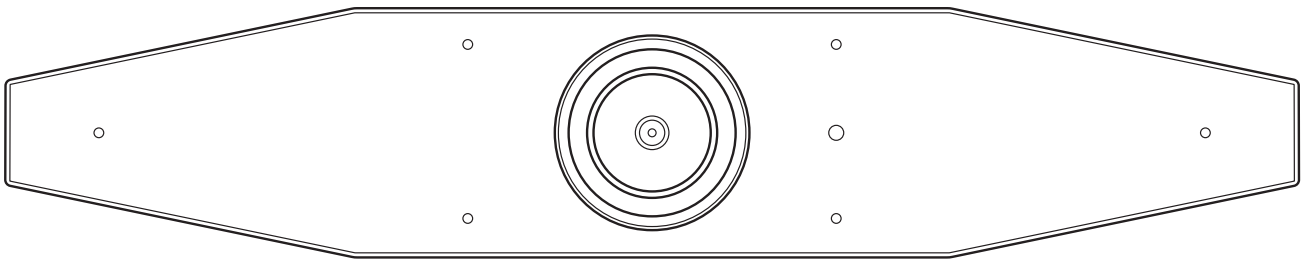
YAMAHA

VIDEO CONFERENCE SYSTEM

CS-500



EN User Guide

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Introduction

Thank you for purchasing the Yamaha CS-500. This product is a video conferencing device equipped with a camera and microphones. It can be set up for use in huddle spaces and meeting rooms. Combine it with a TV, speakers and video conferencing software (computer) for comfortable teleconferencing.

Features/functions

● Yamaha's own high-quality audio processing

This device features audio processing functions required for video conferencing, including adaptive echo canceller (AEC), noise reduction (NR) and automatic gain control (AGC). Camera framing area settings and beamforming microphones focus on the speaker's voice and suppress ambient sounds.

● "SoundCap Eye" achieves more comfortable remote communication

"SoundCap Eye" is a function that allows for comfortable remote communication, even in noisy environments. By using the camera to automatically identify the surrounding conditions and conference participants, more optimal sound pickup and output can be achieved.

- **Face focus beamforming**:
  This technology picks up only the voice of the participant whose face is detected by the camera.
- **Self-silence**:
  This technology automatically mutes the microphone when there is no human voice in the captured sound. This prevents unwanted noise from reaching the remote party.
- **Self-volume balancer**:
  This feature constantly adjusts the speaker volume to an appropriate volume depending on the surrounding noise.

● Smart framing

With this function, the camera follows the subject according to the mode. The angle of view and zoom are automatically adjusted onto the face detected by the camera. (Smart framing → Page 11)

- **Group**: Mode that frames all conference participants
- **Speaker tracking**: Mode that frames the person who is speaking
- **Individual**: Mode that frames the designated person

● Easy connections via USB

This device and the computer can be connected with one USB cable. This makes it easy to set up and prepare for meetings. (Sample setup → Page 18)

● Automatically turning on/off the device

When the camera built into this device detects a person, the device automatically switches on from standby. (Auto wakeup)

● Easy setup using the remote control and a display

You can display the menu on a TV and specify device settings by using the remote control. (On-screen display menu → Page 26)

With the application software on the computer, more detailed settings can be specified. (Yamaha CS Manager → Page 27)

Available manuals

The manuals for this product can be downloaded in the PDF format from the following website.

▼ Yamaha website
U.S.A. and Canada: **https://uc.yamaha.com/support/**
Other Countries: **https://download.yamaha.com/**

☐	**Read This First (included)**	This describes what to do first after purchasing the product.
☐	**CS-500 Safety Guide (included)**	This contains the precautions for using this product safely.
☑	**CS-500 User Guide (this manual/PDF)**	This provides details on using this device. It also explains how to use the Yamaha CS Manager application on your computer to configure and operate the device.

About this manual

This manual uses the following signal words for important information.

WARNING	This content indicates “risk of serious injury or death.”
CAUTION	This content indicates “risk of injury.”
NOTICE	Indicates content that you must observe in order to prevent the product from malfunctioning, being damaged, or operating incorrectly, and to avoid data loss.
IMPORTANT	Indicates content that you must know in order to operate and use the product correctly.
NOTE	Indicates information that is related to operation and use. Read this for your reference.

- 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.
- Yamaha continuously makes improvements and updates to the software included in this product. You can download the latest software from the Yamaha website.
- The contents of this manual apply to the latest specifications as of the publishing date. To obtain the latest manual, access the Yamaha website then download the manual file.

Included items

- CS-500 device
- Read This First
- Safety Guide
- USB 2.0 cable (Type-C to Type-A, 5 m)
- HDMI cable (2 m)
- Lens cap
- Remote control
- Coin battery (CR2032) × 2
- AC adaptor with power cord (CW2002100)
- Cable tie

Separately sold items

- **Wall mounting bracket (mounting accessory) BRK-WL1**

  This is required for installing the device onto a wall. It is also used in combination with monitor mounting bracket BRK-TV1 when installing the device onto a TV.
- **Monitor mounting bracket (mounting accessory) BRK-TV1**

  This is used in combination with wall mounting bracket BRK-WL1 when installing the device onto the VESA mount of a TV.
- **USB cables: CBL-L10AC (10 meters), CBL-L25AC (25 meters)**

  These are fiber optic USB cables. They are used when the device and computer are far apart. These support USB 3.2 Gen2 (Super Speed Plus) and can communicate at high speeds up to 10 Gbps.

NOTE

The VESA standards are international and define the spacing between screw holes used when attaching video equipment, such as TVs, to wall mounts and TV stands.

Available utility software

This utility software can be used to set up the device according to its use and environment. The software can be downloaded from the following website.

▼ Yamaha website
U.S.A. and Canada: **https://uc.yamaha.com/support/**
Other Countries: **https://download.yamaha.com/**

■ **Yamaha CS Manager**

This is software that allows you to configure and operate the device from your computer. For details, refer to “Using Yamaha CS Manager to specify detailed settings” in this manual. (Page 27)

Updating the device firmware

This product is designed to allow the firmware of the device to be updated in order to improve operability, add functions and fix problems. We recommend updating the device firmware to the latest version.

1. Download from the website.

Download the CS-500 firmware file from the following website.

▼ Yamaha website
U.S.A. and Canada: **https://uc.yamaha.com/support/**
Other Countries: **https://download.yamaha.com/**

2. Update using Yamaha CS Manager.

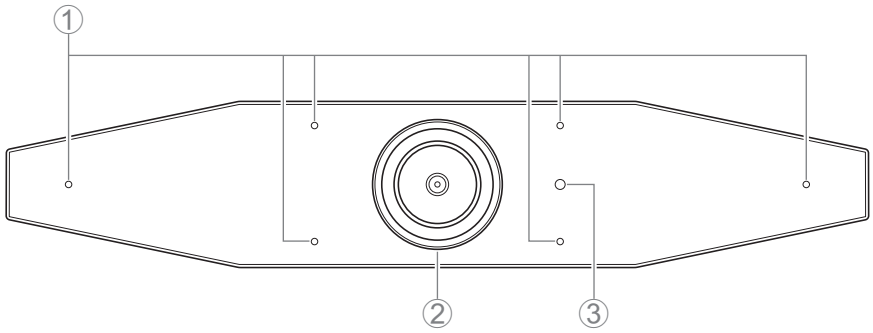
Update from the [Update] screen in the [Tools] menu of Yamaha CS Manager. (Page 50)

Related links

- Yamaha CS Manager (Page 27)
- Yamaha CS Manager > Updating the firmware (Page 50)

Controls and connectors

Front panel



① Microphone

The audio captured by this microphone is delivered to the remote party of the connection.

② Camera

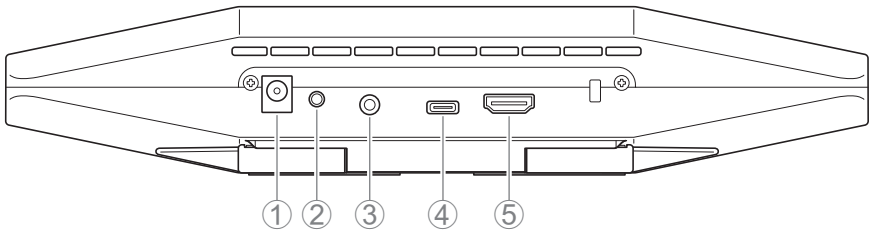
The video captured by this camera is delivered to the remote party of the connection.

③ Status indicator

Indicates the status of the device. The lower the item in the following list, the higher the priority for indication.

Indicator state		Device status
White (lit)		Standby
Light blue (lit)		Camera operating
Green (lit)		During a call
Red (lit)		Microphone muted
White (flashing)	0.361 time/sec	Starting
Unlit		Turned off; power-saving standby
White (flashing)	0.3 time/sec	Monitoring off
Orange (flashing)	1 time/sec	Factory reset; activation of HDMI connection/DisplayLink function/ Bluetooth/USB audio
Blue (flashing)	1 time/sec	Pairing with the remote control or smart device
Blue (lit)	3 seconds	Completion notification of remote control pairing
Green (flashing)	2 times/sec	Receiving a call
Red (flashing)	2.5 times/sec	Hardware error
Orange (flashing)	2 times/sec	Receiving firmware data
Orange (flashing)	10 times/sec	Updating firmware
Orange↔Red (flashing alternately)		Firmware update failed

Rear panel



① [DC-IN] jack

This jack is for connecting the AC adaptor. After connecting the AC adaptor to the [DC-IN] jack on the rear panel, insert the power plug into an electrical outlet. Connecting the AC adaptor automatically turns on the device. (Page 20)

② [FUNCTION] button

Can be used to pair the device with the remote control (Page 22) or to return the device to its factory default settings (Page 56).

③ 3.5 mm audio output jack

This jack is for connecting this device to speakers, headphones, etc. (Page 18)

④ [USB] port (Type-C)

This port is for connecting the device to a computer.

This enables displaying the computer screen and configuring the device. Use the included USB 2.0 cable (Type-C to Type-A) or the separately sold USB cables CBL-L10AC (10 meters) or CBL-L25AC (25 meters) for this connection. For details on connecting this device, refer to “Connecting devices” (page 18) in this manual.

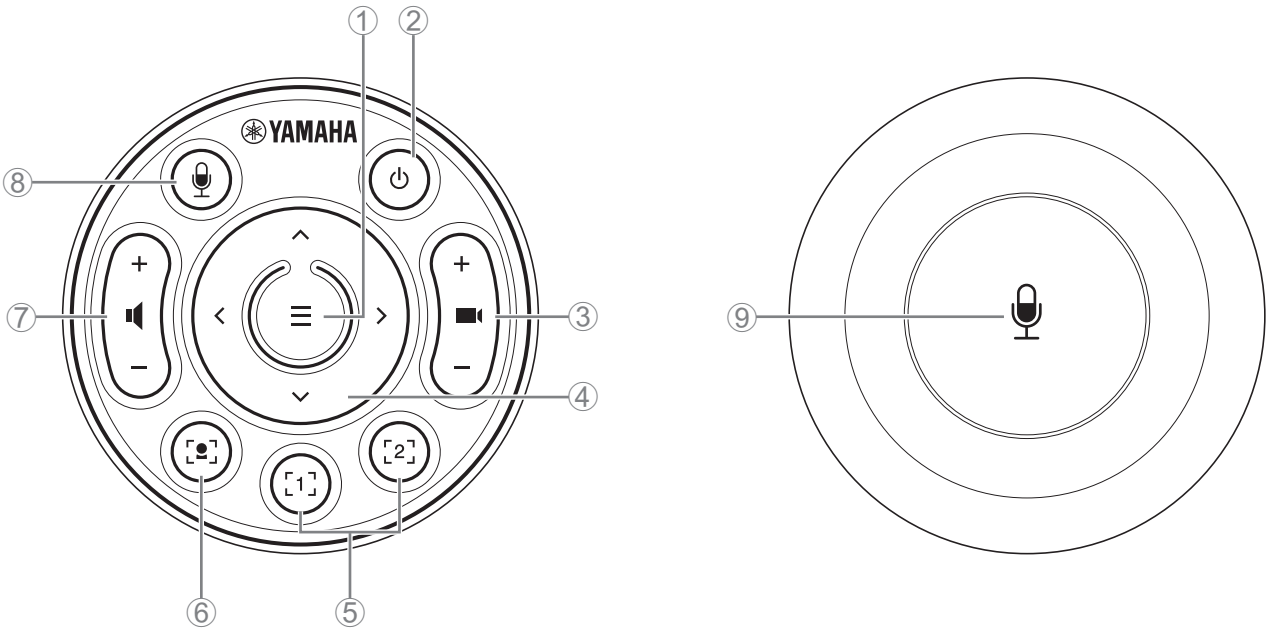
⑤ [HDMI] port

This port is for connecting the device to a TV. This allows the TV to display the screen of the computer connected to the [USB] port and the device’s on-screen display menu (Page 26).

Related links

- Returning to factory default settings (factory reset) (Page 56)
- Connecting devices (Page 18)

Remote control



Top Bottom

① Menu button

Can be used to display the on-screen display menu (Page 26) on the TV or pair the device with the remote control (Page 22).

② Power button

Used to turn on/off the CS-500.

③ Camera zoom button

Used to enlarge/reduce (zoom in/out) the video being captured.

④ Pan/tilt button

Used to adjust the camera angle horizontally/vertically. It can also be used for Smart framing operations or moving the cursor in the on-screen display menu displayed on the TV.

⑤ Camera preset[i] 1 & 2 buttons

Two sets of PTZ (pan, tilt and zoom) settings can be saved and recalled. Long-press (for 2 seconds) this button to save the settings adjusted with buttons ③ and ④. To recall, simply press the button.

⑥ Smart framing button

Used to turn on/off Smart framing[ii].

⑦ Speaker volume buttons

Used to turn up/down the volume of the speakers.

⑧ ⑨ Microphone mute button

Used to turn on/off the microphone.

[i] Camera preset

Up to five PTZ (pan, tilt and zoom) camera presets can be saved for this device.

To save/change the PTZ settings, use the remote control, on-screen display menu or Yamaha CS Manager.

Up to two presets can be saved using the remote control or on-screen display menu. [PTZ preset 1] and [PTZ preset 2] (saved using Yamaha CS Manager) can be saved and recalled as camera presets 1 and 2 by using the remote control and on-screen display menu.

Remote control

Refer to Page 10.

On-screen display menu

Follow the instructions in the on-screen display menu. (Page 26)

Yamaha CS Manager

- In the [Camera] screen, specify the PTZ settings with [Pan], [Tilt] and [Zoom] while viewing the preview.
- Select the desired preset name from the [PTZ preset 1 to 5] drop-down menu.
- Click the [Save Current PTZ Settings as Preset] button to save the settings. (Page 41)

[ii]Smart framing

With this function, the camera follows the subject according to the mode. Select the appropriate mode according to the use.

[Group]: Frames all persons in the group

[Speaker tracking]: Frames the person who is speaking

[Individual]: Frames a specific person

To change the Smart framing mode, use the remote control, on-screen display menu or Yamaha CS Manager.

Remote control

- Use button ⑥ to turn on Smart framing.
- Use the tilt (up/down) buttons of ④ to change the Smart framing mode.
- With the [Individual] mode, use the pan (left/right) buttons of ④ to select the person to be focused on.
- With the [Group] mode, the camera zoom button (③) is deactivated.

On-screen display menu

Follow the instructions in the on-screen display menu. (Page 26)

Yamaha CS Manager

Select the [Enable Smart Framing] check box in the [Smart Framing] screen to activate Smart framing, and then change the mode. (Page 42)

Procedures preparing for use

Procedure from installation to completed connection

Installers of this device should read this.

Before starting work, determine the installation method and connection method for this device.

1 Installing the device. > Page 13 to 17

2 Connecting devices. > Page 18 to 19

3 Connecting the power supply (turning on the device). > Page 20

4 Preparing to use the remote control.

4.1 Inserting batteries into the remote control. > Page 21

4.2 Pairing the device and remote control. > Page 22

5 Making necessary initial settings. > Page 23 to 25

6 Displaying the computer screen on a TV.

6.1 If the computer screen does not appear on the TV. > Page 23

Procedure for holding a meeting

Users of this device should read this.

Before the first time a computer connected to this device is used to hold a meeting, follow the steps below to check that the computer screen is displayed on the TV and the audio is output.

1 Turning on the computer.

2 Turning on this device with the remote control (or automatically starting it with auto wakeup).

3 Displaying the standby image on the TV.

4 Connecting the computer to this device with a USB cable.

5 Displaying the computer screen on a TV.

5.1 If the computer screen does not appear on the TV. > Page 23

6 Holding a meeting by using the video conferencing software.

6.1 Selecting this device on the computer if sound is not output. > Page 24

* When this device is used as a webcam, steps ***3***, ***4*** and ***5.1*** are not necessary.

