

Panasonic

BUSINESS

HD Visual Communications System

KX-VC2000
KX-VC1600
KX-VC1300
KX-VC1000



Trademarks and registered trademarks

- Microsoft, and Windows are registered trademarks of Microsoft Corporation in the U.S. and other countries.
- Wi-Fi is a registered trademark of Wi-Fi Alliance®.
- Windows is a registered trademark of Microsoft Corporation in the United States and other countries.
- Intel and Intel Core are trademarks of Intel Corporation in the United States and other countries.
- Google, Googleplay, and Android are trademarks or registered trademarks of Google Inc.
- HDMI, the HDMI logo, and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- Bluetooth® is a registered trademark of Bluetooth SIG, Inc. in the United States.
- iOS is an OS name of Apple Inc.
- iOS is a registered trademark or trademark of Cisco Systems, Inc. or an affiliated company in the United States and other countries.
- Polycom® is a trademark of Polycom, Inc. in the United States and other countries.
- This product (or technology) is subject to the Foreign Exchange and Foreign Trade Act. When exporting (or providing technology for) this product, please follow the necessary procedures for export approval based on the Foreign Exchange and Foreign Trade Act.

Licences

- This product incorporates G.722.1 and G.722.1 Annex C licensed by Polycom®.

Important

- Safety Precaution: carefully read the operating instructions and installation manual before using this product.

- All Display pictures are simulated.
- Weights and dimensions are approximate.
- Specifications are subject to change without notice.
- These products may be subject to export control regulations.

DISTRIBUTED BY :

Panasonic®

HD Visual Communications System: <http://panasonic.net/psn/products/hdvc/index.html>

Printed in Japan MG-HDCC021EN 1610NSP/SSP----1



*This image shows the KX-VC2000

Connects multiple sites to allow for flexible, stress-free videoconferences for all participants.

The new HD Visual Communications (HDVC*) System connects to multiple sites for videoconferences with minimum initial costs. You can also use a mobile device to take part in a videoconference from a location away from your company. The HDVC System realises effective visual communication without restrictions on time or place. It flexibly responds to a wide range of communication needs in various fields, such as education, manufacturing, healthcare, finance and sales.

* HD Visual Communications System is abbreviated as HDVC hereafter.

KX-VC2000 NEW

(Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.)



Max.
24
Sites
Model^{*1}

Multicast^{*1}

Dual Network

Multi Device

Triple Monitor

Profile Registration

Wideband Stereo Full Duplex Audio

Full-HD 1080/60p

AV-QoS

Camera Control

Rec Terminal^{*3}

KX-VC1600

(Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.)



Max.
10
Sites
Model^{*1}

Multicast^{*1}

Dual Network

Multi Device

Triple Monitor

Profile Registration

Wideband Stereo Full Duplex Audio

Full-HD 1080/60p

AV-QoS

Camera Control

Rec Terminal^{*3}

KX-VC1300

(Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.)



Max.
4
Sites
Model

Multicast^{*1}

Multi Device

Dual Monitor

Profile Registration

Wideband Stereo Full Duplex Audio

Full-HD 1080/60p

AV-QoS

Camera Control

KX-VC1000 NEW

(Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.)



Point to Point
Model^{*2}

Multicast^{*1}

Multi Device

Dual Monitor^{*1}

Profile Registration

Wideband Stereo Full Duplex Audio

Full-HD 1080/60p

AV-QoS

Camera Control

*1 An activation key must be purchased. (Refer to "Activation key" on page 15.)
*2 Activation Key (sold separately, see page 15) expands the function to enable 4-site connection.
*3 The HDMI3 terminal can be used for a display or recording device.

Connection to Multiple Sites

The HDVC System can connect up to 24 sites without any optional equipment. It can connect via intranet or Internet, thus enabling multi-site videoconferencing with a client or with people in distant locations via mobile devices.

* Connection of up to 24 sites is supported only by the KX-VC2000. The indicated number of connection sites includes the home location.
* An activation key must be purchased.

Clear Communication

The HDVC System incorporates Panasonic's high-quality image and sound technologies cultivated in the development of various AV products over the years. The system conveys facial expressions and nuances of voices to facilitate discussions and remote lectures.

Easy to Use

The Triple Monitor function displays a PC document and the images of distant sites and the home location on three monitors. The sub camera function displays fine details in a close-up view. Various convenient functions help to make communication smooth and accurate.

* The function to display on three monitors is supported by the KX-VC2000 / KX-VC1600. The KX-VC1300 / KX-VC1000 can display images on two monitors.



Connection to Multiple Sites

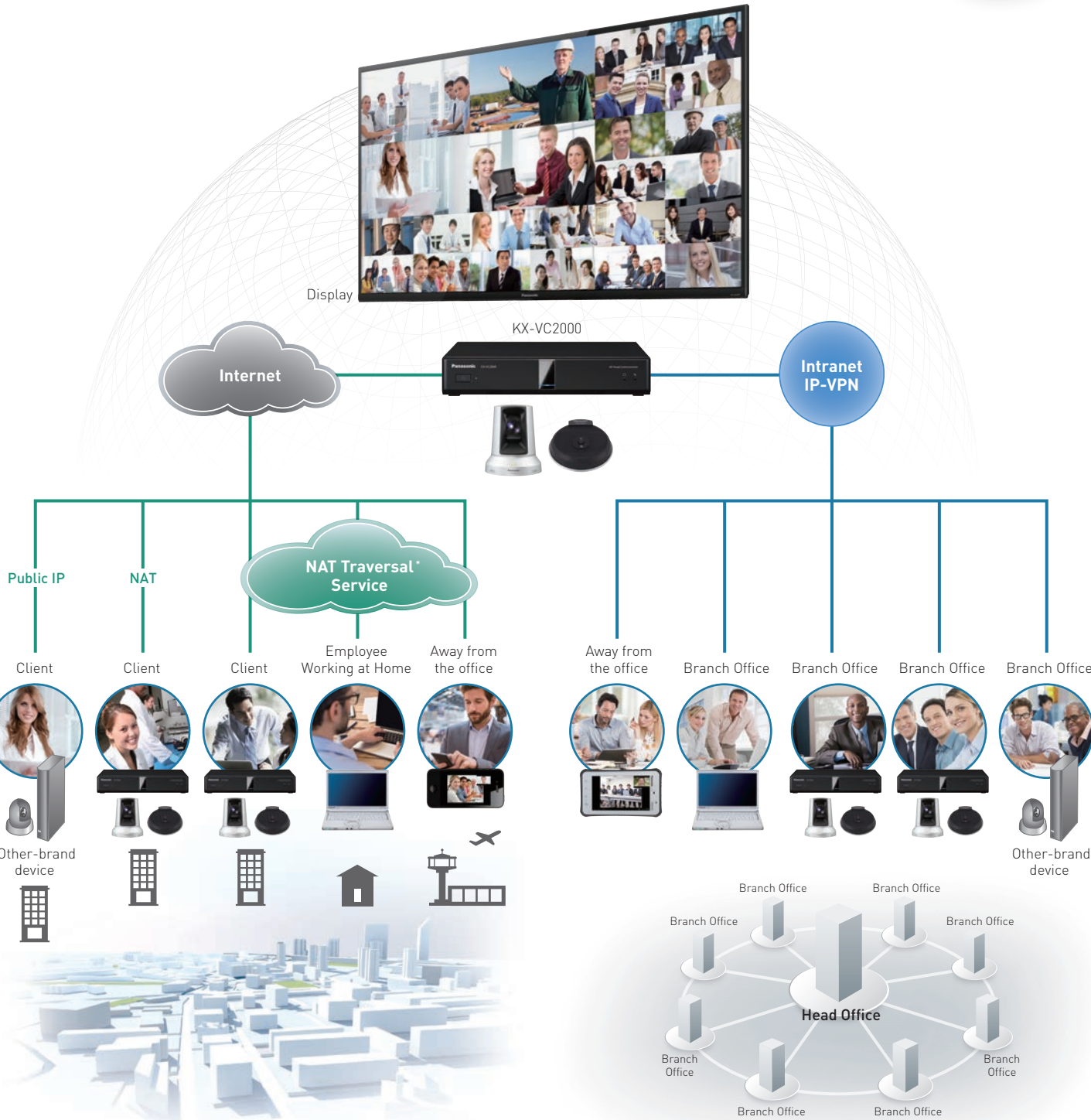
24-Site Connection (Supported only by the KX-VC2000)

Multi-site videoconference with people at up to 24 locations*1

The HDVC System lets you hold a multi-site videoconference with people at up to 24 sites*1 without requiring the purchase of expensive MCUs (Multi-point Connection Units). When combined with Panasonic's NAT Traversal Service or HD Visual Communication Mobile application, which enables the use of mobile devices for participating in a videoconference, you can have effective visual communication without restrictions on time or place.

*1 An activation key must be purchased. (Refer to "Activation Key" on page 15.)

