

Canon

Network Camera

VB-M40

Operation Guide



Be sure to read this Operation Guide before using the network camera.

ENGLISH

Introduction

Thank you for purchasing a Canon Network Camera VB-M40/VB-M40B (hereafter referred to as VB-M40 or the camera). The only difference between the VB-M40 and VB-M40B is the exterior color. Both camera models are for indoor use only. This Operation Guide explains the camera settings and operations. Read these guides carefully before using the VB-M40 to ensure correct use. Also, be sure to read the ReadMe file on the Setup CD-ROM.

For the latest information on this product (firmware and Bundled Software, User's Manual, operating environment etc.), please refer to the Canon Web Site.

Disclaimer

Canon Inc. shall not be responsible for any financial losses that may be incurred as a result of the loss of recorded information or images, regardless of the internal or external cause of the loss.

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■ Notes

- 1 All rights reserved.
- 2 The contents of this guide are subject to change without any prior notice.
- 3 This document has been prepared with utmost attention to accuracy. If you have any comment, however, please contact the Customer Service Center indicated on the back cover.
- 4 Canon shall assume no liability for any outcome of using this product, regardless of Items 2 and 3 above.

Copyright

Videos, images or sounds recorded with your VB-M40 may not be utilized or published without consent of copyright holders, if any, except in such a way as permitted for personal use under the relevant copyright law.

Notes on Privacy and Publicity Rights Regarding the Use of Video/Audio

When using the VB-M40 (for video or audio recording), it is the full responsibility of the user to protect privacy and avoid any violation of publicity rights. Canon shall have no liability whatsoever in this regard.

Reference

- Obtain consent from the Administrator before installing the camera to film specific buildings or rooms.

Legal Notice

In some cases, camera monitoring may be prohibited by law or regulation, the details of which differ by country. Before using the VB-M40, check the laws or regulations of the country or region where the camera is used.

Trademark Notice

- Canon and the Canon logo are registered trademarks of Canon Inc.
- Microsoft, Windows, Internet Explorer, Windows Server and ActiveX are trademarks or registered trademarks in the US and other countries.
- Windows is legally recognized as the Microsoft Windows Operating System.
- This product comes with exFAT, a licensed file system technology from Microsoft.
- SD and SDHC Logos are trademarks of SD-3C, LLC.
- Other brands or product names in this guide are trademarks or registered trademarks of their respective companies.

⚠ Warning

To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

Notes on the Bundled Software RM-Lite (Disclaimer)

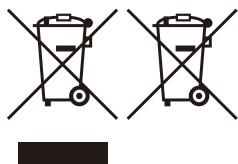
Flaws or other problems with RM-Lite may result in recording failure or destruction or loss of recorded data. Canon shall have no liability whatsoever for any loss or damages incurred by the user as a result of such problems.

Notes on License Agreement for Bundled Software

For information on the License Agreement for Bundled Software, refer to the next file in the BundledSoftware folder in the Bundled Setup CD-ROM LICENSE folder.

Software Type	File Name
VB Initial Setting Tool	VBTools-E.txt
RM-Lite Network Video Recording Software	RM-Lite-E.txt

European Union (and EEA) only.



These symbols indicate that this product is not to be disposed of with your household waste, according to the WEEE Directive (2002/96/EC), the Battery Directive (2006/66/EC) and/or your national laws implementing those Directives.

This product should be handed over to a designated collection point, e.g., on an authorized one-for-one basis when you buy a new similar product or to an authorized collection site for recycling waste electrical and electronic equipment (EEE) and batteries and accumulators.

Improper handling of this type of waste could have a possible impact on the environment and human health due to potentially hazardous substances that are generally associated with EEE.

Your cooperation in the correct disposal of this product will contribute to the effective usage of natural resources.

For more information about the recycling of this product, please contact your local city office, waste authority, approved scheme or your household waste disposal service or visit www.canon-europe.com/environment.

(EEA: Norway, Iceland and Liechtenstein)

H.264

This product is licensed under the AVC PATENT PORTFOLIO LICENSE for the personal and non-commercial use of a consumer to (i) encode video in compliance with the AVC STANDARD ("AVC video") and/or (ii) decode AVC video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC video. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. Additional information may be obtained from MPEG LA, LLC. See <http://www.mpegl.com>

"This product is licensed under AT&T patents for the MPEG-4 standard and may be used for encoding MPEG-4 compliant video and/or decoding MPEG-4 compliant video that was encoded only (1) for a personal and non-commercial purpose or (2) by a video provider licensed under the AT&T patents to provide MPEG-4 compliant video. No license is granted or implied for any other use for MPEG-4 standard."

Open Source Software

The product (VB-M40 and bundled RM-Lite) contains Open Source Software modules. For details, see "ThirdPartySoftware-E.pdf" (Third-Party Software License) in the Open-SourceSoftware folder in the LICENSE folder on the Setup CD-ROM. Each module's license conditions are also available in the same folder.

Software under GPL and LGPL

If you would like to obtain the source code under GPL/LGPL, please contact the dealer or sales agent where you purchased the product.

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How to Read This Operation Guide

User's Manuals

This camera comes with the "Installation Guide" and "Operation Guide" (this manual) included in the Setup CD-ROM.

VB-M40 Installation Guide (Bundled)

This guide provides notes on the camera installation and explains the procedures to install the camera using a ceiling mount cover (optional), as well as the main camera specifications. Sections you should reference in this guide will be marked "Installation Guide" along with the name of the reference items.

Operation Guide (This Document) (VBM40OG_E.pdf)

This document explains the initial camera settings, Admin Tools settings, viewer operations and troubleshooting, etc. This document is included in the Setup CD-ROM.

Also included in the Setup CD-ROM is the recording software RM-Lite ("Network Video Recording Software RM-Lite v1.0" in "Chapter 1 Before Use"). The following User's Manuals are available.

Network Video Recording Software RM-Lite

Administrator's Manual (RML10AM_E.pdf)

This document gives a detailed explanation of how to use RM-Lite. Be sure to read this document.

Network Video Recording Software RM-Lite

Viewer Operation Guide (RM10VOG_E.pdf)

This is the operation guide for RM-Lite Viewer. For more details on operating procedures for the viewer, see Administrator's Manual.

Symbols Indicating Safety Precautions

This section explains marks used in this Operation Guide. This Operation Guide uses the following marks to indicate the important information the user should know in order to use the product safely. Be sure to observe these items.

Mark	Meaning
 Warning	Inappropriate handling against the instruction accompanied by this sign may result in death or serious injury. Be sure to observe these warnings to ensure safety.
 Caution	Inappropriate handling against the instruction accompanied by this sign may result in injury. Be sure to observe these precautions to ensure safety.
Caution	Inappropriate handling against the instruction accompanied by this sign may result in property damage. Be sure to observe these precautions.
 Important	This symbol indicates other actions or information that should be heeded. Important notes and restrictions are provided. Be sure to read this document.
 Note	Contains reference information for operation or additional explanations.

How to use this Operation Guide

The assumed reading format of this User's Manual is on a PC screen.

Software Screenshots

The software screenshots shown in these User's Manuals are illustrative samples only. The screenshots may differ from the actual screens displayed.

Further, screenshots used with the explanations are from Windows 7.

Safety Precautions

The following explains the items that must be observed when using the VB-M40.

If they are not observed, injury, death and/or property damage may occur. Read the following information carefully and observe the instructions without fail.

Important Warnings

Caution

**TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.**

The AC adapter can be connected to VB-M40 from a standard AC power outlet.

Please check your instruction manual to make sure that your VB-M40 is compatible with this adapter.

- The socket-outlet should be installed near the equipment and should be easily accessible.
- Unplug the equipment from the wall outlet before cleaning or maintaining.

FDA regulation

This Network Camera has not been evaluated by the Food and Drug Administration (FDA) for use as a medical device. When incorporated into a system with medical applications, FDA regulations may apply. Therefore, please consult your legal advisor to determine whether FDA regulations apply.



AY46

FCC NOTICE

Network Camera, Model Name: VB-M40

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Use of shielded cable is required to comply with class B limits in Subpart B of Part 15 of FCC Rules.

Do not make any changes or modifications to the equipment unless otherwise specified in the manual. If such changes or modifications should be made, you could be required to stop operation of the equipment. Canon U. S. A. Inc.

One Canon Plaza, Lake Success, NY 11042, U. S. A.
Tel No. (516) 328-5600

Canadian Radio Interference Regulations

This Class B digital apparatus complies with Canadian ICES-003.

Precautions for Use

⚠ Warning

- If you discover defective conditions such as smoke, strange sounds, heat or strange odors, immediately stop using the camera and contact your nearest dealer.

Continued use of the product may cause fire or electric shock.

- Do not disassemble or modify the camera.
- Do not spill water or other liquid inside the camera, spray the camera with water, or otherwise wet it.
- Do not insert foreign objects into the camera.
- Do not use flammable sprays near the camera.
- Do not leave LAN cables, external power supplies or AC adapter (optional) power connectors connected when the camera is not in use for long periods.
- Do not damage the connecting cord.

This may cause fire or electric shock.

- Do not use with medical devices or other life-support systems.

Depending on the PC and network environment, high-precision video transmission cannot be guaranteed due to video delay or loss.

Canon will assume no liability for any accident or damage resulting from use of the VB-M40 in the aforementioned devices or systems.

Caution

- Do not capture the sun, halogen lamps, and other very bright light sources or subjects.
- Do not expose the camera to strong impact or vibration.
- Do not hold the network camera by the head.
- Do not forcibly turn the rotating parts of the camera by hand.

This may cause malfunction.

This installation should be made by a qualified service person and should conform to all local codes.

Precautions for Use of Intelligent Functions, Image Stabilizer and Bundled Network Video Recording Software RM-Lite

Caution

- Do not use intelligent functions, image stabilizer or network video recording software RM-Lite in cases requiring a high level of reliability.

These features do not guarantee high-precision capture and cannot support applications beyond their intended range of use. Canon will assume no liability for any accident or damage resulting from use of these functions.

Notes on Cleaning

⚠ Warning

- Do not use alcohol, thinner, benzene or any other flammable solvent.

This may cause fire or electric shock.

Maintenance

Turn off the power before cleaning the camera.

■ Cleaning of Exterior

- 1 Dampen a soft cloth with water or diluted neutral detergent and wipe away the grime gently.
- 2 Wipe with a dry cloth.

■ Cleaning of Lens

Use a commercial lens cleaner to remove grime on the lens surface.

- Auto focus may not work properly if the lens surface is dusty or dirty.
- Be aware that scratches on the lens surface may result in poor image capture.

■ Maintenance for Indoor Dome Housing (Optional)

Grime on the dome case reduces image quality, so clean the dome periodically.

- 1 See steps in "Installing the Camera" in the Installation Guide bundled with the indoor dome housing and remove the dome.
- 2 Dampen a soft cloth with water or diluted neutral detergent and wipe away the grime gently.
- 3 Wipe with a dry cloth.
- 4 Reattach the dome to its original position.

Periodically check the brackets and screws for rust and loosening to prevent injuries and equipment damage due to falling items.

For inspections, please contact the dealer where you purchased the product.

■ Maintenance for Ceiling Mount Cover (Optional)

Periodically check the brackets and screws for rust and loose material to prevent injuries and equipment damage due to falling items (Installation Guide, "Installing the Camera").

For inspections, please contact the dealer where you purchased the product.

Chapter 1

Before Use

- ❑ Camera Features
- ❑ Software Information
- ❑ Operating Environment and Precautions

VB-M40 Features

This camera integrates both camera and server functions into a compact network camera.

■ Optical Megapixel 20x Zoom Lens with Auto Focus and Pan/Tilt Functions

The camera is equipped with an optical megapixel 20x zoom lens (4x digital) with a maximum 55.4° horizontal angle of view in a compact body to ensure high-quality video monitoring. An auto focus function and pan/tilt functions that move the camera up, down, left, and right allow you to operate the camera and monitor conditions remotely.

■ Simultaneous Distribution of JPEG and H.264

JPEG/H.264 video compression achieves high image quality and a high frame rate of up to 30 frames per second*¹ in 1280x960 resolution. Up to 30 clients*² can view the same video simultaneously.

*1 Note that the frame rate may drop depending on performance of the PC running the viewer, the number of clients connected at the same time, network load, and other factors.

*2 In H.264 distribution, up to 10 clients can be connected at once.

■ Clear Video Capture in Low Illumination and Day/Night Automatic Switching

The camera can capture color images at a minimum subject illumination of 0.4 lux (1/30 sec. with Smart Shade Control off) or 0.03 lux (1/8 sec. with Smart Shade Control on). In addition, the day/night automatic switching function* ([Day/Night] (P. 4-11)) automatically switches the camera between color mode when sufficient light is available during daytime, and black & white mode in dark conditions at nighttime, in order to support video monitoring in locations with varying levels of illumination.

* Before enabling day/night automatic switching, check operations thoroughly.

■ Intelligent Functions that Enable a Wide Range of Detection

The camera also boasts a wide array of intelligent functions, including moving object detection, abandoned object detection, removed object detection, camera tampering detection and volume detection. Using detection results as a trigger, the system can automatically upload the corresponding image to a

designated location via FTP/HTTP/STMP (e-mail) or provide event notification.

■ Privacy Mask Function

The camera is also equipped with a privacy mask function that hides part of an image. When the camera is panned, tilted, or zoomed, the privacy mask area responds to the camera image.

■ Smart Shade Control

When the background is bright and the subject is difficult to see, you can correct the contrast of dark areas to make the subject clearer. Unlike backlight compensation, this prevents blown out exposure of the background because bright areas are not controlled. These processes are implemented by dedicated hardware, which reduces image degradation and can decrease system load compared to conventional shade control (P. 6-12).

■ Image Stabilizer

This function compensates for image blurriness caused by vibrations when the camera is installed on the ceiling or a pole (P. 4-11).

* This function does not correct momentary vibration or significant vibrations exceeding a certain level. Using Image Stabilizer decreases image quality and reduces the viewing angle.

■ SD/SDHC Memory Card Support

You can save uploaded images, and logs to an SD memory card when the network is down.

■ Pre-Loaded VB-M40 Viewer and Admin Tools

VB-M40 Viewer and Admin Tools are loaded onto the camera and can be operated via a web browser, so you do not need to install any PC applications. You can set three levels of user authority in the VB-M40 viewer; [Administrator], [Authorized Users] and [Guest Users].

■ Small-scale Video Monitoring via Recording Software RM-Lite

This product comes with the RM-Lite Network Video Recording Software (P. 1-5). Images captured by up to four cameras can be recorded and displayed in real time to achieve small-scale video monitoring.

■ Encrypted Communication

This camera supports SSL/TLS (HTTPS) in addition to IPsec.

■ Supporting Diverse Installation Applications

The camera is compatible with PoE*, DC12V, AC24V, and AC adapter PA-V17 power. An optional indoor dome housing and/or ceiling mount cover can be used to install the camera on the ceiling ("Camera Options" in "Installation Guide").

* PoE: Power over Ethernet

■ Two-Way Audio (Full Duplex)

A microphone or speaker with an amplifier can be connected^{*1} to the camera to transmit/receive audio (full duplex) via the viewer^{*2}. Switch the setting on the setting page to select LINE IN or MIC IN as your desired audio input mode (P. 4-18).

*1 Microphones and amplifiers sold separately.

*2 Only the RM-Lite Viewer supports two-way audio communication.

The VB-M40 Viewer only supports audio reception.

Camera Software

This section explains various software that can be used with the camera.

Installed Software

Viewer software for displaying images on the PC and various admin tools are loaded onto the camera. The software can be used by accessing the camera via a web browser.

■ VB-M40 Viewer

(See “Chapter 6 Admin Viewer/VB Viewer”)

There are two types of Viewer: the VB Viewer, which can be used by Guest Users, and the Admin Viewer for Administrators.

The VB Viewer allows users to configure basic camera controls and display images, but the visible area is limited by privacy mask and view restriction settings.

Administrators can also restrict camera control privileges and audio distribution, as well as limit camera usage to registered users.

The Admin Viewer displays all images, regardless of view restriction settings, and allows administrators to configure and monitor all camera controls and events.

Images are displayed in JPEG format only. To display H.264 video, install the RM-Lite Viewer (P. 1-5).

■ Admin Tools (see “Chapter 5 Admin Tools”)

This tool configures camera settings and performs management functions.

It includes the Privacy Mask Setting Tool, Panorama Creation Tool, View Restriction Setting Tool, Preset Setting Tool, Intelligent Function Setting Tool, and the Log Viewer.

Bundled Software

The bundled Setup CD-ROM contains the VB Initial Setting Tool, used when installing the camera, and RM-Lite, Network Video Recording Software that records camera images to the PC (hereafter RM-Lite). Install the software on PC to use it.

■ VB Initial Setting Tool Ver. 5.0.1

(See “Chapter 2 Camera Initial Setting”)

This tool performs initial settings for the camera. Install it from the Setup CD-ROM (P. 2-3).

■ RM-Lite (P. 1-5)

This software displays and records images from up to four cameras in real time. The installer (RMLiteInstall.exe) can be found in the Applications folder on the Setup CD-ROM.

■ Proxy Authentication Admin Viewer/Admin Tools

The camera's built-in the Admin Viewer and Admin Tools cannot be used via a proxy server with proxy authentication. This software lets you use Admin Viewer/Admin Tools via a proxy server with proxy authentication. It is saved in the ProxyAuthSupport folder on the Setup CD-ROM.

Network Video Recording Software (optional)

Additional licenses can be purchased as necessary.

■ RM-Lite-V

This additional license lets you install the RM-Lite Viewer on multiple PCs. Purchase the license to be able to view images captured by the camera from multiple sites and for other similar purposes.

Important

VB-M40 cannot be used with Network Video Recording Software versions older than RM-Lite. Users of VK-64/VK-16 and other legacy software must upgrade to RM-Lite. For details, visit our website.

User Support Tool

A convenient tool can be installed for use on a PC.

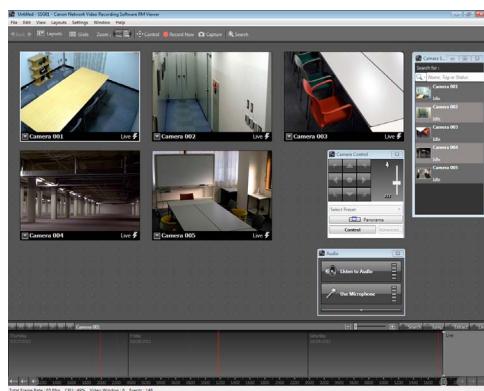
■ Backup and Restore Tools

The tools back up camera setting information to the PC. Information from multiple cameras can be saved at the same time.

The tools can also restore information saved on the PC to the camera.

RM-Lite (see “Administrator’s Manual”)

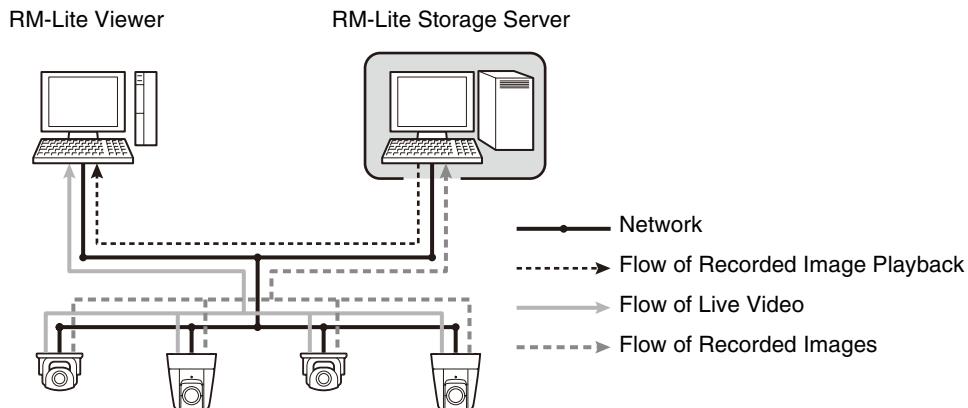
RM-Lite is bundled in the Setup CD-ROM and consists of the following two software packages.



RM-Lite Software Configuration

Type	Overview	License
RM-Lite Storage Server	Up to four cameras can be registered to record video.	1 license
RM-Lite Viewer	Plays recorded video saved in the storage server and displays live images (JPEG/H.264) captured by the camera. Up to four cameras can be registered for the viewer.	1 license

You can install and run the RM-Lite Storage Server and the RM-Lite Viewer on the same PC or on different PCs.



You can also register other network cameras besides the VB-M40 for use with RM-Lite.

Supported cameras	VB-M700F, VB-M600D, VB-M600VE, VB-M40, VB-C500VD/VB-C500D, VB-C60
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Important

To add the RM-Lite Viewer, purchase RM-Lite-V (optional).

Note

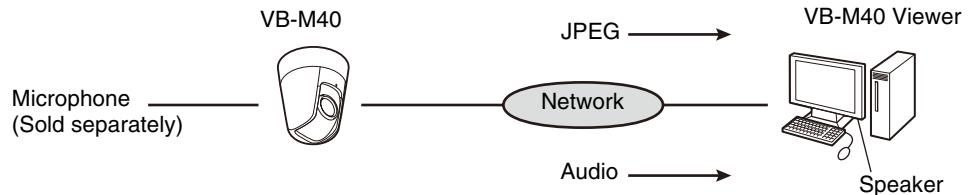
For details on the usage and functions of RM-Lite, see the “Administrator’s Manual”.

Comparison of Two Viewers

The camera has two viewers. The main differences are described below.

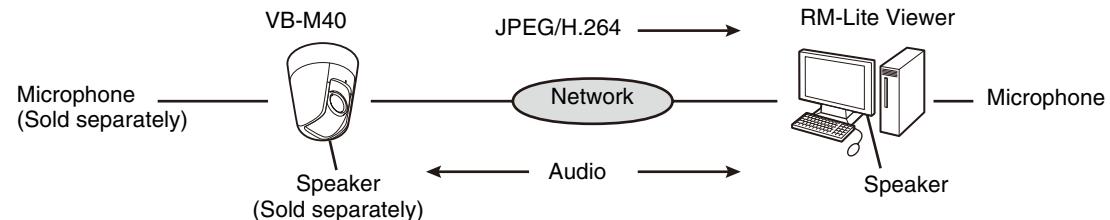
Viewer type	Live image display	Audio
VB-M40 Viewer	JPEG	Receives audio from the camera (one-way communication)
RM-Lite Viewer	JPEG/H.264	Transmits/receives audio (two-way communication)

VB-M40 Viewer Audio Reception (One-way Communication)



Audio from the microphone connected to the camera can be listened to from the viewer speaker.

RM-Lite Viewer Audio Reception (Two-way Communication)



Audio can be transmitted/received between the camera and viewer.

Note

PC, speaker and microphone sold separately.

Operating Environment

For the latest information on this product (firmware and Bundled Software, User's Manual, operating environment, etc.), please refer to the Canon Web Site.

VB Initial Setting Tool Ver. 5.0.1, VB-M40 Viewer, Admin Tools

CPU	Intel Core 2 Duo 2.0GHz or more
Operating Systems	Windows XP Home/Professional SP3 32-bit Windows Server 2003 Standard SP2 32-bit Windows Server 2003 R2 Standard SP2 32-bit Windows Vista Ultimate/Business/Enterprise/Home Premium SP2 32/64-bit Windows 7 Ultimate/Professional/Enterprise/Home Premium 32/64-bit Windows Server 2008 Standard SP2 32/64-bit Windows Server 2008 R2 Standard 64-bit
Web browser	Internet Explorer 7.0/8.0 32bit *1
Memory	2GB or more
Viewer Display	1024 x 768 or higher
Software	.NET Framework 3.5 SP1 *2
Audio	When using the camera's audio feature, the PC audio support feature is required.

*1 The browser must support JavaScript, XAML browser applications, and IFRAMES.
The VB Viewer requires cookies.

*2 Must be installed separately on operating systems other than Windows 7 and Windows Server 2008 R2.
Download from the Microsoft Download Center or install the bundled RM-Lite Viewer to install .NET Framework 3.5.
.NET Framework 3.5 will be installed. If the RM-Lite Viewer is installed on a PC from which it will not be used, uninstall the RM-Lite Viewer from that PC. .NET Framework 3.5 can continue to be used.

RM-Lite

For more operating environment details, refer to "Operating Environment" in the "Administrator's Manual."

Notes on Operating Environment

Notes on Use When the [Windows Firewall] Function is Enabled

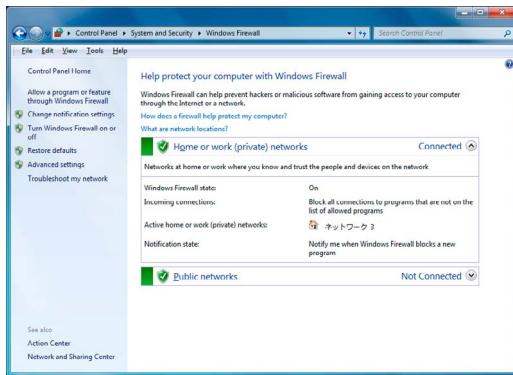
When the VB Initial Setting Tool is started, the [Windows Security Alert] dialog box may appear.

If the [Windows Security Alert] dialog box appears, click [Unblock].

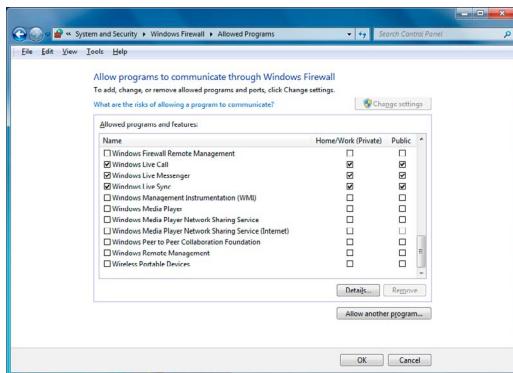
Once this button is clicked, the warning dialog box will no longer appear.

If the [Windows Security Alert] dialog box does not appear, the Windows firewall warning function may be disabled. Follow the procedure below to add the [VB Initial Setting Tool v5.0.1] as a Windows Firewall exception.

- 1 Click [Windows Firewall] in [Control Panel] > [System and Security].



- 2 Click [Allow a program or feature through Windows Firewall], then click [Change settings], and finally click [Allow another program].



- 3 This will bring up the [Add a Program] dialog box. Click to select [VB Initial Setting Tool v5.0.1], and then click [Add].



Notes on Use with Windows Server 2003/Windows Server 2008

■ Registering the Top Page of the Camera as a Trusted Site

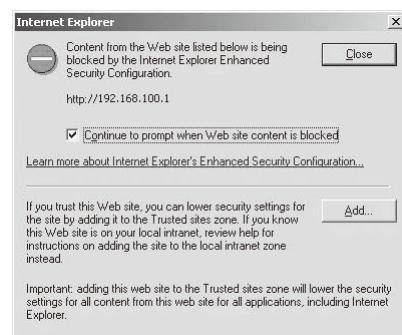
In Windows Server 2003 and Windows Server 2008, the security level for Internet sites and intranet sites on Internet Explorer is set to [High] by default.

Thus, when accessing the VB-M40 Viewer or Setting Page, a content block dialog box appears and the page fails to display correctly.

To correct this problem, follow the procedure below to register the top page as a trusted site.

- 1 Access the VB-M40 Viewer and the Setting Page from the top page of the camera with Internet Explorer.

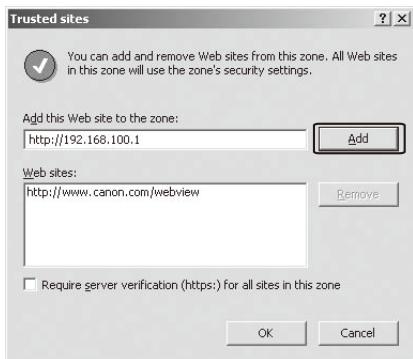
The following dialog box appears.



- 2 Click [Add].

The [Trusted Sites] dialog box appears.

3 If selected, clear the [Require server verification (https:) for all sites in this zone] check box.



4 Enter the IP address of the camera under [Add this Web site to the zone], and then click [Add].

For details on registering trusted sites, click the [Learn more about Internet Explorer's Enhanced Security Configuration] in the dialog box in step 1 and read the overview.

Note that even when the content block dialog box does not appear, JavaScript is sometimes disabled under the standard security settings, which may limit operations on the setting page and the VB-M40 Viewer. Register the page as a trusted site as this automatically enables JavaScript settings.

If the content block dialog box does not appear, follow the procedure below to display the [Trusted Sites] dialog box.

- 1 Click [Tools] > [Internet Options] from the Internet Explorer menu to display the [Internet Options] dialog box.
- 2 Click the [Security] tab.
- 3 Click and select [Trusted Sites], and then click [Sites].

The [Trusted Sites] dialog box appears.



This completes the trusted site registration process.

Notes on Use with Windows Server 2008

■ Registering “about:internet” and the Camera Host Name

Admin Viewer and Admin Tools will not start when IE ESC (Internet Explorer Enhanced Security Configuration) is enabled in Windows Server 2008.

Before using the tools, register “about:internet” and the host name for the connected camera in the Internet Explorer “local intranet” and “trusted sites” lists.



Important

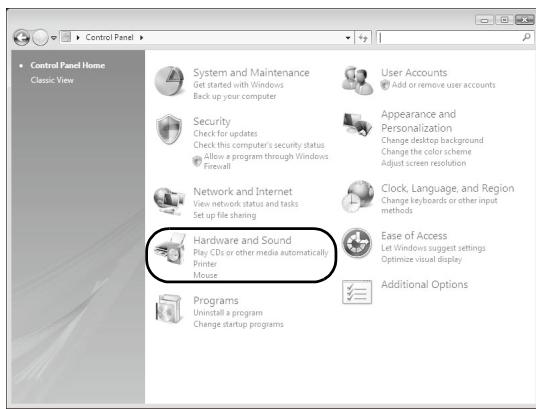
When “about:internet” is registered, the security level in Windows 7 is the same as when using Internet Explorer. After using the Admin Viewer/Admin Tools, it is recommended that you remove “about:internet” and the camera name as necessary and restore the original security level.

■ Enabling the Sound Function to Use Audio

In Windows Server 2008, the sound function is disabled by default.

To receive audio with the VB-M40 Viewer, follow the procedure below to enable the sound function.

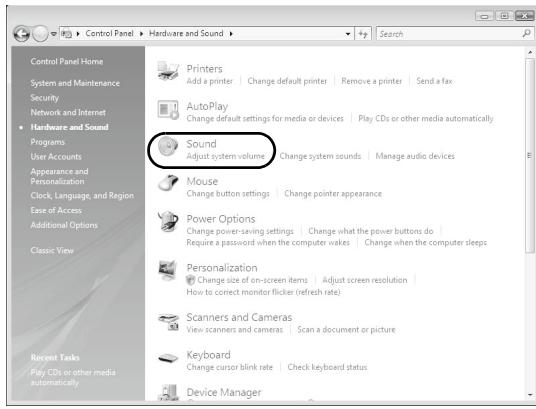
1 Open [Control Panel] and click [Hardware and Sound].



Note

If [Control Panel] is in the classic view, double-click [Sound].

2 Click [Sound].



3 When the [Audio service has not been executed] message appears, click [Yes].



4 The [Sound] dialog box appears.

Click the [Playback] tab to confirm that an audio device has been installed (If no audio device is installed, refer to your PC manual).

Notes on Use with Windows Vista/ Windows 7

The following restrictions apply when using the camera with Windows Vista or Windows 7.

■ RM-Lite

For more important information on the RM-Lite operating environment, see the "Administrator's Manual."

Chapter **2**

Initial Settings

- Preparing the Camera for Use
- Initial Setting Tool Installation
- Initial Settings

Preparing the Camera for Use

This section explains how to perform initial settings for the camera and outlines the basic preparation process. For more on specific steps, refer to the corresponding page.

