YAMAHA
Make Waves

CS-800

VIDEO COLLABORATION SYSTEMS

CS-500

BE SEEN. BE HEARD.
BE YOU.

Video Sound Bar
CS-800

Video Collaboration System
CS-500

Turn various areas into a high-quality collaboration space with Yamaha's video collaboration systems

SoundCap Eye™ is created by unifying three Yamaha's unique technologies: Face Focus Beamforming, Self-Silence and Self-Volume Balancer.
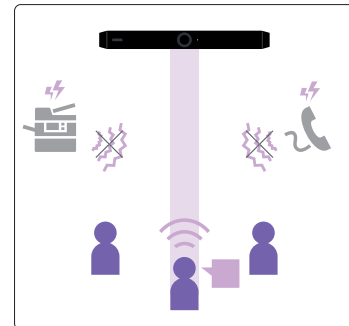
01 | Face Focus Beamforming

Problem

Open workspaces can be noisy with sounds from colleague chatter, office equipment and nearby meetings. When having remote conference sessions, your conversation can be disrupted by these noises and far-end participants will have difficulty hearing you clearly.

Solution

The 4K camera built into the CS series not only delivers clear images, but also analyzes the captured images with AI to constantly track the faces of the meeting participants.
Face Focus Beamforming realized by this AI camera and the newly developed Hexa-Microphone, suppresses noise coming from directions other than the person captured in the camera, and clearly picks up the voices of the meeting participants.

＊ Face Focus Beamforming is a function enables the remote communication at open workspaces. It is not recommended to use at closed spaces like conference rooms.
＊ In the open spaces, please keep more than 2 m from the talker in another meeting.

02 | Self-Silence

Problem

Even within the virtual walls of a conversation in an open workspace, there can be various surrounding noises that can be picked up. Whether it be the ringing of a phone, computer typing or shuffling of papers, sudden noises can be distracting especially to far-end participants.

Solution

The CS-800 and CS-500 include a self-silence function that automatically mutes the microphone when the conference participant is not speaking. By using Yamaha's Human Voice Activity Detection (HVAD) technology, the CS-800 and CS-500 can detect human voice from other sounds in an instant. Participants can rely on a smooth conversation without unnecessary sound whether they are speaking or not.

Speaking | Not Speaking
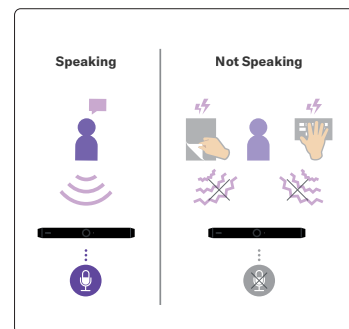
03 | Self-Volume Balancer

Problem

When using the video sound bars in open workspaces, speaker output can sometimes be too quiet or too loud when ambient background noise changes, causing missed information or an inconvenience to the surrounding workers. In some cases, there is also a risk of private information being heard.

Solution

With the self-volume balancer function, the CS-800 and CS-500 automatically adjust the volume according to the ambient noise to keep an appropriate speaker volume level (speaker of the CS-800 or monitor speaker) at all times. Participants can conduct remote conferences in open spaces without failing to hear conversation, disturbing their surroundings and keeping meeting contents private.
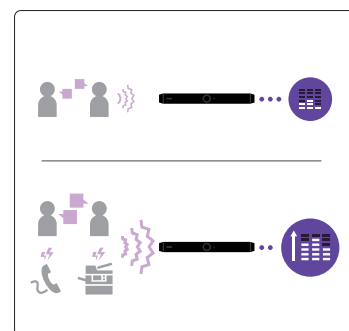
＊ The CS-500 automatically adjusts the speaker volume of the display connected via HDMI.

Hexa-Microphone realizes SoundCap Eye™

Microphone is arranged in a hexagonal array that creates a 3-dimensional microphone beam that more accurately captures words spoken during conversations to reproduce a clearer and more precise sound compared to normal video sound bars.