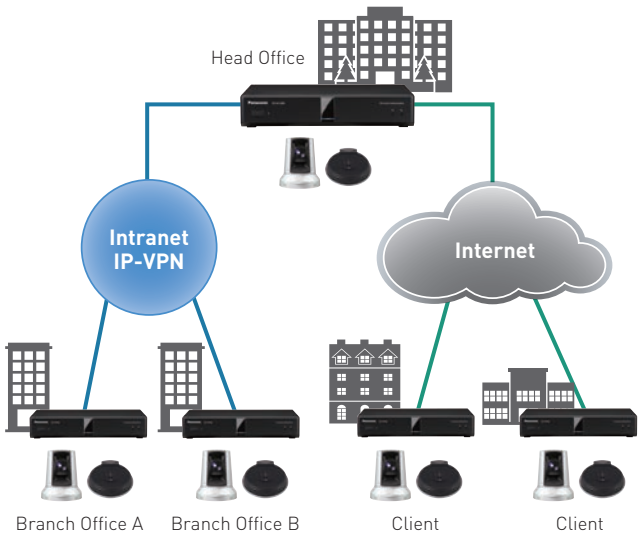
Max.
24
Sites*1



Dual Network (Supported by the KX-VC2000 / KX-VC1600)

Connection to offices and clients

The HDVC System can connect via intranet/VPN and Internet simultaneously, making it easy to configure a videoconference system connected to sites inside and outside your company. The HDVC System can be used to hold videoconferences with clients without requiring network equipment.



* HDVC System connection service

Multi Device

Participation in videoconferences using mobile devices

You can join a videoconference from a location outside of the office, while you are on the go, or from your home using a Windows/iOS/Android™ mobile device. The HDVC System provides effective visual communication without restrictions on time or place.



How to get HDVC Mobile

HDVC Mobile is required for participating in a videoconference using an iOS/Android™ mobile device or Windows PC. HDVC Mobile can be downloaded from the following URL.

http://panasonic.net/psn/products/hdvc/product/mobile_android/index.html

* An Activation Key is required to use the software. For details, see page 15.

Optimum screen layout

The HDVC System comes with a function that lets you choose a screen layout from a variety of options. For instance, you can select a screen layout to show all participating sites or to display the site with a high voice level in a large window (CP 1 in the layouts shown on the right.). The most suitable screen layout can be selected according to the type of videoconference held. The screen layout changes automatically according to the number of connection sites. Or you can choose from CP1, CP2, CP4, CP6, CP8, CP9, CP10, CP13, CP15, CP16, CP20, CP21, CP24, CP25, or CP28.

• For Discussion mode, designated sites can be displayed at the preset screen positions.

Layout Example



Other screen layout functions

- Display of a selected site (home location, distant location) at the upper left corner (Priority 1 position) [Site Selection]
- Display of the master location at Priority 1 position and display of the site with the highest sound level at Priority 2 position [Voice Activated Changeover 2]

Clear Communication

Full-HD 1080/60p

Conveys even facial expressions and gestures

The HDVC System delivers high-resolution Full-HD 1080/60p images. Displayed images are as clear as Full-HD Display images and allow for effective visual communication. The HDVC System shows even small changes in facial expressions for high-quality communication. HD images can be displayed with a bandwidth of 256 kbps or higher.*1 *2

*1 A device setting change is required. * 2 The frame rate depends on the network environment.



SD



Full-HD

Even changes in facial expressions can be seen clearly, and gestures, actions and quick motions appear smoothly.

High-image-quality 1080/60p HD Communication Camera

When combined with the GP-VD151/GP-VD131, the HD Communication Camera delivers smooth, high-resolution 1080/60p Full-HD images.



GP-VD151 (Sold Separately)

HDMI cable sold separately

- Full-HD
- 12x Optical zoom/10x digital zoom
- Pan range: $\pm 100^\circ$ /tilt range: $\pm 30^\circ$
- Can be controlled from the remote control of HDVC System



GP-VD131 (Sold Separately)

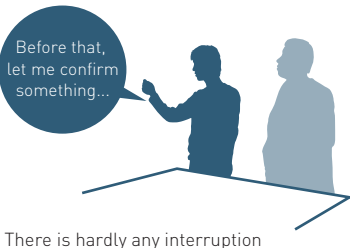
HDMI cable sold separately

- Full-HD
- 3x Optical zoom/4x digital zoom
- Pan range: $\pm 100^\circ$ /tilt range: $\pm 20^\circ$
- Can be controlled from the remote control of HDVC System

Wideband Stereo Full Duplex Audio

Easy to hear even when two people talk simultaneously

Full-duplex audio in wideband stereo allows high-quality sound to fill the room with clarity. A unique Echo Canceller prevents echoes and howling, and there are hardly any delays or interruptions even when two people speak at the same time. You can enjoy smooth, natural conversations as if you were all in the same room.



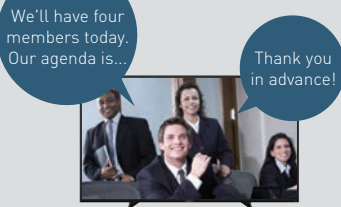
There is hardly any interruption even when two people speak at the same time or when conversations overlap.

High-quality Boundary Omnidirectional Microphone (Supported by the KX-VC2000 / KX-VC1600 / KX-VC1300)

The HDVC System has four compact built-in microphones. A direction recognition function reflects the direction and position of the speaker's voice to the listener's side speakers.



Boundary Omnidirectional Microphone KX-VCA001 (Sold Separately)



You can hear the voices of the speakers right from their positions.

AV-QoS

Stress-free conference

Packet losses for the HDVC System and HDVC Mobile are prevented by the rate control (AV-QoS), and lost packets are restored by the combined use of the forward error correction and automatic repeat request control. Even if the bandwidth decreases after communication starts, clear communication is maintained according to the communication line condition. Up to 256 kbps of images and sounds can be transmitted per site. Connection without disrupting the image or interrupting the sound is possible even with a low bandwidth.

AV-QoS is also supported for mobile devices.



Comparison of communication quality with congested network connection



Without AV-QoS

Frequent image disruptions

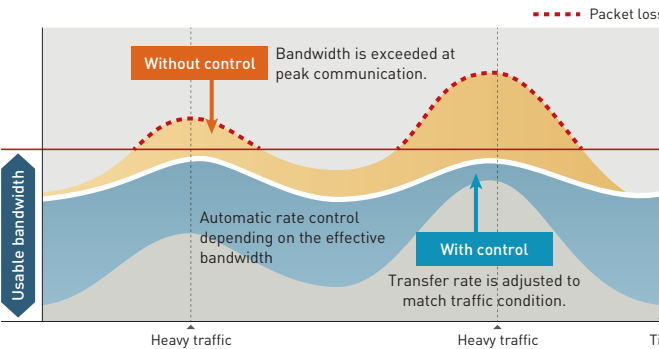


With AV-QoS

Minimum image disruptions

Rate Control

The rate control accurately estimates the congestion of the network and controls the amount of data to be transferred to prevent packet losses. It suppresses image disruptions and audio interruptions even when using an Internet connection whose available bandwidth fluctuates depending on network traffic.

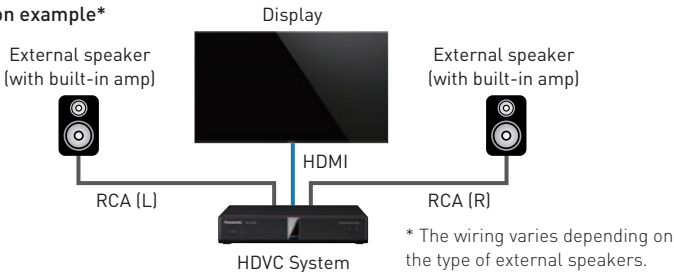


To be used appropriate sound quality

The other party's voice might be difficult to hear depending on the room conditions, built-in speaker of Display. In order to utilize videoconference with good sound, it is recommended to use external speakers.

For details, please contact your dealer.

Connection example*



* The wiring varies depending on the type of external speakers.

