

# SONY

Enhancing meetings  
of the mind

**IPELA**  
INTEGRATED VISUAL COMMUNICATION

PCS-G50P  
Video Communication  
System

[www.sonybiz.net](http://www.sonybiz.net)



# IPELA

Stunning video and audio brought to you by "IPELA" fashions the novel reality for the modern businessperson. Sharing ideas and dreams as if you are collocated when your counterpart is half-way around the world, experiencing images as if you are actually there, this is "IPELA". Real audiovisual communication over networks – this is business communication of the future, brought to you today. This is "IPELA".



## Sony PCS-G50P – The Business Tool for Visual Communication

Videoconferencing is evolving. For use in corporate boardrooms, operating theatres or large-scale auditoria, today's professional conferencing users demand much more than sparkling picture and audio quality. They also need versatile multi-point operation, hassle-free set-up, reliability and easy expansion to meet future needs.

Teaming high performance and advanced features with friendly operation, the elegantly-styled PCS-G50P sets a new benchmark for voice, video and data communications. Supporting latest coding standards for smoother, more natural video images, the PCS-G50P delivers television quality pictures and crystal-clear wideband audio in point-to-point or multipoint calls. It's also designed as a smarter, more secure conferencing solution, allowing you to set up calls across any mix of IP, ISDN, DSL and (mobile) telephone connections.

Advanced Quality of Service features ensure optimum call quality under all network conditions, while embedded encryption ensures that confidential information stays that way. Effective multi-site conferencing is an increasingly vital aspect of modern business communications. The PCS-G50P can connect directly with up to five remote sites, or with up to ten sites in cascade mode. Multiple participants can be viewed on one screen in split-screen format with the name of each participant labelled on-screen so it's always clear who is speaking. The dual-camera capability of the PCS-G50P enriches any conference where a second point of

view is required. Video can be received simultaneously from two sources, with images viewed on separate monitors or on a 'split' display. It's even possible to capture widescreen 16:9 images to suit the latest plasma and LCD display screens using the Sony BRC-300 3-CCD colour camera.

Fuss-free, intuitive operation is a hallmark of the PCS-G50P. The customisable user interface offers a Quick Dial feature for rapid set-up of any conference without fiddly entry of phone numbers and user settings. Alternatively, slip in a Memory Stick and the PCS-G50P will auto-launch a conference, adjusting all necessary settings according to the contents of your personal address book.

Adding an optional data-sharing box turns the PCS-G50P into a powerful multimedia tool for distance learning, training and other knowledge-sharing applications. Augment every conference with sparkling graphs, charts and images from a connected notebook PC or make sketches and annotations in real-time using the Mimio Xi™ electronic whiteboard. For the largest rooms and venues, XGA data images can be viewed during a conference on a separate monitor or projector while two other monitors display a far-side view and self-view.

**Powerful, flexible and expandable yet supremely stylish and simple to use, the new Sony PCS-G50P brings people, images and ideas closer together than ever before.**

## FEATURES

### ■ High-Quality Video/High-Speed Network Connection

The high quality video codec and high-speed network support of the PCS-G50P delivers video quality comparable to standard TV broadcasts, offering 4CIF live video at bandwidths as high as 4 Mbps over IP networks or 2 Mbps over ISDN. In addition, the PCS-G50P offers full support for the recently-ratified ITU-T H.264 video codec standard, supporting interlaced SIF with 50 fields per second for extremely smooth, natural images\*. In addition to the supplied PCSA-CG70P camera unit, the PCS-G50P supports a range of optional colour Pan/Tilt/Zoom video cameras: the BRC-300, a 16:9/4:3 switchable 3-CCD camera that delivers exceptional quality video and that is an ideal complement to the latest generation of widescreen camera display; the EVI-D70PW, a white model of PTZ video camera; the EVI-D70P, a black model of PTZ video camera; the EVI-D100P, a PTZ video camera.

\* The PCS-G50P supports a maximum of 50 fields per second in interlaced SIF format.

