

# SONY®

Video Communication System

## PCS-1

## PCS-1P



## FEATURES

### Data-Sharing Capabilities

Share presentation documents originated from your PC and hand-written content on a whiteboard within an audio- and video-based conference – as if all meeting participants were in the same room. The PCS-1/1P provides two major capabilities to achieve this benefit:

#### Sharing Presentation Documents in XGA Resolution

Connecting an optional PCS-DSB1 Data Solution Box and the PCS-1/1P can transfer screen shots in XGA resolution from your PC to remote sites through a network or an ISDN line. This allows you to share presentation documents created in software applications such as Microsoft® PowerPoint®, Microsoft Excel, and Microsoft Word, as well as other still images on your PC screen with your videoconferencing counterparts. Up to two PCs can be connected to a PCS-DSB1 for faster transition between presenters, and with the touch of a button, screen shots from the selected PC can easily be transmitted. You can choose to view the screen shots with a single monitor in "Picture in Picture" mode\*, or using a second monitor in "Full-screen" mode.

\* In "Picture in Picture" mode with a single monitor, screen shots are displayed in the main screen area, while video is displayed in a small window positioned at the corner.

#### Digital Whiteboard Function Support

Using a digital whiteboard recorder\*, notes and drawings on a whiteboard can be electronically converted and then transferred in real time to remote sites to be displayed on a screen. In addition, notes and drawings can be captured by the "SnapShot" mode, saved in a JPEG file, and recorded to Memory Stick™ media attached to the PCS-1/1P – exceptionally useful for later viewing and distribution purposes.

\* Digital whiteboard recorders are available from other manufacturers. For recommended models, please contact your local Sony office.

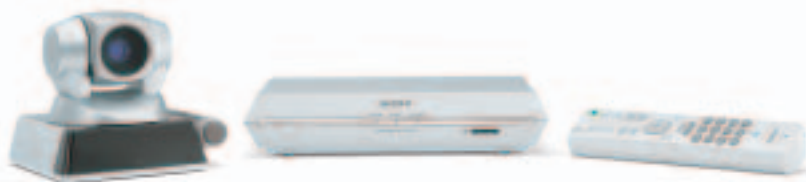


## New and Powerful Method of Communication

Incorporating the most advanced IT and worldwide-proven AV technologies into a compact and stylish two-piece body, the Sony PCS-1/1P Video Communication System offers a new and powerful method of communication. It's ideal for holding meetings, with free and dynamic exchange of ideas and opinions – no matter how far away from each other they are located.

The PCS-1/1P provides effective data-sharing capabilities, which significantly enhance the benefits offered by conventional audio- and video-based conferencing. In addition, it brings superb acoustic quality – which has won critical acclaim from the audio conference market – into videoconferencing applications for more natural sound clarity.

The PCS-1/1P can provide major improvements in the way your organization communicates, allowing you to engage in simple, immediate, and face-to-face communication with your staff, or to make critical project decisions.



## Flexible Installation

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The PCS-1/1P comprises the Camera Unit and Communication Terminal (Main unit).

This unique two-piece design provides the flexibility to meet various installation needs.

Integrated with the optional PCS-STG1 or PCS-STP1 Camera Stand, its compact and stylish configuration provides the convenience of using a projector and FPD (Flat Panel Display) together, making a great impression on conference participants. Its small size of 147 (W) x 130 (H) x 138 (D) mm and light weight of 1.1 kg allows the Camera Unit to be easily installed in space-critical environments. Positioned on top of the Communication Terminal, the combined unit provides a footprint of just 258 (W) x 171 (D) mm – small enough to sit on top of any TV monitor.

## Outstanding Audio Quality

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To communicate clearly and effectively in a meeting, audio is an indispensable factor. Sony audio technology, which has been leading the audio conference market for so long, now makes videoconference audio even more natural and crisp:

### Super Acoustic System Support

The optional CTE-600 Communication Transducer is an acoustic system that comprises six radially arranged uni-directional microphones and one omni-directional speaker. Each microphone constantly detects the audio level in the conference room; however, only the microphone that detects the largest audio level sends a signal to the PCS-1/1P. What this means is that the active speaker's voice is clearly transmitted, while minimizing background noise. The speaker system is designed such that sound is projected horizontally in all directions, for clear sound quality in meetings involving as many as 15 to 20 participants.

