Specifications

Main Unit		KX-VC600	KX-VC300
Video	Video Codec	ITU-T H.264 high profile / ITU-T H.264 baseline profile (For connection to MCUs and non-Panasonic videoconference systems)	
	Compatible Resolutions	1920 x 1080p *1 / 1920 x 1080i *1 / 1280 x 720p / 1280 x 540p / 960 x 540p / 704 x 480p / 352 x 240p	
	Camera Input Resolution	1920 x 1080i	
	PC Input Resolutions	VGA, SVGA, XGA, HD, WXGA	
Audio	Audio Codec	MPEG-4 AAC LD, G.722, G.722.1/G.722.1 AnnexC	
	No. of Channels	MPEG-4 AAC LD: 2 / G.722, G.722.1, G.722.1 Annex C: 1	
	Bitrate	MPEG-4 AAC LD: 32 kbit/s (Monaural only), 64 kbit/s, 96 kbit/s (per channel) / G.722: 64 kbit/s / G.722.1: 32 kbit/s / G.722.1 Annex C: 48 kbit/s	
	Sound Processing Function	Stereo Echo Canceller	
	Microphone	Digital Boundary Microphone KX-VCA001(Option) / Analogue Boundary Microphone KX-VCA002(Option)	Analogue Boundary Microphone KX-VCA002(Option)
Transmission	Communication Protocol	SIP, H.323	
	QoS	AV QoS Call Control (wired and wireless)	
	Encrypted Transmission	AES	
Maximum Conference Points		4 *2	2 *3
External Interface	Video Inputs	HDMI (Camera) x 2, RGB (PC) x 1 (Switchable 3 inputs)	
	Video Output	HDMI x 1, RCA (Component) x 1	
	Audio Input	Analogue Boundary Microphone port x 1, / Digital Boundary Microphone port x 1, / RCA (Stereo) x 1, / Stereo mini-plug (Headset) x 1	Analogue Boundary Microphone port x 1, / RCA (Stereo) x 1, / Stereo mini-plug (Headset) x 1
	Audio Output	RCA (Stereo) x 1 (Audio output to display is via HDMI), Stereo mini-plug (Headset) x 1	
	Network	RJ45 port x 1	
Dimensions (width x depth x height)		Approx. 320 mm x approx. 230 mm x approx. 60 mm	
Weight		Approx. 2.0 kg	
Power Input		AC 100-240 V, 1.2-0.6 A, 50/60 Hz	
DC Power Input		DC 16 V, 2.5 A	
Power Consumption		Maximum: approx. 39 W	Maximum: approx. 23 W
Operating Temperature		0 °C to 40 °C	
Operating Humidity		10 % to 90 % (non-condensing)	

Options

Boundary Microphone	KX-VCA001	KX-VCA002
Maximum Pickup Range	Approx. 4 m(radius), 360°	Approx. 2 m(radius), 300°
Pickup Method	Stereo / Monaural *4	Stereo / Monaural *5
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)	

HD Communication Camera	GP-VD150	GP-VD130	AW-VC2
Effective Pixels	1920 x 1080		
Pan / Tilt	Pan: ±100°, Tilt: ±30°	Pan: ±100°, Tilt: ±20°	(Manual) Pan: ±180°, Tilt: ±20° (Electronic) Pan: ±23°, Tilt: ±14°*6
Zoom (optical/digital)	12x / 10x	3x / 4x	No optical zoom / i.Zoom 2x*7, Digital zoom 4x
Horizontal Angle of View	Maximum 56°(Wide)	Maximum 85°(Wide)	Maximum 95°(Wide)
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	Approx. 80 mm x approx. 138 mm x approx. 117 mm
Weight	Approx. 1.2 kg	Approx. 0.8 kg	Approx. 0.25 kg
Power Consumption	Power supply voltage: 12 VDC±10% (with AC adaptor attached) Consumption current: 1.0 A	Power supply voltage: 16 VDC±10% (with AC adaptor attached) Consumption current: 0.6 A	Power supply voltage: 5 VDC±10% (with AC adaptor attached) Consumption current: 0.8 A
Operating Temperature	0 °C to 40 °C		
Operating Humidity	10 % to 90 % (non-condensing)		

Extension Cable for the Digital Boundary Microphone	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)

*1 The optional Activation Key Card lets you upgrade the maximum resolution of the KX-VC300 system to 1080p/i.

*2 Some restrictions apply when 3 or 4 locations are connected. For details, please consult with your local dealer. When connecting to non-Panasonic videoconference systems, connection is limited to 2 locations.

*3 The KX-VC300 also allows connection of 3 or 4 locations when it is on the receiving end of a call. The optional Activation Key Card lets you expand the KX-VC300's maximum conference points to up to 4 locations.

