-RM-CG-800162	RM-CG
2	●	01@Y065-Yamaha-VXL1-16P	VXL1-16P
3	●	01@Y066-Yamaha-VXL1-16P-8048bd	VXL1-16P
4	●		
5	●		
6	●		
7	●		
8	●		
9	●		
10	●		
11	●		
12	●		
13	●		
14	●		
15	●		
16	●		

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① **[AUDIO OUTPUT STATUS]**

Allows you to check the audio output status for each connection method and connected device.

[TOOLS]

[Update]

YAMAHA RM-CR Device Manager

Update

Update firmware of RM-CR, peripheral devices.

① **DEVICE STATUS**

Hostname: Y001-Yamaha-RM-CR-202813
Model: RM-CR
IP Address(Main / Dante): 10.130.63.43 / 10.130.63.206
Version(Main / Dante): V1.1.0 / 4.02.04.02
Updatability: Ready

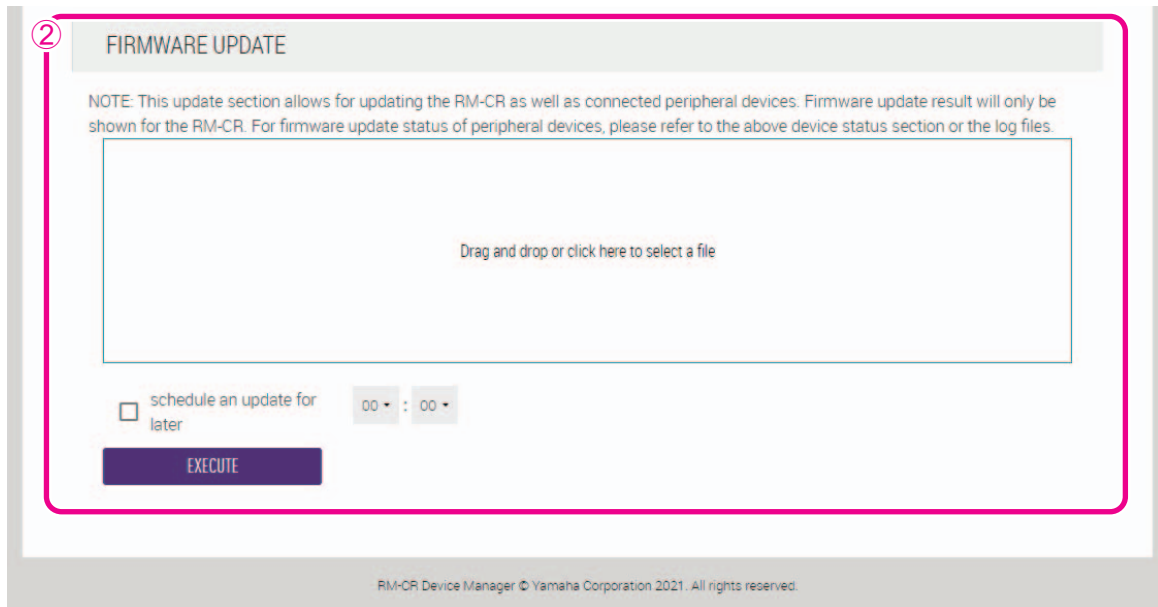
Hostname	Model	IP Address(Main / Dante)	Version(Main / Dante)	Updatability
Y001-Yamaha-RM-CG-3...	RM-CG	10.130.63.68 / 10.130.63.29	V1.1.0 / 4.02.02.03	Ready
Y065	VXL1-16P	10.130.63.53 / 10.130.63.54	V1.1.0 / 4.02.02.03	Ready
Y066	VXL1-16P	10.130.63.55 / 10.130.63.56	V1.1.0 / 4.02.02.03	Ready

NOTE: To update Dante firmware, Dante address needs to have the same network address as IP address of RM-CR.

① [DEVICE STATUS]

- Allows you to check the versions of the firmware and Dante of this unit. The firmware and Dante of this unit can be updated when [Ready] appears below [Updatability].
- Allows you to check the versions of the firmware and Dante of peripheral devices. The firmware and Dante of the peripheral device can be updated when [Connected] appears below [Updatability].
- If the firmware must be updated, the version number appears in red.

IMPORTANT: In order to update Dante, the network portion of this unit's IP address and the network portion of Dante's IP address must be the same.



② [FIRMWARE UPDATE]

- Allows you to update the firmware and Dante collectively or individually by dragging and dropping the update file(s) into the box, then clicking the [EXECUTE] button.