Performing Initial Settings for the Camera

Before installing the camera, read this chapter and use the VB Initial Setting Tool to configure the IP address.

“Installing the VB Initial Setting Tool” (P. 2-3)

“Performing Initial Settings for the Camera” (P. 2-4)



Check images

When initial settings are complete, access the camera via a web browser and check the image using the VB Viewer.

“Checking the Camera Image” (P. 2-5)



Configuring the Camera from the Setting Page

The setting page lets you configure basic camera settings, network operations, user registration, and access restrictions.

Configure the necessary settings.

“Chapter 4 Setting Page”

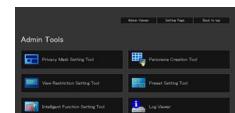


Using Admin Tools

Admin Tools let you leverage many convenient functions and intelligent functions.

Configure the tools to help you use the camera more effectively.

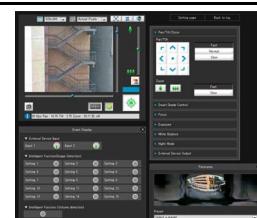
“Chapter 5 Admin Tools”



Using VB-M40 Viewer

The camera's built-in VB-M40 Viewer features an Admin Viewer for administrators and a VB viewer for guest users. Use the VB viewer to check distribution to guest users and the Admin Viewer to check all operations.

“Chapter 6 Admin Viewer/VB Viewer”

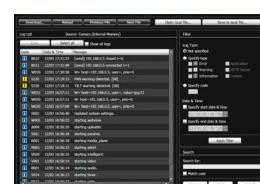


Operating

If an error message appears or the camera fails to operate correctly, see the error message and log message information in “Chapter 7 Appendix.”

Log messages can be viewed in “Maintenance” (P. 4-33) in the setting page or the Admin Tools “Log Viewer” (P. 5-3).

“Chapter 7 Appendix”



Important

Before starting operations, make sure that the setting page and Admin Tools settings are functioning correctly.

Installing the VB Initial Setting Tool

Install the VB Initial Setting Tool to perform initial settings for the camera.

1 Insert the bundled Setup CD-ROM into the PC's CD-ROM drive and follow the procedure below.

- (1) After confirming that all other applications have been closed, click [Start] menu > [Computer].
- (2) Double-click the CD-ROM icon that appears > Applications folder > VBInitInstall.exe.



2 Click [Next] and follow the on-screen instructions to install.



When installation is complete, an icon will appear on the desktop.



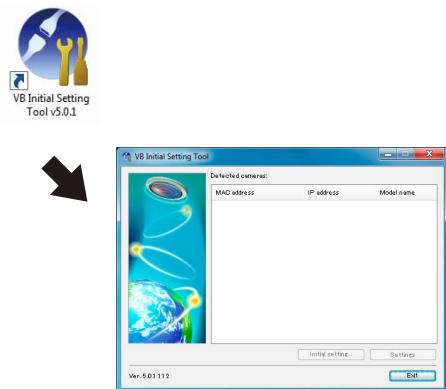
Performing Initial Settings for the Camera

Use the VB Initial Setting Tool to configure the camera network.

1 Connect the camera and PC to the network and turn on the camera (“Connecting the Camera” in “Installation Guide”).

2 Launch the VB Initial Setting Tool.

To launch the VB Initial Setting Tool, double-click the [VB Initial Setting Tool v5.0.1] icon on the desktop or select [Start] menu > [All Programs] > [WebView Livescope] > [VB Initial Setting Tool v5.0.1].



The Tool will automatically detect the camera connected to the network and display the camera's MAC address, IP address and model name.

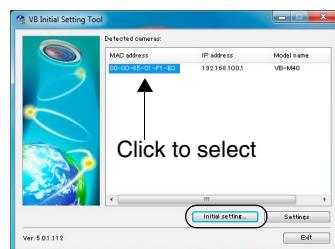
The factory setting IP address is set to 192.168.100.1. The MAC address can be found on the label on the bottom of the camera (Installation Guide, “Part Names”).

The VB Initial Setting Tool cannot be used with cameras that are behind a router.

Important

- The camera will stop issuing IP address assignment requests 20 minutes after it is turned on, and the VB Initial Setting Tool detection will be disabled. In such cases, turn the camera off and on again.
- There may be cautionary information, depending on your operating environment. Read “Notes on Operating Environment” (P. 1-8) before performing initial settings.

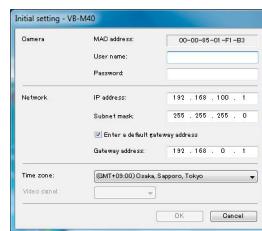
3 Select a MAC address, and then click [Initial setting].



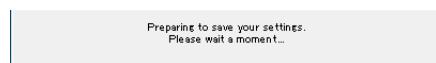
4 Enter the user name “root” and factory default setting password “camera”, and then the appropriate IP address and subnet mask.

To use a setting other than the default gateway setting, clear the [Enter a default gateway address] checkbox.

After settings are complete, click [OK].



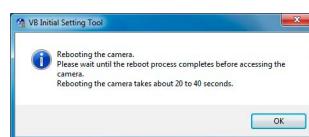
Setup progress is shown in the window.



Note

- To ensure security, be sure to change the administrator password (P. 3-3).
- Contact your System Administrator for the appropriate IP address, subnet mask and gateway address.

5 Click [OK].



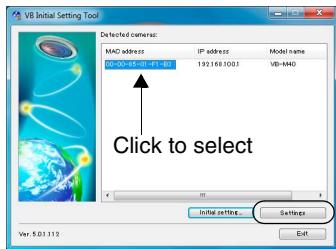
Important

To obtain an IP address from a DHCP server, first use the VB Initial Setting Tool to temporarily configure a static address that can communicate with the PC. Then, in [Network] in the Setting page, change [IPv4 Address Setting Method] to [Auto (DHCP)] in the [IPv4] area (P. 4-5).

Checking the Camera Image

Once initial settings are complete, check the image on the camera with the VB Viewer. When doing so, set the PC network settings to comply with the IP address and subnet mask settings on the camera.

- 1 Click to select the camera's MAC address which will be checked, and then click [Detailed Settings].



- 2 This will launch the web browser and display the top page of the camera. Click [VB Viewer].



The viewer launches and displays the camera image.



If the top page of the camera does not appear or the VB Viewer does not launch, see "Troubleshooting" (P. 7-6) in "Chapter 7 Appendix."

Important

Do not change the camera HTTP port from 80 if you want to open the setting page by clicking [Detailed Settings]. See "HTTP Server" (P. 4-19) for more information on HTTP port settings.

Chapter 3

Top Page of the Camera

- ❑ Accessing the Setting Page, Admin Tools and Viewer
- ❑ Certificate Registration

Accessing the Top Page of the Camera

Accessing the Top Page of the Camera

Access the top page of the camera via a web browser. From the top page of the camera, you can navigate to the Setting Menu to configure various camera settings, launch Admin Tools, and display the viewer to view images.

- 1 Launch the web browser.
- 2 Enter the IP address you specified in the Initial Setting Tool.

Important

This Operation Guide explains relevant operations using the IP address 192.168.100.1 (factory default setting). You need to enter the actual IP address set for the camera when following instructions.

The top page of the camera appears.



① Language Button

Click to switch the display language.

The top page language switches to the selected language.

② Setting Page (Setting Menu) Link

③ Admin Tools Link

④ Admin Viewer Link

⑤ VB Viewer Link

Accessing the Setting Menu

To specify detailed camera settings, click ② to proceed to the Setting Menu.

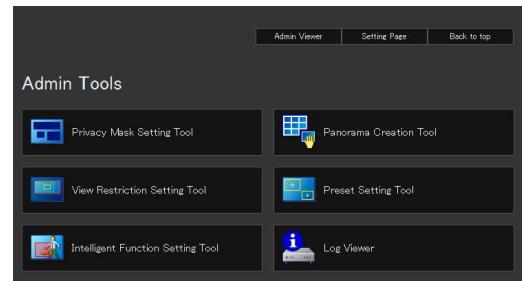
For more details on the Setting Menu, see “Chapter 4 Setting Page.”



Accessing the Admin Tools

To use Admin Tools, click ③ to proceed to the top page of Admin Tools.

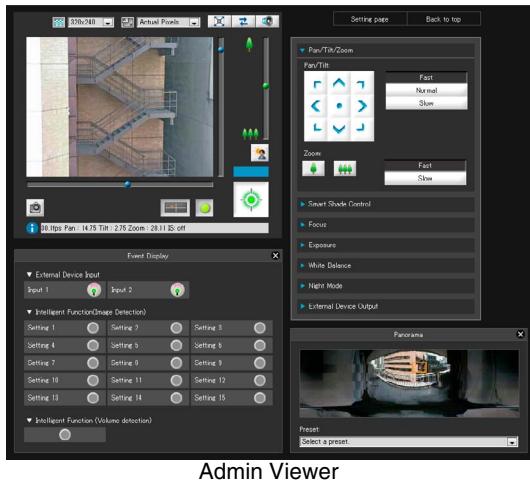
For more details on Admin Tools, see “Chapter 5 Admin Tools.”



Accessing Admin Viewer

To access the Admin Viewer, click ④.

For more details on the Admin Viewer, see “Chapter 6 Admin Viewer/VB Viewer.”



Admin Viewer

Accessing VB Viewer

To access the VB Viewer, click ⑤.

For more details on the VB Viewer, see “Chapter 6 Admin Viewer/VB Viewer.”



VB Viewer

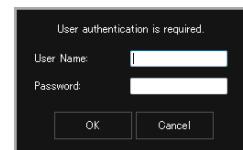
For more information on the differences between the Admin Viewer and the VB Viewer, as well as user levels, see “Overview of Viewer” (P. 6-2) in “Chapter 6 Admin Viewer/VB Viewer.”

User Authentication

User authentication is required to access [Setting Page], [Admin Tools] and [Admin Viewer].



Setting Page authentication window



Admin Tools/Admin Viewer authentication window

The factory default setting user name and password are:

User name: root Password: camera

(The user name “root” is the administrator account for the camera.)

Important

- To ensure system security, be sure to change the administrator password. Do not forget the new password.
- If the Administrator and authorized user share the VB Viewer on the same PC, it is strongly recommended that the [Remember my credentials] checkbox be cleared.
- If the wrong user name or password is entered, you cannot connect to the camera. Connect to the camera by entering the correct user name and password.
- Press the reset switch to restore factory default settings if you have forgotten the administrator password (P. 7-21). Note, however, that this will reset all camera settings to factory default settings except for date and time.
- The Admin Tools and the Admin Viewer cannot be used if an IPv6 address is specified. Only host names are supported for IPv6 connections.

Certificate Registration

In order to use [Admin Tools] and [Admin Viewer], you must first install the two certificates issued by Canon Inc. on your PC. The certificates are stored on the Setup CD-ROM. Follow the procedure below to register the certificate using Internet Explorer.

1 Insert the bundled Setup CD-ROM into the PC's CD-ROM drive and follow the procedure below.

After confirming that all other applications have been closed, click [Start] menu > [Computer].

2 Install admintools1.

Double-click the CD-ROM icon that appears > Applications folder > Certificate folder > admintools1. The [Certificate] dialog box will appear.

3 Click [Install Certificate].

4 Click [Next] in the [Certificate Import Wizard].

5 Follow the procedure below to import the certificate on the [Certificate Store] screen.

- (1) Select [Place all certificates in the following store].
- (2) Click [Browse], select [Intermediate Certification Authorities], and click [OK].
- (3) Click [Next].

6 Click [Finish] to close the Certificate Import Wizard.

When certificate registration is complete, a "The import was successful." message will appear.

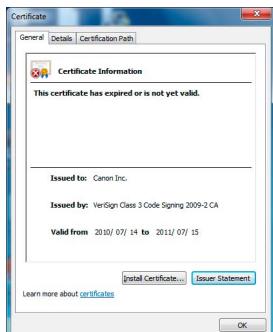
7 Install admintools2.

Double-click admintools2 in the displayed Certificate folder.

The [Certificate] dialog box will appear.

Note

PCs configured after July 17, 2011 will display the following window. You can continue certificate registration without issue.



8 Click [Install Certificate].

9 Click [Next] in the [Certificate Import Wizard].

10 Follow the procedure below to import the certificate on the [Certificate Store] screen.

- (1) Select [Place all certificates in the following store].
- (2) Click [Browse], select [Intermediate Certification Authorities], and click [OK].
- (3) Click [Next].

11 Click [Finish] to close the Certificate Import Wizard.

When certificate installation is complete, a "The import was successful." message will appear.

Chapter 4

Setting Page

- ❑ Administrator Password and Network Detailed Settings
- ❑ Camera Date and Time Settings
- ❑ Camera Name and Camera Control Related Settings
- ❑ Image Size and Quality Settings
- ❑ Upload and E-mail Notification Settings
- ❑ Image Server, Audio Server and HTTP Server Settings
- ❑ Settings Related to Events
- ❑ User Registration/Authorities and Access Restriction Settings
- ❑ IPsec Settings
- ❑ HTTP Communication Encryption (SSL/TLS) Settings
- ❑ SD Memory Card Operations and Displaying Information
- ❑ Settings for Items Requiring Rebooting
- ❑ Maintenance (Displaying Log and Setting Information/Rebooting/Factory Default Settings)

Setting Menu

From the Setting Menu, you can navigate to each setting page to set various items regarding the camera. Information describing what can be set from each setting page is listed as follows. See each setting page for details.

Setting Menu



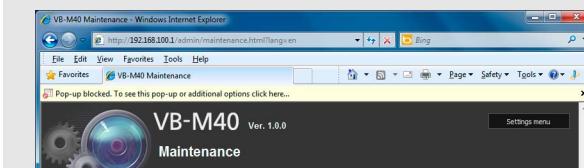
- **Network**
Administrator password, LAN, IPv4, IPv6, DNS and SNMP settings (P. 4-5)
- **Date and Time**
Camera date and time and time zone settings (P. 4-8)
- **Camera**
Camera name, initial camera settings, day/night, installation conditions, camera position control, external input device name and external output device name settings (P. 4-9)
- **Video**
Initial camera settings, image quality, image size, and frame rate settings for JPEG and H.264, as well as on-screen display settings (P. 4-13)
- **Upload**
HTTP and FTP upload settings and e-mail notification settings (P. 4-15)
- **Server**
Image server, audio server and HTTP server settings (P. 4-18)
- **Event**
Image buffer, volume detection, external device input, timer and sound clip upload (P. 4-20)
- **Access Control**
Authorized user account, user authorities, host access restriction settings (P. 4-23)
- **IPsec**
IPsec settings (P. 4-25)
- **SSL/TLS**
Certificate creation, administrative settings and encrypted communication settings (P. 4-28)

- **Memory Card**
SD memory card operations and information display (P. 4-30)
- **Reboot Item**
Setting Items Requiring Rebooting a camera (Reboot Items) (P. 4-32)
- **Maintenance**
Display and execution (displaying logs, current settings, rebooting and restoring initial settings) (P. 4-33)

Important

Notes on Use with Windows 7/Vista/XP

- When the [Windows Security Alert] dialog box appears, click [Authorize Access]. Once set, this warning dialog will no longer appear.
- If the pop-up is blocked and an information bar appears when attempting to access [View Logs] or [View Current Settings] on the maintenance page, enable Pop-up by following the procedure explained in the information bar.



Accessing the Setting Menu

The various settings of the camera are configured by accessing the camera in the web browser. First, access the top page of the camera (P. 3-2).

For details on entering the user name and password, see P. 3-3.

Setting Menu

You can access each setting page and Admin Viewer from the Setting Menu.



① [Admin Viewer]

Clicking this button opens Admin Viewer.

② [Back to top]

Clicking this button navigates to the top page.

③ Setting Menu

Clicking this button navigates to each setting page.

Important

To ensure security, exit the web browser after completing settings from the Setting page.

Items Common to All Setting Pages

■ Applying New Settings

When any setting is changed on each setting page, [Apply] shown at the top right and bottom right of the setting page turns from grayed-out to blue.



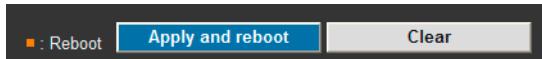
Click [Apply] to make the new setting effective.
Click [Clear] to restore the previous setting.

■ Setting Changes Requiring Rebooting

Items requiring the camera to be rebooted to change settings are flagged with an orange mark.



When any item accompanied by an orange mark is changed, the [Apply] shown at the top right and bottom right of each setting page changes to [Apply and reboot].



Click [Apply and reboot] to confirm the new setting. The new setting will be reflected and the camera will be rebooted.

Click [Clear] to restore the previous setting.

Important

Setting changes will be lost if you navigate to another setting page without clicking [Apply] or [Apply and reboot]. Be sure to click [Apply] or [Apply and reboot] to make the new settings effective.

■ Returning to the Setting Menu

Click [Settings menu] at the top right of each setting page to return to the Setting Menu.



Important

- Do not change the settings of one camera from multiple setting pages at once.
- Do not use the [Back] or [Forward] buttons in the web browser to navigate between setting pages. The changed settings may return to the original settings or unwanted setting changes may be applied.

Note

Click on  [Help] at the beginning of any item to display a detailed explanation of that setting item.

[Network]

Administrator Password and LAN, IP Address, DNS and Other Settings

The following can be set here.

- **Administrator Password**
Set the administrator password.
- **LAN**
Set the IP address and other items needed to establish a LAN connection.
- **IPv4**
Set IPv4 address.
- **IPv6**
Set IPv6 address.
- **DNS**
Set the name server address, host name and DDNS registration.
- **SNMP**
Configure the necessary settings to use SNMP.

LAN

① LAN Interface	Auto
② Maximum Packet Size 576 - 1500	1500

① [LAN Interface]

Select [Auto], [Full Duplex] or [Half Duplex]. Normally [Auto] is used.

② [Maximum Packet Size]

Enter the maximum transmission unit. Normally there is no need to change the default setting of 1500.

Important

- The camera may become inaccessible from the active web browser if [LAN Interface] or [Maximum Packet Size] settings are changed. Check beforehand the precautions in "Important" in "[Reboot Item] Setting Items Requiring Rebooting" (P. 4-32).
- Set [Maximum Packet Size] to 1280 or greater if using IPv6.

Administrator Password

① Password Up to 8 characters	*****
② Confirm Password Up to 8 characters	*****

① [Password]

Set the administrator password. Up to eight (single-byte) ASCII characters (space or printable characters) can be used. The factory default setting is "camera." If the Admin Viewer, Admin Tools, etc., are connected, terminate the connection before changing the password.

② [Confirm Password]

Enter the same password as above for confirmation.

Important

- To ensure system security, be sure to change the administrator password. Do not forget the new password.
- Press the reset switch to restore factory default settings if you have forgotten the administrator password (P. 7-21). **Note, however, that this will reset all camera settings to factory default settings except for date and time.**

Note

- When using optical fiber or ADSL, setting the maximum packet size to a slightly lower value may increase sending efficiency.

IPv4

① IPv4 Address Setting Method	Manual
② IPv4 Address	192.168.100.1
③ Subnet Mask	255.255.255.0
④ IPv4 Default Gateway Address	

① [IPv4 Address Setting Method]

Select [Manual] or [Auto (DHCP)] in the address setting method. If [Manual] is selected, directly enter the values according to the environment in which the camera is used. If [Auto (DHCP)] is selected, the value automatically acquired from the DHCP server will be entered in [IPv4 IP Address], [Subnet Mask] and [IPv4 Default Gateway Address].

② [IPv4 Address]

If [Manual] is specified in ①, enter a fixed IP address.

③ [Subnet Mask]

If [Manual] is specified in ①, enter the designated subnet mask values for each network.

④ [IPv4 Default Gateway Address]

Enter an appropriate value if [Manual] is specified in ①. Be sure to set when connecting the camera to a different subnet from that of the viewer.



Important

- Contact your System Administrator for the [IPv4 Address], [Subnet Mask] and [IPv4 Default Gateway Address].
- The camera's IP address cannot be set to an IP address that starts with 127., such as 127.0.0.1.
- If any of the [IPv4 Address], [Subnet Mask] or [IPv4 Default Gateway Address] settings is wrong, network access may be disabled. In this case, see "Performing Initial Settings for the Camera" (P. 2-4) and use VB Initial Setting Tool Ver. 5.0.1 to set the address again.
- The camera may become inaccessible from the active web browser if settings are changed in [IPv4 Address], [Subnet Mask] or [IPv4 Default Gateway Address]. Check beforehand the precautions in "Important" in "[Reboot Item] Setting Items Requiring Rebooting" (P. 4-32).
- If [Auto (DHCP)] is selected as the IPv4 address setting mode, the IPv4 address may not be assigned correctly in certain environments, such as when a router is present between the DHCP server and this camera. In this case, assign a fixed IPv4 address from the [Manual] settings.



Note

- You can check the IPv4 address assigned by [Auto (DHCP)] with the VB Initial Setting Tool.

IPv6

① IPv6	Enable
② Auto	Enabled
③ IPv6 Address (Manual)	
④ Prefix Length 16 - 128	64
⑤ IPv6 Default Gateway Address	fe80::200:85ff:fe01:f1b3/64
⑥ IPv6 Address (Auto)	

① [IPv6]

Set IPv6 use to [Disable] or [Enable].

② [Auto]

Select [Enabled] to set the address automatically or [Disabled] not to set the address automatically.

③ [IPv6 Address (Manual)]

Enter a fixed IPv6 address.

④ [Prefix Length]

Enter a prefix length from 16 to 128 if [Disable] is specified in ②.

⑤ [IPv6 Default Gateway Address]

Enter a default gateway address if [Disabled] is specified in ②. Be sure to set when connecting the camera to a different subnet from that of the viewer.

⑥ [IPv6 Address (Auto)]

If [Enable] is specified in ① and [Enabled] is specified in ②, then the automatically acquired address will be shown.



Important

- Contact your System Administrator for the [IPv6 Address (Manual)], [Prefix Length] and [IPv6 Default Gateway Address].
- The camera may become inaccessible from the active web browser if settings are changed in [IPv6], [IPv6 Address (Manual)], [Prefix Length] or [IPv6 Default Gateway Address]. Check beforehand the precautions in "Important" in "[Reboot Item] Setting Items Requiring Rebooting" (P. 4-32).



Note

- In an environment where IPv6 cannot be used, if IPv6 is set to [Enable] and auto is set to [Enabled], then the [IPv6 Address (Auto)] field will display the link-local address only.

DNS

① Name Server Address 1	
② Name Server Address 2	
③ Host Name Up to 63 characters	
④ Host Name Registration with DDNS	Disable

① [Name Server Address 1], [Name Server Address 2]

Enter the name server address you want to register. To register only one address, keep the [Name Server Address 2] field blank.

② [Host Name Registration with DDNS]

Select [Enable] and enter the name server address and host name of the camera. You can register the host name of the camera in the name server.

Characters A to Z, a to z, 0 to 9, “-” (hyphen), “_” (underscore) and “.” (period) may be used up to 63 (single-byte) characters in length.



Important

Do not use “_” (underscore) in [Host Name] in Internet Explorer 8.



Note

- Register the host name for DNS if the camera IP Address Setting Method is [Auto (DHCP)] (P. 4-5). DNS server registration settings must be set in advance. Contact your System Administrator for the DNS server settings.
- If the name server address 1 is unavailable, the name server address 2 will be accessed. However, the name server address 2 must be set in advance.

SNMP

① SNMP	Enable
② Community Name <small>Up to 31 characters</small>	public
③ Administrator Contact Information <small>Up to 63 characters</small>	
④ Administration Function Name <small>Up to 31 characters</small>	VB-M40
⑤ Installation Location <small>Up to 31 characters</small>	

① [SNMP]

Set SNMP use to [Disable] or [Enable]. Camera information can be referenced by the SNMP Manager if [Enable] is specified.

② [Community Name]

Set a community name for SNMP. It is recommended that you change the community name to ensure system security.

③ [Administrator Contact Information]

Set contact information (e-mail address, etc.) for the Administrator of the camera. Setting information can be referenced by the SNMP manager.

④ [Administration Function Name]

Set the camera name used for administration. Setting information can be referenced by the SNMP manager. If left blank, "VB-M40" will be used by default.

⑤ [Installation Location]

Set information regarding the installation location of this camera. Setting information can be referenced by the SNMP manager.

Note

- The information set in the camera is read-only from the SNMP manager.
- Use the SNMP Manager that supports SNMP MIB2 (supporting RFC1213).
- Supports SNMP protocol versions v1 and v2c (v3 unsupported).

[Date and Time] Set the Date and Time

The following can be set here.

- **Current Date and Time**
The date and time set in the camera is shown.
- **Setting**
Select the date and time setting method and time zone for the camera.

Setting Method	Synchronize with NTP broadcast
Time Zone	(GMT+09:00) Osaka, Sapporo, Tokyo

[Synchronize with computer time]

The camera will synchronize with the date and time of the computer currently accessing the camera. Time zone will also be selected automatically.

Setting Method	Synchronize with computer time
Date	2011/02/15
Time	15:16:19
Time Zone	(GMT+09:00) Osaka, Sapporo, Tokyo

Current Date and Time

Date yyyy/mm/dd	2011/02/15
Time hh:mm:ss	19:33:25

[Date], [Time]

The date and time currently set in the camera are shown.

Setting

Setting Method	Set manually
Date	2011/02/15
Time	19:33:25
Time Zone	(GMT+09:00) Osaka, Sapporo, Tokyo

① [Setting Method]

Select from [Set manually], [Synchronize with NTP server], [Synchronize with NTP broadcast], [Synchronize with computer time].

② [Date], [Time]

Set the following according to the selection made in [Setting Method].

[Set manually]

Set the desired date and time. The date is set by <year/month/day>, and the time in 24-hour format in the order <hour:minute:second> (two digits for month, day and hour).

Example: To specify 1:23:04 pm, 23 August 2011, enter “2011/08/23” and “13:23:04.”

[Synchronize with NTP server]

The camera will synchronize with the NTP server time. Enter the IP address or host name of the NTP server.

Setting Method	Synchronize with NTP server
NTP Server	Up to 63 characters
Time Zone	(GMT+09:00) Osaka, Sapporo, Tokyo

[Synchronize with NTP broadcast]

The camera will synchronize with the NTP server time. The camera will synchronize time with NTP broadcasts received from the NTP server.

③ [Time Zone]

Select from the list the appropriate time difference from Greenwich Mean Time.

Note

- If [Synchronize with computer time] is selected, after clicking [Apply], [Setting method] will change to [Set manually].
- If [Synchronize with NTP server] is selected and the IP address of the NTP server is incorrect or a connection with the NTP server cannot otherwise be established, the date and time will not be changed.
- The camera's NTP broadcast mode does not support IPv6.
- The camera does not support daylight saving time.

[Camera] Camera Control and External Device Name Settings

The following can be set here.

- **Camera Name**

Enter the name of the camera. The camera name is required for use with RM-Lite.

- **Initial Camera Settings**

Set the AE mode and shutter speed, exposure compensation, metering mode, focus mode and smart shade control and white balance for the camera startup.

- **Camera Control**

Set the digital zoom and image stabilizer.

- **Day/Night**

Set the day/night switching mode.

- **Installation Conditions**

Set whether or not to use the dome, the LED setting and image flip.

- **Camera Position Control**

Set whether or not to limit the pan, tilt and zoom operations to the preset positions. Also, set the camera position when nobody has control privileges.

- **External Device Name**

Set the external input device name and external output device name.

Camera Name

Camera Name (alphanumeric characters) Up to 15 characters	Camera
---	--------

[Camera Name]

Be sure to enter [Camera Name (alphanumeric characters)].

Up to 15 ASCII characters (spaces and printable characters) may be used for [Camera Name (alphanumeric characters)].

Note

- The camera name set here will be shown when the camera is registered for use with bundled RM-Lite.

Initial Camera Settings

AE Mode	Auto
Slow Shutter	Disable
Exposure Compensation	0
Metering Mode	Center-Weighted
Focus Mode	Auto
Smart Shade Control	Disable
White Balance	Auto

① [AE Mode], [Slow Shutter], [Shutter Speed]

Set the exposure control and shutter speed for the camera startup.

[AE Mode]

[Auto]

The exposure is controlled automatically.

[Auto (Flickerless)]

In this mode, image flickers caused by fluorescent lights, etc., can be reduced. The shutter speed is automatically adjusted according to the brightness of the environment in which the camera is used.

[Auto (Shutter-priority AE)]

In this mode, a desired shutter speed can be specified.

[Slow Shutter]

Slow shutter can be used only if [Auto] is selected in [AE Mode].

Set the maximum slow shutter time to be used in auto exposure mode when capturing video in a dark place. Select [Disable], [1/15] or [1/8]. As longer shutter times generate residual images when capturing a moving subject, select an appropriate time according to the capture conditions.

AE Mode	Auto (Shutter-priority AE)
Shutter Speed	1/100

[Shutter Speed]

Shutter speed can be used only if [Auto (Shutter-priority AE)] is selected in [AE Mode].

Select a desired shutter speed from the 12 levels from [1/8] to [1/8000]. When capturing a moving subject, selecting a higher shutter speed can reduce blurry image capture.

② [Exposure Compensation]

The exposure compensation when the camera starts can be set in the range of -3 to 3. To brighten the image, set a positive value. To darken the image, set a negative value.

③ [Metering Mode]

Set the metering mode when the camera starts.

[Center-Weighted]

The entire screen is metered by focusing on the center of the screen.

Even when slightly darker/brighter areas are present on the periphery of the screen, an appropriate exposure can be achieved for the subject near the center.

Use this mode if the subject is positioned near the center of the screen.

[Average]

The entire screen is metered by averaging.

A stable exposure can be achieved even in a capture environment where there are notable brightness differences within the screen.

Use this mode to stabilize the exposure in locations where vehicles or people are moving.

[Spot]

The center of the screen is metered.

An appropriate exposure can be achieved for the subject at the center of the screen regardless of the brightness/darkness on the periphery of the screen.

Use this mode if you want to adjust the exposure to the center of the screen because the subject is receiving a spotlight or backlight, etc.

④ [Focus Mode]

Set the focus mode when camera starts.

[Auto]

Automatically brings the subject into focus. Normally [Auto] is selected.

[Fixed at infinity]

The focus can be fixed to near infinity.

⑤ [Smart Shade Control]

Set smart shade control when the camera starts to [Disable] or select the value from 7 levels of 1 (weak) to 7 (strong).

⑥ [White Balance]

Select the white balance according to the light source to achieve natural color in the image.

[Auto]

The white balance is adjusted automatically.

[Manual]

Set the values of red and blue gain according to the light source. Enter a value from 0 to 1023 for each the [R Gain] and [B Gain].

① White Balance	Manual
② R Gain 0 - 1023	255
③ B Gain 0 - 1023	255

[Daylight Fluorescent]

Select this option to capture video under daylight fluorescent lighting.

[White Fluorescent]

Select this option to capture video under daylight fluorescent or white fluorescent lighting.

[Warm Fluorescent]

Select this option to capture video under warm fluorescent lighting.

[Mercury Lamp]

Select this option to capture video under mercury lamps.

[Sodium Lamp]

Select this option to capture video under orange sodium lamps.

[Halogen Lamp]

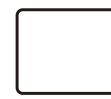
Select this option to capture video under halogen bulbs or incandescent bulbs.

Important

- In conditions where an outdoor scene is captured from an indoor location through a glass window, the camera may focus on the glass surface if there is dust or water there. Install the camera at the shortest possible distance (within 30 cm) from the glass surface.
- The initial camera settings ① to ⑥ define the defaults that apply when the camera is started. Setting changes will be reflected only after the camera is reconnected or rebooted. Specify the settings used in the actual operating environment from the Admin Viewer (P. 6-12).
- If the subject is a traffic signal or electronic scoreboard, etc., the captured image may flicker. In this case, try changing the [AE mode] setting to [Auto (Shutter-priority AE)] and selecting a shutter speed lower than 1/100 to see if the problem improves.