Specifying device settings

- **On-screen display menu**: Specifying device settings on a TV by using the remote control (For all users) > Page 26
- **Yamaha CS Manager**: Specifying detailed settings for the device by using the application software (For installers/administrators) > Page 27

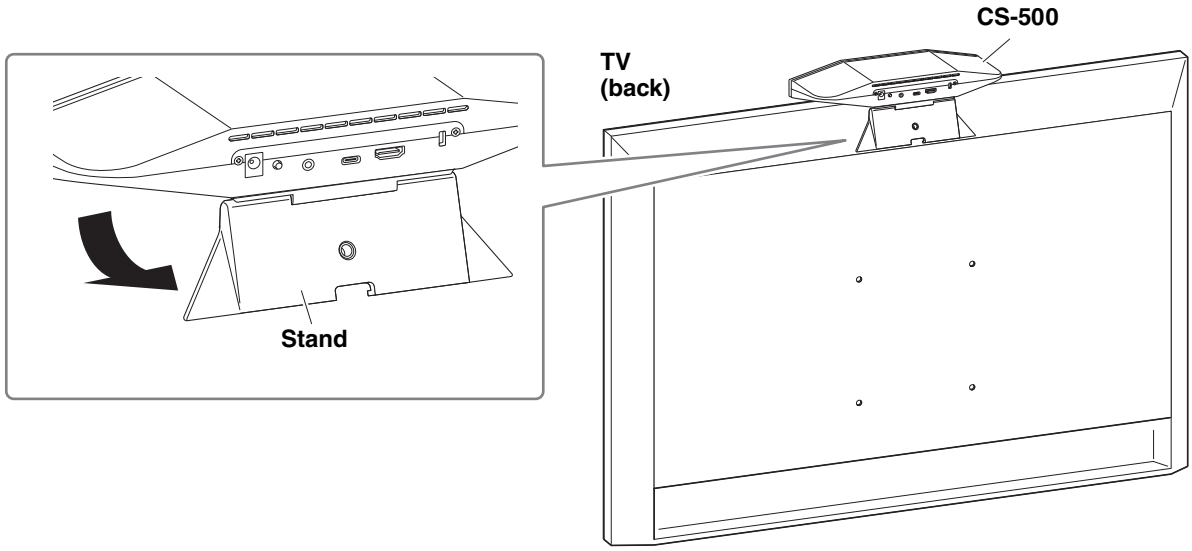
Setup and connections

Installing the device

■ When installing on a TV

This device can be placed directly on top of a TV.

1. Flip open the stand on the bottom of the device, and then hook it on the top of the TV.



2. Adjust the camera orientation (up or down) by changing the camera's angle to the stand.

NOTE

When installing this device in the following situations, use the brackets to mount it to a TV. (Page 14)

- When installing more than 2 meters from the ground.
- When the TV thickness is 51 mm or more.
- When the stand of this device must be opened more than 90 degrees to place it on a TV.
- When the bottom of this device and the rubber part of the stand are not in close contact with the TV.
- When a stable installation of this device is not possible.

CAUTION

- When installing on a TV, make sure that the device is no more than 2 meters from the ground. When installing the device at a location more than 2 meters from the ground, be sure to use a bracket to secure it to the TV. (Page 14)
- If the device falls, injuries or damage may result.

■ When mounting to a TV

This device can be mounted to a TV by using monitor mounting bracket BRK-TV1 and wall mounting bracket BRK-WL1 (both sold separately). When mounting this device to the top of the TV stand, prepare the following.

Items to prepare

① Wall mounting bracket BRK-WL1 (sold separately)

- Wall mounting bracket
- Device fixing screw (1/4 inch) for wall mounting bracket × 1

② Monitor mounting bracket BRK-TV1 (sold separately)

Compatible TV sizes: 48 to 60 inches (When mounting below the display: 48 to 70 inches)

- Monitor mounting brackets (for mounting onto wall mounting bracket, horizontal, and vertical)
- Spacer × 4
- Screw (M4 × 10 mm with washer) for bracket assembly × 12 (2 spare)
- Screws for mounting TV (M6 × 12 mm) × 4 and (M6 × 30 mm) × 4
- Spring washer and flat washer for screws (M6) for mounting TV × 4 each
- Screws for mounting TV (M8 × 15 mm) × 4 and (M8 × 35 mm) × 4
- Spring washer and flat washer for screws (M8) for mounting TV × 4 each

* Use only four of the above-listed screws for mounting TV.

③ TV stand (user provided)

④ Screwdriver (user provided)

IMPORTANT

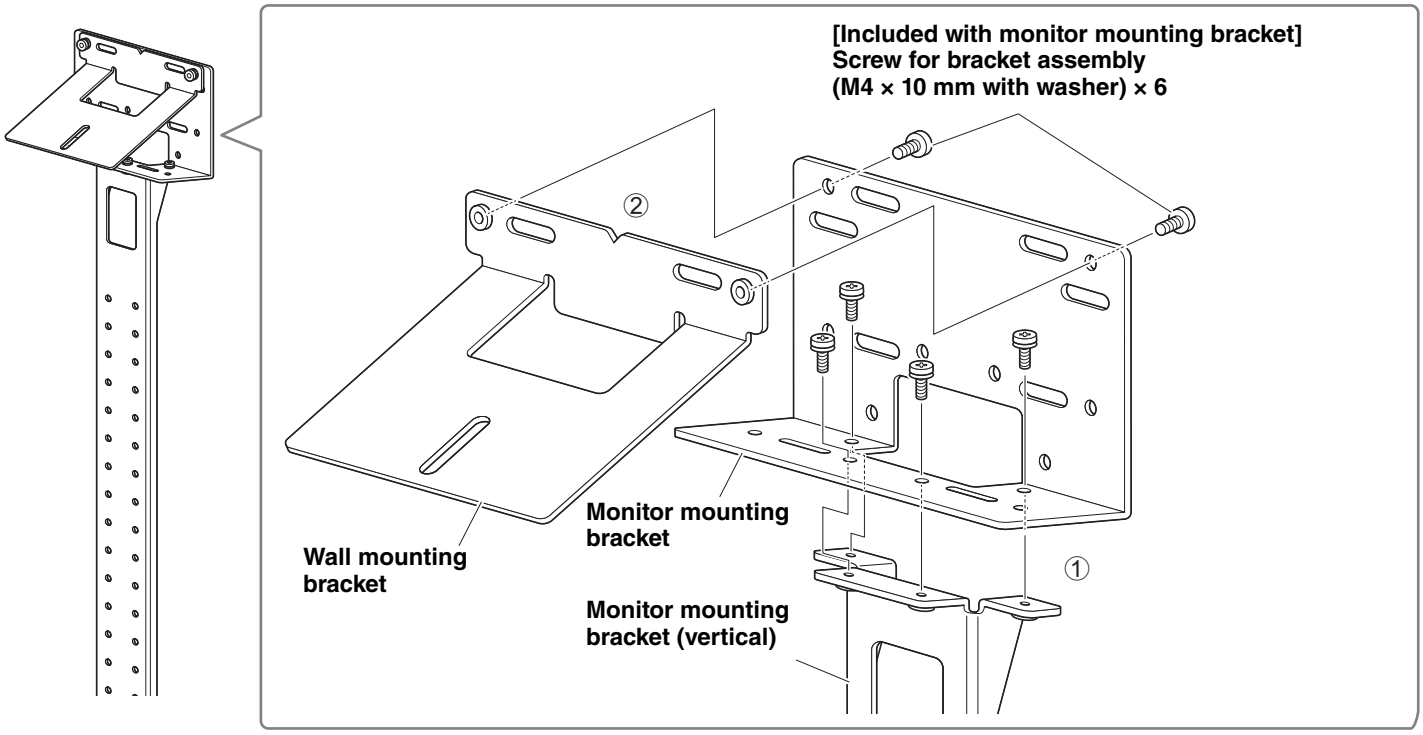
- For details on assembling the TV stand and mounting the TV to it, follow the instructions in the manual for the TV stand.
- The TV should be mounted to the TV stand by two or more people.

WARNING

- Be sure to have the mounting bracket installed by the dealer where you purchased the product or a professional contractor.
- After installation, make sure that the CS-500 is firmly secured. Also, regularly check that there is no possibility of the device falling or tipping over. We cannot be held responsible for accidents caused by incorrect installation.
- After installation, do not lean against the CS-500 or apply a strong force to it from above. If the device falls, injuries or damage may result.

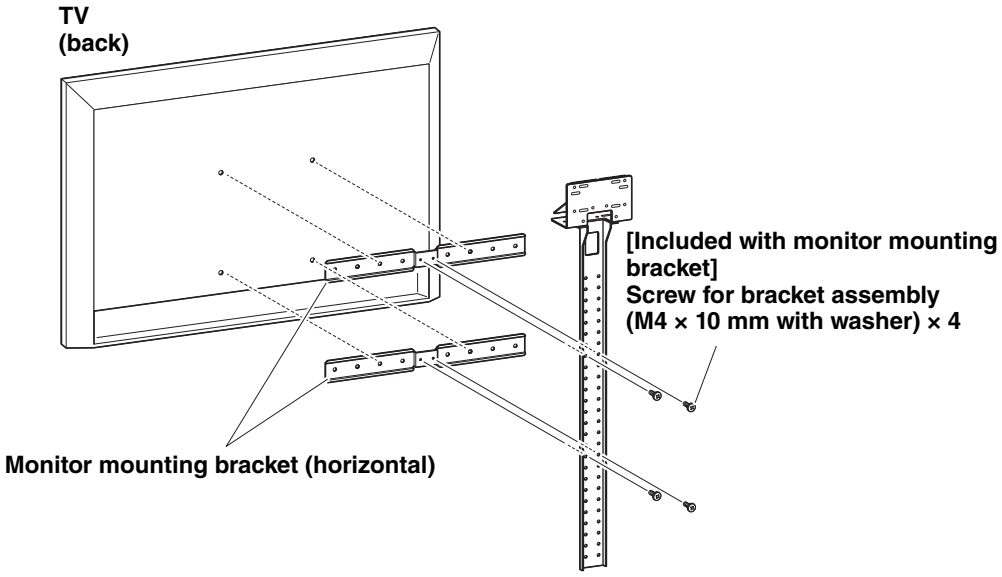
The following is an example of an installation that uses the screw holes in the TV and a standard TV stand.

1. Attach the monitor mounting bracket (vertical), monitor mounting bracket (for mounting onto wall mounting bracket) and the wall mounting bracket using the screws included with them.



2. Using the included screws, attach the monitor mounting brackets (horizontal) and the brackets assembled in step *1*.

Align the monitor mounting brackets (horizontal) with the screw holes in the TV to determine the mounting position. After determining the mounting position, mount the brackets from step ***1*** at the appropriate height.

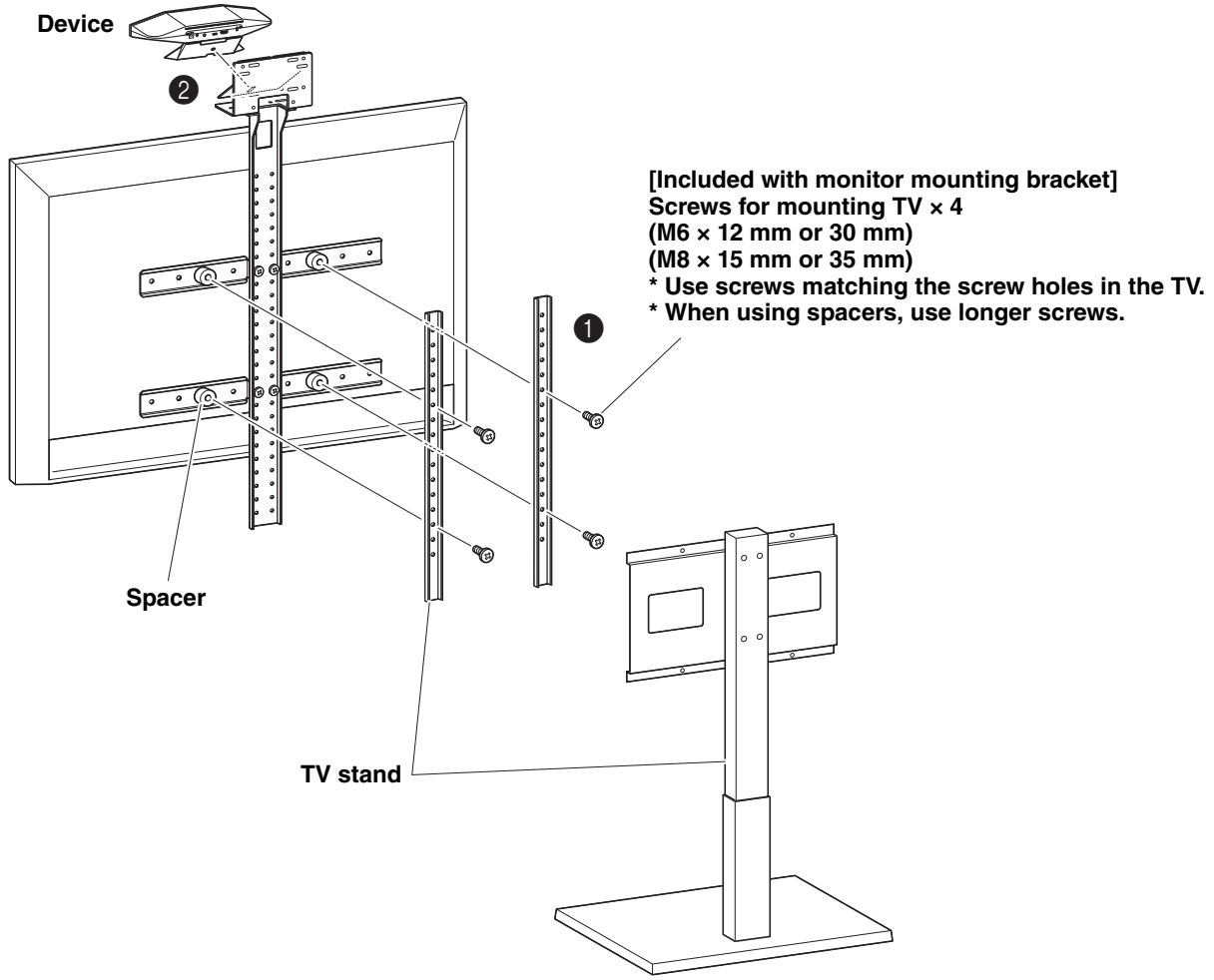


IMPORTANT At this point, do not install the TV yet.

3. Attach the brackets assembled in step 2 to the TV stand, TV and device.

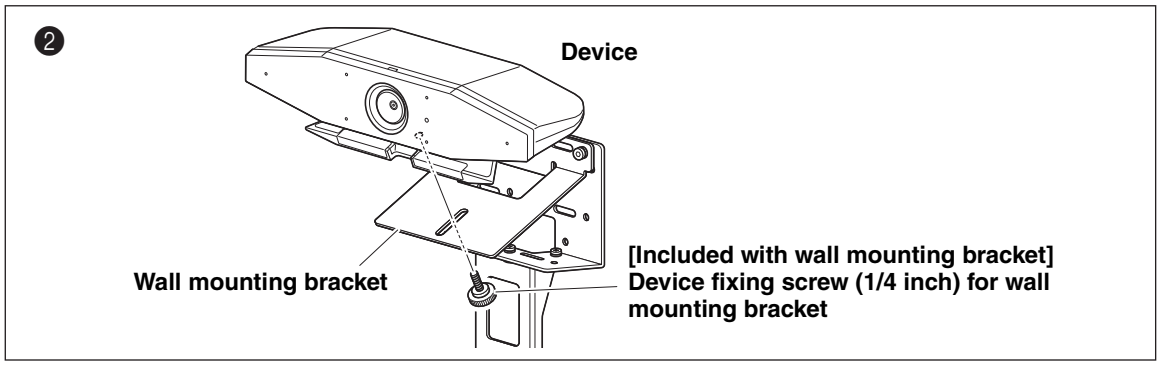
❶ Attach the brackets from step **2** to the TV stand.

❷ From the underside of the wall mounting bracket, secure the device by using the included screw.



IMPORTANT

- Depending on the configuration of the TV stand, also tightly secure the spacers included with monitor mounting bracket BRK-TV1.
- For details on assembling the TV stand and mounting the TV to it, follow the instructions in the manual for the TV stand.



4. Adjust the camera orientation (up or down) by changing the camera's angle to the stand.

■ When mounting on a wall

This device can be mounted to a wall by using the wall mounting bracket (sold separately).

When mounting the device to a wall, prepare the following.

① Wall mounting bracket BRK-WL1 (sold separately)

- Wall mounting bracket
- Device fixing screw (1/4 inch) for wall mounting bracket

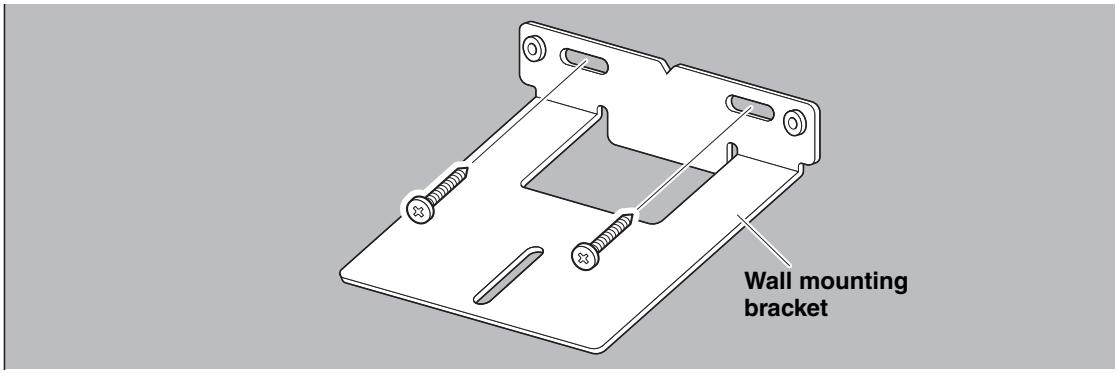
② Wall-mounting screws (user provided)

③ Screwdriver (user provided)

WARNING

- Be sure to have the mounting bracket installed by the dealer where you purchased the product or a professional contractor.
- After installation, make sure that the CS-500 is firmly secured. Also, regularly check that there is no possibility of the device falling or tipping over. We cannot be held responsible for accidents caused by incorrect installation.
- After installation, do not lean against the CS-500 or apply a strong force to it from above. If the device falls, injuries or damage may result.