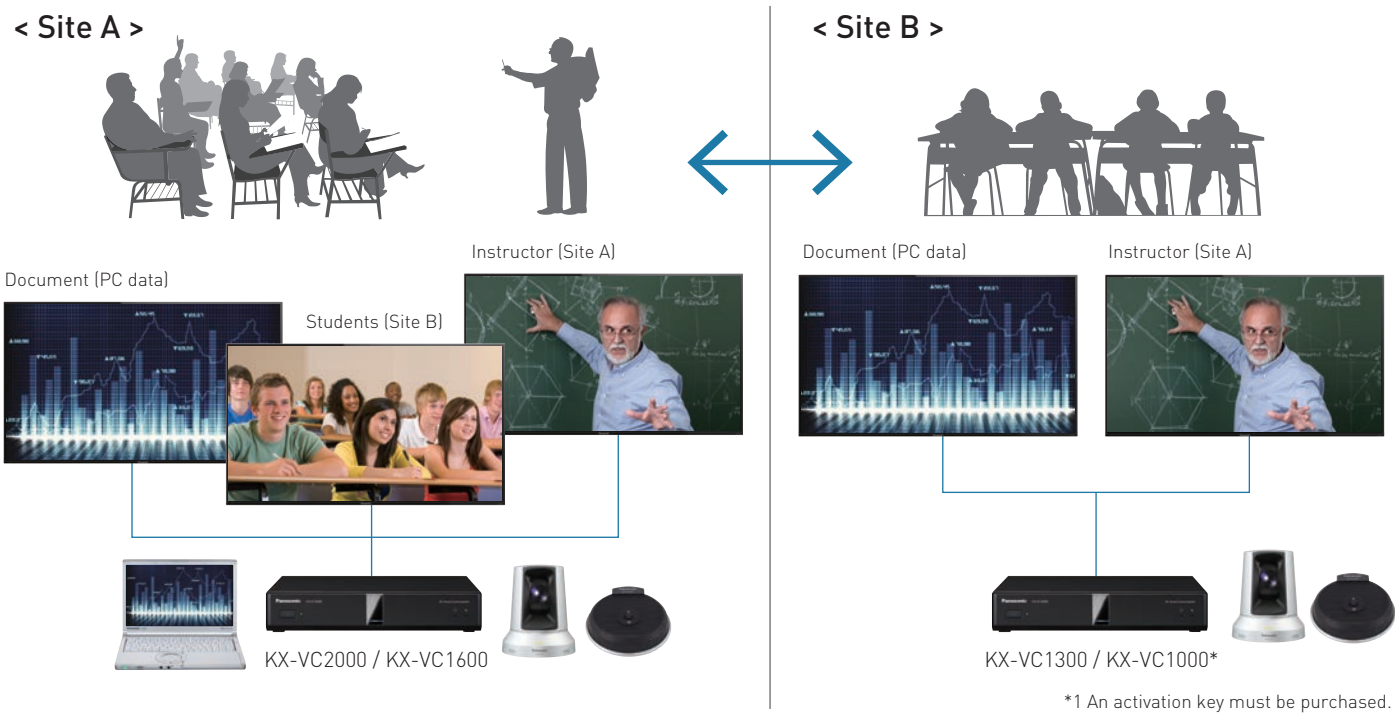
Easy to use

Triple Monitor (Supported by the KX-VC2000 / KX-VC1600)

Accurate communication of information

The HDVC System supports H.239/BFCP dual streaming to simultaneously transmit the home location image and a PC document image and to simultaneously receive the image of a distant site and a PC document image. The KX-VC2000 / KX-VC1600 features a Triple Monitor function*, which can display a PC document, the image of a distant site and the image of the home location separately on three monitors. Display of a PC document on a large screen facilitates understanding and provides effective visual communication.

* The KX-VC1300 / KX-VC1000 supports Dual Monitor. For KX-VC1000, an Activation Key is necessary to use 2 monitors. (Refer to "Activation Key" on page 15.)

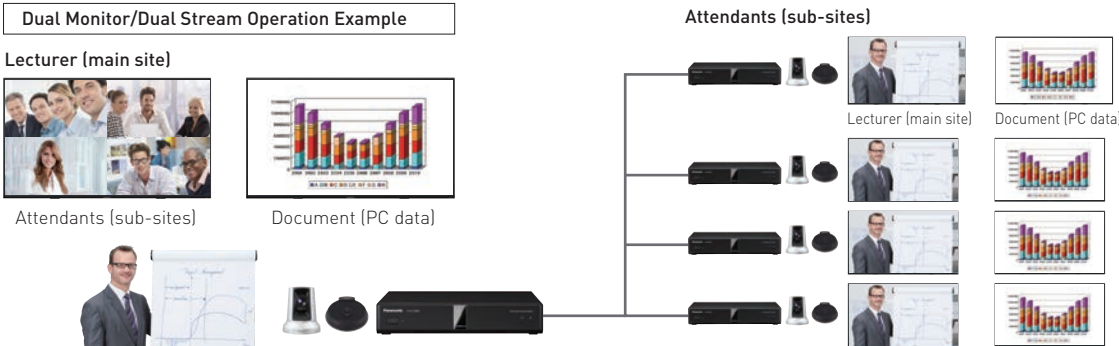


Easy-to-understand remote lectures and seminars are conducted at multiple sites

The lecturer can proceed with the lecture while watching the conditions of the people attending at multiple sites, and the attendants can display reference materials and the image of the lecturer on separate screens. The easy-to-see screens make it easier to understand the content of the lecture.

■ Presentation Mode

This mode is suited to lectures where the main site displays composite images of the sub-sites, and the sub-sites display only the main site image.



Camera Control

Intuitive operation

The remote control of the HDVC System lets you control the pan, tilt and zoom operations of dedicated cameras mounted at the home location and a distant site. A PC and sub camera can be easily switched with a single press of the button. The remote control features a user-friendly button layout just like that on a TV remote control, thus allowing intuitive operation.

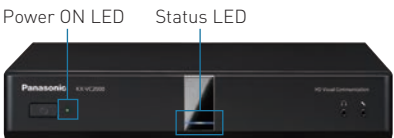


External control of Power ON/OFF

The main unit of the HDVC System can be turned ON/OFF from the remote control and also from the external device connected to the serial interface.

* When power is supplied to the main unit of the HDVC System from the AC adaptor, the system enters standby status.
* The HDVC System can be turned ON/OFF using the Power switch on the main unit or on the remote control.

Power ON/OFF and Status Indicators

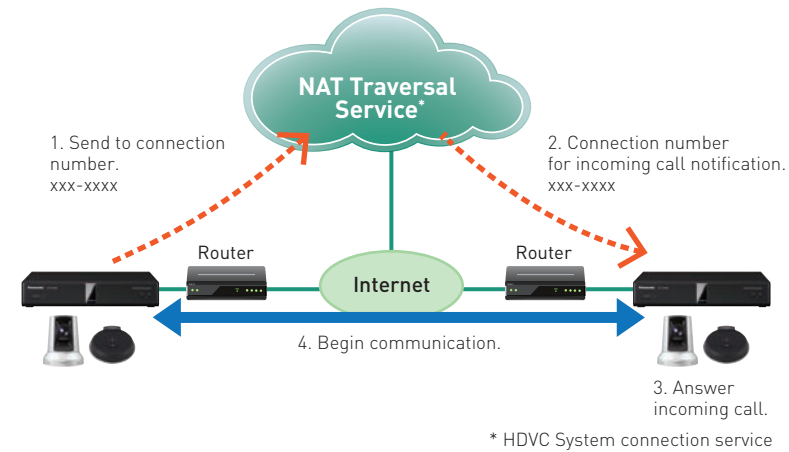


Status	Power ON LED	Status LED	Operation
Power supplied from AC adaptor	Red light	Light OFF	—
Power ON - Startup	Green flashing light → Green light ON	Blue flashing light	Press and hold the Power button on main unit/remote control.
Communicating	Green light	Blue light	—
Screen standby	Green light	Light OFF	Press once the Power button on remote control.
Shutting down	Green flashing light	Light OFF	Press and hold the Power button on main unit/remote control.

* If the main power switch has turned off due to a power outage or by manual operation (example, disconnection of extension cord), the HDVC System starts up in the previous status (Ready or Stand-by) next time power is supplied.

NAT Traversal Service

NAT Traversal Service is a network service offered exclusively for use by the HDVC System. It can be used to hold a videoconference between your company and other sites over the Internet. It enables easy establishment of a communication environment without complex router settings, and uses Internet for economical operation.



■ Advantages of NAT Traversal Service

1. Avoiding attacks over the network

NAT Traversal Service can be operated without Dynamic Global IP address. Security is improved by prohibiting unauthorized incoming call and DoS (Denial of Service) attacks.

3. Easy operation and management

Since complex network settings are not required, the HDVC System can be operated and managed without a dedicated personnel.* Connection is as easy as entering a 7-digit number just like dialing a phone number.

* When installing a router approved by Panasonic and entering the settings approved by Panasonic.

2. Connection from a location outside the company such as a business trip destination

By using the Internet instead of VPN, connection both inside the office and with outside customer sites has become easier.

4. Excellent cost-performance

Use of Internet means no initial investment for the construction of a VPN. Furthermore, there is no need to obtain a fixed global IP address, so the running costs can be reduced significantly.

- Use a router that suits usage conditions. For details, consult with your dealer.
- Contracts for an Internet (an optical line is recommended) and an Internet service provider are also required.
- Usage restrictions on the communication data amount and the bandwidth may apply depending on the service provider.
- Please do not connect multiple HD Visual Communications Systems to a single router.
- Connection between the HD Visual Communications System and Android™ terminals is a 1:1 connection. Android™ terminals cannot be connected to each other.
- The communication bandwidth for the Android™ terminal may be limited by the packet amount. For details, please contact your Internet service provider.
- The packet amount for the Android™ terminal may increase due to the sending and receiving of motion images. This should be considered when concluding the communications contract with your Internet service provider.
- HDVC Mobile cannot be used with 3G devices because the bandwidth is likely to be insufficient.
- A bandwidth that supports 384 Kbps or more is required to use HDVC Mobile for sending and receiving images and sound (for QVGA video and G.722 monaural audio).
- A separate earphone is required to use HDVC Mobile with the ELUGA Series. A headset is required for use with the TOUCHPAD JT-B1 Series.
- The paid activation key cannot be returned for a refund once it has been used.
- Legal regulations prevent the supply of this service to China.
- For the latest information, please check the NAT Traversal Service website.
- HDVC Mobile devices cannot be directly connected to each other. However, they can be connected via HDVC-MPCS.
- To use HDVC-MPCS to the NAT Traversal Service, the NAT Traversal Service must be registered.
- A bandwidth of 256 Kbps or higher is required for sending and receiving images and sound with HDVC Mobile (video: QVGA Android/iW432p [iWindows], audio: G.722 for monaural).
- To ensure security in the event that you lose a smartphone or tablet, be sure to set the Screen Lock function.

