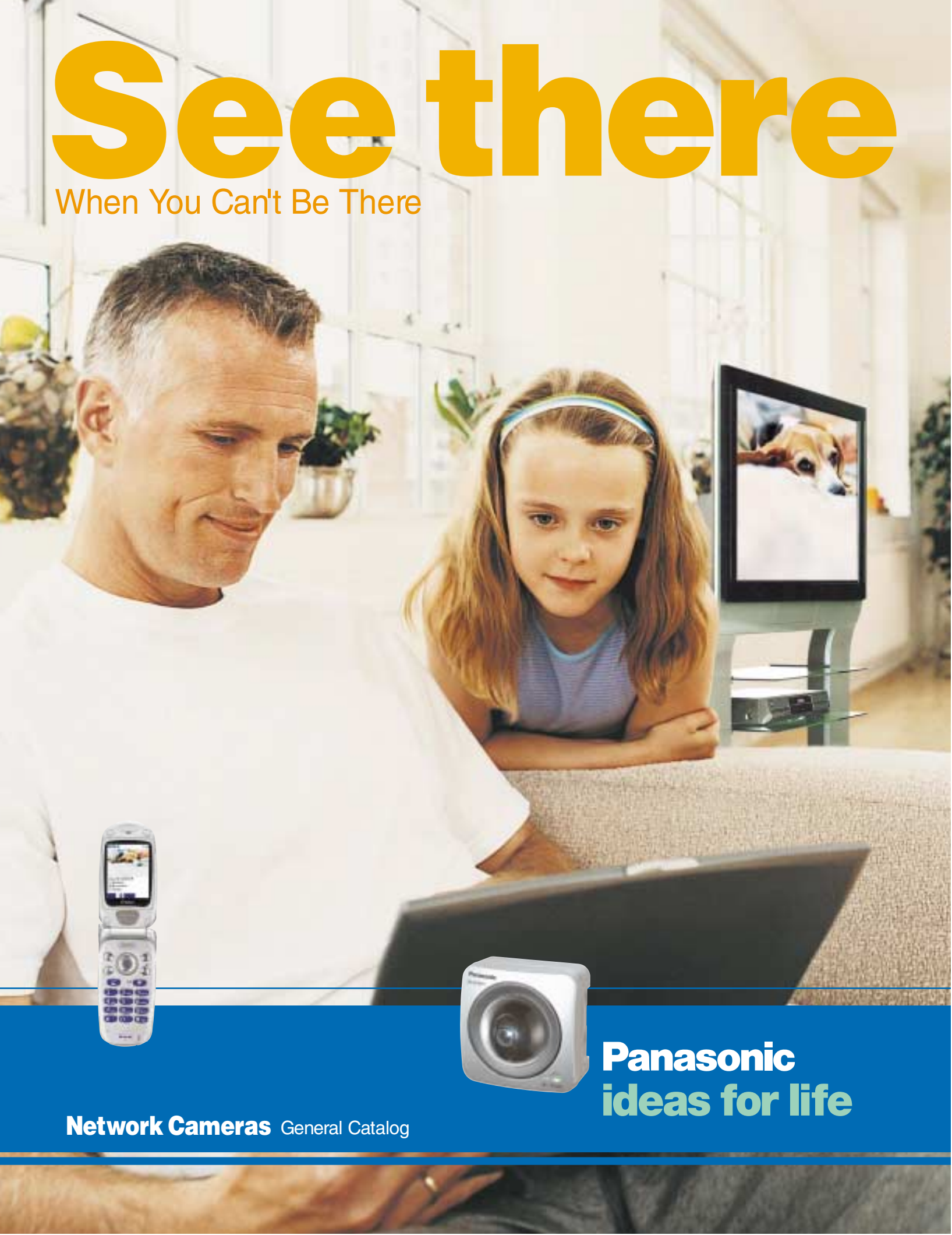
See there

When You Can't Be There



Panasonic
ideas for life

Network Cameras General Catalog

See there When You Can't Be There

Cell Phone

BL-WV10A

With these Panasonic Network Cameras you can monitor your home or office from a web browser, save images in the camera's internal memory, and automatically email images directly from the camera.
They are easy to operate and require no additional software for your PC.

Each offers different capabilities for your changing needs, but they all offer potential peace of mind. By connecting these cameras to an Ethernet or Wireless Network, using an Internet browser and typing in the camera's web address, you can view motion video over the Internet through the Network Camera, even if there are no computers near the camera.

For checking or displaying in-store conditions during sales or special events.

BB-HNP11A

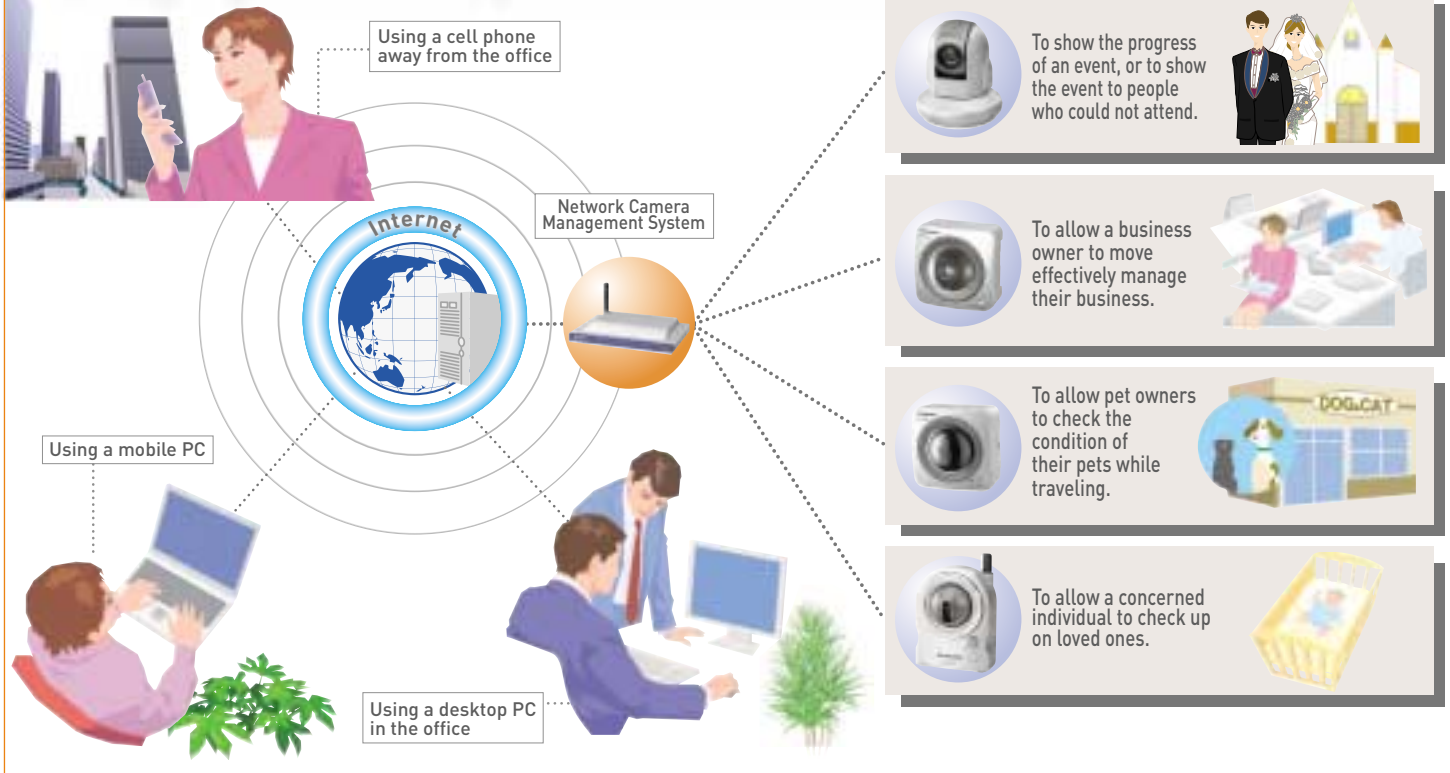
*Optional stand allows vertical positioning.

