HD Visual Communications System

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

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

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HD Visual Communications System: https://panasonic.net/cns/psn/products/hdvc/

Printed in Japan/MS-HDCC031EN 1812/NP/PES—1
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 realizes 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.

** Feature 1 **

** Connection to Multiple Sites **

The HDVC System can connect a lot of 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.

** Feature 2 **

** 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.

** Feature 3 **

** Easy to Use / Manage **

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.

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** Product Line-up **

- Full-HD 1080/60p
- Widescreen Stereo Full Duplex Audio
- AV-QoS Control
- Dual Monitor
- Multimedia Control
- Multiple Device
- Multi Device Applicability
- USB Device Mode
- USB Recording
- Web Console

** Options **

- Triple Monitor
- Camera Control
- USB Device Mode
- USB Recording
- Contact List Transfer
- Web Console

** Specifications **

- 24-site Connection
- Multi Device Applicability
- Cascade Mode Application
- NAT Traversal Service
- HD Visual Communication Mobile
- Full-HD 1080/60p
- Widescreen Stereo Full Duplex Audio
- AV-QoS Control
- Point to Point Model

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KX-VC2000

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

- An activation key (KX-VCS302) is required.
- An activation key (KX-VCS304) is required.
- An activation key (KX-VCS402) is required.

KX-VC1600

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

- An activation key (KX-VCS302) is required.
- An activation key (KX-VCS314) is required.

KX-VC1300

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

- An activation key (KX-VCS303) is required.

KX-VC1000

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

- An activation key (KX-VCS314) is required.

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HDMI cable sold separately.

* HD Communication Camera, Boundary Omnidirectional Microphone and Remote control included.

HD Visual Communications System is abbreviated as HDVC hereafter.
Connection to Multiple Sites

24-Site Connection (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 (KX-VCS305) must be purchased. (Refer to “Activation Key” on page 17.)

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.

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.

Multi Device Applicability
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:

* An Activation Key is required to use the software. For details, see page 17.

Screen Layout
Select layout suitable with videoconference types

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.

Main display switching

The main display position can be pre-set based on conference operation method. Main display can be easily switched with number buttons on the remote control.

Fixed main display position

Set the designated site as the main display.

Voice activation 1

Automatically allocate the loudest site to the main display.

Voice activation 2

The local site is set to the main display, and automatically allocate the loudest site next to the main display.

Fixed desired display positions

All display position can be flexibly pre-assigned.

* Profile setting is required beforehand.

* HDVC System connection service
**Connection to Multiple Sites**

**Cascade Mode Application (KX-VC2000)**

*Increase the number of attendees without expanding the existing facilities*

The newly added KX-VC2000 Cascade mode application makes it possible to expand partial videoconference groups under a particular videoconference unit without adding or expanding the existing central server or central network infrastructure. This allows a group representative to join the central videoconference meeting and share it with all attendees in the partial group. Utilizing the KX-VC2000 as a hub between central and partial groups, it is also possible to deploy a separate network in the partial group. This eliminates concentrated access to a particular network server and achieves distributed access. In addition, with the new Cascade mode, it becomes possible to configure more than 24 sites of the HDVC videoconference system without an external server or MCU. This Cascade mode application is beneficial for relatively large organizations, such as governmental organizations or large groups of companies, who frequently hold group representative conferences and distribute it to all attendees. This is also useful for large-scale remote learning or training facilities, such as educational institutes or service-oriented companies. This application also helps to reduce additional investments in the central server and network operation costs.

**Application Example**

By introducing the KX-VC2000 Cascade mode at Central Group No. 3, you can expand HDVC attendees partially in the No. 3 group without expanding the central server or central network. The KX-VC2000 automatically selects the loudest speaker of the group as a representative presenter (Local No. 8 image in the figure below), and transmits his/her voice and image to the central facility, while receiving the central server composed presence image and distributing it to all of the partial group attendees.

**Existing (central) videoconference facilities**

Composed presence image

Central server

Central No.1

Central No.2

Central No.3

Central No.4

Central No.5

Central No.6

Central No.7

Central No.8

**Partial (group) expansion facilities**

Transmitted image from the local No. 8

Local No.1

Local No.2

Local No.3

Local No.4

Local No.5

Local No.6

Local No.7

Local No.8

Received image

Local server

Local No.1

Local No.2

Local No.3

Local No.4

Local No.5

Local No.6

Local No.7

Local No.8

* Screen layout depends on Central No.1.