### ■ Multi-Point Videoconferencing at up to 10 Sites Fig 1

Using optional MCU software, the PCS-G50P can be configured to communicate with up to 5 remote videoconferencing sites (6 sites total) simultaneously using either an IP (H.323 protocol) or ISDN (H.320 protocol) connection. It can also support videoconferences in which the connections are any combination of IP and ISDN or telephone, using a unique bridging function. And because the PCS-G50P has a "speedmatching" function, it maximises performance by combining the highest bandwidth ISDN available with the highest over IP. Moreover, two PCS-G50P units - each installed with the optional MCU (H.323) software - can be cascaded with an IP connection to support a maximum of 10 simultaneous sites. As part of the G series, the PCS-G50P provides high quality, H.264 CIF video and clear MPEG-4 AAC audio, even in a multi-point videoconference. And of course, the PCS-G50P allows users to expand from a peer-to-peer videoconference to a multi-point videoconference by simply dialing up new connections.\*

\* When adding a new endpoint on the same network (IP or ISDN), the system will default to the lowest resolution video standard of all endpoints.

### ■ Site-Name Display Fig 2

During multi-point videoconferences, it can be difficult to keep track of all of the participants; however, with the PCS-G50P site-name display function, this is no longer the case. The PCS-G50P can display anything from company or branch names to geographical locations on a monitor, allowing videoconference participants to keep track of all parties.

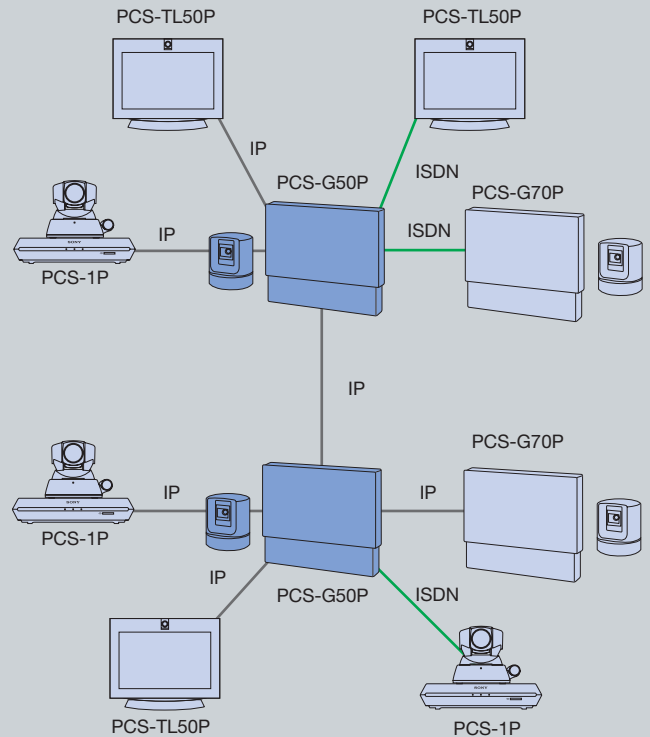
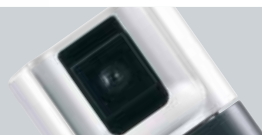


Fig 1 Multi-point Videoconferencing at up to 10 Sites



Fig 2 Site-Name Display





## ■ Flexible Display Patterns at all Sites

In addition to conventional patterns of display, such as showing the far-end site on a full screen or displaying near-end and far-end sites in picture-in-picture mode, a variety of other display patterns are available with the PCS-G50P. Supporting both 4-screen and 6-screen continuous-presence modes, the PCS-G50P can display the most appropriate pattern to match the number of sites that are connected. In both full-screen and continuous-presence modes, the following two display options are available:

### Voice Switching

The PCS-G50P defaults to voice switching, which displays the far-end site that is actively talking on the monitor when the unit is in full-screen mode. In continuous-presence mode, the site that is actively speaking is displayed on the largest of the six sub screens, and the near-end site is displayed on the sub screen where the original far-end site was.