Note

- Auto focus may not focus properly with the following subjects.



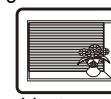
A white wall or other subject lacking bright/dark contrast



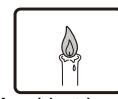
A slanting subject



A subject reflecting strong light



A subject consisting of only slant lines or horizontal stripes



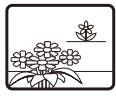
A subject having no form, such as flame or smoke



A fast moving subject



A dark area or night view



Subjects both near and far

- Focus ranges (rough guide) are shown in the following table according to the settings of [Day/Night] (P. 4-11), etc.

Focus Mode	Dome Setting	Day/Night Setting			
		Day Mode		Night Mode	
		Wide end	Tele end	Wide end	Tele end
Auto	Do not use	0.3m(12in)-∞	1.0m(3.3ft)-∞	1.0m(3.3ft)-∞	1.5m(4.9ft)-∞
	Use	2.0m(6.6ft)-∞		1.0m(3.3ft)-∞	2.2m(7.2ft)-∞
Fixed at infinity	Do not use/Use	Point of infinity*			

* When using an infrared lamp, the camera may be out of focus.

Camera Control

① Digital Zoom	Disable
② Image Stabilizer	Disable

① [Digital Zoom]

Set digital zoom to [Enable] or [Disable].

* The higher the digital zoom ratio, the lower the image quality becomes.

② [Image Stabilizer]

Select [Disable], [On1] or [On2] for image stabilizer. Image stabilizer has the effect of correcting blurry images. Try [On2] if the image is still blurry after selecting [On1].

If you have selected [On1] or [On2] as the image stabilizer setting, the viewing angle will be smaller and the image more coarse than when [Disable] is selected. This is not a malfunction.

	Degree of blurriness corrected	Viewing angle ratio	Effective pixels
Disable	—	100%	Approx. 1.23 megapixels
On1	Small	83%	Approx. 0.85 megapixels
On2	Large	50%	Approx. 0.31 megapixels

Important

- If [On2] is selected, it is best to select an image size smaller than "640 x 480."
- The image stabilizer is not effective when the subject is shaking.
- The image stabilizer is not effective beyond a certain level of vibration or against momentary vibration.
- See "Important" on P. 5-15, P. 5-20 for precautionary notes regarding Admin Tools configuration when image stabilizer is set.
- See "Important" on P. 6-11 for precautionary notes regarding the Viewer when image stabilizer is set.

Day/Night

① Mode	Auto
② Switching Brightness	Standard
③ Response (sec.)	20

① [Mode]

Set Day/Night mode to [Manual] or [Auto].

If [Manual] is selected, it is possible to switch manually between [Day Mode] and [Night Mode] using Admin Viewer Night Mode function (P. 6-15).

If you have selected [Auto], set [Switching Brightness] and [Response (sec.)] according to the environment in which the camera is installed as well as the desired switching conditions.

* [Auto] cannot be used with an environment where infrared illumination is also used.

② [Switching Brightness]

Set the brightness at which [Day Mode] and [Night Mode] will be switched. Select [Darker], [Slightly Darker], [Standard], [Slightly Brighter] or [Brighter]. Select [Darker] if you want to capture video in color as much as possible.

Select [Brighter] to reduce noise. Note that this mode switches to black & white sooner.

③ [Response (sec.)]

Set the time in seconds needed for judgment on switching between [Day Mode] and [Night Mode]. Select [5], [10], [20], [30] or [60].

The mode will switch between [Day Mode] and [Night Mode] if brightness remains above or below the level set in ② for the number of seconds specified.

Select [30] or [60] if brightness changes frequently, such as when a light source passes in front of the camera. Select [5] or [10] if change in brightness is minimal.

Important

- If [Auto] is selected for [Day/Night], conduct a thorough operation test to check the effectiveness of the setting beforehand.
- If [Auto] is selected for [Day/Night], set [AE Mode] and the Admin Viewer to [Auto], [Auto (Flickerless)] or [Auto (Shutter-priority AE)] (P. 6-13).
- To use with infrared illumination, set [Day/Night] to [Manual]. Infrared illumination cannot be used with [Auto].
- If [Day/Night] is set to [Auto], the infrared cutoff filter may move several times while the mode is switching between [Day Mode] and [Night Mode]. Pan, tilt, zoom and manual focus will not work during this period.

Installation Conditions

① Dome	Do not use
② LED Setting	Turn On
③ Image Flip	Disable

① [Dome]

Select whether or not a dome is used. To use the camera with a dome housing unit, select [Use].

② [LED Setting]

Select [Turn Off] or [Turn On] for the LED operation status on the camera. Set to [Turn Off] if the optional indoor dome housing (DR40-C-VB/DR40-S-VB) will be used, if reflected LED light enters the capture area or otherwise interferes with image capture, or if you do not want to turn on the LED.

③ [Image Flip]

Select the orientation of the camera image. The factory default setting is [Disable] (ceiling mounted). Select [Enable] for installing upright positions.

Note

The LED will light for several seconds when booting even if the [LED Setting] is set to [Turn Off].

Camera Position Control

① Restricted to Presets	No Restriction
② Camera Position without Control	Do not return to Home Position

① [Restricted to Presets]

Set the camera control preset to [No Restriction] or [Preset Only]. The administrator can limit camera control by non-administrators to preset angles by selecting [Preset Only].

② [Camera Position without Control]

Select either [Do not return to Home Position] or [Return to Home Position] as the action when no control privileges are requested by users and the home position has already been set.

When [Return to Home Position] is selected and no users have control privileges, the camera moves automatically to the home position. This function requires the home position of the camera be set in advance. Set the home position using Preset Setting Tool (P. 5-16).

External Input Device 1, 2 / External Output Device 1, 2

① Device Name (alphanumeric characters)	Up to 15 characters
---	---------------------

[Device Name] for external input device/external output device

Be sure to enter each device name in order to identify the corresponding external device being connected. Enter [Device Name (alphanumeric characters)] using up to 15 characters (ASCII characters (space or printable characters) excluding a double quotation mark (")).

Note

The external device name set here will be shown when the Admin Viewer or bundled RM-Lite is used.

[Video] Image Size, Quality and Frame Rate Settings

The following can be set here.

• Initial Camera Settings

Set whether to add intelligent functions information (except volume detection) to JPEG headers.

• JPEG

Set the image quality, size and maximum frame rate in JPEG.

• H.264

Set the bit rate, video size, capture frame rate and upload size in H.264.

• On-screen Display

Set time, character string, etc. displayed over images.

④ [Image Size: Upload]

Select [160 x 120], [320 x 240], [640 x 480] or [1280 x 960] for the size of images uploaded. For details of upload settings, see P. 4-15.

H.264

① Bit Rate Control	Use bit rate control
② Target Bit Rate (kbps)	1024
③ Video Size	320 x 240
④ Frame Rate (fps)	30

① Bit Rate Control	Do not use bit rate control
② Video Quality	3
③ Video Size	320 x 240
④ Frame Rate (fps)	30

① [Bit Rate Control]

Select [Use bit rate control] or [Do not use bit rate control].

② [Target Bit Rate (kbps)]

If [Use bit rate control] is selected in ①, select 32 to 4096 (total 12 levels) for the target bit rate.

③ [Video Quality]

If [Do not use bit rate control] is selected in ①, select a desired quality from 1 to 5 (total 5 levels) for H.264 video transmission.

Greater values have higher quality.

④ [Video Size]

Select [320 x 240], [640 x 480] or [1280 x 960] for the size of video transmitted.

⑤ [Frame Rate (fps)]

Select [10], [15] or [30] (fps) for the frame rate of video transmitted.

① [Image Quality]

Select a desired image quality from 1 to 5 (5 levels) for images transmitted at each image size in JPEG. Greater values have higher quality.

Important

- Network load will increase if a larger video size is set or higher video quality and target bit rate are set, as this increases data size per frame.

JPEG: The frame rate may drop

H.264: Video may be temporarily disrupted

- Block noise may become noticeable if a large image size and low target bit rate are set.
- The data size may increase depending on the type or movement of the subject. If the frame rate remains low or other undesirable conditions continue for a prolonged period, lower the image size or quality setting.
- Note that if you are using bundled RM-Lite, the hard disk usage will also be affected during recording.

Initial Camera Settings

① Intelligent Function Information	Do not add
------------------------------------	------------

① [Intelligent Function Information]

Select from [Add] or [Do not add] for intelligent function information other than volume detection in JPEG header information.

JPEG

① Image Quality: 160 x 120	3
② Image Quality: 320 x 240	3
③ Image Quality: 640 x 480	3
④ Image Quality: 1280 x 960	3
⑤ Image Size: Image Transmission	320 x 240
⑥ Maximum Frame Rate: Image Transmission 0.1 - 30	30.0
⑦ Image Size: Upload	320 x 240

② [Image Size: Image Transmission]

Select [160 x 120], [320 x 240], [640 x 480] or [1280 x 960] for the size of images transmitted. This becomes the start-up image size used by each viewer.

③ [Maximum Frame Rate: Image Transmission]

Limit the maximum transmission frame rate per second to reduce the viewer load. The maximum is 30 frames/sec. Enter a value of between 0.1 and 30.0.

On-screen Display

① Date display	Enable
② Position of date display	Upper left
③ Format of date display	YYYY/MM/DD
④ Time display	Enable
⑤ Position of time display	Upper left
⑥ Text display	Display designated string
⑦ Position of text display	Upper left
⑧ Text string display Up to 15 characters	Entrance
⑨ Color of text	Black
⑩ Color of text outline	White
⑪ Color depth of text and outline	Fill text and outline

① [Date display]

Select whether to enable date display over images. If [Enable] is selected, date information will be displayed over images.

② [Position of date display]

Select [Upper left], [Upper right], [Lower left] or [Lower right] for the position of date display information.

③ [Format of date display]

Select [YYYY/MM/DD], [DD/MM/YYYY] or [MM/DD/YYYY] for the format of the date display.

④ [Time display]

Select whether to enable time display over images. If [Enable] is selected, display time information will be displayed over images.

⑤ [Position of time display]

Select [Upper left], [Upper right], [Lower left] or [Lower right] for the position of time display information.

⑥ [Text display]

Select [Display nothing], [Display designated string] or [Display camera name] for the text string display over images.

If [Display designated string] is selected, the [Text string display] set in ⑧ will be displayed.

If [Display camera name] is selected, the text string set in [Camera Name (alphanumeric characters)] under [Camera] will be shown (P. 4-9).

⑦ [Position of text display]

Select the position of text display from [Upper left], [Upper right], [Lower left] or [Lower right].

⑧ [Text string display]

If [Display designated string] is selected in ⑥ [Text display], set a text string up to 15 alphanumeric characters to be displayed over images.

⑨ [Color of text]

Select [Black], [Blue], [Cyan], [Green], [Yellow], [Red], [Magenta] or [White] for the color of text to be displayed over the image.

⑩ [Color of text outline]

Select [Black], [Blue], [Cyan], [Green], [Yellow], [Red], [Magenta] or [White] for the color of text outline.

⑪ [Color depth of text and outline]

Select [Fill text and outline], [Make text only transparent], [Make text only translucent] or [Make text and outline translucent] for the color depth of text and outline to be displayed over the image.

Important

The on-screen time display is not suitable for usage where high reliability is required. Use as reference information only where utmost and constant reliability is required for surveillance.

Note

- The on-screen date and time display may not correspond with camera date and time (P. 4-8).
- Depending on image quality settings, on-screen display may become difficult to decipher. Set after confirming appearance on actual images.
- On-screen display is subject to intelligent function detections (P. 5-22). Adjust as necessary.

[Upload] Setting HTTP/FTP Upload and E-mail Notification

The following can be set here.

- **General Upload**
Set the upload operation to be performed.
- **HTTP Upload**
Set HTTP connection uploads.
- **FTP Upload**
Set FTP connection uploads.
- **E-mail Notification**
Set event information and image e-mail notifications.

General Upload

Upload	HTTP Upload		
---------------	--------------------	--	--

[Upload]

Select [Upload Disabled], [HTTP Upload] or [FTP Upload] for the upload method.

Important

- If the upload function is used, either the [Event] menu must also be set (P. 4-20) or the [Event] tab in the Intelligent Function Setting Tool (P. 5-22) must also be set.
- If you are using both e-mail notification by text and image upload by HTTP/FTP, set [Image Size: Upload] (P. 4-13) to [320 x 240] or less.
- HTTP upload does not support SSL/TLS.
- If the camera is set to perform upload or e-mail notification continuously, not all images or e-mails may be sent depending on the image size and the network condition to the server. In this case, an event log message is displayed (P. 4-33).
- If the destination for HTTP/FTP upload or e-mail notification is set for a Windows operating system, IPsec communication cannot be applied.

Note

To lower the upload or e-mail notification load, try the following measures. Also check the settings including the network to the server.

- Reduce the image file size:
 - Set a lower value under [Image Quality] for JPEG (P. 4-13).
 - Set a lower value for [Image Size: Upload] for JPEG (P. 4-13).

- Reduce the uploading frequency:

- Reduce the value in [Pre-event Buffer (number of image frames)] or [Post-event Buffer (number of image frames)] (P. 4-20).
- If [Volume Detection Event] is enabled, disable [ON Event Operation] or [OFF Event Operation] (P. 4-20).
- From the Intelligent Function Setting Tool [Event] tab > disable [ON Event Operation], [OFF Event Operation] or [Detected mode Operation] (P. 5-27).
- If [External Device Input Event] is enabled, disable [ON Event Operation] or [OFF Event Operation] (P. 4-21).
- If [Timer Event Setting] is enabled, increase the value in [Repeat Interval] (P. 4-22).

HTTP Upload

Notification	Notification Only with HTTP	
URI Up to 255 characters	http://192.168.100.67/upload.cgi	
User Name Up to 31 characters		
Password Up to 31 characters	*****	
Proxy Server Up to 63 characters		
Proxy Port 1 - 65535	80	
Proxy User Name Up to 31 characters		
Proxy Password Up to 31 characters	*****	
Parameter (query string) Up to 127 characters		
HTTP Upload Test		

① [Notification]

Select [Notification Only with HTTP] or [Image attached Notification with HTTP] as the content of notification.

② [URI]

Enter the URI to be uploaded to (using up to 255 characters).

③ [User Name], [Password]

Enter the user name and password required for authentication.

The authentication method is Basic authentication.

④ [Proxy Server]

Enter the host name or IP address of the proxy server (using up to 63 characters).

⑤ [Proxy Port]

Enter the port number of the proxy server (factory default setting is [80]).

⑥ [Proxy User Name], [Proxy Password]

Enter the user name and password of the proxy server. The authentication method is Basic authentication.

⑦ [Parameter (query string)]

Enter the parameter (using up to 127 characters). Parameters can be specified with the "%" character. (P. 7-4).

⑧ [HTTP Upload Test]

Clicking [Exec] initiates an upload test based on the settings currently entered. It is not necessary to click [Apply].

For a password, first click [Exec] to send a test e-mail notification, then [Apply] the password.

Important

Enter [Proxy Server], [Proxy Port], [Proxy User Name] and [Proxy Password] if connecting via a proxy.

FTP Upload

① Notification	Image data upload with FTP
② FTP Server Up to 63 characters	192.168.100.67
③ User Name Up to 31 characters	ftp
④ Password Up to 63 characters	*****
⑤ PASV Mode	Enable
⑥ File Upload Path Up to 255 characters	
⑦ File Naming	YYMMDDHHMMSSms
⑧ FTP Upload Test	Exec

① [Notification]

The content of notification is set to [Image data upload with FTP].

② [FTP Server]

Enter the host name or IP address of the FTP server (using up to 63 characters).

③ [User Name], [Password]

Enter the user name and password required for authentication.

④ [PASV Mode]

Select [Enable] or [Disable] for the PASV mode when uploading via FTP.

⑤ [File Upload Path]

Enter the path to the folder where the image file is to be uploaded to (using up to 255 characters).

⑥ [File Naming]

Set a desired file naming rule.

[YYMMDDHHMMSSms]

Images are uploaded according to the file name format of

“{year}{month}{day}{hour}{minute}{second}{ms}.jpg.”

(Example: 20080123112122000.jpg)

[YYMMDD Directory/HHMMSSms]

A subdirectory named “{year}{month}{day}” is created first, and then the image is uploaded using the file name “{hour}{minute}{second}{ms}.jpg.”

(Example: 20080123/112122000.jpg)

[Loop]

Images are loaded with a file name numbered up to the value set in [Maximum Number of Loops].

(Example: 0000.jpg, 0001.jpg)

[User Setting]

Images are uploaded according to the file naming method specified in [Subdirectory Name to Create] and [File Name to Create].

⑦ File Naming	Loop
⑧ Maximum Number of Loops 0 - 9999	100

[Maximum Number of Loops]

If [Loop] is set under [File Naming], enter the maximum number of loops in the range of 0 to 9999.

⑨ File Naming	User Setting
⑩ Subdirectory Name to Create Up to 127 characters	
⑪ File Name to Create Up to 127 characters	image.jpg
⑫ FTP Upload Test	Exec

[Subdirectory Name to Create], [File Name to Create]

If file naming is set to [User Setting], enter the subdirectory name to be created as well as the name of the created file (using up to 127 characters). Parameters can be specified in the entry with the “%” character (P. 7-4).

⑦ [FTP Upload Test]

Clicking [Exec] initiates an upload test based on the settings currently entered. It is not necessary to click [Apply].

For a password, first click [Exec] to send a test e-mail notification, then [Apply] the password.

E-mail Notification

① Notification	Text Only
② Mail Server Name Up to 63 characters	
③ Mail Server Port 1 - 65535	25
④ Sender (From) Up to 63 characters	
⑤ Recipient (To) Up to 63 characters	
⑥ Authentication	None
⑦ Subject Up to 31 characters	
⑧ Message Body Up to 255 characters	
⑨ E-mail Notification Test	Exec

① [Notification]

Select [Text Only] or [Text with Image] as the content of notification. If [Upload] is set to [Upload Disabled], [Text with Image] will not be available.

② [Mail Server Name]

Enter the host name or IP address of the SMTP server (using up to 63 characters).

③ [Mail Server Port]

Enter the port number of the SMTP server (factory default setting is [25]).

④ [Sender (From)]

Set the e-mail address of the sender (using up to 63 characters).

⑤ [Recipient (To)]

Set the e-mail address of the recipient (using up to 63 characters).

⑥ [Authentication]

Select [None], [POP before SMTP] or [SMTP-AUTH] for the e-mail authentication method.

Set an appropriate method according to the authentication method used by the SMTP server to send to.

① Authentication	POP before SMTP
② User Name Up to 31 characters	username
③ Password Up to 31 characters	*****
④ POP Server Up to 63 characters	servername

[User Name], [Password], [POP Server]

If [POP before SMTP] is selected as the e-mail authentication mode, enter the user name and password as well as the host name or IP address of the POP server required for authentication.

① Authentication	SMTP-AUTH
② User Name Up to 31 characters	username
③ Password Up to 31 characters	*****

[User Name], [Password]

If [SMTP-AUTH] is selected as the e-mail authentication method, enter the user name and password required for authentication.

⑦ [Subject]

Enter the subject of the e-mail to be sent using up to 31 ASCII characters.

⑧ [Message Body]

Enter the message (text) of the e-mail to be sent using up to 255 ASCII characters. Parameters can be specified with the "%" character (P. 7-4).

⑨ [E-mail Notification Test]

Clicking [Exec] initiates an e-mail notification test based on the settings currently entered. It is not necessary to click [Apply].

For a password, first click [Exec] to send a test e-mail notification, then [Apply] the password.

[Server]

Image Server, Audio Server and HTTP Server Settings

The following can be set here.

- **Image Server**
Set the image transmission from the camera.
- **Audio Server**
Set the audio transmission/reception.
- **HTTP Server**
Set the authentication method, HTTP port and web page delivery.

Image Server

Maximum Number of Clients 0 - 30	30
Camera Control Queue Length 0 - 30	30
Maximum Connection Time (sec.) 0 - 65535	0
Camera Control Time (sec.) 1 - 3600	20

① [Maximum Number of Clients]

Set the maximum number of clients that can be connected to the camera at the same time. Up to 30 clients can be set.
If 0 is set, connection is prohibited except for Administrator.

② [Camera Control Queue Length]

Set the maximum queue length for clients requesting camera control privilege from the viewer. The maximum number is 30. Enter an integer from 0 to 30. If 0 is set, camera control is prohibited except for the administrator.

③ [Maximum Connection Time (sec.)]

Set the time in seconds during which an individual client can connect to the camera. The maximum number is 65535. Enter an integer from 0 to 65535. If 0 is set, the connection time becomes unlimited.

④ [Camera Control Time (sec.)]

Set the maximum time during which the viewer can control the camera. The maximum number is 3600. Enter an integer from 1 to 3600.

Audio Server

Audio Transmission from the Camera	Enable
Input Volume 1 - 100	50
Voice Activity Detection	Disable
Audio Reception from Viewer	Enable
Output Volume 1 - 100	50
Echo Canceller	Disable
Audio Input	Line In

① [Audio Transmission from the Camera]

When [Enable] is selected, the audio input through the microphone attached to the camera can be transmitted to the VB-M40 Viewer.

② [Input Volume]

Set the volume of input for the microphone connected to the camera in the range of 1 to 100. The greater the value, the larger the input volume becomes.

③ [Voice Activity Detection]

If [Enable] is selected, the audio transmission is stopped temporarily when no audio is output. This way, the load of the applicable network can be reduced.

④ [Audio Reception from Viewer]

If [Enable] is selected, the audio received from the bundled RM-Lite Viewer can be output from the speaker with amplifier connected to the camera.

⑤ [Output Volume]

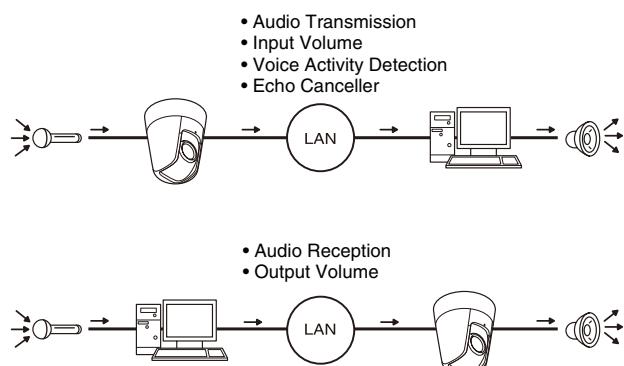
Set the volume of output for the speaker connected to the camera in the range of 1 to 100. The greater the value, the larger the output volume becomes.

⑥ [Echo Canceller]

If [Enable] is selected, echo between the microphone and speaker is suppressed.

⑦ [Audio Input]

Set the microphone input. Select [Line In], [Microphone In (dynamic microphone)] or [Microphone In (condenser microphone)].



Caution

Switch line in and microphone in on each setting page according to the specification of the microphone (P. 4-18).

Using the wrong input may damage the camera and/or microphone. Be sure to configure settings correctly.

Important

The volume, sound quality, etc., may change depending on the characteristics of the microphone used.

- If [Input Volume] or [Echo Canceller] settings are changed after setting volume detection, check the detection setting again.
- Send audio from the RM-Lite Viewer to output audio from the audio output terminal of the camera. Audio cannot be sent from the VB Viewer or the Admin Viewer (P. 1-6).
- Connect a speaker with amplifier to the camera (Installation Guide, "Audio Input/Output Terminals").
- If [Enable] is selected under [Echo Canceller], the sound quality or volume may be affected. Utilize this function as necessary according to the installation environment and how the camera is used.
- When sending audio, carefully read the information in "Important" in Installation Guide, "Audio Input/Output Terminals."

Important

- If the setting of [HTTP Port] or [HTTPS Port] is changed, the camera may become inaccessible from the active web browser. Check beforehand the precautions in "Important" in "[Reboot Item] Setting Items Requiring Rebooting" (P. 4-32).
- If [IPv4 Address] is selected under [Global Address for the Web Page], be sure to set both [IPv4 Address (global address for the web page)] and [Port Number (global address for the web page)]. If [Host Name] is selected, also be sure to set [Host Name] under [DNS] in [Network] on the Setting page.

HTTP Server

① Authentication Method	Basic Authentication
② HTTP Port 80, 1024 - 65535	80
③ HTTPS Port 443, 1024 - 65535	443
④ Global Address for the Web Page	IP Address
⑤ IPv4 Address (global address for the web page)	
⑥ Port Number (global address for the web page) 1 - 65535	

① [Authentication Method]

Set the authentication method used with the HTTP server to [Basic Authentication] or [Digest Authentication].

② [HTTP Port]

Set the HTTP port number to 80 or in the range of 1024 to 65535.

Normally [80] (factory default setting) is used.

③ [HTTPS Port]

Set the HTTPS port number to 443 or in the range of 1024 to 65535.

Normally [443] (factory default setting) is used.

④ [Global Address for the Web Page]

If a fixed global address is assigned to the camera using the NAT function of the router, set the global address and port number here. If [IPv4 Address] is selected, enter the IP address specified in the [IPv4 Address] field. If [Host Name] is selected, the host name specified in [DNS] under [Network] will be used. Set the necessary items under [DNS] (P. 4-6).

[Event]

Image Buffer, Volume Detection, Audio Playback and Timer Settings

The following can be set here.

- Image Buffer**
Set the items associated with the temporary saving of images in the image buffer.
- Volume Detection**
Set the operation to be performed at the time of volume detection.
- External Device Input**
Set the operation to be performed when an event is triggered by input from an external device.
- Timer**
Set timer events.
- Sound Clip Upload**
Set the audio file registered as playback.

Volume Detection

① Volume Detection Event	Enable
② Detect Criteria	The reference volume level or above
③ Reference Volume Level	50
④ Detect Criteria Duration (sec)	0
⑤ ON Event Operation	Enable
⑥ OFF Event Operation	Disable
⑦ Preset	None
⑧ Upload	Disable
⑨ E-mail Notification	Disable

① [Volume Detection Event]

Set volume detection to [Enable] or [Disable].

② [Detection Criteria]

Set the criteria for generating volume detection events to [The reference volume level or above] or [The reference volume level or below].

③ [Reference Volume Level]

Set the reference volume level for detection in the range of 0 to 100.

Perform an actual test at the volume level before setting the value.

④ [Detect Criteria Duration (sec)]

Set the duration of the detect criteria in the range of 0 to 10 (sec.). When the status meeting the detect criteria has continued for the duration or longer, an ON event is generated.

⑤ [ON Event Operation]

Select the operation to be performed upon an ON event. If [Enable] is selected, ⑦ [Preset], ⑧ [Upload] and ⑨ [E-mail Notification] will be executed according to their settings upon an ON event.

⑥ [OFF Event Operation]

Select the operation to be performed upon an OFF event. If [Enable] is selected, ⑦ [Preset], ⑧ [Upload] and ⑨ [E-mail Notification] will be executed according to their settings upon an OFF event.

⑦ [Preset]

If a preset is specified, the camera will orient automatically to the specified preset position when an volume detection event occurs. To use presets, it is necessary to set the presets with the Preset Setting Tool under Admin Tools (P. 5-16). If there is no need for additional camera operation, select [None].

Image Buffer

① Frame Rate 1 - 10	1
② Pre-event Buffer (number of image frames) 0 - 100	0
③ Post-event Buffer (number of image frames) 0 - 100	0

① [Frame Rate]

Set the frame rate that applies when images are temporarily saved in the image buffer at the moment an event occurs.

② [Pre-event Buffer (number of image frames)]

Set the number of images to be buffered before the event.

③ [Post-event Buffer (number of image frames)]

Set the number of images to be buffered after the event.

Important

- The maximum image buffer size capacity is approx. 6 MB. If a large image size is set, the Frame Rate, Pre-event Buffer and Post-event Buffer may not be achieved as specified (P. 4-20).
- If buffering cannot be achieved as specified, an event log message appears (P. 4-33). Before using a large image size, confirm that no messages appear in the event log (P. 4-33).

⑧ [Upload]

Select the upload operation to be performed. If [Enable] is selected, upload is performed when a volume detection event occurs. To use this function, the [General Upload] sub-menu and [HTTP Upload] or [FTP Upload] sub-menu must also be set from the [Upload] menu (P. 4-15).

⑨ [E-mail Notification]

Select the e-mail notification operation to be performed. If [Enable] is selected, e-mail notification is performed when a volume detection event occurs. To use this function, the [E-mail Notification] sub-menu must also be set from the [Upload] menu (P. 4-17).

Important

- The volume detection function is temporarily disabled during audio file playback and audio transmission from RM Viewer.
- Volume detection and external device output cannot be interlocked.
- For notes on use of volume detection, see "Safety Precautions" in "Precautions for Use of Intelligent Functions, Image Stabilizer and Bundled Network Video Recording Software RM-Lite" (P. x).

External Device Input

① External Device Input Event	Enable
② ON/OFF Input Inversion	Disable
③ ON Event Operation	Enable
④ OFF Event Operation	Disable
⑤ Preset	None
⑥ Upload	Disable
⑦ E-mail Notification	Disable
⑧ Audio Playback at ON Event	Enable
⑨ Audio Playback at OFF Event	Disable
⑩ Sound Clip	SAMPLE1
⑪ Volume 1 - 100	50

① [External Device Input Event]

Select external device input events to [Enable] or [Disable].

② [ON/OFF Input Inversion]

Select [Enable] or [Disable] for external device ON/OFF input inversion. If [Enable] is selected, ON input from an external device will generate an OFF event.

③ [ON Event Operation]

Select the operation to be performed upon an ON event. If [Enable] is selected, ⑤ [Preset], ⑥ [Upload] and ⑦ [E-mail Notification] will be executed according to their settings upon an ON event.

④ [OFF Event Operation]

Select the operation to be performed upon an OFF event. If [Enable] is selected, ⑤ [Preset], ⑥ [Upload] and ⑦ [E-mail Notification] will be executed according to their settings upon an OFF event.

⑤ [Preset]

If a preset is specified, the camera will automatically orient to the specified preset position when an external device input event occurs. To use presets, it is necessary to set presets with the Preset Setting Tool under Admin Tools (P. 5-16). If there is no need for additional camera operation, select [None].

⑥ [Upload]

Select the upload operation to be performed. If [Enable] is selected, upload is performed when an external device input event occurs. To use this function, the [General Upload] sub-menu and [HTTP Upload] or [FTP Upload] sub-menu must also be set from the [Upload] menu (P. 4-15).

⑦ [E-mail Notification]

Select the e-mail notification operation to be performed. If [Enable] is selected, e-mail notification will be performed when an external device input event occurs, provided that the event is set to [Enable]. To use this function, the [E-mail Notification] sub-menu must also be set from the [Upload] (P. 4-17).

⑧ [Audio Playback at ON Event]

Select the audio playback operation to be performed upon an ON event. If [Enable] is selected, the audio designated in [Sound Clip] will playback when an ON Event is input from an external device.

⑨ [Audio Playback at OFF Event]

Select the audio playback operation to be performed upon an OFF event. If [Enable] is selected, the audio designated in [Sound Clip] will playback when the event input from an external device turns OFF.

⑩ [Sound Clip]

Select the sound clip to be played. For registration of sound clips, see P. 4-22.

⑪ [Volume]

Select the volume of sound clips using an integer of 1 to 100. The greater the value, the louder the volume becomes.

Timer

① Timer Event Setting1	Enable
② Start Time hh:mm	00:00
③ Repeat Setting	Enable
④ Repeat Interval	1 sec.
⑤ Repeat Count 1 - 60	1
⑥ Timer Event Setting2	Disable
⑦ Timer Event Setting3	Disable
⑧ Timer Event Setting4	Disable
⑨ Upload	Disable
⑩ E-mail Notification	Disable

① [Timer Event Setting]

Select [Enable] or [Disable] for timer event.