**NAT Traversal Service**

*Network service for connecting your company to other sites*

NAT Traversal Service lets you connect to another party with a seven-digit terminal ID even when the other party’s IP address has changed by using a network with a dynamic IP address.

For details, please refer to the following web site:


**HD Visual Communication Mobile**

*Mobile application for joining remote videoconference*

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.

**How to select Activation Key**

The HDVC Mobile System requires the “HD Visual Communication Mobile” application to be installed in a mobile device, and an Activation Key (available for a fee). You can select from three methods combining the number of HDVC Mobile devices and connection methods.

- **Registering the Activation Key in the HDVC System (For IP model)**
  - This is available when there are many mobile devices.
- **Registering the Activation Key in the mobile device (For IP model)**
  - This is available when there are few mobile devices.
- **Registering the Activation Key in the HDVC System and mobile device (For NAT Traversal model)**
  - This is available when connecting from outside the office (branch office, home, etc.)

**Device**

**HDVC Mobile for Windows**

- **OS**
- **CPU**
  - Intel Core i5 (4 threads) or faster.
- **Memory**
  - 2GB or over
- **Peripheral devices**
  - Microphone, Speaker/Headset

**HDVC Mobile for iOS**

- **CPU**
  - Apple A5 or over
- **OS**
  - iOS 7.0 or higher
- **Peripheral devices**
  - Microphone, Speaker/Headset

**HDVC Mobile for Android**

- **CPU**
  - Snapdragon 800, 8974AB or higher
- **Memory**
  - 2GB or over
- **OS**
  - Android 4.4 or higher
- ** Peripheral devices**
  - Microphone, Speaker/Headset

**Notes**

- NAT Traversal Service is available only when using HDVC Mobile via Wi-Fi® /LTE service. For details, please refer to the following web site:
- For communication using 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 provider’s network environment and the communication speed may be limited by the provider’s network environment. Try before trial, trial 3-month Activation Key in advance.
- The 3G bandwidth may be insufficient for HDVC Mobile, making it unusable.
- HDVC Mobile connection may not be possible due to service features. Communication may also not be possible due to tethering.
- Use of HDVC Mobile requires a bandwidth of 256 kbps or higher. 4G/LTE (Mobile)/WiMAX (Windows), audio G.722 recommended for the transmission/reception of video and audio data.
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.

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**AV-QoS Control**

**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.

**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.

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**AV-QoS** is also supported for mobile devices.

**Comparison of communication quality with congested network connection**

- **Without AV-QoS**
  - Frequent image and sound disruptions

- **With AV-QoS**
  - Minimum image and sound disruptions

**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-VCA01 (Sold separately)**

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

---

**High followability during bandwidth variations**

The HDVC System finely controls the package volume based on constantly changing bandwidths for network bandwidth fluctuation of user traffic with the rate control, and continuously follows up in accordance with bandwidth variations. By suppressing the generation of packet losses, a stable connection environment can be achieved.

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**AV-QoS** - Panasonic original rate control technology

**How AV-QoS works**

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.

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You can hear the voices of the speakers right from their positions.
Easy to Use / Manage

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.

Dual Monitor/Dual Stream Operation Example

Lecturer (main site)

Attendants (sub-sites)

Document (PC data)

< Site A >

< Site B >

Camera Control

Intuitive operation

The remote control of the HDVC System lets you control the pan, tilt, zoom operations and camera settings* of dedicated cameras mounted at your office 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.

Camera Control

Power Button

PC/Sub Camera Selector Button

Pan

Tilt

Zoom

HDVC Main Unit

HDVC main unit can also be operated through remote control.

Automatically control the power supply

In addition to operating the power button of the main unit and remote control operation, the HDVC System power can be automatically turned ON or OFF with the settings of the HDVC System. Automatic operation makes possible by turning the power OFF during the night or turning the power ON during weekdays. It is also possible to externally control the unit through the serial interface (RS-232C terminal).

Operation example

1. Working hours mode

This setting automatically turns the power ON at 9 AM every morning, and automatically turns the power OFF at 7 PM every night.

2. Weekday mode

This setting automatically turns the power ON at 6 AM every Monday, and automatically turns the power OFF at midnight every Saturday.