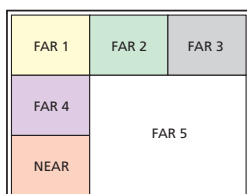
Videoconferences with up to four parties will be displayed in the 4-split screen mode, with all parties on one screen. If there are more than four parties on your call, the "5+1 continuous presence" mode appears. This allows all participants, at all sites, to see each other on one screen.

### Fixed Site Fig 3

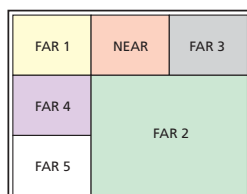
As its name suggests, the selected far-end site is continuously displayed on the monitor when the unit is in full-screen mode. In continuous-presence mode the selected far-end site is displayed in the largest of the six sub screens, and the other sites are fixed as well.

## ■ Record your Videoconferences on a Memory Stick

Capturing audio and video during a videoconference is important in order to keep a record of what was said and by whom. The PCS-G50P's MemoryStick-based recording capability enables absent attendees and colleagues on the move to replay a videoconferencing session on either a laptop or desktop PC, removing the need for writing time-consuming minutes. The MemoryStick recording feature uses MPEG-4 coding for audio and video to deliver high quality playback using QuickTime.



If FAR 5 is talking



If FAR 2 is talking

Fig 3 Voice Switching in Continuous Presence Mode

## ■ Data-Sharing Capabilities/Mimio Xi Electronic Whiteboard Support

Data originated on your PC can be shared with your videoconferencing counterparts, making communication even more effective. Any image that can be displayed on a PC can be sent or received in native XGA resolution, allowing all parties to share data during a videoconference. In addition, information drawn up on a Mimio Xi electronic whiteboard<sup>™</sup> can also be viewed in real time by all parties participating in a videoconference or captured and stored for later reference.

\* Sending data requires the optional PCSA-DSB1S Data Solution Box (DSB); however, the DSB is not required for receiving data.

\*\* Please contact your local Sony sales office for information on compatible digital whiteboards.

### ■ Superb Sound Fig 4

The PCS-G50P reproduces clear and natural-sounding audio using MPEG-4 AAC (Advanced Audio Coding) at 14 KHz. A built-in echo cancellation system minimises unwanted echoes during a videoconference.

The PCS-G50P is also compatible with a number of Sony external microphones and speakers, including unidirectional and omnidirectional models. Professional A/V integrators will particularly appreciate the power and flexibility of this system to be customized for best application match.

For exceptional sound quality in rooms with conference tables in a U-shape or in a classroom layout, the optional unidirectional PCSA-A7 microphone is ideal. Up to 40 units can be daisy chained to ensure that all participants sitting near a microphone can be heard.

### Audio and Video Streaming

In addition, software enables a built-in streaming function on the PCS-G50P, which is ideal for situations such as large corporate events where many employees can witness a presentation or for educational purposes, where streaming allows groups of students to see and hear the lecture take place on their PC or laptop. The streaming application uses MPEG-4 coding for audio and video and is available in point-to-point, IP, ISDN and mixed multipoint connections. Playout of the audio and video on a PC is handled using QuickTime.



## ■ Stylish Design

With its elegant design and optional stands for both the camera unit and the codec unit, the PCS-G50P can fit into even the classiest of conference rooms.