The files for the latest firmware can be downloaded from the Yamaha website.

Yamaha website

U.S.A. and Canada:

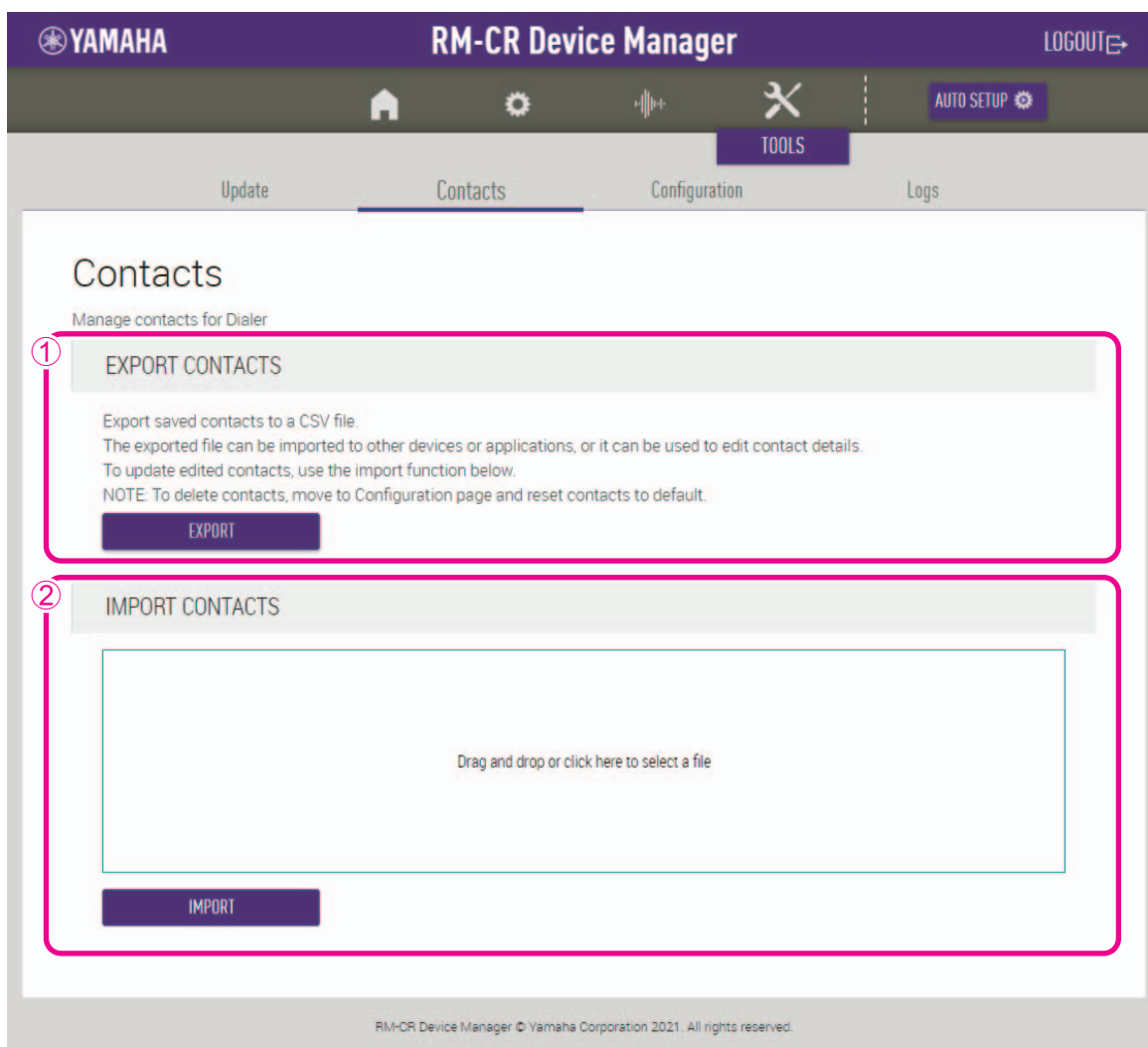
<https://uc.yamaha.com/support/>

Other countries:

<https://download.yamaha.com/>

- Allows you to specify that the update will be performed automatically after the specified length of time.

[Contacts]



① [EXPORT CONTACTS]

Allows you to export the SIP call contact information stored on this unit, by clicking the [EXPORT] button.