*4 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 HD Visual Communications Unit using SIP.
• The MIC position is set manually to "Center stereo", or the MIC position is set automatically with a Digital Boundary Microphone connected to the unit and no Analogue Boundary Microphone connected to the unit at the same time.

*5 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 HD Visual Communications Unit using SIP.
• Digital Boundary Microphones and an Analogue Boundary Microphone are not being used together.

*6 With i.Zoom 2x.

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

Trademarks and registered trademarks
- Android is a trademark of Google Inc.
- Linux is the registered trademark of Linus Torvalds in the U.S. and other countries.
- Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

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

• All TV 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-HDCC002EN 1209NSP/SSP----1

Panasonic
ideas for life

HD Visual Communications System
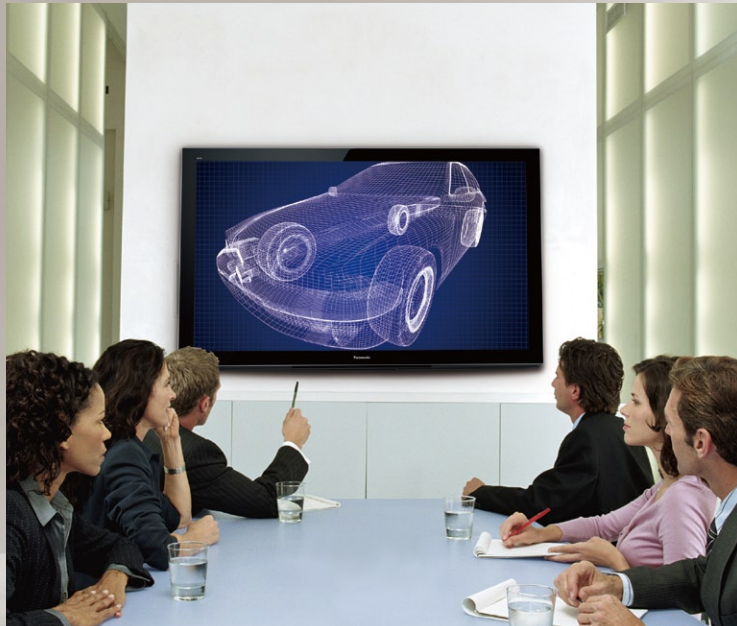
KX-VC600
KX-VC300

So Real, So Simple

KX-VC600

KX-VC300

Distance Is No Longer a Barrier

Our HD Visual Communications System makes it possible to communicate and collaborate with colleagues and industry experts wherever they happen to be.

Manufacturing

By connecting development, production and sales departments, and collaborating with true-to-life ambience from remote sites, you can reduce travelling times and costs while enhancing cooperation between your company and your partner companies.

Healthcare

Providing medical advice and training for young doctors in rural hospitals from specialists in city hospitals can be done very smoothly. By linking sub cameras and sharing PC screens, even highly technical exchanges, such as viewing X-rays, can be conducted with ease.

Education

Connecting classrooms, research labs, other departments and even other schools makes it easy to share knowledge. This lets you respond to demands for reducing the travelling time between campuses, solving the shortage of specialised instructors, and diversifying after-school lessons for elementary education.

And more...

The high-quality HD Visual Communications System enables zero-distance communication for operations at construction sites and financial institutions, music rehearsals, retail businesses, storage inventory management, public services, and various other business situations.

Select a Model to Suit Your Application and Scale
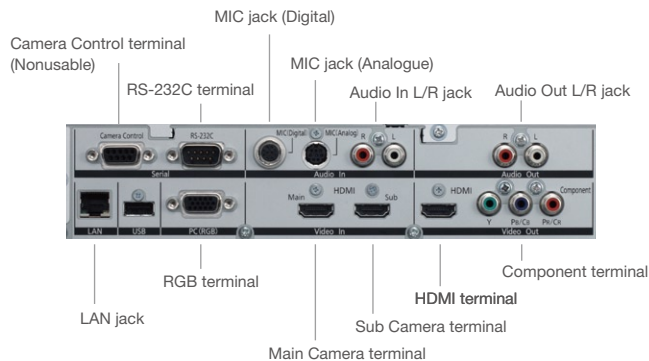
4-site Connection Compatible Model with Full-HD Image Quality

KX-VC600 (Remote control included. Boundary Microphone sold separately.)

- Up to 4 site connection
- Real time Full-HD 1080p/i video quality
- High quality audio and smooth 2-way stereo conversation
- Convenient sub-camera and PC connection for real-time collaboration
- Easy, user-friendly operation
- Stable connection with Panasonic's AV-QoS
- Wireless Communication
- NAT/FW Traversal

Entry Model with 2-Site Connection
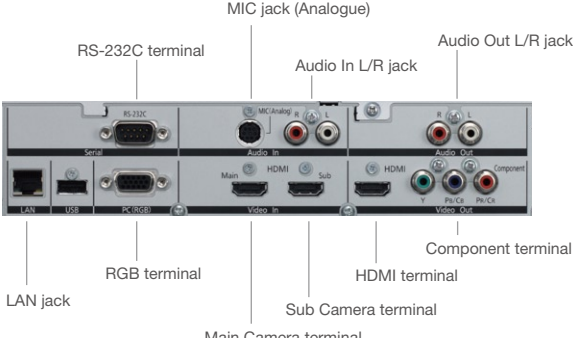
KX-VC300 (Remote control included. Boundary Microphone sold separately.)