## ■ Easy-to-Use Remote Commander Unit/Intuitive GUI

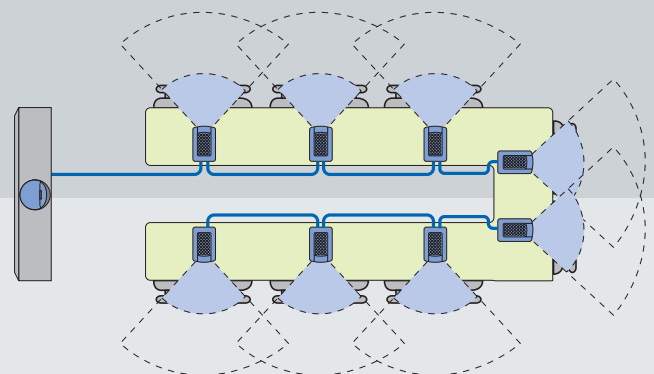
The PCS-G50P has a number of features that make it easy to operate. The cursor keys on the Remote Commander unit can be used to select and call any one of three contacts, which are pre-programmed and displayed in the Launcher Menu. Up to 500 contacts can be stored in the PCS-G50P common address book for quick and easy dialing. In addition, the unit supports a call history log, which stores the last 32 incoming and outgoing calls so that the user can readily select and dial a recent contact. It is also possible to fully customise the launcher Menu by removing the icon you don't need or changing the background according to either the application or the environment.



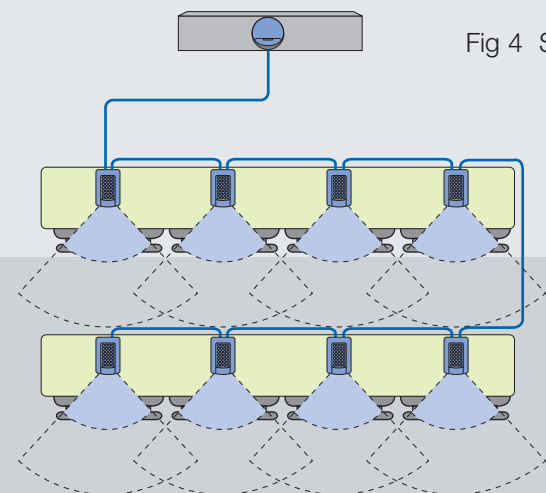
Launcher Menu



Phone Book



PCSA-A7 (U-Shaped Conference Table)



PCSA-A7 (Classroom Layout)

Fig 4 Superb Sound

## ■ Memory Stick™ Support\*

Memory Stick offers unique and varied support for Sony. Simply connect Memory Stick to the main processing unit of the PCS-G50P, and it acts as a personal assistant, secretary, bookkeeper, IT manager and presenter.

Insert Memory Stick into the PCS-G50P and automatically activate your private phone book, eliminating the need to manually enter contact information to place a call. Memory Stick also stores call log files, simplifying billing procedures.

Memory Stick records videoconferences and plays back on your PC making it unnecessary for users to take meeting minutes.

Additionally, users may update software, copy and paste system settings and install new firmware - all with Memory Stick. Pictures from a Sony Cyber-shot camera can be shown in a slideshow during any videoconference by inserting Memory Stick into the PCS-G50P and opening the Memory Stick directory.

\* In addition to Memory Stick, Memory Stick PRO™ and Memory Stick DUO™ with an adaptor can be used.

## ■ Secure Videoconferencing – Advanced Encryption Standard (AES)

Secure videoconferencing over a network is possible because the PCS-G50P supports AES Encryption, a NIST (National Institute of Standards and Technology) standard for encrypting electronic data used in commercial applications including telecommunications. When a videoconference is initiated with the AES feature active, video, audio, and graphics are encrypted for the duration of the videoconference. Because of this feature, companies can hold sensitive

meetings, negotiations and other similar interactions with confidence that they will not be compromised.

## ■ QoS (Quality of Service) Enhancement Functions

When holding a videoconference over a network, a common concern is how to maintain video and audio quality when the performance of the network is changing. The PCS-G50P provides three advanced functions to enhance QoS over a network, which can be combined when in/set to 'Hybrid mode'.

### Forward Error Correction (FEC)

The PCS-G50P employs an FEC function that corrects errors in transmission at the receiving end. If a transmission error occurs, the PCS-G50P can repair the data and accurately reproduce the original audio and video.