② [IMPORT CONTACTS]

Allows you to import SIP call contacts into this unit by dragging and dropping the contact file into the box, then clicking the [IMPORT] button.

NOTE: Create the contact file to be imported by editing the one exported in ①.

[Configuration]

YAMAHA **RM-CR Device Manager** LOGOUT

Update Contacts **Configuration** Logs

Configuration

Manage settings by configuration file
NOTE: For peripheral devices, please refer to their each details.

1 EXPORT CONFIGURATION

Export device configuration to an XML file.
This will export all settings except the system password and the SIP password.

EXPORT

2 IMPORT CONFIGURATION

NOTE: This import section allows for importing configuration to the RM-CR as well as connected peripheral devices. Import result will only be shown for the RM-CR. For result of peripheral devices, please refer to the log files.

Drag and drop or click here to select a file

IMPORT

① [EXPORT CONFIGURATION]

Allows you to export the settings of this unit by clicking the [EXPORT] button.

② [IMPORT CONFIGURATION]

Allows you to import settings into this unit by dragging and dropping the settings file into the box, then clicking the [IMPORT] button.

NOTE: Create the settings file to be imported by editing the one exported in ①.

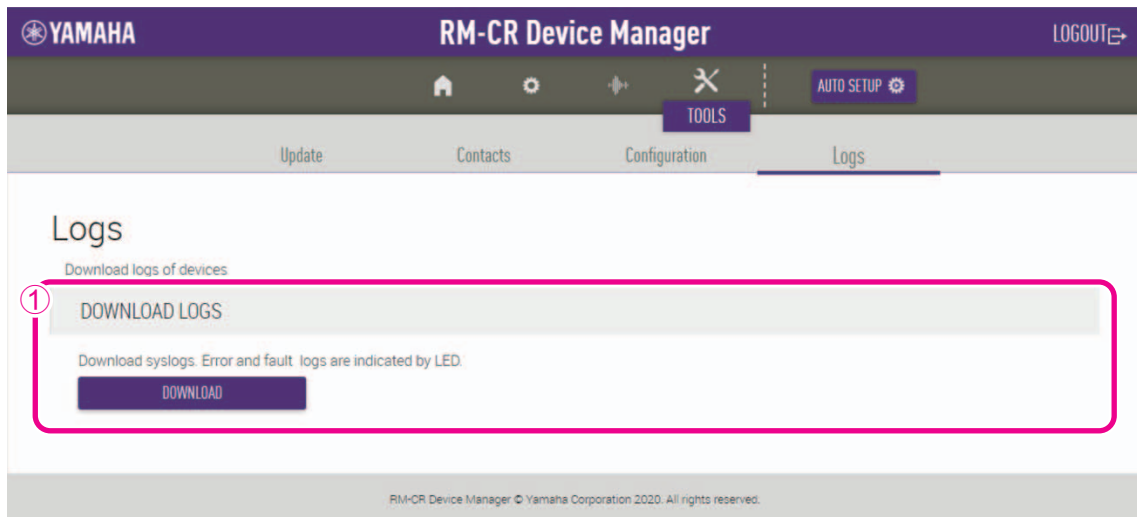


③ [RESET DEFAULTS]

Allows you to reset the settings of this unit by clicking the [RESET] button.

IMPORTANT: Be sure to check what is to be reset before doing it.

[Logs]



① [DOWNLOAD LOGS]

Allows you to download logs by clicking the [DOWNLOAD] button.

NOTE: Be sure to read alert log list on the following pages for explanations on the displayed alert log and the recommended solutions.