1. Attach the wall mounting bracket to the wall.

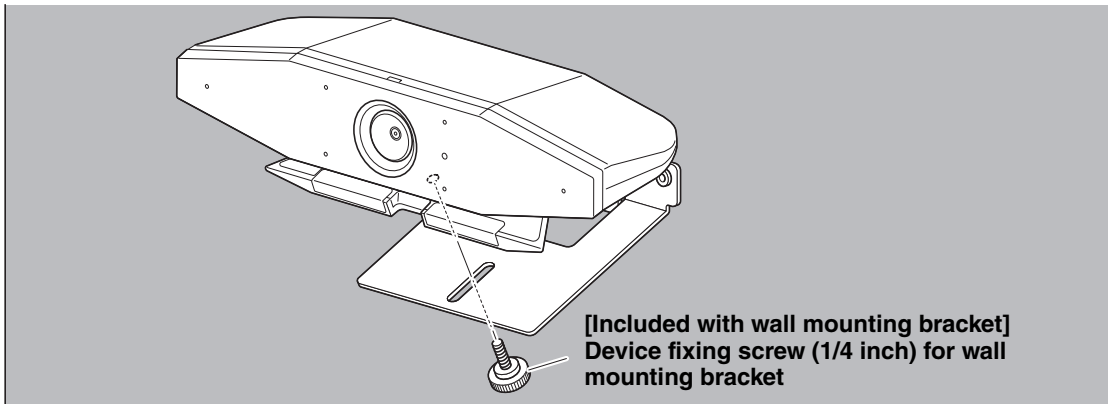


IMPORTANT

- Screws for attaching the wall mounting bracket to the wall are not included. Prepare screws that are strong enough.
- For details on screws and the installation, be sure to contact the dealer where you purchased the product or a professional contractor.

2. Secure the device to the bracket from step *1*.

Place the device on the bracket from step ***1***. From the underside, secure the device to the wall mounting bracket by using the included screw.

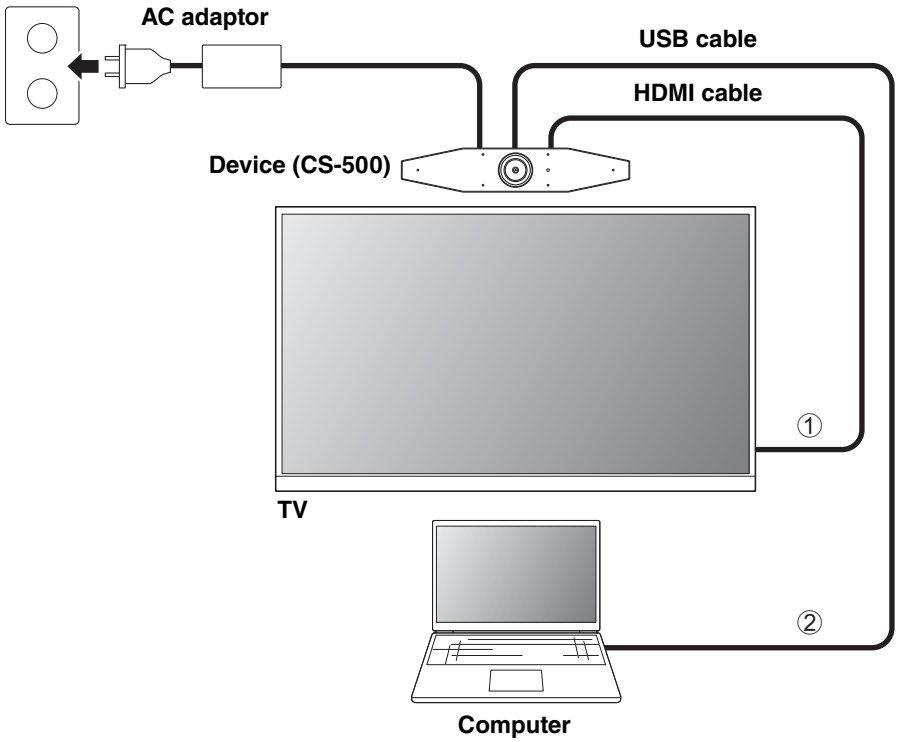


3. Adjust the camera orientation (up or down) by changing the camera's angle to the stand.

Connecting devices

■ Sample setups

Use this connection method to output audio from the TV speakers. For video conferences, a computer connected to the Internet can be used simply by connecting it to the device with a USB cable.



① Connect one end of the included HDMI cable to the [HDMI] port on the device, and connect the other end to the TV.

② Connect the Type-C plug of the included USB cable to the [USB] port on the device, and connect the Type-A plug to the computer.

NOTE

- Be sure to first follow the procedure in “Activating HDMI connection/DisplayLink function/Bluetooth/USB audio” (Page 23).
- In order to display the computer screen on a TV, it may be necessary to install the DisplayLink® driver (Page 23).

Outputting audio through analog audio speakers/headphones

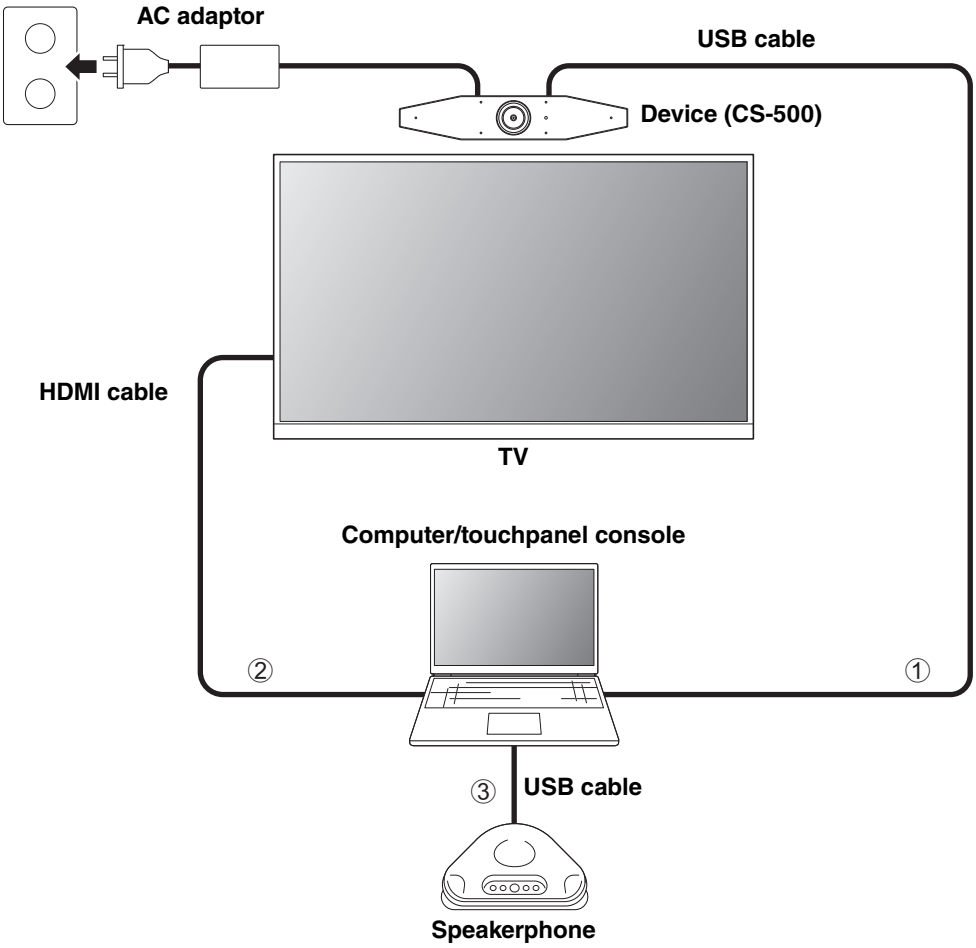
This device is equipped with a 3.5 mm audio output jack. Connect either headphones or speakers with a built-in amplifier to output the audio of the remote party in a video conference.

NOTE

When connecting analog audio, select the [Enable 3.5mm analog audio connector] check box on the [Audio] screen in Yamaha CS Manager, and then select either speakers or headphones. (Page 36)

■ When used as webcam

In order to be used only as a webcam for a video conferencing system, this device can be connected as shown in the example below.



① Connect the Type-C plug of the included USB cable to the [USB] port on the device, and connect the Type-A plug to the computer.

② Connect one end of the included HDMI cable to the computer, and connect the other end to the TV.

③ Connect the speakerphone to the computer.

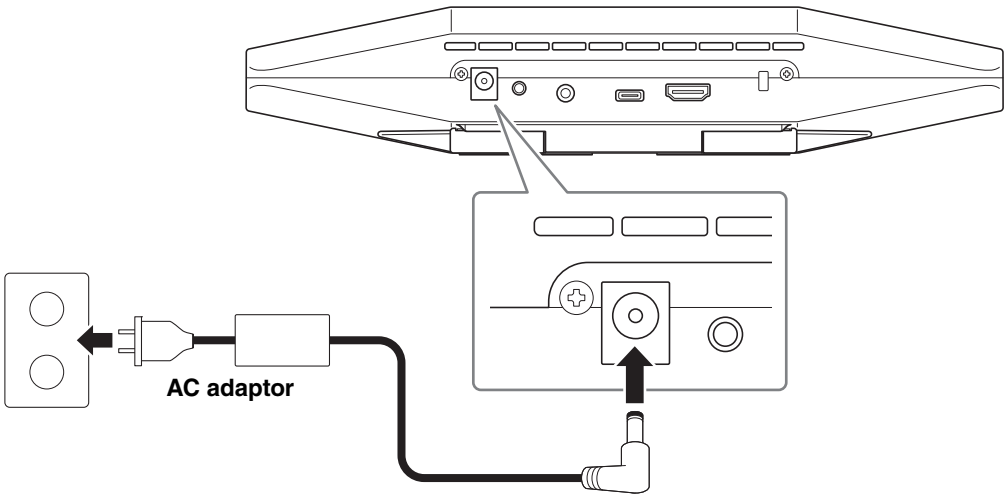
NOTE

When used only as a webcam, the following device features are not used.

- On-screen display menu (Page 26)
- USB audio
- DisplayLink
- Bluetooth
- Wi-Fi

Connecting the power supply

Connect one end of the included AC adaptor to the [DC-IN] jack on the device, and connect the other end to an electrical outlet.

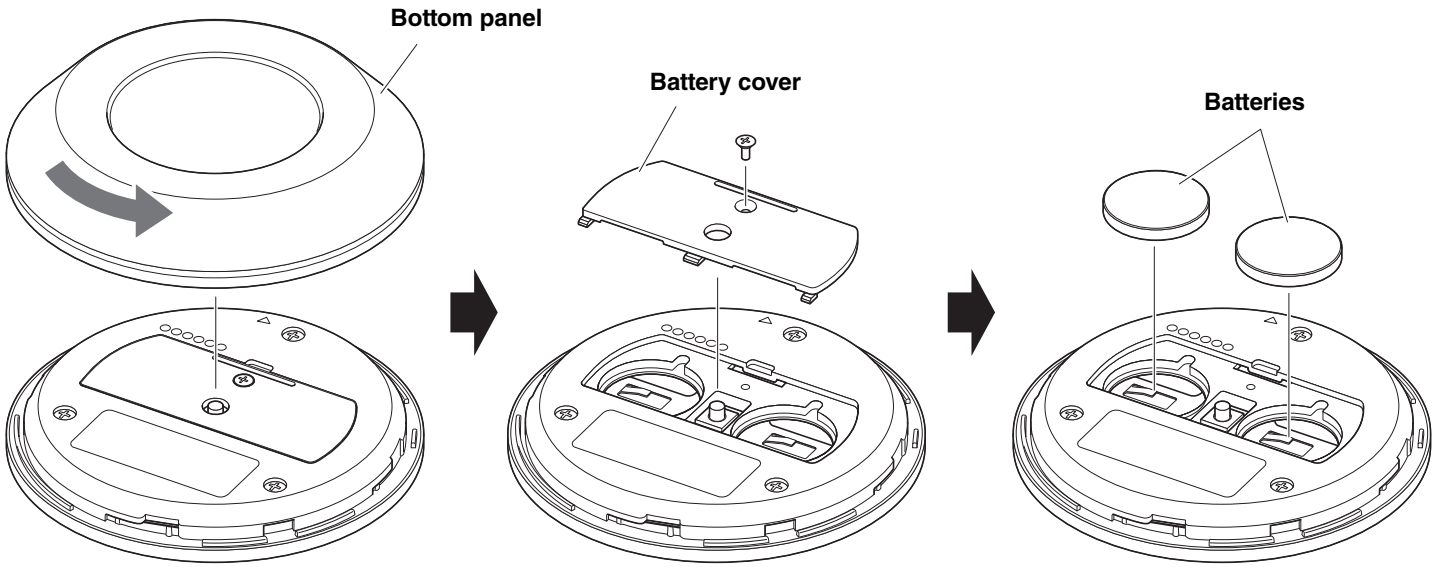


Connecting the AC adaptor automatically turns on the device.

After the power supply has been connected, the device can be turned on or set to standby with the remote control.

Inserting/replacing the remote control batteries

Remove the bottom panel and battery cover from the remote control, and then insert the included batteries (CR2032 × 2) correctly according to the polarity markings. To replace the batteries, remove all old ones and install new ones (sold separately). Do not mix old and new batteries.



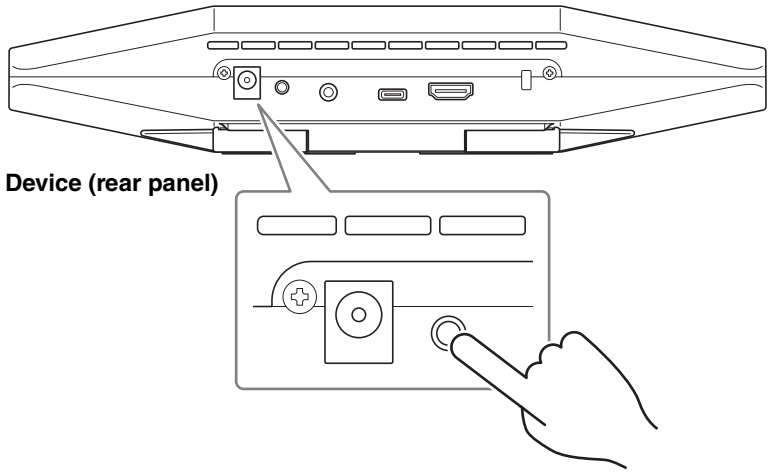
IMPORTANT

- When replacing the batteries, be sure to use the specified type (CR-2032).
- Dispose of used batteries according to the local regulations.

Pairing the device and remote control

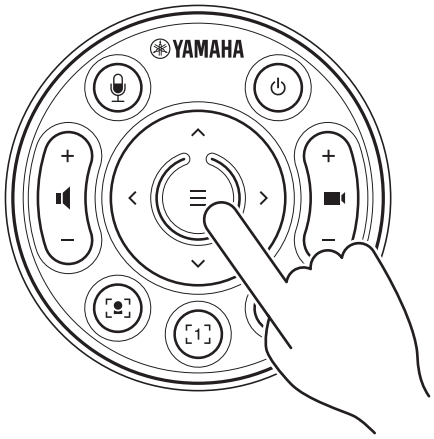
In order to operate the device with the remote control, follow the procedure below to pair them.

1. Long-press the [FUNCTION] button (on the rear panel of the device) for at least 2 seconds.



The status indicator on the front panel of the device flashes in blue.

2. Long-press the menu button on the remote control for at least 2 seconds.



Pairing is finished after the status indicator on the front panel of the device lights up in blue for 3 seconds.

NOTE

Long-pressing the [FUNCTION] button on the rear panel of the device will unpair the paired remote control.
To pair the remote control again, follow the pairing procedure above.

Related links

- Remote control (Page 10)
- Activating HDMI connection/DisplayLink function/Bluetooth/USB audio (Page 23)
- Configuring the device from a TV screen (on-screen display menu) (Page 26)

Making necessary initial settings

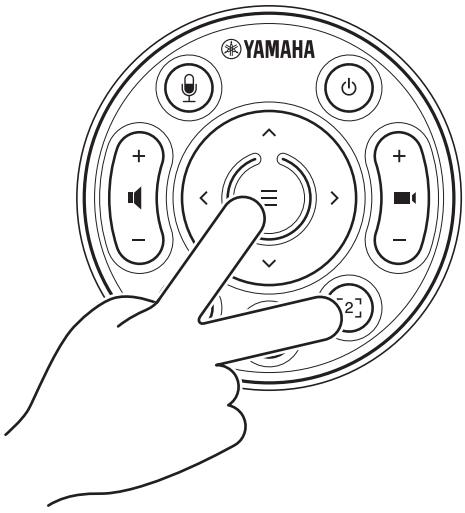
■ Activating HDMI connection/DisplayLink function/Bluetooth/USB audio

In order to use this device, activate the functions as described below. Be sure to follow the procedure below before using this device.

NOTE

- Before performing the following operation, pair the device and remote control (Page 22).
- When this device is used as a webcam (Page 19), this operation is not necessary.

