System Requirements for your PC

OS	Microsoft Windows 8.1 Microsoft Windows 8 Microsoft Windows 7 Microsoft Windows Vista Microsoft Windows XP Microsoft Windows Server 2012 Microsoft Windows Server 2008 R2 Microsoft Windows Server 2008 Microsoft Windows Server 2003
Web browse	Internet Explorer® 6/7/8/9/10/11(32bit)
Resolution	SXGA (1280 x 1024 pixels; 16,770,000 colors)
File system	NTFS (NT File System)
Audio*1	Audio output feature (Speaker or Headphones) Audio input feature (Microphone)

Hardware specification

Recording condition	· When 10 network camera units are connected CPU: Intel® Pentium® 4 3GHz or greater, or equivalent compatible processor, RAM: 1024 MB or more*2 · When 2 network camera units are connected CPU: Intel® Pentium® 4 2.6GHz or greater, or equivalent compatible processor, RAM: 512 MB or more*2
Voice	Audio output function (including speaker or headphone)

*1 When using a camera that supports audio
*2 This specification is required for using all network cameras to simultaneously record at a resolution of 320 x 240 in standard image quality, while monitoring with all registered cameras at a frame rate of 2 fps.

Still and motion image data size

■ WV Series (i-PRO SmartHD)

JPEG Data size for 1 second of motion images(images only), Data format: JPEG

resolution (dot)	Low size(KB)	Normal size(KB)	Fine size(KB)	Super Fine size(KB)
2048x1536	144	384	787	883
1920x1080	96	250	518	576
1280 x 960	58	154	307	346
640 x 480	26	52	103	138
320 x 240	10	29	48	53

* JPEG Data Size
The approximate recording capacity is calculated by using the following formula:
Size (KB) x Frame rate (images/sec) x Recording time (sec)
Example
• The calculation for a 1-hour recording of 640 x 480 resolution images at a frame rate of 5 images/sec in Normal mode is as follows:
 52 KB x 5 images/sec x 3,600 sec (1 hour) = 936,000 KB ≒ 914 MB
• In case of images with voices, 4 KB is added per each second:
 936,000 KB + 4 KB x 3,600 sec = 950,400 KB ≒ 928 MB

* A version upgrade from BB-HNP11 and BB-HNP15 is not supported.
* Camera control depends on the control specifications supported by the network camera.
* The number of camera units allowed for simultaneous recording varies depending on the PC performance.

Important
- Safety Precaution: carefully read the operating instructions and installation manual before using this product.
• Design and specifications are subject to change without notice.

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BB-HNP17 The recommended PC specification for number of recording camera*1.

CPU	Intel Core 2 quad Q9650	
Clock	3.00 GHz	
Memory	4 GB	
OS	Windows 7	
Audio	No	
Compression Format	H.264	
Frame rate	30fps	
Resolution	640 x 480	1280 x 960
Number of cameras† 20	Both recording and live monitoring works well as specified. No frame rate change happens.	This case hasn't been tested.
2	This case hasn't been tested.	Both recording and live monitoring works well as specified. No frame rate change happens.
1	This case hasn't been tested.	Both recording and live monitoring works. Frame rate control (reduced) happens for live monitoring, but there is no influence for the recording at all.

*1 The data shows the result based on an example case that only BB-HNP17 is running on the PC as an application. It is strongly recommended not to run other software while running this software for the best result.

MPEG-4 Data size for 1 second of motion images(images only), Data format: MPEG-4

resolution (dot)	MPEG-4 bitrate(kbps)	Data size/hour(MB)
640 x 480	2,048	900
320 x 240	1,024	450

H.264 Data size for 1 second of motion images(images only), Data format: H.264

resolution (dot)	fps	H.264 bitrate(kbps)	Data size/hour(MB)
1920x1080	30	4096	1800
	15	3072	1350
1280 x 960	30	2,048	900
	15	1,536	675
640 x 480	30	1,024	450
	15	768	338
320 x 240	30	512	225
	15	384	169

* MPEG-4 bit rate: This depends on the value set at the camera for MPEG-4 bit rate for image distribution.
The approximate recording capacity is calculated by using the following formula:
MPEG-4 bit rate (Kbps)/8 bits x time (sec).
Example
• The calculation for 640 x 480 resolution images at an MPEG-4 bit rate of 2048 Kbps is as follows:
 2048 Kbps/8 bits x 3,600 seconds (1 hour) = 921,600 KB ≒ 900 MB
• In case of images with voices, 4 KB is added per each second:
 921,600 KB + 4 KB x 3,600 sec = 936,000 KB ≒ 914MB

