SONY

Video Communication System

PCS-1
PCS-1P

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 the participants 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.

FEATURES

Data-sharing Capabilities

Share presentation documents originated from your PC or 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.

Digital Whiteboard Function Support

Using a digital whiteboard recorder*1, 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 optional Memory Stick™ media attached to the PCS-1/1P – exceptionally useful for later viewing and distribution purposes.

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

Flexible Installation

The PCS-1/1P consists of a 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 flat-panel display (FPD) together, making a great impression on conference participants. Its small size of 147 (W) x 130 (H) x 138 (D) mm (5 7/8 x 5 1/8 x 5 1/2 inches) and light weight of 1.1 kg (2 lb 7 oz) allows the Camera Unit to be easily installed in space-critical environments. Positioned on top of the Communication Terminal, the combined unit has a footprint of just 258 (W) x 171 (D) mm (10 1/4 x 6 3/4 inches), which is small enough to sit on top of any TV monitor.

Excellent Video Quality

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 or PCS-B384 ISDN Unit, it is possible to hold a videoconference compliant with the ITU-T H.320 standard at up to 768 kb/s or 384 kb/s respectively, via an ISDN line. The PCS-1/1P provides advanced video-coding capabilities compliant with the new ITU-T H.264 standard. Its coding algorithm can lower video bit rates to almost half compared with the conventional ITU-T H.263 standard, while maintaining the same picture quality as the ITU-T H.263 standard.

Outstanding Audio Quality

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. This allows the active speaker's voice to be clearly transmitted, while minimizing background noise. The speaker system is designed such that sound is projected horizontally in all directions, providing 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.

Multi-point Videoconferencing up to 10 Sites

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 two MCU software applications can be installed in one PCS-1/1P unit to enable a multi-point videoconference, in which both H.323 and H.320 standards coexist. 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 additional four systems each, resulting in up to ten systems being connected and controlled simultaneously.

Memory Stick Support

Using Memory Stick media with 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 can be saved and edited in the Memory Stick media.

Secure Meetings by AES (Advanced Encryption Standard)

When holding a videoconference via a network, video, audio, and graphics*2 can be encrypted by the AES during the meeting process. Initiating a meeting by AES requires participants to input the same password to the PCS-1/1P with the supplied Remote Commander® unit.

*2 Notes and drawing on a digital whiteboard cannot be encrypted.

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 Quality of Service on the network:

Adaptive Rate Control

The adaptive rate control function varies the bit rate of A/V data in relation 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 degrading.

Auto Repeat Request (ARQ)

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

OPTIONAL ACCESSORIES

PCS-DSB1
Data Solution Box

Dimensions:
240 (W) x 33 (H) x 160 (D) mm
(9 1/2 x 1 5/16 x 6 3/8 inches)
Mass: 0.85 kg (1 lb 14 oz)

PCS-STG1
Camera Stand

Dimensions:
386 (W) x 1170 (H) x 386 (D) mm
(15 1/4 x 46 1/8 x 15 1/4 inches)
Mass: 17.5 kg (38 lb 9 oz)

PCS-STP1
Camera Stand

Dimensions:
386 (W) x 1170 (H) x 386 (D) mm
(15 1/4 x 46 1/8 x 15 1/4 inches)
Mass: 13.0 kg (28 lb 10 oz)

PCS-B768
ISDN Unit

Dimensions:
165 (W) x 34 (H) x 127 (D) mm
(6 1/2 x 1 3/8 x 5 inches)
Mass: 0.40 kg (14 oz)

PCS-B384
ISDN Unit

Dimensions:
165 (W) x 34 (H) x 127 (D) mm
(6 1/2 x 1 3/8 x 5 inches)
Mass: 0.40 kg (14 oz)

CTE-600
Communication Transducer

Dimensions:
ϕ 248 x 104 (H) mm
(ϕ 9 7/8 x 4 1/8 inches)
Mass: 1.5 kg (3 lb 5 oz)