BB-HGW700A

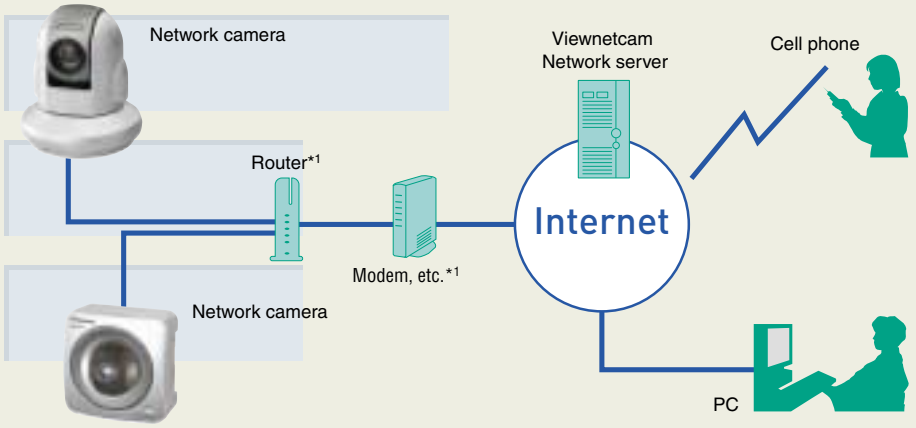
Network Camera

Monitoring and Control from a PC or Cell Phone

A built-in Web server lets you view images and remotely control the camera from your PC or cell phone, over a LAN network or the Internet. The network camera is easy to set up, by simply following the instructions on the included set-up CD. System expansion is easy too, thanks to a variety of interfaces that let you add the functions you need to meet your needs. Panasonic's total system approach includes everything you might want, such as recording software, a TV adaptor, and a service called Viewnetcam that lets you create personalized Web addresses.

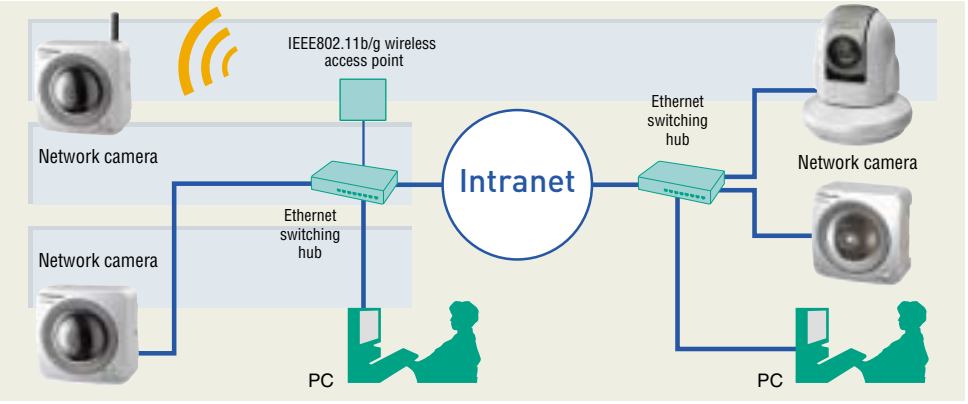


Example of Remote Monitoring over the Internet



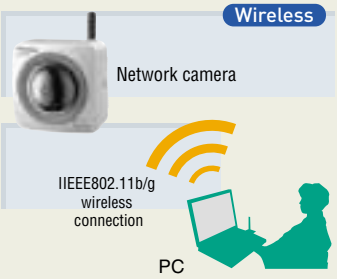
*To use the network camera, the network must always be connected to the Internet through a broadband connection (DSL or Cable For example).
*1 When using a modem or router, uPnP or firewall settings may be required.
*Notes regarding remote monitoring over the Internet
• A global IP address assigned by the Internet service provider is necessary. If the connection uses PPPoE, the camera must be connected via an appropriate router.
• When connection is made through the Internet, it is necessary to allow access to the camera from the Internet side by setting the router's port forwarding function (also called "Static IP Masquerade," "Port Transfer," "DMZ" or "Virtual Server" by some manufacturers or in some models).
Refer to the manual provided with the router.
*Although the number of cameras that can be connected to the network depends only on physical limits, the operating requirements must be satisfied in each camera installation. (Each network camera requires its own power supply.)

Example of Monitoring over an Intranet



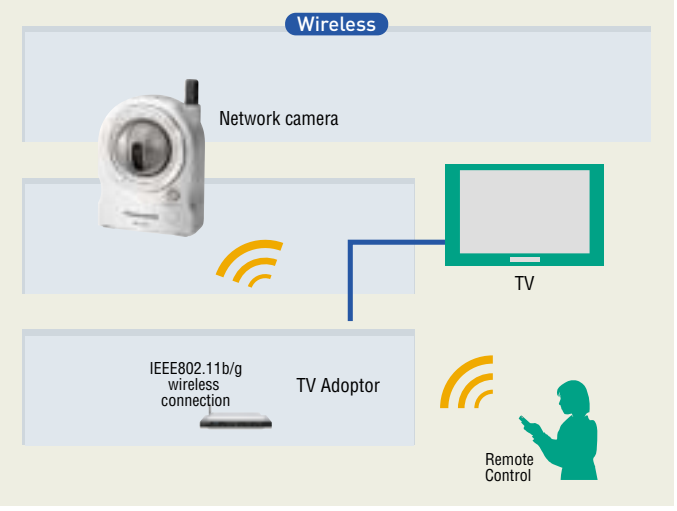
* In the case of a cabled LAN, use an Ethernet cable (Category-5 straight cable).
(Each network camera needs its own power supply.)