* H.264 bit rate: This depends on the value set at the camera for H.264 bit rate for image distribution.
The approximate recording capacity is calculated by using the following formula:
H.264 bit rate (Kbps)/8 bits x time (sec).
Example
• The calculation for 640 x 480 resolution images at an H.264 bit rate of 1536 Kbps is as follows:
 1536 Kbps/8 bits x 3,600 seconds (1 hour) = 691,200 KB ≒ 675 MB
• In case of images with voices, 8 KB is added per each second:
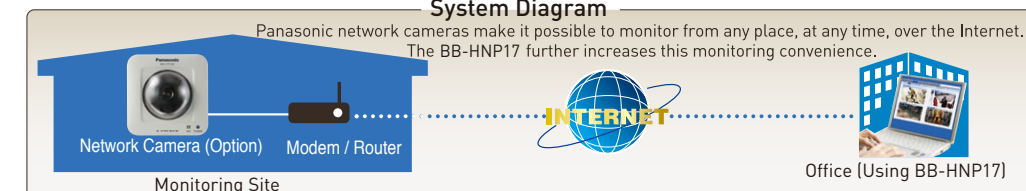 691,200 KB + 8 KB x 3,600 sec = 720,000 KB ≒ 704MB

Network Camera Recorder with Viewer Software

Panasonic
BB-HNP17

ZERO DISTANCE MANAGEMENT
Live and recordable image and sound features for improved security and marketing research

Features

• **H.264, MPEG-4 and Motion JPEG Recording & Monitoring**
• **Supports resolutions of Max. 2,048x1,536 (JPEG)**
• **Flexible Layout**
 Full Screen Display
 Single Monitoring Screen Display
 Multi-Monitoring window
 Auto Scan Display under Multi-Monitoring
• **Remote Access Function**
• **Time Specified Color night view / Adaptive Black Stretch**

• **Multi-Sensor-Activated Recording**
 Motion Detection Recording
 Built-in Sensor Detection Recording
 Sound Detection Recording
 Shock Detection Recording
 Alarm Recording
• **Pop-up display with Event Detection**
• **Timer Recording**
• **Timer Recording with Preset Position**

• **Converting Recorded Images to JPG/WAV/ASF/AVI formats**
• **Audio Transmission**
• **Snap Shot**

See There
When You Can't Be There

System Diagram
Panasonic network cameras make it possible to monitor from any place, at any time, over the Internet. The BB-HNP17 further increases this monitoring convenience.

Network Camera (Option) Modem / Router INTERNET Office (Using BB-HNP17)
Monitoring Site

Feel Safer with Panasonic

Clear image and innovative sound recording functions provide excellent monitoring for your business

Support for H.264, MPEG-4 and Motion JPEG Images and Sound

Images with sound from a LAN- or internet-connected network camera or network camera server can easily be recorded and replayed from a remote PC. Images together with sound can be recorded, which gives a sense of actually being on site, something that cannot be conveyed with images alone. In addition it is also possible to record images from multiple network cameras simultaneously. In addition to MPEG-4 and Motion JPEG, H.264 for high compression and smooth movement is also supported, and mode can be selected according to application and environment.

H.264 / MPEG-4 / JPEG → Internet → H.264 / MPEG-4 / JPEG
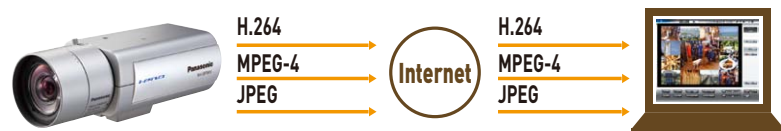
* Corresponding Model Types

[H.264/JPEG]
WV-SW598 /SC588 /SW559 /SW558 /SW158 /SW155(M) /SW152(M)
/SF549 /SF548 /SF539 /SF538 /SF138 /SF135 /SF132
/SP509 /SP508 /SP105 /SP102 /SW175 /SW174W /SW172 /ST165 /ST162
/SW458(M) /SF448E /SF438
BL-VT164 /VT164W /VP104 /VP104W /VP101

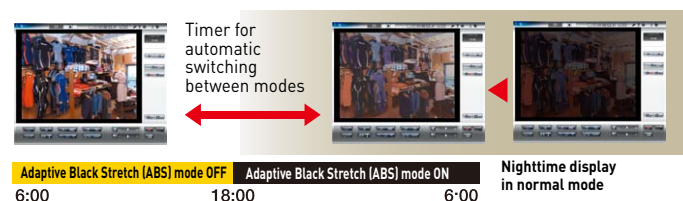**[H.264/MPEG-4/ JPEG]**
WV-SW396(A) /SW395(A) /SC386/ SC385 /SC384 /SW355 /SW355 /SW352
/NW502S /SF346 /SF342 /SF336 /SF335 /SF332
/SW316L /SW316 /SW314 /SP306 /SP305 /SP302 /NP502

Support for Max. 2,048x1,536 (JPEG) Resolution Recording and Monitoring

Recording and monitoring of high resolution 2,048x1,536 (JPEG), 1,920x1,080(H.264) camera images are possible. In operating situations where detailed images are necessary, high quality images can be stored in a PC with the same high resolution.

