SONY

HD VISUAL COMMUNICATION SYSTEM

PCS-XG80
PCS-XG80S
PCS-XG55
PCS-XG55S

IPELA

MEMORY STICK ™

SYSTEM INTEGRATION MANUAL

1st Edition (Revised 1)

Version 2.0 and Later (PCS-XG80)

Version 2.1 and Later (PCS-XG55)

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用ください。

⚠WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injury, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

⚠WARNUNG

Die Anleitung ist nur für qualifiziertes Fachpersonal bestimmt.
Alle Wartungsarbeiten dürfen nur von qualifiziertem Fachpersonal ausgeführt werden. Um die Gefahr eines elektrischen Schlages, Feuergefahr und Verletzungen zu vermeiden, sind bei Wartungsarbeiten strikt die Angaben in der Anleitung zu befolgen. Andere als die angegeben Wartungsarbeiten dürfen nur von Personen ausgeführt werden, die eine spezielle Befähigung dazu besitzen.

⚠AVERTISSEMENT

Ce manual est destiné uniquement aux personnes compétentes en charge de l’entretien. Afin de réduire les risques de décharge électrique, d’incendie ou de blessure n’effectuer que les réparations indiquées dans le mode d’emploi à moins d’être qualifié pour en effectuer d’autres. Pour toute réparation faire appel à une personne compétente uniquement.

Table of Contents

1. Installation

2. Setup/Alignment and Video Mode

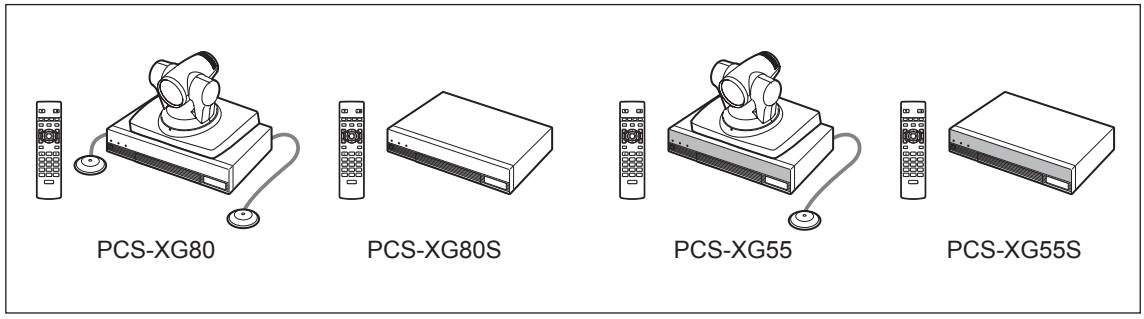
3. Maintenance

Section 1
Installation

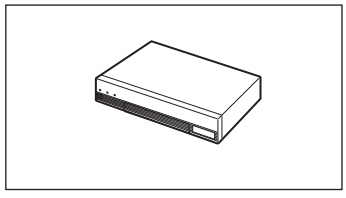
This section describes the typical system connections. Refer to the Operating Instructions supplied with the PCS-XG Series models.
The difference between PCS-XG80/XG80S and PCS-XG55/XG55S is described in Section 1-3.

This system integration manual defines and uses words as below. (See below Fig.)
"PCS-XG Series models" means the four models, that is, PCS-XG80, PCS-XG80S, PCS-XG55 and PCS-XG55S.
"PCS-XG80 main unit" means the codec box of both PCS-XG80 and PCS-XG80S.
"PCS-XG55 main unit" means the codec box of both PCS-XG55 and PCS-XG55S.
"PCS-XG Series main unit" or "main unit" means both "PCS-XG80 main unit" and "PCS-XG55 main unit".

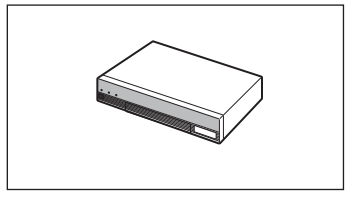
PCS-XG Series models



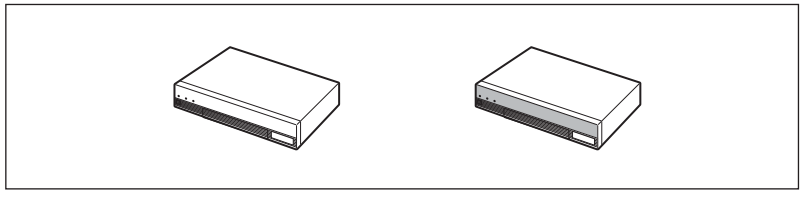
PCS-XG80 main unit



PCS-XG55 main unit



"PCS-XG Series main unit" or "main unit"



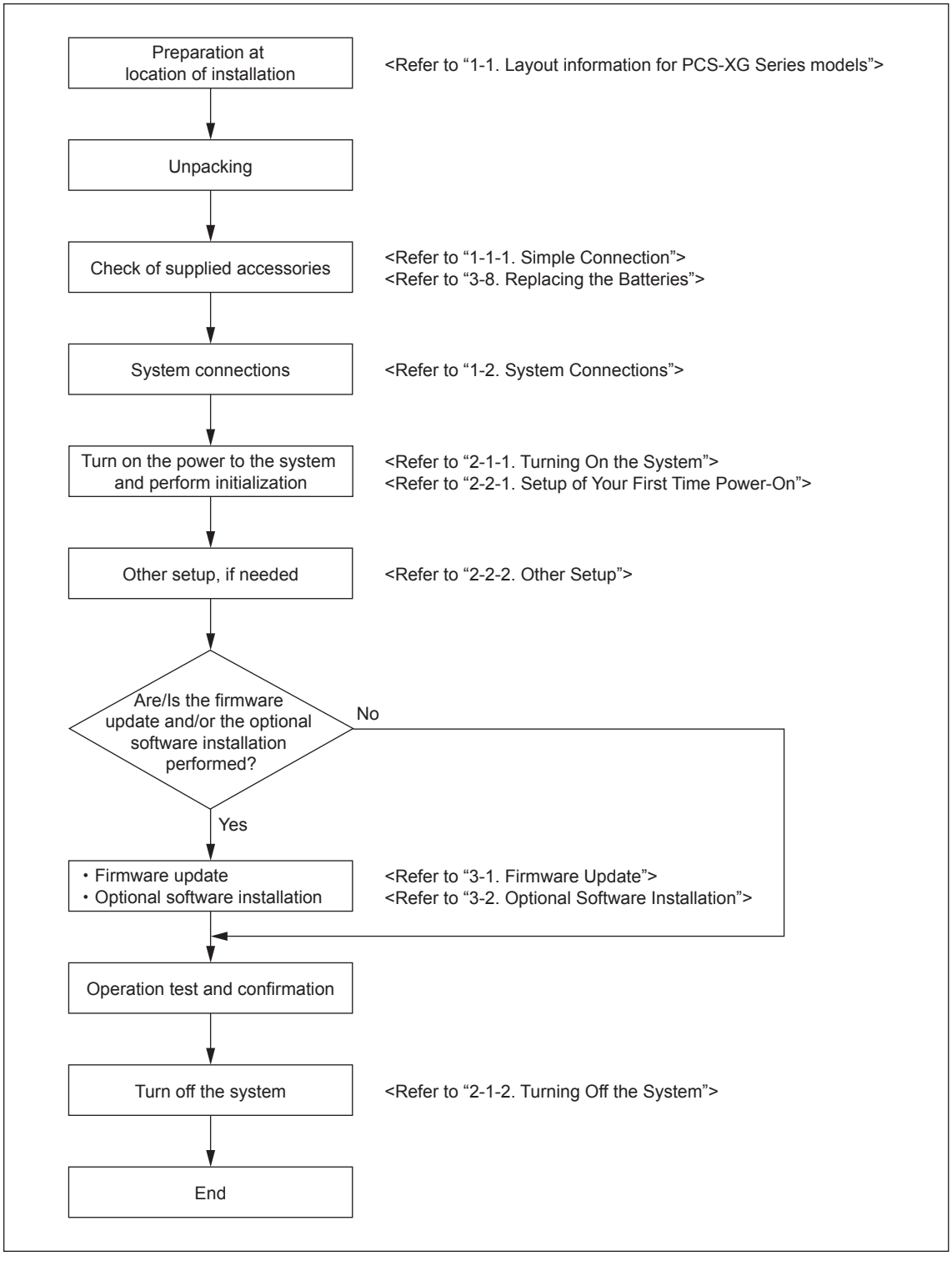
Note

The PCS-XG Series main unit, PCS-RF1 and PCSA-CXG80 all incorporate an RF (radio frequency) transmitting and receiving module.
For notes on RF waves, refer to the operating instructions supplied with PCS-XG series model.
Position the camera and microphone appropriately in the video conferencing room.

CAUTION

You must turn off the power to the PCS-XG Series main unit before attempting to connect the camera to the main unit using the supplied camera cable. Otherwise, the camera and/or main unit may be damaged, or the picture may not be displayed.

Installation Flowchart

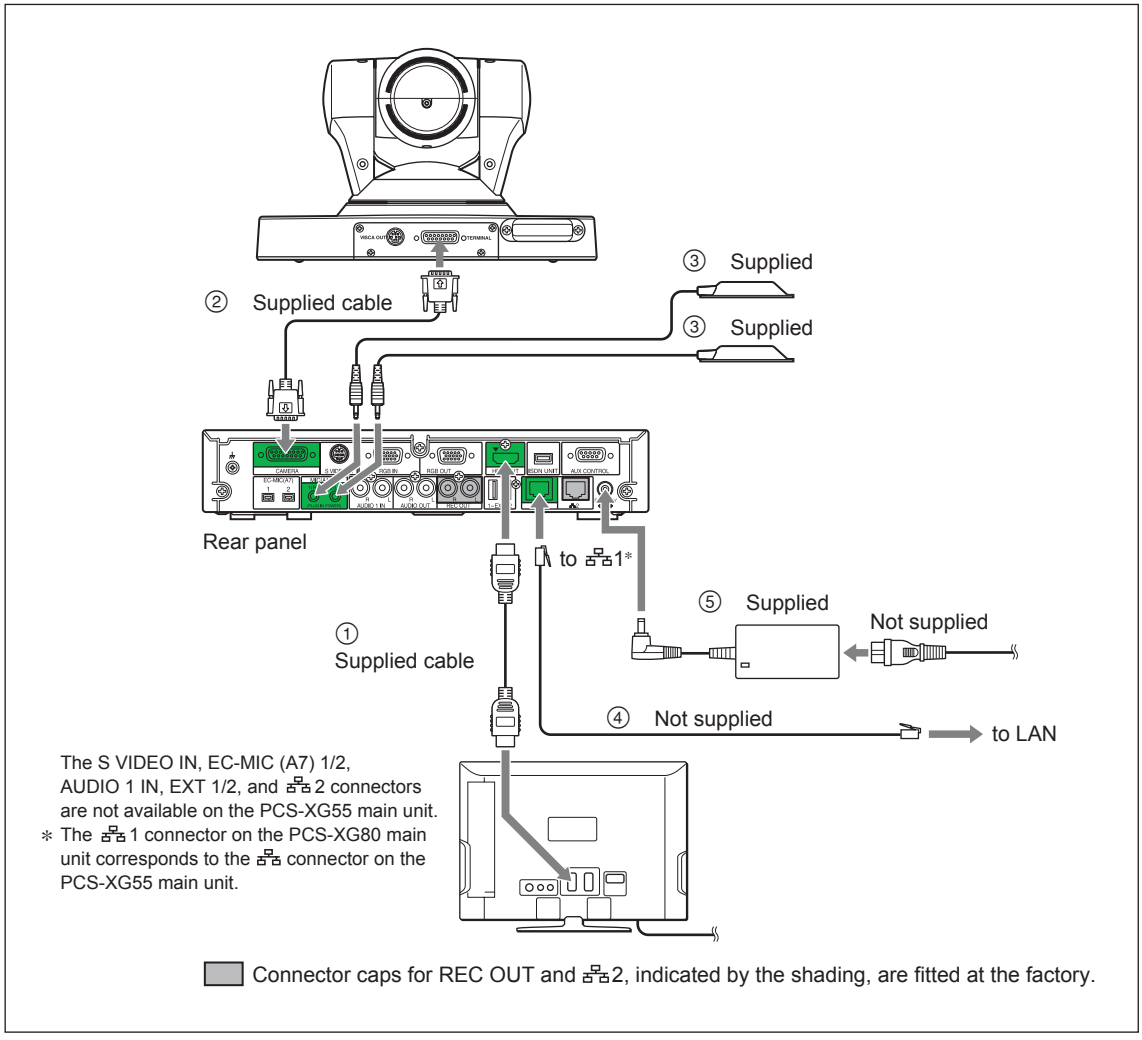


1-1. Layout Information for PCS-XG Series Models

1-1-1. Simple Connection

Making a “simple connection”

To start video conferencing by making a “simple connection”, connect the cables to the green connectors, as shown below.



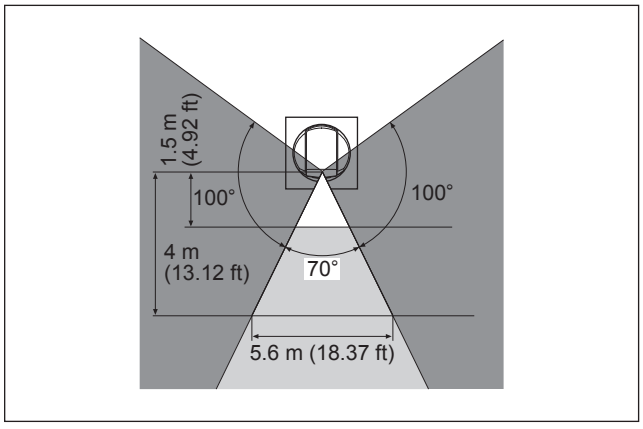
① Connect the HDMI cable. (HD video and stereo audio)
② Connect the camera cable.
③ Connect the microphones.
④ Connect the network cable.
⑤ Connect the AC power adaptor.

1-1-2. Camera Connection

Shooting range of camera unit

Be sure to position the camera and microphone appropriately in your video conferencing room. represents the shooting area of the camera when the zoom has been extended fully. indicates the shooting area of the camera when the angling function is fully utilized. Use the measurements shown below as a guide for the layout of your video conferencing room.

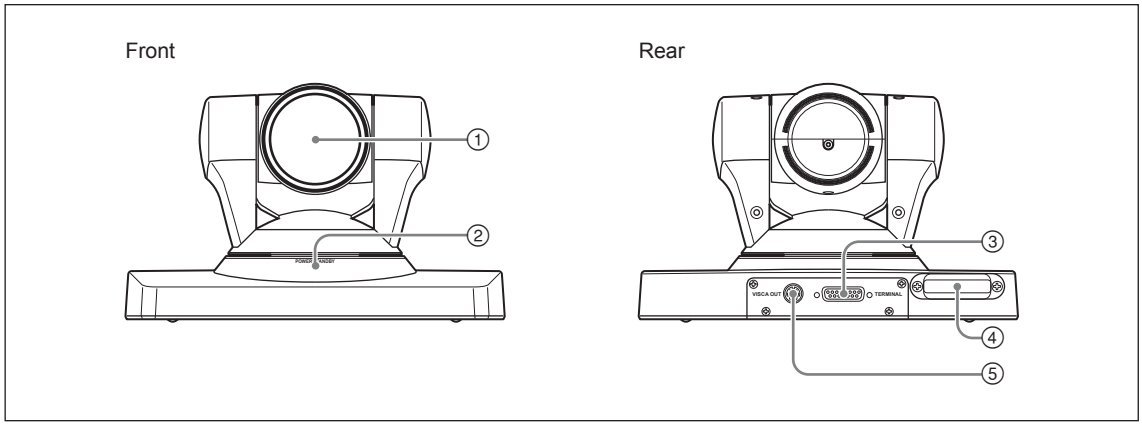
Top view (horizontal range at maximum zoom-out)



Installing the camera on a desk

Place the camera on a flat surface whenever possible. In extreme circumstances, you may place the camera on an inclined surface provided the inclination does not exceed ±15 degrees, to ensure that the pan/tilt operates correctly.

Location and function of camera parts



① **Lens**
This is a 10-magnification optical zoom lens.

② **POWER/STANDBY indicator**

③ **TERMINAL connector**
Connect to the CAMERA connector on the PCS-XG Series main unit.

④ **Receiver of the RF Remote Commander**
The Remote Commander and the PCS-XG Series main unit are paired at the factory.
If the PCS-XG Series main unit is located apart from the Remote Commander, it may not be controlled due to the condition of reception. In this case, perform the procedure to pair the Camera Unit with the Remote Commander. Refer to the Operating Instructions or “1-1-8. Remote Commander and Pairing”.
Operable distance of RF-Remote Commander is 10 m (30 ft.). Depending on the circumstances, a longer operable distance may be possible.

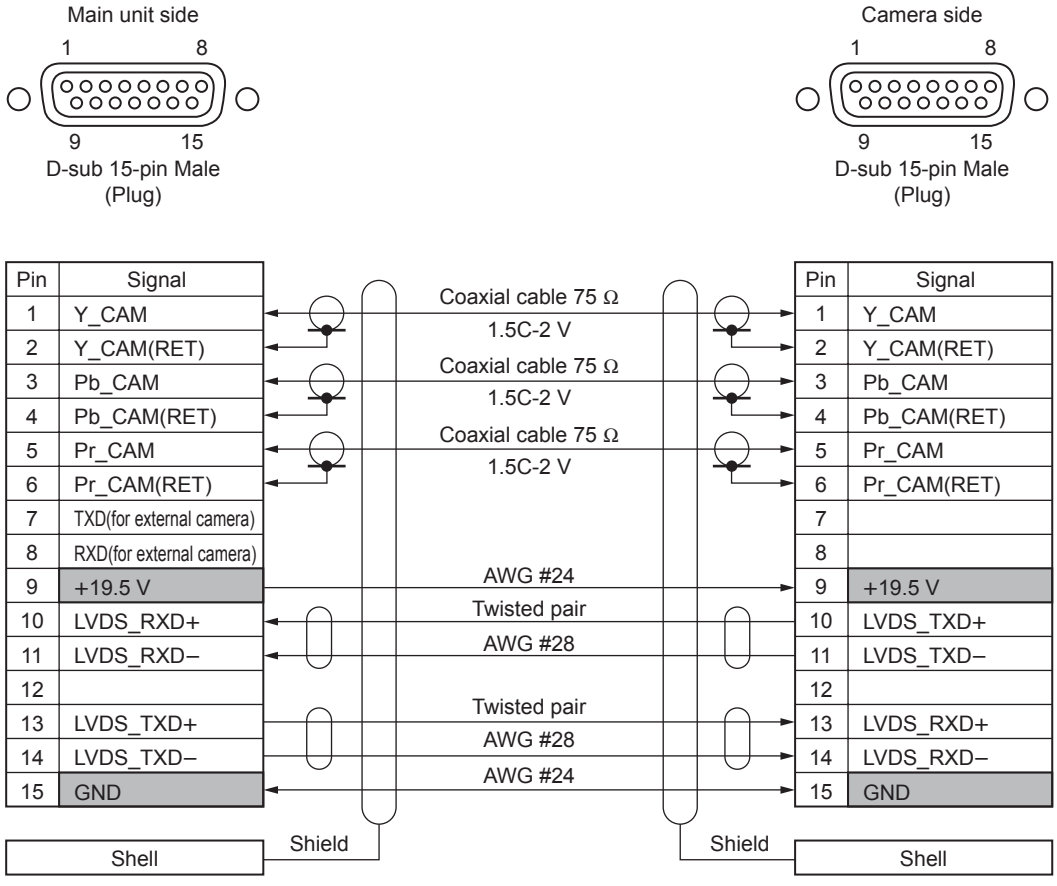
⑤ **VISCA OUT connector**
This is used for VISCA connection to 2nd camera. When the 2nd camera is connected with the PCS-XG Series main unit, connect the VISCA cable from the 1st camera with the VISCA IN of the 2nd camera. Please refer to “Connecting HD camera as 2nd Camera”. (page 1-9)

Camera cable length

- The PCSA-CXG80 is provided with a 3 m (10 ft.) camera cable as standard.
- If you need to extend the camera cable, refer to “Camera connector pin assignments/cable wiring,” shown below.
  The camera cable line, corresponding to pin numbers 1 to 6, must be made up using coaxial cable (75 Ω). For pin numbers 1 to 6 and 9, the characteristics, structure, and line gauge must be as shown below. You can extend the camera cable up to a maximum length of 20 m (60 ft.). Test the cable before attempting to use it.

Camera connector pin assignments/cable wiring

The camera connector pin assignments/cable wiring are as shown below.



Supported cameras

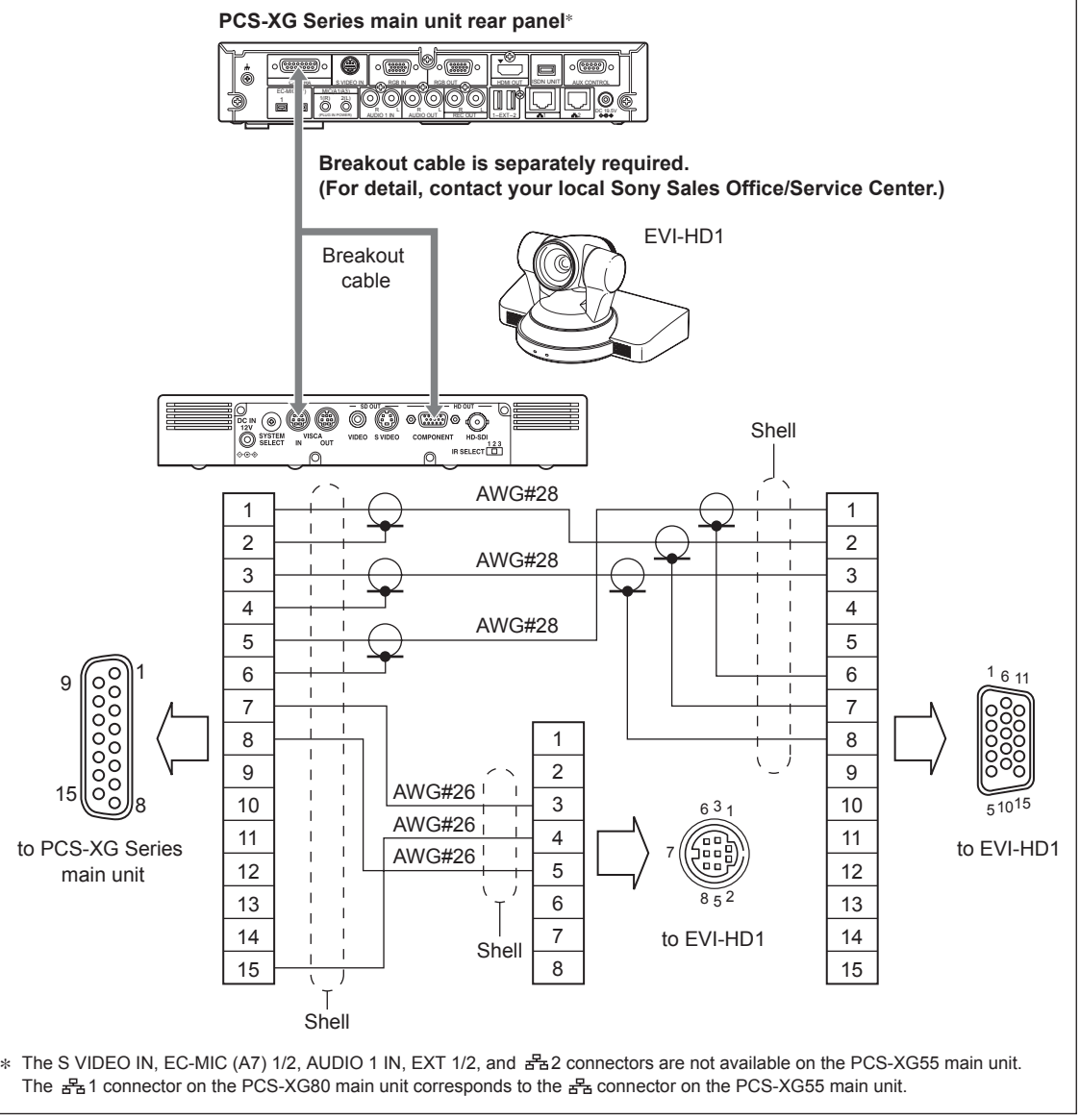
The PCS-XG Series main unit can be connected to the following cameras.
As the 1st camera, PCSA-CXG80, PCSA-CG70, EVI-HD1, BRC-H700/Z700.
As the 2nd camera, EVI-HD1, BRC-H700/Z700. (BRC-Z700 is supported by Ver. 2.0 and later.)

Camera image flip

Allows you to rotate the camera image through 180 degrees when the 1st or the 2nd camera is installed in a ceiling. This is done from the setting menu. For an explanation of the settings, refer to the operating instructions supplied with the PCS-XG Series models.
This function is supported only by the BRC-H700/Z700. It is not supported by any other camera models.

Connecting an EVI-HD1 as 1st camera

Connecting an EVI-HD1 as 1st camera is as below.



* The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit. The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

Note

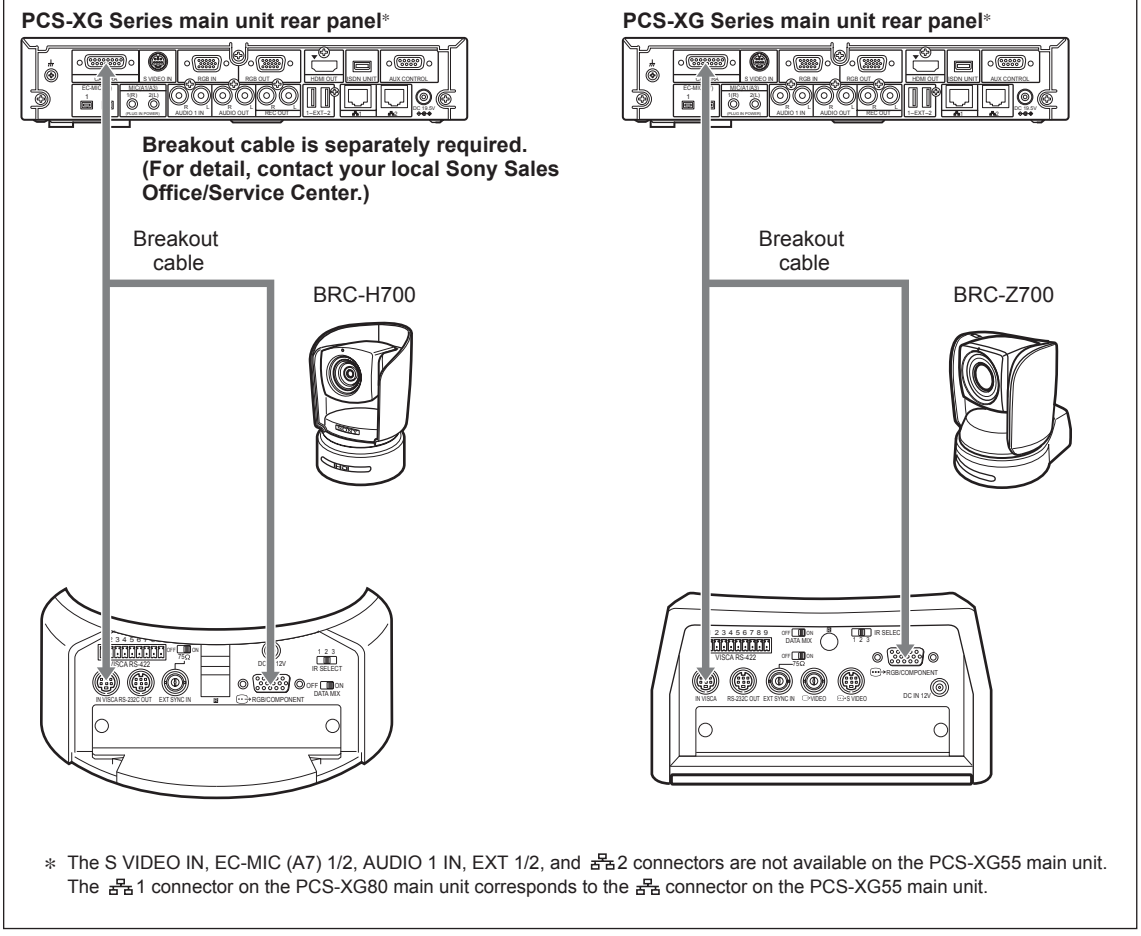
When using a camera other than PCSA-CXG80, you should not set the "RF Remote Control Reception" to "Camera".

Connecting a BRC-H700/Z700 as the 1st camera

A BRC-H700/Z700 is connected as the 1st camera as described below.
You can use the breakout cable as explained in “Connecting an EVI-HD1 as the 1st camera”.

Note

Configure the cameras so that a COMPONENT signal is output from their RGB/COMPONENT outputs.
When using a camera other than the PCSA-CXG80, do not set “RF Remote Control Reception” to “Camera”.



* The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit.
The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

Connecting PCSA-CG70 as 1st camera

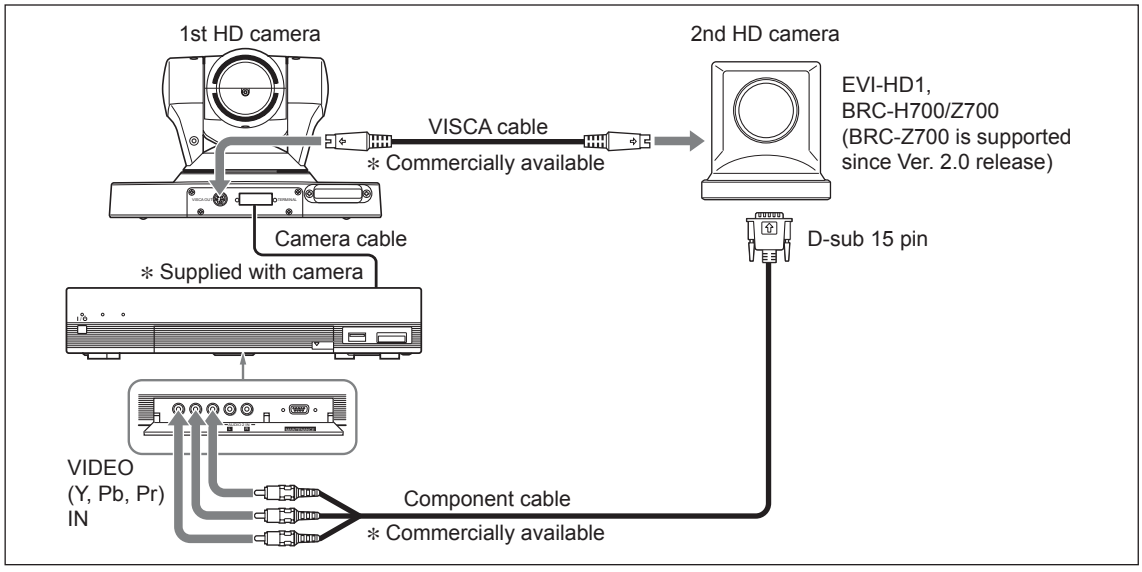
When using the PCSA-CG70 as the 1st camera, use the camera cable provided with the camera and connect this cable to the PCS-XG Series main unit.