- 2 site connection* (expandable up to 4 with option)
- Real time HD 720p video quality (expandable to 1080p/i with option)
- High quality audio and smooth 2-way stereo conversation
- Convenient sub-camera and PC connection for real-time collaboration
- Easy, user-friendly operation
- Stable connection with Panasonic's AV-QoS
- Wireless Communication
- NAT/FW Traversal

* The KX-VC300 also allows connection of 3 or 4 locations when it is on the receiving end of a call.

[Rear Panel View]

Camera Control terminal (Nonusable)
MIC jack (Digital)
RS-232C terminal
MIC jack (Analogue)
Audio In L/R jack
Audio Out L/R jack
RGB terminal
LAN jack
Main Camera terminal
Sub Camera terminal
HDMI terminal
Component terminal

[Rear Panel View]

MIC jack (Analogue)
RS-232C terminal
Audio In L/R jack
Audio Out L/R jack
RGB terminal
LAN jack
Main Camera terminal
Sub Camera terminal
HDMI terminal
Component terminal

Function Comparison List

	Maximum Conference Points	Image Resolution	Other-brand Device Connection*[1]	MCU Interoperability*[2]	Computer Connection	Sub Camera Connection	Digital Boundary Microphone (KX-VCA001)	Analogue Boundary Microphone (KX-VCA002)
KX-VC600	4	Full HD 1080p/i	Yes	Yes	Yes	Yes	Yes (1-4 unit)	Yes (1 unit)
KX-VC300	2*[3]	HD 720p*[4]	Yes	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 KX-VC300 also allows connection of 3 or 4 locations when it is on the receiving end of a call.
    The optional Activation Key Card lets you expand the KX-VC300's maximum conference points to up to 4 locations.
*4 The optional Activation Key Card lets you upgrade the maximum resolution of the KX-VC300 system to 1080p/i.

■ Optional Accessories*

HD Communication Camera
GP-VD150
A PTZ camera with 12x optical zoom for medium- to large-scale meeting rooms.

GP-VD130
A PTZ camera with wide-angle lens and compact body for medium-scale meeting rooms.

AW-VC2
A fixed(digital PTZ) camera with magnifier function and wide-angle lens for small-scale meeting rooms. Ceiling mounting is also possible.

Camera Security Adaptor
KX-VCZ001
A theft prevention accessory for full-HD camcorder

Digital Boundary Microphone
KX-VCA001
A high-grade microphone with a direction recognition function that detects the direction that voices are coming from.

Analogue Boundary Microphone
KX-VCA002
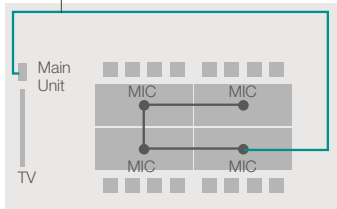A compact, economical and high-grade stereo microphone.

Extension Cable for the Digital Boundary Microphone
KX-VCAEX01
This extension cable makes it possible to set up in places that cannot be reached by the cable that comes with the Digital Boundary Microphone.

Connect the main unit and first microphone.

Main Unit
TV
MIC MIC
MIC MIC

■ Optional Software*

HDVC-MPCS
(HDVC Multi-Point Connection Software)

HD Visual Communications Units can be increased to a maximum of 16 videoconference sites. Increases can be made from 8 to 12 sites, and from 12 to 16 sites.

• It is not possible to increase 6-site systems.

■ Related Products*

Full-HD Camcorder

Professional Video Camera

Full-HD Plasma/LCD Display

• HDMI cables are required for connection to the camera, TV, etc.

TV Stand Installation Examples

Sub Camera
TV
Main Camera
Main Unit
Boundary Microphone
TV Stand

*Sold separately

Panasonic Technology Lets You Achieve Real Collaboration

High Image Quality

Full-HD* 1080p images are produced at an IP rate of approximately 1.5 Mbps. This makes visual communication with distant people as easy and comfortable as watching Full-HD programmes on TV. Even changes in the facial expressions of each person are distinctly relayed, and text from documents can be clearly read.

*The KX-VC300 displays 720p images.

SD
Conventional Videoconference Systems

Panasonic's Image Quality Technology

The Uniphier® system LSI, which is a digital home electronics platform, achieves realistic images that clearly portray the facial expressions and body language of each person.

UnIPhier®

* Uniphier® is a registered trademark of Panasonic Corporation.