② [Start Time]

Set the start time of the timer event in 24-hour format.

③ [Repeat Setting]

If [Enable] is selected, timer events will be generated according to settings in ④ [Repeat Interval], ⑤ [Repeat Count].

④ [Repeat Interval]

Select [1 sec.] [5 sec.] [10 sec.] [30 sec.] [1 min.] [5 min.] [10 min.] [15 min.] [20 min.] [30 min.] [1 hour] [3 hours] [6 hours] or [12 hours] for the upload and e-mail notification repeat intervals.

⑤ [Repeat Count]

Set the repeat count for uploads and e-mail notification in the range of 1 to 60.

⑥ [Upload]

Select the upload operation to be performed. If [Enable] is selected, upload is performed at the set intervals. To use this function, the [General Upload] sub-menu and [HTTP Upload] or [FTP Upload] sub-menu must also be set from the [Upload] menu (P. 4-15).

⑦ [E-mail Notification]

Select the e-mail notification operation to be performed. If [Enable] is selected, e-mail notification is performed when a timer event occurs. To use this function, the [E-mail Notification] sub-menu must also be set from the [Upload] menu (P. 4-17).

Sound Clip Upload

① Browse File	D:\Users\Document	<input type="button" value="Browse..."/>	<input type="button" value="Add"/>
② Sound Clip Name Up to 15 characters	SAMPLE1	<input type="button" value="Delete"/>	

① [Browse File]

Specify the audio file you want to register as the sound clip, and then click [Add].

② [Sound Clip Name]

Set a name for the audio file to be registered as the sound clip (up to 15 alphanumeric characters). If a blank field is applied, the sound clip will be deleted. To delete a registered audio file, click [Delete] next to the sound clip name you want to delete.

Note

Audio files must be 20 seconds or shorter and must be ".wav" files (μ -law PCM 8 bits sampling frequency 8000 Hz, monaural).

[Access Control] Setting User Access Privileges

The following can be set here.

- **Authorized User Account**
Register who can access this camera.
- **User Authority**
Set the authorities for authorized users and guest users.
- **IPv4 Host Access Restrictions**
Specify the hosts from which IPv4 access is permitted and restricted.
- **IPv6 Host Access Restrictions**
Specify the hosts from which IPv6 access is permitted and restricted.

Authorized User Account

User Name	Up to 15 characters	<input type="text"/>	Add	
Password	6 to 15 characters	<input type="password"/>		
User List		<input type="button" value="Delete"/>	<input type="button" value="▲"/>	<input type="button" value="▼"/>

① [User Name], [Password]

Enter the user name and password and then click [Add]. The authorized user will be added to the user list. The user name can consist of up to 15 (single-byte) characters using A to Z, a to z, 0 to 9, “-” (hyphen) and “_” (underscore). The password can consist of 6 to 15 (single-byte) ASCII characters (space or printable characters).

② [User List]

A list of authorized users is shown. User authorities can be set for these users. Up to 50 users can be registered in addition to the Administrator (root). Also, the user list can be sorted using the ▲ ▼ buttons on the right.

To delete a user, select the applicable user from the user list and then click [Delete].

User Authority

	Privileged Camera Control	Camera Control	Image Distribution	Audio Distribution
Authorized User	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Guest User		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Privileged Camera Control], [Camera Control], [Image Distribution], [Audio Distribution]

Set the user authorities of authorized users and guest users. Select the checkboxes corresponding to the items you want to permit for each user.

Note

Authorized users have higher authorities than guest users.

For details, see “Chapter 6 User Authorities and Camera Control Privileges” (P. 6-2).

IPv4 Host Access Restrictions

① Apply Host Access Restrictions	Enable
② Default Policy	Authorize Access
01:	/ 32 Authorize
02:	/ 32 Authorize
03:	/ 32 Authorize
04:	/ 32 Authorize
05:	/ 32 Authorize
06:	/ 32 Authorize
07:	/ 32 Authorize
08:	/ 32 Authorize
09:	/ 32 Authorize
10:	/ 32 Authorize
11:	/ 32 Authorize
..	..

① [Apply Host Access Restrictions]

Set IPv4 host access restrictions to [Disable] or [Enable].

② [Default Policy]

If IPv4 host access restrictions are applied, select [Authorize Access] or [Prohibit Access] for the default policy.

③ [Network Address / Subnet]

Create a list of permitted hosts and restricted hosts and set IPv4 address access for each host to [Authorize] or [Prohibit].

You can specify the subnet and set access restrictions by network or host.

If access is prohibited, access to all ports is restricted.



Important

- To prohibit access via a proxy server in HTTP connection, a proxy server address must be set.
- If host access restriction is set mistakenly, access to the setting pages themselves may be prohibited, in which case restoring the factory default settings will become the only means for recovery.



Note

If the same address is duplicated, the policy for the address that appears highest on the list will be applied.

IPv6 Host Access Restrictions

① Apply Host Access Restrictions	Enable
② Default Policy	Authorize Access
③ Prefix / Prefix Length	01: / 128 Yes 02: / 128 Yes 03: / 128 Yes 04: / 128 Yes 05: / 128 Yes 06: / 128 Yes 07: / 128 Yes 08: / 128 Yes 09: / 128 Yes 10: / 128 Yes 11: / 128 Yes

① [Apply Host Access Restrictions]

Set IPv6 host access restrictions to [Disable] or [Enable].

② [Default Policy]

If IPv6 host access restrictions are applied, select [Authorize Access] or [Prohibit Access] for the default policy.

③ [Prefix / Prefix Length]

Create a list of permitted hosts and restricted hosts and set IPv6 address access for each host to [Yes] or [No]. You can specify the prefix length and set access restriction by network or host.

If access is prohibited, access to all ports is restricted.

[IPsec] IPsec Settings

The following can be set here.

- **IPsec**
Set the IPsec setting method.
- **Auto Key Exchange Setting**
Set auto key exchange.
- **IPsec Set**
IP security can be specified through auto key exchange or manual setting with up to five communicating devices.

IPsec

① IPsec	Auto Key Exchange
---------	-------------------

① [IPsec]

Key settings for use with IPsec can be selected as [Auto Key Exchange] or [Manual].

Auto Key Exchange Setting

② IPsec SA Encryption Algorithm	AES->3DES
② IPsec SA Authentication Algorithm	HMAC_SHA1_96
② IPsec SA Validity Period (min) 10 - 1440	480
② ISAKMP SA Encryption Algorithm	AES->3DES
② ISAKMP SA Authentication Algorithm	SHA1
② DH Group	Group 2
② ISAKMP SA Validity Period (min) 10 - 1440	480

① [IPsec SA Encryption Algorithm]

Set the IPsec SA encryption algorithm to [AES->3DES], [AES->3DES->DES] or [AES->3DES->DES->NULL]. The specified algorithm will be checked for an applicable encryption algorithm starting from the left.

② [IPsec SA Authentication Algorithm]

Set the IPsec SA authentication algorithm to [HMAC_SHA1_96] or [HMAC_SHA1_96->HMAC_MD5_96]. The specified algorithm will be checked for an applicable authentication algorithm starting from the left.

③ [IPsec SA Validity Period (min)]

Set the duration of validity for IPsec SA (factory default setting is [480]).

④ [ISAKMP SA Encryption Algorithm]

Set the SA encryption algorithm for use with auto key exchange protocol IKE to [AES->3DES] or [AES->3DES->DES].

⑤ [ISAKMP SA Authentication Algorithm]

Set the SA authentication algorithm for use with auto key exchange protocol IKE to [SHA1] or [SHA1->MD5].

⑥ [DH Group]

Select [Group 2] or [Group 2->Group 1] for the key generation information that will be used in the DH algorithm for key exchange via auto key exchange protocol IKE.

⑦ [ISAKMP SA Validity Period (min)]

Set the duration of validity for ISAKMP SA (factory default setting is [480]).

IPsec Set (Auto Key Exchange)

IPsec Sets 1 to 5 are available, and you can specify IPsec settings for one communication device for each IPsec Set.

① IPsec Set	Enable in IPv4
② IPsec Mode	Tunnel Mode
③ Destination IPv4 Address	192.168.200.1
④ Source IPv4 Address	192.168.100.1
⑤ Security Protocol	ESP
⑥ Security Gateway IPv4 Address	192.168.10.1
⑦ Destination Subnet Mask Length 1 - 32	24
⑧ IKE Pre-Shared Key Up to 127 characters	pre-shared-key

① [IPsec Set]

Set IPsec Set to [Disable], [Enable in IPv4] or [Enable in IPv6].

② [IPsec Mode]

Set IPsec mode to [Tunnel Mode] or [Transport Mode].

③ [Destination IPv4 Address], [Destination IPv6 Address]

Enter the IP address of the connection destination.

④ [Source IPv4 Address], [Source IPv6 Address]

Enter the IP address of the source.

⑤ [Security Protocol]

Set the IPsec protocol to [ESP], [AH] or [ESP and AH].

If [ESP] is selected, enter only the setting items relating to ESP.

If [AH] is selected, enter only the setting items relating to AH.

If [ESP and AH] is selected, enter all setting items.

⑥ [Security Gateway IP Address (IPv4/IPv6)]

If IPsec mode is set to [Tunnel Mode] in ②, set the IP address of the security gateway.

⑦ [Destination Subnet Mask Length (IPv4)], [Destination Prefix Length (IPv6)]

This setting is required only if IPsec mode is set to [Tunnel Mode] in ②.

If IPv6 is used, enter a desired prefix length for the connection destination in the range of 16 to 128.

If IPv4 is used, enter a desired length in the range of 1 to 32.

⑧ [IKE Pre-Shared Key]

Enter the pre-shared key for IKE (auto key exchange) (up to 127 characters).

 **Important**

If the camera is rebooted during auto key exchange communication, a connection error may result after rebooting. In this case, connect again.

 **Note**

If auto key exchange is used, it will take approximately 5 to 10 seconds before communication with the camera starts.

IPsec Set (Manual)

IPsec Sets 1 to 5 are available, and you can specify IPsec settings for one communication device for each IPsec Set.

① IPsec Set	Enable in IPv4
② IPsec Mode	Tunnel Mode
③ Destination IPv4 Address	192.168.200.1
④ Source IPv4 Address	192.168.100.1
⑤ Security Protocol	ESP and AH
⑥ Security Gateway IPv4 Address	192.168.10.1
⑦ Destination Subnet Mask Length	24
⑧ SA ESP Encryption Algorithm	AES
⑨ SA ESP Authentication Algorithm	HMAC_SHA1_96
⑩ SA ESP Encryption Key (outbound)	0445981962E9AC7E79385E037C35FC3
⑪ SA ESP Authentication Key (outbound)	3B64787768DFC8DE7EB4D84EC81B453168F3B32F
⑫ SA ESP SPI (outbound) 256 or higher	1000
⑬ SA ESP Encryption Key (inbound)	6F822A37272BF55EB581A91A63770C57
⑭ SA ESP Authentication Key (inbound)	81E4DC87387FB09192B26CA1A2FBD97202159B96
⑮ SA ESP SPI (inbound) 256 or higher	2000
⑯ SA AH Authentication Algorithm	HMAC_SHA1_96
⑰ SA AH Authentication Key (outbound)	6F92282D51B290EA4B51D8833A4EFF295A6E5F40
⑱ SA AH SPI (outbound) 256 or higher	3000
⑲ SA AH Authentication Key (inbound)	7E0E6F639A0A81A83B6C5642EFE859881B2883AE
⑳ SA AH SPI (inbound) 256 or higher	4000

① [IPsec Set]

Set IPsec Set to [Disable], [Enable in IPv4] or [Enable in IPv6].

② [IPsec Mode]

Set IPsec mode to [Tunnel Mode] or [Transport Mode].

③ [Destination IPv4 Address], [Destination IPv6 Address]

Enter the IP address of the connection destination.

④ [Source IPv4 Address], [Source IPv6 Address]

Enter the IP address of the source.

⑤ [Security Protocol]

Set the IPsec protocol to [ESP], [AH] or [ESP and AH]. If [ESP] is selected, enter only the setting items relating to ESP.

If [AH] is selected, enter only the setting items relating to AH.

If [ESP and AH] is selected, enter all setting items.

⑥ [Security Gateway IPv4 Address], [Security Gateway IPv6 Address]

If IPsec mode is set to [Tunnel Mode] in ②, set the IP address of the security gateway.

⑦ [Destination Subnet Mask Length (IPv4)], [Destination Prefix Length (IPv6)]

This setting is required only if [IPsec Mode] is set to [Tunnel Mode] in ②.

If IPv6 is used, enter a desired prefix length for the connection destination in the range of 16 to 128.

If IPv4 is used, enter a desired length in the range of 1 to 32.

- If [Security Protocol] is set to [ESP] or [ESP and AH] in ⑤, ⑧ [SA ESP Encryption Algorithm] to ⑯ [SA ESP SPI (inbound)] must be set.

⑧ [SA ESP Encryption Algorithm]

Set the ESP encryption algorithm to [AES], [3DES], [DES] or [NULL] according to the encryption algorithm supported by the device to connect to.

Normally [AES] or [3DES] is recommended.

⑨ [SA ESP Authentication Algorithm]

Set the ESP authentication algorithm to [HMAC_SHA1_96], [HMAC_MD5_96] or [No Authentication] according to the authentication algorithm supported by the device to connect to.

If [ESP] is used alone, [No Authentication] cannot be selected.

⑩ [SA ESP Encryption Key (outbound)]

Set the SA encryption key for outbound. If [AES], [3DES] or [DES] was selected in ⑧, set a 128-bit, 192-bit or 64-bit hexadecimal, respectively. This item need not be set if [NULL] was selected.

⑪ [SA ESP Authentication Key (outbound)]

Set the SA authentication key for outbound. If [HMAC_SHA1_96] or [HMAC_MD5_96] was selected in ⑨, set a 160-bit or 128-bit hexadecimal, respectively. This item need not be set if [No Authentication] was selected.

⑫ [SA ESP SPI (outbound)]

Set the SA SPI value for outbound.

Set a desired value in the range of 256 to 4294967295.

⑬ [SA ESP Encryption Key (inbound)]

Set the SA encryption key for inbound.

If [AES], [3DES] or [DES] was selected in ⑧, set a 128-bit, 192-bit or 64-bit hexadecimal, respectively. This item need not be set if [NULL] was selected.

⑭ [SA ESP Authentication Key (inbound)]

Set the SA authentication key for inbound.

If [HMAC_SHA1_96] or [HMAC_MD5_96] was selected in ⑨, set a 160-bit or 128-bit hexadecimal, respectively. This item need not be set if [No Authentication] was selected.

⑯ [SA ESP SPI (inbound)]

Set the SA SPI value for inbound.

Set a desired value in the range of 256 to 4294967295.

Since this setting is used as an ID for identifying the SA, be careful not to specify an inbound SPI whose value is already used in the SPI for other ESP.

- If [Security Protocol] was set to [AH] or [ESP and AH] in ⑤, ⑯ [SA AH Authentication Algorithm] to ⑳ [SA AH SPI (inbound)] must be set.

⑯ [SA AH Authentication Algorithm]

Set the AH authentication algorithm to

[HMAC_SHA1_96] or [HMAC_MD5_96] according to the authentication algorithm supported by the device to connect to.

⑰ [SA AH Authentication Key (outbound)]

Set the SA authentication key for outbound.

If [HMAC_SHA1_96] or [HMAC_MD5_96] was selected in ⑯, set a 160-bit or 128-bit hexadecimal, respectively.

⑰ [SA AH SPI (outbound)]

Set the SA SPI value for outbound.

Set a desired value in the range of 256 to 4294967295.

⑯ [SA AH Authentication Key (inbound)]

Set the SA authentication key for inbound.

If [HMAC_SHA1_96] or [HMAC_MD5_96] was selected in ⑯, set a 160-bit or 128-bit hexadecimal, respectively.

⑰ [SA AH SPI (inbound)]

Set the SA SPI value for inbound.

Set a desired value in the range of 256 to 4294967295.

Since this setting is used as an ID for identifying the SA, be careful not to specify an inbound SPI whose value is already used in the SPI for other AH.

 **Important**

- To run this camera with IPsec, the communicating devices and network must be set beforehand. Contact your System Administrator for these settings.
- If any setting is changed from the [IPsec] menu, the camera may become inaccessible from the active web browser. Check beforehand the precautions in "Important" in "[Reboot Item] Setting Items Requiring Rebooting" (P. 4-32).

 **Note**

If IPsec is used, video transmission performance drops.

[SSL/TLS] HTTP Communication Encryption Settings

The following can be set here.

- Certificates**
Create an SSL/TLS certificate.
- Certificate Management**
Manage the SSL/TLS certificate.
- Encrypted Communications**
Set the encrypted communication

Important

With regard to security, it is recommended that you use a self-signed certificate where complete security does not need to be ensured through operation tests, etc. For system operation, acquire and install a certificate issued by a CA.

Certificate Management

① Generate Certificate Signing Request	<input type="button" value="Exec"/>
② Display Certificate Signing Request Details	<input type="button" value="Exec"/>
③ Install Server Certificate	<input type="button" value="Browse..."/> <input type="button" value="Exec"/>
④ Install Intermediate CA Certificate	<input type="button" value="Browse..."/> <input type="button" value="Exec"/>
⑤ Delete Certificate	<input type="button" value="Exec"/>
⑥ Display Server Certificate Details	<input type="button" value="Exec"/>
⑦ Self CA Certificate	<input type="button" value="Exec"/>
⑧ Backup	<input type="button" value="Exec"/>
⑨ Restore	<input type="button" value="Browse..."/> <input type="button" value="Exec"/>

① [Generate Certificate Signing Request]

Click [Exec] to create server private key and a self-certification authority private key to generate a certificate signing request. Once processed, the certificate signing request will appear in a separate window.

Note

Generating a certificate signing request takes time, so it is recommended that you stop video transmission and upload processes.

② [Display Certificate Signing Request Details]

Click [Exec] to view the details of the certificate signing request.

③ [Install Server Certificate]

Perform this operation to install a server certificate. Click [Browse] to select the certificate file for installation, then click [Exec]. The certificate installed will take effect after rebooting.

④ [Install Intermediate CA Certificate]

Perform this operation to install an intermediate CA certificate. Select the certificate file to be installed using the [Browse] button and click [Exec]. The installed certificate will take effect after rebooting.

⑤ [Delete Certificate]

Click [Exec] to delete the certificate. However, if SSL communications are enabled, the certificate cannot be deleted. Set [SSL Communications] to [Disable] before deleting a certificate. The deletion will take effect after rebooting.

⑥ [Display Server Certificate Details]

Click [Exec] to view the details of the certificate.

⑦ [Self CA Certificate]

Used for the purpose of testing SSL communications, but otherwise not normally used.

⑧ [Backup]

Click [Exec] to perform a backup of the certificates and private key. This operation can only be performed via SSL communications.

⑨ [Restore]

Installs the certificates and private key from backup. Click [Browse] to select the backup file, then click [Exec]. This operation can only be performed via SSL communications, and will take effect after rebooting.

Encrypted Communications

SSL Communications	Enable	<input type="button" value="▼"/>	<input type="button" value="■"/>
--------------------	--------	----------------------------------	----------------------------------

① [SSL Communications]

Set SSL communications to [Disable] or [Enable]. The setting will take effect after rebooting. However, if no certificate is installed, SSL communications cannot be changed to [Enable].

Note

- It may take 15 minutes or more to generate an SSL key.
- If SSL communications are used, video transmission performance drops.
- Depending on the type of the certificate being installed on the camera, a dialog box may not appear indicating whether the web browser has accepted the certificate and a connection cannot be made.

In this case, the procedure below to register the CA certificate in the web browser.

[Memory Card] SD Memory Card Operations and Settings

The following can be set here.

- **SD Card Operations**

Perform SD memory card operations. Items displayed will differ according to the mount or unmount status.

- **SD Card Information**

Display information about the SD memory card.

SD Card Operation (unmount status)

Mount/Unmount	Mount
Operation Settings	Save Log
Format	Exec

① [Mount/Unmount]

In unmount status, [Mount] will appear. Click [Mount] to mount the SD memory card.

 **Note**

SD and SDHC memory cards can be used with the VB-M40. When an SD memory card is inserted in the card slot, it is mounted automatically. It is also mounted automatically if inserted in the camera at the time of booting. For inserting and removing the SD memory card, see "Using an SD Memory Card" in the "Installation Guide."



② [Operation Settings]

Set write operations to the SD memory card to [Save Log] or [Save Log and Images]. If [Save Log and Images] is selected, when a network problem occurs during uploading, images will be saved to the SD memory card at a frame rate of 1 fps (with image size and image quality set in [Video] (P. 4-13)).

③ [Format]

Click [Exec] to format the SD memory card.

SD Card Operation (mount status)

Mount/Unmount	Unmount
Operation Settings	Save Log
Delete Images	Exec
Recreate Image Management Information	Exec

① [Mount/Unmount]

In mount status, [Unmount] will appear. Click [Unmount] to unmount the SD memory card.

 **Important**

Be sure to perform the unmount process when turning off the power to the camera or removing the SD memory card. Failing to unmount first may result in management file problems or the SD memory card becoming inaccessible.

② [Operation Settings]

These settings are the same as ② [Operation settings] in "SD Card Operation (unmount status)."

③ [Delete Images]

Click [Exec] to delete images from the SD memory card. During deletion, an indicator will appear to the right of [Exec].

 **Note**

- It may take 10 minutes or more to delete images from the SD memory card.
- Deleting images takes time, so it is recommended that you stop video transmission and upload processes.

④ [Recreate Image Management Information]

Click [Exec] to recreate the image management information.

During re-creation, an indicator will appear to the right of [Exec]. The SD memory card is inaccessible during this time.

 **Note**

- It may take 20 minutes or more to recreate image management information.
- Recreating image management information takes time, so it is recommended that you stop video transmission and upload processes.

SD Card Information

① SD Card Recognition	Mounted
② SD Card Operation Status	Operable
③ Image Management Information Status	Normal
④ Image Saving	Cannot Save
⑤ SD Card Capacity (KB)	1984640
⑥ Used Capacity (KB)	1019360

① [SD Card Recognition]

Display the status of the SD memory card. The three status messages are [SD Card Not Inserted], [Unmounted] and [Mounted].

② [SD Card Operation Status]

Display the operation status of the SD memory card.

The three status messages are as follows.

- “Operable”: This status indicates that any operation may be performed.
- “Recreating image management information”: This status indicates that image management information is being recreated. Other operations cannot be performed.
- “Deleting images”: This status indicates that images are being deleted. Other operations cannot be performed.

③ [Image Management Information Status]

Display the status of image management information.

The three status messages are as follows.

- “Normal”: This status indicates that image management information is normal.
- “Image Management Information Recreation Required”: This status indicates that management files are corrupted or not consistent with saved image files. Image management information must be recreated.

④ [Image Saving]

Display whether or not images can be saved to the SD memory card.

- [Can Save]: Indicates that images can be saved to the SD memory card.
- [Cannot Save]: Indicates that images cannot be saved to the SD memory card. This status may be caused when the SD memory card is not mounted, the image file count upper limit has been reached, the image management file is corrupted or the card is write-protected.

⑤ [SD Card Capacity (KB)]

Display the SD memory card storage capacity.

⑥ [Used Capacity (KB)]

Display information about storage used on the SD memory card.

Important

Information recorded to the SD memory card may be regarded as “personal information.” Take sufficient precautions for handling this information when releasing to third parties for disposal, transfer or repair.

Note

- For accessing files saved to the SD memory card, see “SD Memory Card Access” (P. 7-2).
- The maximum number of images that can be stored on the SD memory card is 100,000 each.
- New files cannot be saved to the SD card if there is no free space or the file limit has been reached.

[Reboot Item] Setting Items Requiring Rebooting

The following settings require rebooting before changes take effect.

- LAN, IPv4, IPv6, Installation Conditions, H.264, HTTP Server

LAN	LAN Interface	Auto
	Maximum Packet Size 576 - 1500	1500
IPv4	IPv4 Address Setting Method	Manual
	IPv4 Address	192.168.0.12
	Subnet Mask	192.168.100.1
	IPv4 Default Gateway Address	192.168.0.1
IPv6	IPv6	Enable
	Auto	Enabled
	IPv6 Address (Manual)	
	Prefix Length 16 - 128	64
	IPv6 Default Gateway Address	
Installation Conditions	Dome	Do not use
	Image Flip	Disable
H.264	Video Size	320 x 240
	Frame Rate (fps)	30
HTTP Server	Authentication Method	Basic Authentication
	HTTP Port 80, 1024 - 65535	80
	HTTPS Port 443, 1024 - 65535	443

Important

These settings relate to network connectivity. If any setting is changed to a value that may disable camera connection from the active web browser, dialog box appears and alerts the user.

Click [OK] to apply the new setting.

Depending on the new setting, it may not be possible to connect to the camera again after rebooting. If this happens, a candidate URI for reconnecting the camera will appear if available.

Try the URI displayed to reconnect the camera.

If you cannot connect to the camera through the displayed URI, contact your System Administrator.

* Settings related to network connectivity in the [Reboot Item] menu are [LAN Interface], [Maximum Packet Size], [IPv4 Address Setting Method], [IPv4 Address], [Subnet Mask], [IPv4 Default Gateway Address], [IPv6], [Auto], [IPv6 Address (Manual)], [Prefix Length], [IPv6 Default Gateway Address], [HTTP Port] and [HTTPS Port].

① [LAN]

LAN interface, maximum packet size settings, etc.

(P. 4-5)

② [IPv4]

IP address, IPv4 settings, etc. (P. 4-5)

③ [IPv6]

Settings regarding IPv6 (P. 4-6)

④ [Installation Conditions]

Settings regarding camera installation conditions

(P. 4-12)

⑤ [H.264]

Settings regarding H.264 image size and frame rate

(P. 4-13)

⑥ [HTTP Server]

Authentication method, HTTP, and HTTPS port settings

(P. 4-19)

[Maintenance]

Viewing Event Logs and Current Settings and Performing Maintenance

The following items can be used here.

- Tool
Display or Initialize Camera Settings

Tool

 View Logs	View	
 View Current Settings	View	
 Reboot	Exec	■
 Restore Settings	Exec	■

① [View Logs]

Display a history of camera operations and connections to each viewer, etc.

② [View Current Settings]

Display a list of current settings.

③ [Reboot]

The camera is rebooted.

④ [Restore Settings]

Discard user-defined settings and restore all setting items to factory default settings except camera administrator password, network setting, date, time, time zone, SSL certificate and encrypted communication. Executing this operation will reboot the camera automatically.

Caution

- You must not turn off the camera while it is performing the [Restore Settings] operation. Turning off the camera at this stage may result in disabling it from booting correctly.
- Never touch the camera head during initialization. Initialization failure or malfunction may result.

Note

- It is recommended that you write down all current setting values before restoring factory default settings in [Restore Settings] (P. 7-21).
- The camera can be restored to factory default settings using the reset switch as well. Note, however, that this will reset all camera settings to factory default settings except for date and time (P. 7-22).

Chapter 5

Admin Tools

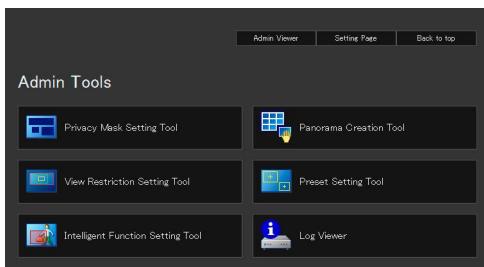
- Privacy Mask Setting
- Panorama Image Registration
- View Restriction Setting
- Camera Preset Setting
- Intelligent Function Setting
- Viewing Logs

Admin Tools Overview

Admin Tools consists of the applications for [Privacy Mask Setting Tool], [Panorama Creation Tool], [View Restriction Setting Tool], [Preset Setting Tool], [Intelligent Function Setting Tool], and [Log Viewer]. You can set the camera remotely, check the operating condition, acquire logs, and perform other operations with ease.

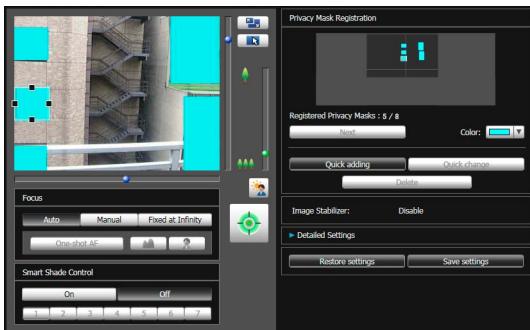
Admin Tools (P. 5-4)

This is the top page of Admin Tools. All tools can be launched from this page.



Privacy Mask Setting Tool (P. 5-5)

A tool that lets you hide areas you don't want to be seen by setting privacy masks. Up to eight areas can be masked, allowing thorough protection of privacy.



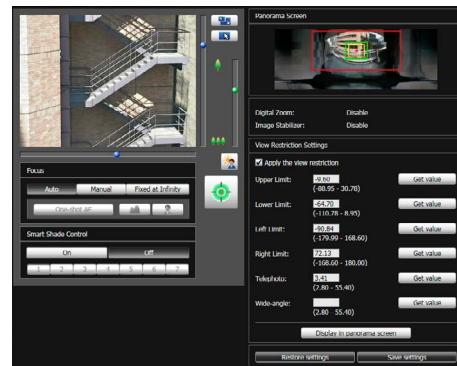
Panorama Creation Tool (P. 5-9)

A panorama image creation tool that shows the entire area that can be captured by this camera. Once a panorama image is captured and registered, it is shown in the panorama display panel of the viewer. As the panorama image is also shown when view restrictions and presets are set, you can see at a glance which part of the entire area the set area is occupying.



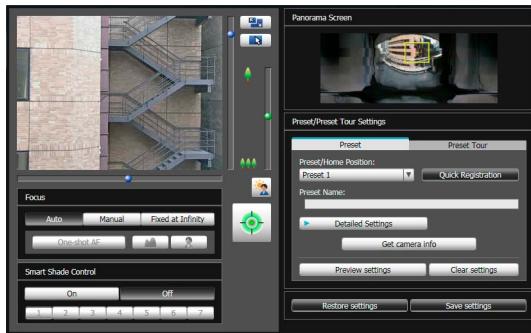
View Restriction Setting Tool (P. 5-12)

The View Restriction Tool restricts the viewable capture range in the VB Viewer. You can set the desired range with the mouse by referring to the preview in panorama mode.



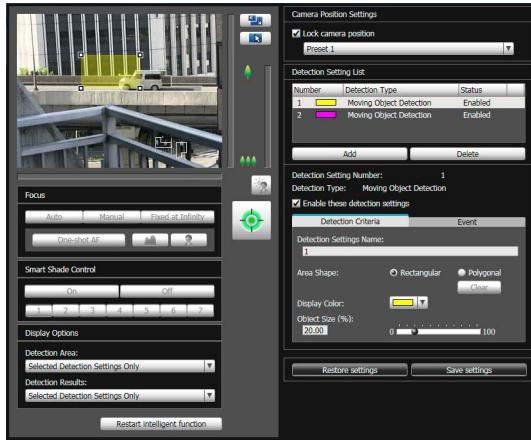
Preset Setting Tool (P. 5-16)

A tool that lets you set presets and the home position visually. You can make the desired settings with the mouse by referring to the preview in panorama mode. You can also set [Preset Tour] whereby the camera tours and monitors multiple presets.