<table>
<thead>
<tr>
<th>Status</th>
<th>Power ON LED</th>
<th>Status LED</th>
<th>Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supplied from AC adapter</td>
<td>Red light</td>
<td>Light OFF</td>
<td>—</td>
</tr>
<tr>
<td>Power ON / Standby</td>
<td>Green light</td>
<td>Blue flashing light</td>
<td>Press and hold the power button on main or remote control.</td>
</tr>
<tr>
<td>Surveillance</td>
<td>Green light</td>
<td>Blue light</td>
<td>Press and hold the power button on main or remote control.</td>
</tr>
<tr>
<td>Screen standby</td>
<td>Green light</td>
<td>Blue flashing light</td>
<td>Press and hold the power button on main or remote control.</td>
</tr>
<tr>
<td>Shutter down</td>
<td>Green flashing light</td>
<td>Light OFF</td>
<td>Press and hold the power button on main or remote control.</td>
</tr>
</tbody>
</table>

* 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.

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.

* An activation key (KX-VCS402) must be purchased.

* The KX-VC1300 / KX-VC1000 supports Dual Monitor. For KX-VC1000, an Activation Key (KX-VCS402) is necessary to use 2 monitors.
Easy to Use / Manage

**USB Device Mode**

**Web conferences become easier to use**

What is the difference between a “single participant” and “multiple participants?”

When participating in a web conference and several people gather at a single PC, the conferencing efficiency worsens because the other party’s face becomes difficult to see, the audio becomes difficult to hear, and reference materials become difficult to use.

Web conferences become comfortable with the peripherals of HDVC unit!

The HDVC System can be used as the camera/microphone USB device** connected to the web conference PC to enable high-definition web conferences.** Because the HDVC speaker and display can also be used, the system is ideal for web conferences with a number of participants. Select a video conference or web conference depending on the parties being connected, the number of connection points, and the locations. Since it is not only a specified web conference, the range is not limited.

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**Contact List Transfer**

**Centrally manage the contact list**

The HDVC System contact list of a specific site can be transferred to the HDVC System of another site through the network. This makes it possible to centrally manage the contact list of the HDVC System and improves the efficiency of operational management.

* This function is available when using an Intranet/IP-VPN. The updating of the contact list is not an incremental update, and consists of overwriting all contacts.

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**Whitelist**

**Whitelist for rejecting unexpected malicious calls**

For information security purposes, in addition to encryption during videoconference calls, HDVC can protect against unexpected incoming access, such as wrong number calls or especially malicious calls. By utilizing a contact list and HDVC identification as a whitelist, HDVC can be set to accept calls only from those listed in its contact list or from Panasonic videoconference units with HDVC identification.*1 In other words, any access from people who are not registered on the contact list or who are calling from non-HDVC units will be blocked.

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**USB Recording**

**Simply recording videoconferences and sharing to other sites**

Videoconferences can be recorded onto a USB memory stick connected to the HDVC System. In addition to recording a remote site, you can record** images and sounds from your own site and easily start recording using the remote control. The recorded data can be played** on a personal computer, and can be easily shared among multiple sites via the HDVC System. Recording is also possible without holding a videoconference with a remote site. It can be used as visual minutes of meeting.

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**Web Console**

**Control and operation of the HDVC System from a remote location**

Operations manager can control and operate the HDVC System via the Web Console without remote control.

* The Web Console is a function intended for installers and operations managers.
* Examples of menu: System information display, Virtual remote controller, Edit contact list, Outgoing call and End call.

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Product Line-up

KX-VC2000
- Remote control included.
- HD Communication Camera, Boundary Omnidirectional Microphone and HDMI cable sold separately.

- Multi-site* Connection
- Wideband Stereo Full Duplex Audio
- Multi Device
- Triple Monitor
- Dual Camera (Sub Camera)
- PC Contents Sharing
- Dual Network
- USB Recording
- USB Device Mode
- Recording Terminal*1

*1 An activation key (KX-VCS302) is required. (Refer to “Activation Key” on page 17.)

*2 The HDMI terminal can be used for a display or recording device.

*3 An activation key (KX-VCS305) lets you expand the KX-VC2000’s maximum conference sites to up to 10 locations. (Refer to “Activation Key” on page 17.)

*6 An activation key (KX-VCS402) must be purchased. (Refer to “Activation Key” on page 17.)