Alert log list

Display	Description	What to do
important mic CH* broken	Important mic CH* broken.	Please contact your Yamaha dealer.
Bluetooth hardware error	Bluetooth has not worked correctly.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please contact your Yamaha dealer.
Dante hardware error	Dante has not started up correctly.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please initialize the memory. Should this also fails, contact your Yamaha dealer.
Firmware update failed, because of *	Failure of firmware update has occurred.	Check firmware file on the firmware update pages of Web GUI.
Firmware update failed, because of internal error		Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please contact your Yamaha dealer.
SIP internal error	Internal error has occurred in SIP.	Turn the power off, then turn on after waiting at least six seconds. If this does not solve the problem, please initialize the memory. Should this also fails, contact your Yamaha dealer.
	Internal error has been occurred with SIP.	
USB audio hardware error	A problem has occurred with USB audio.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please initialize the memory. Should this also fail, contact your Yamaha dealer.
Web UI internal failure	Internal failure has occurred in Web GUI.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please initialize settings. Should this also fails, contact your Yamaha dealer.
failed to start audio proc	The device audio has not started up correctly.	Turn the power off, then turn on after waiting at least six seconds. If this does not solve the problem, please initialize the memory. Should this also fails, contact your Yamaha dealer.
System error	The device has not started up correctly.	
Power unstable	The device is not supplying power normally.	Connect to a PoE+ compatible switch. If this does not solve the problem, please turn the power off, then turn on after waiting at least six seconds. Should this also fail, contact your Yamaha dealer.
Syslog setting error	Failed to update syslog transfer servers.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please initialize settings.
logging error	Failed to restart logging.	
Automatic audio tuning failed, because of internal error.	Automatic audio tuning has failed, because internal error has occurred.	Turn the power off, then turn the power on after waiting at least six seconds. Please try again. If this does not solve the problem, contact your Yamaha dealer.
Automatic audio tuning failed, because of speaker output too low.	Automatic audio tuning has failed, because speaker output is too low.	Check connection and settings of speakers.
Automatic audio tuning failed, because of speaker output undetected.	Automatic audio tuning has failed, because the system could not detect audio output from speaker.	

Display	Description	What to do
Automatic audio tuning failed, because of measurement environment too noisy.	Automatic audio tuning has failed, because measurement environment is too noisy.	Do not make any noise during execution.
Automatic audio tuning failed, because of audio input from peripheral Dante mic undetected.	Automatic audio tuning has failed, because the system could not detect audio input from Dante microphone.	Check audio input on Audio Input page.
Automatic audio tuning failed, because of no peripheral Dante mic registered.	Automatic audio tuning has failed, because peripheral Dante microphone is not registered.	Register at least one peripheral Dante microphone.
Automatic audio tuning failed, because of peripheral network disconnection.	Automatic audio tuning failed, because of peripheral network disconnection.	Check network settings and connection.
Dante started in fail safe mode	Dante has started in failsafe mode.	Execute Failsafe Recovery using Audinate's firmware update tool.
Unable to configure Dante, because the Dante device is locked.	Dante is currently limited to control settings, because the device is locked.	Unlock device lock using Dante Controller or check Dante Domain Manager settings.
Resume data lost	The settings saved in internal memory has been lost.	Initialize the memory. If this dose not solve the problem, contact your Yamaha dealer.
Saving setting data failed	The device has not started up correctly.	Turn the power off, then turn the power on after waiting at least six seconds. If this does not solve the problem, please initialize the memory. Contact your Yamaha dealer if problem still exists.
CPU temperature too high	CPU temperature has been too high.	Turn the power off, let the CPU cool down. Turn the power on again. If the temperature is still too high, check the installation environment and whether dirt or a foreign object could have clogged the cooling fan, and clean the fan if necessary.
Fan hardware error	Hardware error has occurred in fan speed.	Check whether dirt or a foreign object could have clogged the cooling fan, and clean the fan if necessary. If this does not solve the problem, please turn the power off, then turn the power on after waiting at least six seconds. Should this also fails, contact your Yamaha dealer.
Too many devices on the network	Too many devices are connected to the network.	Reduce the number of devices connected to the network.
Configuration import failed, because of file download failure (*)	Configuration import has failed, because of file download failure.	Check network, server address settings, existence of configuration file at server.
Configuration import failed, because of file format error (*)	Configuration import has failed, because of file format error.	Check contents and format of configuration file.
Configuration import transfer failed, because of wrong filename or peripheral disconnected (*)	Configuration import transfer has failed, because of wrong filename or peripheral disconnected.	Check file name and connection status of peripheral device.
Configuration import failed, because the system is busy (*)	Configuration import has failed, because of system busy.	Check device status and try again. If it is still not working, please update firmware or reset all of the settings.
Configuration import failed, because of internal error (*)	Configuration import has failed, because of internal error.	Try again. If its not working again, please update firmware or reset all of settings.
Schedule data lost	The schedule data saved in internal memory has been lost.	If this occurs often, contact your Yamaha dealer.