Note

When using a camera other than PCSA-CXG80, you should not set the “RF Remote Control Reception” to “Camera”.

Connecting HD camera as 2nd camera

Connecting HD camera as 2nd Camera is as below.



Registration of up to 100 preset camera settings

Up to 100 camera angle/zoom settings can be registered in the preset memory of the PCS-XG Series main unit.

For an explanation of how to register a preset, refer to the Operating Instructions supplied with the PCS-XG Series models.

For both the 1st and 2nd camera, up to 100 settings in total can be stored in the PCS-XG Series main unit. Ver. 2.0 and later support the saving of thumbnails together with the camera preset settings.

When the preset settings are recalled from the PCS-XG Series main unit, it automatically switches from the 1st to the 2nd camera (or from the 2nd to the 1st camera).

1-1-3. Microphone Connection

The PCS-A1 and PCSA-A3 microphones can be connected to the input of the PCS-XG Series main unit. In PCS-XG80/XG80S, the PCSA-A7 can also be used as the input. Up to two PCS-A1 and PCSA-A3 microphones, and up to 80 PCSA-A7 microphones (PCS-XG80/XG80S only, cascaded connection 40 + cascaded connection 40) can be connected. When you connect the microphone(s) to the PCS-XG Series main unit, pay careful attention to the positioning guidelines of each microphone described below.

PCS-A1, PCSA-A3 microphone layout

The positioning of the PCS-A1, PCSA-A3 microphones with the PCS-XG Series main unit is the same as with other models in the PCS series. For details, refer to the Operating Instructions.

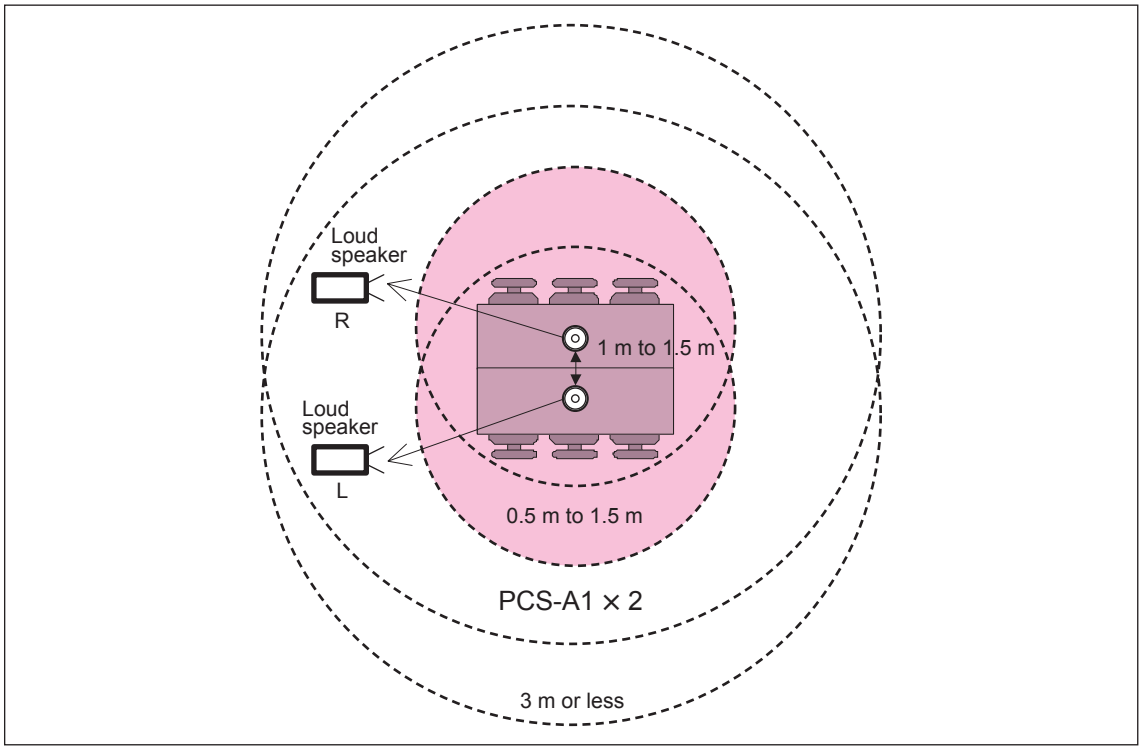
Two recommended audio setups (Case1 and Case2) are shown below.

Case1

Microphone	PCS-A1 × 2		
Suggested number	4 to 6 persons		
Input audio mode (microphone)	Stereo*1		
Output audio mode (loud speaker)	Stereo*1		
Setup menu configuration	Communication:	Audio mode	MPEG4
	Audio 1:	Audio Input	MIC
	Audio 1:	Input select (MIC)	MIC (A1/A3)
	Audio 1:	Input Mode	Stereo*1
	Audio 1:	Output Mode	Stereo*1
	Audio 1:	Echo canceller	On

Note ∗1 “Stereo or Monaural” depends on the setting of Input Mode/Output Mode of far end point.

∗ Place each loud speaker at least 1.5 m from the PCS-A1.

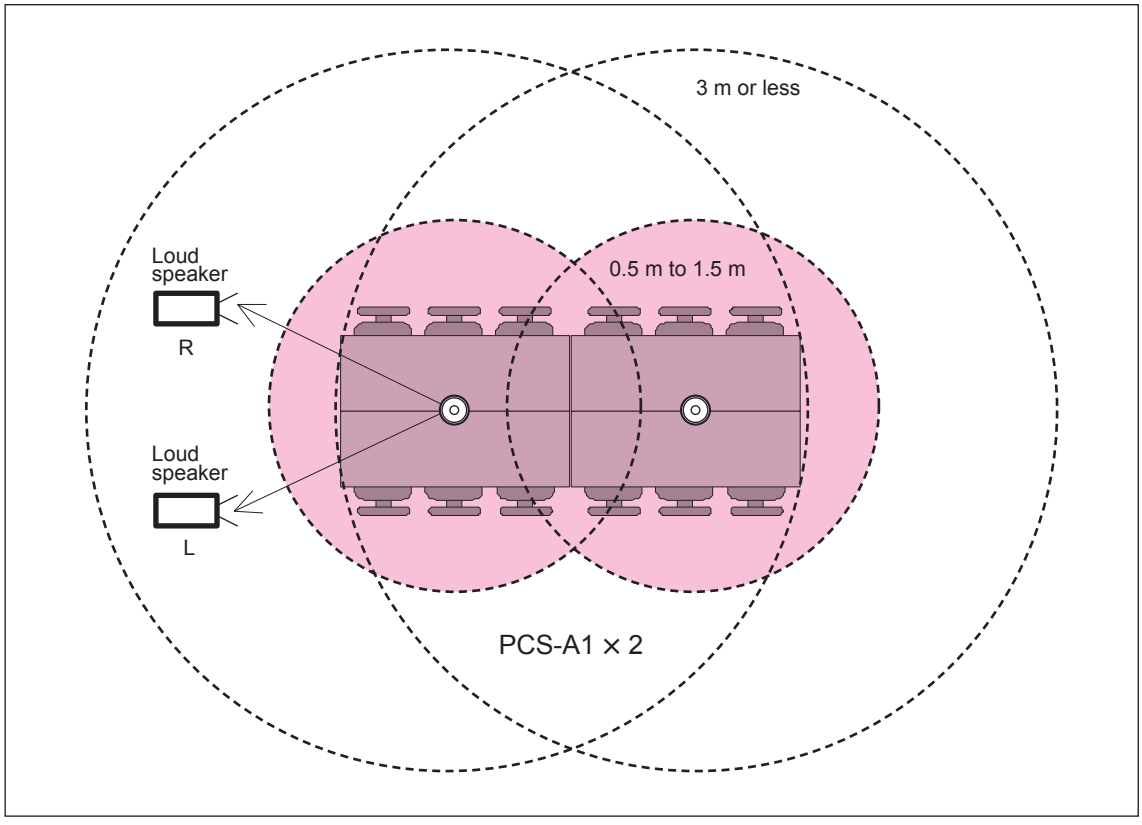


Case2

Microphone	PCS-A1 × 2		
Suggested number	10 to 14 persons		
Input audio mode (microphone)	Monaural		
Output audio mode (loud speaker)	Stereo*1		
Setup menu configuration	Communication:	Audio mode	MPEG4
	Audio 1:	Audio Input	MIC
	Audio 1:	Input select (MIC)	MIC (A1/A3)
	Audio 1:	Input Mode	Monaural
	Audio 1:	Output Mode	Stereo*1
	Audio 1:	Echo canceller	On

Note

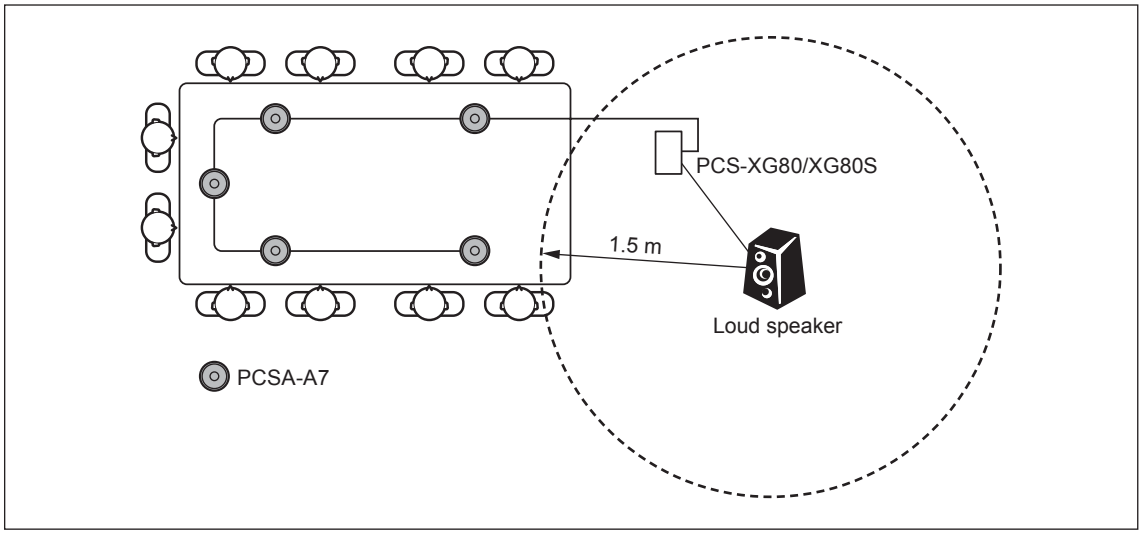
∗1 “Stereo or Monaural” depends on the setting of Input Mode/Output Mode of far end point.



∗ Place each loud speaker at least 1.5 m from the PCS-A1.

PCSA-A7 microphone layout (PCS-XG80/XG80S only)

Be particularly careful when setting up the PCSA-A7 microphones, referring to the layout shown below. Position the PCSA-A7 microphone at least 1.5 m (5 ft.) from the loud speaker. **Otherwise echo is likely to be a problem.**



Note

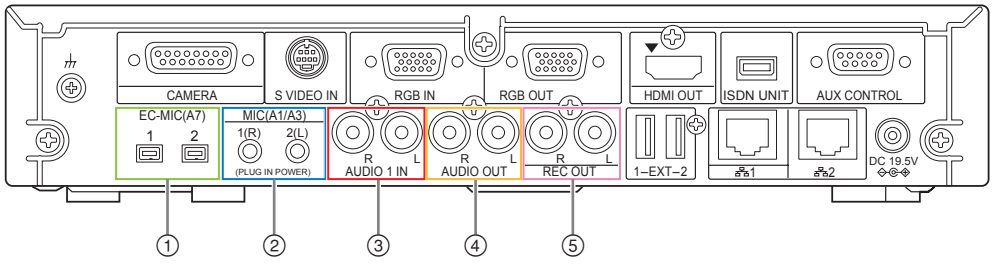
Notes on placing the PCSA-A7 microphones

- PCS-XG55/XG55S can not be used.
- Position the microphones about 50 cm (1.6 ft) from the participants.
- For details on the cascade layout and the power supply of the PCSA-A7, refer to the Operating Instructions.

1-1-4. Audio Specifications and Settings

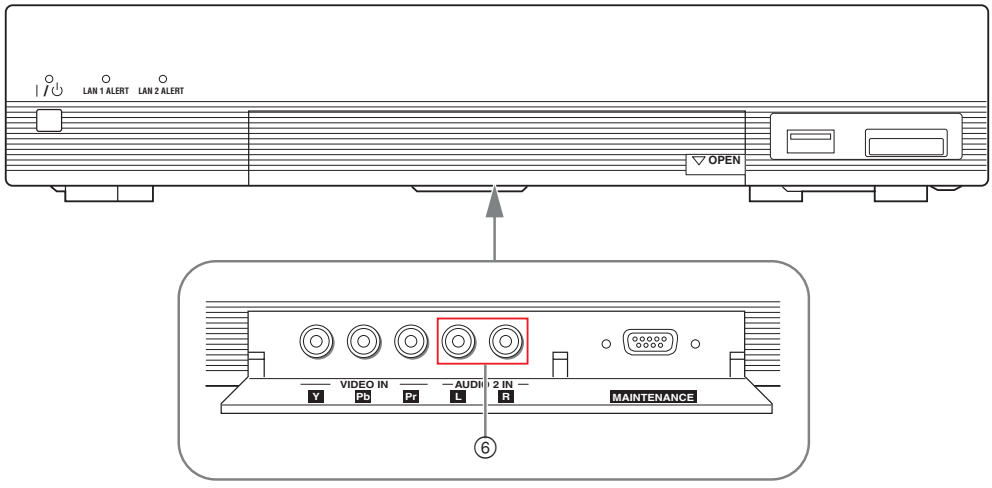
Audio and microphone input/output signal specification

PCS-XG Series main unit rear panel*1



*1 The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit.
The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

PCS-XG Series main unit front panel*2



*2 The LAN 2 ALERT LED on PCS-XG80 main unit is labeled ON LINE LED on PCS-XG55 main unit, and AUDIO 2 IN is labeled AUDIO IN on PCS-XG55 main unit.

No.	Connector name	Type	I/O	I/O level specification (MAX)	I/O level specification (STANDARD)	Band-width (max)	Specification (input/output impedance, etc)
1	EC-MIC (A7) * 1/2	Special 10 pin	I/O	A7 Special	A7 Special	16 kHz	Digital I/F 12 V power supply
2	MIC (A1/A3) L/R	mini jack	I	A1/A3 Special	A1/A3 microphone sensitivity –33 dBs@34 dBspl	16 kHz	4.8 kΩ (Plug in power 2.5 V)
3	AUDIO 1 IN L/R *	RCA Male	I	+9 dBs max (max: clip level)	–11 dBs	22 kHz	47 kΩ or more, unbalanced
4	AUDIO OUT L/R	RCA Male	O	+6 dBs	–14 dBs	22 kHz	1 kΩ or less
5	REC OUT L/R	RCA Male	O	+6 dBs	–14 dBs	22 kHz	1 kΩ or less
6	AUDIO 2 IN L/R **	RCA Male	I	+9 dBs max (max: clip level)	–11 dBs	22 kHz	47 kΩ or more, unbalanced

*: It is equipped only for PCS-XG80/XG80S.
**: For PCS-XG55/55S, it is labeled AUDIO IN.

Notice of external microphone usage

Note

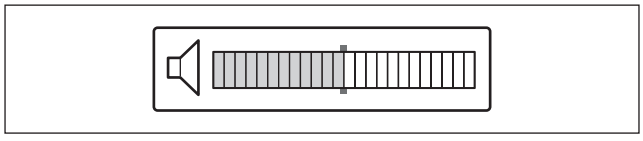
For PCS-XG55 main unit, AUDIO 1 IN connector is not equipped and AUDIO 2 IN connector is named to AUDIO IN connector.

If you connect external microphones with “AUDIO 1 IN” or “AUDIO 2 IN”, you need to use Mic Mixer and adjust its output level to line level, and this output should be inputted to “AUDIO 1 IN” or “AUDIO 2 IN”.
Adjust the audio level by watching the level meter displayed on the monitor to prevent level clipping. The level meter can be displayed by setting “On” of “Setup → Home Menu 3 → Audio Level Meter”.
When “AUDIO 1 IN” and “AUDIO 2 IN” are used as AUX which can be selected in Setup menu (Setup → Audio 1 → Audio Input), up to 22 kHz input signal can be passed through, but echo canceling function cannot be used.
When “AUDIO 1 IN” and “AUDIO 2 IN” are used as MIC which can be selected in Setup menu (Setup → Audio 1 → Audio Input), echo canceling function can be used (but input frequency is limited.).
For details of Menu settings, refer to “To set up audio input and echo canceller” in 2-2-2.

Adjusting the volume from the remote party’s audio by viewing the volume level of the Communication System and adjusting the volume on the TV monitor

Before adjusting the volume on the TV monitor, set the volume on the Communication System to the appropriate position.

1. To display the volume meter, confirm its setting. (Setup → Home Menu 3 → Volume)
2. Press the VOLUME [+]/[−] buttons on the remote commander to set the volume level, such that the bar displayed on the screen is adjusted to the middle position.



3. Adjust the volume on the TV monitor so that you can clearly hear a remote party speaking.

   Note

   Do not activate the TV’s surround sound feature as it may prevent the echo canceller of the Communication System from functioning properly and thus produce an unexpected sound. During communication, set the volume on the Communication System to the appropriate level, and do not adjust the volume on the TV monitor.

Setting the audio mode and determining the current mode

The following table shows the relationship between the "Audio mode" setting under the Communication Mode menu, configured for each terminal at the transmission and reception sides, as well as the negotiated mode.

When the communication bit rate exceeds 128 kbps:

					"Audio mode" setting at Receiver Side (Communication Setup Menu)							
					MPEG	MPEG	MPEG		MPEG			
					G.722	G.722		G.722		G.722		
					G.728		G.728	G.728			G.728	
					G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711
"Audio mode" setting at Sender Side (Communication Setup Menu)	MPEG	G.722	G.728	G.711	∗1	∗1	∗1	G.722	∗1	G.722	G.728	G.711
	MPEG	G.722		G.711	∗1	∗1	∗1	G.722	∗1	G.722	G.711	G.711
	MPEG		G.728	G.711	∗1	∗1	∗1	G.728	∗1	G.711	G.728	G.711
		G.722	G.728	G.711	G.722	G.722	G.728	G.722	G.711	G.722	G.728	G.711
	MPEG			G.711	∗1	∗1	∗1	G.711	∗1	G.711	G.711	G.711
		G.722		G.711	G.722	G.722	G.711	G.722	G.711	G.722	G.711	G.711
			G.728	G.711	G.728	G.711	G.728	G.728	G.711	G.711	G.728	G.711
				G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711

∗1: When the communication bit rate exceeds 768 kbps, the audio mode is AAC Stereo, and when it is between 128kbps-768kbps, AAC Monaural.

When the communication bit rate is 128 kbps or less:

					"Audio mode" setting at Receiver Side (Communication Setup Menu)							
					MPEG	MPEG	MPEG		MPEG			
					G.722	G.722		G.722		G.722		
					G.728		G.728	G.728			G.728	
					G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711
"Audio mode" setting at Sender Side (Communication Setup Menu)	MPEG	G.722	G.728	G.711	G.728	AAC Mono	G.728	G.728	AAC Mono	G.722	G.728	G.711
	MPEG	G.722		G.711	AAC Mono	AAC Mono	AAC Mono	G.722	AAC Mono	G.722	G.711	G.711
	MPEG		G.728	G.711	G.728	AAC Mono	G.728	G.728	AAC Mono	G.711	G.728	G.711
		G.722	G.728	G.711	G.728	G.722	G.728	G.728	G.711	G.722	G.728	G.711
	MPEG			G.711	AAC Mono	AAC Mono	AAC Mono	G.711	AAC Mono	G.711	G.711	G.711
		G.722		G.711	G.722	G.722	G.711	G.722	G.711	G.722	G.711	G.711
			G.728	G.711	G.728	G.711	G.728	G.728	G.711	G.711	G.728	G.711
				G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711	G.711

Audio output delay setting

Using the Lip Sync function closely synchronizes the audio and video signals. Even with the Lip Sync function, however, there still may be a slight time lag, but this can be eliminated by setting a value in "Audio Output Delay Setting".

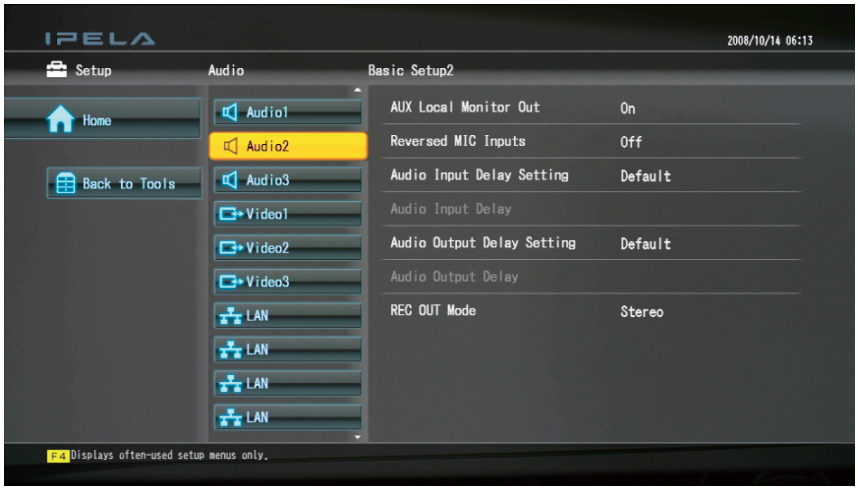
Note that, when the audio signal is fed to an audio system other than that built into the video display, even using Lip Sync function will not be eliminate the time lag between the audio and video. The time lag can also be eliminated by setting a delay in "Audio Output Delay Setting". "Default" is that value with which the audio is almost synchronized with the video. You can select "Default", "Default ±50 ms", and "Default ±100 ms". When you select "Custom", an audio output delay between 0 ms and 500 ms can be set as an absolute delay (Ver.2.01 and later), which has no relation to the Default value.

Audio input delay setting

When there is a time lag between the input audio and input video, a delay can be set in "Audio Input Delay" to adjust the audio to the video.

An identical delay is set for all the microphones and all the external lines of the PCS-XG Series models. After setting up the audio and video system to operate with the PCS-XG Series models, setting "Audio Input Delay", but then disconnecting the audio and video system from the PCS-XG Series models, restore the original values or set the "Default" value.

"Audio Delay from Video Picture at Remote Party" contains "Audio Input Delay" set for the local party and the "Audio Output Delay" set for the remote party. The optimum "Audio Output Delay" setting is adjusted for each remote party according to the individual usage circumstances, so **it is recommended to use the "Default" value for "Audio Input Delay Setting".**



Reversed MIC inputs function

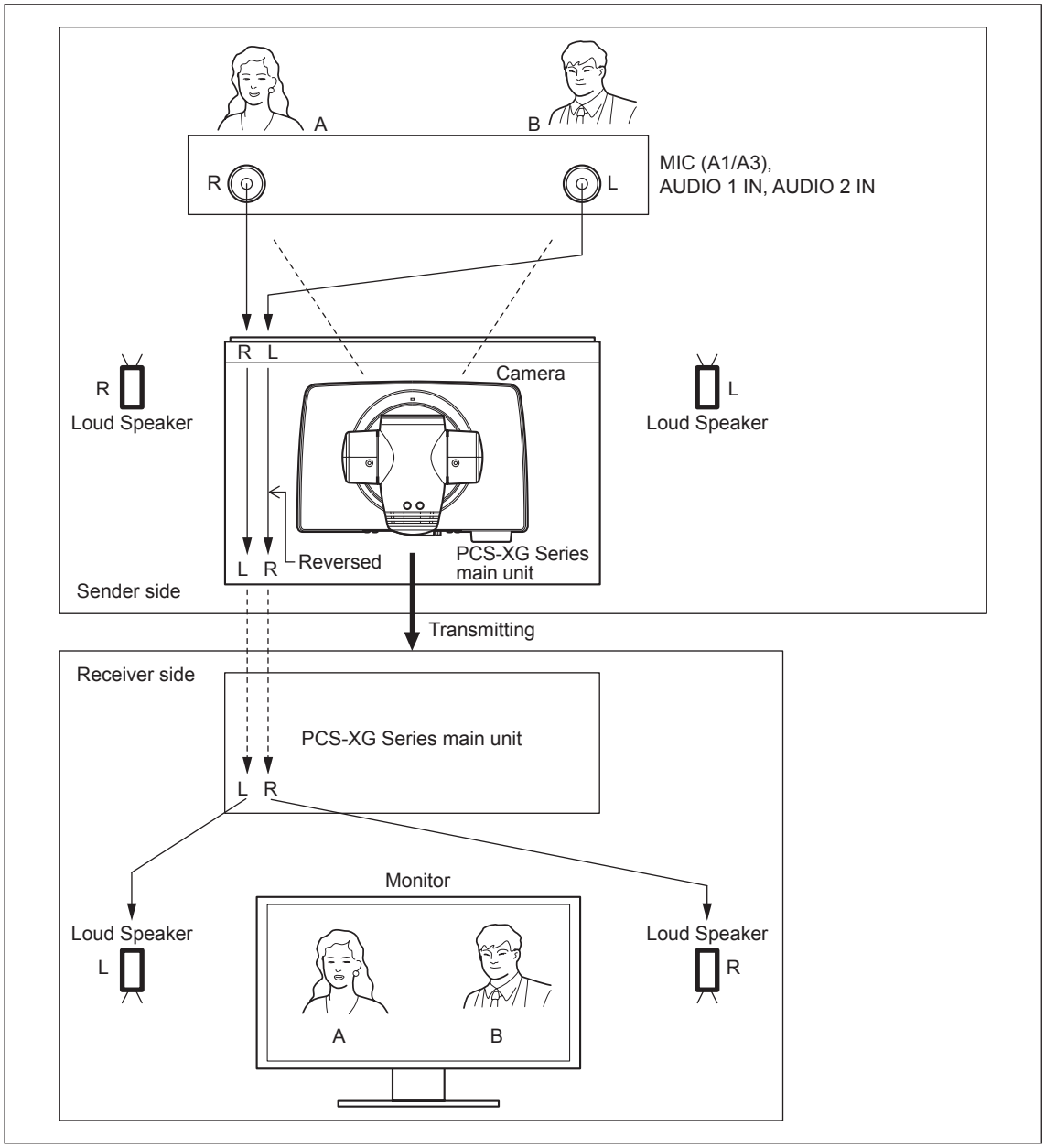
This function allows you to select whether to transmit the audio input from the microphone with right and left reversed to a remote party. Due to the reversed audio, participants at the remote site can match the right and left of the camera image and the audio.

Note

To reverse the audio, set "Reversed MIC Inputs" of "Audio 2" in the Audio Setup Menu to "On". (The initial setting is "Off".)

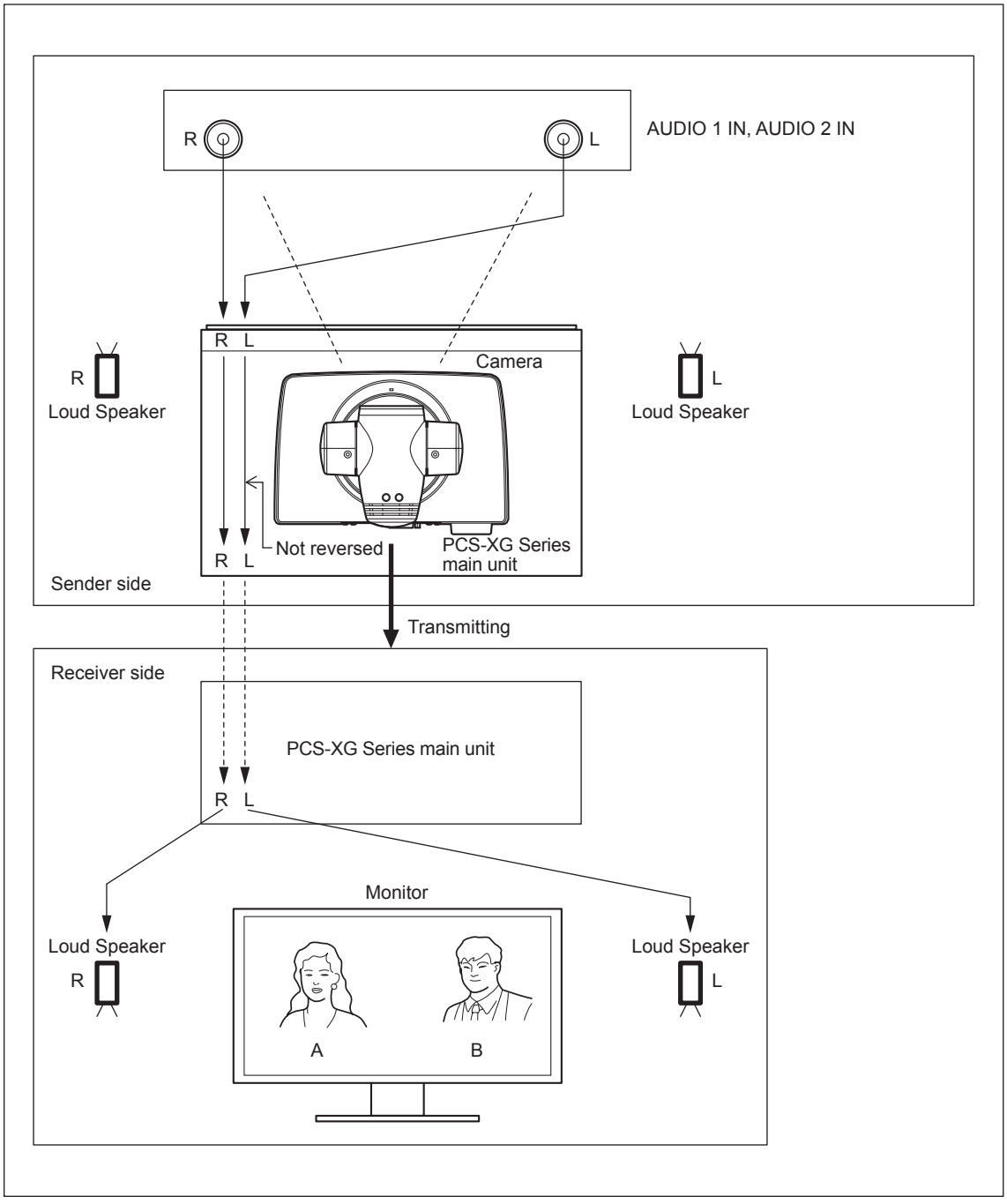
You cannot use reversed audio with AUDIO 1 IN/AUDIO 2 IN (PCS-XG80 main unit), or AUDIO IN (PCS-XG55 main unit) when these inputs are used for AUX, but it can be used with AUDIO 1 IN/AUDIO 2 IN when these inputs are used for MIC. For details on the MIC and AUX settings, refer to "2-2-2 Other Setup: To set up audio input and echo canceller".