1. Long-press the menu button and camera preset 2 button on the remote control for at least 3 seconds.



Configuration is finished after the status indicator on the front panel of the device flashes in orange five times at a 0.5-second interval.

■ Installing the DisplayLink® driver onto your computer

In order to display the computer screen on a TV, it may be necessary to install the DisplayLink driver (DisplayLink Manager on a Mac). If the computer screen is not displayed on the TV, even after checking the following, install the DisplayLink driver.

- The device and TV are connected with an HDMI cable.
- The TV input is correctly set.
- The display settings of the computer are set to “duplicate” or “extend” the display.
- The operation described in “Making necessary initial settings” (Page 23) has been performed.
- DisplayLink has been activated in Yamaha CS Manager. (Page 43)

Download the latest DisplayLink driver from the following website.
(The following website is not operated by Yamaha Corporation.)

▼ DisplayLink driver download page
https://displaylink.com/downloads

■ Selecting the device on the computer

On your computer, select “Yamaha CS-500” as both the default audio playback device and recording device. Also, in the video conferencing software, select CS-500 as both the video device and audio device.

1. Select “Yamaha CS-500” as both the default playback device and recording device.

For Windows

① Right-click the speaker icon on the taskbar, and then select “Open Sound settings”.
② Select “Sound Control Panel” under “Related Settings”.
③ From the list of devices on the [Playback] tab, select “Yamaha CS-500”, and then right-click it.
④ Select “Set as Default Device”.
⑤ From the list of devices on the [Recording] tab, select “Yamaha CS-500”, and then right-click it.
⑥ Select “Set as Default Device”.

For macOS

① Select the Apple menu in the menu bar.
② Select “Sound” in “System Preferences”.
③ Select [Sound].
④ Select “Yamaha CS-500” on the [Output] tab.
⑤ Select “Yamaha CS-500” on the [Input] tab.

2. In the video conferencing software, select CS-500 as both the video device and audio device.

Perform the appropriate operation in the video conferencing software to select CS-500 as both the video device and audio device.

NOTE

When used only as a webcam (Page 19), specify settings as described below.

1. In the sound settings of your computer, select the speakerphone as both the default playback device and recording device.

2. In the video conferencing software, select CS-500 as the video device, and select the speakerphone as the audio device.

Using smart devices in meetings

By connecting a smart device (mobile phone or tablet) to this device via Bluetooth, you can hold a remote conference with someone on their smart device. (Audio only)

■ What can be done with a Bluetooth connection

Holding a conference call

Through the CS-500, you can hold a conference call with a remote person on their smart device.

From the smart device connected to this device via Bluetooth, call the smart device of the person to be included in the conference call.

Allowing someone on their smart device to remotely join a video conference

While a video conference is being held through the CS-500, a remote person on their smart device can participate in the conference by audio only. The participating remote person can talk to any other participants in the video conference.

From the smart device connected to this device via Bluetooth, call the smart device of the person to join the conference.

■ Making a Bluetooth connection

1. When connecting for the first time: Pairing

When connecting a Bluetooth-enabled smart device to this device for the first time, the devices must be paired.

① Preparation: Activate Bluetooth on this device and the smart device.

- Activate Bluetooth on the CS-500. (“Making necessary initial settings” on Page 23)
- Turn on Bluetooth on the smart device.

② Pairing: Pair using any of the following methods.

- With the remote control, use the on-screen display menu (Page 26) to pair.
- Use Yamaha CS Manager on the computer to pair. (Page 39)

2. When connecting for the second and subsequent times: Making a Bluetooth connection

A paired smart device can be connected by using the on-screen display menu or the smart device.

NOTE

- The camera (video) of the CS-500 cannot be used in meetings.
- A computer connected via USB and a smart device connected via Bluetooth can be connected at the same time.
- Multiple smart devices cannot be used in a call at the same time.
- If Yamaha CS Manager is used to delete pairing information (Page 37), or if Yamaha CS Manager is set to delete pairing information when a connection is cut, perform pairing again.
- The Bluetooth connection can be cut by using any of the following methods.
  - Disconnect by using the smart device.
  - Disconnect by using the on-screen display menu or Yamaha CS Manager.
  - Move the connected smart device out of the range of the Bluetooth signal.

Related links

- Activating HDMI connection/DisplayLink function/Bluetooth/USB audio (Page 23)
- Configuring the device from a TV screen (on-screen display menu) (Page 26)
- Yamaha CS Manager (Page 27) > Bluetooth settings (Page 37)
- Making a Bluetooth connection by using Yamaha CS Manager (Page 39)

Configuring the device from a TV screen (on-screen display menu)

The on-screen display menu is a feature that displays the device's settings menu on a TV screen. It can be operated with the remote control.

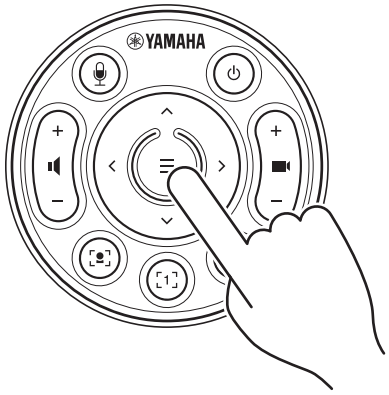
With the on-screen display menu, settings can be specified for the meeting area, Smart framing mode, camera presets, microphone, speaker and Bluetooth.

NOTE

- This function cannot be used When used as webcam (Page 19).
- In order to use this function, first follow the procedure in "Pairing the device and remote control" (page 22).
- In order to use this function, first follow the procedure in "Activating HDMI connection/DisplayLink function/Bluetooth/USB audio" (page 23).

Displaying the device's settings menu

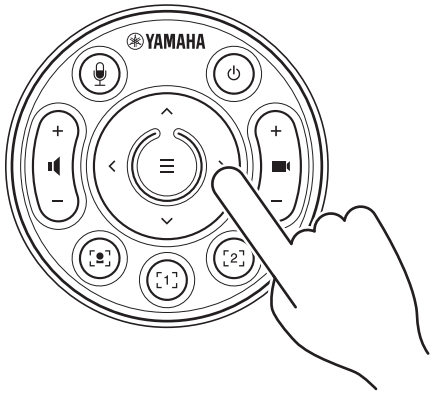
1. Press the menu button on the remote control.



The on-screen display menu appears on the TV.

2. Navigate with the pan/tilt button on the remote control.

Use the pan/tilt button (arrow button) to move the cursor up/down/left/right.

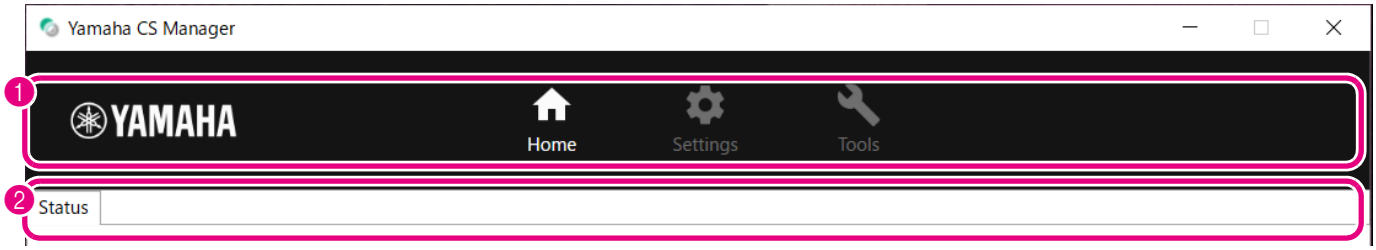


Using Yamaha CS Manager to specify detailed settings

About Yamaha CS Manager

Yamaha CS Manager is application software for specifying detailed settings for the device. In order to use Yamaha CS Manager, connect a computer installed with it to the CS-500 device by using a USB cable.

Navigating Yamaha CS Manager



Menus and functions

❶ Menus	❷ What can be done (functions)	
Home	• **Home (status information)**	Page 31
Settings	• **Admin settings**	Page 33
	• **Audio settings**	Page 35
	• **Bluetooth settings**	Page 37
	• **Camera settings**	Page 40
	• **Smart framing settings**	Page 42
	• **Display settings**	Page 43
	• **Network settings**	Page 44
	• **Time settings**	Page 49
Tools	• **Updating the firmware**	Page 50
	• **Configuration**	Page 51
	• **Logs**	Page 52

Recommended environment

The recommended operating environment for Yamaha CS Manager is as follows.

Windows 11, Windows 10 (64 bit)
macOS 12, macOS 11, macOS 10.15

Installing

In order to use Yamaha CS Manager, the application file must be downloaded.

1. Download the latest application file from the Yamaha website.

▼ Yamaha website
U.S.A. and Canada: **https://uc.yamaha.com/support/**
Other Countries: **https://download.yamaha.com/**

2. Extract the compressed file, and then open the application file.

For Windows

Extract the ZIP file to any location. Double-click “CSManager.exe” in the folder to start.

For Mac

Extract the DMG file to any location. Double-click “CSManager” in the folder to start.

NOTE

If the Yamaha CS Manager login window does not appear, even after opening the application file, check that the computer and CS-500 are connected with a USB cable.

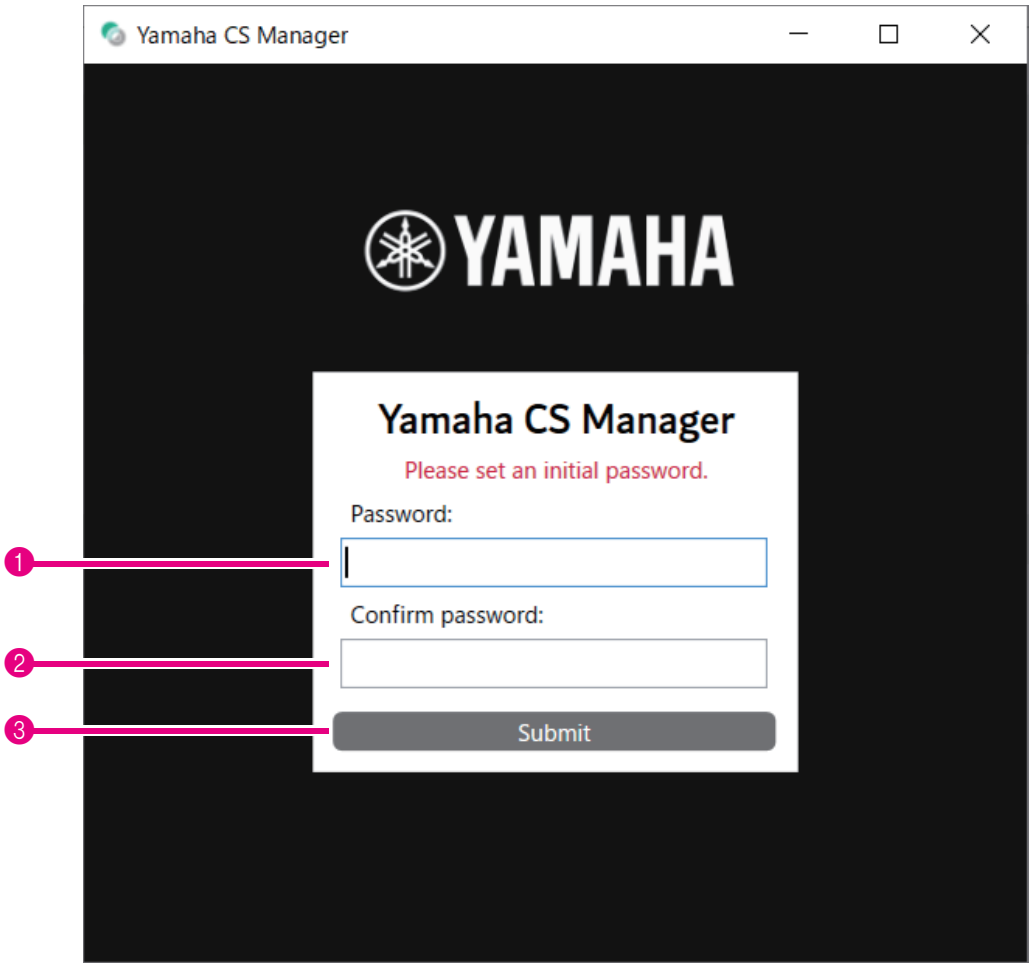
Specifying a password/Logging in

In order use Yamaha CS Manager, you must log in. When the application starts, the login window appears.

■ For the first time: Specifying the password

It is necessary to specify a password at the first startup. Specify any password.

Initial Password Setting

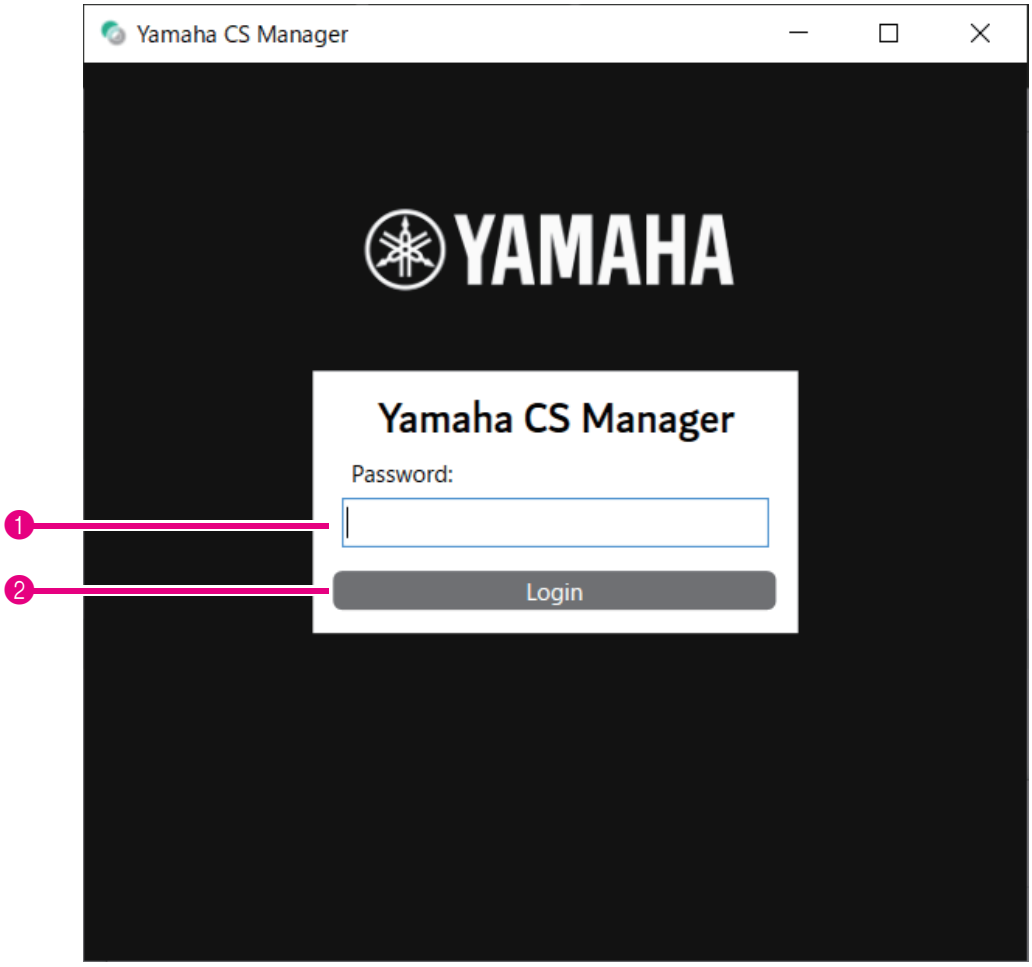


Item	Description
1 **Password:**	Type in a password to be specified as the login password for Yamaha CS Manager. (4 to 16 alphanumeric characters)
2 **Confirm Password:**	Re-enter the password typed above.
3 **Submit**	Click to apply the password.

■ Logging in

When Yamaha CS Manager is started after the password has been specified, the login window appears. Type in the specified password to log in.

Login



Item	Description
1 **Password:**	Type in the specified password.
2 **Login**	Click to apply the password.