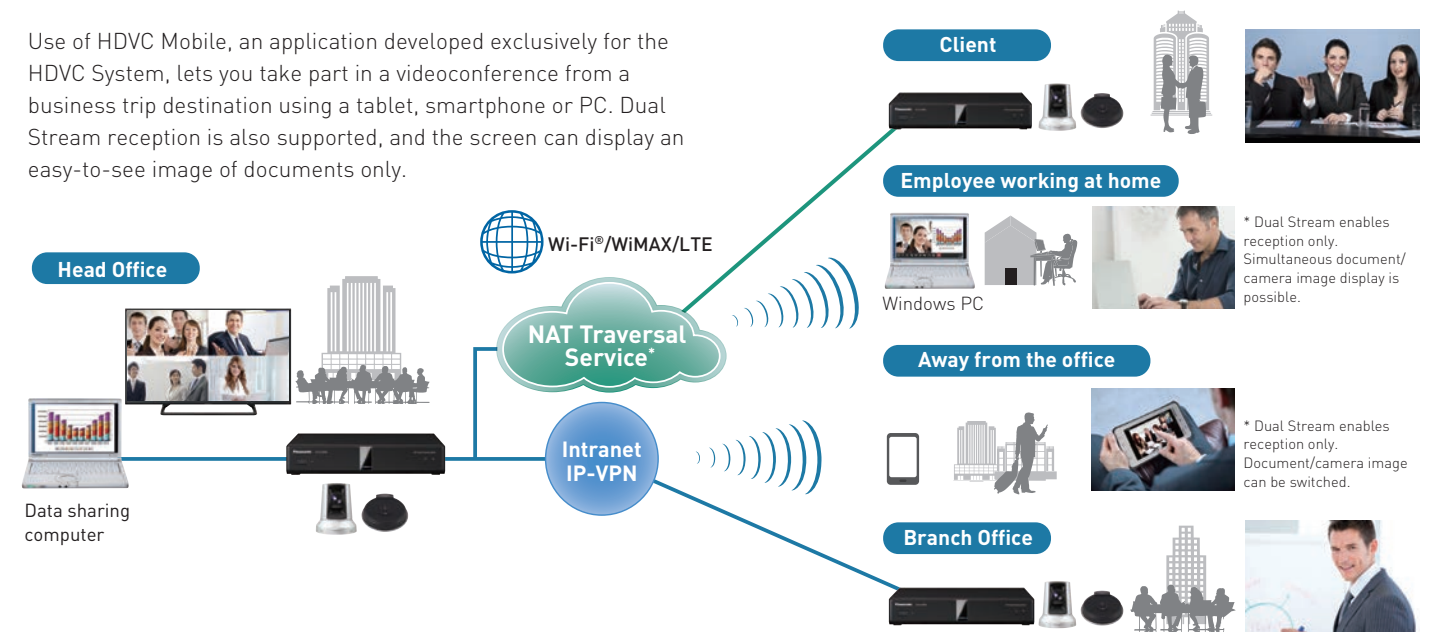
NAT Traversal Service Area

Japan, Asia, China, Middle East, Africa, North America, Europe

- The NAT Traversal Service is a global service, but some restrictions exist due to network and router conditions. Customers using an HD Visual Communications System that is compatible with the NAT Traversal Service may try the service free of charge.

HD Visual Communication Mobile*

Use of HDVC Mobile, an application developed exclusively for the HDVC System, lets you take part in a videoconference from a business trip destination using a tablet, smartphone or PC. Dual Stream reception is also supported, and the screen can display an easy-to-see image of documents only.



Easy mobile connection

If you set a "Mobile Connection Expansion" Activation Key in the HDVC System, you can connect the desired number of mobile devices simultaneously without having to purchase an Activation Key for each mobile device. (Maximum of 23 devices for the KX-VC2000, 9 devices for the KX-VC1600, 3 devices for the KX-VC1300 and 1 device for the KX-VC1000.) If you are connecting a small number of devices, you can set an Activation Key in each mobile device.

- "HDVC Mobile" must be installed in the mobile devices being used.
- Standard mode can be used. When using the NAT Traversal Service, an iOS/AndroidTM or Windows "Mobile Activation Key" is required.
- The HDVC System requires software Version 4.2, and the device requires Version 3.1 or higher.

■ **Device** (As of October 2016)

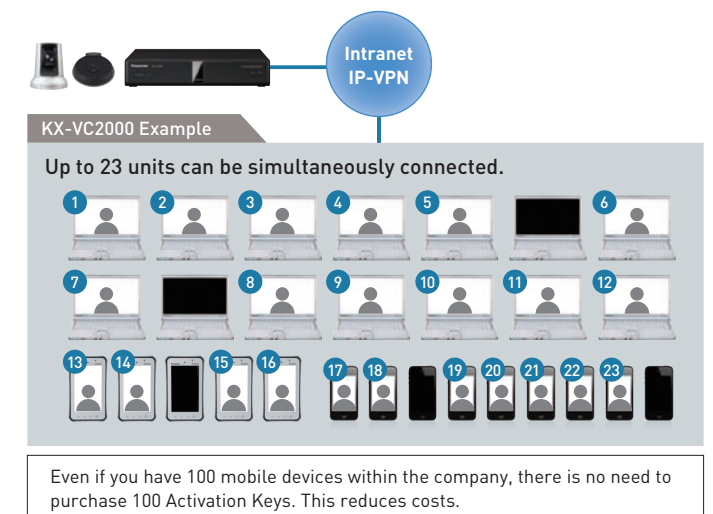
HDVC Mobile for Windows

CPU		CPU:Core i5 [4 threads] or faster. Memory:2GB or over
OS*1		Windows 7 / Windows 8 / Windows 8.1 / Windows 10
Display Resolution		1366 x 768 or over
Peripherat devices	Camera*2	Logicool [Logitech]:C920t Logicool [Logitech]:BCC950 ConferenceCam Microsoft:LifeCam Studio / Cinema PC built-in camera
	Headset*3	Logicool:USB Headset H340, ELECOM:HS-EP02USV
	Speaker / Microphone	Panasonic:KX-NT700N, NTT-AT:R-TALK 800PC, YAMAHA:PJP-20UR, Web camera microphone

*1 Windows 8:Modern UI is not supported. Windows 10:Tablet mode is not supported.

*2 720p supported *3 USB type

- For communication using a provider service, the communication speed may be limited by the packet amount. For details, please contact your provider.
- For communications using a provider service, the packet transmission amount may increase due to sending motion images. Be sure to check the contract with your provider.
- Communication may not be possible, or the quality may drop due to the provider's network specifications. Try a free, trial 3-month Activation Key in advance.
- The 3G bandwidth may be insufficient for HDVC Mobile, making it unusable.
- HDVC Mobile communication may not be possible due to the device features. Communication may also not be possible due to tethering.
- Use of HDVC Mobile requires a bandwidth of 256 kbps or higher [video: QVGA (Android™)/W432p (Windows), audio: G.722 monaural] for the transmission/reception of video and audio data.



HDVC Mobile for iOS

CPU	Apple A5 or over
OS	iOS 7.0 - 10.1, iPhone, iPad, iPad mini are available. iPod touch is unavailable.

HDVC Mobile for Android

CPU	Cortex-A9 or over NEON supported
OS	Android 4.0 - 5.1
Peripheral devices	SAMSUNG:Galaxy S6 SC-05G, Galaxy S6 Edge SC-02G

Please check the HDVC Mobile website for the latest information.
http://panasonic.net/psn/products/hdvc/product/mobile_android/index.html

■ Service Details and Specifications

How to Use the Service

- A free trial Activation Key is included with the system. By using this key to register, you can use the service for three months.
- To use HDVC-MPCS with NAT Traversal Service, please purchase an Activation Key.
- In order to continue using the NAT Traversal Service after the trial period ends, you must purchase a paid activation key to extend the connection function expiration date. For details, please consult your nearest dealer.

NAT Traversal Service

Tested Routers	<p>(US) Cisco Linksys E1000, E4200 / NETGEAR N300, N750 (Europe) Cisco Linksys E1000, E4200 / NETGEAR N300, N750 / LANCOM 1711VPN (Japan) YAMAHA RTX1200, RTX1100, NVR500, RTX3500, RTX1210 (Canada / Latin America / Oceania / Asia)</p> <p>Please select one of the routers designated for use in the US, Europe and Japan.</p> <p>* You may not be able to connect depending on your router settings. Please check with your nearest dealer. For other routers, please check the NAT Traversal Service website. http://panasonic.net/psn/products/hdvc/nat/index.html</p>
Applicable Models	KX-VC2000, KX-VC1600, KX-VC1300, KX-VC1000, HDVC-MPCS

Product Line-up

KX-VC2000 NEW

[Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.]