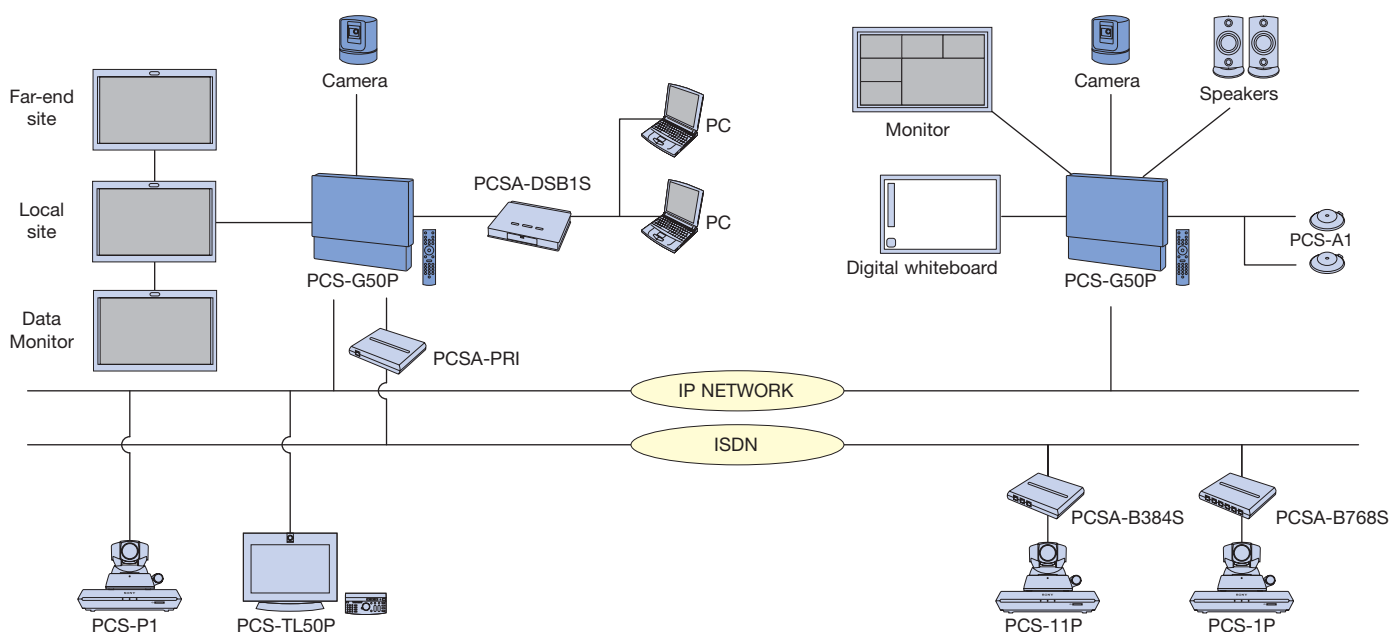
### Adaptive Rate Control (ARC)

The adaptive rate control function automatically varies the video data transfer rate to meet changing network conditions. It also selects the most appropriate frame rates, which helps prevent audio and video breakup.

### Real-time Auto Repeat Request (ARQ)

The real-time ARQ function recovers lost IP packets. This is achieved by buffering the packets at the encoder and resending any that are lost. This feature helps maintain audio and video quality, and helps prevent picture collapse even under high network traffic conditions.

## SAMPLE SYSTEM CONFIGURATION



## Optional Accessories to further enhance your video communication



**PCSA-DSB1S**  
Data Solution Box



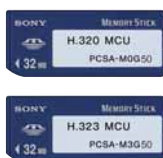
**PCSA-B768S**  
ISDN Unit (6 BRI)