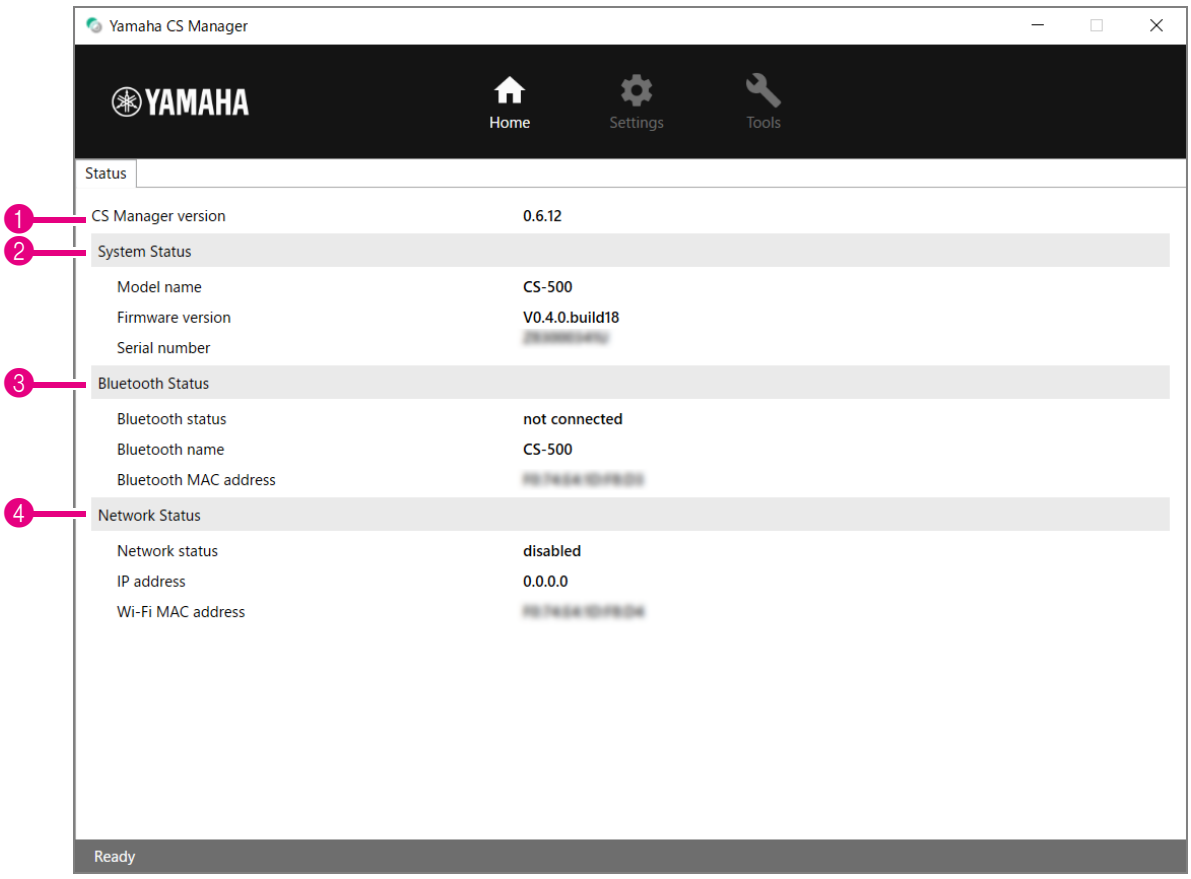
NOTE

If the specified password has been forgotten, refer to “Returning to factory default settings (factory reset)” (page 56) to return the device to its factory default settings.

Home (status information)

After logging in to Yamaha CS Manager, status information appears in the [Home] screen.

[Home] menu > [Status] screen



1 Version

Item	Description
CS Manager version	Displays the version of Yamaha CS Manager.

2 System Status

Item	Description
Model name	Displays the model name.
Firmware version	Displays the device firmware version.
Serial number	Displays the serial number of the device.

❸ Bluetooth Status

Item	Description
Bluetooth status	Displays the Bluetooth connection status. • **disable** Bluetooth is deactivated. • **not connected** There is no Bluetooth connection. • **connected to XXXX** Displays the name of the device currently connected to this device via Bluetooth.
Bluetooth name	Displays the name of this device when it is connecting via Bluetooth. If a device name has been specified in the [Bluetooth] screen, the specified device name will be displayed.
Bluetooth MAC address	Displays the Bluetooth MAC address.

❹ Network Status

Item	Description
Network status	Displays the network (Wi-Fi) connection status. • **disabled** Wi-Fi is deactivated. • **not connected** There is no Wi-Fi connection. • **connected to <SSID>** Displays the SSID name of the Wi-Fi network that the device is currently connected to. (Example: “connected to yamaha_wifi”)
IP address	Displays the IP address of this device.
Wi-Fi MAC address	Displays the MAC address of this device.

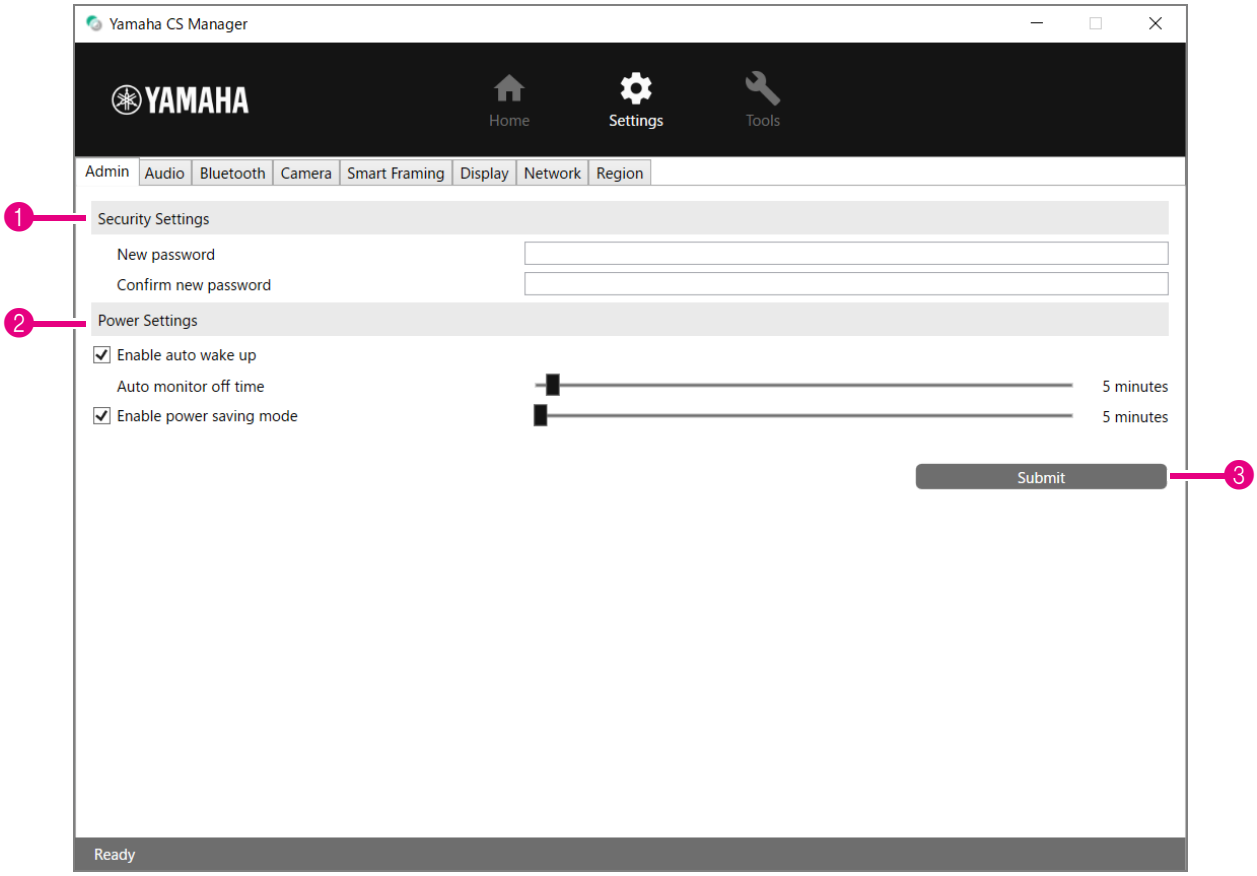
Related links

- Updating the firmware (Page 50)
- Bluetooth settings (Page 37)
- Network settings (Page 44)

Admin settings

In the [Admin] screen, various system settings, such as the connection mode, password settings and power management settings, can be specified.

[Settings] menu > [Admin] screen



1 Security Settings

Item	Description
New password	Type in a password to be specified as the login password for Yamaha CS Manager. (4 to 16 alphanumeric characters)
Confirm new password	Re-enter the password typed above.

NOTE

The password will not be updated if the [Submit] button is clicked while either the [New password] or [Confirm new password] box is left blank.

❷ Power Settings

Item	Description
Enable auto wake up	Allows you to select whether to activate/deactivate the automatic power-on function (auto wakeup), which operates by detecting persons. When the device is in power-saving standby as a result of [Enable power saving mode] being activated, auto wakeup will be deactivated.
Auto monitor off time	Allows you to specify (by using the slider) the length of time until the monitor automatically turns off in order to prevent screen burn-in. (Units: Minutes)
Enable power saving mode	Allows you to select whether to activate/deactivate the power saving mode. Only when this is activated, a setting can be specified for the following. • **[Power saving timeout]** Allows you to specify (by using the slider) the length of time until the device automatically turns off. (Units: Minutes)

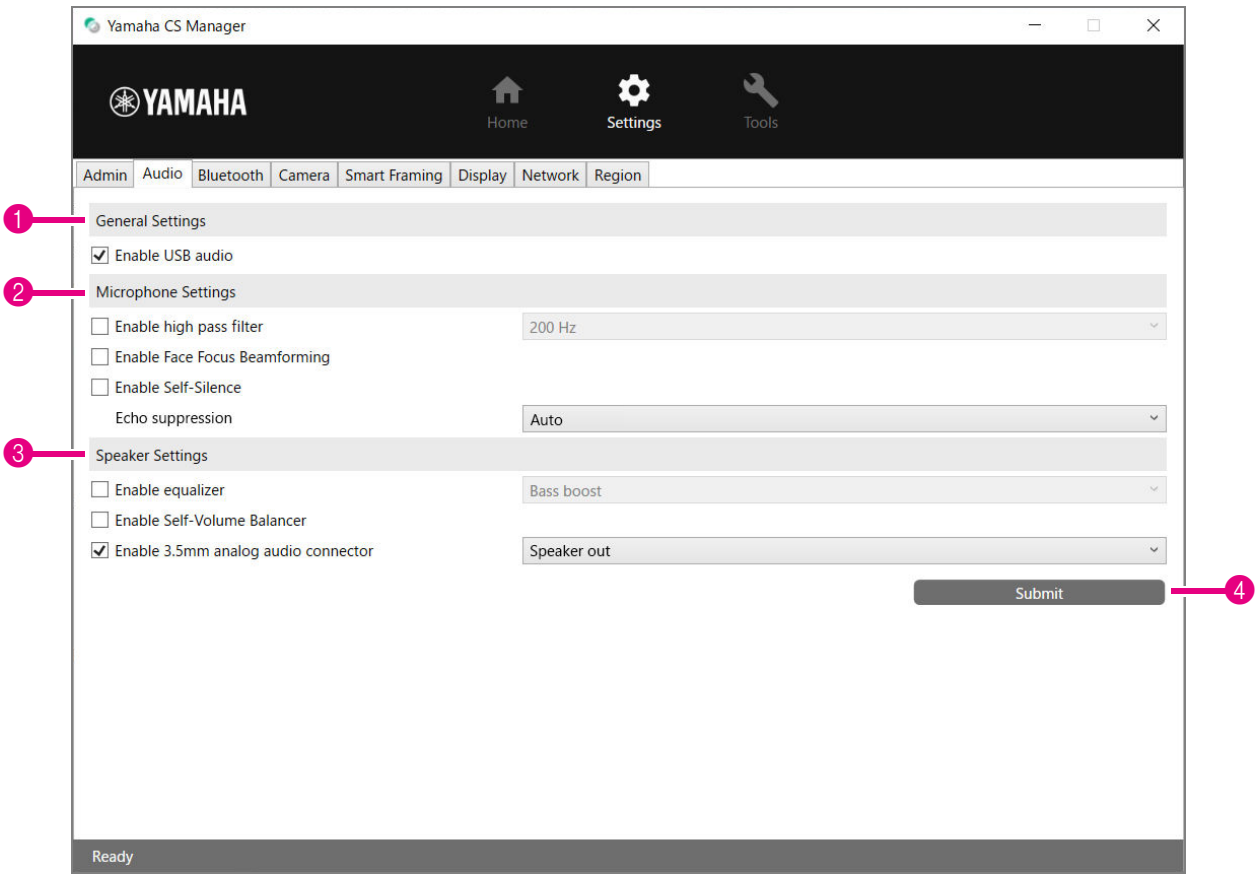
❸ Submit

Item	Description
Submit	Click to apply all settings specified in the [Admin] screen.

Audio settings

In the [Audio] screen, microphone and speaker settings can be specified.

[Settings] menu > [Audio] screen



1 General Settings

Item	Description
Enable USB audio	Allows you to select whether to activate/deactivate USB audio. Activate this when connecting USB audio.

❷ Microphone Settings

Item	Description
Enable high pass filter	Allows you to select whether to activate/deactivate the high pass filter for the microphone. Only when this is activated, the microphone equalizer can be selected. [200 Hz/315 Hz/500 Hz]
Enable Face Focus Beamforming	Allows you to select whether to activate/deactivate the function that detects the position of the participant by using the camera image and reduces noise other than the participant's voice. **When activated** • In order to detect participants, remove the lens cap. • The target area can be specified under "❷ Meeting Area Settings" in the [Smart Framing] screen. (Page 42)
Enable Self-Silence	Allows you to select whether to activate/deactivate the function that automatically differentiates noise and human voices and reduces noise other than human voices.
Echo suppression	Allows you to select the strength of the echo canceller. [Auto/Strong] When [Enable 3.5mm analog audio connector] under "❸ Speaker Settings" has been set to [Headphone out] (when using headphones or earphones), the echo canceller is deactivated.

❸ Speaker Settings

Item	Description
Enable equalizer	Allows you to select whether to activate/deactivate the speaker equalizer. Only when this is activated, the speaker equalizer can be selected. [Bass boost/Treble boost]
Enable Self-Volume Balancer	Allows you to select whether to activate/deactivate the function that automatically adjusts the speaker volume.
Enable 3.5mm analog audio connector	Allows you to select whether to activate/deactivate the analog audio jack. When connecting speakers, select [Speaker out]; when connecting headphones or earphones, select [Headphone out].

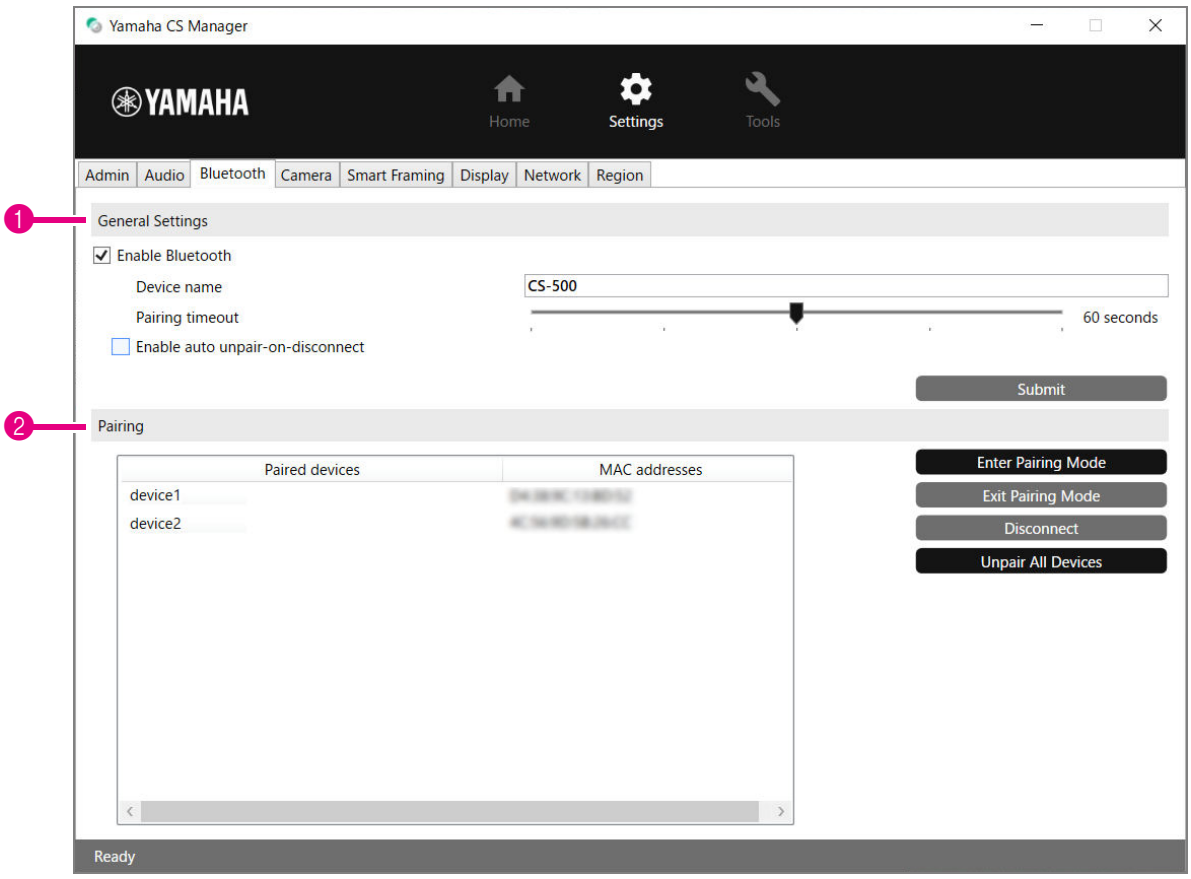
❹ Submit

Item	Description
Submit	Click to apply all settings specified in the [Audio] screen.

Bluetooth settings

In the [Bluetooth] screen, Bluetooth settings can be specified and this device can be paired with a Bluetooth device.

[Settings] menu > [Bluetooth] screen



1 General Settings

Item	Description
Enable Bluetooth	Allows you to select whether to activate/deactivate Bluetooth. Only when this is activated, settings can be specified for the following. • **[Device name]** Allows you to change the name (of this device) that is displayed when this device is connected to a Bluetooth device. • **[Pairing timeout]** Allows you to specify (by using the slider) the length of time until pairing mode times out. (Units: Seconds) • **[Enable auto unpair-on-disconnect]** Allows you to select whether to erase the pairing information at the same time that a connection with the Bluetooth device is cut. In order to be able to connect automatically, deactivate this.
Submit	Click to apply the settings specified under “General Settings”.