- 24-Site*1 Connection
- Multicast*1
- Dual Network
- Multi Device
- Triple Monitor
- Profile Registration
- Wideband Stereo Full Duplex Audio
- Full-HD 1080/60p
- AV-QoS
- Camera Control
- Rec Terminal

*1 An activation key must be purchased. [Refer to "Activation Key" on page 15.]

KX-VC1600

[Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.]



- 10-Site*1 Connection
- Multicast*1
- Dual Network
- Multi Device
- Triple Monitor
- Profile Registration
- Wideband Stereo Full Duplex Audio
- Full-HD 1080/60p
- AV-QoS
- Camera Control
- Rec Terminal

*1 An activation key must be purchased. [Refer to "Activation Key" on page 15.]

KX-VC1300

[Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.]



- 4-Site Connection
- Multicast*1
- Multi Device
- Dual Monitor
- Profile Registration
- Wideband Stereo Full Duplex Audio
- Full-HD 1080/60p
- AV-QoS
- Camera Control

*1 An activation key must be purchased. [Refer to "Activation Key" on page 15.]

KX-VC1000 NEW

[Remote control included. HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.]

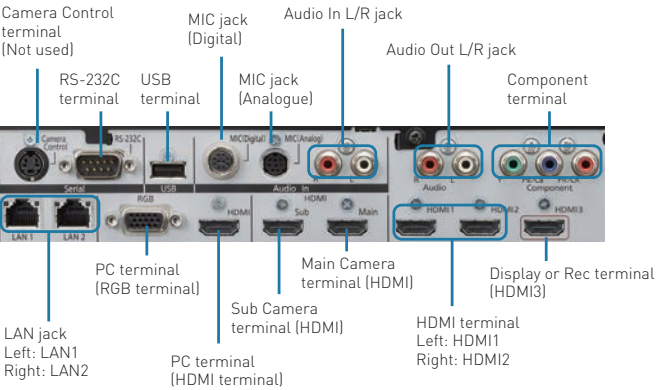


- Point to Point*2 Connection
- Multicast*1
- Multi Device
- Dual Monitor*1
- Profile Registration
- Wideband Stereo Full Duplex Audio
- Full-HD 1080/60p
- AV-QoS
- Camera Control

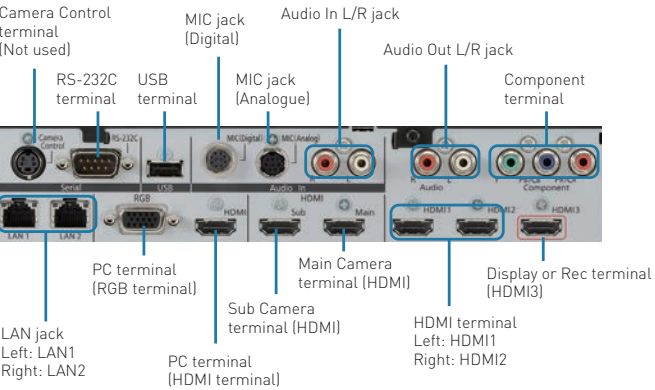
*1 An activation key must be purchased. [Refer to "Activation key" on page 15.]

*2 An activation key (sold separately, see page 15) expands the function to enable 4-site connection.

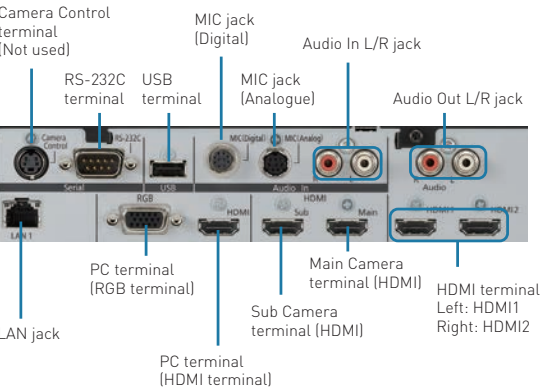
[Rear Panel View]



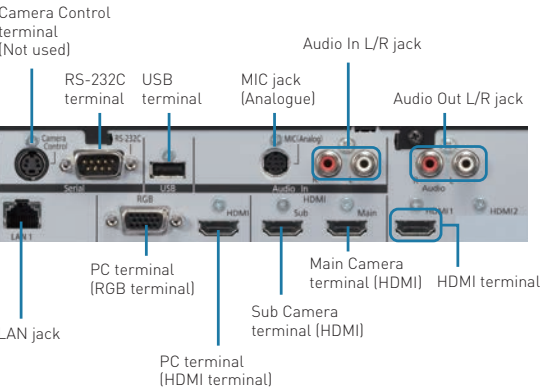
[Rear Panel View]



[Rear Panel View]



[Rear Panel View]



Function Comparison List

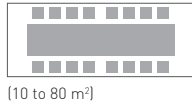
	Maximum Conference Sites	Image Resolution	Monitor	Other-brand Device Connection*1	MCU Interoperability*2	Computer Connection	Boundary Omnidirectional Microphone [KX-VCA001]	Boundary Omnidirectional Microphone [KX-VCA002]
KV-VC2000	16*3	Full HD 1080/60p	3	Yes	Yes	Yes	Yes [1-4 unit]	Yes [1 unit]
KX-VC1600	6*4	Full HD 1080/60p	3	Yes	Yes	Yes	Yes [1-4 unit]	Yes [1 unit]
KX-VC1300	4	Full HD 1080/60p	2	Yes	Yes	Yes	Yes [1-4 unit]	Yes [1 unit]
KV-VC1000	Point to Point*5	Full HD 1080/60p	2*6	Yes	Yes	Yes	No	Yes [1 unit]

*1 Please ask your nearest dealer about other-brand devices that can be connected.
*2 Please ask your nearest dealer about MCUs that can be connected.
*3 The optional Activation Key lets you expand the KX-VC2000's maximum conference sites to up to 24 locations. [Refer to "Activation Key" on page 15.]
*4 The optional Activation Key lets you expand the KX-VC1600's maximum conference sites to up to 10 locations. [Refer to "Activation Key" on page 15.]
*5 The optional Activation Key expands the function to enable 4-site connection. [Refer to "Activation Key" on page 15.]
*6 An activation key must be purchased. [Refer to "Activation Key" on page 15.]

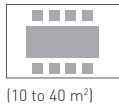
Options

HD Communication Camera

GP-VD151 Full-HD
(HDMI cable sold separately)
• 12x Optical zoom/10x digital zoom
• Pan/tilt function
* An optional wireless remote control (AW-RM50G) is required to make detailed settings.



GP-VD131 Full-HD
(HDMI cable sold separately)
• 3x Optical zoom/4x digital zoom
• Pan/tilt function



Boundary Omnidirectional Microphone

KX-VCA001
(Cable approx. 8.5 m) included
• A high-grade microphone with a direction recognition function that detects the direction of the speaker's voice



KX-VCA002
(Cable approx. 7 m) included
• A compact, economical and high-grade stereo microphone



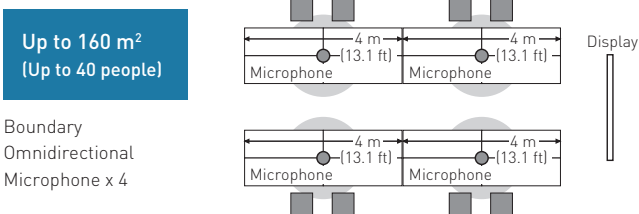
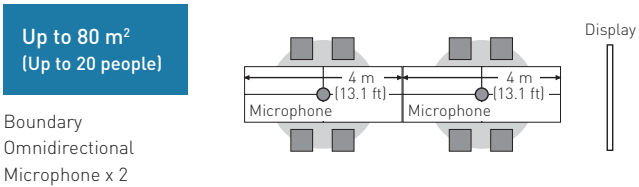
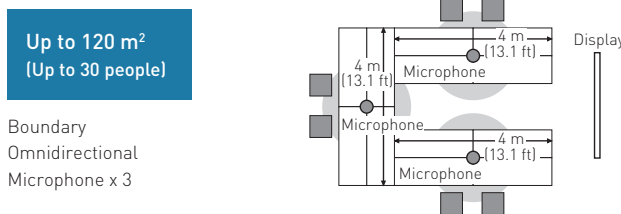
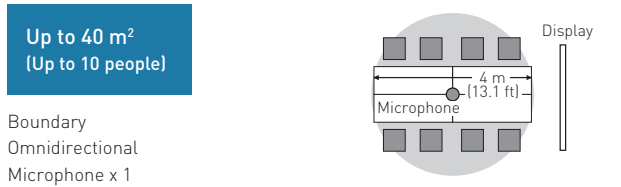
*Make sure that the microphone is placed with its connector facing the display.

Extension Cable for the KX-VCA001
KX-VCAEX01
• For use in setting up the HDVC System in a place where the cable provided with the KX-VCA001 cannot reach.
• Connect the extension cable directly to the HDVC System. Connection is not possible with the cable that comes included with KX-VCA001.
• Length 20 m



Allows flexible system setup according to the number of connection sites and the size of room.
(Boundary Omnidirectional Microphone KX-VCA001)

< Sound collecting ranges of microphones >



*This diagram is intended only as a layout example. It is not meant to show the maximum number of people that can be covered.
*This is the pick-up capacity when using the Boundary Omnidirectional Microphone. The capacity varies when using another microphone.