Display	Description	What to do
Peripheral communication error	A peripheral device within the system was not found on the network.	Power-on all peripheral devices in the system, and make sure that they are correctly connected to the network.
SIP unavailable, because of server registration error	SIP is currently unavailable, because of server registration failure.	Check SIP and network settings.
SIP server registration failed (code: *)	SIP server registration failure has occurred.	Check error code and settings.
SIP internal error	SIP internal error occurred.	Please check that there are no problems with the RM-CR's SIP configurations.
Factory reset failed	Factory reset has failed.	-
* reset failed	Partial reset has failed.	
Web UI login failure by *	Web GUI login failure has occurred by (IP address).	Check password.
Scheduling event failed, because of *	Scheduling event has failed.	Check the number of scheduled events.
Bluetooth hardware restarted	Bluetooth had not worked correctly and was restarted.	If this occurs often, contact your Yamaha dealer.
Audio processing restarted	Audio processing failure has occurred, then restarted.	
SNMP error	SNMP operation has failed to start.	Turn the device off, then on again after waiting at least six seconds. If this does not solve the problem, initialize the memory. Contact your Yamaha dealer if the problem persists.

MAIN SPECIFICATIONS

General specifications

Dimensions		W215 mm × D264 mm × H44 mm
Weight		1.6 kg
Power supply		PoE+ (IEEE802.3at, LLDP), DC 48 V
Maximum power consumption		15.0 W
Temperature	Operating	0 °C – 40 °C
	Storage	-20 °C – 60 °C
Humidity	Operating	30% – 90% (non-condensing)
	Storage	20% – 90% (non-condensing)
Indicators		<ul style="list-style-type: none"> • Power • Status • Bluetooth • Network Port Indicator (×3)
Included items		Installation manual, access panel (with screw), USB cable (A-B type), USB cable (A-micro B type), rubber feet (4 pcs.)
Separately sold items		Mounting accessory: RM-MTL Mounting accessory: RM-MRK

Audio specifications

Frequency response		20 Hz – 20 kHz	
Sampling rate		48 kHz	
Bit depth		24-bit	
Latency		8 [ms] (Dante In to USB Out, including signal processing)	
Audio interface	Dante	16 in × 16 out	
	USB	USB2.0 type-B, Audio Class 1.0 Input: 2ch, Output: 2ch @48 kHz	
	Mic Input	XLR balanced, Input 2ch	
	AUX	RCA unbalanced (Line Level), Input: 2ch, Output: 2ch	
	Speaker Out	RCA unbalanced (Line Level), Output: 2ch	
	Bluetooth	Version 4.2 Supported protocols: HFP (1.6), A2DP, AVRCP (1.6) Supported codecs: CVSD, SBC, mSBC Wireless output: Class 2 Maximum communication distance: 10 meters (no obstructions) Wireless frequencies (operating frequencies): 2,402 – 2,480 MHz Maximum output power (EIRP): 4.0 dBm (2.5 mW)	
	SIP	Call Handling	Dial, Answer, Hold, Resume, Forwarding, Do not disturb, Call ID, Voice Mail Notifications (switch configured)
		Call Bridging	Supports Bridging SIP, USB, BT and AUX Calls. Join, Split, Hold, Resume, 5+1 Lines: Up to 2 SIP calls, 1 USB call, 1 Bluetooth call, 1 AUX, plus the user
		Codecs	G.711, G.722HD, G.729ab, G.726
		DTMF Support	RTP event, SIP in-band, SIP info package
Security		SRTP Support (RFC 1889), IETF SIP support (RFC 3261 and companion RFCs)	

Network specifications

[Dante/PoE] port	Dante Audio/Dante Control, remote control, WebUI, PoE+ supported Cable requirements: CAT5e or higher, STP
Network ports	Corporate Network, remote control, SIP, WebUI Cable requirements: CAT5e or higher, STP
[SETUP] port	USB2.0 micro, Network Class, WebUI, fixed IP Cable requirement: USB cable (A-micro B type)

Input/output characteristics

Input Terminal	Actual Load Impedance	For Use With Nominal	Input Level		Connector
			Nominal	Max. Before Clip	
MIC IN 1, 2	2.2 k Ω	50 – 600 Ω	–46 dBu	–26 dBu	XLR-3-31 (Balanced)
AUX IN L, R	20 k Ω	1 k Ω	–14 dBV	+6 dBV	RCA PIN

Output Terminal	Actual Source Impedance	For Use With Nominal	Output Level		Connector
			Nominal	Max. Before Clip	
AUX OUT L, R	1 k Ω	10 k Ω	–14 dBV	+6 dBV	RCA PIN
SP OUT L, R	1 k Ω	10 k Ω	–14 dBV	+6 dBV	RCA PIN