Time-specified Color Night View (CNV) / Adaptive Black Stretch (ABS)

Time-specified Color Night View (CNV) / Adaptive Black Stretch (ABS) can be set using a timer. Cameras are switched between normal and CNV / ABS modes from HNP17. By switching between normal mode for bright daylight conditions, and ABS for nighttime when there is darkness, camera images can be recorded or monitored using the most appropriate mode for a given time period.

Timer for automatic switching between modes

| Adaptive Black Stretch (ABS) mode OFF | Adaptive Black Stretch (ABS) mode ON | Nighttime display in normal mode |
| 6:00 | 18:00 | 6:00 |

Flexible Layout Setup Possible with Multi-monitoring Screen

It is possible to monitor from up to 16 cameras simultaneously on one screen. In case more than 16 cameras are registered, images from up to 64 cameras can be displayed on up to 128 pages with switching between screens. Switching can be done to provide full-screen display of camera images, and switching to single-screen view can be done by double-clicking on the camera image you wish to view.

Full Screen Display

A camera image is displayed on the full screen of your PC.

Single Monitoring Screen Display

If you double-click an image from the network camera, the screen display on your PC is switched into Single Monitoring / Multi-Monitoring screen for the user's convenience.
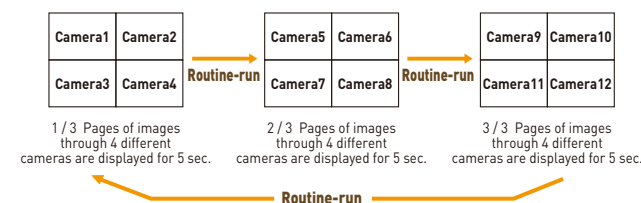
Flexible Layout

The multi-monitoring screen layout can be changed flexibly. For example it is possible to change the number of images displayed vertically and horizontally and increase the size of an image that you wish to give special attention to.

### Auto Scan Display under Multi-Monitoring

This function shows different multi-monitoring images at certain intervals and can switch into different pages of those images.

| Camera1 | Camera2 | | Camera5 | Camera6 | | Camera9 | Camera10 |
| Camera3 | Camera4 | Routine-run → | Camera7 | Camera8 | Routine-run → | Camera11 | Camera12 |

1 / 3 Pages of images through 4 different cameras are displayed for 5 sec.

2 / 3 Pages of images through 4 different cameras are displayed for 5 sec.

3 / 3 Pages of images through 4 different cameras are displayed for 5 sec.

← Routine-run →

Remote Access Function

For host-side PCs installed with BB-HNP17, access is possible using a web browser for monitoring and checking of recorded data. It is not necessary for BB-HNP17 to be installed in the client-side PC. Three levels of access authority can be set for users, and administrator authority configurations can be set, including the addition of new image recording conditions.

* The first time the server is accessed via a client PC web browser, the remote client recording program is automatically downloaded and installed.
* When used with H.264, the accessing client-side PC must also have an H.264 user license (BB-HCAB).
* When used with MPEG-4, the accessing client-side PC must also have an MPEG-4 user license (BB-HCA5).
* Internet Explorer (Windows version) is the only web browser supported.
* When BB-HNP17 (server) is accessed through the Internet using a web browser, a setting is necessary to permit access by an outside computer installed with HNP17.

Router — Internet — Router

BB-HNP17 (Server)

Network camera

Web browser (client)
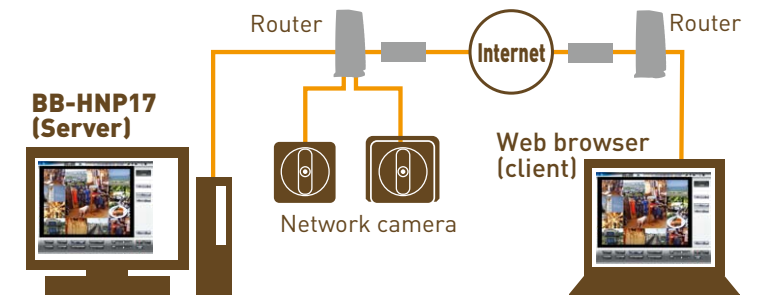
Multi-sensor-activated Recording / Timer Recording with Preset Position

Detection by sensors mounted on network cameras can be used to activate recording. There is also a built-in timer recording function to start and end recording at preset times. By combining these functions, it is possible for sensor-activated recording to operate only within preset time periods.

For each camera, 10 timer settings are possible. So for example, operation can start and end at times set differently for weekdays and weekends.