Activation Key

For HD Visual Communications Unit

Model No.	Product Name	Target Model	Detail
KX-VCS302	Multicast	KX-VC2000 / KX-VC1600 / KX-VC1300 / KX-VC1000	Enables the multicast [one-way transmission] feature.
KX-VCS305	4 Point Built-in MCU for KX-VC2000	KX-VC2000	Enables the feature for making multiple-party video conference calls with 24 parties, rather than the default maximum of 16 parties.
KX-VCS304	4 Point Built-in MCU for KX-VC1600	KX-VC1600	Enables the feature for making multiple-party video conference calls with 10 parties, rather than the default maximum of 6 parties.
KX-VCS314	4 Point Built-in MCU for KX-VC1000	KX-VC1000	Can establish connections with a maximum of 4 parties.
KX-VCS352	Mobile Connection for KX-VC2000	KX-VC2000	Connects to a mobile device in IP Mode.
KX-VCS351	Mobile Connection	KX-VC1600 / KX-VC1300 / KX-VC1000	Connects to a mobile device in IP Mode.
KX-VCS402	HDMI for KX-VC1000 Dual Monitor	KX-VC1000	Enables HDMI2 output. (HDMI Dual Monitor)

For NAT Traversal Service

Model No.	Type	Detail
KX-VCS701 KX-VCS703	For the HD Visual Communications System	NAT Traversal Service Activation Key - 1 Year NAT Traversal Service Activation Key - 3 Years
KX-VCS781 KX-VCS783	For a Windows Terminal	Mobile Activation Key - 1 Year for Windows Mobile Activation Key - 3 Years for Windows
KX-VCS751X KX-VCS753X KX-VCS711W KX-VCS713W	For an Android™ and an iOS Terminal	5 Mobile Activation Keys - 1 Year [5 keys] 5 Mobile Activation Keys - 3 Years [5 keys] Mobile Activation Key - 1 Year Mobile Activation Key - 3 Years

Display Stand Installation Examples



Software License Card for HDVC-MPCS

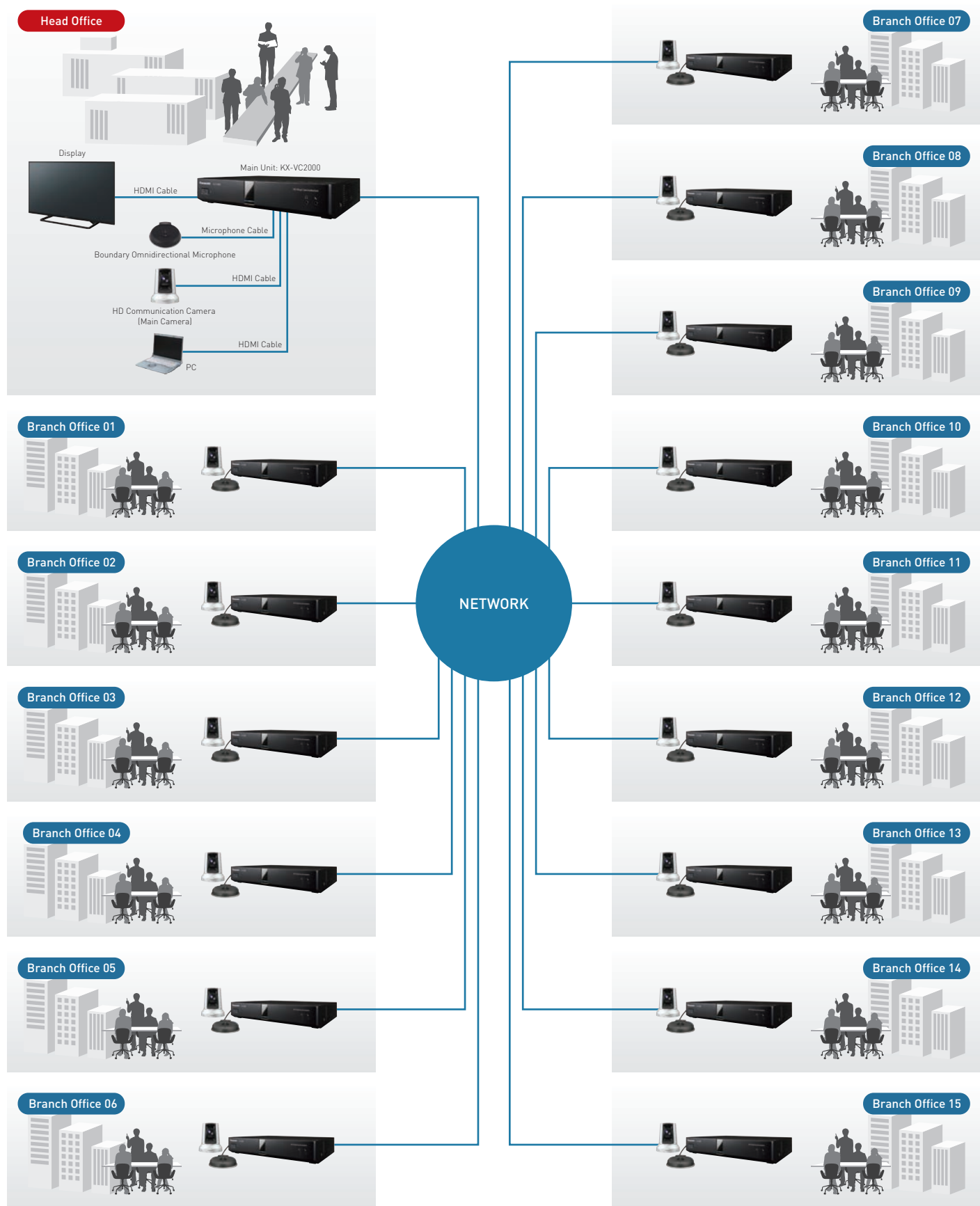
Model No.	Detail
KX-VCMS206	MPCS Ver. 2.0 6-Site Model*1
KX-VCMS208	MPCS Ver. 2.0 8-Site Model
KX-VCMS212	MPCS Ver. 2.0 12-Site Model
KX-VCMS216	MPCS Ver. 2.0 16-Site Model
KX-VCMS001	MPCS 4-Site Expansion
KX-VCMS206	MPCS Upgrade 6-Site*2
KX-VCMS208	MPCS Upgrade 8-Site*2
KX-VCMS212	MPCS Upgrade 12-Site*2
KX-VCMS216	MPCS Upgrade 16-Site*2

*1 In the case of 6-point connection software, the number of connection sites cannot be increased after the product purchase.
*2 The license cards let you upgrade from HDVC-MPCS Ver. 1.0 to Ver. 2.0.

System Configuration Examples

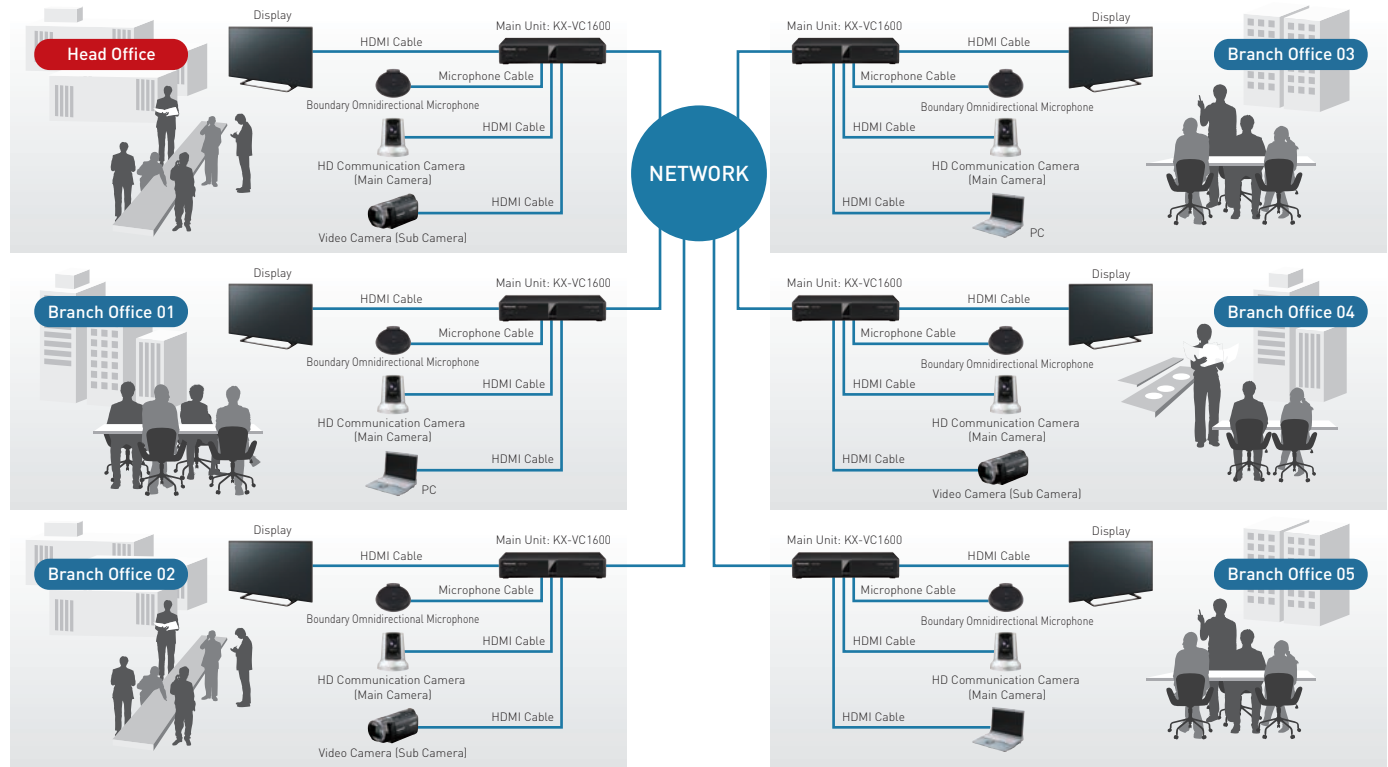
■ Example of standard 16-site connection with the KX-VC2000

The 8-site connection expandability can be used with the KX-VC2000 to increase the number of connection sites to a maximum of 24 sites including home location.