Direction Connection to PC



*In the case of a wireless connection, a wireless LAN card that supports Infrastructure mode is required.
*In the case of a cabled connection, use an Ethernet cable (Category-5 cross cable).
(Each network camera needs its own power supply.)

Easy Monitoring of Moving Images Using a Remote Control at Home

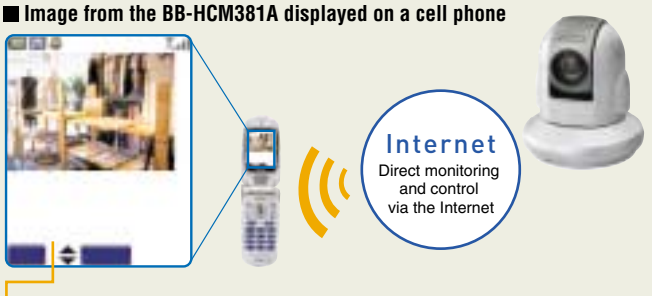


• A home security monitoring system that lets you monitor network camera images on a TV screen for enhanced home safety and security.

Easy Monitoring of Still Images Using a Cell Phone

By connecting your cell phone*1 to the Internet, you can view still pictures captured by the network camera. You can also control the pan and tilt*2, preset, and zoom*3 functions directly from the cell phone.

■ **Image from the BB-HCM381A displayed on a cell phone**



Resolution switching*4

By pressing the "0" dial key for resolution switching, the screen image resolution can be changed between 160 x 120 and 320 x 240.

*1 • The cell phone must be equipped with a Web browser and support JPEG.
• In some cell phone models, functions, performance and image quality may be limited.
• Some cell phone models may not connect to the camera or display images.
• With some cell phone models, the refresh process in each operation may be restricted (failure of continuous refreshing) due to terminal specifications.
• If the network camera is set with the authentication/verification function, it cannot be accessed by some cell phone models.
• In some cell phone models, resolution switching may not be possible due to memory capacity restrictions.
*2 To minimize the packet communication for connect fees, the angle change in each operation is larger from a cell phone than from a PC.
*3 This function is available in the BB-HCM381A and KX-HCM280A.
*4 Firmware upgrade may be necessary.
For details, see **http://panasonic.co.jp/pcc/products/en/netwkcam/**

Network Camera

Outstanding Features with Built-in Quality

New CCD Sensor Enhances Image Expression

The BB-HCM311A, HCM331A, HCM371A and HCM381A series features a CCD for sharp image expression. The image refreshing speed (maximum) has been increased from 15 images/sec to 30 images/sec* for smoother displays of moving images.

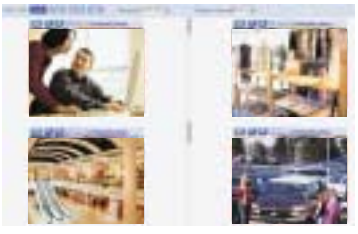
*Image Resolution: 320 x 240 or 160 x 120.

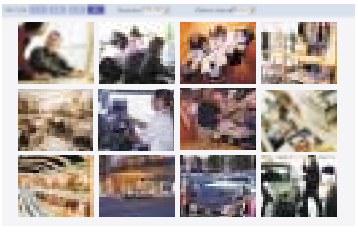
Multi-Camera Setup Supported

A multi-camera system lets you simultaneously view the images from up to four cameras on a single browser screen. This can be done on an ordinary PC, without having to install any special software or make any settings.

The BB-HCM311A, HCM331A, HCM371A and HCM381A also let you do the following:

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. Simultaneous display of images from up to 12 camera units without voice reception.

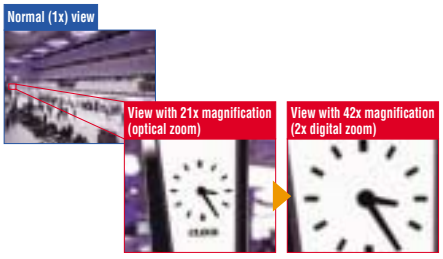




42x Zoom Function

Bring Any Image Right Up Close

Equipped with a 42x zoom function (a 21x optical zoom and a 2x digital zoom), the camera lets you zoom in and out in to view objects that are close or far away.



*The image quality may be slightly lowered by the digital zoom.
*Applicable model: BB-HCM381A/KX-HCM280A (Firmware upgrade may be required).

Color Night View Mode

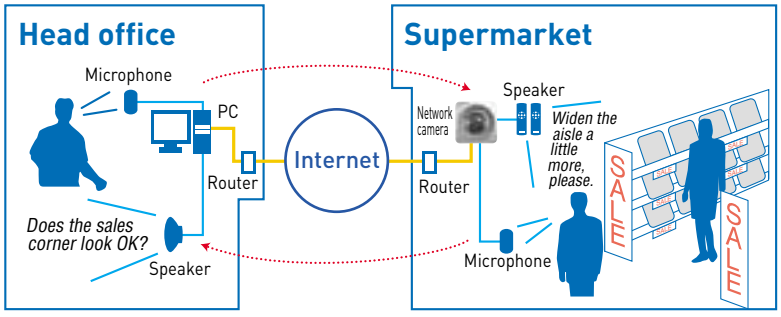
A Bright View Even in Dark Places

You can view your subject in color even when the surrounding area is dimly lit.

*The image tends to blur more than that in standard mode when viewing a moving subject in low light or when using the pan, tilt, or zoom function. (Minimum illumination: BB-HCM381A, KX-HCM280A: 0.09 lux, BB-HCM311A, HCM331A, HCM371A: 0.2 lux)
*Some subjects may require additional time for focusing with the Auto Focus function.
*When viewing a dark subject in Color Night View mode, spots of white or colored light may appear in the image. This is a natural characteristic of the CCD image sensor, and does not indicate a malfunction.
*Applicable model: BB-HCM311A, HCM331A, HCM371A and HCM381A/KX-HCM280A

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) between the network camera and a PC used to monitor the camera image. In addition to conventional monitoring of images and sound, voice messages can be transmitted from the PC to the network camera. Voice transmission and reception can be switched easily from the PC used to monitor the image.