Full HD
Even changes in the facial expressions, body language, hand gestures and fast movements of each person are smoothly reproduced.

Close-up Views with a Sub Camera

Use a sub camera to display close-up views of detailed parts that are difficult to see with the naked eye.

Let me show you a sample article.

Main Camera Image   Sub Camera Image

High Sound Quality

Full-duplex audio in broadband 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 enjoy smooth, natural conversations, just as if you were all in the same room.

The project concept is...

Before that, let me confirm something...

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

High-Performance Digital Boundary Microphone (Optional)

With four built-in microphones, the Digital Boundary Microphone features a direction recognition function that reflects the direction and position of the speaker's voice to the listener's side speakers.

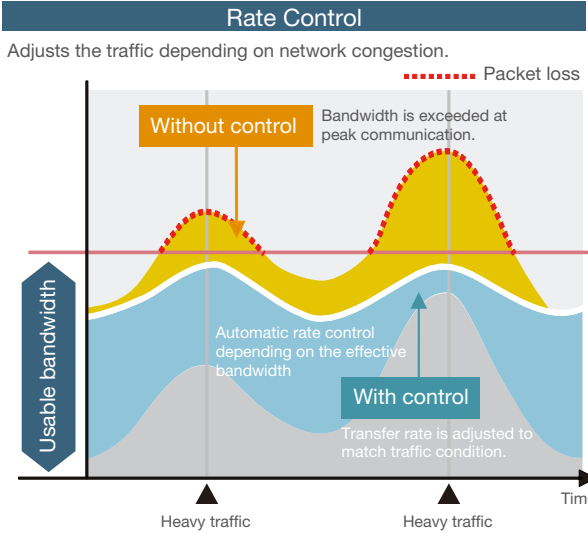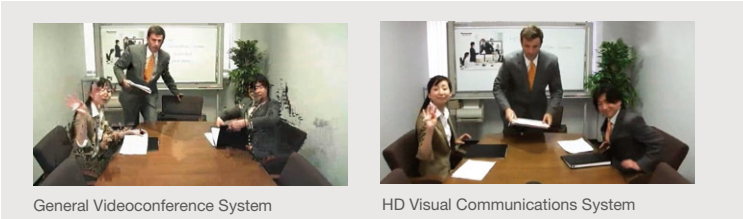*The Digital Boundary Microphone is compatible with the KX-VC600.

We'll have four members today. Our agenda is...

Thank you in advance!

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

Stable Connection

The generation of packet losses is prevented by a rate control function, and lost packets are restored by the combined use of Forward Error Correction (FEC) and Automatic Repeat reQuest (ARQ). Image disruptions and audio interruptions are suppressed for both intranet and Internet connections to ensure stable connection.

■ Comparison with a congested network connection.

General Videoconference System   HD Visual Communications System

Rate Control
Adjusts the traffic depending on network congestion.

Packet loss

Without control — Bandwidth is exceeded at peak communication.

Usable bandwidth

Automatic rate control depending on the effective bandwidth

With control — Transfer rate is adjusted to match traffic condition.

Heavy traffic   Heavy traffic   Time

Wireless Communication

Connection is possible with a wireless router (Wi-Fi®, WiMAX), so the HD Visual Communications Unit can be taken to wherever the user is. This also keeps the wiring at the videoconference site simple. Wireless support AV-QoS ensures a stable connection even during wireless connection. This expands the areas of use to include videoconferences in places other than meeting rooms like factories and showrooms that are not equipped with LAN cables.
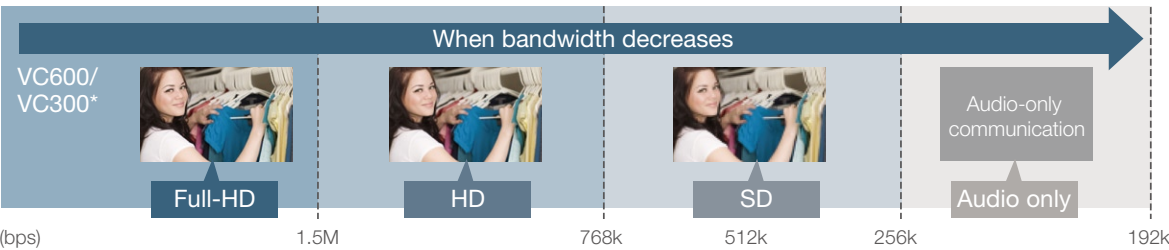
*Wi-Fi is a registered trademark of Wi-Fi Alliance®.

Low Bandwidth Communication Supported

The HD Visual Communications System enables communication at low bandwidths by adjusting to the network status. Video and audio communication at 256 kbps/site minimum, and audio-only communication at 192 kbps/site minimum are possible.*

* For 2-site communication. Actual communication varies depending on the network status and settings.