Right and left can be reversed (Setting of "Audio Input" = MIC)



Note For PCS-XG55 main unit, AUDIO 1 IN connector is not equipped and AUDIO 2 IN connector is named to AUDIO IN connector.

Right and left not reversed (Setting of “Audio Input” = AUX)



Note

For PCS-XG55 main unit, AUDIO 1 IN connector is not equipped and AUDIO 2 IN connector is named to AUDIO IN connector.

1-1-5. Echo Canceller

Stereo echo canceller's learning principle

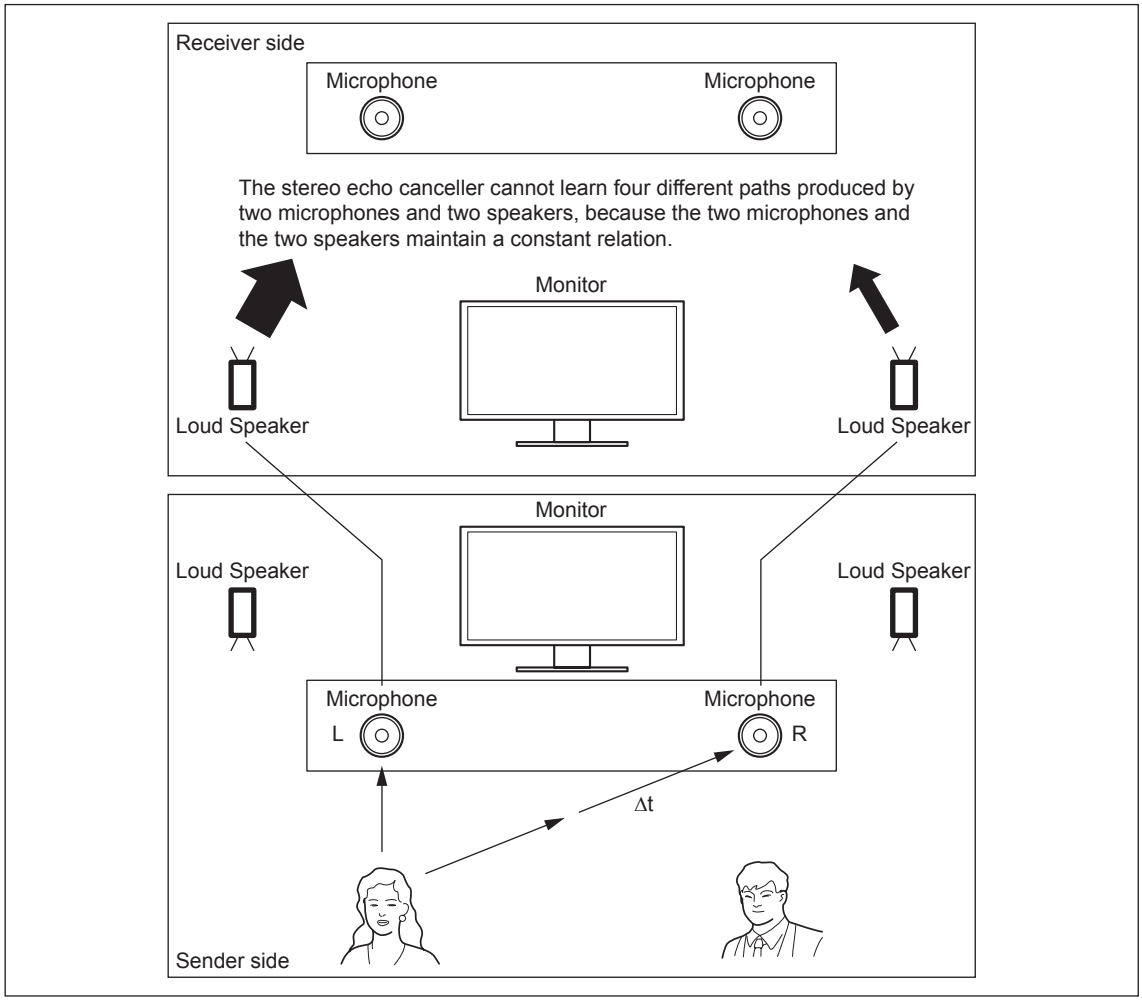
When there is only one sound source, the stereo echo canceller cannot learn four different echo paths, because:

- The balance of the volume from each of the L and R channels is constant.
- The arrival time interval (Δt) between the sounds from the L and R channels is constant.

To achieve adequate learning by the stereo echo canceller, the sounds from multiple sound sources of the remote party must reach the echo canceller. This is the essential difference from the monaural echo Canceller.

If all of the participants stay in their respective fixed positions and speak, however, the stereo echo canceller can produce its maximum effect.

If the speaker moves, the stereo echo canceller learning process may take a long time and an echo may remain.



AUDIO 1 IN, AUDIO 2 IN and echo canceling function

A stereo echo canceller function is supported for external inputs "AUDIO 1 IN" and "AUDIO 2 IN". Refer to "Notice of external microphone usage" in "1-1-4. Audio Specifications and Settings" and "To set up audio input and echo canceller" in "2-2-2. Other Setup".

Note

For PCS-XG55 main unit, AUDIO 1 IN connector is not equipped and AUDIO 2 IN connector is named to AUDIO IN connector.

Echo canceller function for multipoint connection

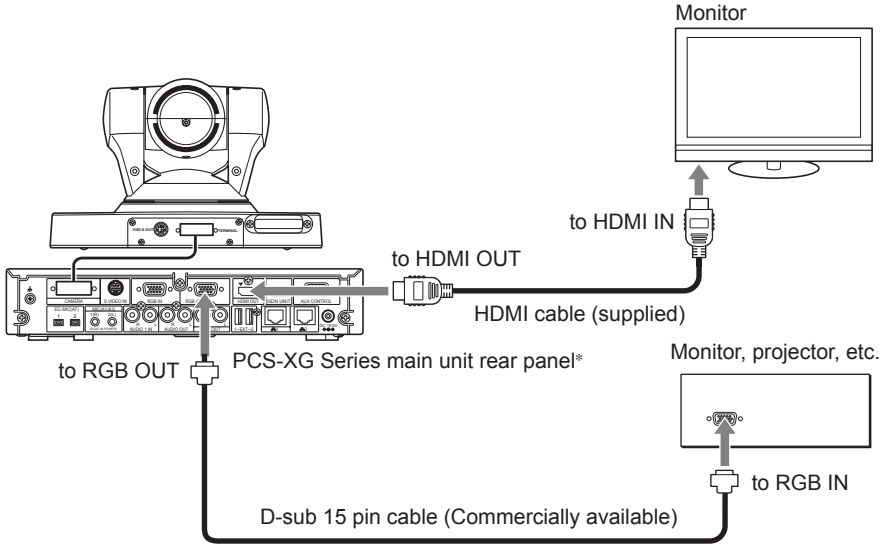
For a multipoint connection, the stereo echo canceller function cannot be used because monaural audio signals are collected. When a multipoint connection is established, the system automatically switches to the monaural echo canceller function.

1-1-6. Monitor Connection

HDMI monitor and RGB one can be connected with PCS-XG Series main unit.

To connect a monitor or a projector

PCS-XG Series main unit has 3 video output modes. “HDMI” and “RGB” and “HDMI + RGB” are supported. “HDMI” and “RGB” are same as single monitor mode of current model. “HDMI + RGB” is same as dual monitor mode of current model.
About HDMI, it enables transmission of high-resolution digital video signals and high-quality digital audio signals through a single cable.
HDMI cable (3 m) (10 ft) is supplied as accessories.
You can connect to a monitor of any HDMI version.
Maximum length of HDMI cable is limited to 5 m (15 ft.) without a use of repeater.
To extend an HDMI cable beyond its maximum length, HDMI extension cable/adapter, or HDMI repeater that conforms to HDMI standard is commercially available. Verification is needed before use.
About RGB, “SXGA” or “XGA” or “WXGA” can be selected. (To set up “RGB Monitor Output Format”, “Setup → Video1 → RGB Monitor Output Format”). Refer to “To set up video output” in 2-2-1.



* The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit.
The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

Note

Using a monitor with DVI:

DVI-HDMI conversion adaptor/cable (commercially available) is required.
Use a conversion adaptor/cable that conforms to HDMI standard.
Verification is needed before use.
DVI cannot transmit digital audio signal through a single cable, so connect the audio output to the loud-speaker input.

Notes on monitor connections and settings

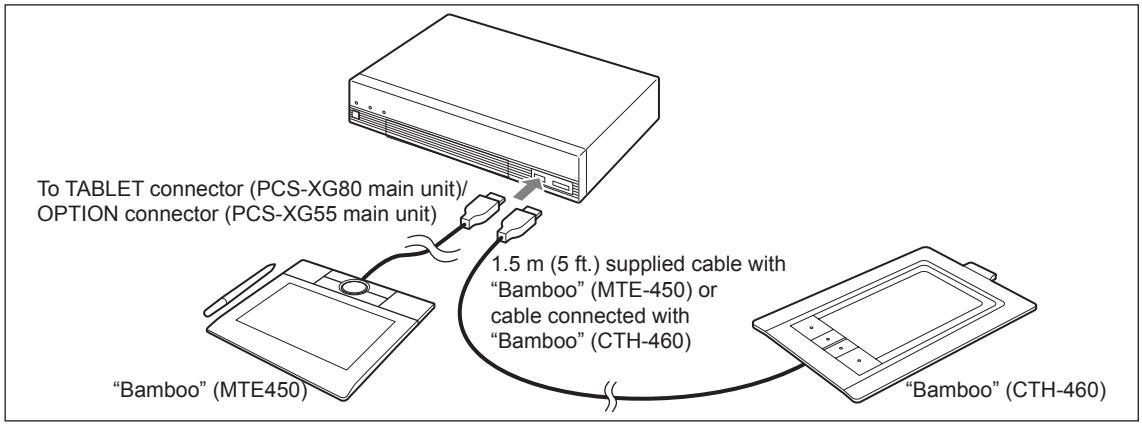
- When you wish to use an HDMI monitor, it must have a 1080i INPUT connection. A monitor without the 1080i INPUT connection cannot display the menu.
- When you are using a 60-Hz monitor but the "Video1 → Frequency" is set to "50 Hz", the menu cannot be displayed on the monitor and you cannot perform any menu operations.
  In this case, access the Communication System by using a Web Browser and restore "Frequency" under "Video:Basic" in the Setup Menu to "60 Hz".
  Otherwise, restore the Frequency value to 60 Hz by connecting a serial cable to the AUX CONTROL port on the rear of the Communication System and sending an external control command "setup save video frequency-60hz".
- When "Video1 → Monitor Output" is set to "HDMI + RGB", the picture from the camera or PC connected to the RGB IN connector is displayed on the RGB monitor. If only the RGB monitor is connected, you cannot perform any menu operations.
  In this case, also connect an HDMI monitor.
  If an HDMI monitor is not available, access the Communication System by using a Web Browser and set "Monitor Output" under "Video:Basic" in the Setup Menu to "RGB".
  Otherwise, restore the "Monitor Output" to "RGB" by connecting a serial cable to the AUX CONTROL port on the rear of the Communication System and sending an external control command "setup save video monout-rgb".

1-1-7. Pen Tablet

To use the function of Drawing and Pointing in communication, the pen tablet is needed.

To connect a Pen Tablet

1. Pen tablet is not a supplied accessories. So, prepare a pen tablet separately. About the pen tablet, refer to the Notes as shown below.
2. Turn off the main unit.
3. Connect the pen tablet to the TABLET connector (PCS-XG80 main unit)/OPTION connector (PCS-XG55 main unit) on the front panel of the main unit **before power-on**.



4. Press the I/⏻ (power) switch to turn on the main unit.

Notes

- Supported TABLET models are Wacom "Bamboo" (MTE450) and "Bamboo" (CTH-460). "Bamboo" (CTH-460) is usable in Ver.2.1 and later. When you use it, perform the upgrade to Ver.2.1 and later.
- The cable length which is supplied with "Bamboo" (MTE450) is 1.5 m (5 ft.). The USB cable length of "Bamboo" (CTH-460) is 1.5 m (5 ft.).
- If you use another longer cable except the attached one, use the USB Hub, or extend the USB cable, perform the verification before use.

1-1-8. Remote Commander and Pairing

RF (Radio Frequency) Remote Commander

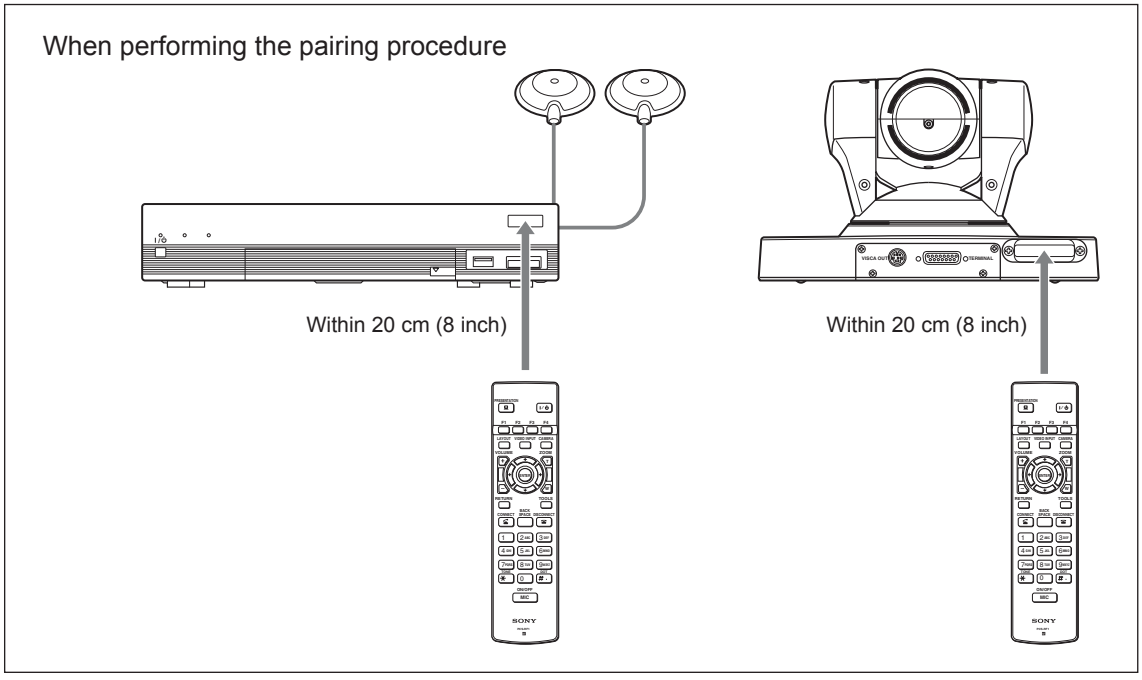
The supplied Remote Commander controls the main unit (or its Camera Unit) by using the radio frequency of 2.4 GHz.
The remote commander can be paired with either the main unit or its Camera Unit, such that this remote commander will not accidentally operate another main unit or its Camera Unit.
The range of the remote commander is 10 m (30 ft.). Depending on the circumstances, a longer range may be possible.
Up to five RF remote commanders can be paired with one PCS-XG Series models.
The oldest pairing information is overwritten when a sixth remote commander is paired.
When an additional remote commander is paired, a new commander which is a replacement for a lost or broken one is paired, or the RF remote control reception (main unit or Camera Unit) is changed because, for example, it has failed, pairing must be performed. The pairing procedure is as described below.

Before the Pairing Procedure

The Remote Commander and the main unit are paired at the factory.
If the reception conditions are difficult, you can change the pairing target from the main unit to the Camera Unit. (Refer to “RF Remote Control Reception” in 2-2-2.)

When you are performing pairing, **turn off any other main unit that may be located nearby**.
If another main unit is turned on, the Remote Commander may be paired with that main unit (or its Camera Unit).

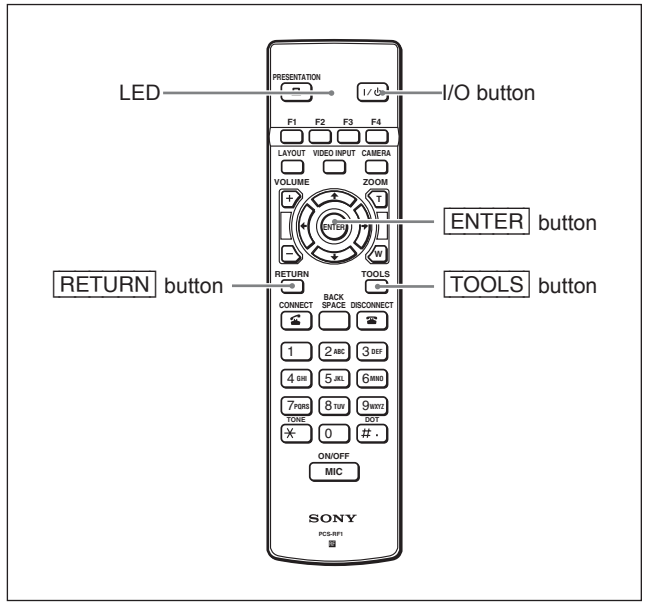
The remote commander can be paired with the main unit or its Camera Unit, so that this remote commander cannot accidentally operate another main unit or its Camera Unit.
When you are performing the pairing procedure, aim the head of the Remote Commander at the main unit (or receiver on the Camera Unit). The distance between the Remote Commander and the main unit must not exceed 20 cm (8 inches).



Pairing Procedures

To pair the main unit or Camera with the Remote Commander again, follow the procedure below.

1. Turn on the main unit.
2. Under “General 1” of the General setup menu, set “RF Remote Control Reception” to “System” or “Camera”. Refer to “RF Remote Control Reception” in 2-2-2
3. Within three minutes of turning the power on, position the Remote Commander close to the main unit (within 20 cm (8 inches)), and then press the RETURN and TOOLS buttons at the same time. The LED indicator flashes rapidly.
4. Press the ENTER button on the Remote Commander.
   If the LED indicator flashes more slowly, pairing between the units has succeeded.



Notes

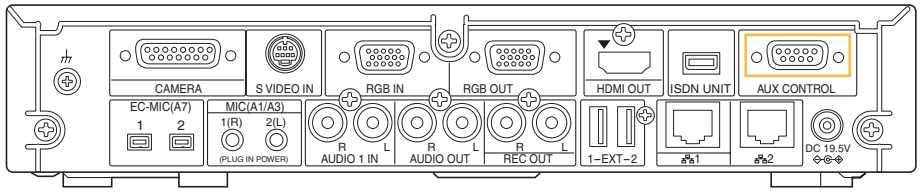
- **If pairing fails,** the LED indicator on the Remote Commander will continue to flash rapidly. In this case, press the ENTER button on the Remote Commander and try the pairing operation again.
- **To cancel pairing,** press the I/⏻ (power) switch on the main unit.
- Once pairing is established between the units, it will not be erased even when the batteries in the remote commander are replaced.
- If you have lost the remote commander or if it no longer works, obtain a replacement and perform pairing again.
- When the camera unit is to be paired with the Remote Commander and then installed in a high location, perform the pairing before the installation.

1-1-9. Two Serial Ports on PCS-XG Series Main Unit

Rear and front ports

Unlike previous models, the PCS-XG Series main unit has two serial ports. One is on the front of the main unit and is intended for maintenance. The other is on the rear and is for external control. The baud rates and the locations of the ports are as shown below.

Rear: AUX CONTROL port

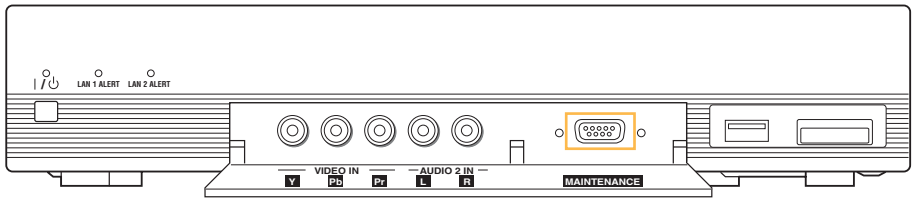


The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit. The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

For external control

- bps: 38400
- Data bit: 8
- Parity: None
- Stop bit: 1

Front: MAINTENANCE port

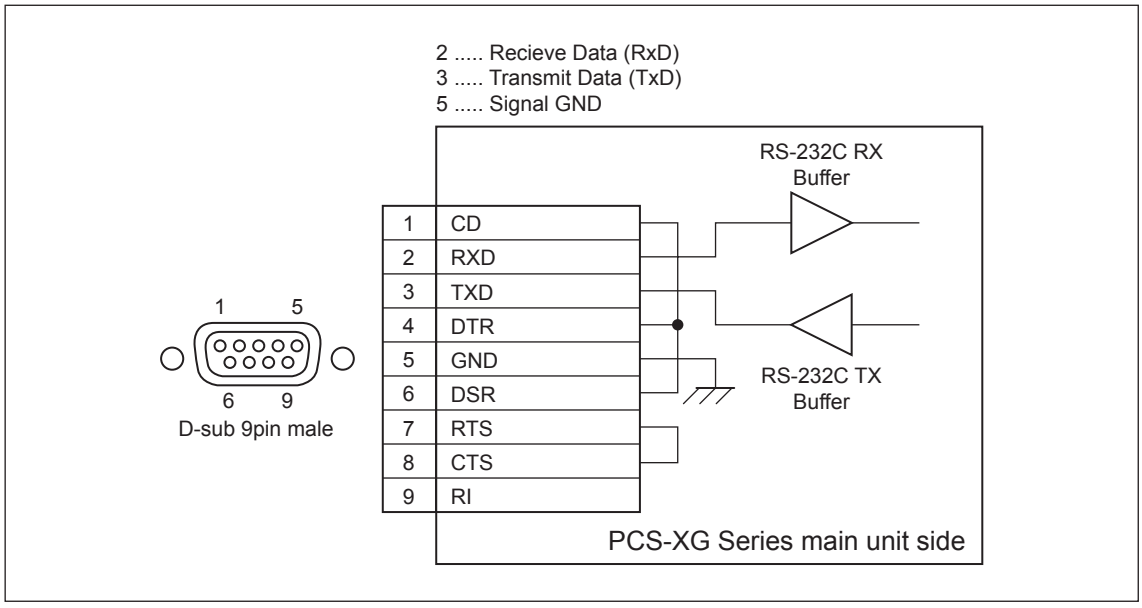


The LAN 2 ALERT LED on PCS-XG80 main unit is labeled ON LINE LED on PCS-XG55 main unit, and AUDIO 2 IN is labeled AUDIO IN on PCS-XG55 main unit.

For taking a debug log/For engineering maintenance

- bps: 115200
- Data bit: 8
- Parity: None
- Stop bit: 1

Serial connector pin assignment



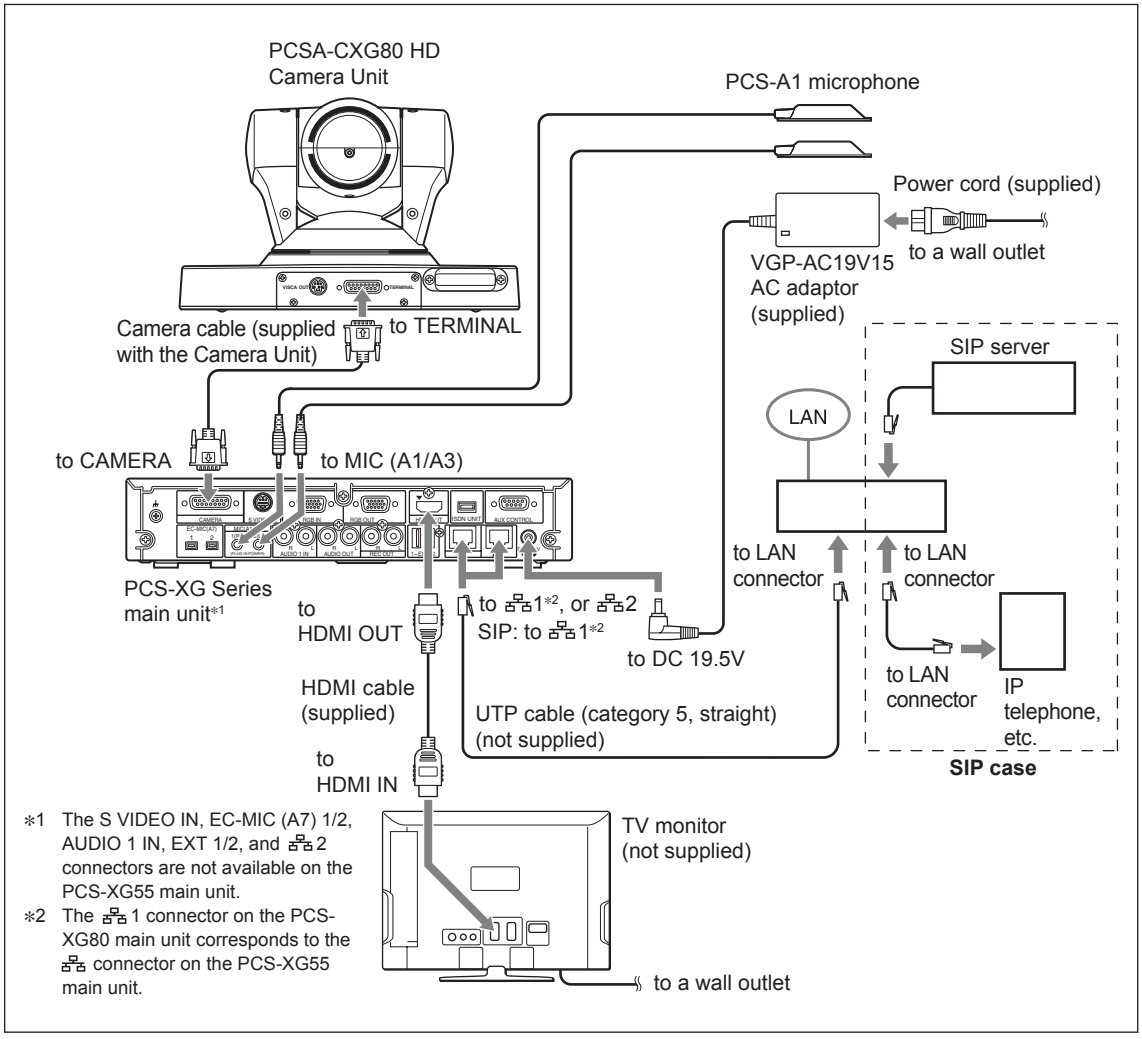
1-2. System Connections

This section describes the typical system connections.

Notes

- Be sure to turn off all the equipments before making any connections.
- Do not connect/disconnect the camera cable, interface cable, or pen tablet with the power on. Doing so may damage the Camera Unit, main unit or ISDN Unit.
- For safety, do not connect the 100BASE-TX/10BASE-T connector to a network that applies excess voltage via the 100BASE-TX/10BASE-T connector.
- When the main unit is being used with a Camera Unit or ISDN Unit for the first time, the main unit may begin to automatically upgrade the software of the Camera or the ISDN Unit.
  While the upgrading message is displayed on the monitor screen, or the LED on the front of the main unit is turned on, do not turn off the main unit or unplug the connecting cable. Otherwise, the system may malfunction.

1-2-1. System Connection via a LAN and a SIP



Notes

- When connecting your system via a SIP, use the 1 (LAN1) connector in PCS-XG80/XG80S and use the connector in PCS-XG55/XG55S. Connection to a SIP server through the 2 (LAN2) connector is not available.
- The REC OUT jack is used to make an audio recording of a communication. This is not used during regular communication.
- In this connection, the two microphones PCS-A1 are displayed, but two PCS-A1s are supplied only with PCS-XG80. PCS-XG55 includes one PCS-A1, and PCS-XG80S/XG55S includes no PCS-A1.