PCS-323M1
H.323 MCU Software

PCS-320M1
H.320 MCU Software

PCS-A1
Microphone

Dimensions:
ϕ 74 x 16 (H) mm
(ϕ 3 x 21/32 inches)
Mass: 0.17 kg (6 oz)

PCS-DS150/DS150P
Document Stand

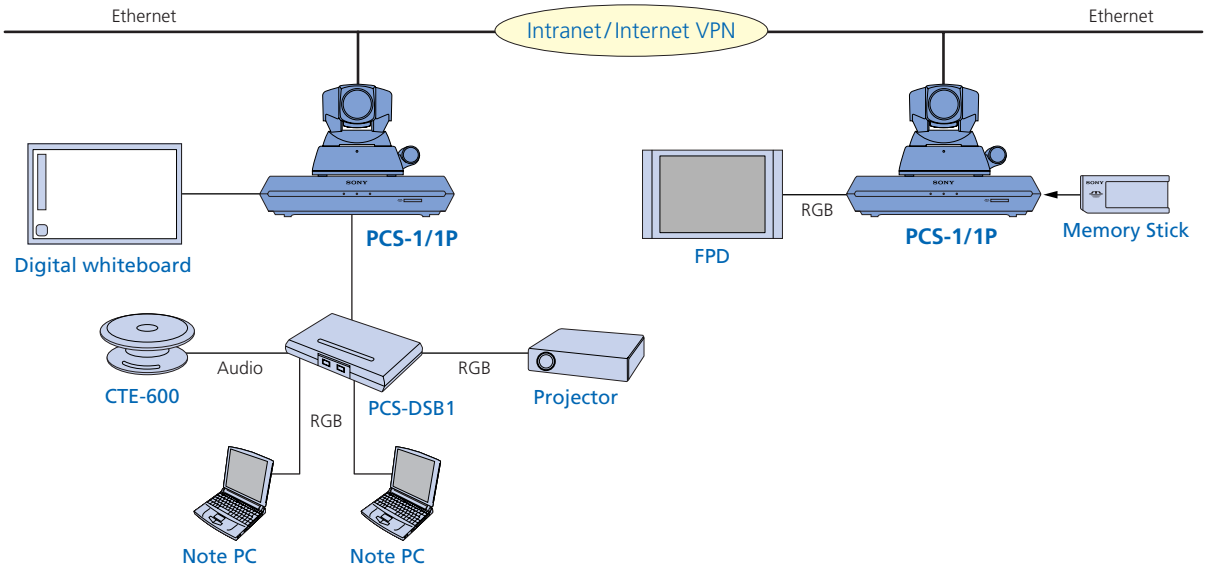
Dimensions:
120 (W) x 480 (H) x 380 (D) mm
(4 3/4 x 19 x 15 inches)
Mass: 2.6 kg (5 lb 12 oz)