When bandwidth decreases

VC600/VC300*

Full-HD   HD   SD   Audio-only communication

Audio only

(bps)   1.5M   768k   512k   256k   192k

* The optional Activation Key Card lets you upgrade the maximum resolution of the KX-VC300 system to 1080p/i.

Panasonic Technology Lets You Achieve Real Collaboration

Easy Operation

Most operations can be handled using the remote control, so you can operate the system as if you were watching TV. Switching screen displays and switching between a PC and sub camera can be done easily with the click of a button. Large characters, buttons, easy-to-see displays, and colour combinations are designed for easy operation.
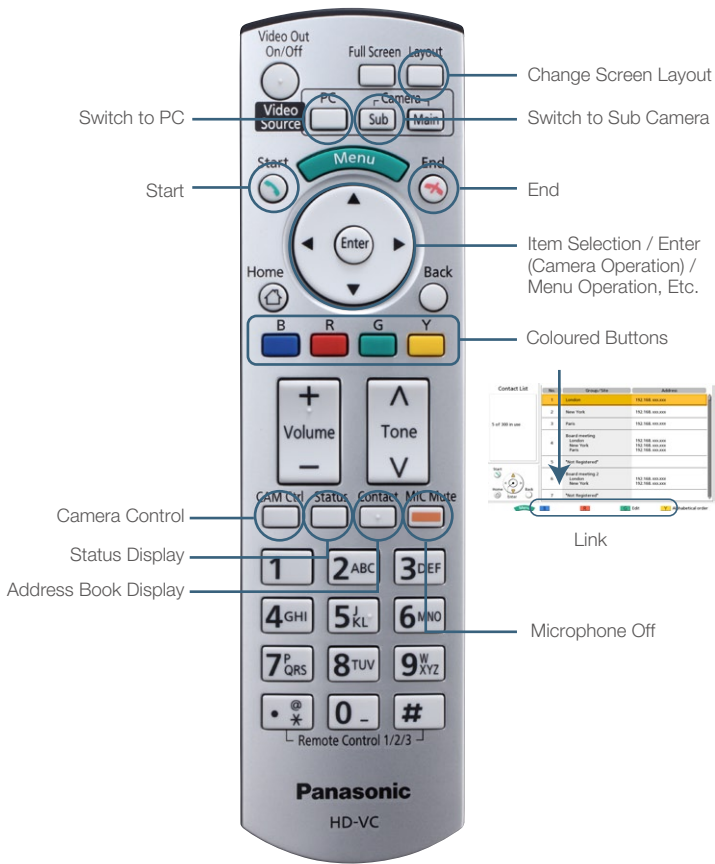
1 Turn on the main unit, TV, and camera.

2 Select the access point from the screen's menu.

3 Press the "Start" button.

4 You're ready to start the meeting.

Switch to PC
Start
Home
Camera Control
Status Display
Address Book Display

Change Screen Layout
Switch to Sub Camera
End
Item Selection / Enter (Camera Operation) / Menu Operation, Etc.
Coloured Buttons
Link
Microphone Off

Commonly used functions can be easily operated by using allocated buttons.
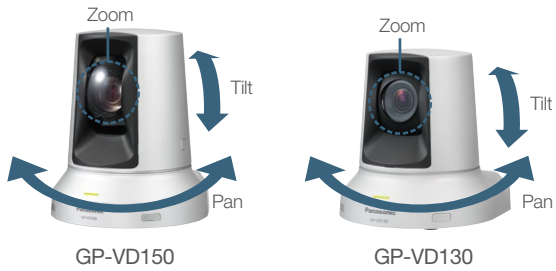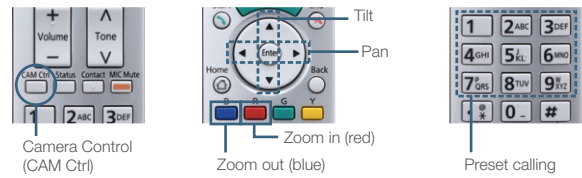
Changeable Screen Layouts

Even when 4 sites are connected, the screen layouts can be flexibly changed to enable smooth remote conferencing. Changing the screen layout is done with a one-touch button on the included remote control, so it is easy even for someone doing it the very first time.

Layout 1 — Site A | Site C | Site B
Layout 2 — Site A | Site C | Site B | Self Image
Layout 3 — Site A
Layout 4 — Site B
Layout 5 — Site C
Layout 6 — Self Image

Camera Control

When an HD Communication Camera is connected, the HD Visual Communications System remote can be used to control pan, tilt, zoom and preset recall* operations for both your camera and the camera at another party's site.

* Up to nine shooting positions and zoom sizes can be set and shifted by a single touch of the remote control during communication. Preset registration is possible only for your own site (and not during communication).