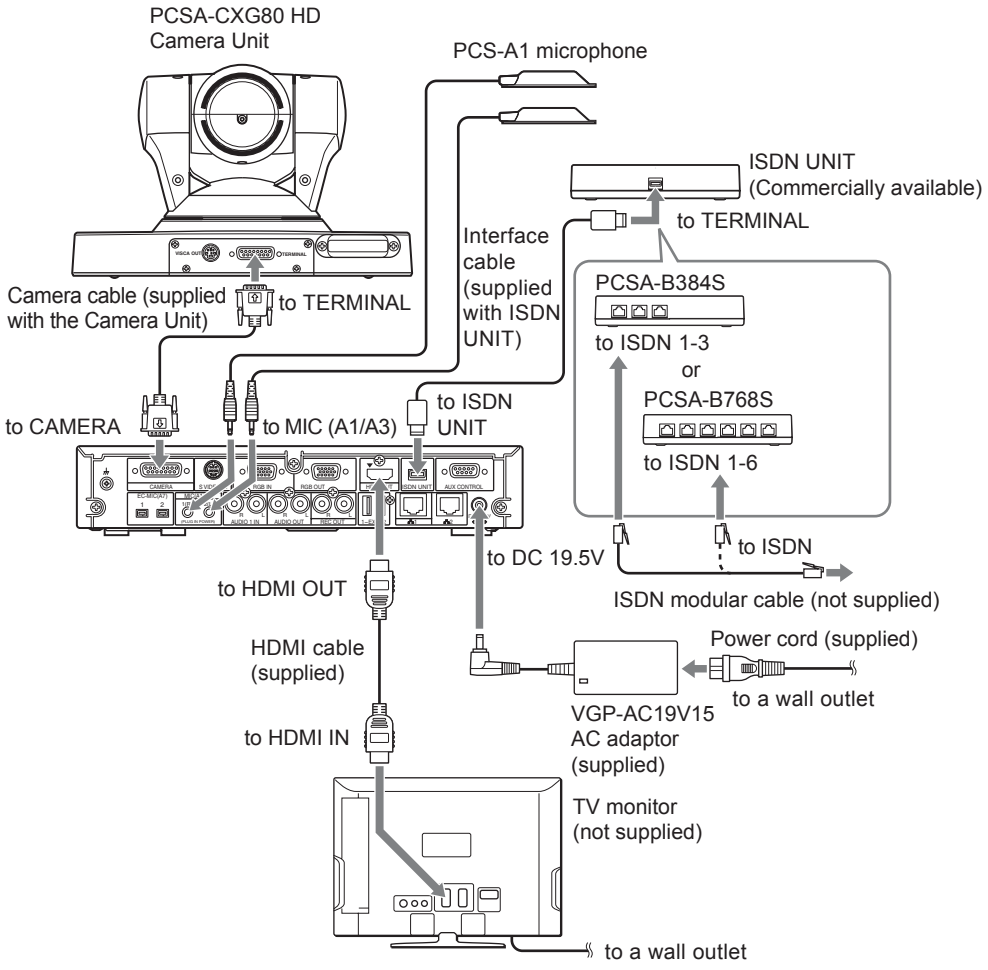
1-2-2. PCS-XG Series Models Connection Using SIP

The SIP function of the PCS-XG80/XG80S/XG55/XG55S is not regarded as optional software (PCSA-SP1) but is supported as a standard function.
1 (LAN1) connector on PCS-XG80/XG80S or (LAN) connector on PCS-XG55/XG55S is used for the SIP function of this equipment. Note that 720 60fps/1080i mode is not supported. The maximum resolution is 720/30fps and the maximum bit rate of the SIP connection is 4 Mbps.

The SIP function of PCS-XG80/XG80S/XG55/XG55S compared to the existing optional software (PCSA-SP1) is shown as below.

	PCSA-SP1	PCS-XG80/XG80S/XG55/XG55S
Multi server support	Up to 4	1
Multi call id support	Up to 6	1
P2P AV communication	All AV Codec	AAC-LC not supported
NEC SIP Telephone terminal support	Supported	N/A
Internal MCU	Supported	N/A
Encryption	Supported	N/A
QoS (ARQ, ARC, FEC)	Supported	N/A
FECC	Supported	Supported
Presentation	Supported	N/A
Annotation	N/A	N/A
IPv6 Support	N/A	Supported

1-2-3. System Connection via an ISDN



∗ The S VIDEO IN, EC-MIC (A7) 1/2, AUDIO 1 IN, EXT 1/2, and 2 connectors are not available on the PCS-XG55 main unit. The 1 connector on the PCS-XG80 main unit corresponds to the connector on the PCS-XG55 main unit.

Notes

- The REC OUT jack is used to make an audio recording of a communication. This is not used during regular conferences.
- In this connection, the two microphones PCS-A1 are displayed, but two PCS-A1s are supplied only with PCS-XG80. PCS-XG55 includes one PCS-A1, and PCS-XG80S/XG55S includes no PCS-A1.

1-2-4. System Configuration Using Two IP Connections (PCS-XG80/XG80S only)

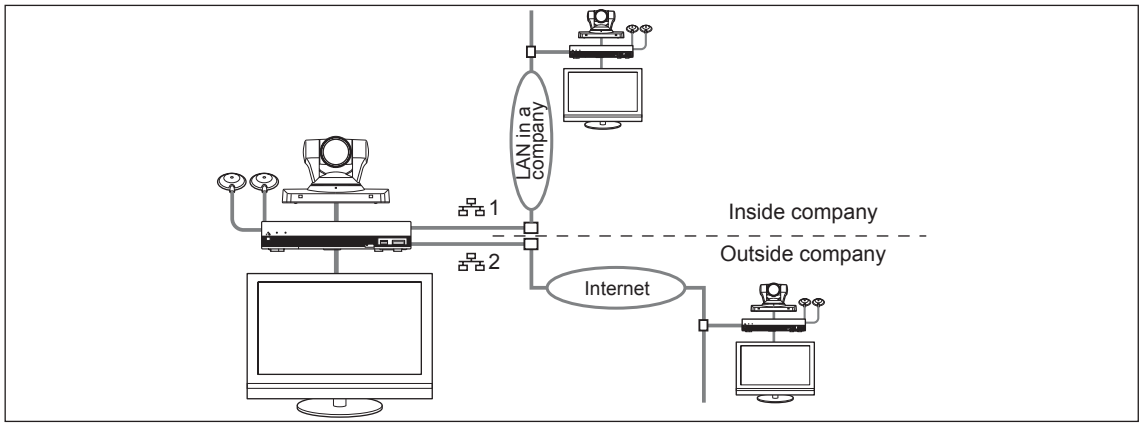
Set “Line I/F → Use LAN2” of the setting menu to “On”.

This allows you to:

Connect your system to two networks using the 1 (LAN1) and 2 (LAN2) connectors.
For example, you can use the 1 connector to connect to a private network in your company and the 2 connector to connect to the Internet outside your company. There is no need to change the connection and settings in each case. After installing the PCSA-MCG80 HD MCU Software, you can hold a multipoint conference which has a connection between your company’s private network and the Internet outside your company. Refer to “2-4. Important information about installation and setting of connection using IP line of two networks (PCS-XG80/XG80S only)”.

Notes

- Only PCS-XG80/XG80S is available.
- If your system is connected with the 2 connector, some of the functions of your system, such as the SIP server connection, gatekeeper connection, Telnet access, and Web access, will not be available.
- If your system is connected to a single network connector, use the 1 connector. (If you use the 2 connector with the system connected to a single network connector, the LAN port does not operate.)



Setting restriction of each LAN (PCS-XG80/XG80S only)

Setting restriction of each LAN port Items to be setup at each port	DHCP mode IP Address, Network Mask, Gateway Address LAN mode
Items to be setup at either port	PPPoE
Items to be set up only at LAN1 (Items ineffective for LAN2 by setting)	WEB, TELNET, SSH DNS Server NAT, H.460 Gatekeeper SIP Server SNMP Trap Destination NTP Shared Phone Book AMX Device Discovery Multicast Streaming IPv6
Items that are effective for both LAN1 and LAN2 by setting one	Port Numbers (TCP/UDP) QoS TOS Auto Answer Reject Answer

1-2-5. IPv6

This equipment supports the next-generation Internet Protocol version 6 (IPv6).
For details, refer to the operating instructions supplied with the PCS-XG Series models.
The functions of the system are restricted as follows when using Internet Protocol IPv6.

- SNMP Trap Destination
- NTP
- Shared Phone Book
- LAN2
- TOS
- Network Routing Check
- AMX Device Discovery

Note When "Line I/F → Use LAN2" is set to "On", you cannot use IPv6. When "Internet Protocol" is set to "IPv6" under Administrator 7, "Use LAN2" is disabled (it cannot be set to "On".)

1-2-6. Multipoint Connection (Example of Connection) (Main terminal: PCS-XG80/XG80S only)

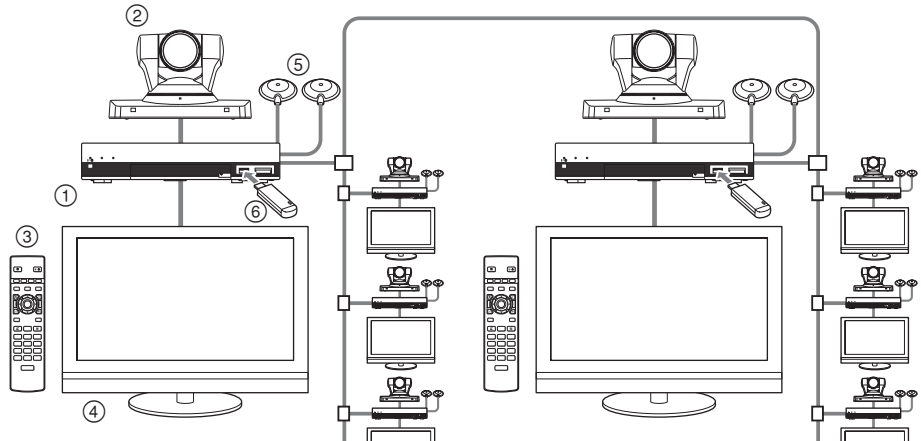
To enable multipoint HD visual communication, you must install the optional PCSA-MCG80 HD MCU software.
The PCSA-MCG80 HD MCU software allows you to establish multipoint communication over a LAN and/or ISDN line. To install this optional software, refer to "3-2. Optional Software Installation".

Note It cannot be installed in PCS-XG55/XG55S.

System configuration via LAN for multipoint (IP connection) (Main terminal: PCS-XG80/XG80S only)

This equipment allows you to establish multipoint HD visual communication with up to 10 sites over an IP connection.

System configuration



① PCS-XG80S HD Visual Communication System
② PCSA-CXG80 HD Camera Unit
③ PCS-RF1 Remote Commander
④ TV monitor (not supplied)
⑤ PCS-A1 microphone
⑥ HD MCU software PCSA-MCG80 (Option)

System configuration via an ISDN for multipoint

(Main terminal: PCS-XG80/XG80S only)

You need to connect the optional PCSA-B384S or PCSA-B768S ISDN Unit especially designed for use with this system and to install the optional PCSA-MCG80 HD MCU software.

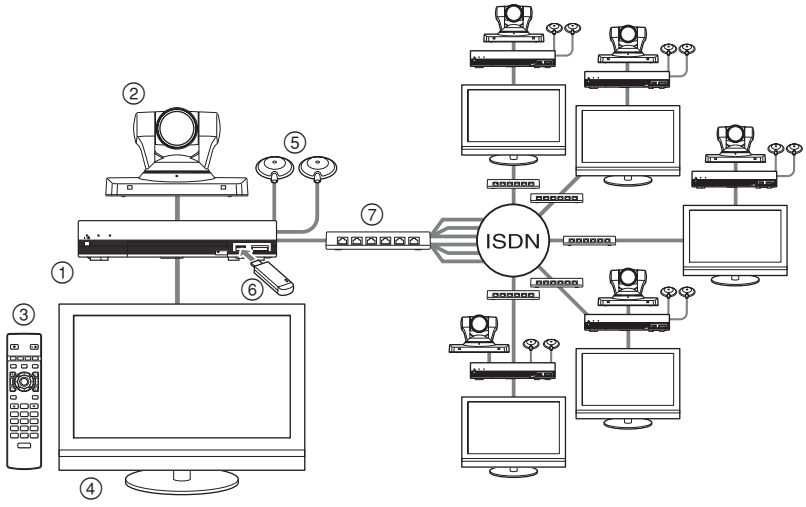
Note

It cannot be installed in PCS-XG55/XG55S.

This allows you to have a multipoint HD visual communication among up to six sites over ISDN.

System configuration

(This diagram depicts a system configuration using the PCSA-B768S ISDN Unit.)



① PCS-XG80S HD Visual Communication System
② PCSA-CXG80 HD Camera Unit
③ PCS-RF1 Remote Commander
④ TV monitor (not supplied)
⑤ PCS-A1 microphone
⑥ HD MCU software PCSA-MCG80 (Option)
⑦ ISDN unit PCSA-B384S (Option) or PCSA-B768S (Option)

System configuration via a LAN and ISDN for multipoint

(Main terminal: PCS-XG80/XG80S only)

You must connect the optional PCSA-B384S or PCSA-B768S ISDN unit, which is designed for use with this system.

Installing the PCSA-MCG80 HD MCU software on two HD visual Communication Systems enables you to connect to up to 10 sites via mixed LAN and ISDN lines.

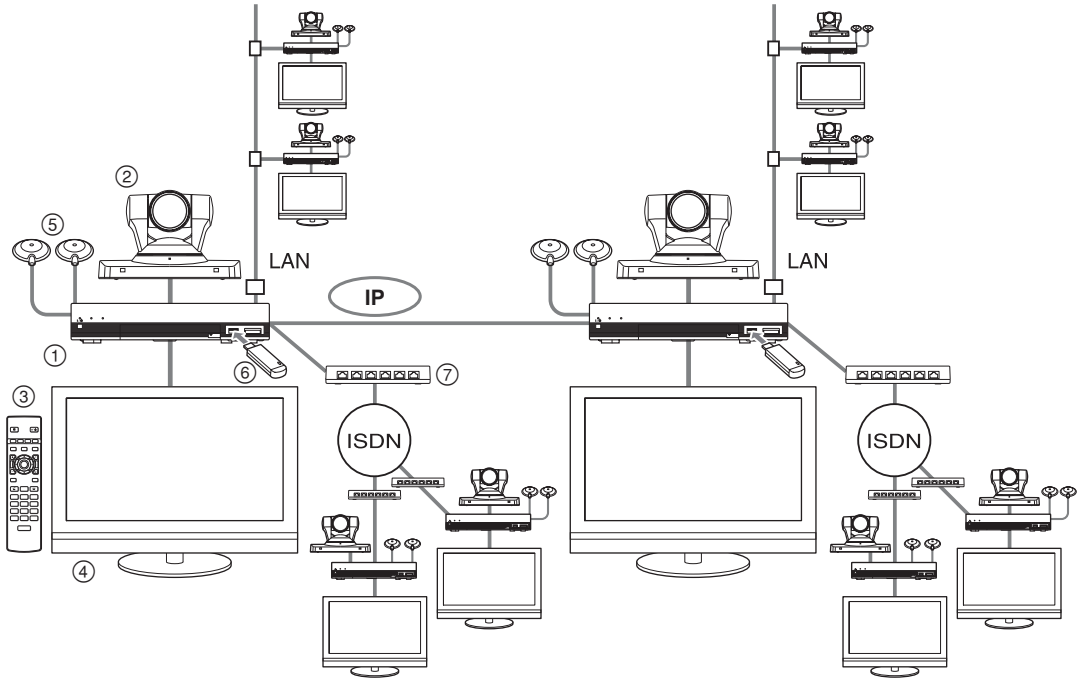
Note

It cannot be installed in PCS-XG55/XG55S.

In this case, link the two Communication Systems (with the HD MCU software installed) over an IP connection.

System configuration

(This diagram depicts a system configuration using the PCSA-B768S ISDN Unit.)



① PCS-XG80S HD Visual Communication System
② PCSA-CXG80 HD Camera Unit
③ PCS-RF1 Remote Commander
④ TV monitor (not supplied)
⑤ PCS-A1 microphone
⑥ HD MCU software PCSA-MCG80 (Option)
⑦ ISDN unit PCSA-B384S (Option) or PCSA-B768S (Option)

1-2-7. Multipoint Connection (Screen Display)
(Main terminal: PCS-XG80/XG80S only)

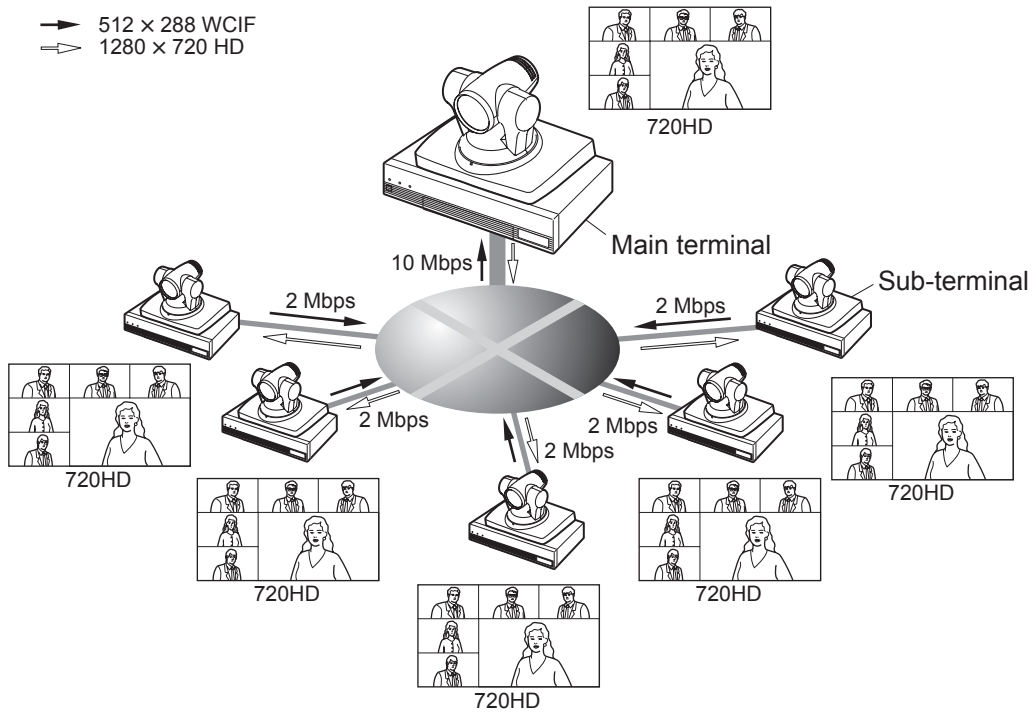
Note

PCS-XG55/XG55S is available only as a sub-terminal.

When a multipoint connection is established, the video displayed on each terminal will be as shown below.
The total bandwidth of the main terminal is automatically limited to 7 Mbps when all of the following conditions are true.

- Five sub-terminals are connected to the main terminal of the MCU.
- All terminals are PCS-XG80/XG55. The main terminal is PCS-XG80.
- "Packet Resend Request (ARQ)" is set to "On".

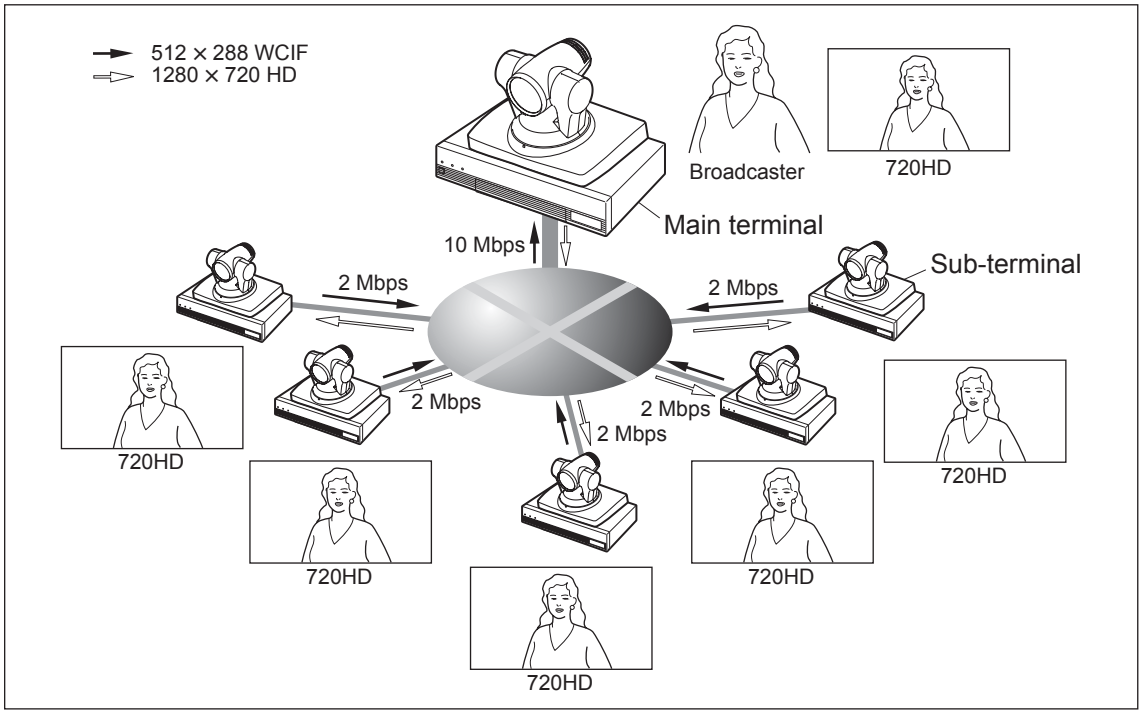
Basic connection (PCS-XG80/XG55 only over IP connection, CP mode)
(Main terminal: PCS-XG80 only)



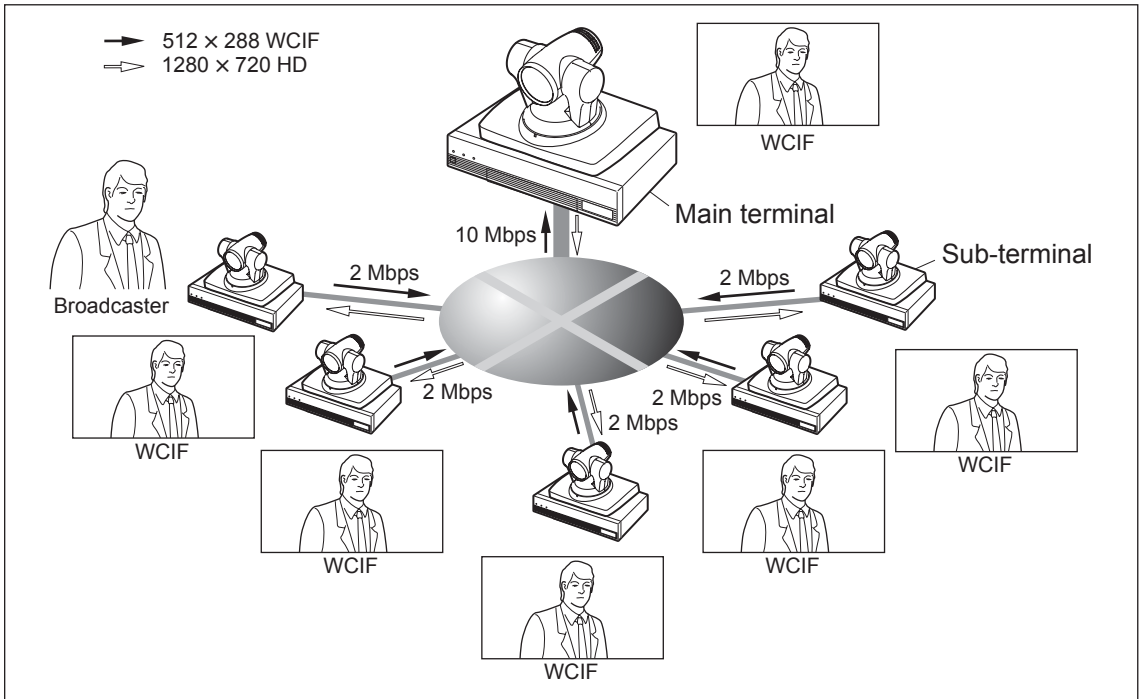
The largest of the six split windows is that corresponding to the speaker, selected by voice detection.

Basic connection (PCS-XG80/XG55 only over IP connection, VA mode)
(Main terminal: PCS-XG80 only)

Broadcasted by Main-terminal



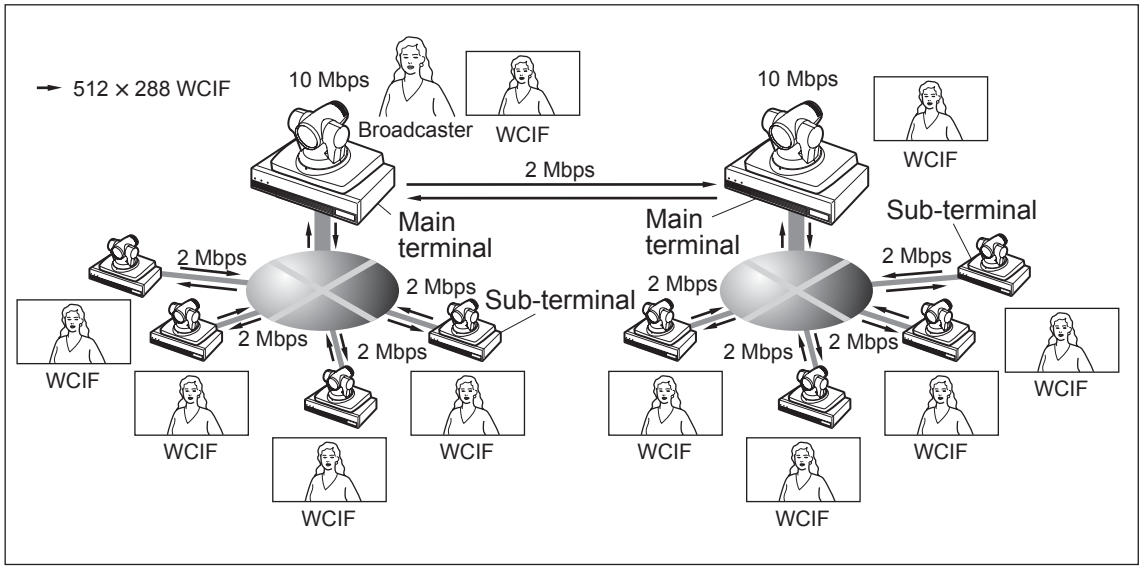
When Sub-terminal broadcasts



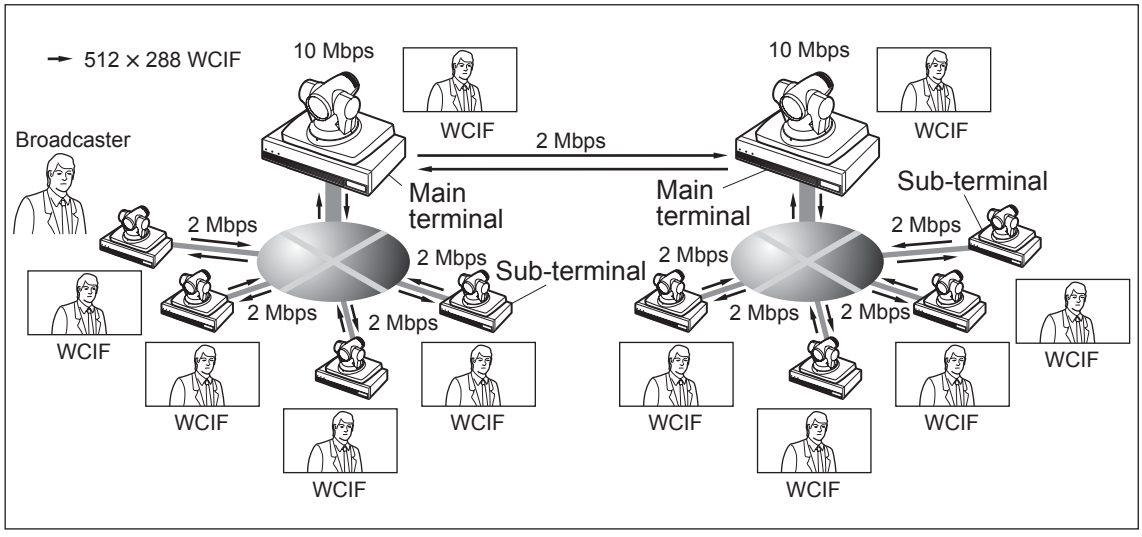
The main terminal encodes the picture in 720HD mode and then sends this picture, but the picture output from the sub-terminal is WCIF. So, the resolution is WCIF.