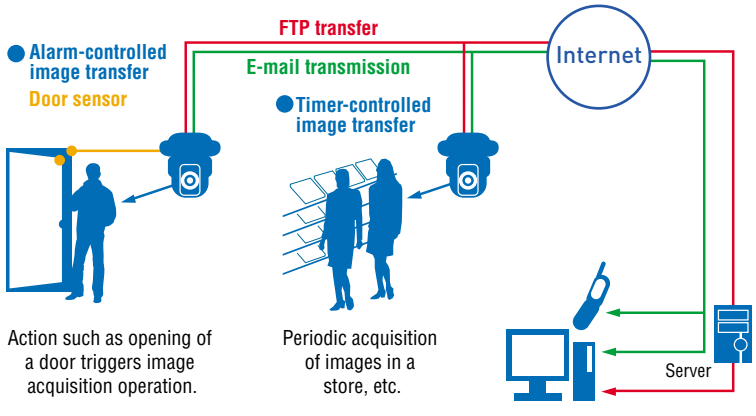


*This function can be used with a PC only. It cannot be used with a cell phone. To hear the voice transmitted from the PC, a commercially available speaker with a built-in amp must be installed. The transceiver system does not allow simultaneous transmission and reception of voices. The BB-HCM311A may require a version upgrade if you use under IPv6.
The BB-HCM381A has no built-in microphone, a separately purchased external microphone must be required.
For the latest information, visit Panasonic's support Web site (http://panasonic.co.jp/pcc/products/en/netwkcam/).

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.



Action such as opening of a door triggers image acquisition operation.

Periodic acquisition of images in a store, etc.

Versatile Monitoring from a PC

You can view the network camera images on your PC, compatible cell phone, or PDA via the Internet. A variety of functions also let you control the camera right from there devices.

1 Pan Scan (Horizontal Movement)
The Pan Scan function moves the camera continuously right and left.

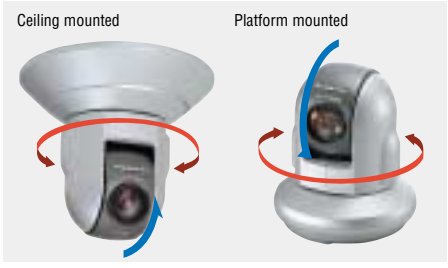
2 Tilt Scan (Vertical Movement)
The Tilt Scan function moves the camera continuously up and down.

3 Remote Pan and Tilt
This function lets you change the direction of the camera by remote control, using a Web browser.

● Wide-Range Pan and Tilt
This function lets you monitor a larger area than is normally possible with a single camera.

● High-Speed Pan and Tilt
The high-speed function lets you change the direction quickly to view moving subjects.

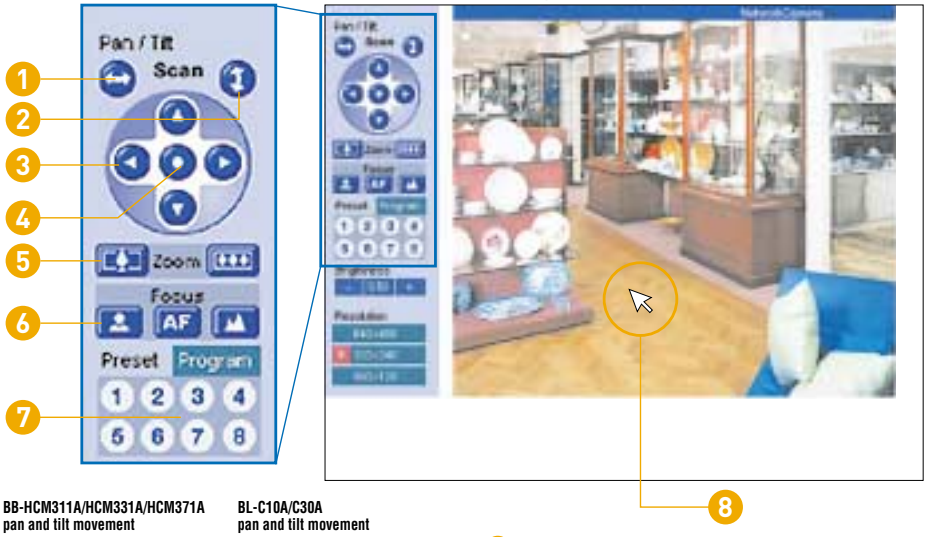
BB-HCM381A/KX-HCM280A pan and tilt movement



Pan (350° maximum)
Tilt (90° maximum)

Pan (350° maximum)
Tilt (120° maximum)

Sample Monitoring Image with the KX-HCM280A Web Browser



BB-HCM311A/HCM331A/HCM371A pan and tilt movement

Pan (displayable range: 173° maximum)
Tilt (displayable range: 105° maximum)

BL-C10A/C30A pan and tilt movement

Pan (displayable range: 165° maximum)
Tilt (displayable range: 78° maximum)

4 Home Position
This function returns the camera shooting position to a pre-registered home position.

5 Zoom Function
Using the Web browser, you can operate the camera lens to increase or decrease the magnification.
*Applicable model: BB-HCM381A/KX-HCM280A

6 Focus Control
Using the Web browser, you can automatically or manually adjust the camera's focus.
*Applicable model: BB-HCM381A/KX-HCM280A

7 Preset Positions
You can register up to eight shooting positions in advance, to aim the camera exactly where you want it.

8 Click Centering
Using a Web browser, you can simply click on the part of the image you want to see, and automatically bring that part to the center of the screen.

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-SDK01GT1A)	Approx. 29,000 Images	Approx. 58,000 Images	Approx. 180,000 Images
512MB (RP-SDK512J1A)	Approx. 14,000 Images	Approx. 29,000 Images	Approx. 94,000 Images
256MB (RP-SDK256N1A)	Approx. 7,000 Images	Approx. 14,000 Images	Approx. 47,000 Images
128MB (RP-SD128BL1A)	Approx. 2,000 Images	Approx. 7,000 Images	Approx. 23,000 Images
64MB (RP-SD064BL1A)	Approx. 1,000 Images	Approx. 3,000 Images	Approx. 11,000 Images

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

BB-HCM311A, HCM331A, HCM371A and HCM381A Monitoring

The BB-HCM311A, HCM331A, and HCM371A high-speed pan and tilt functions offer a maximum rotation speed of 80°/sec. (BB-HCM381A Pan: Max. 300°/sec, Tilt: Max. 200°/sec) These functions can be operated from a PC or cell phone to quickly change the camera direction.

1 Snapshot button
Captures a still image and saves it on the PC.

2 Talk button

3 Listen button
: Produces the sound captured by the microphone connected to the network camera. Clicking on this button mutes the sound.
: Sound is muted.
: By using the microphone of the PC, voice can be transmitted to the speaker connected to the network camera. Clicking on this button pauses voice transmission.
: Voice transmission is paused. Clicking on this button resumes voice transmission.

4 Sound level adjustment bar
(for adjusting the received voice level only)
Put the cursor on the slider and move it to adjust the sound level. The sound level increases when it is moved to the right, and decreases when it is moved to the left.

5 Alarm position
Used to register up to two directions to which the camera moves when an alarm (separately purchased) is detected.