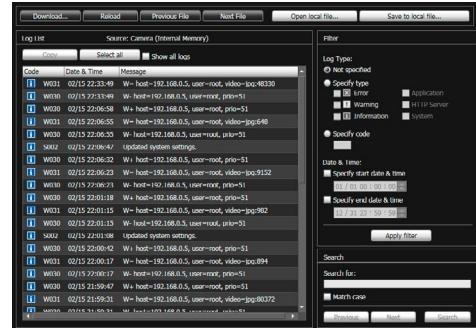
Intelligent Function Setting Tool (P. 5-22)

This tool is used to set intelligent functions that perform uploads, notify the viewer, record a log, etc., if a change has occurred in the captured image due to movement of a subject. By setting the conditions, you can let the camera detect events such as "abandoned object," "removed object," "camera tampering," etc. You can view the image on the camera while setting the position and size of the detection area, detection conditions, etc.



Log Viewer (P. 5-31)

This viewer shows the logs of operating conditions of the camera.



Note

On the control panel of Windows, the decimal point in a value is always indicated by “.” regardless of the settings of [Region and Language]. Also, the date is shown in the “yyyy/mm/dd” or “mm/dd” format, while the time is shown in the “hh:mm:ss” format.

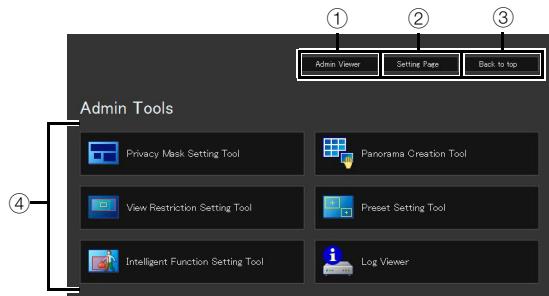
* y, m, d, h, m, and s indicate year, month, day, hour, minute, and second, respectively.

Accessing Admin Tools

The various settings of the camera are configured by accessing the camera in the web browser. First, access the top page (P. 3-2).

For details on entering the user name and password, see P. 3-3.

Launch Admin Tools



Note

- When launching any of the Admin Tools for the first time, wait about 5 to 10 seconds until the software is downloaded to your PC. From the second time on, launching will be quicker. Also, when accessing via SSL encrypted communication, download time will take longer (about 20 to 30 seconds).
- The [Privacy Mask Setting Tool], [Panorama Creation Tool], [View Restriction Setting Tool], [Preset Setting Tool], and [Intelligent Function Setting Tool] cannot be launched concurrently.

① [Admin Viewer]

Click to launch Admin Viewer.

② [Setting Page]

Click to launch Setting Menu.

③ [Back to top]

Click this button to navigate to the top page.

④ [Admin Tools]

Click the buttons of any tool to launch Admin Tools.

Also, when any of the Admin Tools is launched first, an authentication window is shown. Enter a user name and password.

Important

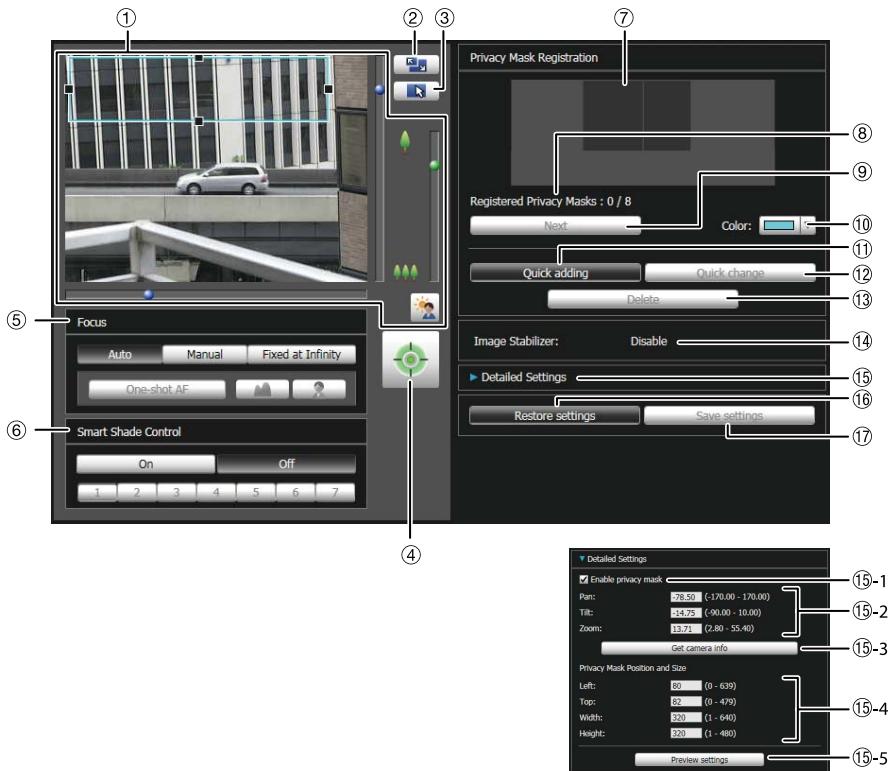
The certificates issued by Canon Inc. must be registered on any PCs using [Admin Tools]. See “User Authentication and Certificate Registration” in “Chapter 3 Top Page of the Camera” (P. 3-4) to register the certificates that are included in the Setup CD-ROM.

Privacy Mask Setting Tool

A tool that lets you cover certain areas on the camera image with privacy masks. When the camera is panned, tilted, or zoomed, the privacy mask area responds to the camera image.



Display Screen of Privacy Mask Setting Tool



① Image Display Area

The image currently captured by the camera is shown. Privacy masks can be resized/moved in the image display area. Pan, tilt, and zoom operations are the same as in the VB-M40 Viewer. For details, see "How to Operate the Viewer" (P. 6-5).

② [Switch Screen Size] button

Each time this button is clicked, the screen size of the image display area switches between "320 x 240" and "640 x 480."

③ [Switch Mouse Operation] button

Each time this button is clicked, the screen switches between and , and the mouse operation in the image display area changes.

When the button is set to , privacy masks can be resized/moved. While in this mode, the camera orientation will not change.

When the button is set to , pan/tilt operations can be performed.

④ [Obtain/release Camera Control] button

This button is used to obtain/release the camera control privileges. For details, see "Obtaining Camera Control Privileges" (P. 6-6). If camera control privileges have not yet been obtained elsewhere, such as in the Admin Viewer, the control privileges will be obtained the moment the Privacy Mask Setting Tool is launched.

⑤ [Focus]

Focus can be operated if the control privileges have been obtained. Focus operations are the same as in the Admin Viewer. For details, see "Setting the Focus" (P. 6-13).

⑥ [Smart Shade Control]

Smart shade control can be operated if the control privileges have been obtained. Smart shade control operations are the same as in the Admin Viewer. For details, see "Setting the Smart Shade Control" (P. 6-12).

⑦ Capture area

You can check the settings for the area where the camera can physically capture privacy masks. Even if a panorama image is saved in the camera, it will not be displayed here.

⑧ [Registered Privacy Masks]

Show the number of registered privacy masks. You can set up to eight privacy masks.

⑨ [Next]

When multiple privacy masks are set, clicking this button switches the privacy mask selected.

⑩ [Color]

Choose the color for the privacy mask area. All privacy mask areas are set to the selected color.

⑪ [Quick adding]

Add a privacy mask area and save it in the camera.

⑫ [Quick change]

Change a privacy mask area and save it in the camera.

⑬ [Delete]

Delete a privacy mask area saved in the camera.

⑭ [Image Stabilizer]

Show the usage condition of the image stabilizer. Set the image stabilizer under [Camera] in the Setting page (P. 4-11).

⑮ [Detailed Settings]

Show the detailed settings.

⑯-1 [Enable privacy mask] checkbox

Select the checkbox if you want to enable the selected privacy mask area settings.

⑯-2, ⑯-3 [Get camera info]

Load the camera angle. Load the pan, tilt, and zoom settings of the camera and show them in ⑯-2.

⑯-4 [Privacy Mask Position and Size]

Set left and upper edge, width, and height of the privacy mask.

⑯-5 [Preview settings]

Reflect the settings specified under [Privacy Mask Position and Size] and the specified pan, tilt, and zoom settings in the image display area and capture area.

⑯-6 [Restore settings]

Clear the settings you have specified on the screen of the tool and restore the settings saved in the camera

⑯-7 [Save settings]

Save the privacy mask settings specified under [Detailed Settings] in the camera.

Setting the Privacy Mask Area

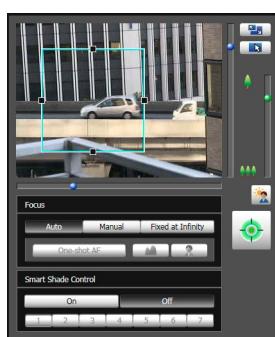
Set the privacy mask area while checking the image on the camera.

1 Operate the camera to adjust the privacy mask to the desired position.

If you have not yet obtained camera control privileges, click the [Obtain/release Camera Control] button and obtain control privileges.

2 Set the position and size of the privacy mask area.

A preview frame showing the privacy mask area is shown in the image display area.

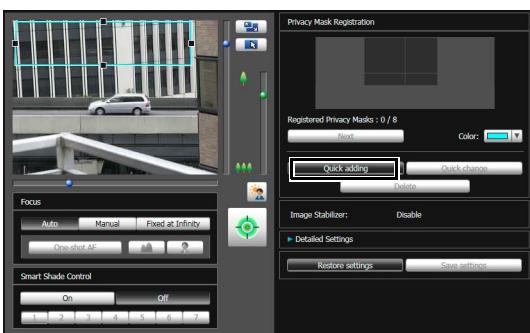


If you want to change the size, drag the "■" positioned at the four sides of the preview frame. Drag from inside the frame to move the privacy mask area.

If you want to cancel the changes and restore the settings saved in the camera, click [Restore settings].

3 Click [Quick adding] to save the privacy mask area.

The set privacy mask area is saved in the camera.

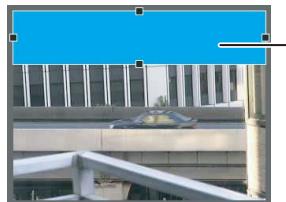


You can set up to eight privacy masks. Repeat the setting operations to set multiple privacy mask areas.

4 Confirm privacy mask areas.

Saved privacy mask areas are shown in the image display area and capture area.

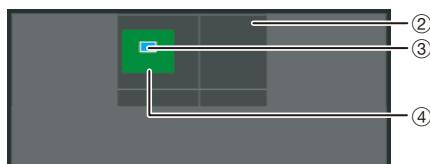
Image Display Area



① Privacy Mask Area

Enabled privacy mask areas are shown filled with color. Disabled privacy mask areas are just shown in a frame.

Capture area



② View Restriction Area

This is the area set with the View Restriction Setting Tool.

③ Privacy Mask Area

Privacy masks for which the [Enable privacy mask] checkbox is selected are shown filled with color. Privacy masks that are not selected are shown in a hatched frame.

④ Maximum Wide-angle Area

This is the visible area when the camera is at maximum wide angle. This area is only shown when a privacy mask area is being dragged.

Important

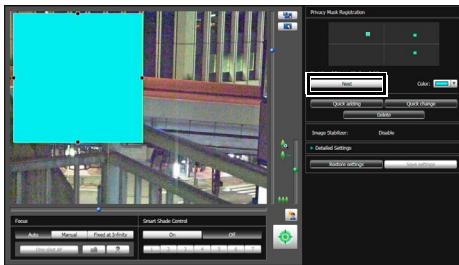
- Privacy mask areas cannot be set in digital zoom areas.
- Privacy masks set at a zoom position close to the tele end may deviate slightly from the specified position.
- Set the privacy mask area to a somewhat larger size than the area you want to hide. Also, be sure to confirm that after setting a privacy mask, the area you want to hide does not become visible when the camera direction is altered by pan, tilt, or zoom operations.
- Intelligent functions will not detect set privacy mask areas.
- Privacy masks are applied to all images transmitted from the camera (live video, uploaded images, recorded video).
- If the privacy mask settings were changed after a panorama image was saved using the Panorama Creation Tool, the panorama image must be recreated using the Panorama Creation Tool.
- Reconfigure all privacy mask positions and sizes when reconfiguring privacy mask settings after the image stabilizer setting was changed.

Changing/Deleting a Privacy Mask Area

How to Change

1 Select the privacy mask area you want to change.

Click the privacy mask area you want to change in the capture area or select a privacy mask area by clicking [Next].



2 Change the position and size of the privacy mask area.

Privacy mask areas can be changed using the mouse or by entering values.

Entering values

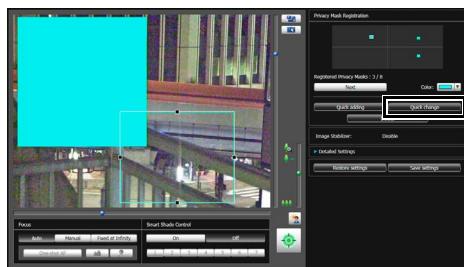
Click [Detailed Settings] and then [Get camera info] to load the current pan, tilt, and zoom settings.

Enter a value for the position and size of the privacy mask and click [Preview settings] to check the position and size of the preview frame.

If you want to cancel the changes and restore the settings saved in the camera, click [Restore settings].

3 Click [Quick change] to save the privacy mask area.

The changed privacy mask area is saved in the camera.



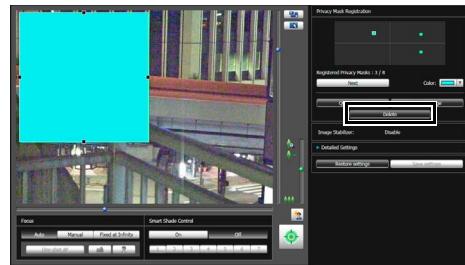
Note

Select a disabled privacy mask and click [Quick change] to enable it.

How to Delete

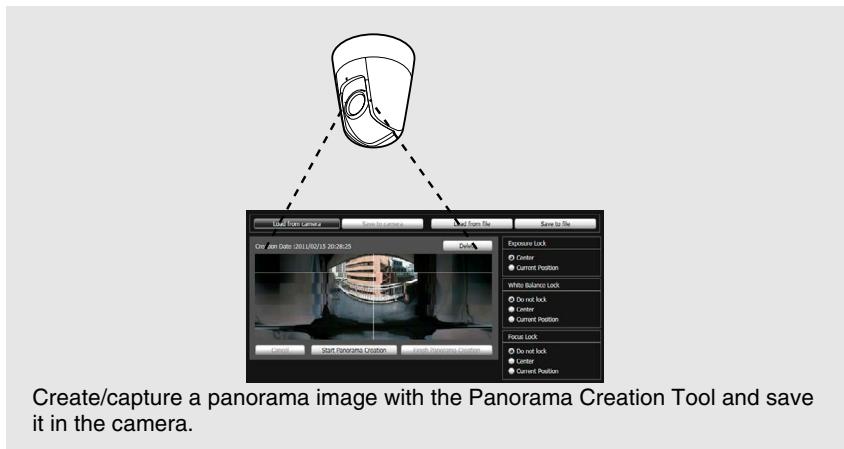
Select the privacy mask area you want to delete and click [Delete].

The privacy mask area that was saved in the camera is deleted.

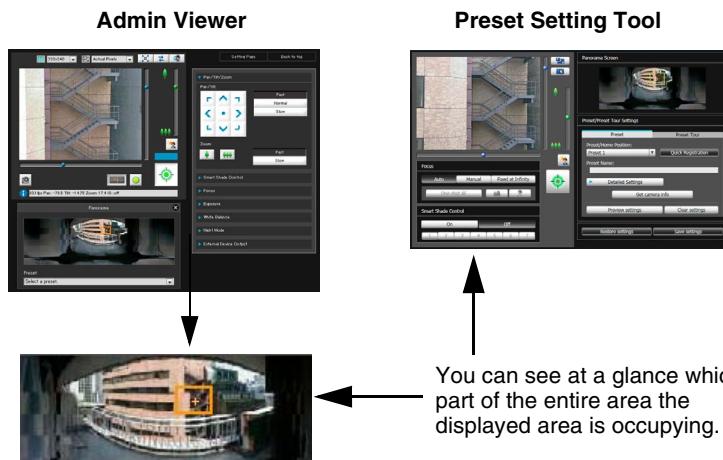


Panorama Creation Tool

A panorama image capture/creation tool that shows the entire area that can be captured by this camera. When performing pan, tilt, or zoom operations, setting presets using the viewer, etc., you can see at a glance which part of the entire area the set area is occupying.



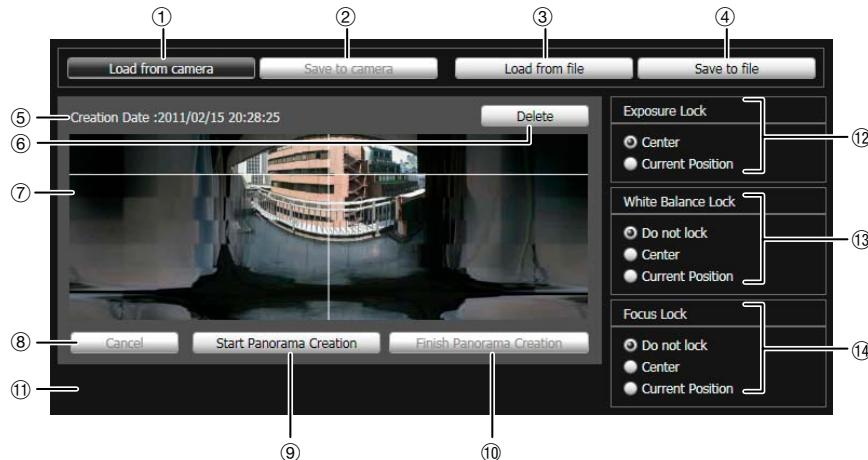
Create/capture a panorama image with the Panorama Creation Tool and save it in the camera.



Important

If the privacy mask settings were changed using the Privacy Mask Setting Tool, it is recommended that you recreate the panorama image to reflect the new privacy mask settings in the panorama image.

Display Screens of Panorama Creation Tool



① [Load from camera]

Show the panorama image saved in the camera.

② [Save to camera]

Save the currently shown panorama image in the camera.

③ [Load from file]

Show JPEG files as a panorama image.

④ [Save to file]

Save the currently shown panorama image as a JPEG file.

⑤ Creation date and time

Show the date and time a panorama image was captured or loaded from a JPEG file.

⑥ [Delete]

Delete the currently shown panorama image.

⑦ Panorama Image Display Area

Show the panorama image.

⑧ [Cancel]

Stop the capture of a panorama image.

⑨ [Start Panorama Creation]

Start capturing a panorama image.

⑩ [Finish Panorama Creation]

Confirm the captured panorama image.

⑪ Status Display

Show the panorama image capturing status, such as [Capturing image], etc.

⑫ [Exposure Lock]

Select [Center] or [Current Position] for the auto exposure lock position.

⑬ [White Balance Lock]

Set the white balance to [Do not lock], [Center], or [Current Position].

⑭ [Focus Lock]

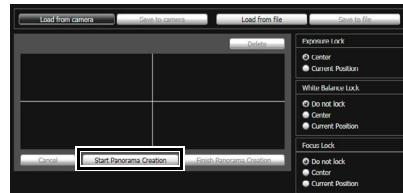
Set the focus to [Do not lock], [Center], or [Current Position].

Capturing a Panorama Image

1 Click [Start Panorama Creation].

The capture is started.

Change the settings for [Exposure Lock], [White Balance Lock], and [Focus Lock] as necessary.



To stop the capture in the middle, click [Cancel].



When you position the mouse pointer over the panorama image, a white grid is shown. If you want to recapture part of the panorama, position the pointer inside the grid, right-click and select [Recapture].



To recapture an entire panorama image, click [Start Panorama Creation] again.

Note

- While a panorama image is being captured, the image stabilizer function is temporarily disabled.
- While a panorama image is being created, the connection of anyone other than Administrators is cut off.
- When a small value is entered for [Maximum Frame Rate: Image Transmission] under [Video] > [JPEG] in the Setting page, panorama capture is slowed down.

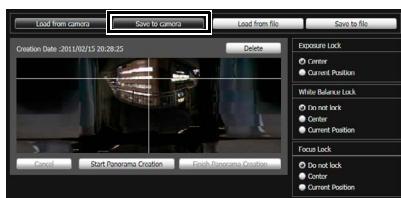
2 When the capture is complete, click [Finish Panorama Creation] if the image is satisfactory.

Saving/Deleting a Panorama Image

How to Save

Click [Save to camera], and then click [OK] in the displayed dialog box.

The panorama image is saved to the camera.



How to Delete

1 To delete the panorama image saved to the camera, click [Delete] and in the dialog that appears click [OK]. The image in the panorama image display area will be deleted.



2 Click [Save to camera].

The panorama image saved in the camera is deleted.

Opening a Panorama Image from Image Files/Saving as Image Files

You can open image files as a panorama image or save a captured panorama image as image files. Only JPEG image files created using Panorama Creation Tool can be handled.

How to Open from Image Files

Click [Load from file] and then select the image file you want to use in the displayed dialog box.



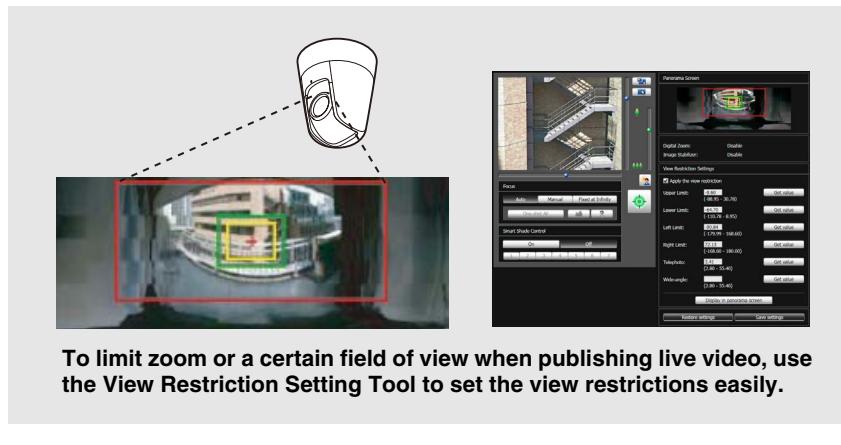
How to Save

Click [Save to file] and then select the folder you want to save and enter the file name in the displayed dialog box.



View Restriction Setting Tool

View Restriction Setting Tool is a tool that limits the range that can be captured by the camera. If view restrictions have been set, you can limit the displayable capture range using the viewer.

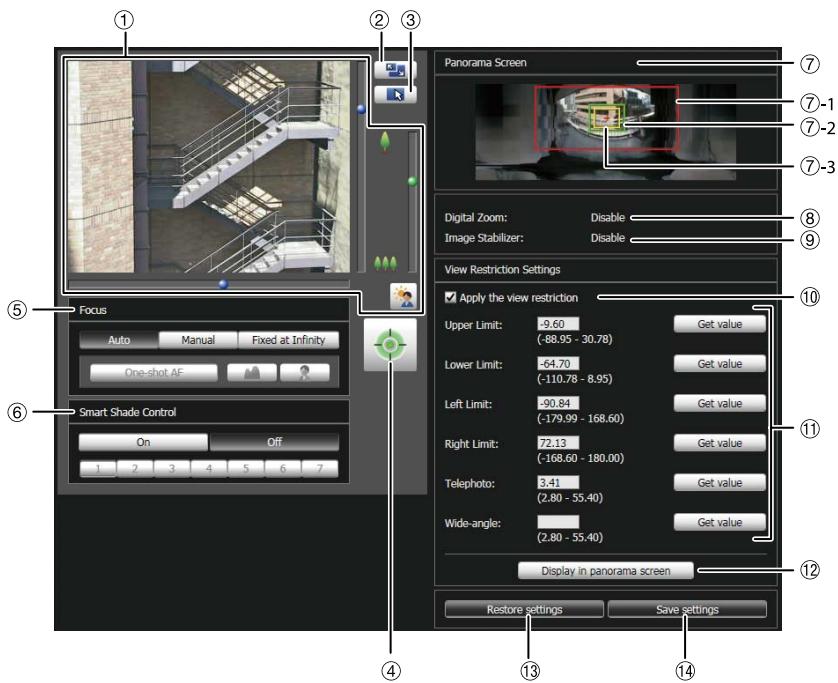


[Apply View Restriction Setting]

Restrictions set by the View Restriction Setting Tool are applied in the following cases.

- When the Admin Viewer is accessed with authorized user authorities
- When the VB Viewer is accessed
- When accessed via RM-Lite

Display Screens of View Restriction Setting Tool



① Image Display Area

The image currently captured by the camera is shown. Pan, tilt, and zoom operations are the same as in the VB-M40 Viewer. For details, see "How to Operate the Viewer" (P. 6-5).

② [Switch Screen Size] button

Each time this button is clicked, the screen size of the image display area switches between "320 x 240" and "640 x 480."

③ [Switch Mouse Operation] button

Click the button to switch to . In this mode, move the mouse pointer to the image display area and left-click to operate the pan and tilt. Click the button again to return to .

④ [Obtain/release Camera Control] button

This button is used to obtain/release the camera control privileges. For details, see "Obtaining Camera Control Privileges" (P. 6-6).

⑤ [Focus]

Focus can be operated if control privileges have been obtained. Focus operations are the same as in the Admin Viewer. For details, see "Setting the Focus" (P. 6-13).

⑥ [Smart Shade Control]

Smart shade control can be operated if control privileges have been obtained. Smart shade control operations are the same as in the Admin Viewer. For details, see "Setting the Smart Shade Control" (P. 6-12).

⑦ [Panorama Screen]

The panorama image registered in the camera is shown. Also, a view restriction preview frame representing the view restriction setting values is shown, where you can drag the frame to change its shape and reflect the new frame in the view restriction settings.

• View restriction preview frame

⑦-1 Pan/tilt preview frame (red frame)

Range of field of view defined by top/ bottom/left/right edges

⑦-2 Wide-angle preview frame (green frame)

Wide-angle restriction setting (restriction of capture frame)

⑦-3 Telephoto preview frame (yellow frame)

Telephoto restriction setting (restriction of maximum zoom ratio)

⑧ [Digital Zoom]

The current digital zoom usage status of the camera is shown in real time.

⑨ [Image Stabilizer]

The current image stabilizer usage status of the camera is shown in real time.

⑩ [Apply the view restriction]

To use view restrictions, select this checkbox.

⑪ View restriction setting entry boxes and [Get value]

You can enter a value in each view restriction setting entry box to change the applicable setting. You can load the values for the current camera angle to the view restriction settings by clicking [Get value].

- View restriction settings

[Upper Limit]: Top limit of the view restriction. Click [Get value] to load the top edge value of the current camera angle.

[Lower Limit]: Bottom limit of the view restriction. Click [Get value] to load the bottom edge value of the current camera angle.

[Left Limit]: Left limit of the view restriction. Click [Get value] to load the left edge value of the current camera angle.

[Right Limit]: Right limit of the view restriction. Click [Get value] to load the right edge value of the current camera angle.

[Telephoto]: Telephoto limit of the view restriction. Click [Get value] to load the zoom ratio of the current camera angle.

[Wide-angle]: Wide-angle limit of the view restriction. Click [Get value] to load the zoom ratio of the current camera angle.

⑫ [Display in panorama screen]

Apply the current view restriction settings to the panorama screen. At this point, the settings are not yet saved in the camera. Be sure to click [Save settings].

⑬ [Restore settings]

Clear the settings you have specified on the screen of the tool and restore the settings saved in the camera.

⑭ [Save settings]

Save the set view restriction in the camera. After the view restriction has been set, be sure to save the settings in the camera by clicking [Save settings].

Setting View Restrictions

You can set view restrictions by entering values in the view restriction setting entry boxes, or by changing the current settings in the view restriction preview frame of the panorama screen or from the camera angle in the image display area. Select appropriate settings according to the environment in which the camera is operated or the purpose for which it is used.

■ Use the preview frame on the panorama image to set view restrictions.

1 Select the [Apply the view restriction] checkbox.



2 Drag to change the [Pan/tilt preview frame (red frame)], [Telephoto preview frame (yellow frame)], or [Wide-angle preview frame (green frame)] shown on the panorama screen to set view restrictions.

When the telephoto/wide-angle preview frames are enlarged/shrunk, the aspect ratio remains the same. At this time, you can also enter view restrictions by entering values in the view restriction setting entry boxes. If you have adjusted the view restriction settings, click [Display in panorama screen]. The settings are reflected in the preview frame of the panorama screen.

3 Click [Save settings].



Confirm that the settings have been applied correctly, and then click [Save settings] to save the settings in the camera.

■ Setting by Loading Position Information from Image in Image Display Area

1 Select the [Apply the view restriction] checkbox.

2 Click the [Obtain/release Camera Control] button to obtain the control privileges of the camera.

3 Operate the camera to adjust the top edge, bottom edge, left edge, right edge, telephoto, or wide angle to desired positions, and click [Get value] each time.

The loaded view restriction can be checked in the view restriction setting entry box or view restriction preview frame.

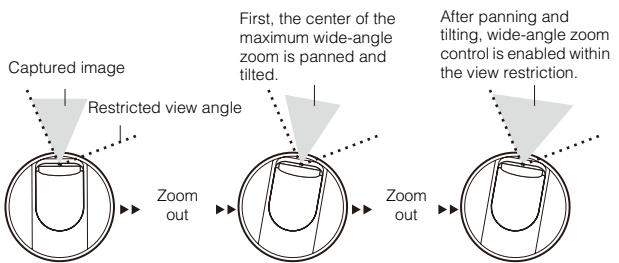


4 Click [Save settings].

The settings are saved in the camera.

Important

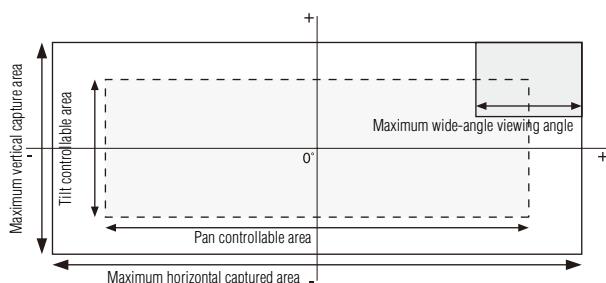
- If you have changed the camera mounting method, recapture the panorama image and register it again.
- The panorama screen may be slightly different from the actual image. After view restrictions have been set, be sure to confirm with the VB Viewer that the view restrictions have been reflected correctly.
- Confirm the settings using the VB Viewer. (View restrictions are not applied to the image display area of this tool, nor to the Admin Viewer.)
- If the image stabilizer or digital zoom setting has been changed, check the view restriction settings again.



- Reducing the view restriction may also reduce the zoom range.

Note

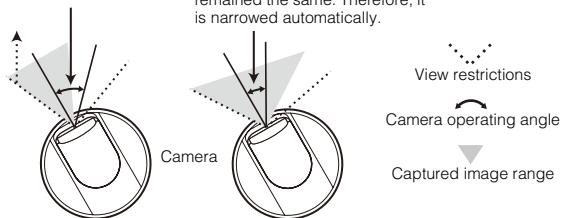
- Even when view restrictions are set, an area outside the view restriction may still appear momentarily when the camera is controlled near the boundary of the view restriction.
- To cancel the view restrictions, clear the [Apply the view restriction] checkbox and then click [Save settings].
- If the setting fields are cleared while the [Apply the view restriction] checkbox is selected, the maximum view restriction will be set.
- The controllable range and range that can be captured are as follows.



- The pan and tilt ranges vary depending on the zoom ratio (view angle).

Setting view restrictions automatically restricts the camera operating angle.