Cascaded connection (PCS-XG80/XG55 only over IP connection, VA mode)
(Main terminal: PCS-XG80 only)

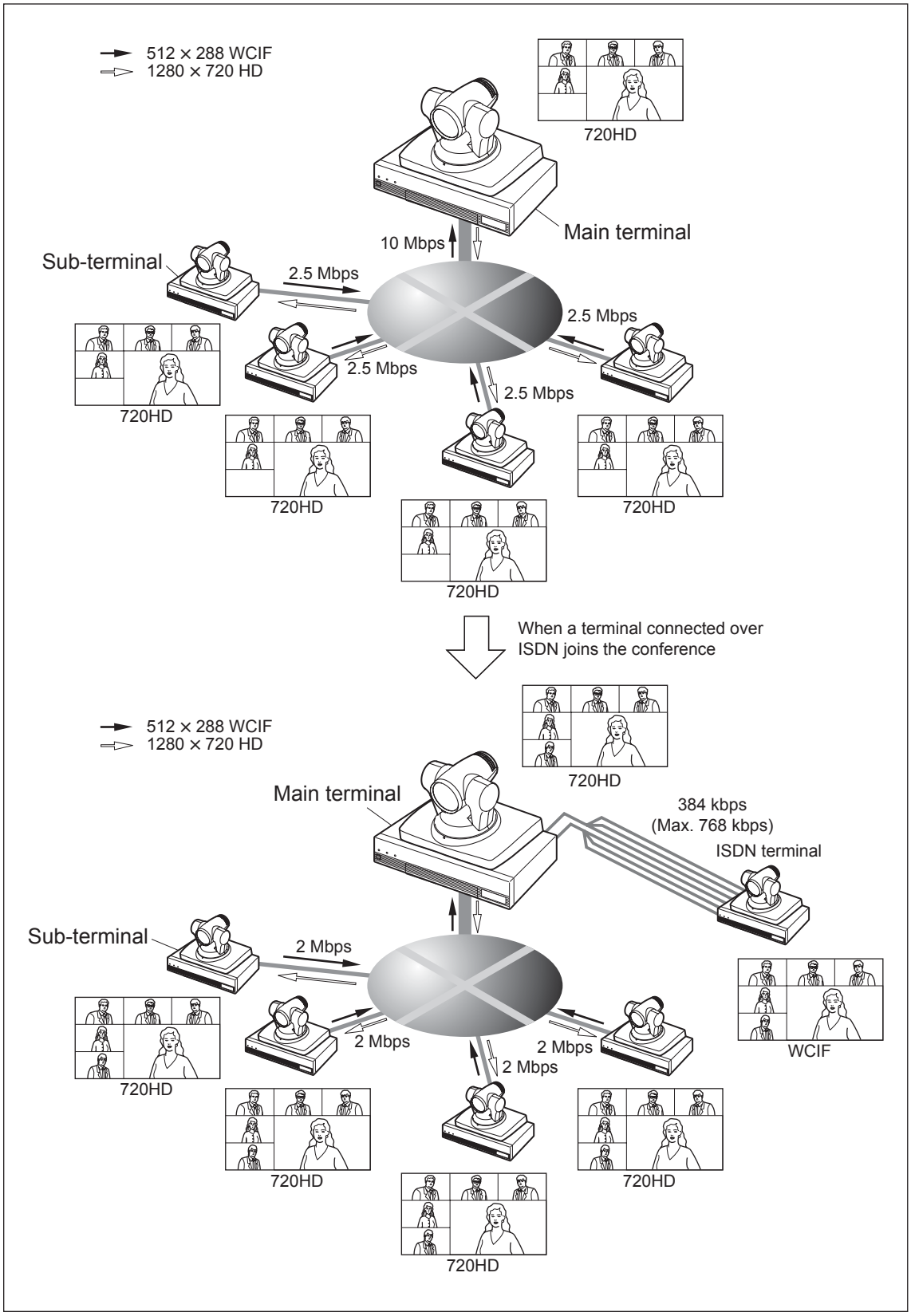
Broadcasted by Main-terminal



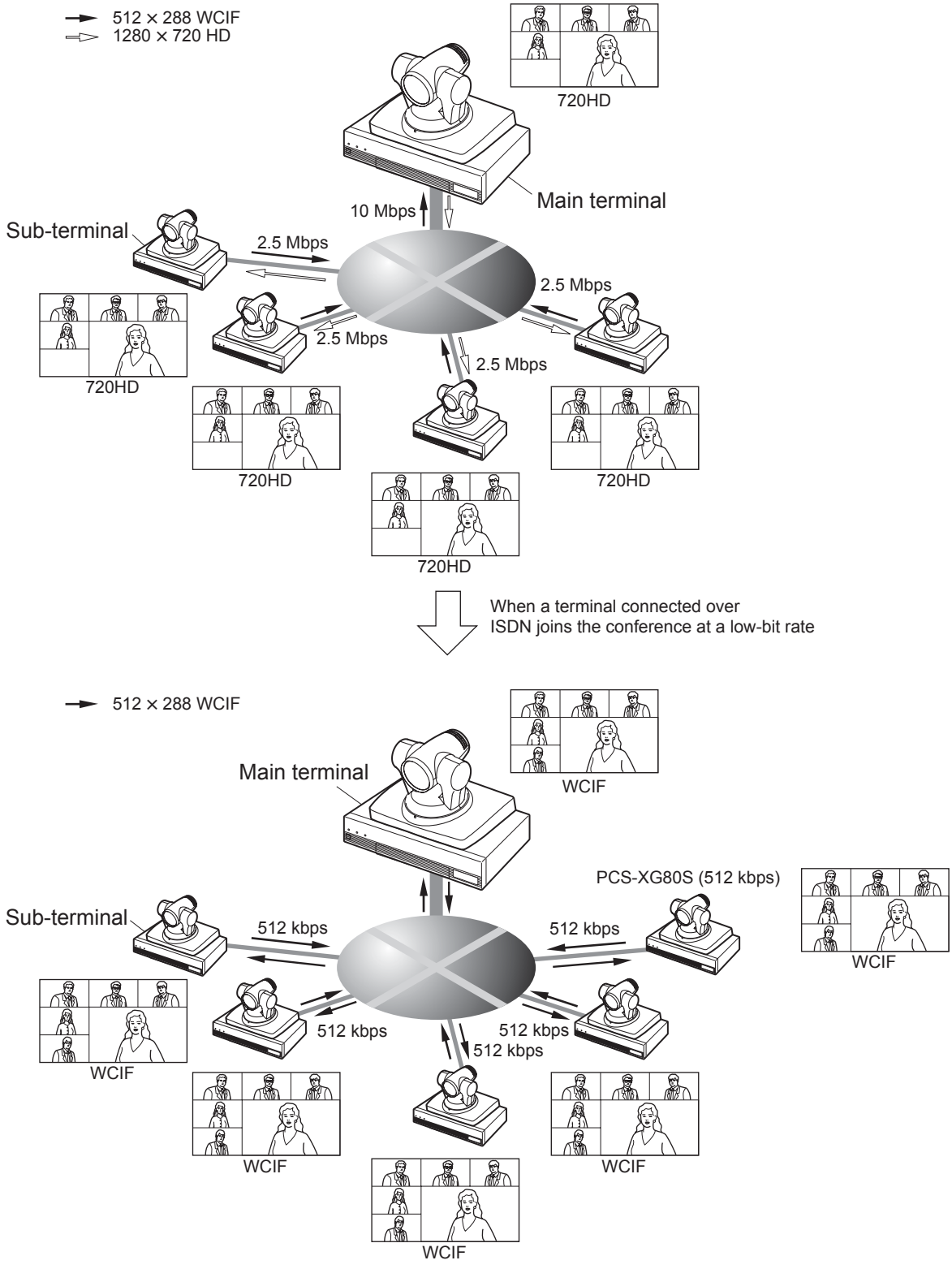
When Sub-terminal broadcasts



When a terminal over ISDN joins (PCS-XG80/XG55, CP mode)
(Main terminal: PCS-XG80 only)

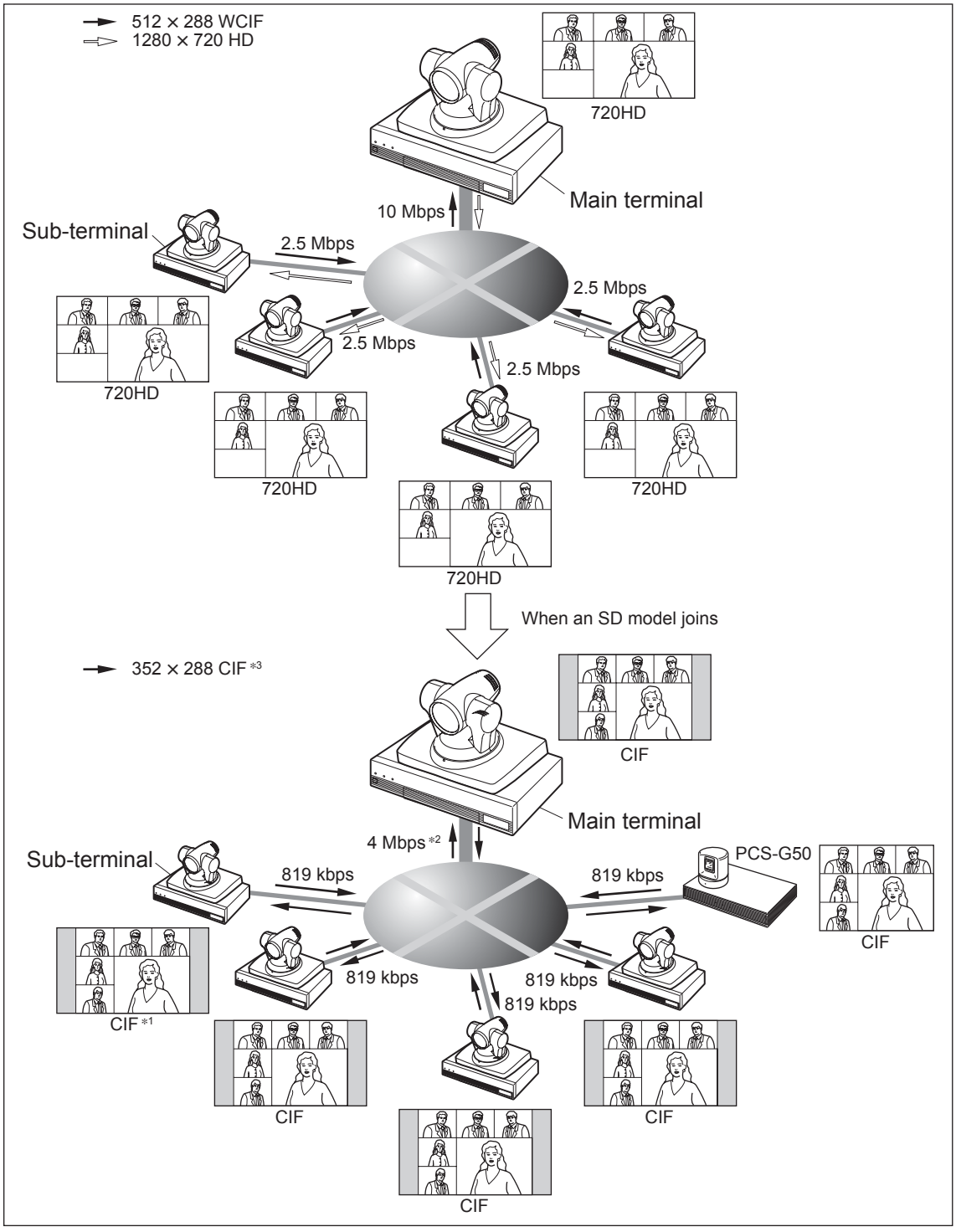


When a terminal over IP joins at a low-bit rate (PCS-XG80/XG55 only over IP, CP mode) (Main terminal: PCS-XG80 only)



The bit rate of each sub-terminal is adjusted to match the low-bit rate terminal which joined most recently.
In this case, the bit-rate will be as low as 512 kbps, so the resolution changed to WCIF.

When an SD model joins (PCS-XG80/XG55 + PCS-G50 only over IP, CP mode)
(Main terminal: PCS-XG80 only)



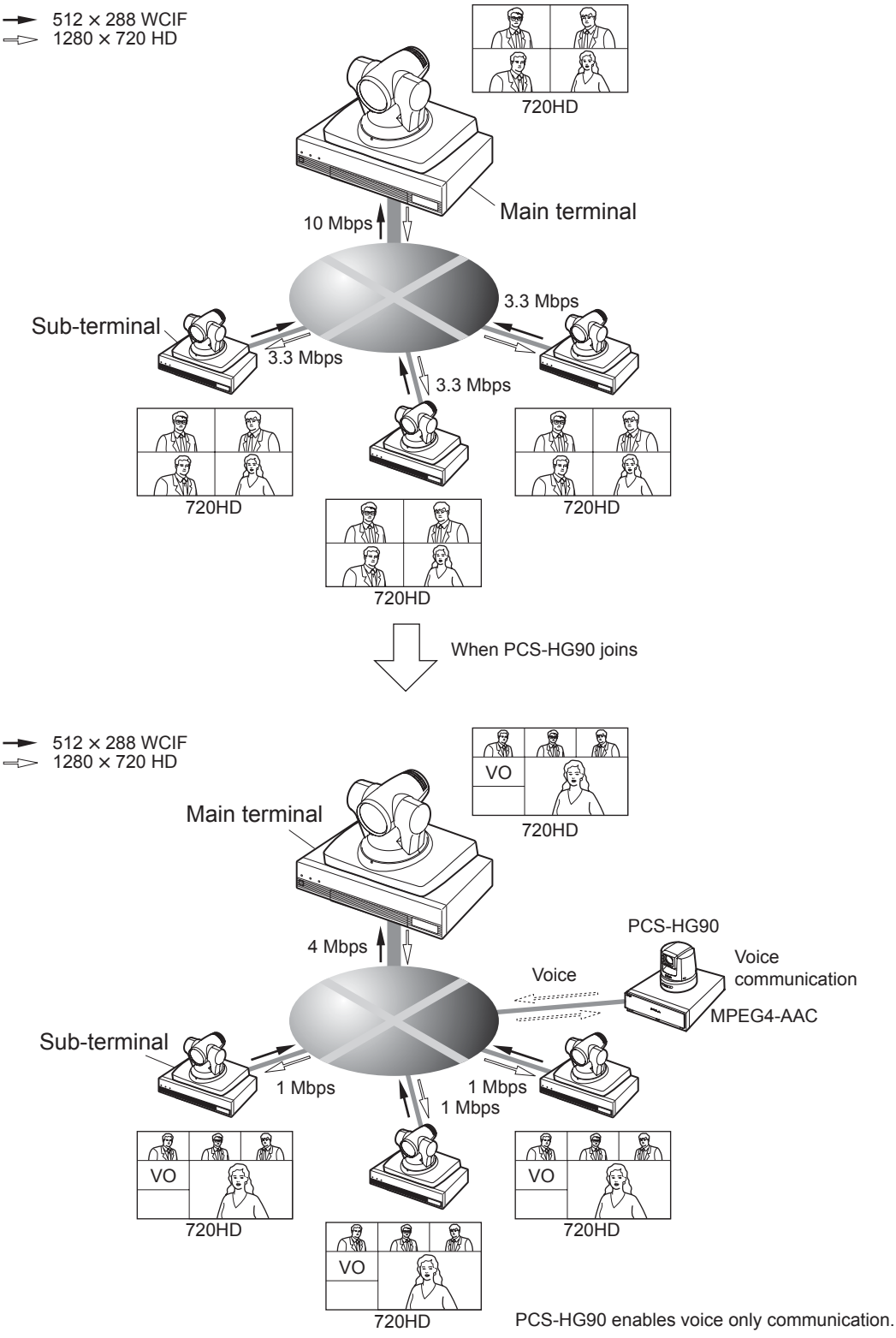
Note

∗1: The 16:9 camera picture is adjusted to 4:3 CIF by cropping both sides.

∗2: When an SD model joins the conference, a maximum rate of 4 Mbps can be attained.
When the SD model leaves the conference, the resolution becomes 720HD.

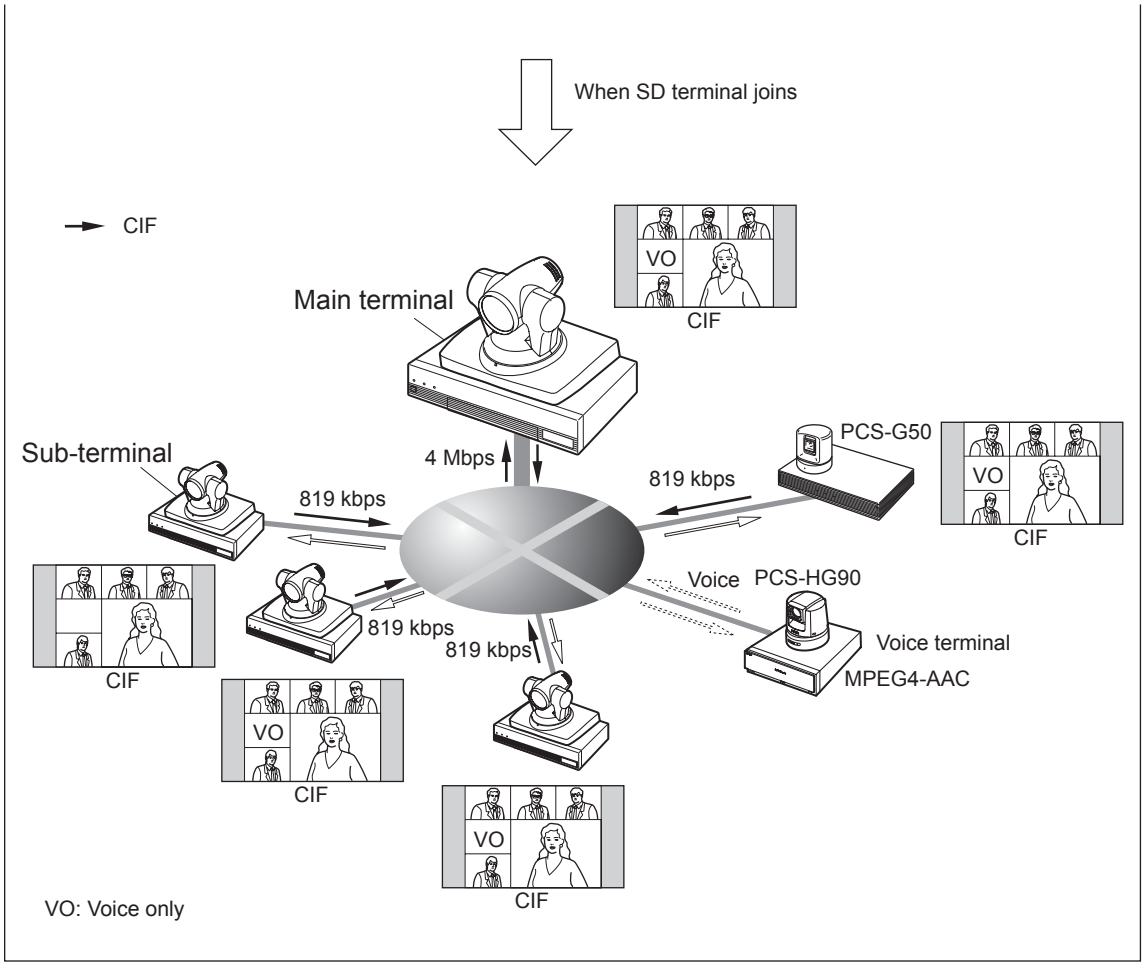
∗3: After all the SD terminals which participated are disconnected, the original resolution (720HD) is automatically resumed.

When PCS-HG90 joins
(PCS-XG80/XG55 + PCS-HG90 only over IP connection)
(Main terminal: PCS-XG80 only)



When an additional SD model joins the conference (PCS-XG80/XG55 + PCS-HG90 + PCS-G50 only over IP connection)

(Main terminal: PCS-XG80 only)



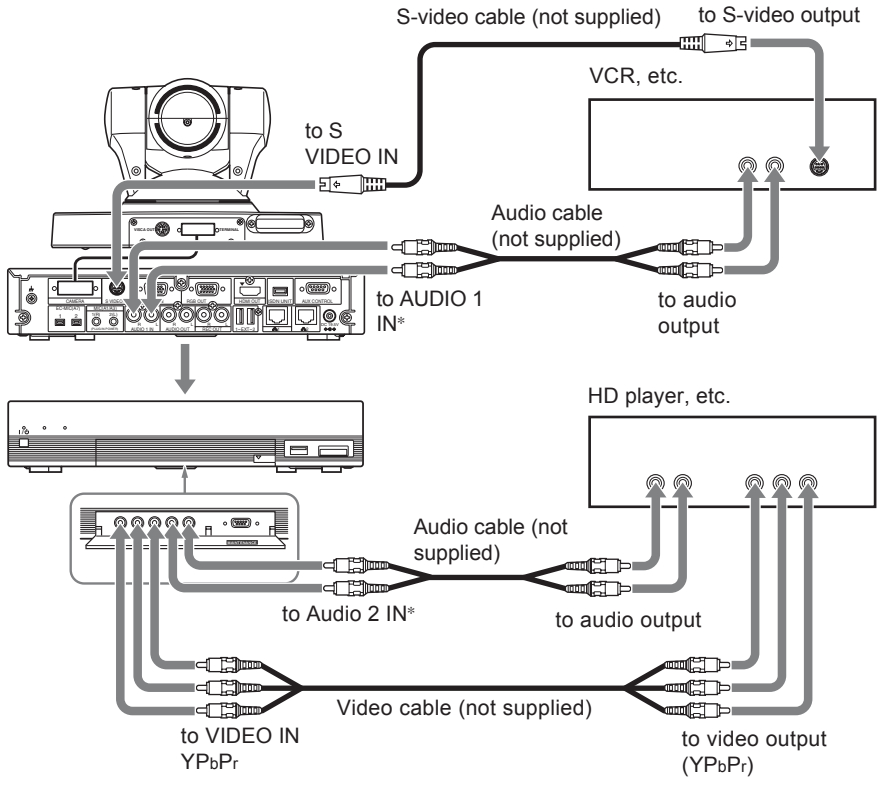
Notes

- When the PCS-HG90/PCS-G50 or other than the PCS-XG80 (including other companies' products) joins the conference, a maximum rate of 4 Mbps can be attained.
  The PCS-HG90 is a voice terminal.
  The dialing order of the PCS-HG90 or any SD terminal does not affect the above operation.
- In a multipoint video conference in which the main terminal is a PCS-HG90 and in which the sub-terminals are PCS-XG80/XG55 units, the picture displayed on each terminal can be viewed.

1-2-8. To Connect a Video Equipment for Input

The PCS-XG Series models allows you to send the picture and sound output from the connected equipment such as a VCR to a remote party.
The PCS-XG80 main unit has two video inputs and the PCS-XG55 main unit has one video input.

One is S VIDEO IN (PCS-XG80/XG80S only) and the other is YPbPr IN.



* The S VIDEO IN connector and AUDIO 1 IN jack are not available on the PCS-XG55/XG55, and the AUDIO 2 IN jack is labeled AUDIO IN.

Note

With regard to the setting of the linkage between video and audio, refer to the Operating Instructions.
(Setup → Video3 → Link to Audio Input)

1-3. Difference between PCS-XG80/XG80S and PCS-XG55/XG55S

Difference in function/attachment

No.	Difference	PCS-XG80/XG80S	PCS-XG55/XG55S
	1080i mode	Supported	Not supported
	Built-in MCU function	Supported (Option)	Not supported
	Dual network	Supported	Not supported
	Maximum usable band	10 Mbps	4 Mbps
	S VIDEO input	Supported	Not supported
	Echo-cancelling microphone input	Supported	Not supported
	Audio input connector (pin jack)	2 systems	1 system
	Supplied microphone (PCS-A1)	2 (PCS-XG80) ∗1	1 (PCS-XG55) ∗1

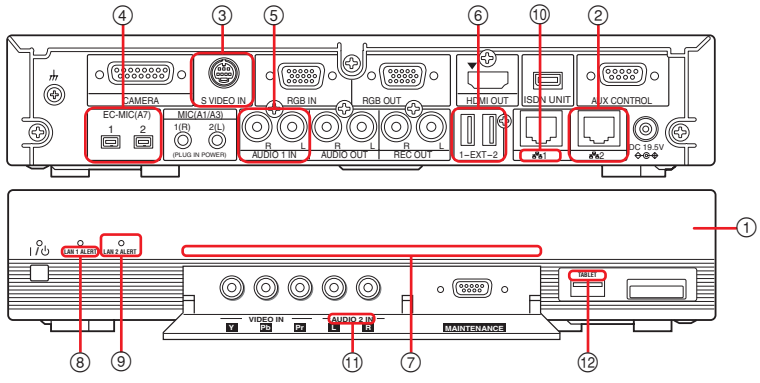
∗1: PCS-A1 is not supplied with PCS-XG80S and PCS-XG55S.

Difference in appearance

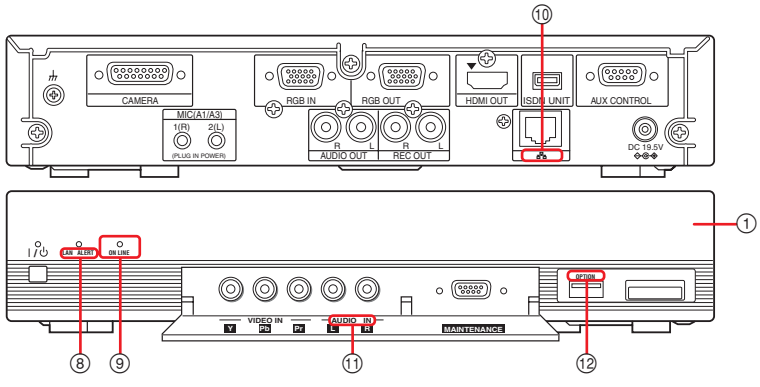
No.	Difference	PCS-XG80/XG80S	PCS-XG55/XG55S
①	Color of front panel upper area	Silver	Black
②	LAN2 port	Supported	Not supported
③	S VIDEO input connector	Supported	Not supported
④	Echo-cancelling microphone connector	Supported	Not supported
⑤	Audio input connector on the back side	Supported	Not supported
⑥	External equipment connection connector	Supported ∗1	Not supported
⑦	Communication status lamp	Supported	Not supported
⑧	LAN1 ALERT/LAN ALERT lamp	LAN 1 ALERT	LAN ALERT
⑨	LAN 2 ALERT/ON LINE lamp	LAN2 ALERT (amber)	ON LINE (blue)
⑩	Connector name (LAN connector)	1	
⑪	Connector name (audio input connector on the front)	AUDIO 2 IN	AUDIO IN
⑫	Connector name (TABLET/OPTION) ∗2	TABLET	OPTION

∗1: It is not available on Ver. 2.10 release. ∗2: Although the connectors have different names, they have the same function.

PCS-XG80 main unit



PCS-XG55 main unit



Section 2
Setup/Alignment and Video Mode

2-1. Turning the System On/Off

With regard to Turning the System On/Off, refer to the Operating Instructions supplied with the unit together.

2-1-1. Turning On the System

During the system boot up sequence, the display monitor is as below.
It takes about 90 seconds.

2-1-2. Turning Off the System

During the system shutdown sequence, the display monitor is as below.
It takes about 1 minute.

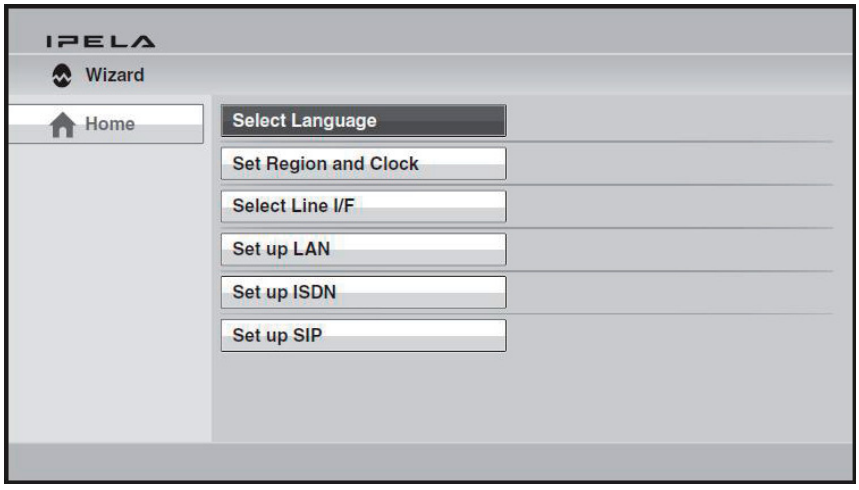
2-2. Initial Setup and Other Setup

2-2-1. Setup of Your First Time Power-On

When you turn on the PCS-XG Series main unit for the first time and the self-diagnosis is finished, the setup wizard appears on the monitor screen. Register your local system settings with the setup wizard using the Remote Commander.

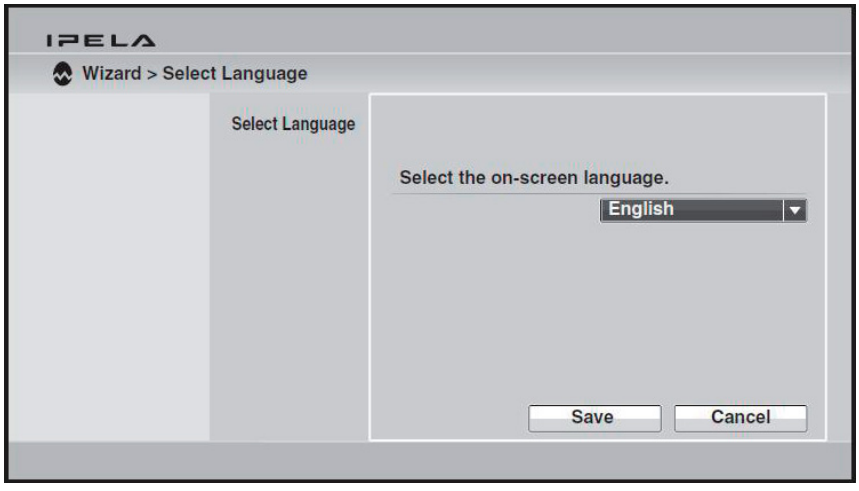
Notes

- **You can change the settings made with the setup wizard later by using the Setup menus.**
- The setup wizard will also be displayed when you install the PCSA-B384S or PCSA-B768S ISDN Unit to your system later. Perform the setup again.



To select the on-screen language

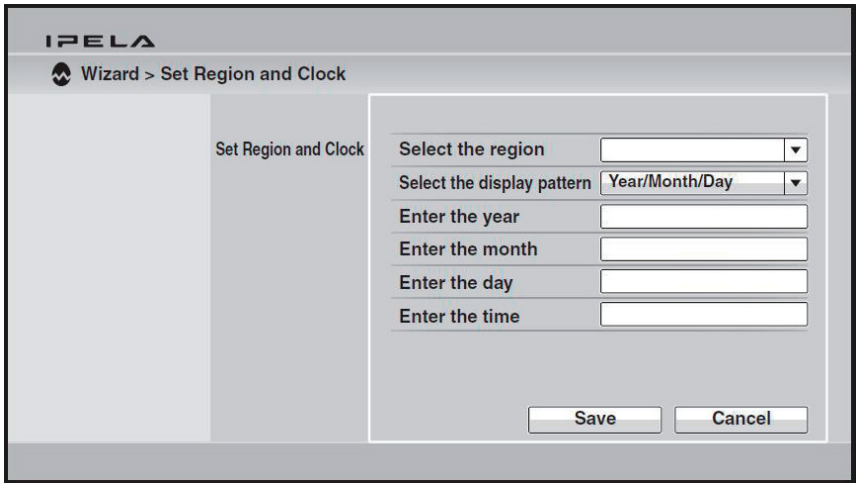
1. Use the [↑]/[↓]/[←]/[→] button on the Remote Commander to select "Select Language" in the setup wizard, then press the [ENTER] button.



2. Use the [↑]/[↓] button on the Remote Commander to select the language to be used for the on-screen menus and messages.
   About the supported languages. refer to the Operating Instructions.
3. Use the [↑]/[↓] button on the Remote Commander to select "Save", then press the [ENTER] button.
   The setup wizard is restored.