❷ Pairing

This appears when Bluetooth has been activated.

Item	Description
Paired devices	Displays the Bluetooth device name of the paired device. The name of the currently connected device appears in bold.
MAC addresses	Displays the MAC address of the paired Bluetooth device. The MAC address of the currently connected device appears in bold.
Enter Pairing Mode	Click to start pairing mode. For details, refer to “Making a Bluetooth connection by using Yamaha CS Manager” (page 39).
Exit Pairing Mode	Click to stop pairing mode.
Disconnect	Click to disconnect the device currently connected via Bluetooth.
Unpair All Devices	Click to erase all pairing information.

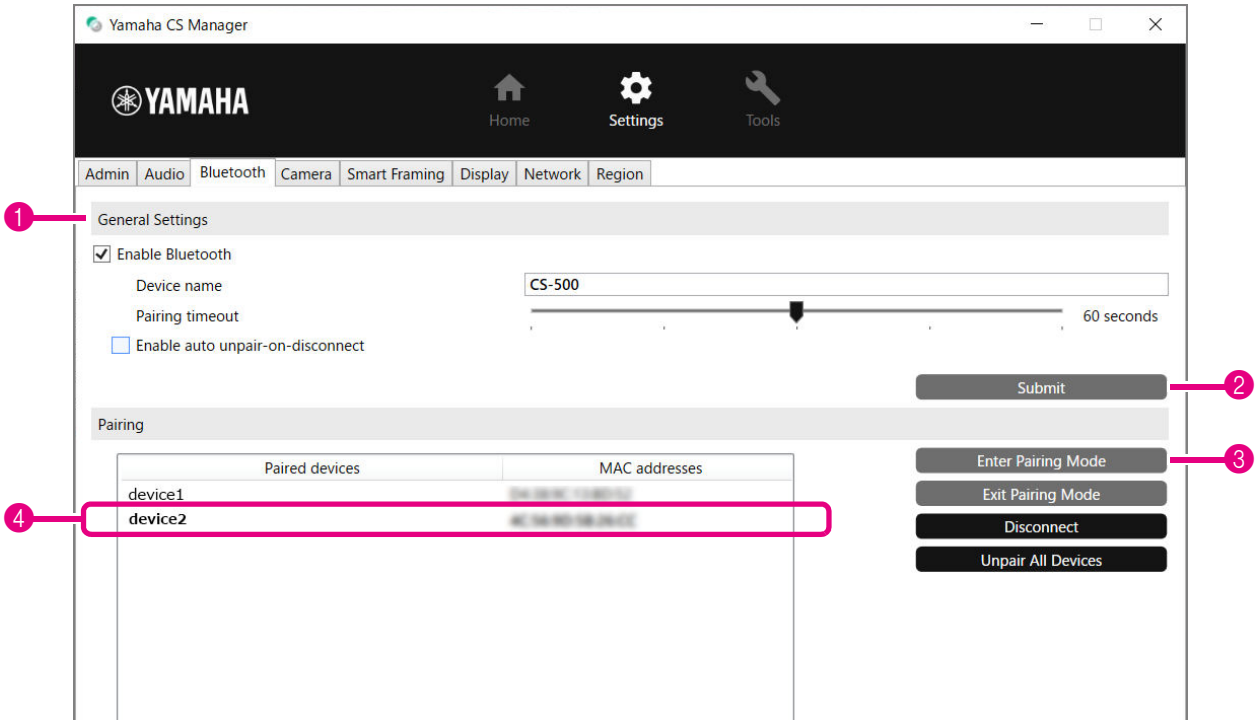
Related links

- Using smart devices in meetings (Page 25)

■ Making a Bluetooth connection by using Yamaha CS Manager

In order to be able to connect this device and a Bluetooth device, they first need to be paired. Follow the procedure below to pair and make a Bluetooth connection.

[Settings] menu > [Bluetooth] screen



1. Activate Bluetooth.

1 Select the [Enable Bluetooth] check box.

2 Click the [Submit] button to apply the setting.

Make sure that Bluetooth on the Bluetooth device has been turned on.

2. Start pairing.

3 Click the [Enter Paring Mode] button to start pairing mode.

If a device is already connected, the [Enter Paring Mode] button cannot be clicked. Click the [Disconnect] button to disconnect.

3. On the Bluetooth device, accept the pairing request.

The Bluetooth pairing PIN (numbers) appears in the screen of the Bluetooth device. Make sure that the numbers match those displayed in Yamaha CS Manager, and then accept on the Bluetooth device.

4. Confirm that pairing is finished.

4 Pairing is finished when the paired device is added under “Paired devices”.

The Bluetooth connection is made at the same time as pairing. The name of the device currently connected via Bluetooth appears in bold.

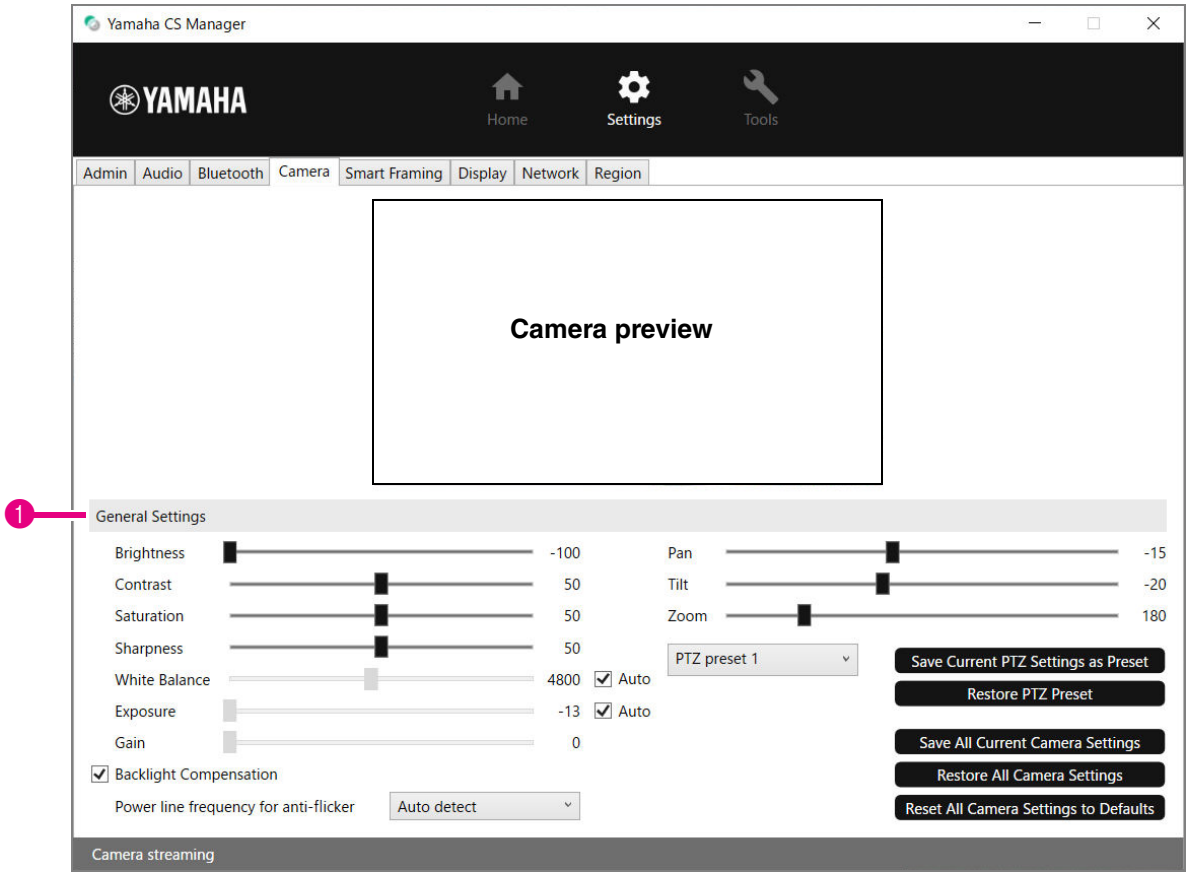
Related links

- Using smart devices in meetings (Page 25)
- Bluetooth settings (Page 37)

Camera settings

In the [Camera] screen, detailed settings for the camera built into this device can be specified.

[Settings] menu > [Camera] screen



1 General Settings

This allows you to adjust the camera settings. Setting adjustments made by using the slider, check box, etc., are applied in real time and reflected in the camera preview.

Item	Description
Brightness	Allows you to adjust (by using the slider) the brightness.
Contrast	Allows you to adjust (by using the slider) the contrast.
Saturation	Allows you to adjust (by using the slider) the saturation.
Sharpness	Allows you to adjust (by using the slider) the sharpness.
White Balance	Allows you to adjust (by using the slider) the white balance. To activate automatic adjustment, select the [Auto] check box.
Exposure	Allows you to adjust (by using the slider) the exposure. To activate automatic adjustment, select the [Auto] check box. Note that [Exposure] and [Gain] will no longer be adjustable.
Gain	Allows you to adjust (by using the slider) the gain.
Backlight Compensation	Allows you to select whether to activate/deactivate backlight correction.

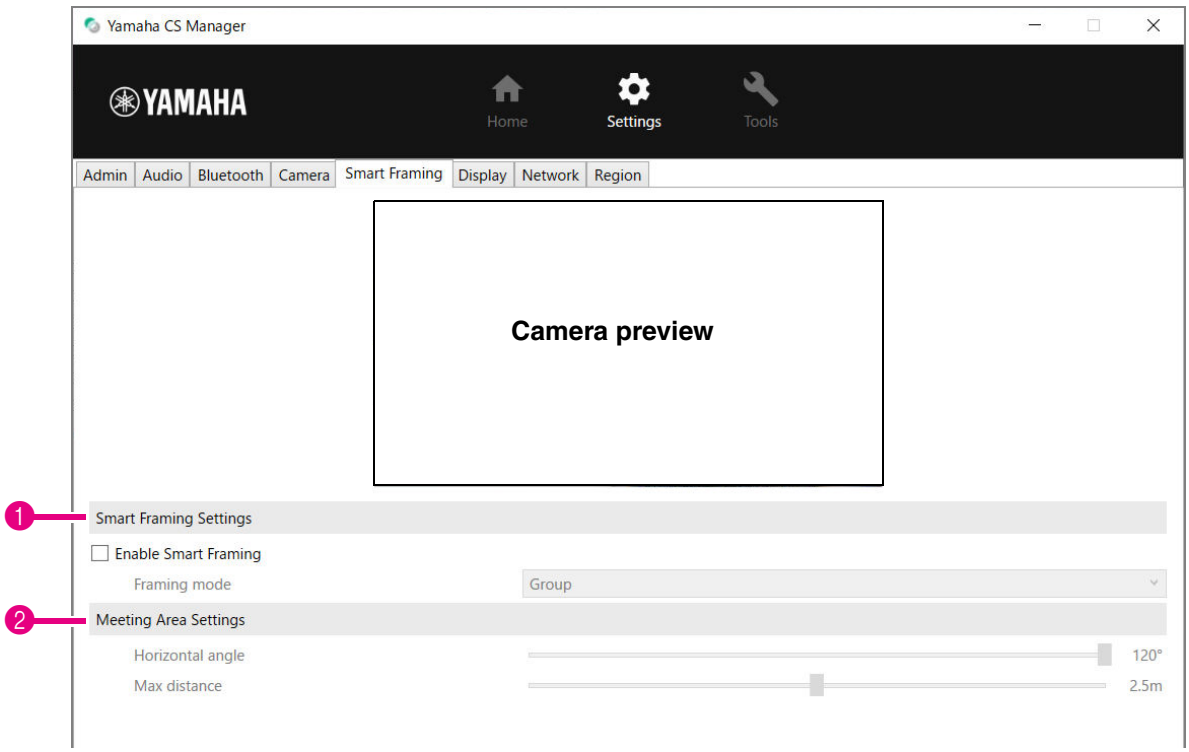
Item	Description
Power line frequency for anti-flicker	Allows you to select the power line frequency in order to reduce flickering. If flickering cannot be reduced, even after selecting "Auto detect", select the frequency for your area. [Auto detect/50 Hz/60 Hz]
Pan	This can be specified only when Zoom is set to a value other than the default (100). Allows you to adjust (by using the slider) the horizontal camera orientation.
Tilt	This can be specified only when Zoom is set to a value other than the default (100). Allows you to adjust (by using the slider) the vertical camera orientation.
Zoom	Allows you to adjust (by using the slider) the zoom ratio.
PTZ preset 1 to 5	Allows you to specify a set of camera PTZ (pan, tilt and zoom) settings. (up to 5)
Save Current PTZ Settings as Preset	Select a preset name from [PTZ preset 1 to 5], and then click this button* to save the current combination of PTZ values under that name.
Restore PTZ Preset	Select a preset name from [PTZ preset 1 to 5], and then click this button* to recall the saved combination of PTZ values.
Save All Current Camera Settings	Click to save all camera settings, including the PTZ values.
Restore All Camera Settings	Click to recall the settings that were saved by clicking the [Save All Current Camera Settings] button.
Reset All Camera Settings to Defaults	Click to reset all camera settings, including the current PTZ values, to their defaults.

*** If a button is not available, clear the [Enable Smart Framing] check box (Page 42) in the [Smart Framing] screen or press the Smart framing button on the remote control to turn off Smart framing. (Page 10)**

Smart framing settings

In the [Smart Framing] screen, the camera framing area for recognizing persons can be specified.

[Settings] menu > [Smart Framing] screen



1 Smart Framing Settings

Item	Description
Enable Smart Framing	Allows you to select whether to activate/deactivate Smart framing.
Framing mode	This can be specified only when Smart framing is activated. Allows you to select the appropriate mode for following the subject according to the use. • **[Group]:** Frames all persons in the group • **[Speaker tracking]:** Frames the person who is speaking • **[Individual]:** Frames a specific person

2 Meeting Area Settings

This allows you to specify the target area for Smart framing and face focus beamforming*.

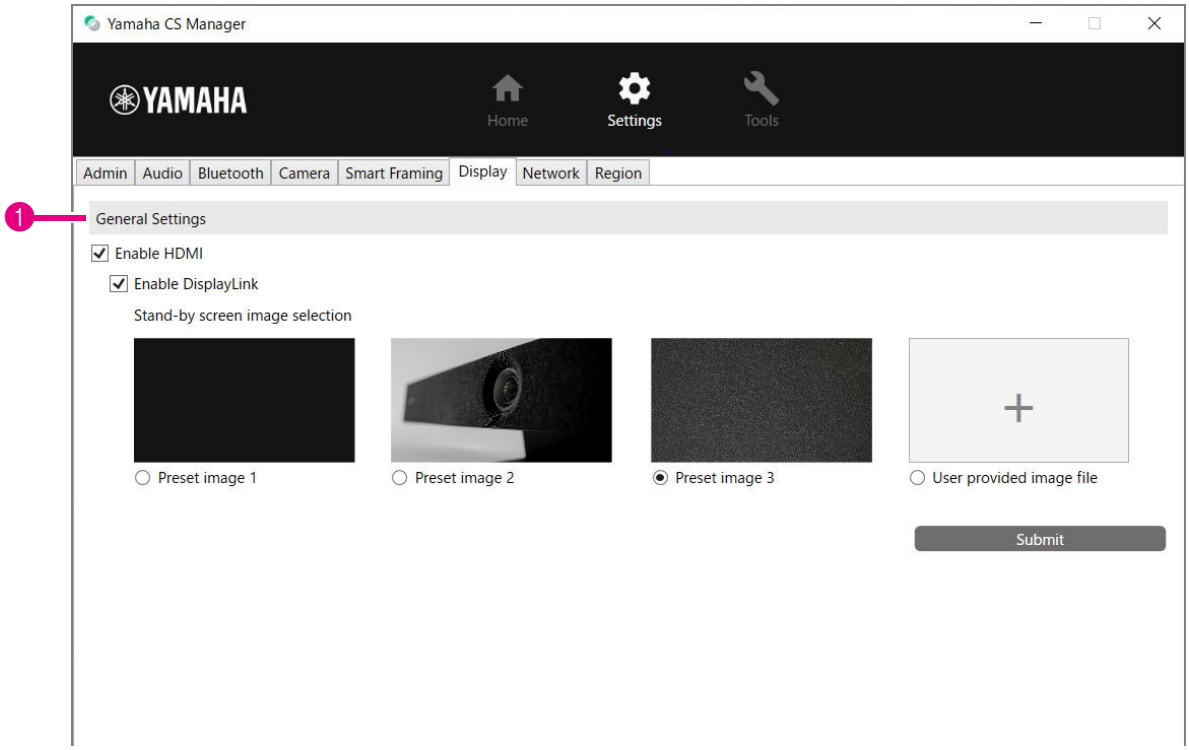
Item	Description
Horizontal angle	Allows you to specify (by using the slider) the target area in the horizontal direction. (20° to 110°)
Max distance	Allows you to specify (by using the slider) the target range in meters. (1 to 4.5 m; up to 3.0 m if face focus beamforming* is activated)

*** Face focus beamforming: [Enable Face Focus Beamforming] in Audio settings (Page 35)**

Display settings

In the [Display] screen, an image can be selected to be displayed on the TV screen when the device is idle.