Camera Control (CAM Ctrl)
Tilt
Pan
Zoom in (red)
Zoom out (blue)
Preset calling

Zoom — Tilt — Pan
GP-VD150
Zoom — Tilt — Pan
GP-VD130

• The HD Visual Communications System used at all communicating sites must be Version 2.3 or later in order to enable camera control during communication.
• Ceiling mounting is not possible for the GP-VD150 / GP-VD130.

Magnifier Function

You can enlarge a selected part of the image and display it in any of the four screen corners. This improves the quality of communication by letting you see the facial expression of the person you are speaking with. (This function can be used only with the AW-VC2.)

NAT Traversal Service - Easy to Connect Cloud Service

This is a cloud service that uses dedicated Panasonic servers. It provides smart visual communication without having to use ordinary leased lines, and without the complicated router settings that leased lines require. It's the easy way to start videoconferencing.

• No complicated router settings needed.
• Access a 7-digit terminal ID number with the same ease as dialling a phone number.
• Connect securely with encrypted communication, using the Internet.

* Actual use requires the separate purchase of the KX-VCS701 (for 1 year of use) or KX-VCS703 (for 3 years of use) Activation Key Card for the NAT Traversal Service.
* Connection using this service is only possible between Panasonic HD Visual Communications Systems. Please ask your nearest dealer for details of this service.
* Please use a router that has been approved by Panasonic for use with this service.
* Availability varies depending on the country and region.
* Legal regulations prevent the supply of this service to China.

For detailed information, please access the following URL.   **http://panasonic.net/psn/products/hdvc/nat_traversal/index.html**

NAT Traversal Service
Router — Internet — Router
Begin Communication
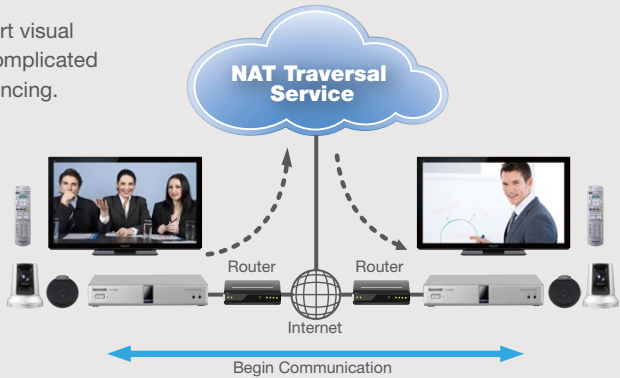
Plus＋ HDVC Mobile

HDVC Mobile, an Android application, will connect an Android terminal to the HD Visual Communications System on a 1:1 basis over a Wi-Fi® network. This lets you participate in videoconferences from your office or on the go.
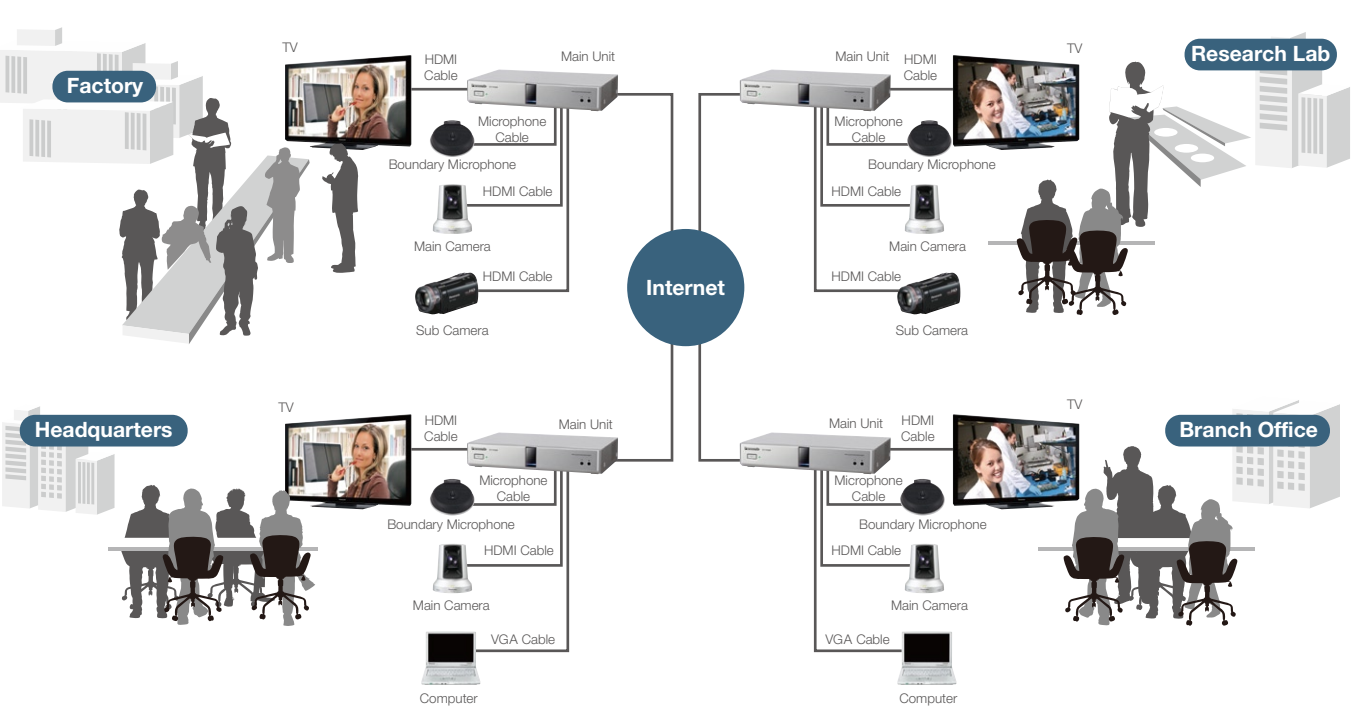
* Actual use requires the separate purchase of the KX-VCS751X (for 1 year of use) or KX-VCS753X (for 3 years of use) 5 Mobile Activation Keys for the HDVC Mobile.
* Android is a registered trademark of Google Inc.
* Wi-Fi is a registered trademark of Wi-Fi Alliance®.
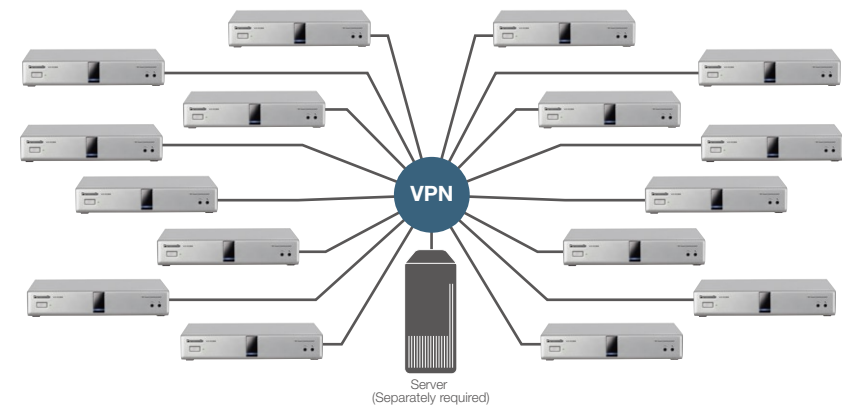
System Configuration Example