6 External output
Used to control the I/O connector output signal.

IPv6-Ready

▲IPv6 Ready Logo*1

Supports IPv4/IPv6 dual stack

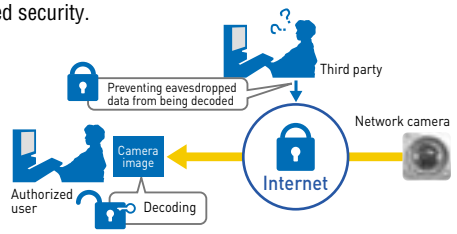
Our new network cameras allow the use of a virtually unlimited number of IP addresses*2 by supporting IPv6, a next-generation protocol. IPv6 uses IPsec*3 encryption technology, which has more robust security than IPv4, thus assuring safer data exchange. The IPv4/IPv6 dual-stack feature enables you to use IPv4 at the present and switch over to IPv6 in the future.

*1 This logo mark is issued by the IPv6 Ready Logo Program Committee, an IPv6 promotion group established mainly by the IPv6 Forum.
*2 An IP address is a unique number assigned to each user so that the user can be identified on the Internet.

IPsec Supported

High security achieved

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.



*3 IPsec is an IP security protocol for data encryption standardized by IETF, an international community devoted to the standardization of Internet specifications.

■ **Viewnetcam.com** gives you a personal web address where you can view live images from your camera on the Internet!
■ The Viewnetcam service allows you to create a personal web address (e.g.,http://bob.viewnetcam.com) at which your camera's live image can be found on the Internet.

■ Access **www.viewnetcam.com** for registration information.
■ For more information
Viewnetcam Web Site **www.viewnetcam.com**
Panasonic Network Camera Web Site **www.panasonic.com/netcam**

Mounting (Indoor Type)

Ceiling

Ceiling

Wall

Desk Top

Desk Top

Mounting (Outdoor Type)

Wall

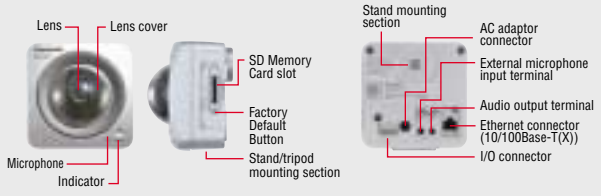
Wired Type

Ceiling

Wireless Type

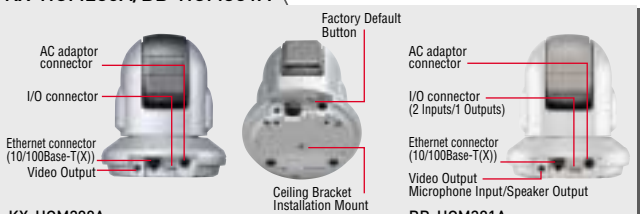
Part Names and Terminals

BB-HCM311A



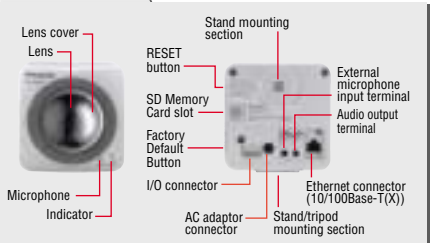
*The photo shows the camera unit without the cover.

KX-HCM280A/BB-HCM381A



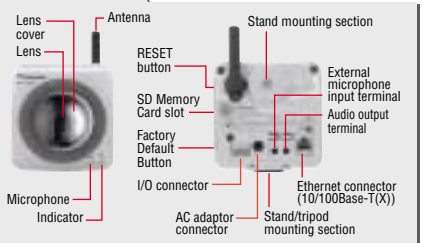
KX-HCM280A BB-HCM381A

BB-HCM331A



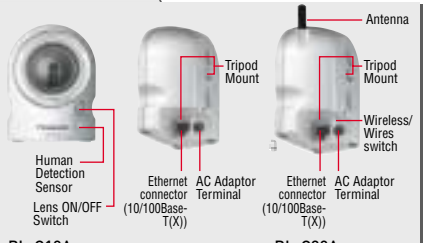
*The photo shows the camera unit without the cover.

BB-HCM371A



*The photo shows the camera unit without the cover.

BL-C10A/C30A



BL-C10A BL-C30A

Network Camera

A Wide Line-up to Match Your Needs

BB-HCM311A

IPv6-READY
INDOOR USE
PAN/TILT

- IPv6 Ready
- 2-way Voice communications
- New CCD Image Sensor
- Standard SD Memory Card Recording
- IPsec Supported
- 0.2 lux Color night View Mode

BB-HCM371A

IPv6-READY
OUTDOOR USE
PAN/TILT
WIRELESS

- IPv6 Ready
- IEEE 802.11 b/g Wireless
- 2-way Voice communications
- New CCD Image Sensor
- Standard SD Memory Card Recording
- IPsec Supported
- 0.2 lux Color night View Mode
- Splash Resistant Body

BB-HCM331A

IPv6-READY
OUTDOOR USE
PAN/TILT

- IPv6 Ready
- 2-way Voice communications
- New CCD Image Sensor
- Standard SD Memory Card Recording
- IPsec Supported
- 0.2 lux Color night View Mode
- Splash Resistant Body

BB-HCM381A

IPv6-READY
INDOOR USE
PAN/TILT
ZOOM

- IPv6 Ready
- 21x Optical Zoom
- 2-way Voice communications
- New CCD Image Sensor
- Standard SD Memory Card Recording
- IPsec Supported
- 0.09 lux Color night View Mode

KX-HCM280A

INDOOR USE
PAN/TILT
ZOOM

- 21x optical zoom
- CCD image sensor
- Analog video output
- 0.09 lux night view mode
- Up to 30 frames per second
- External I/O

BL-C10A

INDOOR USE
PAN/TILT

- Plug and Play Installation (UPnP)
- Pan/Tilt Controls with Presets
- Privacy Button
- Integrated Thermal Sensor
- Compact Size
- Alarm via Email
- Administrator Controls

BL-C30A

INDOOR USE
PAN/TILT
WIRELESS

- 802.11b/g Wireless
- Plug and Play Installation (UPnP)
- Pan/Tilt Controls with Presets
- Privacy Button
- Integrated Thermal Sensor
- Compact Size
- Alarm via Email
- Administrator Controls

TV Adaptor

BL-WV10A

*Optional stand allows vertical positioning.

Easy to Set Up and Watch on TV

Just connect the video cable to a TV to watch the camera images on the TV screen. You can easily set up the BL-C30* wireless camera any place you want, and there aren't any cables to get in your way.

*The network camera needs its own power supply.

Change the camera direction by remote control (Pan/Tilt)

You can move the camera lens in the direction you want to see by pressing the cursor key on the remote control. This simple remote control lets you operate the camera right from the TV, without having to go all the way to where the camera is.

A warning buzzer informs you when a person is detected

The camera is equipped with a "person sensor" that detects people by changes in temperature. When someone approaches the area, a buzzer sounds to inform anybody who is near the TV.