### MPEG-4 Audio Encoding

The PCS-1/1P features AAC (Advanced Audio Coding) at 14 kHz, compliant with the MPEG-4 standard. It emits superb audio quality for a point-to-point videoconference via a network, with double the bandwidth frequency of conventional audio encoding.

## Excellent Video Quality

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The PCS-1/1P is equipped with encoding capabilities compliant with the ITU-T H.323 standard for network-based videoconferencing at up to 2 Mb/s and 30 frames/s. With connection to an optional PCS-B768 ISDN Unit, it is possible to hold a videoconference compliant with the ITU-T H.320 standard at up to 768 kb/s via an ISDN line.

## Multi-point Videoconferencing

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Using optional MCU (Multi-point Control Unit) Software, a multi-point videoconference comprising up to six sites can be set up. The PCS-323M1 H.323 MCU Software enables a multi-point videoconference compliant with the ITU-T H.323 standard, while the PCS-320M1 H.320 MCU Software enables a multi-point videoconference compliant with the ITU-T H.320 standard, and also accepts audio-only connections by telephone. These configurations also offer data-sharing capabilities. When a multi-point videoconference for seven to ten sites is required, two PCS-1/1P units with PCS-323M1 H.323 MCU Software installed can be cascaded.\* These two units can then be connected to further four systems each, resulting in up to ten systems being connected and controlled simultaneously.

\* Data-sharing capabilities are not available in this configuration.

## Memory Stick Support

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Attaching Memory Stick media to the PCS-1/1P allows presentation documents and digital photos to be displayed in 4CIF format without connecting to a PC.

The graphics displayed can also be transferred to remote sites for data-sharing purposes. In addition, an address book and system settings can be saved and edited in the Memory Stick media.



## QoS (Quality of Service) Enhancement Functions

When holding a videoconference via a network, a common concern is how to maintain picture quality in varying levels of performance. The PCS-1/1P provides two advanced functions to enhance a QoS on the network:

### Adaptive Rate Control

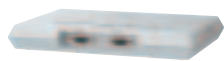
The adaptive rate control function varies the bit rate of AV data corresponding to changing network conditions and selects the most appropriate frame rates. When network traffic becomes congested, it automatically lowers the video bit rate, and when the network condition recovers, it raises the bit rate up to the initial value. This function can help prevent the picture quality from being degraded.

### ARQ (Auto Repeat reQuest)

The ARQ function recovers lost packets by resending the same packets, buffered in the encoder, which helps to avoid a picture collapse.



## OPTIONAL ACCESSORIES



### PCS-DSB1

Data Solution Box

Dimensions:  
240 (W) x 33 (H) x 160 (D) mm  
Mass: 0.85 kg



### PCS-STG1

Camera Stand

Dimensions:  
386 (W) x 1170 (H) x 386 (D) mm  
Mass: 17.5 kg



### PCS-STP1

Camera Stand

Dimensions:  
386 (W) x 1170 (H) x 386 (D) mm  
Mass: 13.0 kg



### CTE-600

Communication  
Transducer

Dimensions:  
φ 248 x 104 (H) mm  
Mass: 1.5 kg



### PCS-B768

ISDN Unit

Dimensions:  
165 (W) x 34 (H) x 127 (D) mm  
Mass: 0.40 kg



### PCS-323M1

H.323 MCU Software



### PCS-320M1

H.320 MCU Software



### PCS-A1

Microphone

Dimensions:  
φ 74 x 16 (H) mm  
Mass: 0.17 kg



### PCS-DS150/DS150P

Document Stand

Dimensions:  
120 (W) x 480 (H) x 380 (D) mm  
Mass: 2.6 kg



### EVI-D100/D100P

Communication Color  
Video Camera

Dimensions:  
113 (W) x 120 (H) x 132 (D) mm  
Mass: 0.86 kg



# SPECIFICATIONS

## Video

Signal system	PCS-1: NTSC PCS-1P: PAL
Standards	H.261, H.263, H.263+, H.263++, MPEG-4 SP@L3
Resolution	QCIF, CIF
Frame rate	Max. 30 frames/s
Bit rate	Up to 768 kb/s in H.320 (Incl. audio) Up to 2 Mb/s in H.323 (Incl. audio)