General video sound bar | CS-800/CS-500

Air conditioner | Air conditioner
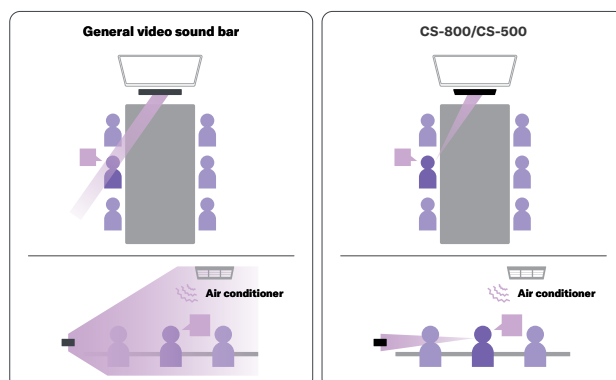
BE SEEN. BE HEARD.

VIDEO COLLABORATION SYSTEMS

Yamaha's newly developed SoundCap Eye™ technology pinpoints participant locations to deliver a seamless and immersive tracking experience unlike any other. It's like a skilled movie director, cameraman and sound director working together behind the scenes!

With the added Easy Launch function and various mounting options, the CS series is tailor made to work seamlessly in any environment – even noisy open workspaces. Collaborate and connect with ease and without worry.

SoundCap Eye™

SoundCap Eye™ enables open space remote communication by "finding" and "capturing" voice clearly

Using the positioning data provided from BOTH the voice and camera pickup, Yamaha's new SoundCap Eye™ technology pinpoints participant locations to deliver a seamless and immersive tracking experience unlike any other.

BE YOU.

Smart Framing feature automatically adjusts camera frame for smooth communication

The Smart Framing function recognizes people in the room who are speaking and automatically frames the video signal for remote participants. Smart Framing supports 3 modes:

- **Group**
  Frame all participant
- **Speaker**
  Frame main speaker
- **Individual**
  Frame specified person user selects

* People detection for Smart Framing max distance: 4.5 m

Dual Remote Interface

This dual design allows for both a singular microphone muting option as well as an advanced interface inclusive of:

- Volume up/down
- Manual camera framing
- Manual camera zoom in/out
- Smart Framing mode selection
- On/off button
- Mic mute

Easy Launch designed for everyone to communicate smartly, quickly and easily

Yamaha CS-800 and CS-500 include an "Auto Wake-up" and "User Guide" function that automatically turns on the display and shows how to start the meeting when users walk into the meeting space. Yamaha CS-800 and CS-500 also have one cable connection that simplifies online collaboration by only connecting one cable to the users' laptop.

1 System Auto Wake-up

The CS-800 and CS-500 recognize users entering the room and can automatically wake up the display via HDMI-CEC.

2 On Screen User Guide

The CS-800 and CS-500 display a guide on the room display explaining how to use the room technology and start a meeting.

3 One USB Connection

All functionalities: audio, camera and display (DisplayLink) will be connected to user's laptop with just ONE USB connection.*
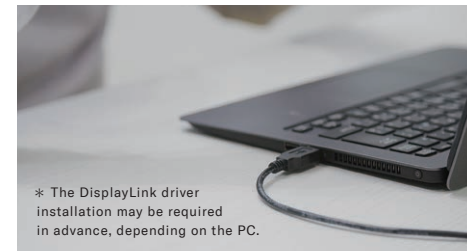
* The DisplayLink driver installation may be required in advance, depending on the PC.

Multiple Installation Options

With a variety of mounting options available, the CS series make any space ready for remote collaboration.

CS-800

Tabletop	Wall Mount	TV Mount	
Table Stand for CS-800 (Included)	Wall Mount Bracket for CS-800 (Included)	Wall Mount Bracket for CS-800 (Included)	**BRK-TV1** VESA Mount Bracket (Optional)

Installation above display: 48 - 60in
Installation below display: 48 - 70in

CS-500

TV Mount	Tripod Mount	Wall Mount	TV Mount (Rigid)	
CS-500 Leg (Attached)	Tripod with 1/4 inch male thread (Commercially available)	**BRK-WL1** Wall Mount Bracket for CS-500 (Optional)	**BRK-WL1** Wall Mount Bracket for CS-500 (Optional)	**BRK-TV1** VESA Mount Bracket (Optional)

Installation above display: 48 - 60in
Installation below display: 48 - 70in

CS Series Display Size General Guideline

With its embedded leg, the CS-500 can be installed above displays that have a thickness of up to 50 mm.