To set the region and clock

1. Use the [↑]/[↓]/[←]/[→] button on the Remote Commander to select “Set Region and Clock” in the setup wizard, then press the [ENTER] button.
2. Set the region and clock items.

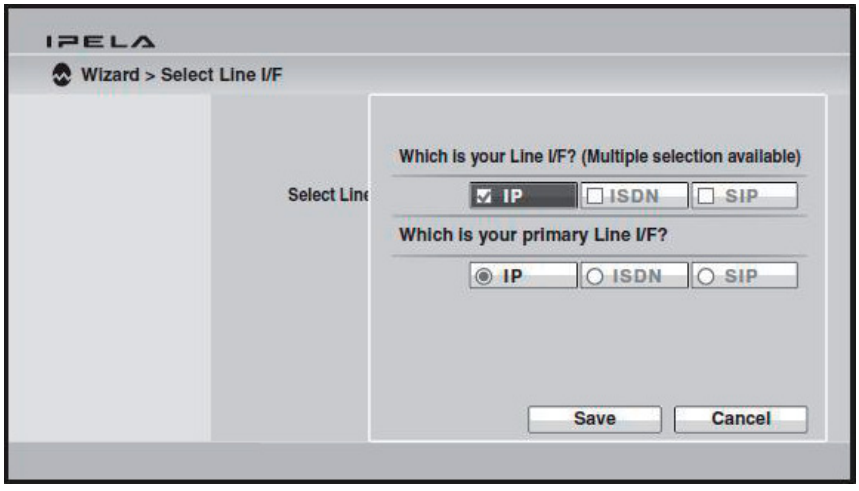


Select the region: Select the country or region where the system is used.
Select the display pattern: Select the display pattern of year, month and day.
Enter the year, month, day and time: Enter the date and time using the number buttons on the Remote Commander.

3. Use the [↑]/[↓] button on the Remote Commander to select “Save”, then press the [ENTER] button. The setup wizard is restored.

To select the line interface

1. Use the [↑]/[↓]/[←]/[→] button on the Remote Commander to select “Select Line I/F” in the setup wizard, then press the [ENTER] button.
2. Select the line interface to be used.



Which is your Line I/F?: Select from among IP, ISDN and SIP.
Which is your primary Line I/F?: If you select two or more interfaces with "Which is your Line I/F?", select the interface you use most often.
When you enter a Number/Address, a Dial menu that is customized to this selected Line I/F is displayed.

3. Use the [↑]/[↓] button on the Remote Commander to select “Save”, then press the [ENTER] button. The setup wizard is restored.

“To set up video output” and “To set up video input” as shown below are not appeared in the Initial Setup Wizard, but it is better to setup these settings first according to your layout.

To set up video output

The Video setup menu is used to set up video output.
If you will connect PCS-XG Series main unit with a single HDMI monitor, you need to select HDMI.
If you will connect PCS-XG Series main unit with a single RGB monitor, you need to select RGB.
If you will connect PCS-XG Series main unit with both HDMI monitor and RGB monitor, you need to select HDMI + RGB.
HDMI + RGB is Dual Monitor Setup of previous model.
Main monitor should be HDMI and sub monitor should be RGB.

To set up Monitor output, “Setup → Video1 → Monitor Output”.

Monitor Output allows you to select the video signal output from the Communication System.

HDMI: Outputs the video signal to the external equipment from the HDMI OUT connector.

RGB: Outputs the video signal to the external equipment from the RGB OUT connector.

HDMI + RGB: Outputs the video signal to the external equipment from the HDMI OUT and RGB OUT connectors.
Do not select “HDMI + RGB” when a single RGB monitor is used, or the setup menu will become unavailable.
Should this occur, refer to “Notes on monitor connections and settings” in Section 1-1-6 and then perform recovery.

To set up video input

PCS-XG Series main unit has several video inputs.
The Communication System allows you to send picture and sound from the connected equipment such as a VCR to a remote party.
For example, HD movie camera with YPbPr output should be connected with YPbPr input of front side on PCS-XG Series models.
The Video setup menu is used to select video input.

To set up Monitor input, “Setup → Video1 → Video Input”.

Video Input allows you to select the video input.

Camera: Selects the camera picture from the camera connected with the CAMERA Input.
S VIDEO: Selects the picture from the external equipment connected with the S VIDEO IN input.
RGB: Selects the picture from the external equipment connected with the RGB IN input
YPbPr: Selects the picture from the external equipment connected with the YPbPr input.

Note

For PCS-XG55/XG55S, “S VIDEO” can not be selected.

2-2-2. Other Setup

Other Setup described in this section does not appear in Initial Setup Wizard, but these settings are PCS-XG Series models unique settings. These are explained as below.

1080i Mode (PCS-XG80/XG80S only)

Transmission and reception of the picture in 1080i mode is available only for connection via LAN.
When 1080i mode is set to “On”, a remote party’s 1080i mode must be set to “On”.
When 1080i mode is “On”, MCU, H.239 presentation, PinP/PandP/Side by Side displays, 720P-YPbPr input and S-video input and RGB input are not available.

To set 1080i mode, Setup → Administrator → 1080i Mode.
Off: Not to use 1080i video format.
On: To use 1080i video format.

Note

When set to “On” from “Off” or “Off” from “On”, the system reboots automatically.
In PCS-XG55/XG55S, “1080i mode” cannot be selected.

To set up audio input and echo canceller

Notes

- PCSA-A7 microphone can not be used for PCS-XG55 main unit.
- For PCS-XG55 main unit, AUDIO 1 IN connector is not equipped and AUDIO 2 IN connector is named to AUDIO IN connector.

When using a PCS-A1, PCSA-A3, or PCSA-A7 microphone and inputting them through a microphone mixer to the AUDIO 1 IN or AUDIO 2 IN input connectors, set "Setup → Audio 1 → Audio Input" to "MIC". The echo canceller will be enabled, when "Echo Canceller" setting is "On".
When inputting the audio output from external equipment like a DVD player to the AUDIO 1 IN or AUDIO 2 IN input connectors, set "Setup → Audio 1 → Audio Input" to "AUX".
The echo canceller is not enabled. Menu setting is done by "Setup → Audio 1 → Audio Input".

In the above example, the output from the external microphone is adjusted to the line level through the mixer and then input to AUDIO 1 IN, and AUDIO 1 IN is used as "MIC". In this case, the echo canceller is enabled.

When "Audio Input" is set to "AUX"

The setting made in this column has no effect, regardless of whether "Echo canceller" is set to "On" or "Off."

Above shows that AUDIO 1 IN is used as AUX and (even if "Echo Canceller" setting is "On"), but Echo Canceller dose not work.
When audio input is used as AUX, this signal does not go through the echo canceller block.
If "Audio Input" is "AUX", you cannot set "Echo Canceller" field.
In this case, the input level will be the line level.

RF Remote Control Reception

This allows you to select the receiver of the RF signal from the supplied PCS-RF1 Remote Commander.

To set up RF Remote Control Reception, “Setup → General1 → RF Remote Control Reception”.

System: Receives the RF signal with the receiver on the PCS-XG Series main unit.
Camera: Receives the RF signal with the receiver on the PCSA-CXG80 Camera Unit.

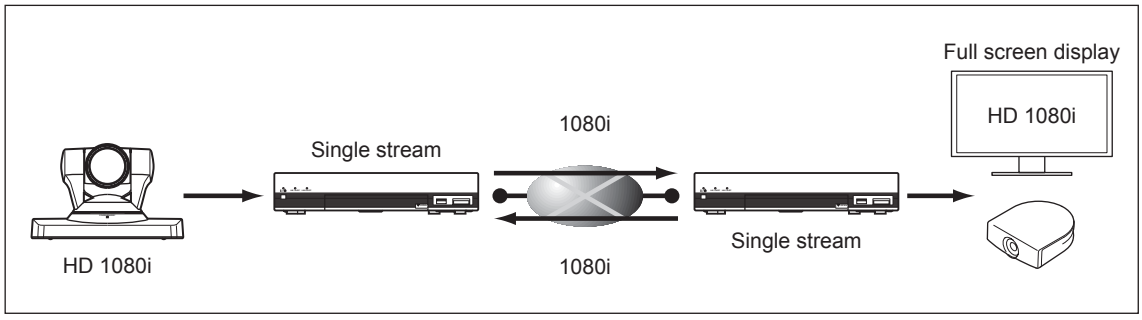
Note

The Remote Commander and the PCS-XG Series main unit are paired at the factory.

2-3. Video Mode and Bandwidth

2-3-1. 1080i Mode (PCS-XG80/XG80S only)

The PCS-XG80/80S can transmit and receive high-resolution (1920 pixels × 1080 lines), 60 fields/sec video pictures in 1080i mode.



In 1080i mode, according to the diagram shown below, at least 768 kbps is needed. A line of at least 3 Mbps is recommended.

Bandwidth (bps)	1080i mode
10M	1080i/60
8M	
5M	
3M	
2M	
1536k	
1024k	
768k	
512k	N/A
384k	
256k	
128k	
64k	

2-3-2. 720P and Other Mode

In other than 1080i mode, the minimum bit rate necessary to realize the desired resolution and frame rate obeys the Bit Rate Performance Matrix, shown below.
Frame rate shown below shows the maximum one at negotiation.
Actually determined resolution/frame rate may change depending on the audio codec selected.
And frame rate would be lower depending on motion.
The example of H.264 is shown as below. Resolution is set by "Screen Size" in setting menu of "Communication".

H.323 H.264 mode (Ver. 2.04 and higher)

		AUTO Setting	Resolution Priority Setting			Frame Rate Priority Setting		
Bit Rate (bps) ∗2	Resolution	AUTO	720P	W4CIF	W432P	AUTO		
	Frame Rate	AUTO	AUTO			60	30	15
10M		720P/60 ∗1	720P/60 ∗1	W4CIF/30	W432P/30	720P/60 ∗1	720P/30 ∗1	720P/15 ∗1
8M								
5M								
3M								
2M		720P/30 ∗1	720P/30 ∗1					
1536k								
1024k								
768k		W4CIF/30	720P/15 ∗1			W4CIF/30	W4CIF/30	
512k		W432P/30	720P/10 ∗1	W4CIF/15		W432P/30	W432P/30	W4CIF/15
384k		WCIF/30	WCIF/30	W4CIF/10	W432P/15	WCIF/30	WCIF/30	W432P/15
256k								
128k		WCIF/15	WCIF/15	W4CIF/7.5	W432P/10	WCIF/15	WCIF/15	WCIF/15
64k								

∗1: When a multipoint connection is made, select "Voice Activated (720P)" in "Broadcast Mode" of the Multipoint Setup menu before starting communication.
∗2: For PCS-XG55/XG55S, the maximum rate is 4 Mbps.

			Individual Setting								
Bit Rate (bps) ∗2	Resolution	AUTO	720P			W4CIF			W432P		
	Frame Rate	AUTO	60	30	15	60	30	15	60	30	15
10M		720P/60 ∗1	720P/60 ∗1	720P/30 ∗1	720P/15 ∗1	W4CIF/30	W4CIF/30	W4CIF/15	W432P/30	W432P/30	W432P/15
8M											
5M											
3M											
2M		720P/30 ∗1									
1536k											
1024k											
768k		W4CIF/30	W4CIF/30								
512k		W432P/30	W432P/30	W432P/30							
384k		WCIF/30	WCIF/30	WCIF/30	WCIF/30	WCIF/30	WCIF/30				
256k											
128k		WCIF/15	WCIF/15	WCIF/15	WCIF/15	WCIF/15	WCIF/15	WCIF/15	WCIF/15	WCIF/15	
64k											WCIF/15

∗1: When a multipoint connection is made, select "Voice Activated (720P)" in "Broadcast Mode" of the Multipoint Setup menu before starting communication.
∗2: For PCS-XG55/XG55S, the maximum rate is 4 Mbps.

H.320 H.264 mode (Ver. 2.04 and higher)

<table>
<tr><th colspan="2" rowspan="2"></th><th>AUTO Setting</th><th colspan="3">Resolution Priority Setting</th><th colspan="3">Frame Rate Priority Setting</th></tr>
<tr><th rowspan="2">Bit Rate (bps)</th><th>Resolution</th><th>AUTO</th><th>W4CIF</th><th>W432P</th><th>WCIF</th><th colspan="3">AUTO</th></tr>
<tr><th>Frame Rate</th><th>AUTO</th><th colspan="3">AUTO</th><th>60</th><th>30</th><th>15</th></tr>
<tr><td>768k</td><td rowspan="5"></td><td>720P/15*3</td><td rowspan="2">W4CIF/ 15</td><td rowspan="2">W432P/ 15</td><td rowspan="2">WCIF/ 30</td><td rowspan="2">WCIF/ 30</td><td rowspan="2">WCIF/ 30</td><td rowspan="5">WCIF/ 15</td></tr>
<tr><td>512k</td><td rowspan="2">WCIF/30</td></tr>
<tr><td>256k</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="2">WCIF/ 15</td><td rowspan="2">WCIF/ 15</td></tr>
<tr><td>128k</td><td rowspan="2">WCIF/15</td></tr>
<tr><td>56k</td><td>WCIF/ 15</td><td>WCIF/ 15</td></tr>
</table>

<table>
<tr><th colspan="2" rowspan="2"></th><th>AUTO Setting</th><th colspan="9">Individual Setting</th></tr>
<tr><th rowspan="2">Bit Rate (bps)</th><th>Resolution</th><th>AUTO</th><th colspan="3">W4CIF</th><th colspan="3">W432P</th><th colspan="3">WCIF</th></tr>
<tr><th>Frame Rate</th><th>AUTO</th><th>60</th><th>30</th><th>15</th><th>60</th><th>30</th><th>15</th><th>60</th><th>30</th><th>15</th></tr>
<tr><td>768k</td><td rowspan="5"></td><td>720P/15*3</td><td rowspan="2">W4CIF/ 15</td><td rowspan="2">W4CIF/ 15</td><td rowspan="2">W4CIF/ 15</td><td rowspan="2">W432P/ 30</td><td rowspan="2">W432P/ 30</td><td rowspan="2">W432P/ 15</td><td rowspan="2">WCIF/ 30</td><td rowspan="2">WCIF/ 30</td><td rowspan="4">WCIF/ 15</td></tr>
<tr><td>512k</td><td rowspan="2">WCIF/30</td></tr>
<tr><td>256k</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td><td rowspan="3">WCIF/ 15</td></tr>
<tr><td>128k</td><td rowspan="2">WCIF/15</td><td rowspan="2">WCIF/ 15</td><td rowspan="2">WCIF/ 15</td></tr>
<tr><td>56k</td><td>WCIF/ 15</td><td>WCIF/ 15</td></tr>
</table>

*3: Point-to-point connection only.

2-4. Important Information About Installation and Setting of Connection Using IP Line of Two Networks (PCS-XG80/XG80S only)

Important information regarding installation/settings

When using the dual network feature, install and set up LAN port 1 for the local area network and LAN port 2 for the global network (Figure 1). This is because only LAN port 1 has the external access (Telnet, SSH, and Web access) functions for PCS-XG80/XG80S. Also, at the same time, set the Remote Access Password in the Administrator Setup menu (Figure 2). (The telnet, SSH or Web access to the PCS-XG Series models enables the operation and the setting change of the PCS-XG Series models.)

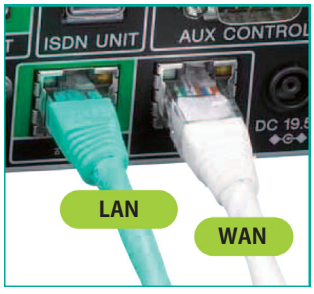


Fig. 1

Fig. 2

If, for any reason, the dual network feature is used and LAN port 1 is set up for the global network side, turn off all external access (Telnet, SSH, and Web access) settings in the Administrator Setup menu (Figure 3).

Fig. 3

The settings described below are recommended for the Answer Setup menu in order to prevent unwanted connections from the global network side during a meeting (Figure 4).

- Set “Auto Answer” to “Off” (Initial setting: On).
- Set “Reject Answer” to “On” (Initial setting: Off) *1.

*1: Available only when the HD MCU software PCSA-MCG80 (available separately) is installed.

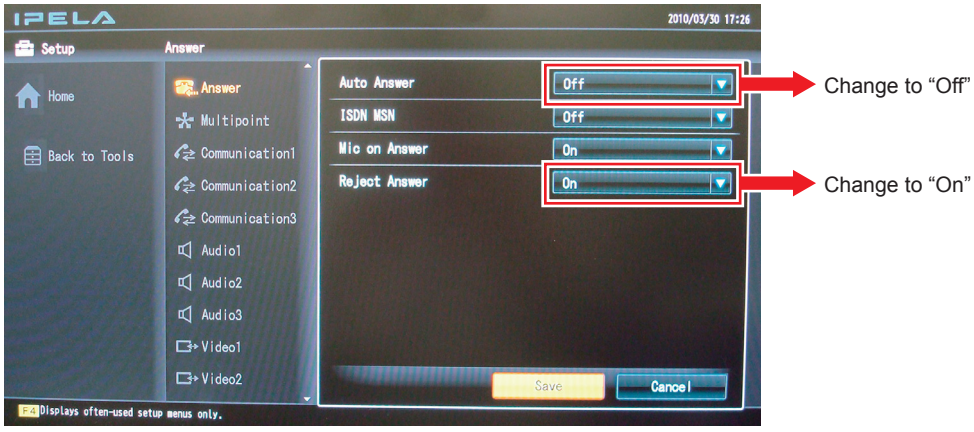


Fig. 4

Section 3
Maintenance

3-1. Firmware Update

The firmware update is performed by rewriting the firmware using the update file (bellinixxxxx.upd for PCS-XG80/XG80S, Lbellinixxxx.upd for PCS-XG55/XG55S, hereafter referred to as UPD file). There are three methods to write the update file as follows.
The update by using FTP is not supported in this model.

- Web control: Writing is performed from PC that is LAN-connected to the PCS-XG Series models. Both version upgrade and downgrade can be performed. (Refer to Section 3-1-1.)
- Memory Stick: Writing is performed by inserting Memory Stick to PCS-XG Series models. Only the version upgrade can be performed. (Refer to Section 3-1-2.)
- Service menu: Writing is performed by using Memory Stick from the service menu. Both version upgrade and downgrade can be performed. (Refer to Section 3-1-3.)

Note

The UPD file name for PCS-XG80/XG80S is bellinixxxxx.upd, and for PCS-XG55/XG55S is Lbellinixxxxx.upd. Use bellinixxxxx.upd for PCS-XG80/XG80S and Lbellinixxxxx.upd for PCS-XG55/XG55S. The update cannot be performed with the UPD file of different model. Even if the UPD file of different model is accidentally used for the update, the update is protected by the guard function.
As for the bellinixxxxx.upd file for PCS-XG80/XG80S (Version 2.04 and earlier), use it after checking that the file size is the same as that of each version as shown in the table below.
There are some UPD files including the boot program that is incompatible with the hardware. If the update is performed using the file of different size, it may cause the failure of the main unit.

Version	File size	
	New UPD file (use this file)	Old UPD file (for reference)
2.04	68 MB (approximately 70000 KB)	92 MB
2.03	68 MB	92 MB
2.01	67 MB	92 MB
2.00	67 MB	92 MB
1.04	64 MB	89 MB
1.03	64 MB	89 MB
1.02	64 MB	87 MB

3-1-1. Firmware Update by Using WEB Control

Required equipment

- PC: Windows XP or Windows Vista
- UPD file (bellinixxxxx.upd for PCS-XG80/XG80S, Lbellinixxxxx.upd for PCS-XG55/XG55S)

  Note

  For obtaining this file, please contact your local Sony Sales Office/Service Center.
- WEB browser: Internet Explorer 5.0 or later (Version 6.0 recommended)
- LAN cable

Procedure

Note

When performing the update, connect to the IP network whose band is always stable. You cannot perform the update from the wireless LAN.

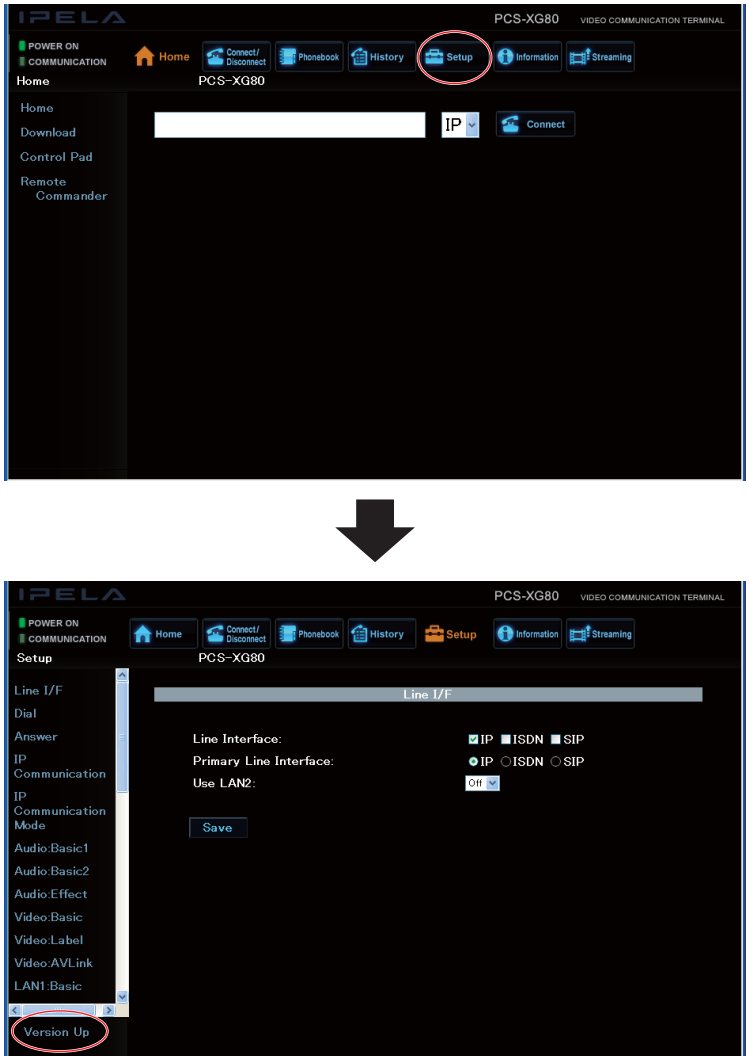
1. Copy the UPD file to PC.
2. Type the IP address that is assigned in this main unit in the address box of the Web browser on PC.
   http://xxx.xxx.xxx.xxx/

   Example: In the case that the IP address is 192.168.1.24
   http:// 192.168.1.24/

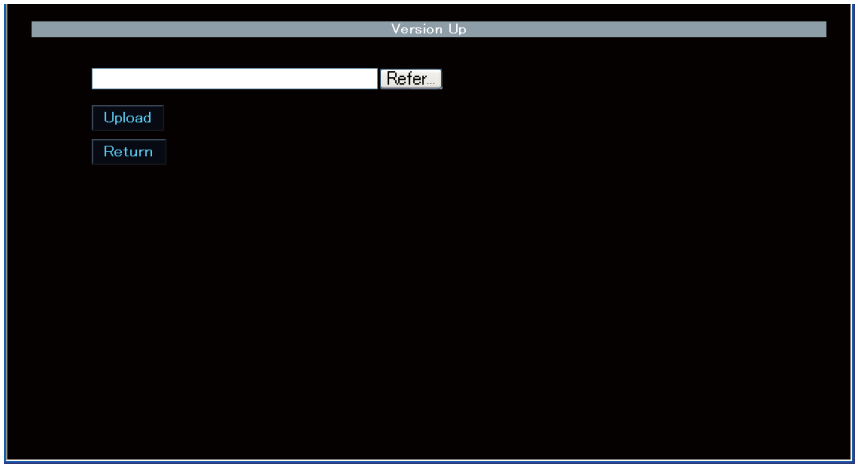
   Note

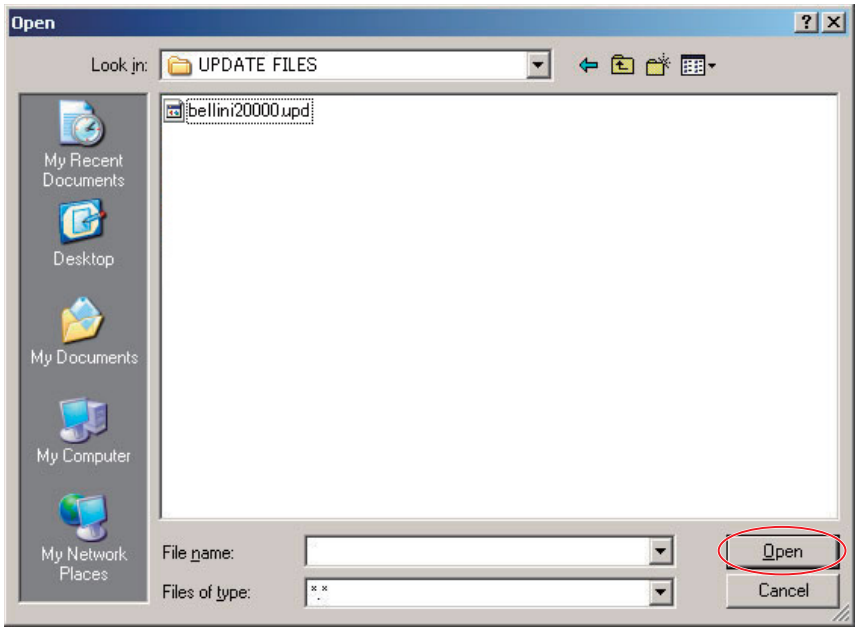
   When a proxy server in an external network segment has been set, the Gateway address in the PCS-XG Series models LAN setup must also be set. Or set your Web browser proxy setting to “No Proxy” for the PCS-XG Series models.
3. After the network has been connected, a window that prompts you to type the user name and password appears. Then, type “sonypcs” in the user name box and “administrator password” in the password box (if the administrator password is not set, leave the box blank).

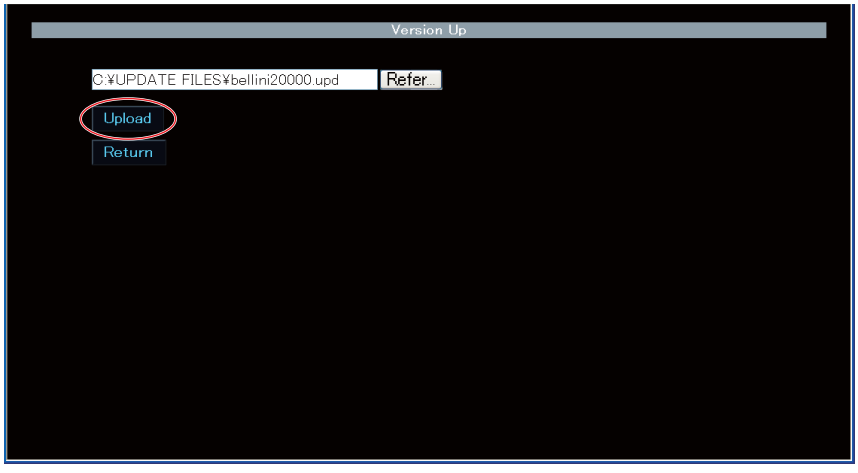
4. Click Setup in the upper area of the window, and click Version Up in the lower left area of the window.



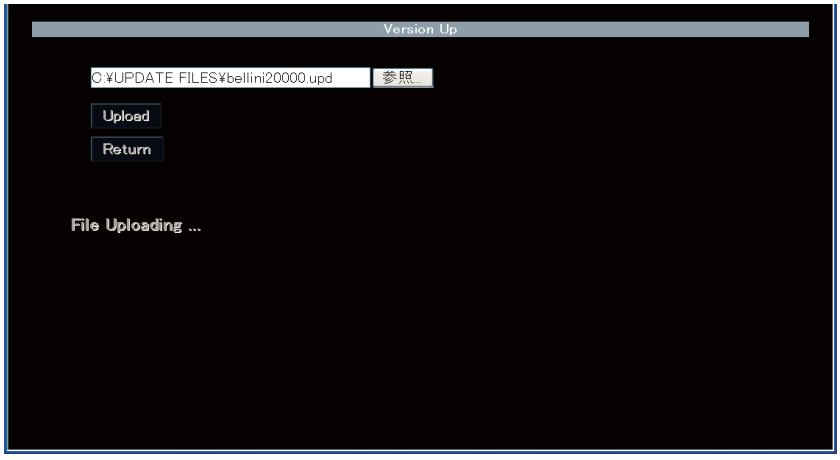
5. Click the Reference button and select the UPD file stored in step 1. Then, click the Open button.



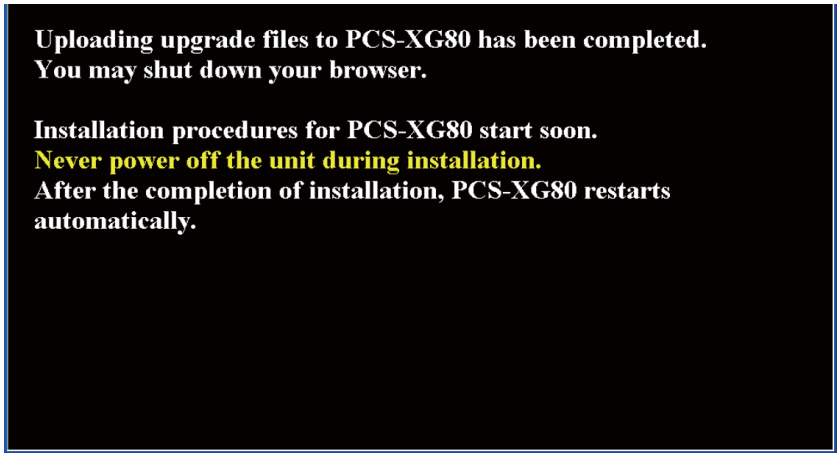




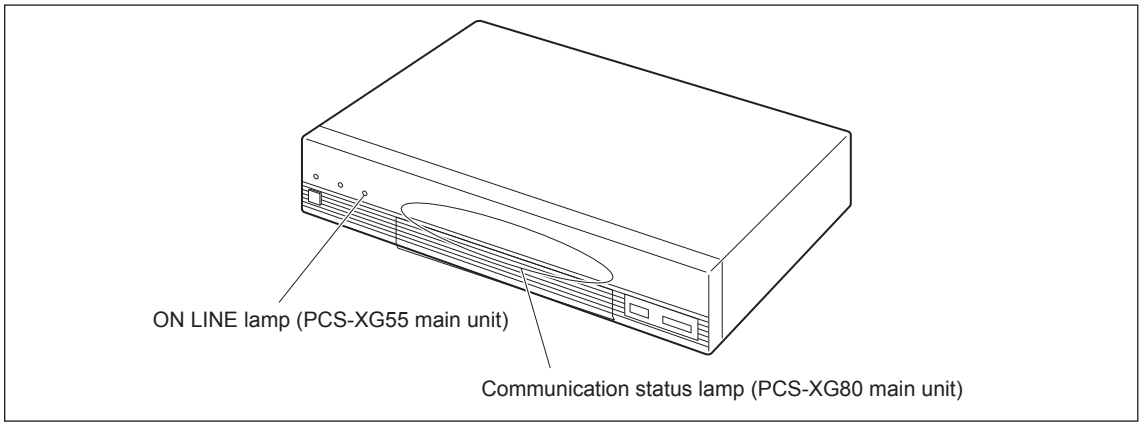
6. Click the Upload button.
   The UPD file is uploaded to this unit.