The camera images can be easily recorded

By inserting an SD Memory Card into the unit, the camera images can be recorded onto the card. The recorded images can then be displayed on the TV by remote control operation.

*Voices cannot be recorded.

The lens can be blocked when no monitoring is desired

When there is no need to monitor the location, you can simply block the camera lens.

Connect and operate up to eight cameras

This single unit can connect and operate as many as eight different cameras.

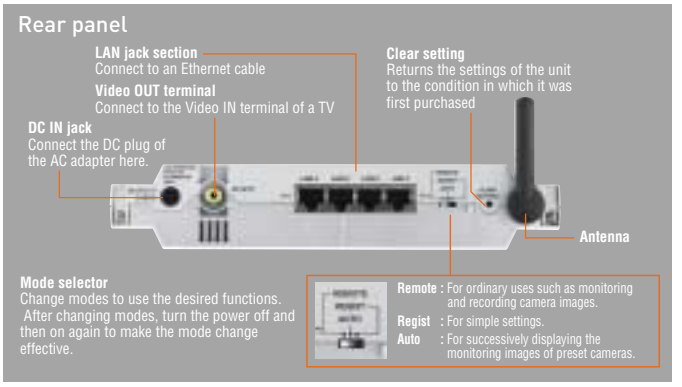
Display up to four camera images at once

The multi-camera function lets you check the images from up to four cameras simultaneously.

Simple camera settings are made automatically

All you have to do is connect a Monitoring TV Adaptor to a Panasonic Home Network Camera, and the camera settings are made automatically.

Applicable cameras: BL-C10A/C30A



Network Camera Recoder

BB-HNP11A

Recording or playing Images with Audio

The program lets you use a PC at a distant location for recording and playing back images with voices captured by the BB-HCM311A, HCM331A, HCM371A and HCM381A network cameras connected to the LAN or Internet. With the recording of both image and sound, you can "feel" the ambience that cannot be expressed by images alone. The program permits simultaneous recording of images captured by multiple network cameras.

*Images and voices captured by the BB-HCM311A, HCM331A, HCM371A and HCM381A camera can be recorded while two-way voice communication is carried out between the BB-HCM311A, HCM331A, HCM371A and HCM381A camera and the PC. When images with voices are recorded, the frame rate may decrease in some cases.

*Use of the program may cause voice transmission to be interrupted or moving images to stop in some cases, depending on the PC's performance and the network environment.

Motion Detection Recording and Timer Recording

The program is equipped with a motion detection recording function which activates recording only when people or other moving objects are detected and a timer recording function which starts and stops recording at specified times. These two functions can be combined so that the motion detection recording function is activated during a specified time period. In addition, the timer recording function allows up to ten settings for each camera, so different recording start and stop schedules can be set for weekdays and weekends.

*The detection sensitivity level of the motion-activated recording function varies depending on the camera resolution, image quality setting, subject condition, network conditions and other factors.

Recorded Image Search and Image Conversion Functions

Recorded images can be searched using conditions such as a preset keyword, recording type, timer recording, and motion-activated recording. Furthermore, all or part of the retrieved image data can be converted to still image data in the JPEG format. The converted images can be viewed by using standard applications such as Windows® Media Player or Photo Editor.

Recording Capacity Limit

The recording capacity limit function lets you set the maximum amount of data to be recorded on the hard disk of the PC for each camera. When the set maximum amount is reached, old recorded data is overwritten by new data, thus allowing the hard disk space to be used more effectively.

Automatic Backup

This function copies and saves recorded data in another memory location at a preset time.

*Another PC or drive device on the network cannot be specified as the destination location. This function is not equipped with automatic overwriting.

*If the free space on the hard disk runs short, the system may become unstable. Be sure to allow sufficient free space (100 MB or more).

● **File size of recorded image data** **Size of one image (image only)**

Resolution	Size		
	Imege-quality-priority	Standard	Motion-priority
640 x 480	Approx. 50 KB	Approx. 33 KB	Approx. 20 KB
320 x 240	Approx. 25 KB	Approx. 16 KB	Approx. 8 KB
160 x 120	Approx. 7 KB	Approx. 5 KB	Approx. 3 KB

*The approximate recording capacity is calculated by using the following formula:
Size (KB) x Frame rate (images/sec) x Recording time (sec)

(Example) One-hour recording of 640 x 480 resolution images at a frame rate of 12 images/sec in image-quality-priority mode: **50 KB x 12 images/sec x 3,600 sec (1 hour) = 2,160,000 KB ≒ 2.06GB**
In case of images with voices, 4 KB is added per each second:
2,160,000 KB + 4 KB x 3,600 sec = 2,174,400 KB ≒ 2.08 GB

Network Camera Management System

BB-HGW700A

*Optional stand allows vertical positioning.

IPv6 Compatible

This product is compatible with IPv6, the next generation of Internet protocol. There are a number of merits to this, such as, abundant global addresses and security improvement through using IPsec.

Camera Privacy Protection with VPN

This product is compatible with PPTP (IPv4) and IPsec (IPv6) for VPN. Security is ensured by encrypting all camera and PC data connected to this product before it is sent.

High speed wireless LAN for IEEE 802.11b/g

802.11g has 2 modes: 1. the 802.11g only mode, and 2. the 802.11g and 802.11b simultaneous mode. Also, the wireless LAN function can be suspended.

*The numbers displayed are a theoretical maximum for the standard wireless LAN, and not necessarily the speed when data is actually sent.

High speed throughput

Maximum WAN - LAN wired connection speeds of 98 Mbps (IPv4/SmartBits), 77 Mbps (IPv6/SmartBits), and 16 Mbps (FTP[PPTP]).

Automatic Setup

By using this product with Panasonic's network camera (Customer-provided), the camera's automatic registration function can automatically set up wireless security (encryption WEP setup etc.) and camera network related settings. (port forwarding setup etc.)

Camera Portal

By using this product with Panasonic's network camera (Customer-provided), the camera portal can list up to 16 camera names and their still images on a monitoring screen. Also, the camera portal page is set up automatically.

Cell Phone Camera Portal

Create a portal page to access your cameras easily from a cell phone. Cameras on location can be added automatically, and remote cameras can also be added.

Camera Status Notification

This product can send an E-mail to your PC or mobile phone, if a camera disconnection is detected.

Note

- LAN <Local Area Network>: A computer network limited to the immediate area, usually the same building or floor of a building. LAN IP addresses, a.k.a "local IP address" typically begin with 192.168.xxx.xxx.
- WAN <Wide Area Network>: A computer network that spans a relatively large geographical area and usually includes Internet access. In this manual "WAN" refers to your Local Area Network connected to this device as well as Internet access provided by your local Internet Service Provider (ISP).