Motion Detection Recording

Recording starts when any movement in the image of the entrance or other place is sensed.

Internet — Network Camera Recorder with Viewer Software BB-HNP17

Timer Recording

Recording the inside of your shop or other places at intervals

Internet — Network Camera Recorder with Viewer Software BB-HNP17

Built-in Sensor Detection Recording * BL-VT164/ BL-VT164W only

Recording starts the moment the system detects temperature differenced within its range that are emitted naturally by people animals etc.

Internet — Network Camera Recorder with Viewer Software BB-HNP17

Alarm Recording

Recording starts when any movement of the door or other items is sensed.

Door sensor [Alarm 1] Door sensor [Alarm 2]

Internet — Network Camera Recorder with Viewer Software BB-HNP17

Pop-up Display with Event Detection

This system is designed to enlarge the image (stationary image) at the time of the sensor detection by popping it out on the screen for notifying purpose.

Specifications

Camera registration monitoring

No. of registerable camera units	Up to 64 camera units. Note that the actual number of registerable camera units varies depending on the performance of the PC used.
Camera image view	Sequential display, Up to 16 multi-camera display, full screen display, layout change
Image display size	Automatically adjusted to match the camera layout.
Camera setup*1	Each camera can be set up individually (camera name, resolution, image quality setting, recording format, timer setting, etc.)
Selected camera image display	Automatically adjusted to match the camera layout.
Image zoom in/out*1	3 types of zoom functions: the camera zoom functions (Optical zoom, Ex zoom, and digital zoom), as well as the network camera recorder software's digital zoom.
Preset	Preset functions set in cameras can be used
Camera control*1	Control of basic camera functions (pan/tilt/zoom, brightness, resolution, image quality, sound level)
Preset Sequence*1	Periodically scans and displays the locations registered in the camera presets. (Only for cameras with preset sequence feature)
Time specified CNV / ABF*1	Color night view (CNV) / Adaptive Black Stretch (ABS) activation/deactivation can be registered in a schedule

Recording

Recording file format	Original file format: Images and voices are recorded continuously in a moving image file.
Recording media	Hard disk, network drive*2
Recording resolution*1	H.264: 1920x1080/ 1280x960/ 1280x720/ 800x600/ 640x480/ 640x360/ 320x240/ 320x180 MPEG-4: 1280x960/ 640x480/ 320x240/192x144 M-JPEG: 2048x1536/ 1920x1080/ 1280x1024/1280x960/ 1280x720/ 800x600/ 640x480/ 640x360/ 320x240/ 320x180/ 192x144/ 160x120
Image quality (JPEG only)	Super Fine - Low (10 Levels)
No. of camera units for simultaneous recording	Dependent on camera type and performance of PC. See the hardware specifications "System Requirements for your PC".
Recording capacity limit function	Maximum recording capacity value can be set for individual camera units (Whether to save new data by overwriting or to stop recording when the set capacity is reached can be selected). In addition to a capacity limit for each camera, there is also a capacity limit for the entire storage media.
Motion detection recording (JPEG only)	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.*3 Motion detection can be disabled in specified areas. Motion detection can be confirmed on-screen.

Built-in Sensor Detection Recording*1 (JPEG only)	When the signal of a sensor that is attached to the camera is detected, sensor recording starts.
Timer recording	Scheduled start and stop timer based on day of week and time. Key word can also be set for recording. (10 schedules can be registered per camera).
Timer recording with preset position	Specifying the display location of timer start/stop times
Alarm recording (JPEG only)	Recording is triggered by the reaction of a sensor mounted to the camera. A certain time length before and after the sensor reaction can also be recorded.
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 search

Recorded image search function	Search recorded images in 1-day units using the recording time, or using a key word set before recording. Searching can also be done for particular, desired folders.

Image operation

Continuous play back	Playback of images with voices, playback of image files. Playback speed can be varied. Playback in reverse is possible. Simultaneous playback of images from multiple cameras is also possible.
Recorded image view	A list of recorded image files, or a graphical list can also be displayed.
Operation of recorded images	Recorded images can be copied or deleted.
Format conversion	All or part of the recorded images can be converted to MPEG-1, MPEG-4, or JPEG format files, or only the audio portion can be converted to WAV files.

Language

BB-HNP17A (For USA): English / Japanese
BB-HNP17CE (For Other Regions): English / Germany / Spanish / Italian

*1 Depends on Camera's Spec.
*2-1 Folders on the network allotted to the drive can be specified for saving data.
*2-2 When a network drive is specified as a folder for saving data, the amount of data flowing over the network increases. This may remarkably degrade the operating performance for watching or recording camera images, watching previously recorded images, etc., and may also result in errors. It is recommended that a folder on a local disk be specified for saving data.
*3 The detection level varies depending on the camera resolution, image quality setting, subject conditions, network conditions, etc.