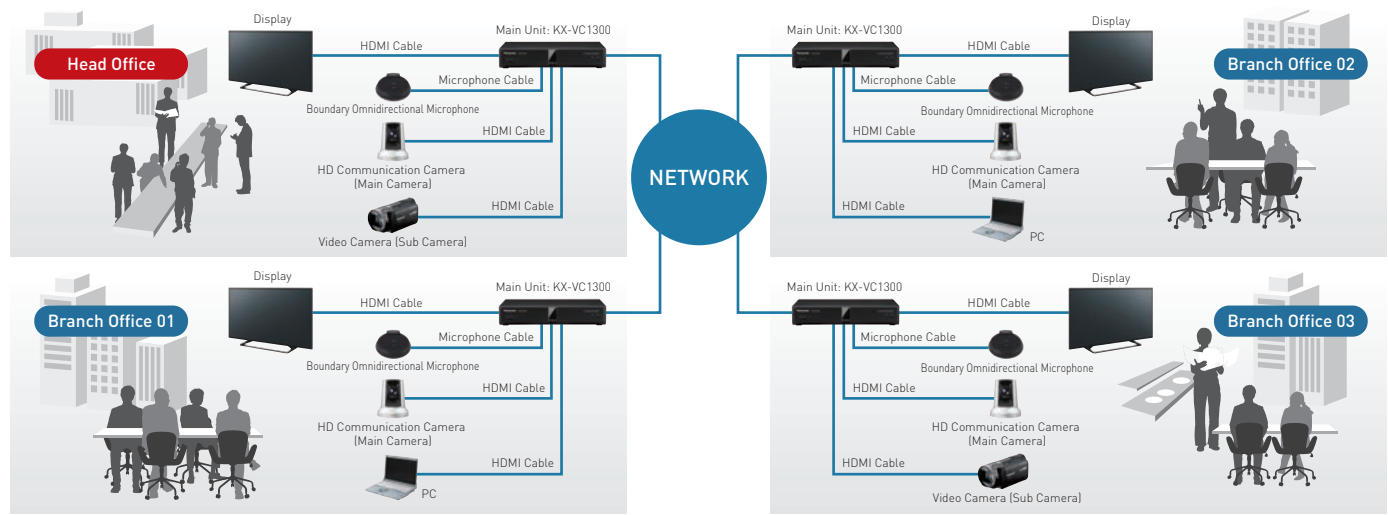


■ Example of standard 6-site connection with the KX-VC1600

The 4-site connection expandability can be used with the KX-VC1600 to increase the number of connection sites to a maximum of 10 sites including home location.

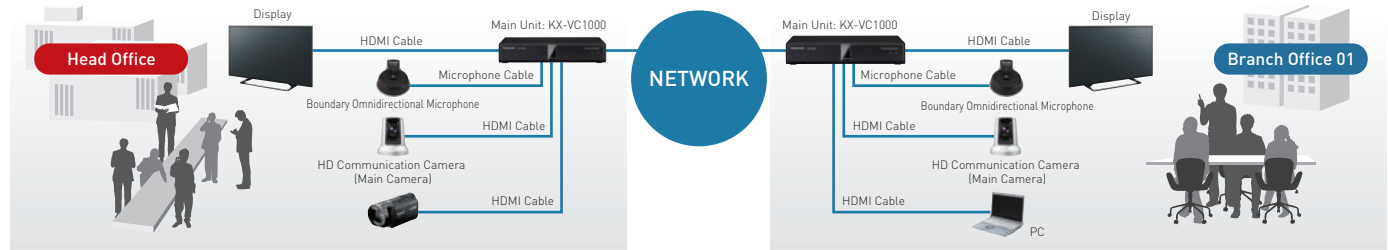


■ Example of standard 4-site connection with the KX-VC1300



■ Example of standard point to point connection with the KX-VC1000

Activation Key (sold separately, see page 15) expands the function to enable 4-site connection.