Function Comparison List

<table>
<thead>
<tr>
<th>Model</th>
<th>Maximum Conference Sites</th>
<th>Image Resolution</th>
<th>Monitor</th>
<th>Other-brand Device Compatibility*2</th>
<th>MCU Interoperability*2</th>
<th>Computer Connection</th>
<th>Boundary Omnidirectional Microphone Left</th>
<th>Boundary Omnidirectional Microphone Right</th>
</tr>
</thead>
<tbody>
<tr>
<td>KX-VC2000</td>
<td>16*</td>
<td>Full HD 1080/60p</td>
<td>3</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
</tr>
<tr>
<td>KX-VC1600</td>
<td>6*</td>
<td>Full HD 1080/60p</td>
<td>2</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
</tr>
<tr>
<td>KX-VC1300</td>
<td>4*</td>
<td>Full HD 1080/60p</td>
<td>2**</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
</tr>
<tr>
<td>KX-VC1000</td>
<td>Points to Points*1</td>
<td>Full HD 1080/60p</td>
<td>2**</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes (1-4 unit)</td>
<td>Yes (1-4 unit)</td>
</tr>
</tbody>
</table>

*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 (KX-VCS305) lets you expand the KX-VC2000’s maximum conference sites to up to 10 locations. (Refer to “Activation Key” on page 17.)
*4 The optional Activation Key (KX-VCS402) must be purchased. (Refer to “Activation Key” on page 17.)
*5 The optional Activation Key (KX-VCS401) lets you expand the KX-VC2000’s maximum conference sites to up to 24 locations. (Refer to “Activation Key” on page 17.)
*6 An activation key (KX-VCS402) must be purchased. (Refer to “Activation Key” on page 17.)

[ Raster Panel View ]
HD Communication Camera

**KX-VD170**
- (HD MI cable sold separately)
- 16x optical zoom/10x digital zoom
- Operation through remote control
- Presets positions: 12
- Pan/tilt function
- Microphone Activation Key

**GP-VD131**
- (HD MI cable sold separately)
- Optical zoom
- Presets function
- Pan/tilt function
- Microphone Activation Key

**Options**
- Operation through remote control
- Presets positions: 12
- Pan/tilt function
- 12x optical zoom/10x digital zoom
- (HDMI cable sold separately)

**Boundary Omnidirectional Microphone**

**KX-VCA001**
- (Cable length: 8.5 ft included)
- A high-grade microphone with a direction recognition function that detects the direction of the speaker’s voice
- A compact, economical and high-grade stereo microphone
- (Cable (approx. 8.5 m) included)
- Requires Ceiling Mount Bracket (KX-VCA001) sold separately.

**KX-VCA002**
- (Cable length: 7m included)
- A compact, economical and high-grade stereo microphone
- (Cable (approx. 7 m) included)
- Connection is not possible with the cable that comes with the microphone.

**Extension Cable for the KX-VCA01**

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

- **Up to 40 m²** (Up to 20 people)
- **Up to 60 m²** (Up to 10 people)
- **Up to 80 m²** (Up to 20 people)

- **Display Stand Installation Examples**

**Activation Key**

**For HD Visual Communications Unit**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Product Name</th>
<th>Target Model</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>KX-VC2052</td>
<td>Multi Unit</td>
<td>KX-VCS402 / KX-VCS351 / KX-VCS352</td>
<td>Enables the feature for making multiple-party video conference calls with 6 parties, rather than the default maximum of 4 parties.</td>
</tr>
<tr>
<td>KX-VC2051</td>
<td>Mobile Extension Unit</td>
<td>KX-VCS402 / KX-VCS351 / KX-VCS352</td>
<td>Enables the feature for making multiple-party video conference calls with 10 parties, rather than the default maximum of 6 parties.</td>
</tr>
<tr>
<td>KX-VC2050</td>
<td>HDMI for KX-VCS100 Dual Monitor</td>
<td>KX-VCS302 / KX-VCS303</td>
<td>Enables HDMI output (HDMIDual Monitor)</td>
</tr>
</tbody>
</table>

**For NAT Traversal Service**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>KX-VCST251</td>
<td>For the HD Visual Communications System</td>
<td>NAT Traversal Service Activation Key - 3 Years</td>
</tr>
<tr>
<td>KX-VCST252</td>
<td>For a Windows Terminal</td>
<td>NAT Traversal Service Activation Key - 3 Years</td>
</tr>
<tr>
<td>KX-VCST253</td>
<td>For an Android™ or iOS Terminal</td>
<td>NAT Traversal Service Activation Key - 3 Years</td>
</tr>
</tbody>
</table>

**For 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**

- **External speaker** (with built-in amp)
  - RCA (L)
  - RCA (R)
- **Display**
  - HDMI
- **boundary omnidirectional microphone**