EVI-D100/D100P
Communication Color Video Camera

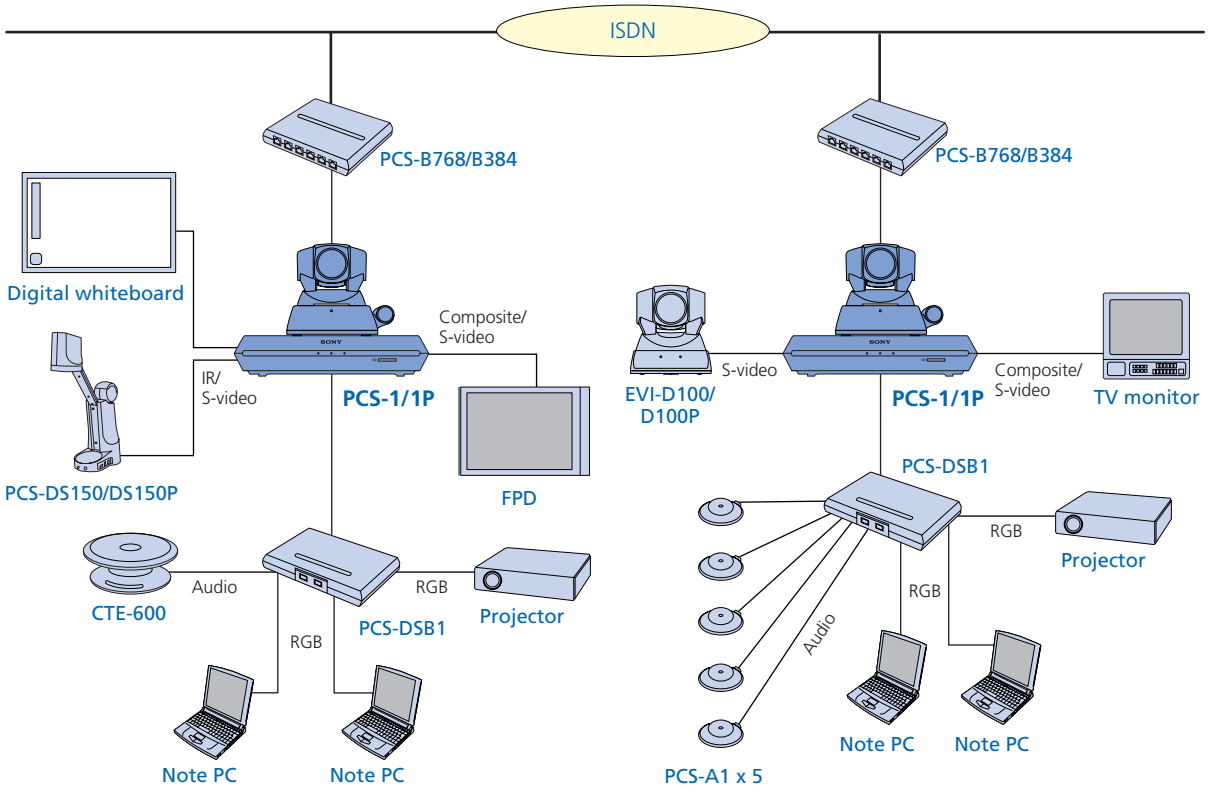
Dimensions:
113 (W) x 120 (H) x 132 (D) mm
(4 1/2 x 4 3/4 x 5 1/4 inches)
Mass: 0.86 kg (1 lb 14 oz)

SYSTEM CONFIGURATION EXAMPLES

A videoconference via a network using a projector or flat-panel display



A videoconference via an ISDN line using a projector and either a flat-panel display or TV monitor



SPECIFICATIONS

Video	
Signal system	PCS-1: NTSC
	PCS-1P: PAL
Standards	H.261, H.263, H.263+, H.263++, MPEG-4 SP@L3, H.264
Resolution	QCIF, CIF, Interlace SIF
Frame rate	Max. 30 frames/s
Bit rate	Up to 2 Mb/s in H.323 (incl. audio)
	Up to 768 kb/s in H.320 (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 48 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)
ITU-T Standards	
	H.320, H.323
	H.221, H.239
	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
Multipoint Capabilities	
	Up to 6 sites (H.323)
	Up to 6 sites (H.320)
	Up to 6 sites (H.323 + H.320)
	Up to 10 sites (H.323 + H.320)*3
Lip Synchronization	
	Manual On/Off
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
I/F of PCS-1/1P	
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
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 (10 1/4 x 2 1/4 x 6 3/4 inches, 2 lb 14 oz)
Camera Unit	147 (W) x 130 (H) x 138 (D) mm, 1.1 kg (5 7/8 x 5 1/8 x 5 1/2 inches, 2 lb 7 oz)
Remote Commander	50 (W) x 24 (H) x 197 (D) mm, 0.14 kg (Incl. battery) (2 x 31/32 x 7 7/8 inches, 5 oz (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, Portuguese, Italian, German, Simplified Chinese)
Warranty Card x 1

*3 Two PCS-1/1P units with PCS-323M1 installed must be cascaded.

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MK10047V2IW04FEB
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