Specifications

KX-VC2000 / KX-VC1600 / KX-VC1300 / KX-VC1000

Main Unit			KX-VC2000 NEW	KX-VC1600		KX-VC1300	KX-VC1000 NEW	
Terminal Method			SIP, H.323			SIP, H.323		
Image Compression Method			H.261 (mainstream only), H.263, H263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile			H.261 (mainstream only), H.263, H263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile		
Audio Compression Method			G.711 μ-law, A-law [3.4 kHz@64 kbps] G.722 (7.0 kHz@64 kbps) G.722.1 (7.0 kHz@32 kbps)			G.711 μ-law, A-law [3.4 kHz@64 kbps] G.722 (7.0 kHz@64 kbps) G.722.1 (7.0 kHz@32 kbps)		
			G.722.1 Annex C [14.0 kHz@48 kbps/24 kbps]			G.722.1 Annex C [14.0 kHz@48 kbps/24 kbps]		
			MPEG-4 AAC-LD Mono (7.0 kHz@32 kbps, 14.0 kHz@64 kbps, 22.0 kHz@96 kbps)			MPEG-4 AAC-LD Mono (7.0 kHz@32 kbps, 14.0 kHz@64 kbps, 22.0 kHz@96 kbps)		
			MPEG-4 AAC-LD Stereo (14.0 kHz@64 kbps, 22.0 kHz@96 kbps)			MPEG-4 AAC-LD Stereo (14.0 kHz@64 kbps, 22.0 kHz@96 kbps)		
No. of Channels			G.711/G.722/G.722.1/G.722.1 Annex C: 1 MPEG-4 AAC-LD Mono: 1/ MPEG-4 AAC-LD Stereo: 2			G.711/G.722/G.722.1/G.722.1 Annex C: 1 MPEG-4 AAC-LD Mono: 1/ MPEG-4 AAC-LD Stereo: 2		
Remote Camera Control			H.224, H.281 [Zoom/Pan/Tilt/Preset]			H.224, H.281 [Zoom/Pan/Tilt/Preset]		
Dual Stream	Method		H.239 (H.323), BFCP (SIP)			H.239 (H.323), BFCP (SIP)		
	Multi-Monitor		3 Monitors			2 Monitors ^{*1}		
No. of Applicable Resolution Frames			Main: Max. 1080p 30 frames/second, Sub: Max. 1080p 30 frames/second			Main: Max. 1080p 30 frames/second, Sub: Max. 1080p 30 frames/second		
Encryption			SRTP (AES 128 bit), H.235 (AES 128 bit)			SRTP (AES 128 bit), H.235 (AES 128 bit)		
Other			H.460.18, H.460.19			H.460.18, H.460.19		
Communication Bandwidth			256 kbps to 24 Mbps	256 kbps to 18 Mbps		256 kbps to 18 Mbps		
Video	Compatible Resolutions ^{*2}		176 x 144p, 352 x 240p, 352 x 288p, 512 x 288p, 640 x 480p, 704 x 480p, 704 x 576p, 768 x 432p, 800 x 600p 1024 x 768p, 1280 x 720p, 1280 x 768p, 1280 x 800p, 1920 x 1080p			176 x 144p, 352 x 240p, 352 x 288p, 512 x 288p, 640 x 480p, 704 x 480p, 704 x 576p, 768 x 432p, 800 x 600p 1024 x 768p, 1280 x 720p, 1280 x 768p, 1280 x 800p, 1920 x 1080p		
	No. of Frames		Max. 60 frames/second (for H.264 1080p)			Max. 60 frames/second (for H.264 1080p)		
	Screen Display		Full-screen, PinP, PwithP, Side by Side			Full-screen, PinP, PwithP, Side by Side		
Audio			Echo canceller, Auto gain control, Stationary noise reduction, Lip synch, Equalizer, Mic mute			Echo canceller, Auto gain control, Stationary noise reduction, Lip synch, Equalizer, Mic mute		
I/O Terminals	Video Input	Camera ^{*3}	HDMI main x 1, HDMI sub x 1 Input compatible resolution: 1280 x 720p, 1920 x 1080i, 1920 x 1080p			HDMI main x 1, HDMI sub x 1 Input compatible resolution: 1280 x 720p, 1920 x 1080i, 1920 x 1080p		
		PC	RGB x 1 (Mini D-sub 15pin), HDMI x 1 ^{*3} Input compatible resolution: VGA, SVGA, XGA, HD, WXGA, SXGA, FWXGA, WXGA+, UXGA, WSXGA+, Full-HD			RGB x 1 (Mini D-sub 15pin), HDMI x 1 ^{*3} Input compatible resolution: VGA, SVGA, XGA, HD, WXGA, SXGA, FWXGA, WXGA+, UXGA, WSXGA+, Full-HD		
	Video Output		HDMI x 2, HDMI x 1 (For own site/recording video) RCA x 1 (Component) Supported output resolutions: 1920 x 1080i, 1920 x 1080p			HDMI x 2 ^{*1} Supported output resolutions: 1920 x 1080i, 1920 x 1080p		
	Audio Input		Boundary Omnidirectional Microphone (Digital Interface Type) x 1 (KX-VCA001), Max. 4; Boundary Omnidirectional Microphone (Analogue Interface Type) x 1 (KX-VCA002), Max. 1 HDMI, Stereo mini-plug ^{**} x 1 (ø3.5 mm) RCA (Stereo) x 1			Boundary Omnidirectional Microphone (Digital Interface Type) x 1 (KX-VCA001), Max. 4; Boundary Omnidirectional Microphone (Analogue Interface Type) x 1 (KX-VCA002), Max. 1 HDMI, Stereo mini-plug ^{**} x 1 (ø3.5 mm) RCA (Stereo) x 1		
			HDMI ^{*5} , Stereo mini-plug ^{*4} x 1 (ø3.5 mm), RCA x 1 (Stereo)			HDMI ^{*5} , Stereo mini-plug ^{*4} x 1 (ø3.5 mm), RCA x 1 (Stereo)		
	Network		RJ45 x 2 (1000BASE-T/100BASE-TX Full Duplex)	RJ45 x 2 (100BASE-TX Full Duplex)		RJ45 x 1 (100BASE-TX Full Duplex)		
	External Control		RS-232C x 1 (Also used for maintenance)			RS-232C x 1 (Also used for maintenance)		
	Others		USB 2.0 x 1, Camera Control Terminal x 1 (Unused)			USB 2.0 x 1, Camera Control Terminal x 1 (Unused)		
	No. of Simultaneous Connection Sites			16 (Expandable up to 24 ^{*4})	6 (Expandable up to 10 ^{*4})		4	Point to point (Expandable up to 4 ^{*4})
	Content Sharing			PC(RGB/HDMI), Sub-camera (HDMI sub)			PC(RGB/HDMI), Sub-camera (HDMI sub)	
USB Memory			Version upgrade Import: Setting Address Book / Profile / Structural Data / Encryption Data / Start-up Screen / Delivery Tree List Export: Address Book / Profiles / Structural Data / Encryption Data / Delivery Tree List			Version upgrade Import: Setting Address Book / Profile / Structural Data / Encryption Data / Start-up Screen / Delivery Tree List Export: Address Book / Profiles / Structural Data / Encryption Data / Delivery Tree List		
Network Protocol			TCP/IPv4, TCP/IPv6 ^{*7} , UDP/IPv4, UDP/IPv6 ^{*7} , DHCP, DNS, HTTP, HTTPS, TELNET, NTP			TCP/IPv4, TCP/IPv6 ^{*7} , UDP/IPv4, UDP/IPv6 ^{*7} , DHCP, DNS, HTTP, HTTPS, TELNET, NTP		
Network Functions			Automatic Repeat Query (ARQ), Forward Error Correction (FEC), Adaptive Rate Control (ARC), Reorder, Packet Shaping, Arbitrary Port Setting, NAT Compatibility, Encryption, IP Precedence/DiffServ Support			Automatic Repeat Query (ARQ), Forward Error Correction (FEC), Adaptive Rate Control (ARC), Reorder, Packet Shaping, Arbitrary Port Setting, NAT Compatibility, Encryption, IP Precedence/DiffServ Support		
External Control			Via Web Browser, Control by HTTP CGI, TELNET, RS-232C			Via Web Browser, Control by HTTP CGI, TELNET, RS-232C		
Connection Modes			IP mode, NAT Traversal Service, IP mode / NAT Traversal Service mode			IP mode, NAT Traversal Service, IP mode / NAT Traversal Service mode		
Dimensions (width x depth x height) (excluding projecting parts)			Approx. 320 mm x approx. 270 mm x approx. 61 mm			Approx. 320 mm x approx. 230 mm x approx. 61 mm		
Weight			Approx. 3.4 kg			Approx. 2.0 kg		
Power Input			AC 100-240 V, ~1.0 A, 50/60 Hz			AC 100-240 V, ~1.4A, 50/60 Hz		
Power Consumption			Max.: approx. 73 W, Standby: 0.6 W			Max.: approx. 43 W, Standby: 0.6 W		
DC Power Input			DC 24 V, 3.0 A			DC 24 V, 2.5 A		
Operating Temperature			0 °C to 40 °C			0 °C to 40 °C		
Operating Humidity			10 % to 90 % (non-condensing)			10 % to 90 % (non-condensing)		

*When connected to a different brand's device or MCU (Multi-point Control Unit), connection conditions vary depending on the specifications of their devices or MCUs.

*1 For KX-VC1000, an activation key is necessary to use 2 monitors and HDMI2.

*2 Varies due to the settings of the HDVC System and the network condition.

*3 HDCP is not supported.

*4 Dedicated 3-pole stereo mini-plug.

*5 Audio cannot be output simultaneously to HDMI1/HDMI2.

*6 An activation key must be purchased. (Refer to "Activation key" on page 15.)

*7 Some functions are not supported by IPv6.

HD Communication Camera

HD Communication Camera	GP-VD151	GP-VD131
Effective Pixels	1920×1080i, 1920×1080p	
Pan / Tilt	Pan: ±100°, Tilt: ±30°	Pan: ±100°, Tilt: ±20°
Zoom (optical/digital)	12x / 10x	3x / 4x
Angle of view (optical zoom)	Horizontal angle of view 56.3° [Wide end] - 5.1° [Tele end]	Horizontal angle of view 85° [Wide end] - 30° [Tele end]
	Vertical angle of view 32.5° [Wide end] - 2.8° [Tele end] F1.6 [Wide end] - F2.0 [Tele end]	Vertical angle of view 68.4° [Wide end] - 23.8° [Tele end] F1.2 [Wide end] - F2.0 [Tele end]
Presets	9 positions	
Connection Cable	HDMI	
Dimensions (width x depth x height)	Approx. 150 mm x approx. 148 mm x approx. 177 mm	Approx. 133 mm x approx. 127 mm x approx. 139 mm
Weight	Approx. 1.2 kg	Approx. 0.8 kg
Power Consumption	Power supply voltage: 12 VDC±10% (with AC adaptor attached)	Power supply voltage: 16 VDC±10% (with AC adaptor attached)
	Consumption current: 1.0 A	Consumption current: 0.6 A
Operating Temperature	0 °C to 40 °C	
Operating Humidity	10 % to 90 % (non-condensing)	

*1 With i.Zoom 2x.

*2 i.Zoom function maintains high-definition picture quality.

Boundary Omnidirectional Microphone

Boundary Omnidirectional Microphone	KX-VCA001	KX-VCA002
Maximum Pickup Range	Approx. 4 m(radius)	Approx. 2 m(radius)
Pickup Method	Stereo / Monaural ^{*1}	Stereo / Monaural ^{*2}
Microphone Unit	Unidirectional ECM microphone parts x 4	Unidirectional ECM microphone parts x 2
Number of Connections	Maximum 4 microphones	Maximum 1 microphone
Maximum Input Sound Pressure	110 dBspl	
Number of Terminals for Microphone Connection	2	1
Dimensions	Approx. 120 mm(diameter) x 25 mm	Approx. 75 mm(diameter) x 32 mm
Cable Length	Approx. 8.5 m	Approx. 7 m
Power Input	Supplied from main unit via proprietary cable	
Weight	Approx. 280 g	Approx. 80 g
Operating Temperature	0 °C to 40 °C	
Operating Humidity	10 % to 90 % (non-condensing)	

- *1 If either of the following conditions is met, the output sent to the other party will be stereo; otherwise, monaural:
- The bandwidth is higher than approximately 1.8 Mbps in a 2-party videoconference call with the HDVC Unit using SIP.
 - The MIC position is set manually to "Center stereo", or the MIC position is set automatically with the KX-VCA001 connected to the unit without the KX-VCA002 connected.
- *2 If either of the following conditions is met, the output sent to the other party will be stereo; otherwise, monaural:
- The bandwidth is higher than approximately 1.8 Mbps in a 2-party videoconference call with the HDVC Unit using SIP.
 - KX-VCA001 and KX-VCA002 are not being used together.

Extension Cable for KX-VCA001	KX-VCAEX01
Dimensions (diameter x length)	7 mm(cable outer diameter) x 20 m
Weight	1.28 kg
Operating Temperature	0 °C to 40 °C
Operating Humidity	10 % to 90 % (non-condensing)