7. After the upload complete message is displayed, close the Web browser.



8. The update of this main unit is performed. (Approximately 12 minutes)
   The communication status lamp (PCS-XG80 main unit)/ON LINE lamp (PCS-XG55 main unit) is lit and the progress status (%) of file writing is displayed.



   After the writing is completed, the system is restarted.
9. Depending on the relation between the old version and the new version, the communication status lamp (PCS-XG80 main unit)/ON LINE lamp (PCS-XG55 main unit) is lit, and then the writing to the internal block and the update of peripheral equipment are performed.
10. After the update is completed, the home menu is displayed.
11. Check that the version is correct by checking “Tool” → “Machine Status” → “Local system status”.

Note

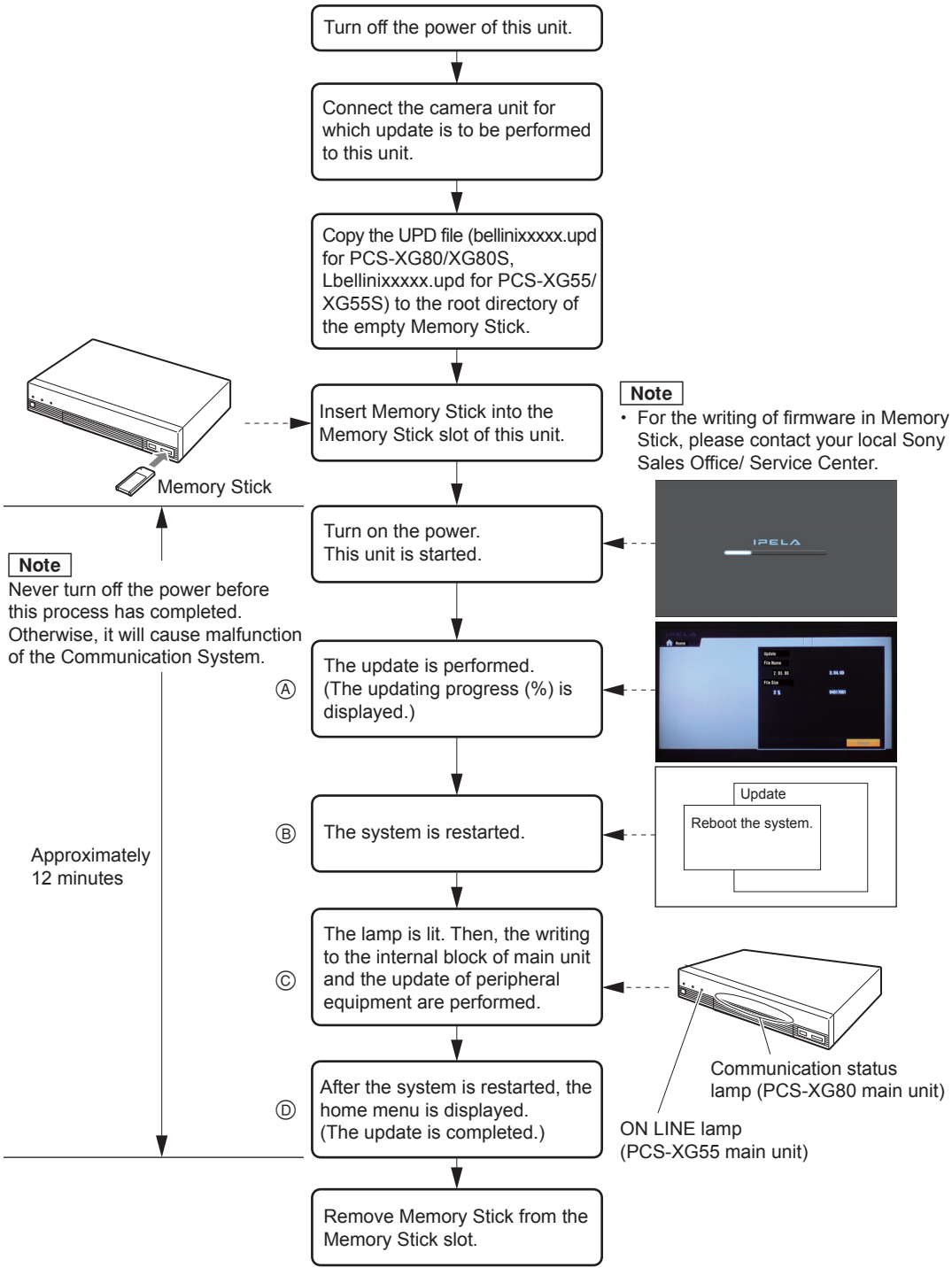
Be careful not to turn off the power during the update. If the power is turned off before the update is completed, the system may not be restarted.

3-1-2. Firmware Update by Using Memory Stick

Required equipment

- UPD file (bellinixxxxx.upd for PCS-XG80/XG80S, Lbellinixxxxx.upd for PCS-XG55/XG55S)
  Note To obtain this file, contact your local Sony Sales Office/Service Center.
- Memory Stick: Memory Stick PRO or PRO Duo, 512 MB or more

Procedure



Ⓒ may or may not be performed depending on the relation between the old version and the new version.
In Ⓒ, no image may be displayed on the monitor screen. However the lamp on the front of this unit is lit and the update is performed.
Although the system may repeat restarting and the update procedure may be continued, do not turn off the power of this unit before the completion of update (D); the home menu is displayed and the lamp on the front of this unit turns off.

Note The version downgrade cannot be performed by the method using Memory Stick. Only the version upgrade can be performed.

3-1-3. Firmware Update by Using Service Menu

Required equipment

- UPD file (bellinixxxxx.upd for PCS-XG80/XG80S, Lbellinixxxxx.upd for PCS-XG55/XG55S)

  Note

  For obtaining this file, please contact your local Sony Sales Office/Service Center.
- Memory Stick: Memory Stick PRO or PRO Duo, 512 MB or more

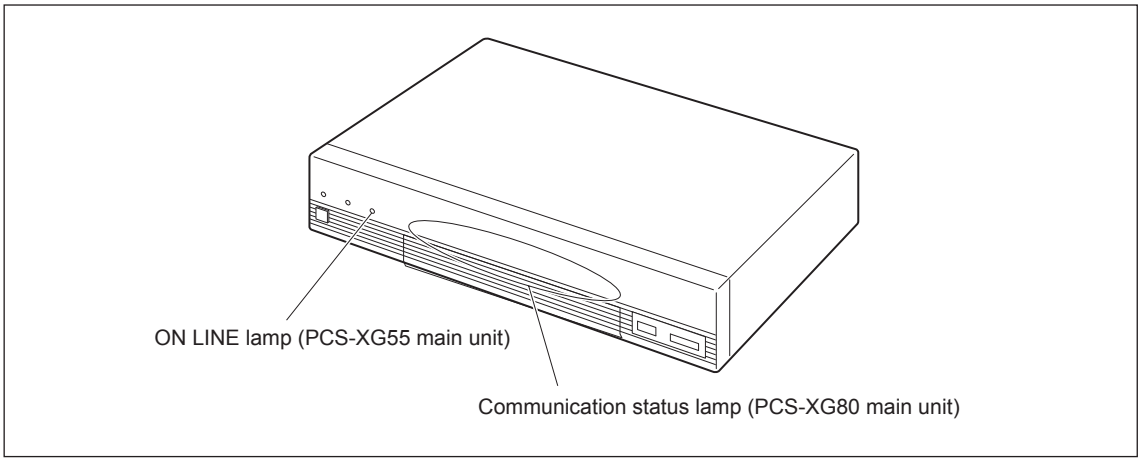
Procedure

1. Copy the UPD file to the empty Memory Stick.
2. Insert Memory Stick into the Memory Stick slot of PCS-XG Series models.
3. Select "Home" in the setting menu using the ↑/↓/←/→ buttons of the remote control, and then press “7” → “2” with the remote control.

The service menu is displayed.

4. Click the “Save/load menu” → “Load of application”.

The update of PCS-XG Series models is preformed. (Approximately 12 minutes)
The communication status lamp (PCS-XG80 main unit)/ON LINE lamp (PCS-XG55 main unit) is lit and the progress status (%) of file writing is displayed.



After the writing is completed, the system is restarted.

5. Depending on the version (new or old), the communication status lamp (PCS-XG80 main unit)/ON LINE lamp (PCS-XG55 main unit) is lit, and then the writing to the internal block and the update of peripheral equipment are performed.
6. After the update is completed, the home menu is displayed.
7. Check that the version is correct by checking “Tool” → “Machine Status” → “Local system status”.

Note

Be careful not to turn off the power during the update. If the power is turned off before the update is completed, the system may not be restarted.

3-1-4. Upgrading Using FTP (No Support)

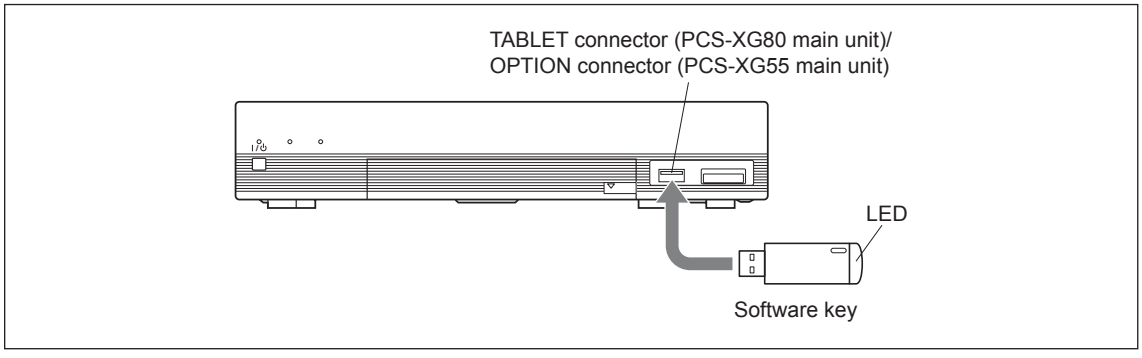
On this model, this function is not supported.

3-2. Optional Software Installation

1. Turn off the Communication Terminal and insert a software-key to TABLET (PCS-XG80 main unit)/ OPTION (PCS-XG55 main unit) connector.

   Note

   Rear connectors are not available.
2. Turn on this unit and confirm blue LED of software-key lights. Then software is automatically installed.
3. When installation is completed, the LED color changes from blue to red.
4. After this unit starts up and Home menu is displayed, you can remove the software-key.



Notes

You can easily confirm whether the software key is unused or used.
If you insert a software key to the TABLET (PCS-XG80 main unit)/OPTION (PCS-XG55 main unit) connector (or your USB port of your PC) and then blue LED of software-key lights, this software-key is not used yet. If red LED of software-key lights, it is already used and it cannot be used for installation and for memory.

Optional Software

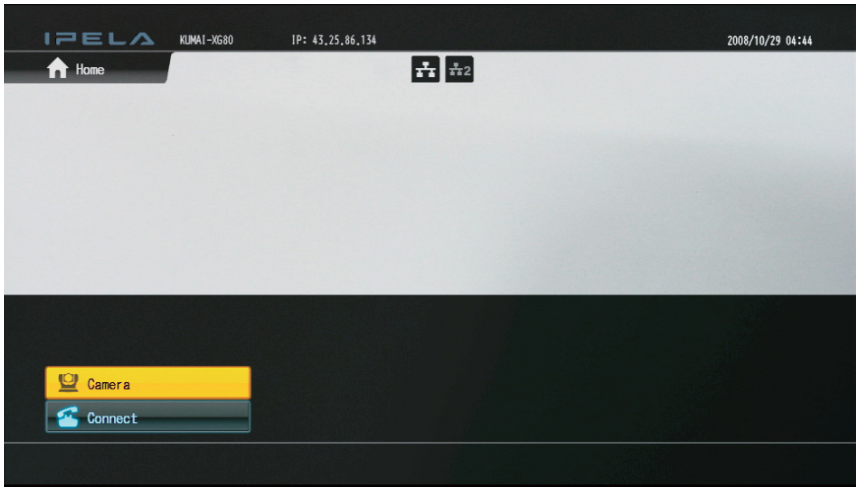
- **PCSA-DSG80: HD Data Solution Software (for H.239 video and presentation data)**
- **PCSA-MCG80: HD MCU Software (for PCS-XG80/XG80S only)**

3-3. Confirmation Procedure of Local Terminal Operation Using Self-Loop

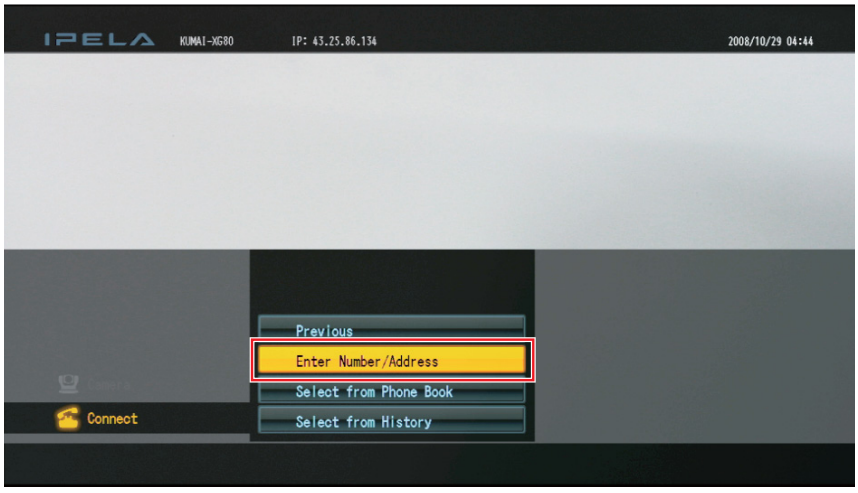
If you dial to "**" instead of inputting "IP address", you can dial yourself (self-loop). A self-loop which is the loopback in the codec of the main unit, can be used for checking the codec operation and the image without connecting to any remote party.

Operation procedure

1. Press the power switch on the Communication System to turn it on. Home menu will appear on the monitor screen.
2. Configure the setup menus as necessary.



3. Use the [↑]/[↓]/[←]/[→] button on the Remote Commander to select “Connect” in the Home menu, then press the [ENTER] button, or press the [CONNECT] button on the Remote Commander.
4. Select the number entry field using the [↑]/[↓] buttons and enter [*] (asterisk) button twice on the remote commander. Select the Bit rate and press “Connect”.



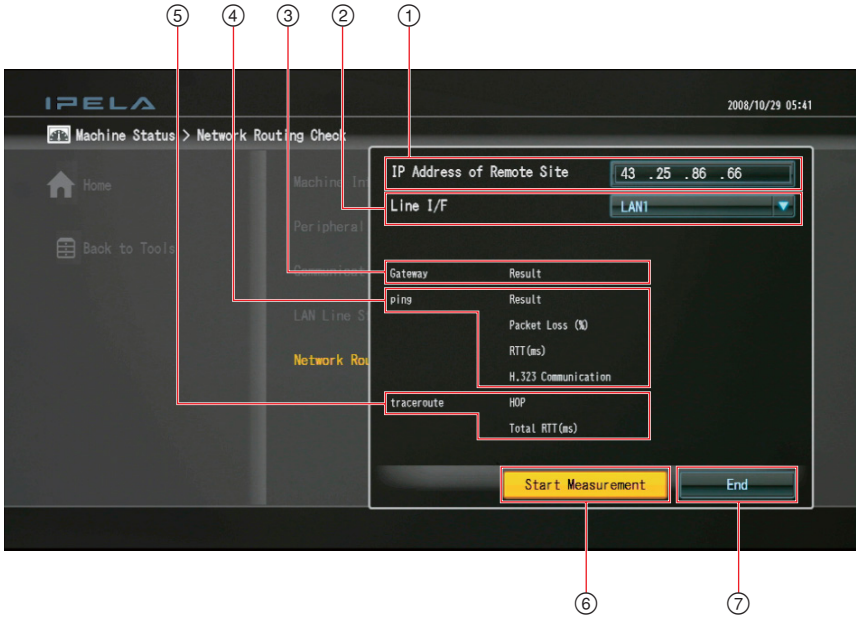
The menu disappears and the message “Dialing” appears on the monitor screen. A self-loopback is started, and the message “Session Connected” appears.
Confirm the camera picture displayed on the monitor.

3-4. Description on Status Menu

Before and during communication, we can check the communication mode status and line status.

3-4-1. Network Routing Check

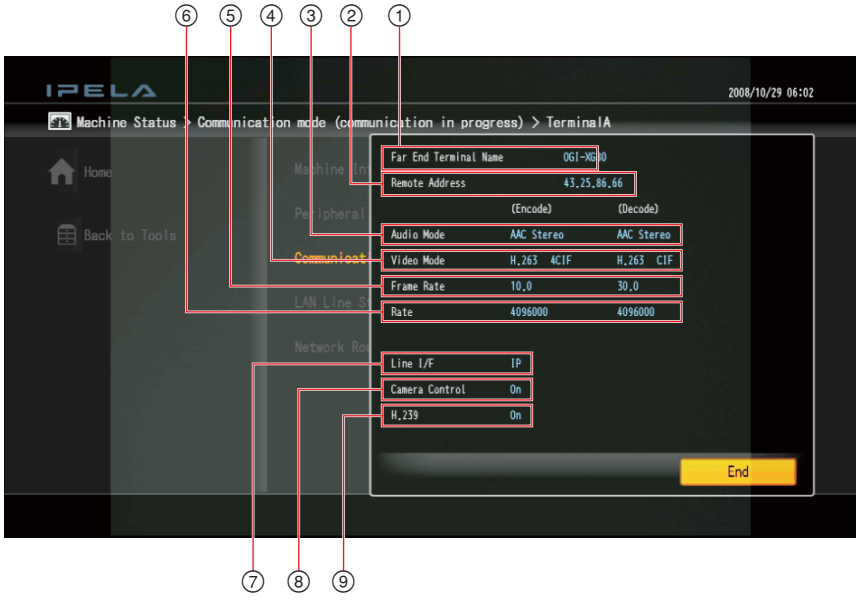
Before connecting a remote system, you can check the network routing to assure smooth connection with the system. Open the “Network Routing Check” menu of the “Machine Status” menu on the local system that performs the routing check, then set the necessary items on the menu.
Select “Start Measurement” to start the network routing check.



① IP address of remote site: Enter the IP address of the remote terminal you want to check.
② Line I/F:
LAN1: Select to perform the routing check for the network connected to the 1 connector. (PCS-XG55/XG55S: connector.)
LAN2: Select to perform the routing check for the network connected to the 2 connector. (There is not this item for PCS-XG55/XG55S.)
③ Gateway: Displays the results of check for the default gateway.
④ ping: Displays the results of check for reachability, packet loss, RTT (Round-Trip Time) and H.323 (H.323 communication availability). Packet loss (%) is calculated using the ping packet which has a 56-byte payload size and which is sent from the terminal four times. This value is displayed in 25% increments. The Round Trip Time (RTT) does not contain the audio and video delay.
⑤ traceroute: Send a traceroute command to display the results of the check for HOP (number of routers passed through to reach the remote site) and total RTT (to-and-from delay).
⑥ Start Measurement: Select this button to start a network routing check.
⑦ End: Select this button to restore a Machine Status menu.

3-4-2. Communication Mode Status

1. With regard to how to access the Machine Status, refer to Section 3-4-4.
2. Use the button on the Remote Commander to select “Communication Mode Status”, and then press the ENTER button.
   “Communication mode” menu is displayed.



The items below are shown both in the columns for “(Encode)” and “(Decode)”. The descriptions under “(Encode)” show the setting status of the local system and those under “(Decode)” show the status of the receiving.

① Far End Terminal Name: Displays the terminal name of a remote party.
② Remote Address: Displays the address of a remote party.
③ Audio Mode: Displays the current audio encoding format.
④ Video Mode: Displays the current video encoding format.

Note

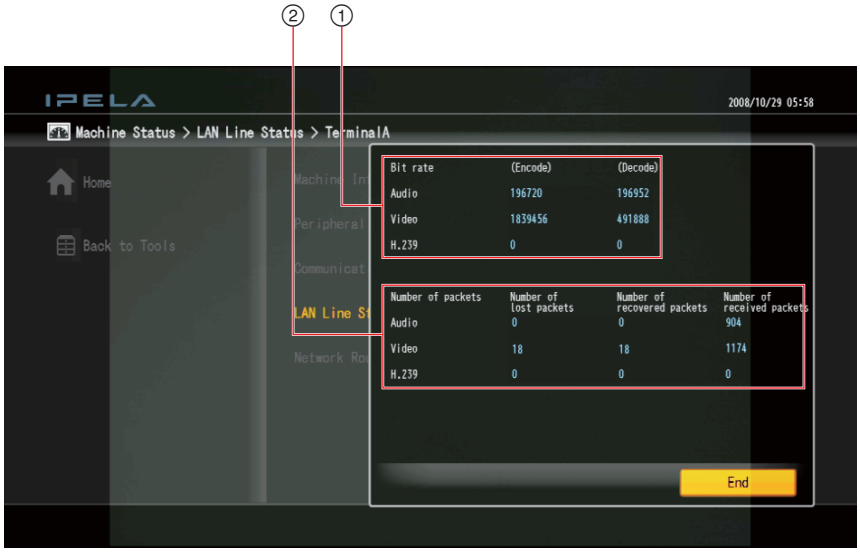
The audio encoding and video encoding formats used for communication with a remote party may differ from the settings in this menu, depending on the status of the system on the remote site.

⑤ Frame Rate: Displays the maximum frame rate of motion pictures.
⑥ Rate: Displays in real time the number of connected lines and their transfer rates.
⑦ Line I/F: Displays the line interface being used.
⑧ Camera Control: Displays whether the unit is ready to operate both cameras.
⑨ H239: Displays whether the unit is ready to use the H.239 presentation mode.

3-4-3. LAN Line Status

This shows the information of bitrate and packetloss and shows recovered packets by QoS.

1. With regard to how to access the Machine Status, refer to Section 3-4-4.
2. Use the button on the Remote Commander to select “LAN Line Status”, and then press the ENTER button.
   “LAN Line Status” is displayed.



① Bit rate (Audio/Video/H.239) :
Displays the actual audio bit rate and video bit rate and H.239 bit rate, respectively.
Note that the value of the bit rate is equal to the number of bits per second transmitted in a network and includes the IP header.

② Number of packets (Audio/Video/H.239) :
Lost/recovered/received packets are counted and displayed.

Left columns: Displays the number of lost packets.

Center columns: Displays the number of recovered packets.
(Above example shows that 18 packets are lost and all lost packets are recovered by QoS.)

Right columns: Displays the number of received packets.

Packet loss indicator Packet Loss will be displayed at every count of packet loss.

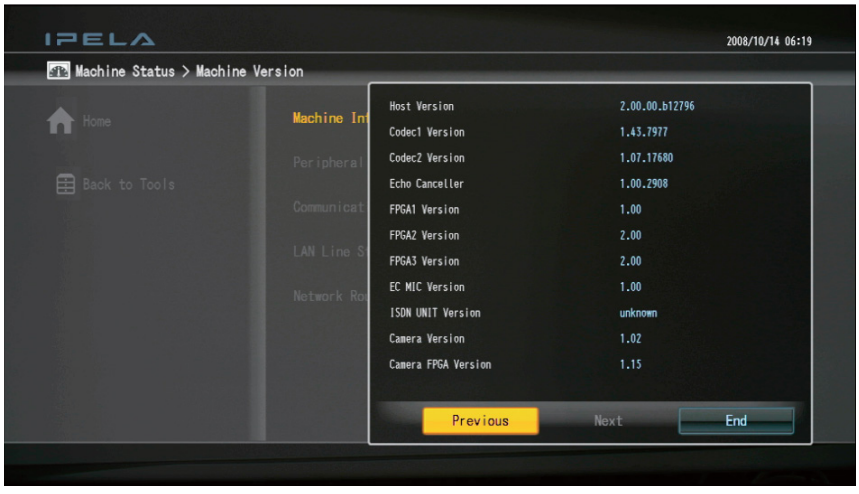
3-4-4. Machine Information

You can confirm the software version and optional software status and MAC address and IP address, etc. by Machine information.

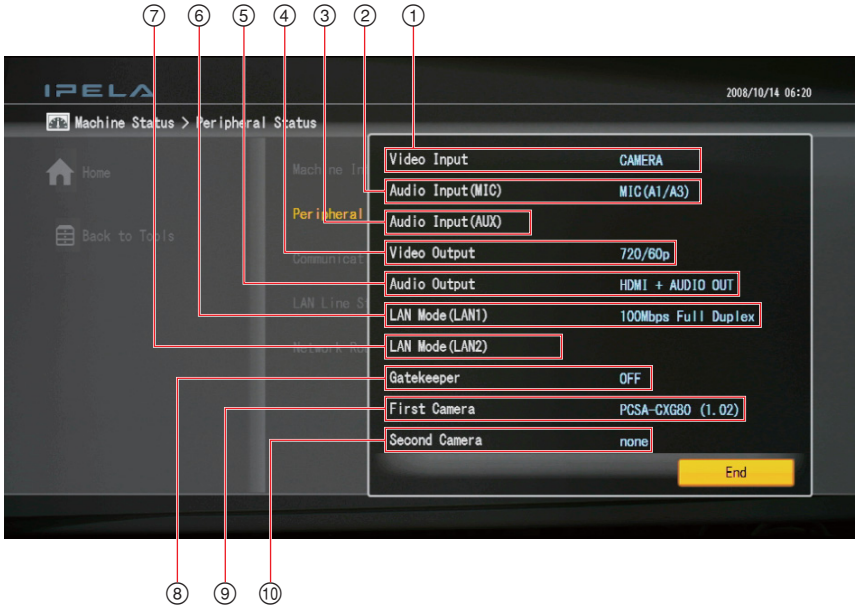
1. Press the TOOLS button on the Remote Commander. Or, select “Tools” from the home menu using the ↑/↓/←/→ button, then press the ENTER button.
2. Use the ↑/↓ button on the Remote Commander to select “Machine Status”, then press the ENTER button.
   The “Machine Status” menu appears.

3. Use the [↑]/[↓] button on the Remote Commander to select “Machine Information”, then press the [ENTER] button.
   The Machine Information menu appears.

4. Press the [Next] button, then next page appears.



3-4-5. Peripheral Status



1. Using the ↑/↑ buttons on the Remote Commander, select the “Peripheral Status”, and then press the ENTER button.
   The “Peripheral Status” menu appears.
   ① Video Input: Displays the input video name.
   ② Audio Input (MIC): Displays microphone input name.
   ③ Audio Input (AUX): Displays the external audio input name.
   ④ Video Output: Displays whether 1080i mode is used, and whether the frequency is set to 50 Hz or 60 Hz.
   That is, any of 720/60P, 720/50P, 1080/60i, or 1080/50i is displayed.
   ⑤ Audio Output: Displays the audio outputs available from this unit.
   ⑥
   PCS-XG80/XG80S
   LAN Mode (LAN1): Displays the LAN mode for LAN1.
   PCS-XG55/XG55S
   LAN Mode: Displays the LAN mode for LAN.
   ⑦
   PCS-XG80/XG80S
   LAN Mode (LAN2): Displays the LAN mode for LAN2.
   PCS-XG55/XG55S
   There is not this item.
   ⑧ Gatekeeper: Displays the status of registration to gatekeeper with the following messages;
   Gatekeeper Requested, Gatekeeper Confirmed, Gatekeeper Reject, Registration Requested, Registration Confirmed, Registration Failed, Registration Rejected, Registration Timeout, Unregistration, Requested and Unregistration Confirmed.
   ⑨ First Camera: Displays the name of the 1st camera.
   ⑩ Second Camera: Displays the name of the 2nd camera.

3-5. Description on Service Menu

Service Menu is for service use as shown below.
You can input command and load/save Phone Book and Setup and save several kinds of logs.

3-5-1. Displaying the Service Menu

1. Use the [↑]/[↓]/[←]/[→] button to select “Home” in the Setup menu, then press “7” then “2” on the Remote Commander.

2. Then Service menu appears.

3-5-2. Description on Service Menu

Command Menu

Command: Enter an executable command. When entering two or more commands, separate each with a space. Service commands are listed in the table below.

Clear Phone Book: Use to clear the phone book data which is stored in the main unit.

Clear Setup: Use to clear the setup data which is stored in the main unit.

System Reset: Use to reboot the main unit.

Clear Log: Use to clear the log file which is stored in the main unit.