Main Unit			
Power Supply			Special AC Adaptor: (Part Number: PQLV202Y) INPUT: AC 120V, 60Hz OUTPUT: DC 12V, 750 mA
Power Consumption			Maximum: About 6W
Dimensions (W x H x D)			About 8.0 inches x About 1.4 inches x About 5.5 inches (when the antenna is stored)
Weight			0.7 lb
Environmental Requirements			Temperature: 32 – 104°F Humidity: 20 – 85% (non-condensing)
WAN Interface		Number of Ports	1
		Connector Shape	8 pin modular jack (RJ-45)
		Physical Interface	IEEE 802.3 (10Base-T) IEEE 802.3u (100Base-TX)
		Throughput between WAN and LAN using IPv4 (value measured at Panasonic)	Maximum of 98Mbps (SmartBits) Maximum of 85Mbps (FTP [Static]) Maximum of 71Mbps (FTP [PPPoE]) Maximum of 16Mbps (FTP [PPTP]
		Throughput between WAN and LAN using IPv6 (value measured at Panasonic)	Maximum of 77Mbps (SmartBits) Maximum of 71Mbps (FTP [Static]) Maximum of 40Mbps (FTP [IPsec, No Encryption])
LAN Interface		Number of Ports	4
		Connector Shape	8 pin modular jack (RJ-45)
		Physical Interface	IEEE 802.3 (10Base-T) IEEE 802.3u (100Base-TX)
Wireless Interface	IEEE 802.11b	Transmission Speed ([Standard value]Mbps)	11/5.5/2/1* (complying to IEEE 802.11b): automatic fallback
		Number of Channels	11
		Security	WPA-PSK (TKIP), WPA2-PSK (AES), WEP (64 bit/ 128 bit/152bit), SSID, stealth SSID (hidden SSID, permitting/not permitting connection using the ANY key), MAC address filtering
	IEEE 802.11g	Transmission Speed	54/48/36/24/18/12/9/6* (complying to IEEE 802.11g): automatic fallback
		Number of Channels	11
		Security	WPA-PSK (TKIP), WPA2-PSK (AES), WEP (64 bit/ 128bit/152 bit), SSID, stealth SSID (hidden SSID, permitting/not permitting connection using the ANY key), MAC address filtering

*The figures shown are theoretical maximums and not the actual figures when using the product.

Software		
Router Function	WAN Side Connection Mode	IPv4: PPPoE/DHCP/Static IPv6: Tunneling/6to4/Static v6
	PPPoE Connection	Always/Manual
	RIP	Yes (RIPv2)
	RIPng	Yes
	DHCP Server	Yes (128 client setup is possible)
	DNS Relay (DNS proxy answering)	Yes
	IP Packet Filtering	Yes (64 setup)
	Address Translation Method	IP masquerade, port forwarding
VPN		PPTP Server (IPv4) IPsec (IPv6)

Network Camera Specifications

	Model No.	BB-HCM311A	BB-HCM331A	BB-HCM371A	BB-HCM381A	KX-HCM280A	BL-C10A	BL-C30A
Server	Product Type	Indoor type and voice function	Ondoor type and voice function	Outdoor, Wireless type and voice function	Indoor type and voice function	Indoor type	Indoor type	Indoor, Wireless type
	Image data compression system	JPEG (Motion JPEG for moving image display)						
	Video Resolution	640 x 480, 320 x 240, 160 x 120						
	Image Quality	3 modes (Favor Clarity, Standard, Favor Motion)						
	Frame Rate*1	Max. 12 frames/sec. (640 x 480)*2 Max. 30 frames/sec. (320 x 240) Max. 30 frames/sec. (160 x 120)				Max. 10 frames/sec. (640 x 480) Max. 30 frames/sec. (320 x 240) Max. 30 frames/sec. (160 x 120)	Max. 7.5 frames/sec. (640 x 480) Max. 15 frames/sec. (320 x 240) Max. 15 frames/sec. (160 x 120)	
	Security	User ID/Password/IPsec				User ID/Password		
	Encryption algorithm	DES-CBC, 3DES-CBC, AES-CBC				—		
	IPsec function*3	ESP encryption, EPS authentication, transport mode (main mode only)/tunnel mode IKE (Internet Key Exchange)				—		
	Supported 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, ICMv6, POP3, NDP, NTP, IPsec				TCP, UDP, IP, HTTP, FTP, SMTP, DHCP, DNS, ARP, ICMP, POP3, NTP, DDNS		
	User access limit	Max. 30 simultaneous accesses (max. 10 accesses with voice reception)				Max. 30 simultaneous access	Max. 20 simultaneous access	
	Buffered images*4	Approx. 125 images: (320 x 240), standard image quality (approx. 16 KB per image) (without using SD Memory Card)				Approx. 125 images: (320 x 240), Standard image quality (approx. 16KB per image)	Approx. 250 images: (320 x 240), standard image quality	
Network Camera	Zoom	—			Maximum 42x (21x optical, 2x digital)		—	
	Viewing Angle	53° horizontal (total 173°) 40° vertical (total 105°)			Tele: 2.6°, Wide: 51°		43° horizontal (total 143°) 32° vertical (total 82°)	
	Pan	–60° up to +60°			–175° up to +175°		–50° up to +50°	
	Tilt	–45° up to +20°			–120° up to 0° (On the table), 0° up to +90° (On the celling)		–40° up to +10°	
	Revolving Speed	Pan: Max. 80°/sec, Tilt: Max. 80°/sec			Pan: Max. 300°/sec, Tilt: Max. 200°/sec		Pan: Max. 50°/sec Tilt: Max. 50°/sec	
	Number of Pixels	1/4 inch, approx. 320,000 pixels, CCD sensor			1/4 inch, approx. 380,000 pixels, CCD sensor		Approx. 320,000 pixels	
	Lens focal point	Fixed (focal range: 0.5 m to ∞)			Auto/Manual (40 steps)		Auto	
	Lens brightness	F3.5			F1.6 (Wide) – 3.6 (Tele)		F2.8	
	Required light intensity	3 to 100,000 lx (in Color Night View mode: 0.2 to 100,000 lx)			3 to 100,000 lx (in Color Night View mode: 0.09 to 100,000 lx)		1 to 10,000 lx	
Audio	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)				—		
Wireless	Standards	—		802.11 b/g	—			802.11 b/g
	Antenna	—		Diversity	—			Diversity
	Number of Channel	—		11 ch.	—			11 ch.
	Transmission Speed	—		up to 54 Mbps.	—			up to 54 Mbps.
	Max. Transmission Distance	—		Indoor: About 120 m, Outdoor: About 600 m	—			Indoor: About 120 m, Outdoor: About 600 m
	Security	—		WEP 64/128/152 bit	—			WEP 64/128/152 bit
Terminal	Network Interface	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)				1 GND 2 PC Power Output Terminal 3 External Senser Input 4 External Device Control Output	—	
	Analog Video Output	—			○	○	—	
	SD Memory Card slot	Full size (operation guaranteed for 1GB, 512MB, 256MB, 128MB and 64MB SD Memory Cards)				—		
General	Operating Temperature	32°F to 104°F	68°F to 122°F		32°F to 104°F		41°F to 104°F	
	Operating humidity	20% to 80% (No condensation)	20% to 90% (No condensation)		20% to 80% (No condensation)			
	Dimensions (H x W x D)	3.94 x 3.94 x 2.98 inches (Only the unit)		3.94 x 3.94 x 3.15 inches (Only the unit)	5.51 x 4.48 x 4.48 inches (Only the unit)		3.86 x 2.91 x 2.40 inches	3.86 x 2.91 x 2.87 inches
	Weight	0.66 lb (Only the unit)		0.68 lb (Only the unit)	1.41 lb (Only the unit)		0.37 lb	0.44 lb
	Power Supply	AC adaptor: Input 120V AC, Output 12V DC						
	Consumption	6W		10W	12W		3.5W	6.4W