4-Site Connection
This remote conference system lets you hold meetings to share detailed product checks and data.

Factory — TV, HDMI Cable, Main Unit, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, HDMI Cable, Sub Camera

Research Lab — Main Unit, HDMI Cable, TV, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, HDMI Cable, Sub Camera

Internet

Headquarters — TV, HDMI Cable, Main Unit, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, VGA Cable, Computer

Branch Office — Main Unit, HDMI Cable, TV, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, VGA Cable, Computer

*The KX-VC300 allows connection of up to 4 locations when it is on the receiving end of a call with the KX-VC600 set as the base unit.
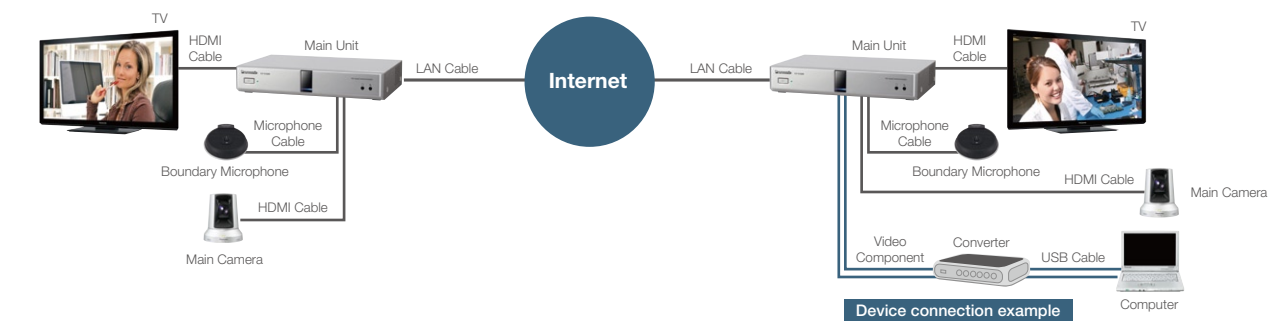
HDVC-MPCS
Up to 16 site
(HDVC Multi-Point Connection Software)

The connection of HD Visual Communications Units can be increased to a maximum of 16 videoconference sites.

VPN

Server (Separately required)

Recording Capability
The images and sounds of the meeting can be recorded for later review.