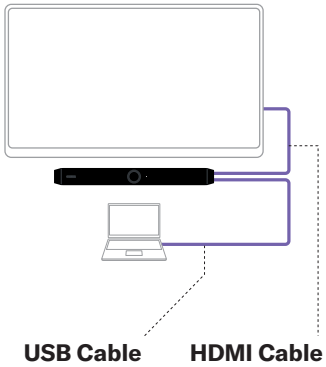|	CS-500	CS-500 / CS-800	CS-800
Display	27 - 43in	43 - 65in	65 - 86in

Multi-platform Compatibility

Seamless connectivity with all popular remote-conferencing software and supports Windows, macOS, Chrome OS, iOS, and Android.

zoom Certified
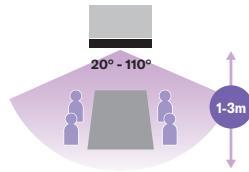

System Example

| Connection | Usage Example |

Connection

USB Cable **HDMI Cable**

Usage Example

Open Spaces

20° - 110°
1-3m

Face Focus Beamforming: **On**

Closed Meeting Rooms

20° - 110°
Max 6m
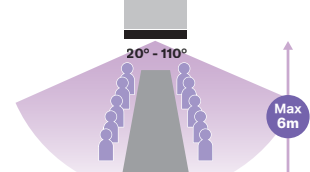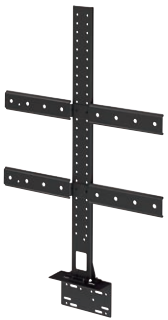
Face Focus Beamforming: **Off**

✳ Face Focus Beamforming is a function enables the remote communication at open workspaces. It is not recommended to use at closed spaces like conference rooms.
✳ In the open spaces, please keep more than 2 m from the talker in another meeting.
✳ People detection for Smart Framing max distance: 4.5 m

Optional Accessories

TV Mount Bracket for CS-800/CS-500
BRK-TV1
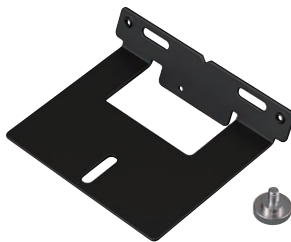
Wall Mount Bracket for CS-500
BRK-WL1