*1 This varies depending on the subject, image quality, network environment, PC performance, etc.
*2 The image update speed may decrease when motion-priority 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 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.

Network Camera Recorder Specifications

	Model No.	BB-HNP11A
Camera registration Monitoring	No. of registerable camera units	No limitation. Note that the actual number of registerable camera units varies depends on the performance of the PC used.
	Camera image view	Images captured by registered cameras are shown in small images on a single screen.
	Image display size	6 sizes from 320 x 240 to 60 x 45
	Camera setup	Each camera can be set up individually (camera name, resolution, image quality setting, recording format, timer setting, etc.)
	Selected camera image display	The image of the selected camera can be enlarged (640 x 240, 320 x 240)
	Image zoom in/out	Increase/decrease of image size in 25% steps (25% to 700%), image display size adjusted according to window size
	Camera control	Control of basic camera functions (pan/tilt/zoom, brightness, resolution, image quality, sound level)
	Preset	Preset functions set in cameras can be used
Recording	Recording file format	Original file format: Images and voices are recorded continuously in a moving image file.
	Recording media	Hard disk
	Recording resolution	640 x 480, 320 x 240, 160 x 120
	Image Quality	Image-quality priority, standard, motion-priority
	Recording interval	Not specified (based on camera's image update interval), specified: 2 images/second to 1 image/hour
	No. of camera units for simultaneous recording	Dependent on camera type and performance of PC. See the hardware specifications below.
	Recording capacity limit function	Maximum recording capacity value can be set for individual camera units (whether to save new data by overwriting or stop recording when the set capacity is reached can be selected.)
	Motion-detection recording	The unit can be set to activate recording when motion is detected (sensitivity and threshold value can be adjusted) or to record for a certain time length before and after motion detection.
	Timer recording	Programming of start and stop schedules based on day of week and time. Key word can be also set for recording. (10 schedules can be registered per camera)
	Disk capacity limit function	Monitors the free space on the specified recording disk, and stops recording when the free space becomes smaller than the set value.
Image operation	Continuous playback	Playback of images with voices, playback of image files. Playback speed can be varied.
	Recorded image view	Displays recorded image files in a list format.
	Operation of recorded images	Recorded images can be copied or deleted.
	Automatic backup of recorded images	Automatically copies recorded images in a specified folder at a set time.
	Format conversion	Converts all or part of recorded images to JPEG format file.
Image search	Recorded image search function	Search using recording time or key word set before recording.

System Requirement	
Item	Description
OS	Microsoft® Windows®XP Professional Edition, Windows® 2000 (Service Pack2 or newer)
Web browser	Internet Explorer 6.0 or newer
File system	NTFS (NT File System) recommended
Hardware specifications	
Recording condition	• When 10 network camera units are connected CPU: Intel® Pentium® 4 3GHz or greater, or equivalent compatible processor, RAM: 512 MB or more • When 4 network camera units are connected CPU: Intel® Pentium® 4 1.8GHz or greater, or equivalent compatible processor, RAM: 256 MB or more
Voice	Audio output function (including speaker or headphone)

TV Adaptor Specifications

	Model No.	BL-WV10A
Basic	Interface	• LAN side: Ethernet (10Base-T/100Base-TX) x 4 port • Video output terminal (composite NTSC) x 1 • SD card slot x 1
	Supported protocols	• IPv4 • TCP, UDP, HTTP, FTP, DHCP
	Resolution	• 320 x 240 dots, 640 x 480 dots
	Image quality	• 3 settings (Favor Clarity, Standard, Favor Motion)
	Image encoding system	• JPEG, MotionJPEG
	Frame rate	• Max. 15 frames/sec (320 x 240)
	Security	• Input of user ID and password required for monitoring
	Dimensions	• Approx. 220 x 171 x 42 mm (excluding antenna and protrusions)
	Weight	• Approx. 500 g
	Power source	• AC adaptor 12V DC
	Supplied voltage	• 12 V
Monitoring section	Monitoring	• Automatically switches video signals from cameras. • Allows connection of up to eight cameras. • Displays images captured by up to eight cameras. Displays output in single-screen 8-page mode, or 4-screen 2-page mode. • Automatically switches to sensor-activated camera when there is sensor input. • Output can be switched to any selected camera. • All connected cameras can be remote-controlled. • Sensor detection is indicated by an alarm (buzzer) or LED.
	Security	• Authentication: User ID, password
	Network settings	• On-screen setting • Setting items: IP address, subnet address, gateway, DNS server 1, DNS server 2
	Functions related to SD Memory Card	• Still image recording and playback functions • Moving image recording and playback functions • Setting for sensor-activated recording • Setting for timer recording
Wireless communication section	Repeater	• Yes
	Access point	• Yes
	Roaming	• No
	Wi-Fi certification	• No
	Security	• WEP (64 bits, 128 bits, 152 bits) ESSID ANY access denial (setting required) ESSID non-transmission within beacon (setting required) No-response function for probe request (setting required)
	IEEE802.11g	• Transmission distance: 120 m indoors without obstacles, 800 m outdoors without obstacles (1 Mbps) • Frequency bandwidth: 2412 to 2484 MHz • Channel OFDM (Orthogonal Frequency Division Multiplexing) system • Transmission system: 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, 9 Mbps, 6 Mbps • Transmission speed (automatic fallback)
	IEEE802.11b	• Transmission distance: 120 m indoors without obstacles, to 600 m outdoors without obstacles (1 Mbps) • Frequency bandwidth: 2412 to 2484 MHz • Channel OFDM (Orthogonal Frequency Division Multiplexing) system • Channel: 11 Mbps, 5.5 Mpbs, 2 Mbps, 1 Mbps • Transmission system • Transmission speed (automatic fallback)

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