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BB-HCM311

IPv4/v6 Audio 2-way Type Indoor Network Camera

▲IPv6 Ready Logo*1

Multi-Camera Setup Supported

Simultaneous monitoring of images using up to four network cameras. Images from up to four camera units can be assigned as a group, and the monitor display can be switched to any of three image groups. This enables simultaneous display of the images from up to 12 camera units, with no audio.

New CCD Sensor Enhances Image Expression

- The BB-HCM311 features a CCD for sharp image expression.
- The Color Night View Mode brings the minimum light requirement from 3 lux down to 0.2 lux, letting you capture images even in dimly lit places.
- The image refreshing speed (maximum) has been increased to 30 images/sec* for smoother displays of moving images.

*Image Resolution: 320 x 240 or 160 x 120.

Color Night View Mode

Brightened view of minimum illumination

Ordinary camera view

Standard SD Memory Card Slot

Image recording function

Images captured by the network camera can be recorded directly onto an SD Memory Card (sold separately). *Voices cannot be recorded.

- **Number of Recording Files per SD Memory Card**
  (Image Quality: Standard)

SD Memory Card Model No.	Resolution		
	640 x 480	320 x 240	160 x 120
	Approx. 33KB/file	Approx. 16KB/file	Approx. 5KB/file
1GB (RP-SDHo1GU1A)	Approx. 28,000 Images	Approx. 58,000 Images	Approx. 180,000 Images
512MB (RP-SDH512u1A)	Approx. 14,000 Images	Approx. 29,000 Images	Approx. 94,000 Images
256MB (RP-SDH256U1A)	Approx. 7,000 Images	Approx. 14,000 Images	Approx. 47,000 Images
128MB (RP-SDH128U1A)	Approx. 3,000 Images	Approx. 7,000 Images	Approx. 23,000 Images
64MB (RP-SDo64BPPA)	Approx. 1,000 Images	Approx. 3,000 Images	Approx. 11,000 Images

*The operation of SD Memory Cards not listed above cannot be guaranteed.

Two-Way Voice Communications Supported

Use of the built-in microphone and a separately purchased amp-equipped speaker enables two-way voice communication (transceiver system)*2 between the network camera and a PC used to monitor the camera image. Voice transmission and reception can be switched easily from the PC used to monitor the image. For example, it allows people in a head office to provide instructions or messages to people on a sales floor while observing the image on their PC.

Alarm-Controlled and Timer-Controlled Image Transfer Functions

The Alarm-Controlled Image Transfer function uses a commercially available external Sensor or switch and sends the image only when there is an action such as turning on the light or opening the door. The Timer-Controlled Image Transfer function automatically transmits images according to the set time zone and the day of the week. These convenient functions eliminate your need to constantly check the image.

*When e-mail function is used to transfer images or messages, e-mail transmission may not be possible in some cases due to the mail server authentication system (SMTP authentication, etc.) used by your Internet service provider.
*The image transfer functions can be used only with a PC. With a cell phone, only the e-mail transmission function can be used.

A Wide Range of Camera Control Functions

The BB-HCM311's high-speed pan and tilt functions offer a maximum rotation speed of 80°/sec. These functions can be operated from a PC or cell phone to quickly change the camera direction. Using the built-in alarm function and a commercially available external sensor, the camera can also be automatically pointed to a specified direction when the sensor is activated. The camera is equipped with the following control functions for easy, effective monitoring in the desired direction.

• Click & Center

When the mouse button is clicked at a location on the image, the camera moves so that the image is shown with the selected location at the center.

• Preset

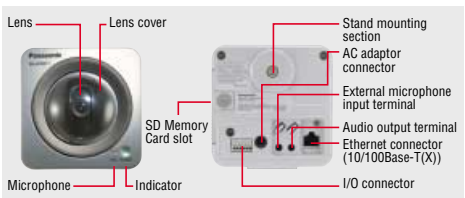
This function lets you preset the camera direction. You can use it to view the image captured from the preset camera position with one-touch operation.

• External Output Control

This provides ON/OFF operation of an externally connected device. For example, it can be used to turn on a light when the surrounding area becomes dark or to turn on a buzzer in case of an emergency.

• Pan and Tilt Movement

Pan
(173° maximum)
Tilt
(105° maximum)



IPv6-Ready

Our new network cameras allow the use of a virtually unlimited number of IP addresses*3 by supporting IPv6, a next-generation protocol. The IPv4/IPv6 dual-stack feature enables you to use IPv4 at the present and switch over to IPv6 in the future.

IPsec*4 Supported

IPsec is a technology used to encrypt data packets in order to prevent eavesdropping by third parties. When combined with a conventional authentication function based on user names and passwords, IPsec offers enhanced security.

*1 This logo mark is issued by the IPv6 Ready Logo Program Committee, an IPv6 promotion group established mainly by the IPv6 Forum.
*2 This function can be used with a PC only. It cannot be used with a cell phone. To hear the voice transmitted from the PC, a commercially available speaker with a built-in amp must be installed. The transceiver system does not allow simultaneous transmission and reception of voices.
The BB-HCM311 may require a version upgrade to operate in the IPv6 environment.
For the latest information, visit Panasonic's support Web site (http://panasonic.co.jp/pcc/products/en/netwkcam/).
*3 An IP address is a unique number assigned to each user so that the user can be identified on the Internet.
*4 IPsec is an IP security protocol for data encryption standardized by IETF, an international community devoted to the standardization of Internet specifications.