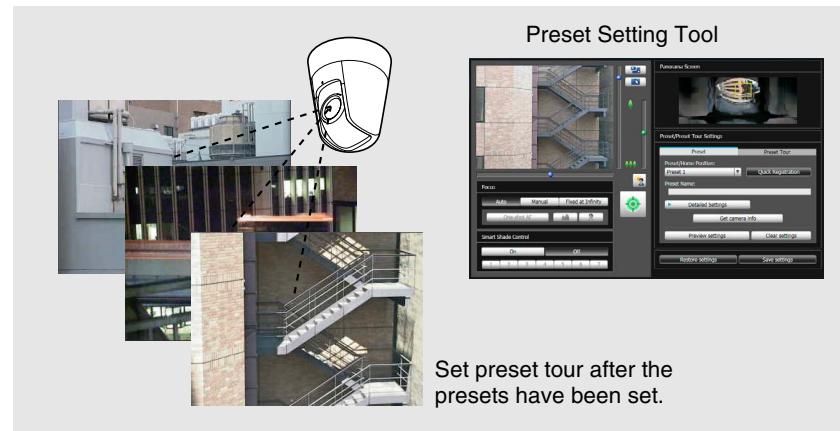
When wide-angle is selected, the capture of the camera operating angle would exceed the view restrictions if it remained the same. Therefore, it is narrowed automatically.



- If the view restriction will be exceeded as a result of controlling the zoom toward the wide-angle side, the camera will first pan and tilt to a position where the maximum wide-angle zoom will be within the viewing restriction area. Wide-angle zoom control will then be enabled within the view restriction area.

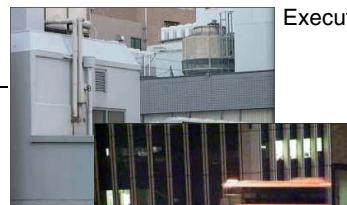
Preset Setting Tool

A tool that lets you set presets and the home position. You can make the desired settings with the mouse by referring to the preview in the panorama mode. You can also set “Preset Tour” whereby the camera tours and monitors multiple presets.



Set preset tour after the
presets have been set.

Reflecting in the viewer



Executing preset tour



Important

If you want to use intelligent functions, it is strongly recommended that you use the Preset Setting Tool to register a preset that corresponds to the camera position of the area where you want to use intelligent functions.

Display Screens of Preset Setting Tool

Preset Setting Tool has two display screens, the [Preset] tab and the [Preset Tour] tab.

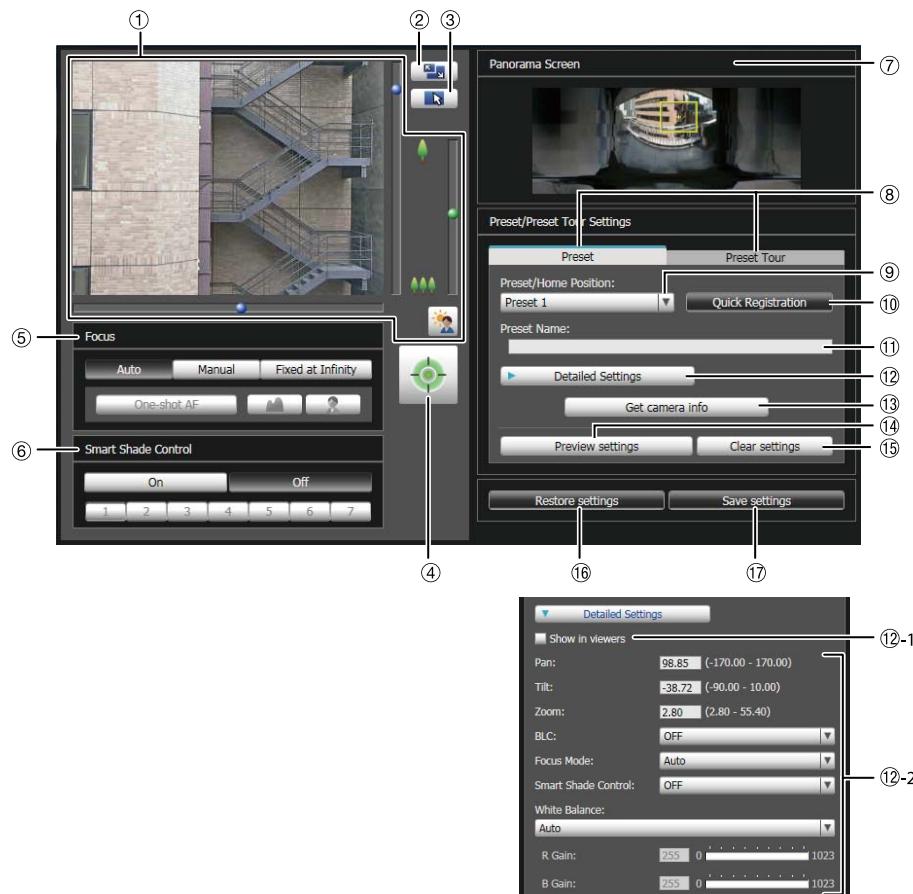
With the [Preset] tab, up to 20 presets and the home position are set while referring to the panorama screen.

With the [Preset Tour] tab, "Preset Tour" is set whereby the camera tours and monitors multiple presets.

The following explains the [Preset] tab display screen.

For the [Preset Tour] tab, see "Preset Tour" (P. 5-20).

■ [Preset] Tab Display Screen



① Image Display Area

The image currently captured by the camera is shown. Pan, tilt, and zoom operations are the same as in the VB-M40 Viewer. For details, see "How to Operate the Viewer" (P. 6-5).

② [Switch Screen Size] button

Each time this button is clicked, the screen size of the image display area switches between "320 x 240" and "640 x 480."

③ [Switch Mouse Operation] button

Click the button to switch to . In this mode, move the mouse pointer to the image display area and left-click to operate the pan and tilt. Click the button again to return to .

④ [Obtain/release Camera Control] button

This button is used to obtain/release the camera control privileges. For details, see "Obtaining Camera Control Privileges" (P. 6-6).

⑤ [Focus]

Focus can be operated if control privileges have been obtained. Focus operations are the same as in the VB-M40 Viewer. For details, see "Setting the Focus" (P. 6-13).

⑥ [Smart Shade Control]

Smart shade control can be operated if control privileges have been obtained. Smart shade control operations are the same as in the VB-M40 Viewer. For details, see "Setting the Smart Shade Control" (P. 6-12).

⑦ [Panorama Screen]

The panorama image registered in the camera is shown. A preset preview frame (yellow) reflecting the preset settings is shown, where you can drag to resize or move the frame and reflect the new frame in the preset settings. Also, if view restrictions are set, those areas are shown in a blue frame.

⑧ [Preset] tab, [Preset Tour] tab

Switch between the preset setting tab and preset tour setting tab.

⑨ [Preset/Home Position] selection box

Select the preset (from 1 to 20) or [home position] you want to set.

⑩ [Quick Registration]

Load the current camera position and the other detailed settings of ⑫, and register them as preset settings.

⑪ [Preset Name]

You can enter a preset name of up to 64 characters. You can set a name in alphanumeric characters. Be sure to enter a single-byte alphanumeric preset name. When the [Home Position] is selected in ⑨, the preset name function is grayed out.
In a [Preset Name], ASCII characters (spaces or printable characters) can be used.

⑫ [Detailed Settings]

Show the detailed settings.

⑫-1 [Show in viewers] checkbox

Select this checkbox to use presets in the viewer.
When the [Home Position] is selected in ⑨, this function is grayed out.

⑫-2 Camera Parameter

Enter the center angle of the desired angle in [Pan] and [Tilt]. In [Zoom], enter the view angle.

• Camera Angle

[Pan] Set the pan position of the camera.
[Tilt] Set the tilt position of the camera.
[Zoom] .. Set the viewing angle of the camera.

• [BLC] (Back Light Compensation)

Select [OFF] or [ON] for the BLC setting of the camera.

• [Focus Mode]

Select [Auto], [Manual], or [Fixed at infinity] for the focus mode of the camera. (P. 6-13)

• [Smart Shade Control]

Select [OFF] or a level from [1] (weak) to [7] (strong) for the smart shade control setting of the camera.

• [White Balance]

Set the white balance of the camera to [Auto] or according to the light source of the condition in which it is used. For details on light sources, see P. 4-10.

• [R Gain], [B Gain]

If white balance is set to [Manual], set the respective gains to a value between 0 and 1023.

⑬ [Get camera info]

Load the current camera angle, the ⑤ [Focus] settings, or ⑥ [Smart Shade Control] settings of the image display area, and reflect them in the panorama screen or camera parameter settings.

⑭ [Preview settings]

Use the camera parameter values that are being edited to adjust the camera angle, ⑤ [Focus], or ⑥ [Smart Shade Control], and preview them in the image display area.

⑮ [Clear settings]

Delete the settings for the preset selected.

⑯ [Restore settings]

Clear the settings you have specified on the screen of the tool and restore the settings saved in the camera.

⑰ [Save settings]

Save the edited preset settings in the camera.
If presets have been set, be sure to save the settings by clicking [Save settings].

Setting the Preset

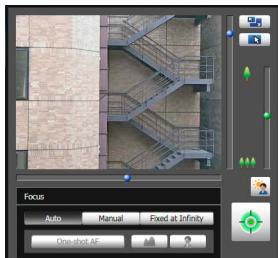
A preset can be set in one of the following two ways.

■ Setting from Camera Angle in the Image Display Area

- 1 Select the preset you want to set from the [Preset/Home Position] selection box, and then fill the [Preset Name] field.



- 2 Click the [Obtain/release Camera Control] button to obtain the control privileges of the camera.



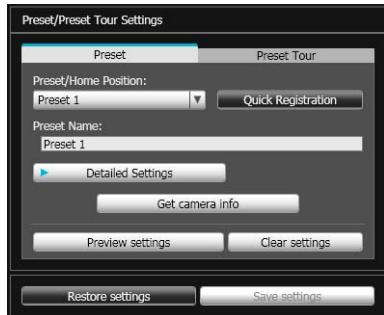
- 3 Operate the camera from the image display area, set it to the desired position and click [Quick Registration].

■ Use the preview frame of the panorama screen to set presets.

Use the preview frame of the panorama screen to set presets.

- 1 Select the preset you want to set from the [Preset/Home Position] selection box, and then fill the [Preset Name] field.

Be sure to enter the preset name.

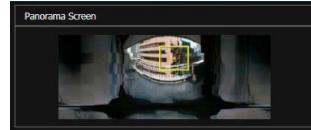


- 2 Drag to move or resize the preset preview frame shown on the panorama image to set the preset.

If you click on the panorama image, the preview frame will move to center on the clicked point.

- 3 Click [Preview settings].

The settings are reflected in the preview frame on the panorama screen and the image display area.



If you previewed incorrect settings, etc., and want to restore the settings registered in the camera, click [Restore settings].

- 4 Click [Save settings].

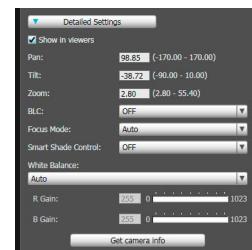
5

Admin Tools

■ Specifying Detailed Settings

If you want to fine-tune the camera angle or to adjust the image, etc., click [Detailed Settings] and specify the detailed settings before saving the preset settings in the camera.

- 1 Select the [Show in viewers] checkbox.



- 2 Click [Get camera info].

The camera parameters in the image display area are loaded to [Detailed Settings].

- 3 Fine-tune the camera angle and adjust the image quality with focus or smart shade control while checking the image.

- 4 Click [Preview settings].

The settings are reflected in the preview frame on the panorama screen and the image display area. If you previewed incorrect settings, etc., and want to restore the settings registered in the camera, click [Restore settings].

5 Click [Quick Registration].

Important

- To use presets in the viewer, select the [Show in viewers] checkbox.
- To apply the manual focus mode, manually adjust the focus while checking the actual image in the image display area. After the focus has been adjusted, set the focus using [Get camera info]. Click [Save settings] to save the focus settings.
- If the image stabilizer setting is changed after a preset has been set, the viewing angle during operation will no longer agree with the viewing angle at the time the preset was set (P. 4-11). Check the preset settings again if the image stabilizer setting is changed.
- If a dome housing is used, be sure to set presets with the dome installed.
- Set presets again if the camera mounting conditions have been changed.

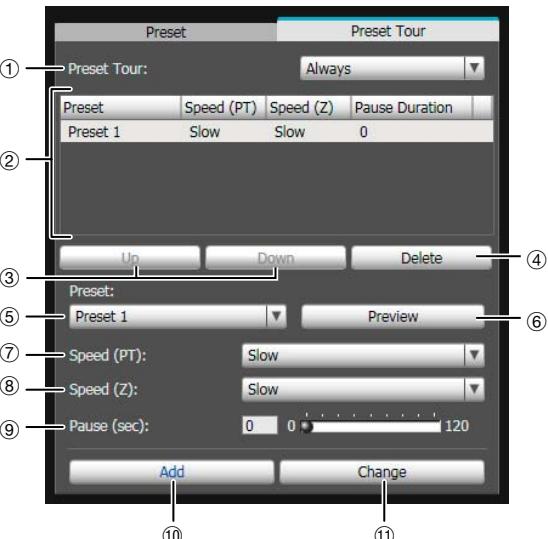
Note

- Up to 20 presets can be set.
- Changes to preset settings are not reflected in already connected viewers.
- You can disable presets in the viewer by clearing the [Show in viewers] checkbox under [Detailed settings].
- Preset positions cannot be set in the digital zoom area.

Preset Tour

Set a preset tour whereby the camera tours and monitors the multiple presets currently set.

■ [Preset Tour] Tab Display Screen



① [Preset Tour] selection box.

Select when you want to perform a preset tour from the following options.

[Not used]

Preset tour is not performed.

[For Viewers]

Preset tour is performed when a camera is connected via the VB Viewer, etc.

[Always]

Preset tour is always performed.

② Tour schedule list

A list of presets set for preset tour.

③ [Up] / [Down]

Select preset in the list and click [Up] or [Down] to change sequence of the tour schedule list. Presets tours are performed in order from the top of the list.

④ [Delete]

Delete the preset selected from the tour schedule list.

⑤ [Preset] selection box

Select the preset you want to add to the tour schedule list.

⑥ [Preview]

The camera angle switches to the selected preset, and the new angle can be checked in the image display area.

⑦ [Speed (PT)]

Select [Slow], [Normal], or [Fast] for the moving speed of the camera during panning/tilting.

⑧ [Speed (Z)]

Select [Slow] or [Fast] for the camera speed during zoom.

⑨ [Pause (sec)]

Set the time at which the camera stops at the preset position between 0 and 120 seconds in 5-second units.

⑩ [Add]

Add the preset to the tour schedule list.

⑪ [Change]

Change the speed or pause time between presets selected from the tour schedule list.

Note

- Preset tour is not performed while the camera is being controlled with viewers, Admin Tools, etc.
- Preset tour is not performed when control privileges are obtained by RM-Lite.

■ Setting the Preset Tour**1** Select the touring method from the [Preset Tour] selection box.

Select [For Viewers] or [Always].

**2** Select the preset number you want to add to the tour schedule from the [Preset] selection box, and then click [Add].

The preset is registered in the tour schedule list. Up to 20 presets can be registered.

**3** Select a preset in the tour schedule list and set the pan, tilt, and zoom speeds using [Speed (PT)], [Speed (Z)], and [Pause (sec)], as well as the time in seconds during which the camera remains stationary at the preset position. Then, click [Change].

When [Preview] is clicked, the camera angle switches to this preset, and the new angle can be checked in the image display area.

When you want to delete changes made to the tour schedule list and restore the settings registered in the camera, click [Restore settings].

4 Click [Save settings].

When you complete setting the tour schedule list, click [Save settings]. The settings are saved in the camera.

Important

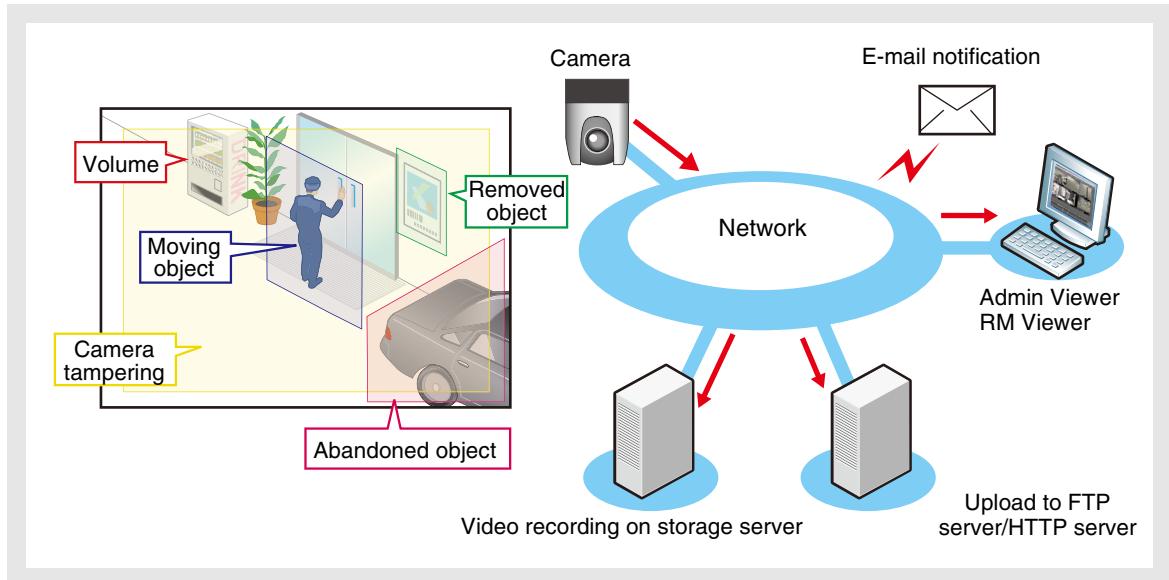
If preset tour is used, do not use the intelligent function. Also note that when [Auto] is set under [Day/Night], the pause time may lengthen as counting starts only after the pan, tilt, and zoom are in focus.

Note

The home position cannot be added to the tour schedule list.

Intelligent Function Setting Tool

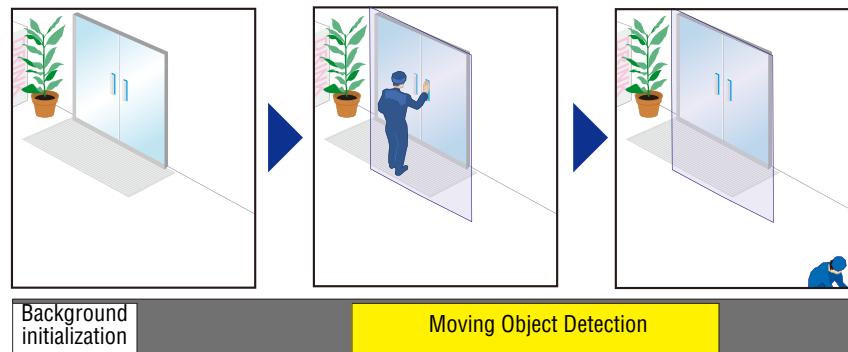
This tool is used to set intelligent function that perform uploads, notify the viewer, audio playback, etc., if a change has occurred in the captured image due to movement of a subject.



The intelligent functions can perform the following 5 types of detection. Use detection types that best serve your needs.

Moving Object Detection

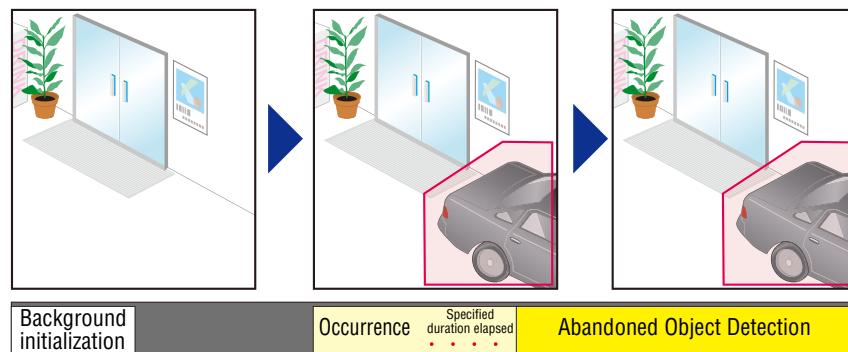
Detect moving objects. This function can be used to detect visitors or suspicious individuals. Moving object detection is triggered when moving objects are inside the detection area.



Abandoned Object Detection

Detect objects that are carried in and abandoned for a certain amount of time. This function can be used to detect objects that have been left.

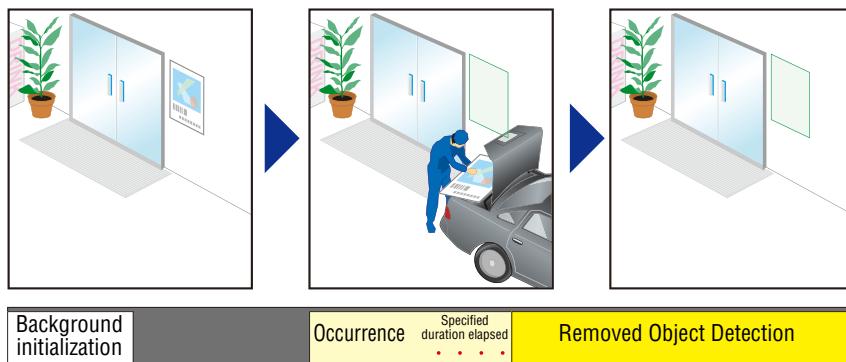
Abandoned object detection is triggered when an object is left behind in the detection area for a specified duration.



Removed Object Detection

Detect objects that are being removed. This function can be used to detect actions such as taking away valuables.

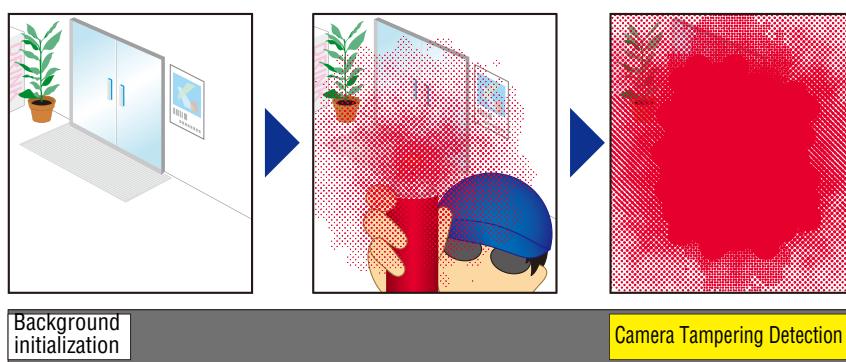
Removed object detection is triggered when an object is removed from the detection area for a specified duration.



Camera Tampering Detection

Detect when the capture is being obstructed. This function can be used to detect when the camera orientation is changed or image display is obstructed with spray, etc.

Camera tampering detection is triggered when an area exceeding the set area is continuously altered by an object, etc.



Volume Detection

Detect specified volume levels.

For setting details, see "Chapter 4 Setting Page" > [Event] > [Volume Detection] (P. 4-20).

Caution

Notes on Use of This Camera

The intelligent functions are not suitable for applications where high reliability is required. If utmost and constant reliability is required for surveillance, it is not recommended that you use this function. Canon shall assume no liability for any accident, loss or other undesirable outcomes resulting from intelligent function operations.

Display Screen of Intelligent Function Setting Tool



① Image Display Area

The image currently captured by the camera is shown. Detection areas are shown in translucently colored frames (rectangle or polygonal). Drag to resize the frames. Also, subjects for which movement has been detected are shown with a contour line.

Pan, tilt, and zoom operations are the same as in the VB-M40 Viewer. For details, see "How to Operate the Viewer" (P. 6-5).

However, when the ⑨ [Lock camera position] checkbox is selected, the camera is fixed at a preset position and cannot perform pan, tilt, and zoom operations.

② [Switch Screen Size] button

Each time this button is clicked, the screen size of the image display area switches between "320 x 240" and "640 x 480."

③ [Switch Mouse Operation] button

Each time this button is clicked, the screen switches between and , and the mouse operation in the image display area changes.

When the button is set to , detection areas can be created/resized/moved.

While in this mode, the camera orientation will not change.

When the button is set to and the ⑨ [Lock camera position] checkbox is not selected, pan, tilt, and zoom operations can be performed.

④ [Obtain/release Camera Control] button

This button is used to obtain/release camera control privileges. For details, see "Obtaining Camera Control Privileges" (P. 6-6). If camera control privileges have not yet been obtained elsewhere, such as in the Admin Viewer, the control privileges will be obtained the moment the Intelligent Function Setting Tool is launched.

⑤ [Focus]

If control privileges have been obtained and the ⑨ [Lock camera position] checkbox is not selected, focus can be operated. Focus operations are the same as in the Admin Viewer. For details, see "Setting the Focus" (P. 6-13).

⑥ [Smart Shade Control]

If control privileges have been obtained and the ⑨ [Lock camera position] checkbox is not selected, smart shade control can be operated. Smart shade control operations are the same as in the Admin Viewer. For details, see "Setting the Smart Shade Control" (P. 6-12).

⑦ [Display Options]

Select the [Detection Area] or [Detection Results] you want to show in the image display area from the following items.

- **[Selected Detection Settings Only]**

Show only the detection areas or detection results for detection settings selected in the detection setting list.

- **[All Detection Settings]**

Show the detection areas or detection results for all detection settings in the detection setting list.

- **[Detection Settings of the Same Type]**

Show the detection areas or detection results for the same type of detection settings as those selected in the detection setting list.

- **[Do not Display]**

No detection areas or detection results are shown.

⑧ [Restart intelligent function]

If the background image has changed while you were specifying settings or detection results are not as set, etc., click this button to restart intelligent function.

 **Important**

It takes several ten seconds for intelligent function to restart.
No detection is performed while restarting.

⑨ [Lock camera position] checkbox

Select this checkbox to move the camera position to a preset position selected from the preset selection box and lock it there. Lock the camera position when specifying detection settings to obtain a correct detection result.

If camera control privileges are not obtained, this function is grayed out.

⑩ Camera position selection box

Select the camera position from the view restriction presets or the home position. Use the Preset Setting Tool to set presets or the home position (P. 5-16).

⑪ [Detection Setting List]

A list with the specified detection settings is shown.

⑫ [Add]

The [New Detection Settings] dialog box is shown and detection settings can be added.

⑬ [Delete]

Delete detection settings selected from the detection setting list.

⑭ [Detection Setting Number], [Detection Type]

The detection setting numbers and detection types selected from the [Detection Setting List] are shown.

⑮ [Enable these detection settings] checkbox

Select this checkbox to enable the detection settings that are selected in the detection setting list.

⑯ [Detection Criteria] tab, [Event] tab

Switch between the Detection Criteria and Event tabs.

- **[Detection Criteria]**

Specify detection setting name, detection area, and detection criteria (P. 5-27).

- **[Event]**

Specify operations to be performed when events occur (P. 5-27).

⑰ [Restore settings]

Clear the settings you have specified on the screen of the tool and restore the settings saved in the camera.

⑱ [Save settings]

Save the edited detection settings in the camera. After the detection settings have been specified, be sure to save the settings in the camera by clicking [Save settings].

Flow of Intelligent Function Setting

The intelligent functions are set according to the procedure below. For details on the setting method, see each setting page.

1 Register the camera angle as a preset using the Preset Setting Tool.

For details on the preset setting method, see “Preset Setting Tool” (P. 5-16).

Important

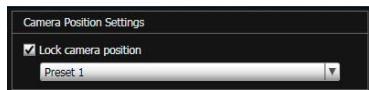
It is strongly recommended that you preset the camera angle in advance and lock the camera at a preset position with the Intelligent Function Setting Tool. An angle of view that captures the target object up close is also recommended.

2 Launch the Intelligent Function Setting Tool.

3 Set the camera position.

Obtain camera control privileges and select [Lock camera position] before selecting a preset.

Set presets in advance using Preset Setting Tool (P. 5-16).



4 Add detection settings.

When you click [Add] in the [Detection Setting List], the [New Detection Settings] dialog box is displayed. Set the [Detection Setting Number] and [Detection Type] of the detection setting you want to add, and then click [OK].

Up to 15 different detection settings can be registered.



① [Detection Setting Number]

Specify a detection setting number from 1 to 15 for the detection area you want to set.

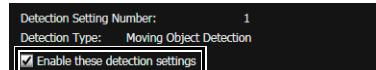
② [Detection Type]

Select detection types that suit your purpose from [Moving Object Detection], [Abandoned Object Detection], [Removed Object Detection], or [Camera Tampering Detection]. For details on detection types, see P. 5-22.

5 Enable Detection Settings.

To enable detection settings, select [Enable these detection settings].

Clear this checkbox to disable a setting.



6 Set detection criteria ([Detection Criteria] tab (P. 5-27)).

Set detection criteria while operating the camera and checking the image in the image display area.

7 Set operations to be performed when a change in a subject is detected ([Event] tab (P. 5-27)).

Set e-mail notification, upload, and audio playback to be performed upon detection.

8 Save the detection settings in the camera.

Click [Save settings] to save the settings in the camera.

9 Check the detection result.

You can check the detection status of the specified detection settings in the event display panel of the Admin Viewer (P. 6-15).

Important

Notes on intelligent function settings and operation

- When setting intelligent function, do an actual detection test to confirm that detection will be performed correctly.
- If the camera is operated during intelligent function setting or operation, [Restarting intelligent function. Please wait.] is shown and intelligent function will restart. Detection will not be performed while intelligent function is restarting.
- If [Auto] is used in [Day/Night] settings, automatic switching between [Day Mode] and [Night Mode] will restart intelligent function.
- Set intelligent function again if the angle of view is changed through camera operation, or the camera position of a preset or home position is changed using Preset Setting Tool.
- Do not set detection areas in areas in the On-screen Display area.
- Movements of subjects are not detected in privacy mask areas.

Difficult-to-detect Subjects

- Objects or portions where there is little contrast in color or brightness with the background may not be detected.
- Small objects and changes on the screen may not be detected.
- Partial or entire changes in light on screen may trigger detection.
- If multiple objects overlap, detection status may change.
- In Camera Tampering Detection, if the image is continuously moving, detection may not be triggered, even if the entire image display is obstructed.

Setting Intelligent Function Detection Settings

■ Setting Detection Criteria ([Detection Criteria] tab)

Set detection criteria while operating the camera and checking the image in the image display area.

[Detection Criteria] tab

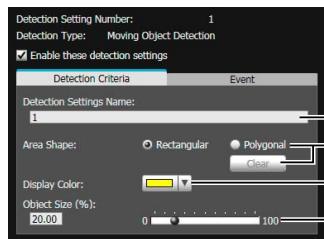
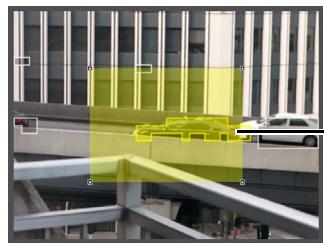


Image Display Area



Detection Area

① [Detection Setting Name]

You can use up to 64 characters in a detection setting name. Be sure to enter a single-byte alphanumeric detection setting name.

In a [Detection Setting Name], ASCII characters (spaces or printable characters) can be used.

② [Area Shape]

Select [Rectangular] or [Polygonal] for the shape of detection areas you want to set in the image display area.

For details on detection area setting operations, see "Setting Detection Areas" (P. 5-28).

[Clear]

If the [Area shape] is [Polygonal], the detection area set in the image display area is deleted.

③ [Display Color]

Choose the color of the detection setting. The color selected here becomes the display color of the detection area in the image display area.

④ [Object Size (%)], [Change Ratio (%)], [Duration (Sec)]

Set the lower limit for the size, change ratio, and judgment time for the set detection area to trigger detection. If the value set here is exceeded, "Detected" mode is triggered.

Click the text box to enter a value directly, or specify a value using the slider.

For details on the setting method, see "Setting Detection Criteria per Detection Type" (P. 5-28).

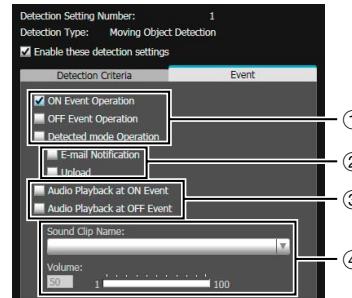
Important

- It is recommended that the detection criteria be set in a condition as close as possible to the condition in which the camera is actually used.