## Audio

Bandwidth and coding	G.711: 3.4 kHz at 56/64 kb/s G.722: 7.0 kHz at 48/56/64 kb/s G.722.1: 7.0 kHz at 24 kb/s (H.323) G.728: 3.4 kHz at 16 kb/s G.723.1: 3.4 kHz at 5.3/6.3 kb/s (H.323) G.729: 3.4 kHz at 8 kb/s (H.323) MPEG-4 AAC mono 14 kHz at 64 and 96 kb/s (H.323)
Echo cancellation	Reduction rate: 30 dB Echo path length: 340 ms (4 kHz and below) 110 ms (4 to 8 kHz) 56 ms (8 kHz and above) Noise suppressor included Automatic gain control included

## Graphics

XGA: 1024 pixels x 768 lines (H.263)
4CIF: 704 pixels x 576 lines (H.261 Annex D and H.263 Base)

## Picture in Picture

Sub screen size: 1/9 (One of four corners)
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## ITU-T Standards

H.320, H.323
H.221
Bonding
H.281 FECC
H.225.0
H.245
T.120

## Network Protocols

TELNET (Server)
HTTP (Server)
FTP (Server)
SNMP (Agent)
PING
DNS (Client)
DHCP (Client)
RTCP
RTP
TCP
ARP
NTP (Client)

## Multipoint Capabilities

Up to 6 sites (H.323)
Up to 10 sites (H323)*
Up to 6 sites (H.320)

## Lip Synchronization

Manual On/Off
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## Camera Unit

Image sensor	1/4 type CCD
Horizontal resolution	PCS-1: 470 TV lines PCS-1P: 460 TV lines
Focal length	3.1 to 31 mm (F1.8 to 2.9)
Focus	Auto/Manual
IRIS	Auto
Horizontal view angle	6.6 to 65 degrees
Zoom ratio	x10 (Optical zoom), x40 (Digital zoom)
Pan angle	-100 to +100 degrees (Max. 300 degrees/s)
Tilt angle	-25 to +25 degrees (Max. 125 degrees/s)
Preset	Up to 6 positions
S/N	More than 50 dB
Others	Back light shooting

## Remote Commander

Format: Wireless SIRCS
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## I/F of PCS-1/P

Video	S-video input x 1 Composite input x 1 S-video output x 2 Composite output x 1 RGB output x 1 IR for PCS-DS150/DS150P x 1
Audio	Line input (RCA) x 1 External microphone input (Plug in power) x 2 Line output (RCA) x 2 Internal microphone x 1
Graphics	RGB (XGA) output x 1
Network	10Base-T/100Base-TX x 1
Digital whiteboard	Dedicated connector x 1
Memory Stick	Memory Stick slot x 1
Control	RS-232C/VISCA (Mini-DIN 8-pin) for second camera x 1 SIRCS IR output for TV monitor x 2 IR for Remote Commander x 1

## I/F of PCS-DSB1

Audio I/F	Microphone input (Mini jack) x 5 Line output (Mini jack) to active speaker x 1 AUX input (RCA) x 1 AUX output (RCA) x 1
Graphics	RGB (XGA, SVGA, VGA) input x 2 RGB (XGA) output x 1

## I/F of PCS-B768

ISDN: BRI (Basic Rate Interface) x 6
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## Environment

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 Requirement and Consumption

Requirement	PCS-1: AC 120 V, 50/60 Hz PCS-1P: AC 220 V to 240 V, 50/60 Hz
Consumption	DC 19.5 V, 3.5 A

## Dimensions and Weight

Communication Terminal	258 (W) x 54 (H) x 171 (D) mm, 1.3 kg
Camera Unit	147 (W) x 130 (H) x 138 (D) mm, 1.1 kg
Remote Commander	50 (W) x 24 (H) x 197 (D) mm, 0.14 kg (Incl. battery)

## System Components and Supplied Accessories

Communication Terminal	x 1
Camera Unit	x 1
Remote Commander	x 1
Camera Cable (0.25 m)	x 1
AC Adaptor	x 1
IR Repeater	x 2
Manganese Battery for Remote Commander	x 2
Velcro for Communication Terminal	x 2
Double-faced Tape for Camera Unit	x 3
Audio Cable (1.0 m)	x 1
S-Video Cable (1.5 m)	x 1
Operation Manual	x 1
(Japanese, English, French, Spanish, Italian, German, Simplified Chinese)	
Warranty Card	x 1

\* Two PCS-1/P units with PCS-323M1 installed must be used.

# SONY

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