TV, HDMI Cable, Main Unit, LAN Cable, Internet, LAN Cable, Main Unit, HDMI Cable, TV, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, Microphone Cable, Boundary Microphone, HDMI Cable, Main Camera, Video Component, Converter, USB Cable, Computer
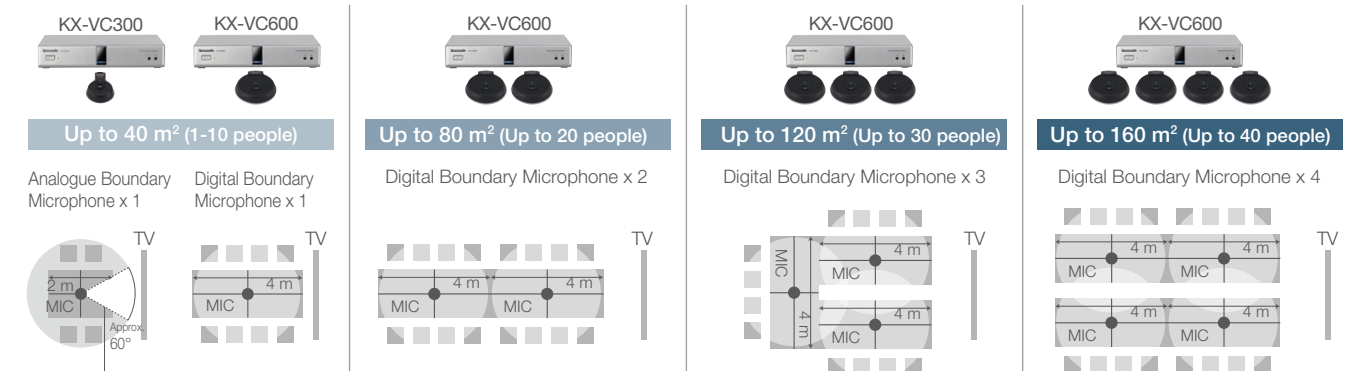
Device connection example

Recommended Room Size for HD Communication Cameras

Select the HD Communication Camera that matches the size of the room in which the HD Visual Communications Unit will be used.

AW-VC2 (10 to 20 m²)　　GP-VD130 (10 to 40 m²)　　GP-VD150 (10 to 80 m²)

Small ⟷ Large
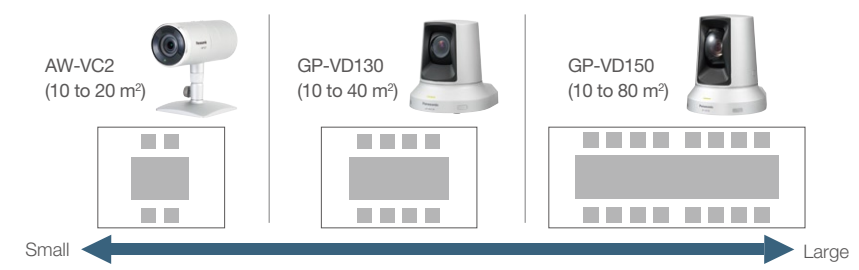
Microphone and Pick-up Capacity
You can configure flexible systems that match the number of connection locations and the sizes of the rooms.

KX-VC300	KX-VC600	KX-VC600	KX-VC600	KX-VC600
Up to 40 m² (1-10 people)		Up to 80 m² (Up to 20 people)	Up to 120 m² (Up to 30 people)	Up to 160 m² (Up to 40 people)
Analogue Boundary Microphone x 1	Digital Boundary Microphone x 1	Digital Boundary Microphone x 2	Digital Boundary Microphone x 3	Digital Boundary Microphone x 4

*The Analogue Boundary Microphone exceeds the sound-collecting range at an angle of about 60° on the connector side.

*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 Digital/Analogue Boundary Microphone. The capacity varies when using another microphone.

Function Expansion
Purchasing the optional Activation Key Card lets you flexibly expand functions based on your needs.

Applicable Model

KX-VC300 → Upgrade → 4-site Connection/Full-HD

2-site Connection ▶ Upgrade to 4-site Connectability
KX-VCS301 (Optional): Special KX-VC300 4-site Expansion Activation Key Card

HD Image Quality ▶ Upgrade to Full-HD Image Quality
KX-VCS401 (Optional): Special KX-VC300 1080p/i Full-HD Expansion Activation Key Card

Applicable Models

KX-VC600 / KX-VC300

The NAT Traversal Service can be used for one year.
KX-VCS701 (Optional): 1-Year NAT Traversal Service Activation Key Card

The NAT Traversal Service can be used for three years.
KX-VCS703 (Optional): 3-Year NAT Traversal Service Activation Key Card

KX-VC600 / KX-VC300

The HDVC Mobile can be used for one year.
KX-VCS751X (Optional): 5 Mobile Activation Keys - 1 Year

The HDVC Mobile can be used for three years.
KX-VCS753X (Optional): 5 Mobile Activation Keys - 3 Years