■ Setting Event Operations ([Event] tab)

Set operations to be performed upon detection of changes in a subject.

[Event] tab



① Specify the operation timing. (Multiple checkboxes can be selected.)

[ON Event Operation] checkbox

When selected, the operations set in ② [E-mail Notification] and [Upload] are performed the moment detected mode is triggered to ON.

[OFF Event Operation] checkbox

When selected, the operations set in ② [E-mail Notification] and [Upload] are performed the moment detected mode is triggered to OFF.

[Detected mode Operation] checkbox

When selected, the operations set in ② [E-mail Notification] and [Upload] are performed for as long as detected mode is active.

② Specify the event operation. (Multiple checkboxes can be selected.)

[E-mail Notification] checkbox

When selected, e-mail notification is performed at the timing set in ①. [E-mail Notification] must be set in advance under [Upload] in the Setting page (P. 4-17).

[Upload] checkbox

When selected, upload is performed at the timing set in ①. General upload must be set in advance under [Upload] in the Setting page (P. 4-15).

③ Specify the audio playback timing.

[Audio Playback at ON Event] checkbox

When selected, the sound set in ④ [Sound Clip Name] is played at the moment detected mode is triggered to ON.

[Audio Playback at OFF Event] checkbox

When selected, the sound set in ④ [Sound Clip Name] is played at the moment detected mode is turned OFF.

④ Set the playback sound.

[Sound Clip Name]

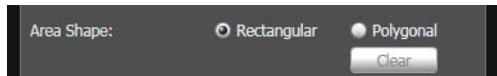
Select the sound that is to be played. The sound clip name set for [Sound Clip Upload] under [Event] in the Setting page is shown in the pull-down list (P. 4-22).

[Volume]

Set the audio playback volume in the range of 1 to 100.

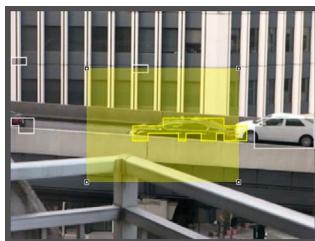
■ Setting Detection Areas

Set detection areas in the image display area.



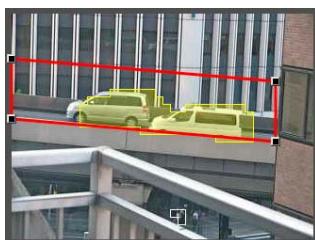
Setting a [Rectangular] as detection area

By default, a rectangle is shown in the image display area. Move or resize that rectangle to set a detection area.



Setting a [Polygonal] as a detection area

Specify polygonal areas with a maximum of 32 angles. Click in the image display area to form the polygon point by point. Click again at the first point to complete the polygon and set it as a detection area. The set area can also be moved by dragging it.



Note

- Drag the "■" at each angle to change the shape of the polygon.
- Click [Clear] to delete the polygonal detection area.

Changing a [Rectangular] detection area into a [Polygonal] shape or changing a [Polygonal] detection area into a [Rectangular] shape

Changing the shape of already set detection areas deletes that area and switches to a new drawing setting.

■ Setting Detection Criteria per Detection Type

Specify different detection criteria for each detection type.

Detect criteria for [Moving Object Detection]

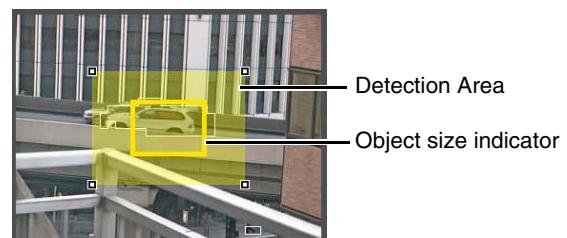
Set areas where you want to detect moving objects as detection areas.



For [Object Size (%)], enter a value or move the slider to set the ratio of the size of an object moving in the detection area to the size of the detection area.

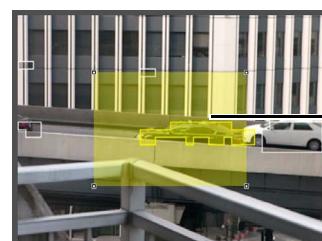
When the ratio of an area where the camera has detected a moving object exceeds the value set for [Object Size (%)], detected mode is triggered to ON.

When [Object Size (%)] is changed, an indicator frame showing the size of the object is displayed for 1 second in the center of the image display area, allowing specification of the settings while checking the size ratio.



Any moving objects detected are shown with contour lines.

If a moving object is smaller than [Object Size (%)], its contour lines are white. If the moving object is larger than [Object Size (%)], its contour lines take on the same color as the detection area, indicating that "detection" mode has been triggered to ON.



Contour lines of a detected moving object

Detect criteria for [Abandoned Object Detection]

Set areas where you want to detect abandoned objects as detection areas.



[Object size (%)]

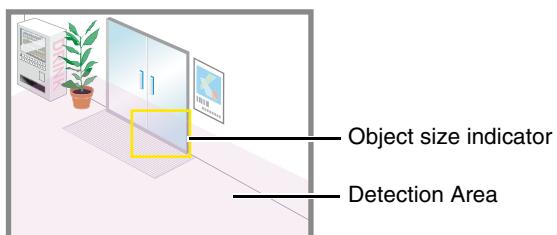
Enter a value or move the slider to set the ratio of the size of an object that was left behind in the detection area to the size of the detection area.

When [Object Size (%)] is changed, an indicator frame showing the size of the object is displayed for 1 second in the center of the image display area, allowing specification of the settings while checking the size ratio.

[Duration (Sec)]

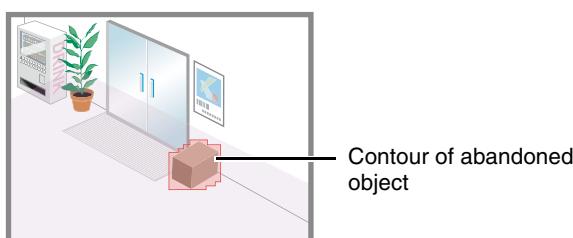
Set the time that must elapse after an object has been left behind.

If both the values for [Object Size (%)] and [Duration (Sec)] are exceeded, detection mode is triggered to ON.



Any moving objects detected are shown with contour lines.

If [Object Size (%)] and [Duration (Sec)] are not exceeded, contour lines are white. When all detection criteria are met, contour lines take on the same color as the detection area and "detected" mode is triggered to ON.

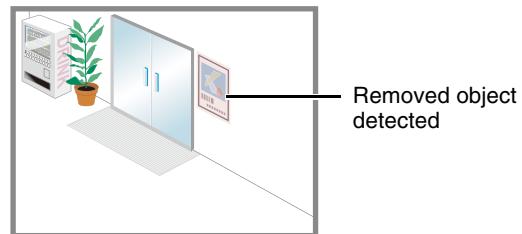


Detect criteria for [Removed Object Detection]

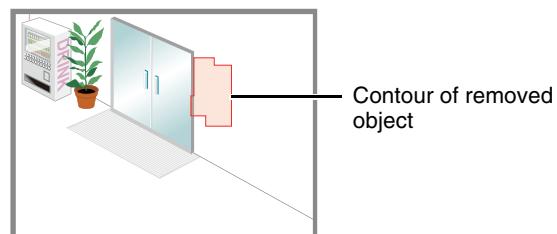
Set detection areas for objects whose removal you want to detect.



For [Duration (Sec)], set the time that must elapse after the object has been taken away. Detected mode will be triggered to ON when an object is taken away from the detection area for a period longer than the set [Duration (Sec)].



Any moving objects detected are shown with contour lines. As long as [Duration (Sec)] has not elapsed, contour lines are white. When [Duration (Sec)] has elapsed, contour lines take on the same color as the detection area, indicating that "detected" mode has been triggered to ON.



Important

Set detection areas for removed object detection so that they precisely match the contours of the object in question. Influence from the target object's shadow or adjacent objects may result in the target object being recognized as larger than actual and will not trigger Removed Object Detection. In such cases, reconfigure the detection area to outline the recognized target object.

Detect criteria for [Camera Tampering Detection]

For [Camera Tampering Detection], the entire image display area becomes the detection area. "Detected" mode will be triggered to ON when the image is obstructed for an area exceeding the ratio set [Change Ratio (%)].

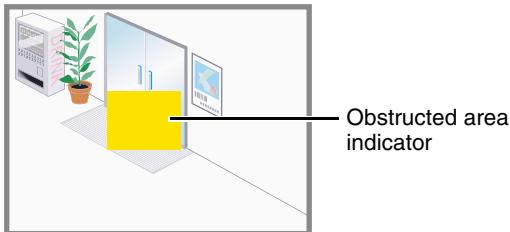


Important

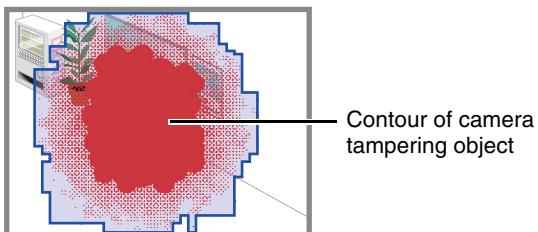
The following operations may interfere with [Camera Tampering Detection]. When setting camera tampering detection functions, do not perform the following operations:

- Reduce the detection area to smaller than the default factory setting
- Reduce [Change Ratio (%)] to smaller than the default factory setting

When [Change Ratio (%)] is changed, an indicator frame showing the obstructed area is displayed for 1 second in the center of the image display area, allowing specification of the settings while checking the ratio that the image display area occupies.



Any moving objects detected are shown with contour lines. If it is smaller than [Change Ratio (%)], contour lines are white. If the image is changed for an area larger than [Change Ratio (%)], contour lines take on the same color as the detection area, indicating that "detected" mode has been triggered to ON.



Note

Right-click on the Intelligent Function Setting Tool display screen to display the menu. There, the following functions can be used.

[Copy detection area]

Copy the detection area of the detection setting selected.

[Paste detection area]

Paste the copied detection area to the detection setting selected.

[Clear detection area]

Clear the detection area of the detection setting selected.

[Copy detection criteria settings]

Copy the detect criteria of the detection setting selected.

[Paste detection criteria settings]

Paste the copied detect criteria to the detection setting selected.

[Copy event settings]

Copy the event operations of the detection setting selected.

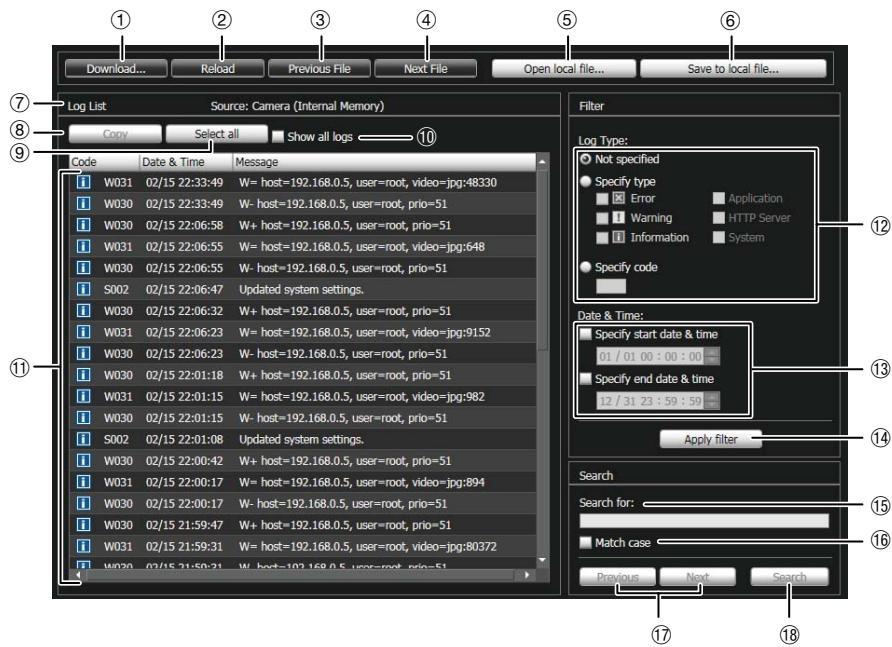
[Paste event settings]

Paste the copied event operations to the detection setting selected.

Log Viewer

This tool lets you view the operating condition log of the camera.

■ Display Screens of Log Viewer



① [Download]

Download log files from this camera or SD memory cards.

② [Reload]

Reload the displayed log file and show the latest logs.

③ [Previous File]

If there are multiple log files in the camera's internal memory or SD memory card, load and display the file before the currently shown log list.

④ [Next File]

If there are multiple log files in the internal memory or SD memory card, load and display the file after the currently shown log list.

⑤ [Open local file]

Load log files that are saved on a PC to the log display area.

⑥ [Save to local file]

Save the displayed log data as a text file to a PC.

⑦ Source

The name of the source from where log files are loaded is shown.

From the camera's internal memory:

Camera (Internal memory)

From an SD memory card: Camera (SD card)

From files saved to a PC: File name

⑧ [Copy]

Copy logs that you have selected on the log display area to the clipboard.

⑨ [Select all]

Select all the logs that are shown in the log display area.

⑩ [Show all logs] checkbox

When selected, all logs, including those without a log code, are shown.

⑪ Log display area

The content of log files downloaded from the camera, SD memory card, or PC is shown.

⑫ [Log Type]

Select log types you want to show using the filter function.

[Not specified]:

Select to show all log types.

[Specify type]:

To specify the log type, select the level ([Error], [Warning], [Information]) and output module ([Application], [HTTP Server], [System]) of the log. Multiple checkboxes can be selected.

[Specify code]:

Logs matching the log code entered are shown.

⑬ [Date & Time]

Set the date and time of the log you want to show using the filter function.

Select the [Specify start date & time] or [Specify end date & time] checkbox to set the date and time.

⑭ [Apply filter]

Show the filtered logs in the log display area.

⑮ [Search for]

Enter the character string for which you want to search.

⑯ [Match case] checkbox

Specify whether or not to enable case sensitivity in search commands. When selected, character strings perfectly matching the case in the [Search for] field are searched.

⑰ [Previous]/[Next]

Click [Next] to move down and [Previous] to move up in the search results for ⑯ [Search].

⑱ [Search]

Search logs containing the character string searched in the displayed log list and display them.

Note

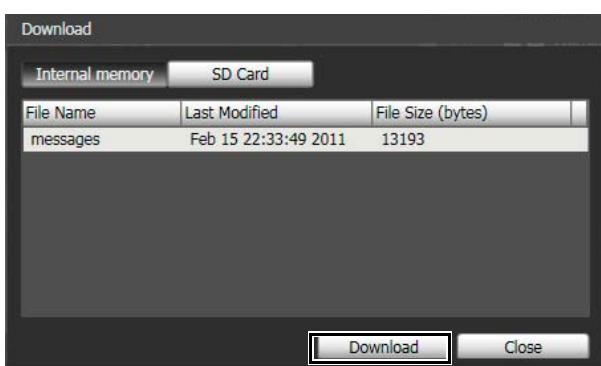
Log Viewer only has a log viewing function and logs cannot be deleted.

Downloading Log Files

When Log Viewer is launched, the latest log files will be downloaded and displayed automatically.

To download a new log file list, click [Download]. A [Download] dialog box is shown where you can select [Internal memory] or [SD card] as a download source.

When the list has been downloaded, a dialog box showing the log file list opens. Select the log file you want to view and click [Download], and the selected log file will be downloaded.



How to View Logs

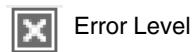
The log contains the following information.

• Code

For the log code, see "List of Log Messages" (P. 7-8).

The log code is shown together with one of three icons corresponding to the applicable level.

If the log has no log code, no icon is shown.



Error Level



Warning Level



Information Level

• Date & Time

The date and time at which the log was generated.

• Message

A message regarding the log.

■ Saving a Log to a File/Opening a Saved Log

You can save the displayed log and view previously saved log files.

How to Save

Click [Save to local file] and save using the [Save as] dialog box.

How to View

Click [Open local file] and select a log file using the [Open file] dialog box.

■ Copying/Searching Logs

You can copy the displayed log to the clipboard or search logs.

How to Copy

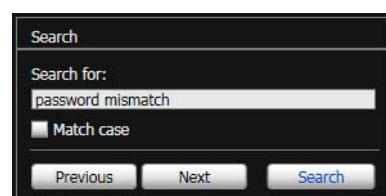
Click to select the log you want to copy, and then click [Copy].

How to Search

Enter the character string for which you want to search in [Search for] and click [Search].

If the searched log is found, it is shown as selected.

Click [Previous] or [Next] to search the log above or below. Lines of logs found are shown as selected.



■ Showing All Logs

Select the [Show all logs] checkbox.

When selected, even logs without a log code are shown if [Not specified] is selected for the log type [Filter].



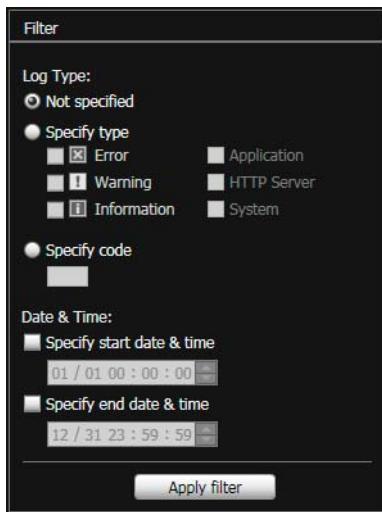
Important

Logs saved in the camera's internal memory are cleared when you perform [Maintenance] > [Restore Settings] and [Reboot], or press the reset switch on the camera.

■ Showing Filtered Logs

You can filter logs by type, code and date & time to show only the necessary information.

Set the following conditions and click [Apply filter] to show only the logs matching the specified conditions.



[Log Type]

Select the [Specify type] or [Specify code] checkbox to filter logs by type. If you don't want to filter logs by type, select [Not specified].

• Specify type

Specify the log level

Select [Error], [Warning] or [Information] for the level of logs to be shown.

Specify log output module

Select [Application], [HTTP Server] or [System] for the output source module whose logs will be displayed.

• Specify code

Specify the log code. Only logs whose code contains the entered characters are shown. If "A0" is entered, for example, logs starting with "A0" are displayed.

[Date & Time]

• [Specify start date & time]

When this check box is selected and a date and time are entered, logs generated on or after the specified date and time are shown.

• [Specify end date & time]

When this check box is selected and a date and time are entered, logs generated on or before the specified date and time are shown.



Note

[Application], [HTTP Server], and [System] support the log message list (P. 7-8).

Chapter 6

Admin Viewer/VB Viewer

- ❑ Differences between the Admin Viewer and the VB Viewer
- ❑ User Authorities and Camera Control Privileges
- ❑ Viewer Startup and Operation
- ❑ Camera Control and Obtaining Camera Control Privileges
- ❑ Admin Viewer Operation and Settings

Overview of Viewer

The camera comes loaded with a viewer. Accessing this viewer via a web browser allows you to display images and operate the camera via pan, tilt and zoom controls, etc.

Two types of viewer are available, the Admin Viewer and the VB Viewer.



Important

Use the RM-Lite Viewer to display H.264 video from the camera.

Only JPEG images can be displayed using the VB-M40 viewer.

VB Viewer:

Users with camera control authority can use this viewer. You can set the applicable options to enable/disable authentication or limit pan, tilt and zoom controls, etc. of the camera.

Major Differences Between the Admin Viewer and the VB Viewer

• The operable ranges differ between the viewers.

Admin Viewer:

In addition to displaying images from the camera, you can use the basic camera controls such as pan, tilt and zoom operations as well as administrative control functions such as focus, exposure, white balance and event display.

VB Viewer:

This viewer is limited to basic camera controls such as displaying images from the camera and pan, tilt and zoom operations.

• Accessible controls are different.

Admin Viewer:

Users with privileged camera control can use this viewer.

Password authentication is required.

Authorized users must have privileged camera control assigned by the Administrator beforehand (P. 4-23).

User Authorities and Camera Control Privileges

User authorities and their relative camera control privileges are specified as follows.

User Authority	Camera Control Privileges		Image Distribution	Audio Distribution
	Privileged Camera Control	Camera Control		
Administrator	○	○	○	○
Authorized user	○ (Can be changed)	○ (Can be changed)	○ (Can be changed)	○ (Can be changed)
Guest user	×	○ (Can be changed)	○ (Can be changed)	○ (Can be changed)

* Changing: The Administrator can change the privileges of Authorized Users and Guest Users (P. 4-23).

The four authorities that can be set for users are privileged camera control, camera control, image distribution and audio distribution.

Users must have privileged camera control to use the Admin Viewer.

Users must have the image distribution authority to display images using the VB Viewer. To operate the camera using the VB Viewer, users must also have camera control authority.

Audio distribution authority is required to receive audio using the Admin Viewer and the VB Viewer.

[Administrator]

This user is given all authorities. The user name is fixed to "root".

The Administrator can launch the Admin Viewer from the [Admin Viewer] link on the top page.

[Authorized User]

Authorized users can launch the Admin Viewer from the [Admin Viewer] link on the top page if they have privileged camera control. Authorized users can no longer launch the Admin Viewer upon losing privileged camera control. However, they can still launch the VB Viewer. Launching the VB Viewer can be prohibited by disabling all authorities of a given authorized user (P. 4-23).

[Guest User]

This user can only perform pan, tilt and zoom controls with the camera, backlight compensation, snapshots, image display and audio distribution.

Guest users can launch the VB Viewer from the [VB Viewer] link on the top page. The Administrator can completely prohibit all camera access from guest users by disabling all their authorities.



Important

- At any time, the [Administrator] can launch the Admin Viewer to override the camera control privileges of another instance of the Admin Viewer launched by an [Authorized User]. The Administrator can retain the camera control privileges, but doing so prevents authorized users from obtaining camera control privileges. After viewing the necessary information, the Administrator should always close the viewer or click [Obtain/release Camera Control] to release the control privileges.
- The Admin Viewer launched by the [Administrator] can access only one camera at a time. While administrator authorities are used to access the camera from a given PC, access with administrator authorities from other PCs will not be granted. In contrast, the camera can be accessed simultaneously by multiple instances of the Admin Viewer launched by [Authorized Users] from different PCs. Take note, however, that when controlling the camera, the control privileges are given to the user who accessed the camera most recently.



Note

- The factory default setting gives privileged camera control to [Authorized User] as well.
- If all guest user authorities are disabled, the user authentication dialog box will appear when the VB Viewer is launched. When an authorized user or administrator name and password are entered, the VB Viewer can be used with authorized user or administrator authorities, respectively.
- List of Authorized User Authorities
The authorities of authorized users are assigned as follows.

List of Authorized User Authorities

Provided controls	Viewer	Operations
Privileged Camera Control Camera Control Image Distribution Audio Distribution	Admin Viewer	All operations possible in the Admin Viewer [Details] Camera PTZ ¹ speed/operation, backlight compensation On/Off switch, snapshots, image display size change, image capture size change, audio button operation, reconnect button operation, full screen mode, smart shade control, focus, exposure, white balance, night mode, external device output control, event display, panorama display, and preset selection.
		All operations possible in the VB Viewer [Details] PTZ operations of the camera, backlight compensation On/Off switch, snapshots, image display size change, image capture size change, audio button operation, reconnect button operation, panorama display, and preset selection.
Camera Control Image Distribution Audio Distribution	VB Viewer	All operations possible in the VB Viewer [Details] PTZ operations of the camera, backlight compensation On/Off switch, snapshots, image display size change, image capture size change, audio button operation, reconnect button operation, panorama display, and preset selection.
Image Distribution Audio Distribution	VB Viewer	Image display size change, image capture size change, audio button operation, reconnect button operation, and panorama display.
Image Distribution ²	VB Viewer	Image display size change, image capture size change, reconnect button operation, and panorama display.

*1 PTZ: Pan, tilt and zoom functions.

*2 If image distribution authority is disabled, users can no longer use the VB Viewer.

Launching the Viewer

Launching the Viewer

Viewer operations can be performed via a web browser. First, access the top page of the camera.

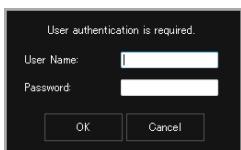
Important

- The Canon Inc. Certificate must be registered on a PC that is using the Admin Viewer. Refer to "Certificate Registration" in "Chapter 3 Top Page of the Camera" (P. 3-4) to register the certificate included in the Setup CD-ROM.
- This Operation Guide explains relevant operations based on the IP address "192.168.100.1" (factory default setting). You must enter the actual IP address set for the camera when following instructions.

- 1 Access "http://192.168.100.1/" via the web browser.
- 2 Click [Admin Viewer] or [VB Viewer] according to the user.



- 3 For [Admin Viewer], enter the user name and password.



Refer to "User Authentication" in "Chapter 3 Top Page of the Camera" for information on the user name and password.

The viewer is launched.



Shutting Down the Viewer

Close the web browser in the viewer to shut down.

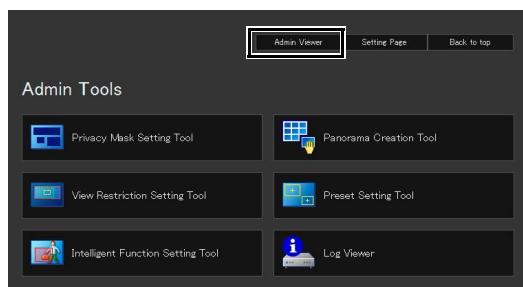
Connecting from Admin Tools

Only the administrator can connect to this viewer.

- 1 Launch Admin Tools.

(Refer to "Chapter 5 Admin Tools" (P. 5-4) for information on opening Admin Tools.)

- 2 Click [Admin Viewer].



How to Operate the Viewer

Display Screens of Admin Viewer

The following gives an overview of the functions of buttons, boxes and other screen elements displayed in the Admin Viewer.

The following screen shows the Admin Viewer with all panels opened. In reality, you can open only the panels you need in the web browser and scroll vertically or horizontally.



- ① **Image Display Area**
Displays images received from the camera.
- ② **Video Size**
Set the size of video received from the camera.
- ③ **Video Display Size**
Set the display size of the image shown on the screen.
- ④ **[Full Screen Mode] button**
Live images are shown in full screen mode.
- ⑤ **[Reconnect] button**
The camera is reconnected.
- ⑥ **[Audio Reception] button**
Audio from the camera is received and output.

- ⑦ **Control Privilege Status Indicator**
Whether or not the current client has camera control privileges is shown in this area.
- ⑧ **[Obtain/release Camera Control] button**
This button is used to obtain/release the camera control privileges.
- ⑨ **Slider for tilt**
This slider is used to control the tilt (vertical movement) of the camera.
- ⑩ **Slider for pan**
This slider is used to control the pan (horizontal movement) of the camera.
- ⑪ **Slider for zoom**
This slider is used to control the zoom ratio.
You can zoom in (telephoto) by moving the knob upwards or zoom out (wide-angle) by moving the knob downwards.
- ⑫ **[BLC] button**
This button turns on/off backlight compensation. This control is effective when the image is dark due to backlight.
- ⑬ **[Get a Snapshot] button**
A still image from the moment of clicking is displayed in a new window.
- ⑭ **[Panorama Display] button**
The panorama display panel is displayed.
- ⑮ **[Event Display] button**
The event display panel is displayed.
- ⑯ **Information Field**
Information messages, warning messages and error messages are shown to the user.
- ⑰ **[Setting Page]**
The screen switches to the Settings Menu page.
- ⑱ **[Back to top]**
The screen switches to the top page of the camera.
- ⑲ **[Pan/Tilt/Zoom]**
Control the camera's pan, tilt and zoom operations.
You can also alter the operation speed.
- ⑳ **[Smart Shade Control]**
You can change the smart shade control level.
- ㉑ **[Focus]**
You can control the focus.
- ㉒ **[Exposure]**
You can control the exposure.
- ㉓ **[White Balance]**
You can control the white balance.

②⁹ [Night Mode]

You can switch between day mode and night mode.

⑩ [External Device Output]

Control the output to an external device.

⑪ Panorama Display Panel

This panel is displayed upon clicking the [Panorama Display] button.

⑫ Panorama Display Area

Displays panorama images registered in the camera. You can operate the camera by controlling the frame lines within the panorama display area.

⑬ Preset selection box

You can control the camera with presets registered in the camera beforehand.

⑭ Event Display Panel

This panel is displayed upon clicking the [Event Display] button.

The panel shows the input status of external devices and the status of image and volume detection by intelligent functions.

⑮ [Audio Reception] button

Audio from the camera is received and output.

⑯ Control Privilege Status Indicator

Whether or not the current client has camera control privileges is shown in this area.

⑰ [Obtain/release Camera Control] button

This button is used to obtain the camera control privileges.

⑲ Slider for tilt

This slider is used to control the tilt (vertical movement) of the camera.

⑳ Slider for pan

This slider is used to control the pan (horizontal movement) of the camera.

㉑ Slider for zoom

This slider is used to control the zoom ratio.

You can zoom in (telephoto) by moving the knob upwards or zoom out (wide-angle) by moving the knob downwards.

㉒ [BLC] button

This button turns on/off backlight compensation. This control is effective when the image is dark due to backlight.

㉓ [Get a Snapshot] button

A still image from the moment of clicking is displayed in a new window.

㉔ [Panorama Display] button

The panorama display panel is displayed.

㉕ Information Field

Information messages, warning messages and error messages are shown to the user.

㉖ Panorama Display Panel

This panel is displayed upon clicking the [Panorama Display] button.

㉗ Panorama Display Area

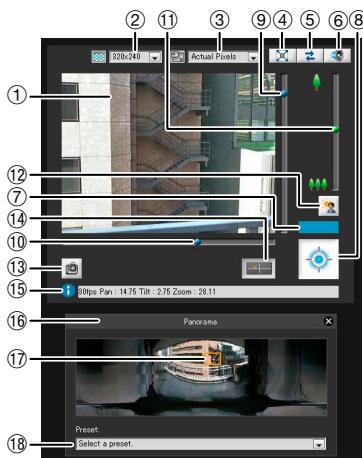
Displays panorama images registered in the camera. You can operate the camera by controlling the frame lines within the panorama display area.

㉘ Preset selection box

You can control the camera with presets registered in the camera beforehand.

VB Viewer

The following explains an overview of the functions of buttons, boxes and other screen elements displayed when the VB Viewer is launched.



① Image Display Area

Displays images received from the camera.

② Video Size

Set the size of video received from the camera.

③ Video Display Size

Set the display size of the image shown on the screen.

④ [Full Screen Mode] button

Live images are shown in full screen mode.

⑤ [Reconnect] button

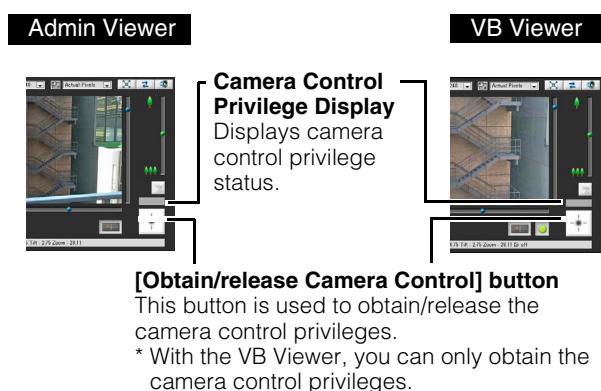
The camera is reconnected.

Obtaining Camera Control Privileges

The camera cannot be controlled by multiple users simultaneously. Only the user with control privileges can control the camera. To perform cameral controls such as pan, tilt or zoom operations, implement backlight compensation or make presets, you must obtain control privileges first.

How to Operate

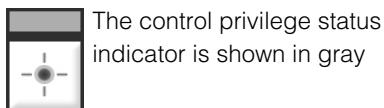
Click the [Obtain/release Camera Control] button to obtain the control privileges.