Specifications of BB-HCM311 Network Camera

	Model No.	BB-HCM311
Server section	Product type	Indoor network camera with built-in Web server function and voice function
	Image data compression system	JPEG (Motion JPEG for moving image display)
	Resolution	640 x 480, 320 x 240, 160 x 120
	Image quality	3 modes (Favor Clarity, Standard, Favor Motion)
	Frame rate*1 (image refreshing speed)	Max. 30 frames/sec (320 x 240, 160 x 120), Max. 12 frames/sec (640 x 480)*2
	Security	ID, password, IPsec
	IPsec function*3	ESP encryption, EPS authentication, transport mode/tunnel mode IKE (Internet Key Exchange)
	Encryption algorithm	DES-CBC, 3DES-CBC, AES-CBC
	Communication protocol	IPv4/IPv6 dual stack IPv4: TCP, UDP, IP, HTTP, FTP, SMTP, DHCP, DNS, ARP, ICMP, POP3, NTP, IPsec, UPnP IPv6: TCP, UDP, IP, HTTP, FTP, SMTP, DNS, ICMPv6, POP3, NDP, NTP, IPsec
	No. of simultaneous accesses	Max. 30 accesses (max. 10 accesses with voice reception) (No. of registered users: max. 50, with individual IDs and passwords)
	No. of temporarily stored images*4	Approx. 125 images: 320 x 240 resolution, standard image quality (approx. 16 KB per image) (without using SD Memory Card)
Camera section	Angle of view	53° in right-and-left direction (total of 173°-angle display possible using pan operation) 40° in up-and-down direction (total of 105°-angle display possible using tilt operation)
	Pan (horizontal direction)	–60° to +60° (remote operation)
	Tilt (vertical direction)	+20° to –45° (remote operation)
	Rotating speed	Pan: Max. 80°/sec, Tilt: Max. 80°/sec
	No. of pixels	1/4 inch, approx. 320,000 pixels, CCD sensor
	Lens focal point	Fixed (focal range: 0.5 m (20 inches) to ∞)
	Lens brightness	F3.5
	Required light intensity	3 to 100,000 lx (in Color Night View mode: 0.2 to 100,000 lx)
Audio section	Voice direction	Half-duplex two-way communication (transceiver system)
	Voice data compression system	ADPCM 32 kbps
	Voice band	300 Hz ~ 3.4 kHz
	Audio input	Built-in microphone or external microphone (sold separately), external microphone input terminal (3.5-mm dia. mini-jack)
	Audio output*5	Audio line output terminal for external speaker (3.5-mm dia. stereo mini-jack, monaural output)
Connectors	Network	Ethernet (10Base-T/100Base-TX)
	I/O connector for sensor	G GND 1 External Senser Input G GND 2 External Senser Input 3 External Device Control Output 4 DC Power Output Terminal (10.5–13.5 VDC)
	SD Memory Card slot	Full size (operation guaranteed for 1GB, 512MB, 256MB, 128MB and 64MB SD Memory Cards manufactured by Panasonic)
General	Operating temperature	0° to 40°C (keep the product out of direct sunlight)
	Operating humidity	20% to 80% (with no dew condensation)
	External dimensions (WxHxD)	Approx. 100 x 100 x 73 mm (main unit, excluding protrusions)
	Weight	300 g
	Power source	Special AC adaptor (included with product; from 120 VAC (60 Hz) to 12 VDC; Power cord length: approx. 4.8 m)
	Power consumption	Standby mode: approx. 3 W, max. (during pan scan): approx. 6 W

*1 This varies depending on the subject, image quality, network environment, PC performance, etc.
*2 The image update speed may decrease when favor-motion mode is set, when images are recorded onto an SD Memory Card, and when IPsec is used, as well as due to the network environment and PC performance.
*3 Transport mode (mode for IPsec communication between terminals, for IPv4 only) operating environment: Microsoft® Windows® XP Service Pack 1 or later only, tunnel mode (mode for IPsec between VPN routers, IPv4/IPv6)
*4 The number of images that can be stored varies depending on the subject. *5 Install an amp or use a speaker with a built-in amp.

Specifications for Compatible PC

	For IPv4	For IPv6
OS	Microsoft®, Windows®XP, Windows®2000, Windows®Me, Windows®98SE	Microsoft®, Windows®XP, Service Pack 1 or later
CPU	• For monitoring of image from one camera unit: Pentium RIII (800 MHz or greater) • For monitoring of images from multiple camera units: Pentium R4 (1.8 GHz or greater)	
Protocol	TCP/IP (HTTP, TCP, UDP, IP, DNS, ARP, ICMP) protocol must be installed.	TCP/IP (HTTP, TCP, UDP, IP, DNS, ICMPv6, NDP) protocol must be installed.
Interface	10/100-Mbps LAN card must be installed.	
Web browser	Internet Explorer 6.0 or later	
Audio	Audio input/output function (microphone, speaker, etc.)	

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