[Settings] menu > [Display] screen



1 General Settings

Item	Description
Enable HDMI	Allows you to select whether to activate/deactivate HDMI.
Enable DisplayLink	This can be specified only when HDMI is activated. Allows you to select whether to activate/deactivate DisplayLink*.
Stand-by screen image selection	This can be specified only when the [Enable HDMI] check box has been selected. Allows you to select the standby image displayed on the TV (connected to this device via HDMI) when this device is not connected to a computer. • **[User provided image file]** To select a new image, browse to and upload it. (Extensions of uploadable files: JPG, JPEG, PNG; Match the resolution of the image to that of your TV.)
Submit	Click to apply the specified settings.

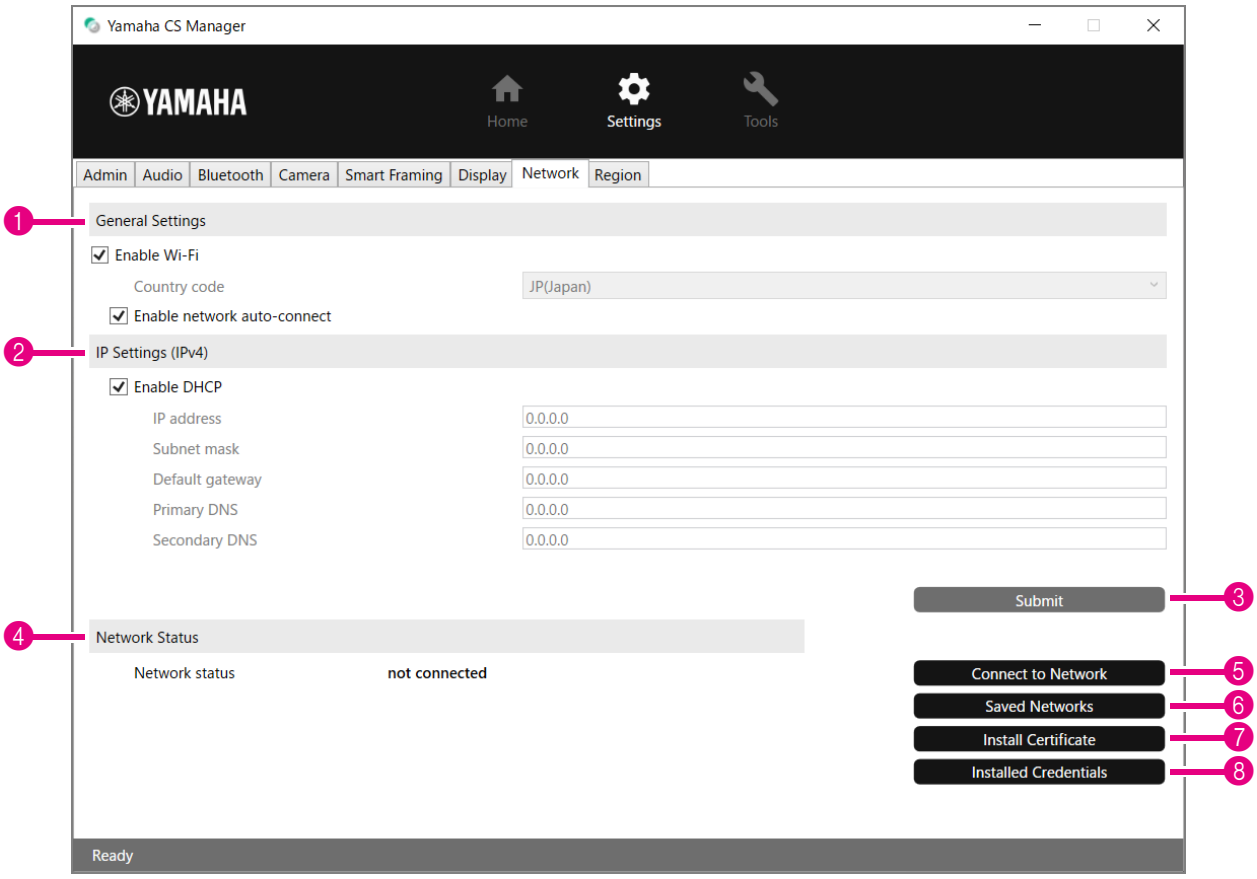
*** DisplayLink**

This is a function to display the computer on the TV screen when the computer and TV are connected through this device. (This device is connected to the computer via USB and to the TV via HDMI. Example: Page 18)

Network settings

In the [Network] screen, settings for connecting this device to a Wi-Fi network can be specified. Specifying Wi-Fi settings allows the time on the device to be set.

[Settings] menu > [Network] screen



1 General Settings

Item	Description
Enable Wi-Fi	Allows you to select whether to activate/deactivate Wi-Fi. Only when this is activated, settings can be specified for the following. • **Country code** Allows you to select the country code (country name) for Wi-Fi. This can be selected only when the string for [Serial Number] in the [Home] screen (Page 31) ends in anything other than "J", "U" or "Ä" * • **Enable network auto-connect** Allows you to select whether to activate/deactivate the function that automatically connects this device to a network that it was previously connected to.

*** This product is designed for use in different countries/regions with different legal regulatory standards. Select the country code according to your country/region. In some countries/regions, this setting cannot be changed from the factory default.**

❷ IP Settings (IPv4)

Item	Description
Enable DHCP	This can be specified only when the [Enable Wi-Fi] check box has been selected. Allows you to select whether to activate/deactivate DHCP. To assign a static IP address, clear the [Enable DHCP] check box, and then specify the static IP address with the following. (Enter using the "XXX.XXX.XXX.XXX" format.) • **IP address** • **Subnet mask** • **Default gateway** • **Primary DNS** • **Secondary DNS**

	Item	Description
❸	**Submit**	Click to apply the settings specified under "General Settings" and "IP Settings".

❹ Network Status

Item	Description
Network status	Displays the network (Wi-Fi) connection status. • **disabled** Wi-Fi is deactivated. • **not connected** There is no Wi-Fi connection. • **connected to <SSID>** Displays the SSID name of the Wi-Fi network that the device is currently connected to.

	Item	Description
❺	**Connect to Network**	Click to connect to the network. For detailed instructions, refer to "Connecting to a network" (page 46).
❻	**Saved Networks**	Click to display a list of known networks.
❼	**Install Certificate**	Click to install a client certificate file.
❽	**Installed Credentials**	Click to view or delete from the list of installed credentials (CA/user certificates).

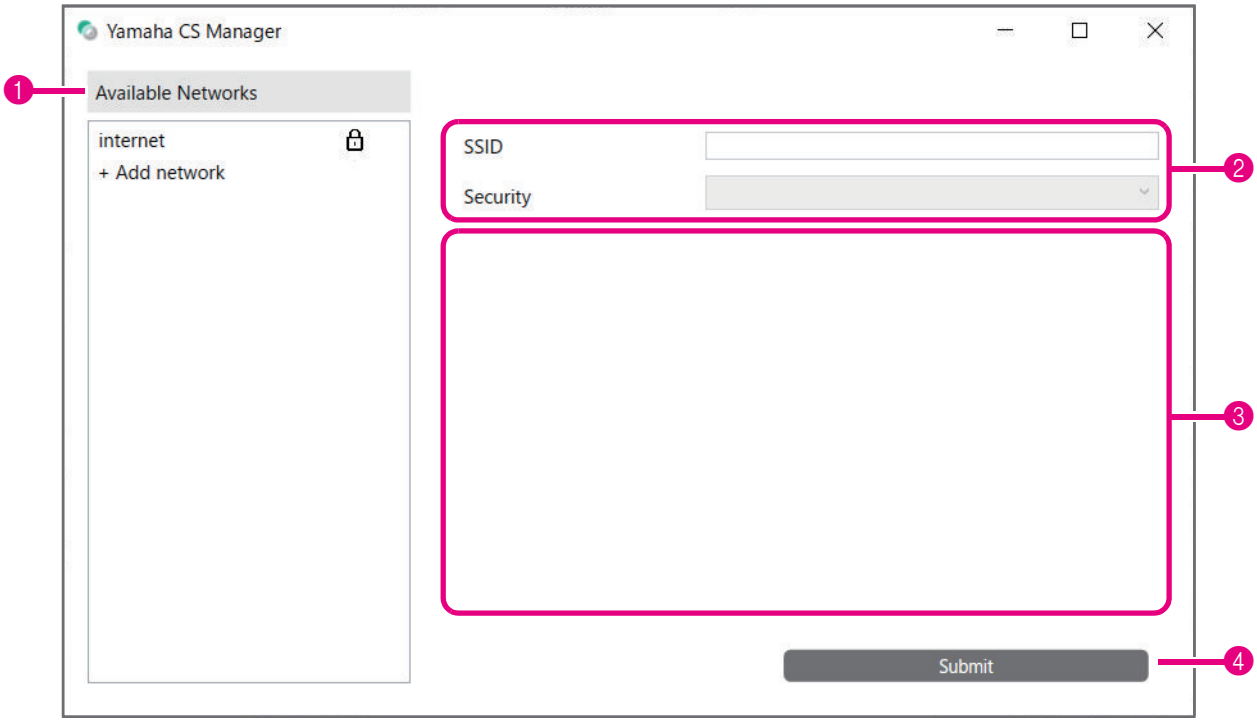
■ Connecting to a network

Wi-Fi settings can be specified in order to connect to a network. In order for the CS-500 to accurately keep time, connect it to a Wi-Fi network and specify the time settings.

1. Click the [Connect to Network] button in the [Network] screen.

The [Connect to Network] pop-up screen appears.

[Settings] menu > [Network] screen > [Connect to Network] screen



2. From the list of access points (1), select the one to connect to.

1 Available Networks

Item	Description
Available Networks	Displays a list (provided by the device) of connectable wireless access points. Encrypted connections have a lock icon to the right of their SSID name. If an encrypted connection is selected, the items that appear in 2 differ depending on the encryption method. • **[+ Add network]** Selecting this allows you to manually specify all of the items below [SSID].

3. The SSID name and encryption method of the selected access point appear.

The items and screens that appear differ depending on the encryption method of the selected access point.
If [+ Add network] was selected in ❶, specify all settings manually.

❷ SSID name and encryption method

Item	Description
SSID	Displays the SSID name. (Maximum number of characters: 32)
Security	The items that appear differ depending on the encryption method. 1) With the following, there is no need to specify other settings. Continue with step ***4***. • **[None]** • **[Enhanced Open]** 2) With the following, only [Password] appears in ❸. Type in the password. Then, continue with step ***4***. • **[WEP]** • **[WPA/WPA2-Personal]** • **[WPA3-Personal]** 3) With the following, various items appear in ❸. • **[WPA/WPA2/WPA3-Enterprise]**

❸ When [Security] is set to [WPA/WPA2/WPA3-Enterprise]

Item	Description
EAP method	The items that appear differ depending on the selected encryption method. • **[PEAP]** Phase 2 authentication, CA certificate, Identity, Anonymous identity, Password • **[TLS]** CA certificate, User certificate, Identity • **[TTLS]** Phase 2 authentication, CA certificate, Identity, Anonymous identity, Password • **[PWD]** Identity, Password
Phase 2 authentication	This can be specified only when [EAP method] is set to [PEAP/TTLS]. [None/PAP/MSCHAP/MSCHAPV2/GTC]
CA certificate	Allows you to select a CA certificate. A credential that includes a CA certificate is added to those displayed in the [Installed credentials] screen (displayed from the [Network] screen).
Domain	Allows you to type in the domain name authenticated by the CA certificate. This can be specified only when [CA certificate] is set to [Use system certificates].
User certificate	Allows you to select a user certificate. A credential that includes a user certificate is added to those displayed in the [Installed credentials] screen (displayed from the [Network] screen).

Item	Description
Identity	Allows you to type in the user ID.
Anonymous identity	Allows you to type in an anonymous user name.
Password	Allows you to type in the authentication password.

4. Click the [Submit] button to start the Wi-Fi connection.

	Item	Description
❹	**Submit**	Click to start the Wi-Fi connection.

When “Connected to network” appears in the lower left of the screen, the connection to the network is established.

NOTE

Each time a setting is selected from a drop-down menu, the settings entered for other items return to their defaults.

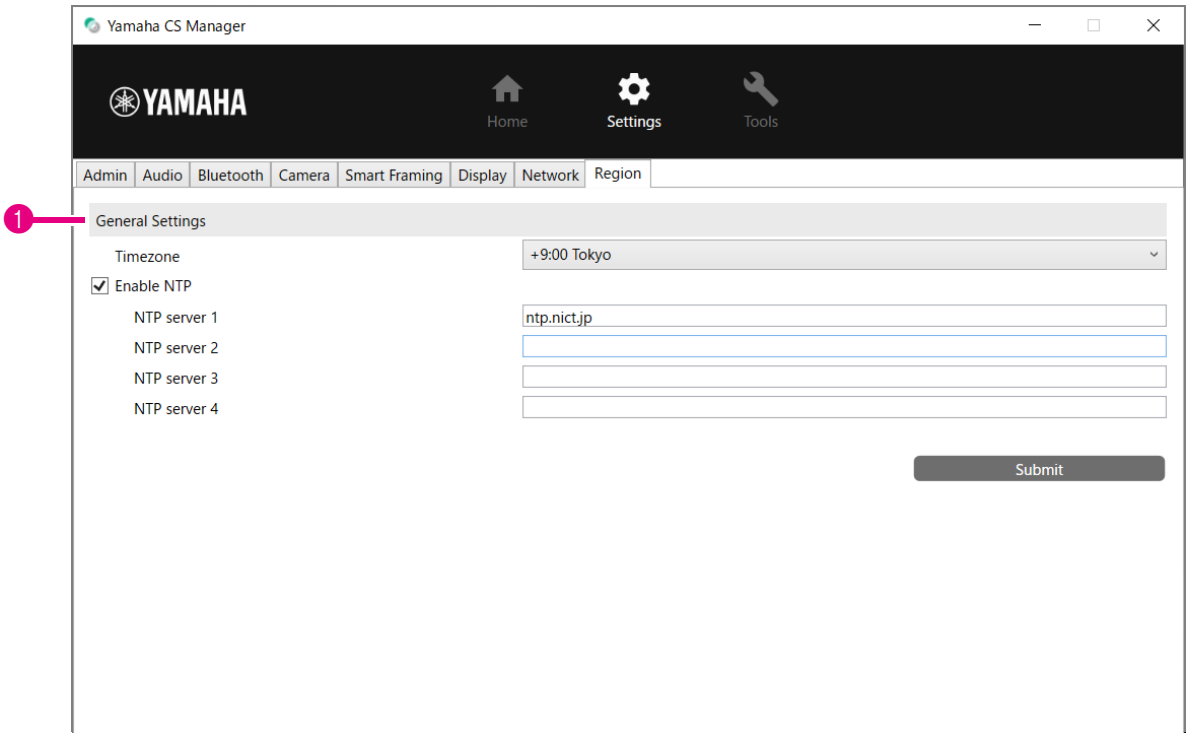
Time settings

In the [Region] screen, settings can be specified to automatically adjust the time on this device.

NOTE

In order to set the time, a Wi-Fi connection must be made by using the network settings. (Page 46)

[Settings] menu > [Region] screen



1 General Settings

Item	Description
Timezone	Allows you to select the time zone.
Enable NTP	Allows you to select whether to activate/deactivate NTP. When this is activated, the NTP server address can be specified. • **[NTP server 1]** • **[NTP server 2]** • **[NTP server 3]** • **[NTP server 4]**
Submit	Click to apply the settings specified under “General Settings”.

Related links

- Connecting to a network (Page 46)

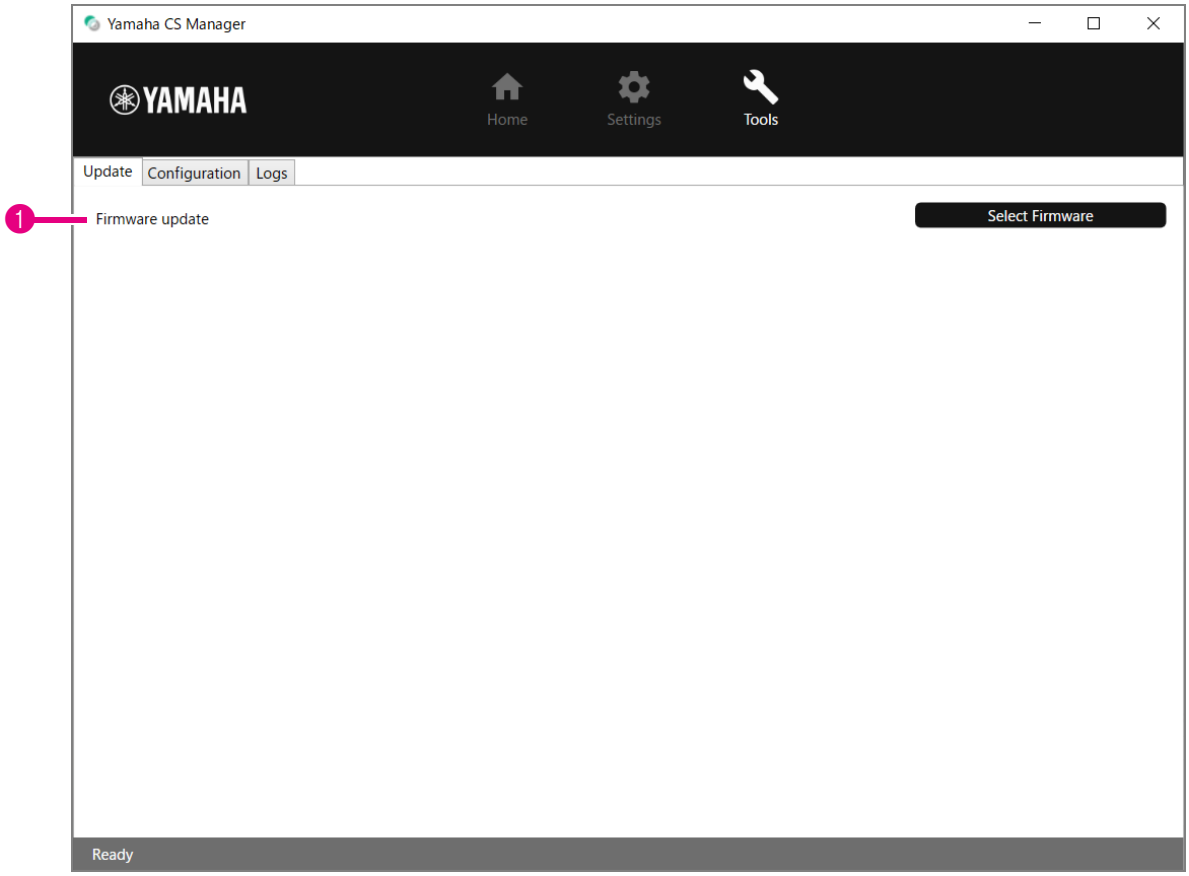
Updating the firmware

In the [Update] screen, the firmware can be updated.