Ultra Hi-Spec Long USB Cable 10 m (Type A to C)
CBL-L10AC

Ultra Hi-Spec Long USB Cable 25 m (Type A to C)
CBL-L25AC

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☐ Specifications

		CS-800	CS-500
General	Description	Video Sound Bar	Video Collaboration System
	Dimensions (W x D x H)	W620 mm x D90 mm x H70 mm	W261 mm x D76 mm x H51 mm
	Weight	1.7 kg	0.6 kg
	Power Requirements	AC 100 - 240 V (50/60 Hz)	
	Maximum Power Consumption	42.0 W	15.0 W
	In Operation	Temperature: 0℃ - 40℃ / Humidity: 20% - 85% (no condensation)	
	Storage	Temperature: -20℃ - 60℃ / Humidity: 20% - 85% (no condensation)	
	Accessories	Read this first, Safety Guide Quick Guide, USB 2.0 cable (Type C-A, 5 m / 16.4 ft), HDMI cable (2 m / 6.6 ft), Remote control (RC-RBT1), Lens cap, Terminal cover, Coin battery (CR2032) x 2, AC adaptor with power cord (CW2002100), Table stand, Wall mounting bracket, Terminal cover screw (2.5 mm x 8 mm) x 2, Hexagonal screw (M3 x 8 mm) for table stand x 2, Screw (M3 x 8 mm) for wall mounting bracket x 1, Hexagonal wrench	Read this first, Safety Guide, USB 2.0 cable (Type C-A, 5 m / 16.4 ft), HDMI cable (2 m / 6.6 ft), Remote control (RC-RBT1), Lens cap, Coin battery (CR2032) x 2, AC adaptor with power cord (CW2002100), Cable tie
	Options	Mounting Accessory BRK-TV1, USB 3.2 Gen 2 cable type A (plug) to C (plug) 10 m CBL-L10AC, USB 3.2 Gen 2 cable type A (plug) to C (plug) 25 m CBL-L25AC	Mounting Accessory BRK-WL1, Mounting Accessory BRK-TV1, USB 3.2 Gen 2 cable type A (plug) to C (plug) 10 m CBL-L10AC, USB 3.2 Gen 2 cable type A (plug) to C (plug) 25 m CBL-L25AC
	Supported OS	Windows 11, Windows 10, macOS 12, macOS 11, macOS 10.15, Chrome OS	
	Installation	Tabletop installation: Table stand (accessory) Wall mount installation: Wall mounting bracket (accessory) Installation above display: BRK-TV1 (option) Installation below display: BRK-TV1 (option)	Installation above display (thickness up to 50 mm): Embedded leg Installation above display (rigid): BRK-WL1 and BRK-TV1 (options) Installation below display: BRK-WL1 and BRK-TV1 (options) Wall mount installation: BRK-WL1 (option) Tripod installation: Embedded tripod screw hole
Connections	USB Type-C	USB 2.0/3.2 Gen 1, UAC 2.0, UVC 1.1, DisplayLink	
	HDMI	Version 1.4 Resolution: 720 x 480, 1280 x 720, 1366 x 768, 1920 x 1080 Frame Rate: 30 fps HDCP: Version 1.4 HDMI-CEC: Power control, Input selection	
	3.5 mm Audio Jack	-	Headphone / Line output (Stereo out)
	Bluetooth	Version 5.0 Supported Profiles: HFP (1.7), A2DP, AVRCP, BLE Supported Codec: CVSD, SBC, mSBC Wireless Output: Class 1 Maximum Communication Distance: 10 m (32.8 ft) (no obstacles) Radio Frequency (Operational Frequency): 2,402 to 2,480 MHz	
	Wi-Fi Network	Wireless LAN Standards: IEEE 802.11b/g/n Radio Frequency Band: 2.4 GHz Available Security Method: OPEN, WEP, WPA/WPA2-PSK, WPA3-SAE	
Audio	Speaker	Full-range speaker x 1	-
	Speaker Loudness	90 dBSPL (1m)	-
	Speaker Frequency Response	100 Hz - 20 kHz	-
	Microphone	Hexa-microphone (6 x MEMS)	
	Microphone Coverage	Frontward 110 degrees 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 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 and Video	Sensor	CMOS 8M pixel (4K)	
	Field of View	Diagonal: 120 degrees / Horizontal: 110 degrees	
	Focus Distance	0.5 m (1.6 ft) to ∞	
	Frame Rate	6 fps, 7.5 fps, 10 fps, 15 fps, 30 fps	
	Supported Video Resolution	3,840 x 2,160 2,560 x 1,440 1,920 x 1,080 1,280 x 720 640 x 360 ＊When using 3,840 x 2,160, 2,560 x 1,440 resolution, optional cables (CBL-L10AC or CBL-L25AC) that is USB 3.0 or greater is needed.	
	Supported Video Codec	YUY2, MJPEG, NV12	
	Frame Control	Smart Framing (Group, Individual, Speaker tracking) or manual pan-tilt-zoom (PTZ), configurable preset x 2 Maximum Zoom Ratio: 5.0x People Detection Max Distance: 4.5m	
	Video Processing	Automatic white balancing, Automatic exposure control, Noise reduction	
User Interface	Function Button	Factory default setting, Remote control pairing	
	Remote Control	Power, Microphone mute x 2, Speaker volume, Camera ePTZ, Smart Framing on/off, Camera preset x 2, OSD menu control	
	OSD Menu	Meeting area, Smart Framing mode, Camera preset, Mic, Speaker, Bluetooth	
	People Presence Detection	Auto wake-up	
	Yamaha CS Manager	Supported OS: Windows 11, Windows 10 (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	

☐ CS-500 Output Characteristics

Output Terminal	Type	Actual Source Impedance	For Use with Nominal	Output Level	Connector
3.5 mm mini-Jack	Headphone	20 Ω	16 - 32 Ω	25 mW(16 Ω)	3.5 mm stereo (TRS)
	Line		100 Ω	0.8 dBV	

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