**PCSA-B384S**  
ISDN Unit (3 BRI)



**PCSA-CG70P**  
Communication  
Secondary Video Camera



**PCSA-M0G50**  
H.320 MCU Software  
**PCSA-M3G50**  
H.323 MCU Software



**PCSA-SP1**  
SIP Software



**PCS-A1**  
Omnidirectional Microphone



**PCSA-A3**  
Unidirectional Microphone



**PCSA-A7**  
Echo-cancelling Microphone  
(4 mics per package)



**PCSA-PRI**  
Primary Interface Unit



**EVI-D70P**  
Communication  
Video Camera (white)



**EVI-D70P**  
Communication  
Video Camera (black)



**EVI-D100P**  
Communication  
Video Camera



**PCSA-STMG70**  
Codec Stand



**PCSA-STCG70**  
Camera Stand



# PCS-G50P SPECIFICATIONS

| Video         |   |
|---------------|---|
| Signal system | PAL   |
| Standards     | H.261 (Annex D), H.263 (Annex D.F), H.263+ (Annex J), H.263++ (Annex U,W), H.264, MPEG-4 SP@L3  |
| Resolution    | SQCIF (128 x 96, reception only), QCIF (176 x 144), CIF (352 x 288), 4CIF (704 x 576, H.263 only), Interlaced SIF (H.263, H.264 only)   |
| Frame rate    | Max. 30 frames/s (H.261, H.263, H.263+, H.263++, H.264, and MPEG-4 SP@L3)   |
| Bit rate      | Interlaced SIF Mode 50 fields/s)<br>Up to 384 Kb/s in H.320 (Incl. audio) when configured with the PCSA-B384S<br>Up to 768 Kb/s in H.320 (Incl. audio) when configured with the PCSA-B768S<br>Up to 2 Mb/s in H.320 (Incl. audio) when configured with the PCSA-PRI |

| Audio                  |   |
|------------------------|---|
| Bandwidth and coding   | G.711: 3.4 kHz at 56/64 Kb/s<br>G.722: 7.0 kHz at 48/56/64 Kb/s<br>G.722.1: 7.0 kHz at 24/32 Kb/s (H.323)<br>G.728: 3.4 kHz at 16 Kb/s<br>G.723.1: 3.4 kHz at 5.3/6.3 Kb/s (H.323)<br>G.729: 3.4 kHz at 8 Kb/s (H.323)<br>MPEG-4 AAC (mono) 14 kHz at 64/96 Kb/s (H.323) at 48 Kb/s (H.320) |
| Echo cancellation      | Noise Suppressor included<br>Automatic Gain Control included  |
| Memory Stick recording | Record audio and video in MPEG4 format onto a Memory Stick.<br>Audio at 64kbps<br>Video at 64, 128, 256, 384 and 512 kbps selectable  |

| Graphics |  |
|----------|--|
| XGA      | 1024 pixels x 768 lines (H.263), with PCSA-DSB1S |
| 4CIF     | 704 pixels x 576 lines (H.261 Annex D and H.263) |

| Picture in Picture |                                       |
|--------------------|---------------------------------------|
| Sub screen size    | 4.3" (256 x 192), One of four corners |

| ITU-T Standards (excludes audio/video standards) |  |
|--|--|
| H.320, H.323                                     |  |
| H.221  |  |
| Bonding  |  |
| H.281 FECC                                       |  |
| H.225.0  |  |
| H.233, H.234, H.235                              |  |
| H.239  |  |
| H.242  |  |
| H.243  |  |
| H.245  |  |
| T.120  |  |

| Network Protocols |  |
|-------------------|--|
| TELNET (Server)   |  |
| HTTP (Server)     |  |
| FTP (Server)      |  |
| SNMP (Agent)      |  |
| DNS (Client)      |  |
| DHCP (Client)     |  |
| RTP/RTCP          |  |
| TCP/UDP           |  |
| ARP               |  |
| SIP               |  |

| Multipoint Capabilities        |  |
|--------------------------------|--|
| Up to 6 sites (H.320/H.323)*   |  |
| Up to 10 sites (H.320/H.323)** |  |