Service Command	Description	Ver. 2.04 (XG80)/ 2.1 (XG55)	Ver. 2.03 (XG80)	Ver. 2.01 (XG80)	Ver. 2.00 (XG80)	Ver. 1.03 (XG80)	Ver. 1.02 (XG80)
AACLD	Removes AAC-LD transmission controls for some connections.	○	○	–	–	–	–
ALPHA*nn*	Menu translucent change (*nn* = 01 - 99, default 86) **Note** This service command has priority over standard setup from GUI.	○	○	○	○	–	–
FIX1080	Forcibly fixes the HDMI output resolution to 1080i. Use this command to check whether the HDMI monitor being used is compatible with 1080i video.	○	○	○	–	–	–
FYPBPR720	Enables 720p video input from YPbPr input connectors	○	○	○	○	–	–
HUE*n*	Camera color adjustment (*n* = 0 - 9, default 3)	○	○	○	○	○	○
IFRAME*nnn*	Enables i-Frame to be sent periodically from PCS. The interval of i-Frame transmission can be specified in *nnn* (in second, *nnn* = 20 - 240).	○	–	–	–	–	–
INCAMERA = [A] [B]	The video input to switch upon reception of an incoming call and the video input to switch upon disconnection can be specified. (∗1)	○	–	–	–	–	–
LETTER	Sends 16:9 input video in letter box format, when sending video such as CIF with a 4:3 aspect ratio.	○	○	○	–	–	–
MICMONO	Monaural processing when the input audio mode is set to “Monaural” is changed back from the latest one (additive processing) to the same as the one adopted by up to version 2.02 (averaging processing).	○	○	–	–	–	–
NOOFF	Deactivates the power button on the remote commander to prevent accidental loss of power.	○	○	–	–	–	–
NOSCALE	Returns the presentation video displayed on the HDMI output monitor to the size used for Ver. 2.0 and earlier versions.	○	○	○	–	–	–
RGBIN720	Input 720p60 signal from rear RGB connector	○	○	○	○	○	○
RGBREDUCE	Shrinks the picture from the equipment connected to the RGB IN connector so that a full screen can be displayed on the HDMI monitor when “Monitor Output” is set to HDMI.	○	–	–	–	–	–
RGBVIDEO*n*	To adjust video quality on RGB output (*n* = 1-4)	○	○	○	○	–	–
VIDEOOFF	The unit is put into the simple standby mode where only the video output is turned off.	○	○	–	–	–	–
WELSH	Welsh language (V.2 supports welsh in setup)	–	–	–	–	○	–

∗1: [A]: Specify here the video input to switch automatically upon reception of an incoming call.
C: Switch to camera
S: Switch to S-VIDEO
R: Switch to RGB
Y: Switch to YPbPr
[B]: Specify here the video input to switch automatically upon disconnection.
C: Switch to camera
S: Switch to S-VIDEO
R: Switch to RGB
Y: Switch to YPbPr
K: Do not switch input
If nothing is specified, the video input returns to the one before connection.

Save/Load Menu

Save Phone Book: Use to save the phone book data to Memory Stick.

Save Setup: Use to save the setup data to Memory Stick.

Load Phone Book: Use to load the phone book data in Memory Stick

Load Setup: Use to load the setup data which is stored in Memory Stick to the main unit.

Load Application: Use to load the application file which is stored in Memory Stick to the main unit.

Save System Log: Use to save the system log to Memory Stick.

Save Operation Log: Use to save the operation log to Memory Stick.

Note

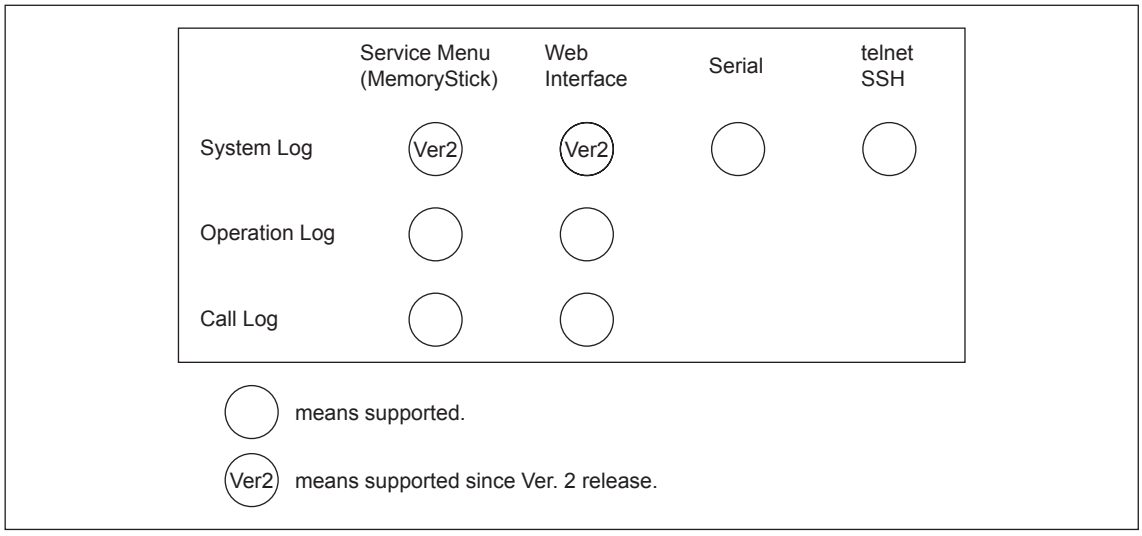
Operation log is a record of operation made by remote commander, external command, and cgi command (Web interface).

Save Call Log: Use to save the call log to Memory Stick.

3-6. How to Take Logs

3-6-1. Supported Logs

PCS-XG Series models supports several kind of logs.
Operation Log is newly supported in the PCS-XG80/XG80S.
The relation between supported log and the way of taking log is shown below.



3-6-2. System Log

The system log is obtained via the Service Menu, web interface, serial port, or telnet/SSH.

Obtaining the System Log via the Service Menu
Insert the Memory Stick on which the system log is stored into the Memory Stick slot on the front panel of the Communication System. Refer to “3-5. Description on Service Menu” and then open the Service Menu. Using “Save System Log” of “Save/Load” in the Service Menu, you can save /MSSONY/PRO/TVCONF/DEBUG/PCS_DEV.txt to the Memory Stick as the system log (max. 50 MB).

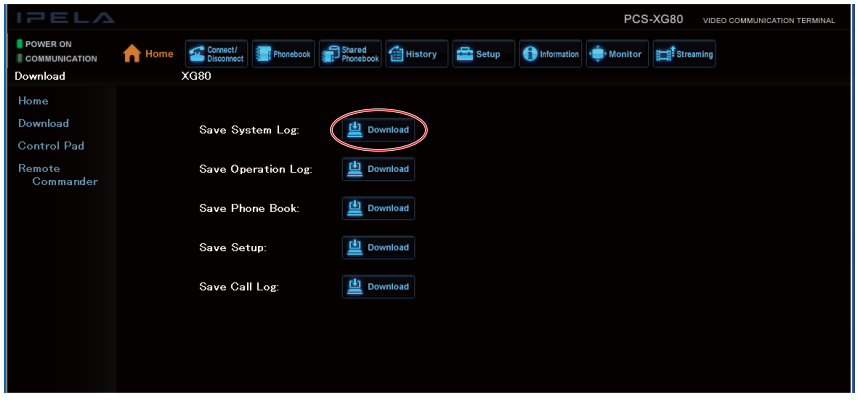
An example System Log is shown below.

System log

```
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:util  :enter main loop
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:vin[0]:VGA System
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:vin[0]:Init parameters
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:      TS:0x550f
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:      FrameCount0 0
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:      FrameRate 300 Index 1
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:vin[0]:requestFormat:15,Capture Foramt7,capture
Mode 3
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:z_vcap_m[0]:VCAP_Mode change 0->3
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:z_vcap_m[0]:Video Driver initialized.0x80ab7c60
2008-06-02 12:08:38:526|info |1078.1078|codecif   |BA:z_vcap_m[0]:Video Driver IntCb initialized.
```

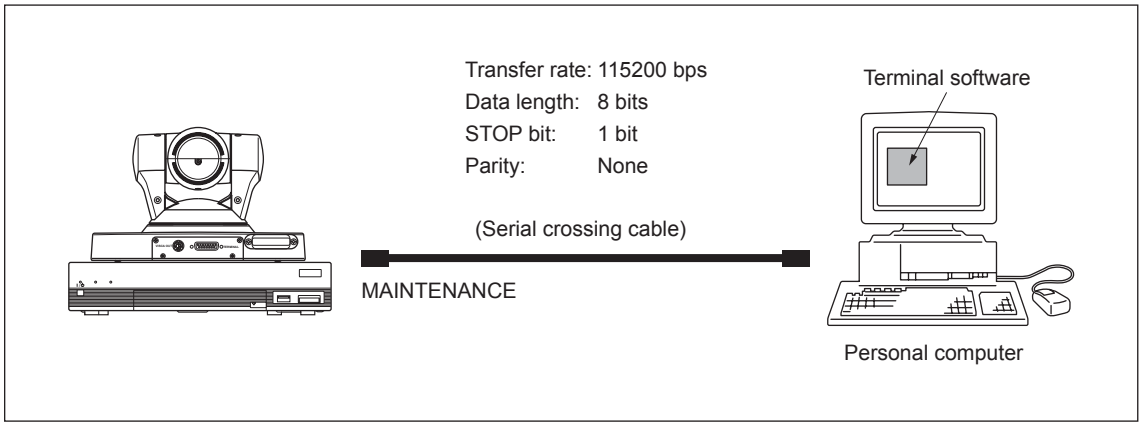
Getting the System Log via the Web Interface

Before starting the web interface, refer to steps 2 and 3 in “3-1-1. Firmware Update by Using WEB Control”, or refer to the operating instructions supplied with the PCS-XG Series models.
Open the web page and then select “Download” in the left column. Then, click “Download” to the right of “Save System Log”. Download of the system log starts.



Getting the System Log via the Serial Port

Use the MAINTENANCE connector (RS-232C, D-sub 9-pin) on the front panel of the main unit. (The AUX CONTROL connector on the rear panel of the main unit cannot be used for taking a system log.)
For details on the communication configuration settings for the software terminal (Hyper Terminal, for example) on a PC which is connected to the MAINTENANCE connector on the main unit by a serial crossover cable, refer to the figure below.
During operation, the system log is displayed on the software terminal connected through the serial crossing cable.



Note

When obtaining the system log using the terminal software and a serial crossing cable, the entire system log may not be collected.

Getting the system log via telnet/SSH

To get the system log by telnet/SSH, input “pcslog” as the login name and password.
The system log that is collected during operation will be displayed.

3-6-3. Operation Log

Operation log is a record of operation made by remote commander, external command, and cgi command (Web interface).
The example of Operation Log is as shown below.

Operation log

```
2008-06-02 12:43:55.802|info |1095.1095|remocon      |@OP@ remkey[0x3A]
2008-06-02 12:43:55.971|info |1086.1086|ms_checker   |@OP@ MS Insert
2008-06-02 12:43:56.087|info |1095.1095|remocon      |@OP@ remkey[0x90]
2008-06-02 12:43:56.504|info |1095.1095|remocon      |@OP@ remkey[0x77]
2008-06-02 12:43:56.739|info |1095.1095|remocon      |@OP@ remkey[0x90]
2008-06-02 12:43:56.783|info |1095.1095|remocon      |@OP@ remkey[0x77]
2008-06-02 12:43:57.011|info |1095.1095|remocon      |@OP@ remkey[0x90]
2008-06-02 12:43:57.315|info |1095.1095|remocon      |@OP@ remkey[0x6E]
2008-06-02 12:43:59.790|info |1095.1095|remocon      |@OP@ remkey[0x7B]
```

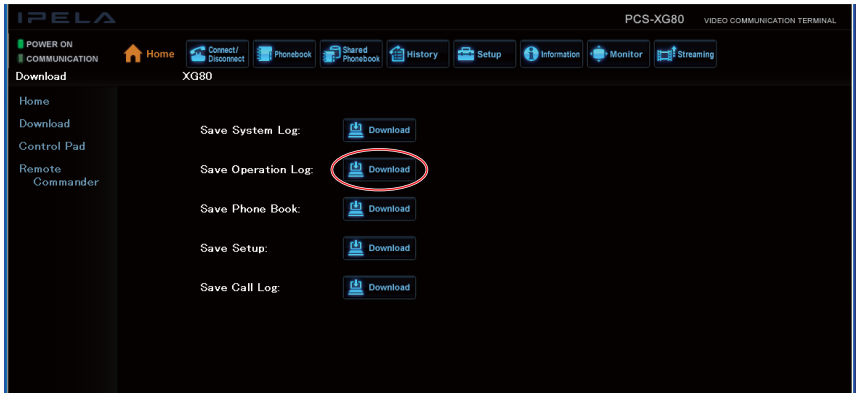
An operation log is got via the Service Menu or the web interface.

Getting the Operation Log via the Service Menu

Insert the Memory Stick on which the operation log is stored into the Memory Stick slot on the front panel of the main unit. Then, start the Service Menu. Before starting the Service Menu, refer to “3-5. Description on Service Menu”. Using “Save Operation Log” of “Save/Load” in the Service Menu, /MSSONY/PRO/TVCONF/DEBUG/PCS_OP.txt is saved to the Memory Stick as the operation log.

Getting the Operation Log via the Web Interface

Before starting up the web interface, refer to steps 2 and 3 in “3-1-1. Firmware Update by Using WEB Control”, or refer to the operating instructions supplied with the PCS-XG Series models.
Open the web page and then select “Download” in the left column. Then, click “Download” to the right of “Save Operation Log”. Download of the operation log starts.



3-6-4. Call Log

Call log is the same format as current model as shown below.
The example of Call Log is as shown below.

```
Call Log
start_date_str      end_date_str       duration    inccal_mode    mcu_mode  addr_name  number
06-02-2008 09:56:09 6-02-2008 10:14:01 10          DIALOUT(GUI)   P-P       11A        192.168.03
```

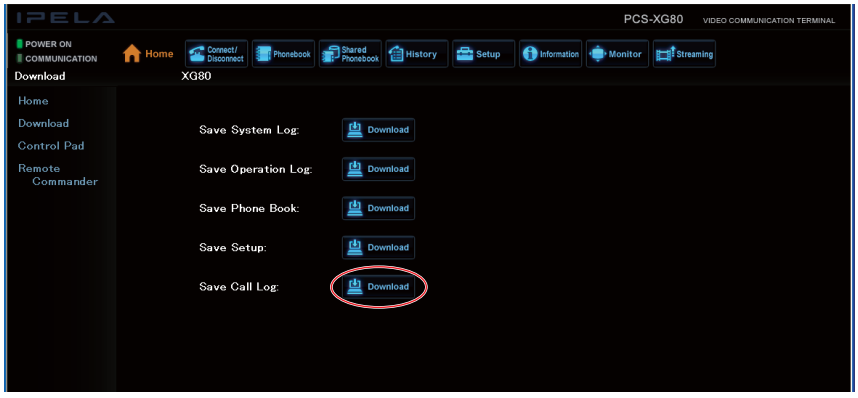
The call log is got via the Service Menu or the web interface.

Getting the Call Log via the Service Menu

Insert the Memory Stick on which the call log is stored into the Memory Stick slot on the front panel of the main unit. Then, start the Service Menu. Before starting the Service Menu, refer to “3-5. Description on Service Menu”. Using “Save Call Log” of “Save/Load” in the Service Menu, /MSSONY/PRO/TV-CONF/DEBUG/PCS_CLOG.csv is saved to the Memory Stick as the call log.

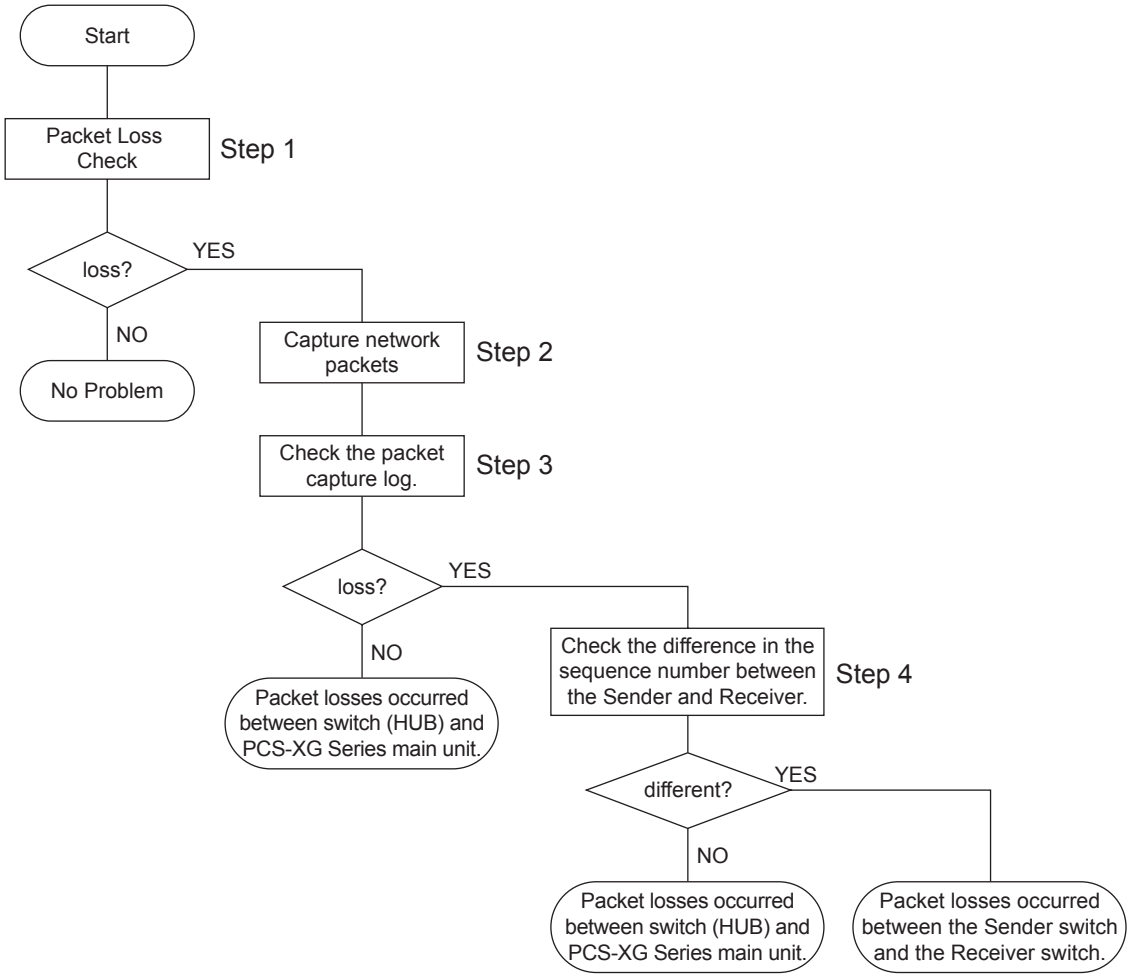
Getting the System Log via the Web Interface

Before starting the web interface, refer to steps 2 and 3 in “3-1-1. Firmware Update by Using WEB Control”, or refer to the operating instructions supplied with the PCS-XG Series models.
Open the web page and then select “Download” in the left column. Then, click “Download” to the right of “Save Call Log”. Download of the call log starts.



3-7. Network Trouble Check

3-7-1. Test Procedure



3-7-2. Description of Each Test

Step 1: Checking for lost packets

Check whether packet loss has occurred by referring to the PCS-XG Series models log.
The procedure and an explanation of how to read the log are given below.
If packet loss is detected in the line having the string “OPLOG” of the log, go to Step 2.
When no packets have been lost, this indicates that there is no problem in the network or PCS-XG Series main unit.

Procedures:

1. PCS-XG Series models LAN Setup menu setting
   Make the “QoS1” and “QoS2” setting in the Setup Menu, as shown below.
   Forward Error Correction (FEC): Off
   Packet Resend Request (ARQ): On
   Adaptive Rate Control (ARC): Off
   Auto Bandwidth Detection: Off
2. Get a system log. (Refer to 3-6.)
3. Save the log for at least one minute, using the recording function provided by Hyper Terminal or other terminal software.
   Note
   The “pkt:disorder/loss/rcvr/rcv:” line is displayed per minute.
4. After the recording of log is completed, open the saved log and search for the “pkt:disorder/loss/rcvr/rcv:” line using a text editor, etc.

How to read the log:

Focus on the “pkt:disorder/loss/rcvr/rcv:” lines:
“loss” indicates the packet loss count before QoS recovery
“rcv” shows the packet count after QoS recovery.
An example log is shown below.
This log indicates that all 1162 packets from the 1162 packet losses are recovered by ARQ retransmission.

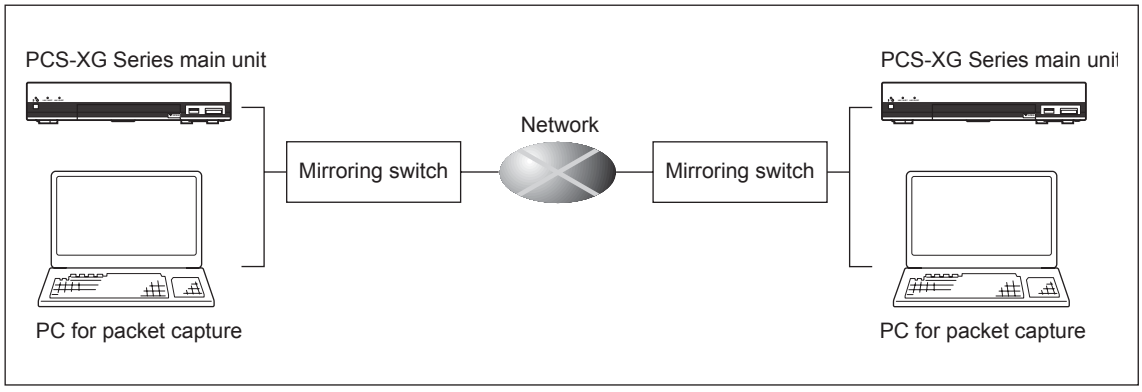
```
2010-01-28 17:40:30.336 | info   | 1056.1056 | confctrl
     | OP_DRCV   RECV_OPLOG[V][1]: pkt:disorder/loss/rcvr/
     rcv:1070/1162/1162/23991 frame:loss/rcv:   0/3596
```

Step 2: Capturing Network Packets

Capture network packets by using packet capturing software that helps you to determine where the packet losses occur. The checking procedure is described in Step 3 and the subsequent steps.

Preparations:

Connect a mirroring switch between the PCS-XG Series main unit and the network switch, and then connect a PC for packet capture to the monitor port of the mirroring switch.
(Refer to the manual supplied with the mirroring switch for details on the mirroring method.)



Procedures

1. Install capture software (e.g. Ethereal, Wireshark) on PC for packet capture.
   Wireshark Download Site: http://www.wireshark.org/
2. Connect the LAN cable from the PC to the mirror port.
3. Capture the network packets by using the capture software to get a packet capture log.

Step 3: Checking the packet capture log

Determine whether packet loss has occurred by checking the sequence number in the capture log.
If missing sequence numbers are detected in the sender or receiver log, go to Step 4.
If there are no missing sequence numbers, it can be assumed that the packet loss occurs between the switch and the PCS-XG Series main unit, or that the packet loss problem has been solved by inserting the Mirroring Switch. In this case, repeat Step 1. If the symptom of packet loss is not revealed in the line having the string “OPLOG”, it indicates that the “Ethernet duplex mismatch problem” has been solved as a result of the Mirroring Switch being inserted.
(In this case, check the duplex setting of the network switch that is connected to the Mirroring Switch.)

Step 4: Checking for differences in the sequence numbers

Confirm whether there are any packets that exist on the sender side but which are lost on the receiver side. This can be checked by comparing the sender-side log with the receiver-side log. If there are any differences between the two logs, then it can be deduced that the packet loss occurs in the network. If there is no difference between the logs, it indicates that the packet loss is being caused by a PCS-XG Series main unit internal problem or an “Ethernet duplex mismatch problem” between the PCS-XG Series main unit and the switch.

For example, in Fig. 3, the packet whose sequence number is “26120” is lost in the receiver-side log although it is not lost in the sender-side log. (The sender sends packet “26120” twice according to ARQ retransmission, but the receiver receives “26120” only once because of the packet loss).

The fact that the packet exists in the sender-side log implies that the packet loss occurred in the network, not in the PCS-XG Series main unit. (Specifically, it should be considered that packet loss occurs between the switch on the sender side and that on the receiver side)

In this case, it is reasonable to assume that the cause of the packet loss is an “Ethernet duplex mismatch problem”. (Packet loss did not occur between the PCS-XG Series main unit and the switch, since the packet appears in the sender-side log.)

Sender Side

Receiver Side

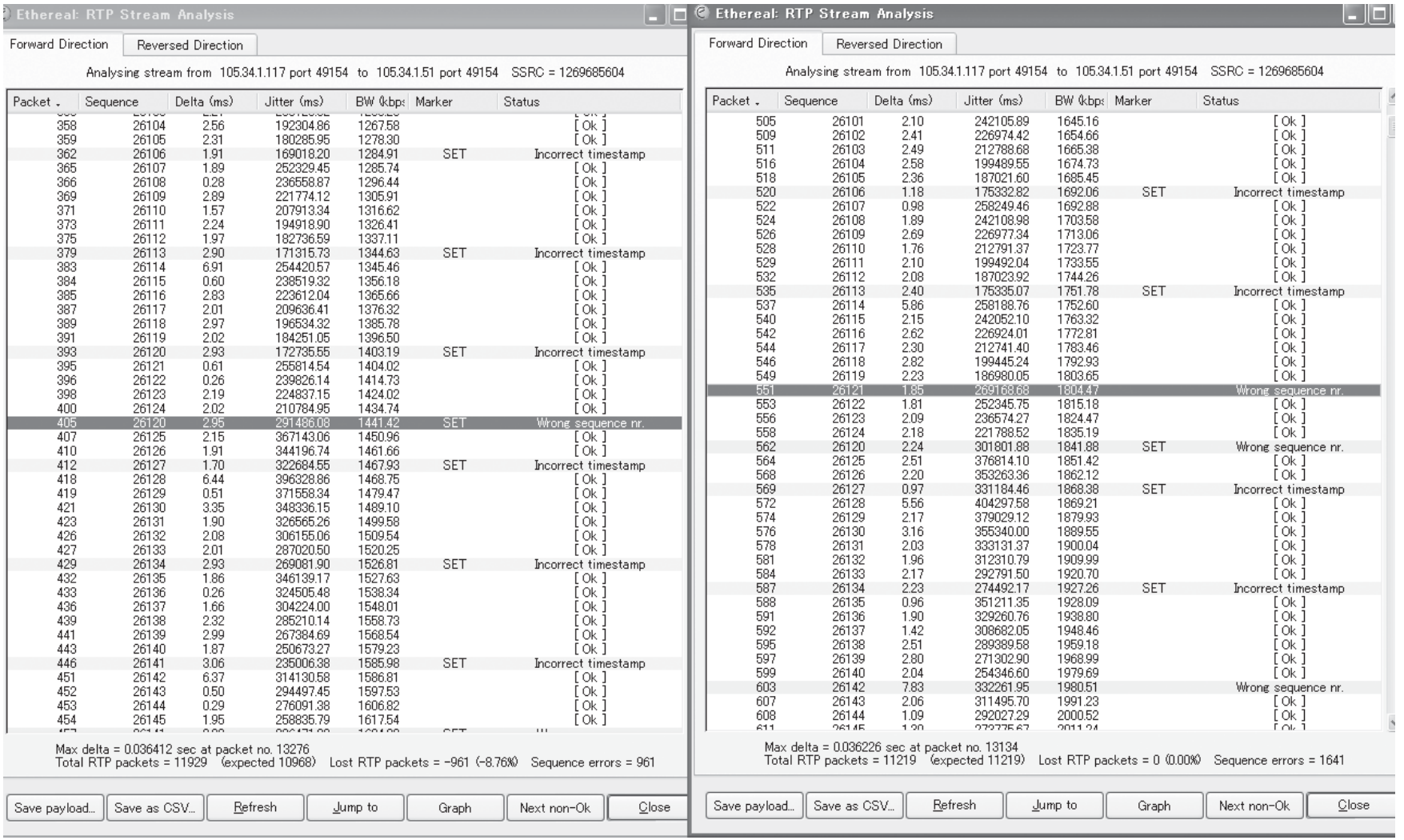
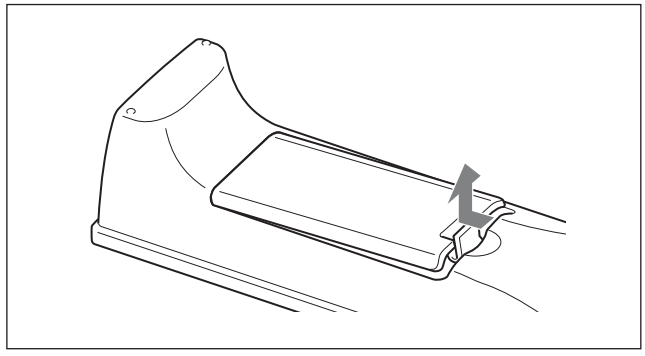


Fig.3 Comparing sender-side log with receiver-side log

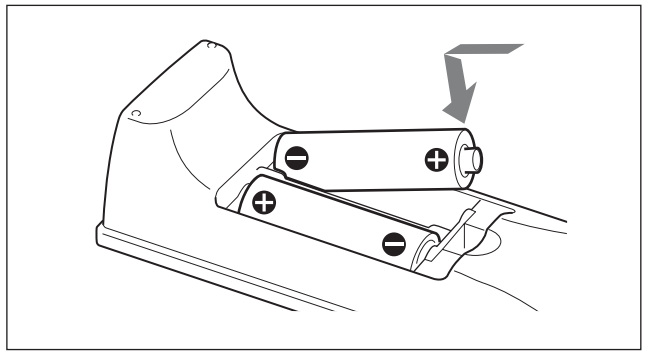
3-8. Replacing the Batteries

Most of the operations with the PCS-XG Series models can be controlled with the supplied Remote Commander.
When the batteries are exhausted, the LED indicator does not light if you press any button and the Remote Commander does not function properly. Replace both batteries with new ones.

1. Remove the battery compartment cover.
2. Remove the old battery.



3. Insert two size AA (R6) batteries with correct polarities into the battery compartment.
4. Attach the cover.



Notes

- Be sure to insert the batteries − side first. Inserting them forcibly + side first may damage the insulated film covering the batteries and cause a short circuit.
- Once pairing is established between the units, it will not be erased even if the batteries are replaced.