* 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.
## Specifications

### Main Unit

<table>
<thead>
<tr>
<th>Model</th>
<th>KX-VC2000</th>
<th>KX-VC1600</th>
<th>KX-VC1300</th>
<th>KX-VC1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight</strong></td>
<td>1.3 kg</td>
<td>1.1 kg</td>
<td>1.0 kg</td>
<td>0.8 kg</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>320 mm x 230 mm x 61 mm</td>
<td>133 mm x 127 mm x 139 mm</td>
<td>290 mm x 230 mm x 61 mm</td>
<td>200 mm x 200 mm x 61 mm</td>
</tr>
<tr>
<td><strong>Power Input</strong></td>
<td>DC 24 V, 2.5 A</td>
<td>DC 24 V, 2.5 A</td>
<td>DC 24 V, 2.5 A</td>
<td>DC 24 V, 1.5 A</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>Max.: approx. 43 W, Standby: 0.6 W</td>
<td>Max.: approx. 43 W, Standby: 0.6 W</td>
<td>Max.: approx. 43 W, Standby: 0.6 W</td>
<td>Max.: approx. 43 W, Standby: 0.6 W</td>
</tr>
</tbody>
</table>

### HD Communication Camera

<table>
<thead>
<tr>
<th>Model</th>
<th>KX-VC2000</th>
<th>KX-VC1600</th>
<th>KX-VC1300</th>
<th>KX-VC1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No. of Applicable Resolution Frames</strong></td>
<td>256 kbps to 24 Mbps</td>
<td>256 kbps to 18 Mbps</td>
<td>128 kbps to 14 Mbps</td>
<td>128 kbps to 14 Mbps</td>
</tr>
<tr>
<td><strong>Audio Input</strong></td>
<td>H.261 (mainstream only), H.263, H.263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile</td>
<td>H.261 (mainstream only), H.263, H.263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile</td>
<td>H.261 (mainstream only), H.263, H.263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile</td>
<td>H.261 (mainstream only), H.263, H.263+, H.263++ (reception only), H.264 High Profile, H.264 Baseline Profile</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
</tr>
</tbody>
</table>

### Boundary Omnidirectional Microphone

<table>
<thead>
<tr>
<th>Model</th>
<th>KX-VC2000</th>
<th>KX-VC1600</th>
<th>KX-VC1300</th>
<th>KX-VC1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Audio Compression Method</strong></td>
<td>H.264 High Profile, H.264 Baseline Profile</td>
<td>H.264 High Profile, H.264 Baseline Profile</td>
<td>H.264 High Profile, H.264 Baseline Profile</td>
<td>H.264 High Profile, H.264 Baseline Profile</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
<td>Supported output resolutions: 1920 x 1080i, 1920 x 1080p</td>
</tr>
</tbody>
</table>

### USB Device Mode

<table>
<thead>
<tr>
<th>Model</th>
<th>KX-VC2000</th>
<th>KX-VC1600</th>
<th>KX-VC1300</th>
<th>KX-VC1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connecting to the PC</strong></td>
<td>USB 2.0 (Host Mode, Device Mode), Camera Control Terminal (Not used)</td>
<td>USB 2.0 (Host Mode, Device Mode), Camera Control Terminal (Not used)</td>
<td>USB 2.0 (Host Mode, Device Mode), Camera Control Terminal (Not used)</td>
<td>USB 2.0 (Host Mode, Device Mode), Camera Control Terminal (Not used)</td>
</tr>
</tbody>
</table>

### Others

<table>
<thead>
<tr>
<th>Model</th>
<th>KX-VC2000</th>
<th>KX-VC1600</th>
<th>KX-VC1300</th>
<th>KX-VC1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External Control</strong></td>
<td>1.3 kg</td>
<td>1.1 kg</td>
<td>1.0 kg</td>
<td>0.8 kg</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>1.3 kg</td>
<td>1.1 kg</td>
<td>1.0 kg</td>
<td>0.8 kg</td>
</tr>
</tbody>
</table>

*When connected to a different kind of device or MCU (Multi port Control Unit), conversion conditions vary depending on the specifications of their devices or MCUs. *1 Values according to device settings and status of the network. *2 USB2.0 is not supported. **3 For 3-conductor stereo mini-plugs only. *5 Available with the KX-VC1000 after the KX-VCS314 expansion has been enabled. *6 Unbalanced, recommended load impedance: 16 Ω *7 Approx. -25 dBV, impedance: approx. 400 kΩ *8 Approx. 6.35 mm (1/4 inch) *9 Power supply capacity: 5 V/500 mA *10 Some features are not supported when using IPv6. *11 Not available for the KX-VC1000 after the KX-VCS314 expansion has been enabled. *12 Some features are not supported when using IPv6.