| Lip Synchronisation |  |
|---------------------|--|
| Manual On/Off       |  |

| Camera Unit           |   |
|-----------------------|---|
| Image device          | 1/4 type CCD                                  |
| Horizontal resolution | 460 TV lines                                  |
| Focal length          | 3.1 to 31 mm (F1.8 to 2.9)                    |
| Focus                 | Auto/Manual                                   |
| IRIS                  | Auto  |
| Zoom ratio            | x10 Optical zoom (x40 with digital zoom)      |
| Pan angle             | -100° to +100° (Max. 100°/sec)                |
| Tilt angle            | -25° to +25° (Max. 125°/sec)                  |
| Preset                | Up to 6 positions                             |
| S/N                   | More than 50 dB                               |
| Others                | Back light compensation<br>Auto white balance |

| Remote Commander |                |
|------------------|----------------|
| Format           | Wireless SIRCS |

| Interfaces (Communication Terminal) |   |
|-------------------------------------|---|
| Video                               | D-Sub 15-pin Dedicated Camera I/F x1<br>S-video or Composite input x1 (switchable with conversion connector)<br>S-video output x2 (for main/sub monitor)<br>Composite output (AUX)<br>RGB output              |
| Audio                               | Line input RCA<br>AUX input RCA (bypassess echo cancellor)<br>External analog microphone input, Mini-jack (Plug in power) x2<br>External digital microphone input x2<br>Line output RCA x2 (one mixed output) |
| Network                             | 10Base-T/100Base-TX<br>External ISDN Unit I/F   |
| Control                             | SIRCS IR Out x2<br>Wired SIRCS In (Control-S)<br>RS-232C  |
| DSB I/F                             | Dedicated D-Sub 15  |
| RGB I/F                             | RGB output  |
| Memory Stick                        | Memory Stick slot   |
| Digital whiteboard                  | Dedicated connector   |

| Interfaces (Camera Unit) |                  |
|--------------------------|------------------|
| Video                    | IR for DS150     |
| Terminal                 | Dedicated 23-pin |
| AUX camera               | 8-pin Mini-DIN   |

| General                |   |
|------------------------|---|
| Operating temperature  | 5 °C to 35 °C   |
| Operating humidity     | 30% to 70%  |
| Storage temperature    | -20 °C to +55 °C  |
| Storage humidity       | 25% to 75%  |
| Power Requirements     | AC 220 V to 240 V, 50/60 Hz   |
| Power Consumption      | DC 19.5 V, 5 A  |
| Communication Terminal | 420 x 66 x 256 mm (16 5/8 x 2 5/8 x 10 1/8 inches), excl. projections |
| Dimensions (W x H x D) |   |
| Camera Unit            | 131 x 141 x 130 mm (5 1/4 x 5 5/8 x 5 1/8), excl. projections         |
| Dimensions (W x H x D) |   |
| Remote Commander       | 47 x 43 x 195 mm (1 7/8 x 1 3/4 x 7 3/4 inches), excl. projections    |
| Dimensions (W x H x D) |   |
| Communication Terminal | 4.6 kg (10 lbs 2 oz)  |
| Mass                   |   |
| Camera Unit            | 1.0 kg (2 lbs 3 oz)   |
| Mass                   |   |
| Remote Commander       | 180 g (6.3 oz), incl. batteries                                       |
| Mass                   |   |

| System Components and Supplied Accessories   |  |
|--|--|
| Communication Terminal   |  |
| PCSA-CG70P Camera Unit (includes dedicated 3 m camera cable)   |  |
| Remote Commander   |  |
| AC Adaptor/Power Cord  |  |
| Omnidirectional Microphone   |  |
| IR Repeater x2   |  |
| Manganese Battery for Remote Commander x2  |  |
| Operation Manual CD-ROM (Japanese, English, French, Spanish, Italian, German, Portugese, Simplified Chinese) |  |
| Operation Guide  |  |
| Quick Connection Guide   |  |
| Cable Connection Guide   |  |
| Worldwide Warranty Booklet   |  |
| Audio Cable (1.0 m)  |  |
| S-Video Cable (1.5 m)  |  |
| Mini DIN 7-pin to RCA Conversion Connector   |  |

\* Requires optional MCU software. IP/ISDN Bridging is possible.

\*\* Requires optional MCU software. Connections between base units must be IP (H.323). IP/ISDN Bridging is possible.