NOTE

This product is designed to allow the firmware of the device to be updated in order to improve operability, add functions and fix problems. We recommend updating the device firmware to the latest version. Prepare the file for the latest firmware according to step 1 in “Updating the device firmware” (page 7).

[Tools] menu > [Update] screen



1 Firmware update

Item	Description
Select Firmware	Allows you to specify the firmware file and upload it. Extension of uploadable files: “.bundle”

Related links

- Updating the device firmware (Page 7)

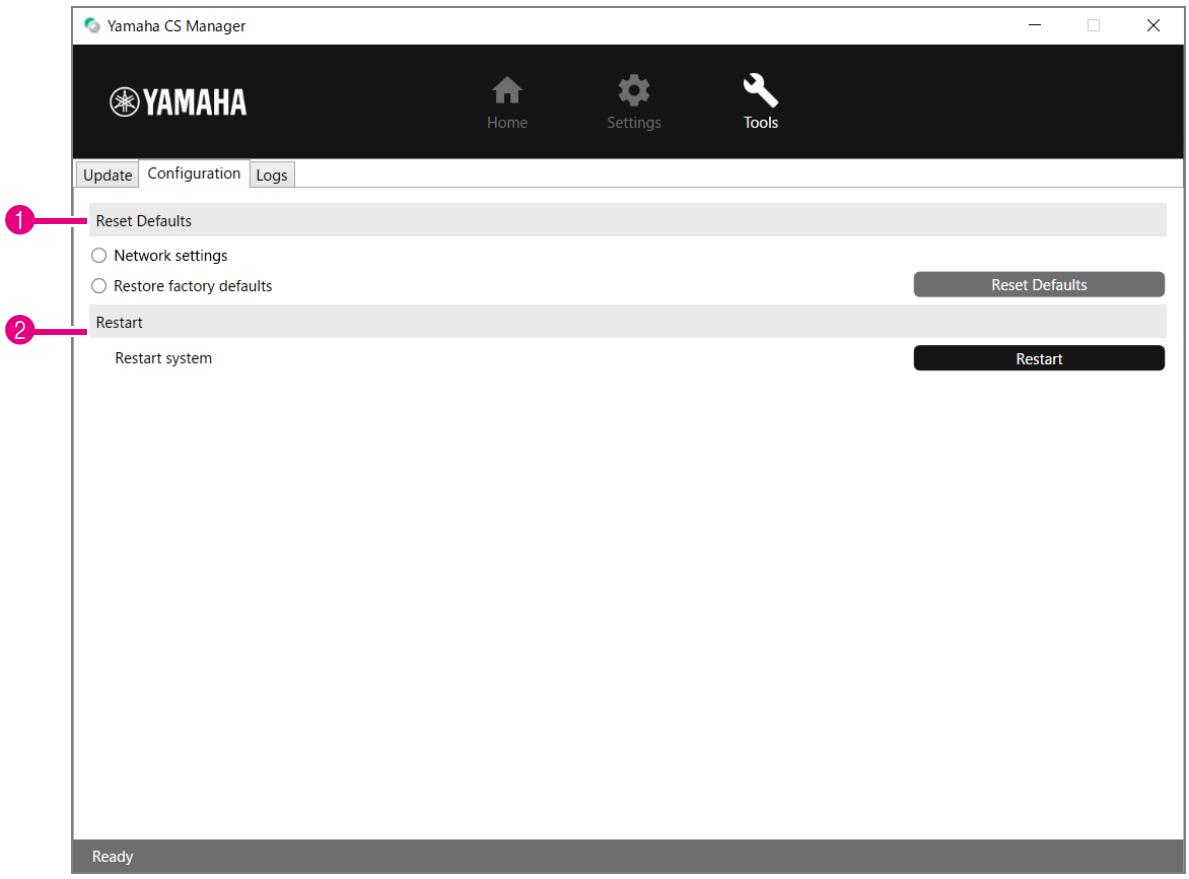
NOTE

Do not disconnect the AC adaptor or USB cable of the device while updating the firmware.

Configuration

In the [Configuration] screen, the device settings can be reset or the device can be restarted.

[Tools] menu > [Configuration] screen



1 Reset Defaults

Item	Description
Network settings	To reset the network settings, select this, and then click the [Reset Defaults] button.
Restore factory defaults	To return the device to its factory default settings (initialize), select this, and then click the [Reset Defaults] button. After the reset is finished, the initial password setting window appears.
Reset Defaults	Click to perform the reset selected above.

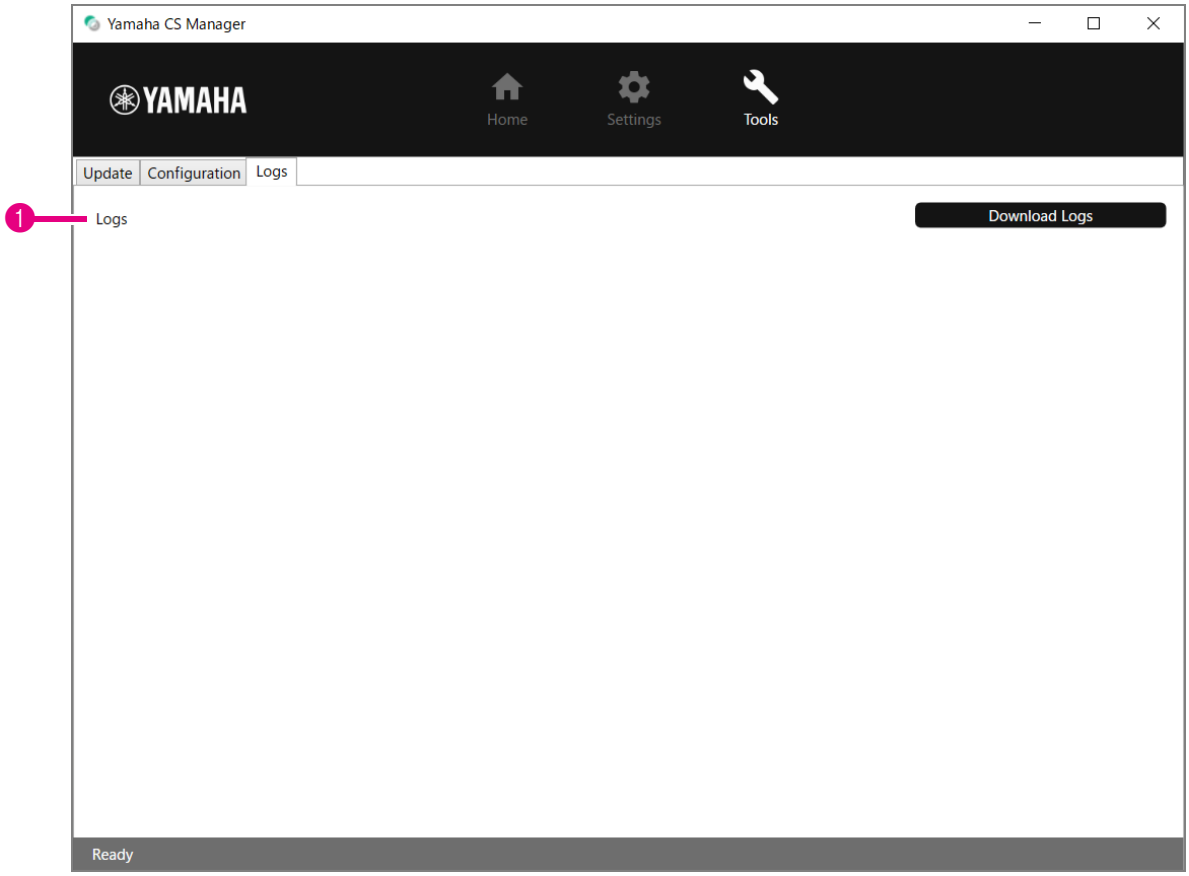
2 Restart

Item	Description
Restart	Click to restart the device. After the device is restarted, the login window appears.

Logs

In the [Logs] screen, log information can be downloaded. If you contact our support desk with a problem that you have encountered, you may be asked to download the log to be analyzed for the cause.

[Tools] menu > [Logs] screen



1 Logs

Item	Description
Download Logs	Click to save the log file. Browse to the location where the log file is to be downloaded and saved.

NOTE

The log information will be erased when the device is returned to its factory default settings (factory reset). We recommend downloading the log information before performing a factory reset (Page 56) due to a problem.

Appendix

Main specifications

General specifications

Product type	Video conference system	
Dimensions	261 mm (W) × 76 mm (D) × 51 mm (H)	
Weight	0.6 kg	
Power supply	AC adaptor CW2002100 Input voltage: 100 V – 240 V Input frequency: 50 Hz/60 Hz Input current: 1.2 A Output voltage: 20 V DC Output current: 2.1 A 	
Maximum power consumption	15.0 W	
Safety	CB/G, UL, CE, RCM, KC, CCC, BSMI, BIS	
EMC	FCC, IC, CE, RCM, KC, CCC, BSMI	
Radio interference standard	FCC, IC, CE, RCM, KC, SRRC, NCC, ANATEL	
Operating environment	**Temperature**	0 °C – 40 °C
	Humidity	20% – 85% (non-condensing)
Storage environment	**Temperature**	–20 °C – 60 °C
	Humidity	20% – 85% (non-condensing)
Indicators	Status indicator	
Included items	Read This First, Safety Guide, USB 2.0 cable (Type C-A, 5 m), HDMI cable (2 m), remote control (RC-RBT1), lens cap, coin battery (CR2032) × 2, AC adaptor with power cord (CW2002100), cable tie	
Separately sold items	Mounting accessory BRK-WL1 Mounting accessory BRK-TV1 USB 3.2 Gen 2 cable (Type C-A, 10 m) CBL-L10AC USB 3.2 Gen 2 cable (Type C-A, 25 m) CBL-L25AC	
Supported operating systems	Windows 11, Windows 10, macOS 12, macOS 11, macOS 10.15, Chrome OS	
Installation	Placed on top of display (up to 50 mm thick): Device stand Mounted above display (fixed): BRK-WL1 and BRK-TV1 (sold separately) Mounted below display: BRK-WL1 and BRK-TV1 (sold separately) Mounted on wall: BRK-WL1 (sold separately) Mounted on tripod: Device tripod thread	

Connectivity

USB Type-C	USB 2.0/3.2 Gen 1, UAC 2.0, UVC 1.1, DisplayLink	
HDMI	Version 1.4 Resolution: 720 × 480, 1280 × 720, 1366 × 768, 1920 × 1080 Frame rate: 30 fps HDCP: Version 1.4 HDMI-CEC: Power control, Input selection	
Bluetooth	**Common**	Version 5.0 Supported profiles: HFP(1.7), A2DP, AVRCP, BLE Supported codec: CVSD, SBC, mSBC Wireless output: Class 1 Maximum communication distance: 10m (32.8 ft) (no obstacles) Radio frequency (operational frequency): 2,402 to 2,480 MHz
	U.K./EU	Maximum output power (EIRP): 7.0 dBm (5.0 mW)
	USA/Canada	Maximum output power: 7.79 dBm (6.0 mW)
	Korea	Maximum output power: 0.003 W
Wi-Fi network	**Common**	Wireless LAN standards: IEEE 802.11b/g/n Radio frequency band: 2.4 GHz Available security method: OPEN, WEP, WPA/WPA2-PSK, WPA3-SAE
	U.K./EU	Radio frequency (operational frequency): 2,412 to 2,472 MHz Maximum output power (EIRP): 18.7 dBm (74.1 mW)
	USA/Canada	Radio frequency (operational frequency): 2,412 to 2,462 MHz Maximum output power: 13.81 dBm (24.0 mW)
	Korea	Radio frequency (operational frequency): 2,412 to 2,472 MHz Maximum output power: 0.01 W/MHz

Audio

Microphone	Hexa-microphone (MEMS × 6)
Microphone coverage	120° audio pickup; Max. distance: 6.0 m (19.6 ft) (face focus beamforming off) / 3.0 m (9.8 ft) (face focus beamforming on)
Microphone frequency response	100 Hz – 16 kHz
Audio signal processing	Adaptive echo canceller, Noise reduction, Automatic tracking, Automatic gain control, Automatic room EQ, Dereverberation, SoundCap Eye (Face focus beamforming, Self-silence, Self-volume balancer)

Camera/video

Sensor	CMOS 8M pixels (4K)
Diagonal angle of view	120°
Focal distance	0.5 m (1.6 ft) – ∞
Frame rate	6 fps, 7.5 fps, 10 fps, 15 fps, 30 fps
Supported video resolutions	3840 × 2160, 2560 × 1440, 1920 × 1080, 1280 × 720, 640 × 360
Supported video codecs	YUY2, MJPEG, NV12
Frame control	Smart framing (Group, Individual, Speaker tracking) or manual pan-tilt-zoom (PTZ), configurable preset × 2 Maximum zoom ratio: 5.0× People detection max distance: 4.5 m
Video signal processing	Automatic white balance, Automatic exposure control, Noise reduction

User interface

Function button	Factory default settings, Remote control pairing
Remote control	Power supply, Microphone mute × 2, Speaker volume, Camera ePTZ, Smart framing ON/OFF, Camera preset × 2, On-screen display menu control
On-screen display menu	Meeting area, Smart framing mode, Camera preset, Microphone, Speaker, Bluetooth
People presence detection	Auto wakeup
Yamaha CS Manager	Supported OS: Windows11, Windows10 (64-bit), macOS 12, macOS 11, macOS 10.15 Functions: Device status monitor, Security setting, Power setting, Audio setting, Camera setting, Smart framing setting, Bluetooth setting, HDMI screen setting, Network (Wi-Fi) setting, NTP setting, Firmware upgrading, Factory default setting, Logs retrieving

Output features

Output connector	Type	Output impedance	Compatible impedance	Output level	Connector
3.5 mm mini jack	Headphones	20 Ω	16 – 32 Ω	25 mW (16 Ω)	3.5 mm stereo (TRS)
	Line		100 Ω	0.8 dBV	

Returning to factory default settings (factory reset)

This device can be returned to its factory default (initial settings) using either of the following methods.

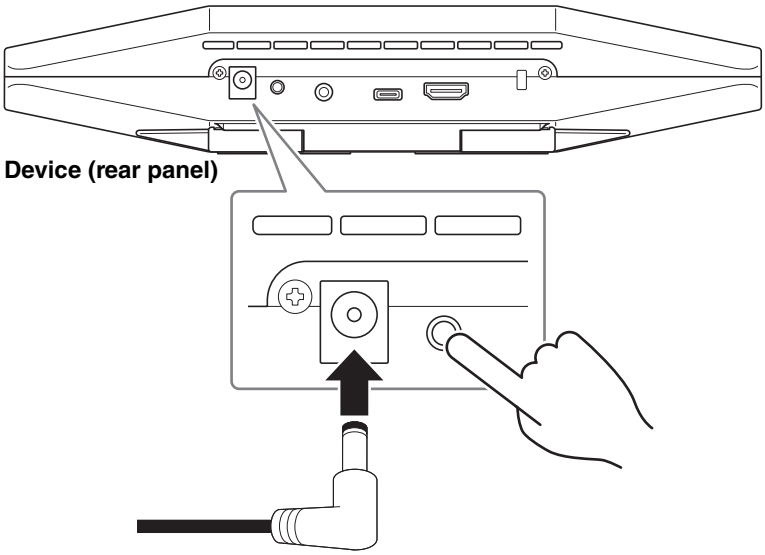
- Initializing by using the device
- Initializing by using Yamaha CS Manager

NOTE

The log information will be erased when the device is returned to its factory default settings (factory reset). We recommend downloading the log information before performing a factory reset due to a problem. (Page 52)

■ Initializing by using the device

1. Start the device by connecting the power cable while holding down the [FUNCTION] button on the rear panel of the device.



Connecting the power cable automatically turns on the device.

2. After connecting the power cable, keep the [FUNCTION] button pressed for at least 5 seconds.

The status indicator on the front panel of the device flashes in orange five times at a 0.5-second interval. Initialization is finished when the status indicator lights up in white.

■ Initializing by using Yamaha CS Manager

Initialize from the [Configuration] screen in the [Tools] menu of Yamaha CS Manager. (Page 51)

Yamaha Global Site
U.S.A. and Canada
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