■ Camera Control Privilege Status Indicator

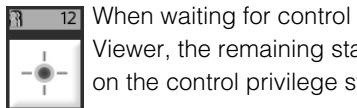
Display of the camera control buttons and camera control status indicator changes according to the status of control privileges shown as follows.

Control privileges not assigned



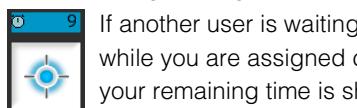
The control privilege status indicator is shown in gray

Waiting for control privileges



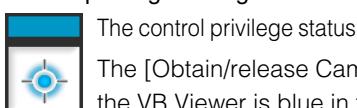
When waiting for control privileges in the VB Viewer, the remaining standby time is shown on the control privilege status indicator.

Control privileges assigned (restricted time counting down)



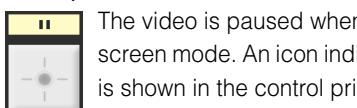
If another user is waiting for control privileges while you are assigned control privileges, your remaining time is shown on the control privilege status indicator.

Control privileges assigned



The control privilege status indicator is shown in blue. The [Obtain/release Camera Control] button in the VB Viewer is blue in the center. The [Obtain/release Camera Control] button in the Admin Viewer is yellow green in the center.

Video paused



The video is paused when the viewer is in full screen mode. An icon indicating the paused status is shown in the control privilege status indicator.

Controlling the Camera

This is a guide to the basic operations of the camera. These operations can be carried out in both the Admin Viewer and the VB Viewer.

Obtain camera control privileges before carrying out the following operations.

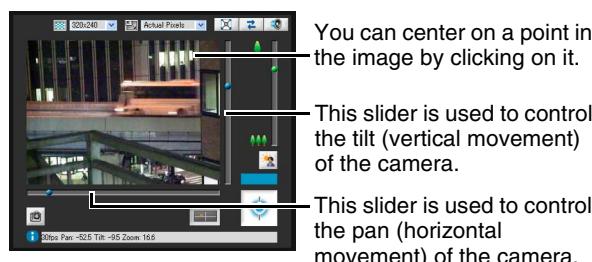
■ Changing the Camera Angle

You can change the angle by doing one of the following:

Use the pan and tilt sliders.

The camera angle will change according to the knob position on the sliders. The knob can also be moved by clicking on an empty part of the slider.

Click on the image



Note

In the Admin Viewer, you can also control the pan and tilt with the camera control button (P. 6-12).

■ Change the Camera Angle in the Panorama Display Area

1 Click the [Panorama Display] button.

2 Change the camera angle in the panorama display area.



The frame lines within the display area show the image currently being captured by the camera.

Blue frame lines mean that you do not have camera control privileges.

Yellow frame lines mean that you have camera control privileges.

Move by clicking

Clicking a point in the panorama window moves the pan and tilt to center on that point.

Move by dragging

Dragging the yellow frame lines in the panorama window moves the pan and tilt to capture that area.

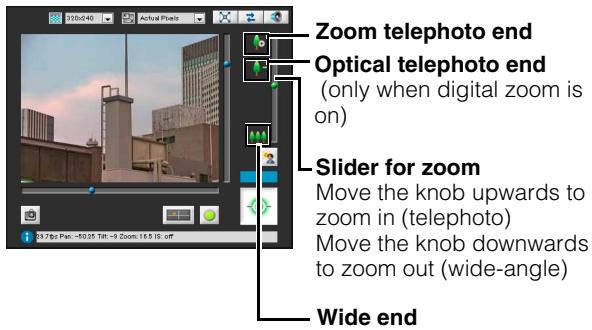
Note

- Operations carried out by clicking on the image will not be precise.
- Users operating the camera in the Admin Viewer with the administrator authorities can control the camera outside the view restrictions.
Users operating the camera in the Admin Viewer with the authorized user authorities can control the camera only within the view restrictions.
- Users operating the camera in the VB Viewer can control the camera within the view restrictions.

■ Changing the Camera Zoom Ratio

Move the knob on the slider up or down to zoom in or out

The camera zoom ratio will change according to the knob position on the slider. The knob can also be moved by clicking on an empty part of the slider.



Note

- If [Digital Zoom] is set to [Enable] in [Camera] on the Setting page, the icon for the optical telephoto end is displayed. (P. 4-11).
- In the Admin Viewer, you can also control the zoom with the Camera Control button (P. 6-12).

■ Change the Zoom Ratio in the Panorama Display Area.

- Click the [Panorama Display] button.

- Change the zoom ratio in the panorama display area displayed.



You can change the zoom ratio by dragging the yellow frame lines in the panorama window and changing the size of the frame. The zoom ratio will adjust to capture the area in the changed frame.

Note

Clicking outside the yellow frame lines and dragging will create blue frame lines. When you release the mouse button, the blue lines will turn yellow and the camera will change the pan, tilt and zoom in order to capture that area.

■ Using the Preset

You can control the camera using presets registered in the camera beforehand (P. 5-16).

- Click the [Panorama Display] button.

- Click the preset selection box and select a preset from the displayed list.



- Go to the selected preset camera angle .

Note

Register presets beforehand using the Preset Setting Tool (P. 5-19). Registered presets will appear in the preset selection box.

■ Compensating Backlight

This control is effective when the image is dark due to backlight.

Clicking [BLC] brightens images that are dark due to backlight.

Clicking the button again cancels backlight compensation.

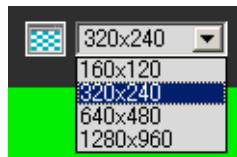


Setting Video and Audio



■ Changing the Image Size

You can set a desired image size for video received from the camera. Select from [160x120], [320x240], [640x480] or [1280x960].

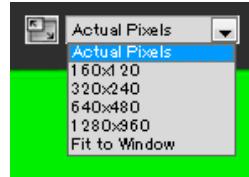


■ Changing the Display Screen Size

You can change the display screen size. Select from [Actual Pixels], [160x120], [320x240], [640x480], [1280x960] or [Fit to Window].

[Actual Pixels] displays the video at the size at which it is being captured.

[Fit to Window] displays the video at the maximum size possible in the web browser window.



Note

- When the VB Viewer is launched, the image size set for the camera is applied.

When the Admin Viewer is launched for the first time, the camera settings are applied, but from the second time settings from the previous time are used.

- When the viewer is launched, the display screen size opens at [Actual Pixels].

■ Displaying in Full Screen Mode

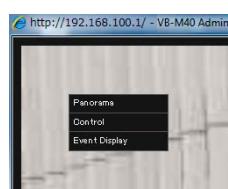
You can show images over the entire display. Clicking this button will open a new window to show video in full screen mode.



To close the full screen display window, click the close button of the window.

You can display the necessary panels for controlling the camera in the full screen mode. Right-click on the screen and select the necessary panel from the menu that appears.

Admin Viewer



VB Viewer



[Panorama] Displays the panorama display panel.

[Control] Displays the camera control panel.

[Event Display] Displays the event display panel (Admin Viewer only).

You can move any panel by clicking the title bar and dragging it to the desired position.



■ Reconnect

This function is used to connect the camera again.



To reconnect the camera, click this button.

■ Note

If you reconnect, audio reception will stop and camera control privileges will be lost.

In the VB Viewer, the video size and display screen size will also return to the default settings.

■ Receiving Audio

You can receive audio through the microphone attached to the camera.



Click this button to receive audio.

Select the appropriate volume on the volume panel that appears.



■ Important

- Audio reception functions cannot be used during IPv6 connection.
- Audio cannot be received if you are using a proxy server.
- Audio reception functions cannot be used when connected via SSL encrypted communications.

■ Note

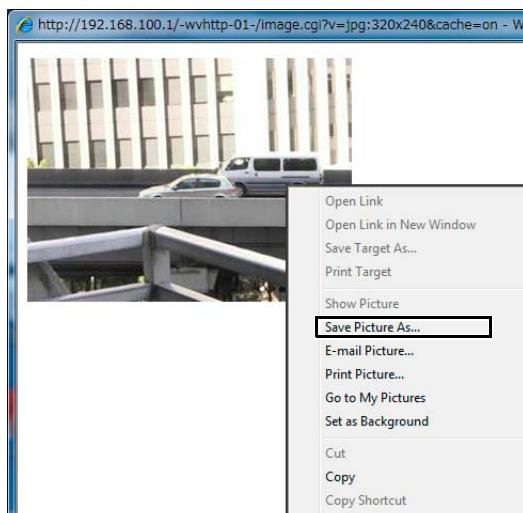
- To receive audio, go to [Audio Server] in [Server] beforehand and set [Audio Transmission from the Camera] to [Enable] (P. 4-18).
- Closing the volume panel will end the audio reception.
- The first time the volume panel is launched, a message to install the add-on "Canon Network Camera Audio Receiver" will be displayed in the information bar of the web browser. Install the add-on.



A new window will open showing a still image from the moment you clicked it.

To save a still image, right-click on it and select [Save Picture As] from the menu that appears.

Enter the file name desired and save the image.



You can select other convenient functions from the display menu.

Displaying Information

Viewer information, warning messages, etc., are shown.



■ Information Message



An information message is indicated by a blue icon.

An information message appears when a camera operation has been successful.

Help messages on various buttons, pull-down lists, etc., and pan, tilt and zoom information, frame rate, image stabilizer and other information from the camera are shown.

■ Warning Message



A warning message is indicated by a yellow icon.

A message will display notifying the user when camera control privileges cannot be obtained, audio reception stops, etc.

■ Error Message



An error message is indicated by an orange icon.

Displayed when a system error occurs in the viewer.

Important

If the image stabilizer function is turned on in the settings page (P. 4-11), the actual viewing angle of the image will be smaller than the viewing angle displayed in the information field (For On1: approx. 83%; for On2: approx. 50%).

Also, the viewing angle of image display becomes smaller than the angle (frame) displayed in the panorama display area.

Note

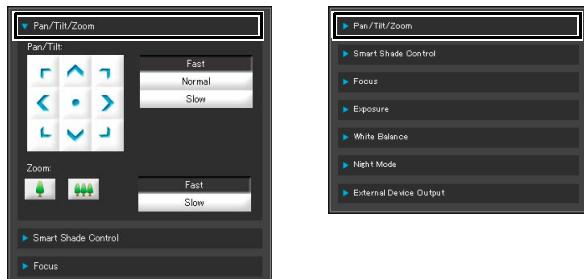
For details on the above messages, see "List of Viewer Messages" (P. 7-20).

Performing Operations and Settings as the Administrator

The operations and settings that can be performed only in the Admin Viewer are explained.

Opening/Closing Control Items

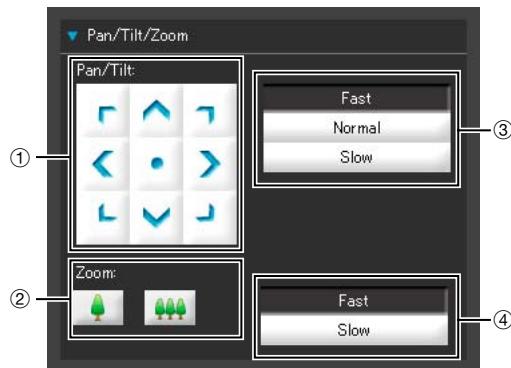
Clicking the title of a control item will open or close it.



You can open the various control items even without obtaining camera control privileges, but the items will be grayed out.

Performing Operations and Settings

Click the camera control buttons to set the pan, tilt and zoom operations as well as the speed.



① [Pan/Tilt] button

Move pan and tilt in the direction of the arrows. Operation will continue as long as you are holding down the button and will stop when you release it. Clicking the center button will make the camera face straight forwards.

② [Zoom] button

Zooms in or out. Operation will continue as long as you are holding down the button and will stop when you release it.

③ [Pan/Tilt] Speed

Select a speed from [Fast], [Normal] and [Slow].

④ [Zoom] Speed

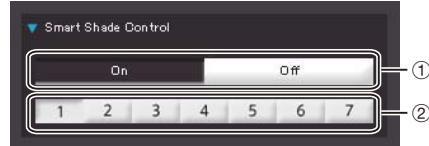
Set the speed to [Fast] or [Slow].

Note

Changing the [Pan/Tilt] speed or [Zoom] speed will not change the speed of the slider, or of the pan, tilt or zoom in panorama.

Setting the Smart Shade Control

The smart shade control function differs from backlight compensation in that only dark areas are brightened while bright areas are kept intact.



① [Smart Shade Control]

Set to [OFF] or [ON].

② Adjusting the Smart Shade Control

When smart shade control is [On], set one of the 7 levels from [1] (weak) to [7] (strong).

Example: If the background is bright and the subject is hard to see, this function brightens dark areas to make the subject clearer.

In comparison to backlight compensation, smart shade control can reduce blown-out of bright areas.



Note

- When [On] is selected for smart shade control, the image file size increases.

- When [On] is selected for smart shade control, screen noise may increase. If noise is noticeable, lower the control level.

Setting the Focus

Select [Auto], [Manual] or [Fixed at Infinity] for focus setting.



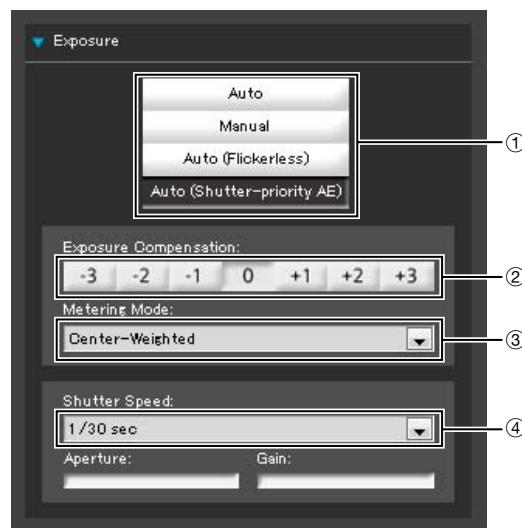
- [Auto]: Automatically focuses on the the subject.
- [Manual]: You can adjust the focus manually by pushing the (far) and (near) buttons. Clicking [One-shot AF] will use autofocus to focus on a subject and then stop in manual focus.
- [Fixed at Infinity]: You can set the focus so that it is fixed near infinity.

Important

- Changes to focus mode in the Admin Viewer will not be reflected in the settings on the setting page.
- Note that if you set the focus manually it will remain fixed.
- If you set it in the Admin Viewer, the same focus mode will occur in the viewers of other users also.
- Setting the shutter speed at 1/1 to 1/4 in manual exposure (P. 6-13) will disable the [Auto] and [One-shot AF] focus modes in camera control. Switch the focus to [Manual] and adjust it to your subject.
- Refer to the notes on P. 4-10 for focus ranges when Night Mode (P. 4-11, P. 6-15) is enabled.

Setting the Exposure

You can set various options relating to exposure operation.



① Exposure Mode

Select from [Auto], [Manual], [Auto (Flickerless)] or [Auto (Shutter-priority AE)].

If [Auto] is selected for [Day/Night] under [Camera] on the Setting page (P. 4-11), select [Auto], [Auto (Flickerless)] or [Auto (Shutter-priority AE)].

For an explanation on each item set in the exposure mode, see the setting page (P. 4-9).

② [Exposure Compensation]

When [Auto], [Auto (Flickerless)] or [Auto (Shutter-priority AE)] is selected for the exposure mode, the exposure compensation value desired can be selected from seven levels (-3 to +3) using the applicable button. To darken the image, select a negative value. To brighten the image, select a positive value.

③ [Metering Mode]

When [Auto], [Auto (Flickerless)] or [Auto (Shutter-priority AE)] is selected for the exposure mode, the metering mode can be selected from [Center-Weighted], [Average] or [Spot].

[Center-Weighted]

The entire screen is metered by focusing on the center of the screen.

Even when slightly darker/brighter areas are present on the periphery of the screen, an appropriate exposure can be achieved for the subject near the center.

Use this mode if the subject is positioned near the center of the screen.

[Average]

The entire screen is metered by averaging. A stable exposure can be achieved even in a capture environment where there are notable brightness differences within the screen. Use this mode to stabilize the exposure in locations where vehicles or people are moving.

[Spot]

The center of the screen is metered. An appropriate exposure can be achieved for the subject at the center of the screen regardless of the brightness/darkness on the periphery of the screen. Use this mode if you want to adjust the exposure to the center of the screen because the subject is receiving a spotlight or backlight, etc.

④ [Shutter Speed]

When [Manual] or [Auto (Shutter-priority AE)] is selected for the exposure mode, select the shutter speed desired. If [Manual] is selected, set the shutter speed in the range of [1/1 sec.] to [1/8000 sec.] from a pull-down menu. If [Auto (Shutter-priority AE)] is selected, set the shutter speed in the range of [1/8 sec.] to [1/8000 sec.] from a pull-down menu.



⑤ [Aperture]

If [Manual] is selected for the exposure mode, set a desired aperture value. Moving the slider to the left closes the aperture and darkens the image. Moving the slider to the right opens the aperture and brightens the image.

⑥ [Gain]

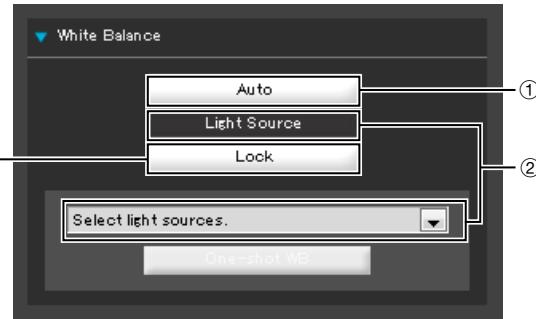
If [Manual] is selected for the exposure mode, set a desired gain value. Moving the slider to the left decreases the gain (sensitivity to brightness) and darkens the image. Moving the slider to the right increases the gain and brightens the image.

Important

If the subject is a traffic signal or electronic scoreboard, etc., the captured image may flicker. In this case, try changing the exposure mode to [Auto (Shutter-priority AE)] and then select a shutter speed lower than 1/100, to see if the situation improves.

Setting White Balance

Select [Auto], [Light Source] or [Lock] for white balance.



① [Auto]

The white balance is adjusted automatically.

② [Light Source]

Select the light source from the pull-down menu below according to the condition in which the camera is used.

[Daylight Fluorescent]: Select this option to capture video under daylight fluorescent lighting.

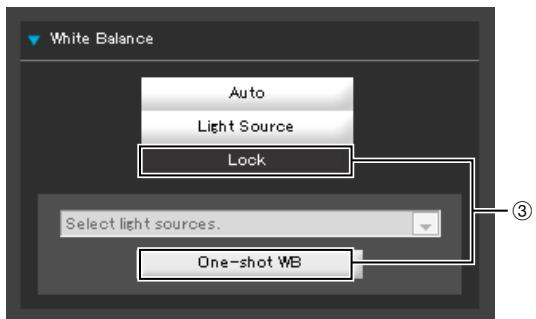
[White Fluorescent]: Select this option to capture video under white fluorescent lighting.

[Warm Fluorescent]: Select this option to capture video under warm fluorescent lighting.

[Mercury Lamp]: Select this option to capture video under mercury lamps.

[Sodium Lamp]: Select this option to capture video under orange sodium lamps.

[Halogen Lamp]: Select this option to capture video under halogen bulbs or incandescent bulbs.



③ [Lock]

The white balance is fixed to that of the video currently received.

To forcibly fix the white balance according to the light source, use [One-shot WB].

Example of Setting Method:

Irradiate a white subject (white paper, etc.) using the light source and capture the subject over the entire screen. In this condition, select [One-shot WB].

Important

- Since the light source selection options are based on representative characteristics, proper colors may not be achieved depending on the applicable light source. In this case, use the [One-shot WB] function.
- If the subject looks greenish under mercury lamps in the [Auto] mode, select the [Mercury Lamp] mode under light source. If the image is still not shown in appropriate colors under mercury lamps when the [Mercury Lamp] mode is selected under light source, use the [Auto] mode.
- Notes on capturing video continuously day and night: If a subject that seldom changes is captured in a location where the light source changes gradually, such as when capturing a subject continuously day and night, the image may not be shown in appropriate colors. In this case, adjusting the image captured via operations such as pan, tilt and zoom will correct this problem.
- When the subject has only one color or when sodium lamps, mercury lamps and certain other fluorescent lightings are used, camera colors may not be adjusted automatically.
- When the [Night Mode] is set to [Night Mode] (including when it is set to [Auto] and night mode is judged to be applicable), the white balance function cannot be used.

Setting the Night Mode

Switch between [Day Mode] and [Night Mode].



Note

The Night Mode cannot be used if [Auto] is set for day/night under [Camera] on the Setting page (P. 4-11).

[Day Mode]

Color image can be viewed in the normal mode.

[Night Mode]

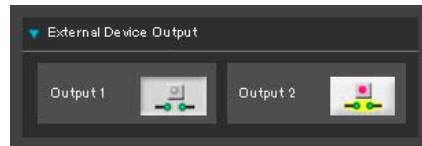
Images are shown in black and white, due to the disabling of the infrared cut filter.

Note

Refer to the notes on P. 4-10 for focus ranges when the [Night Mode] is enabled (P. 4-11, P. 6-15).

Operating the External Device Output

You can operate the external device output and display the current output status using an icon. The [ON]/[OFF] status can be switched by clicking this icon.



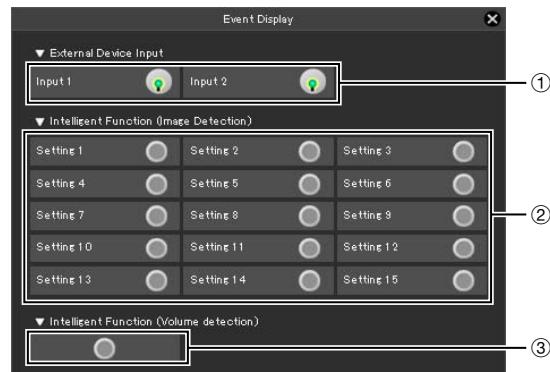
Example:

Output1: Output OFF

Output2: Output ON

Displaying Event Status

Clicking the [Event Display] button will show the event display panel, which shows the input status of external devices, as well as the status of image and volume detection by the intelligent function.



① [External Device Input]

When a contact input signal is received from an external device, input will be turned ON and an icon will be displayed.



Example:

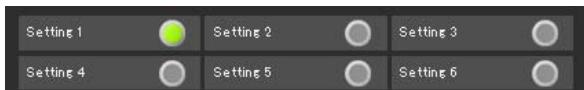
Input1: input OFF

Input2: input ON

② [Intelligent Function (Image Detection)]

The status of intelligent function (image detection) will be displayed. When the detection settings configured in intelligent functions (Moving Object Detection, Abandoned Object Detection, Removed Object Detection or Camera Tampering Detection) enter Detected mode, the corresponding icon will turn green (P. 5-27).

If names are entered in [Detection Setting Name] in Intelligent Function Setting Tools (P. 5-27), [Setting 1] to [Setting 15] will be displayed with the corresponding name.



Example:

Setting 1: Image Detection status ON

Other settings: Image Detection status OFF

Note

The icon signifying Detection mode will be displayed for a maximum of five minutes (except for Moving Object Detection).

③ [Intelligent Function (Volume detection)]

The volume detection status is displayed. When sound that meets the criteria selected under [Event] > [Volume Detection] in the Setting Menu is detected, the icon turns green.



Example:

Volume Detection status ON

Chapter 7

Appendix

- SD Memory Card Access
- Modifiers
- Troubleshooting
- List of Log Messages
- List of Viewer Messages
- Restore Settings
- List of Factory Default Settings
- Index

SD Memory Card Access

You can set the camera so that the following data is saved automatically to the camera's SD memory card. ("Chapter 4 Settings Page", "[Memory Card] SD Memory Card Operations and Settings" (P. 4-30).

- JPEG images stored when HTTP or FTP upload failed during network errors
- Log

Here is an explanation of how to access the data saved on the SD memory card.

■ Access to the SD Memory Card

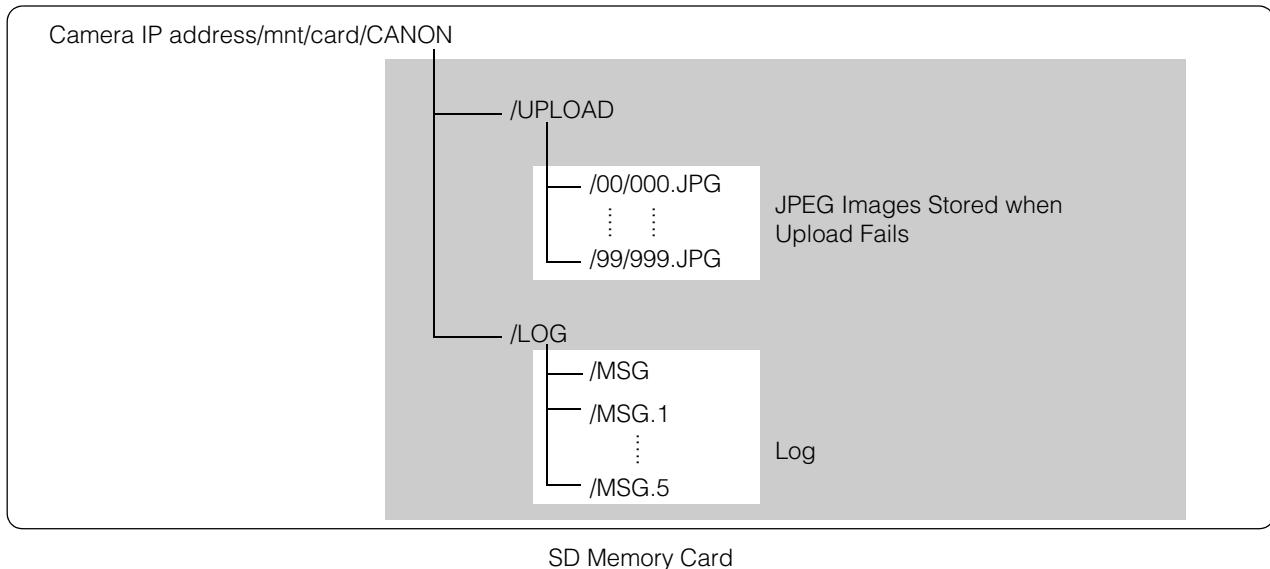
Use FTP software (not bundled) to access the camera's IP address.

FTP Software Settings

Address: Camera IP address (factory default setting: 192.168.100.1)
User ID: Administrator user ID (factory default setting: root)
Password: Administrator password (factory default setting: camera)

■ SD Memory Card Directory Configuration

The SD memory card is mounted as the directory name "CANON" under "/mnt/card" in the camera's internal memory. Subdirectories are created as follows.



■ JPEG Images Stored when Upload Fails

JPEG images that have failed to upload are saved under the file names “000.JPG” to “999.JPG” in subdirectories “00” to “99,” which are created under “camera IP address/mnt/card/CANON/UPLOAD.”

Use FTP software to download them to a PC. You can delete JPEG images no longer needed.

■ Log Files

Log files are saved in “Camera’s IP address/mnt/card/CANON/LOG” with the file names “MSG” and “MSG.1” to “MSG.5”. “MSG” is the latest log.

Log files can be downloaded to a PC using FTP software, but you can use the Log Viewer in Admin Tools as a simple way to view and download log files.

Important

Canon will assume no liability for any accident or damage resulting from use of FTP software.

Modifiers

According to the setting item, you can specify parameters using modifier “% characters.”

Modifiers	Meaning	Description of character string entered
%n	Reason for capture (number)	0 (test) 1 (External device input 1) 2 (External device input 2) 33 (Timer event) 145 (Volume detection) 161 (Intelligent Function Detection Setting 1) 162 (Intelligent Function Detection Setting 2) 163 (Intelligent Function Detection Setting 3) 164 (Intelligent Function Detection Setting 4) 165 (Intelligent Function Detection Setting 5) 166 (Intelligent Function Detection Setting 6) 167 (Intelligent Function Detection Setting 7) 168 (Intelligent Function Detection Setting 8) 169 (Intelligent Function Detection Setting 9) 170 (Intelligent Function Detection Setting 10) 171 (Intelligent Function Detection Setting 11) 172 (Intelligent Function Detection Setting 12) 173 (Intelligent Function Detection Setting 13) 174 (Intelligent Function Detection Setting 14) 175 (Intelligent Function Detection Setting 15)
%N	Reason for capture (character string)	<External input device name (alphanumeric characters)> <Intelligent Function Detection Setting (1 - 15)> NULL (external input device name (alphanumeric characters) not yet set/volume detection/timer event or test)
%X	Width of image	Number of pixels in horizontal direction
%Y	Height of image	Number of pixels in vertical direction
%C	Camera number	1
%D	Camera name	Setting for [Camera Name (alphanumeric characters)]
%P	Pan position	-179.99 – 180.00
%T	Tilt position	-179.99 – 180.00
%Z	Zoom position	0.01 to 300.00
%V	Camera server	VB-M40
%y	Year of capture time	2001 to 2037
%m	Month of capture time	01 – 12
%d	Day of capture time	01 – 31
%w	Day of week of capture time	0 – 6 (Sunday to Saturday)
%H	Hours of capture time	00 – 23
%M	Minutes of capture time	00 – 59
%S	Seconds of capture time	00 – 59
%s	Milliseconds of capture time	000 – 999
%z	Time zone of capture time	-1200 – +1300
%a	Weekday name of capture time	Sun Mon Tue Wed Thu Fri Sat
%b	Month name of capture time	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
%h	Host Name	

*A runtime error will occur if the specified name does not match.

*If this modifier is not defined, “%” will be deleted.

■ Available Modifiers

The modifiers that can be used for each setting item are specified below.

[HTTP Upload] (P. 4-15)

[Parameter (query string)]

All modifiers can be used.

[FTP Upload] (P. 4-16)

[Subdirectory Name to Create]

Only the modifiers %y,%m,%d,%w,%H,%h,%n can be used.

[File Name to Create]

Only the modifiers %y,%m,%d,%w,%H,%M,%S,%s,%n can be used.

[E-mail Notification] (P. 4-17)

[Message Body]

All modifiers can be used.

Troubleshooting

Before contacting the dealer where you purchased the product or Canon's Customer Service Center, check the items specified as follows. If a log message is displayed, check the details of the message and corresponding countermeasure in the log message list.

Problem	Countermeasures
The camera does not start	<ul style="list-style-type: none">• If you are using a PoE HUB, check if the LAN cable is connected correctly.• If you are using an AC adapter (optional), check if the AC adapter is connected correctly.• Turn the camera off and on again (see "Connecting the camera" in the "Installation Guide").
VB Initial Setting Tool does not operate	<ul style="list-style-type: none">• Check if the LAN cable is connected correctly.• Turn the camera off and on again (see "Connecting the Camera" in the "Installation Guide"). The camera no longer responds to the VB Initialization Tool 20 minutes after being turned on.• Check if the camera and the PC in which the VB Initial Setting Tool is operating are connected to the LAN in the same segment.• The VB Initial Setting Tool may not function when the [Windows Firewall] function is enabled. In this case, see "Notes on Use When the [Windows Firewall] Function is Enabled" (P. 1-8).• Check if you are using an older version of the VB Initial Setting Tool.
The top page of the camera is not displayed	<ul style="list-style-type: none">• Check if the LAN cable is connected correctly.• Check if the network to which the camera is connected is set up correctly. In particular, check if the IP address, subnet mask and default gateway address are set within the ranges supported by the applicable network.• If you have changed the IP address, the new address will not become effective until the camera is rebooted.• Check if the correct URI (camera IP address) is entered in your web browser (P. 3-2, P. 4-32, P. 6-4).
The Admin Tools will not start The Admin Viewer will not start	<ul style="list-style-type: none">• "The Web browser you are using is not supported." If this message is displayed, use Internet Explorer 7.0 or later.• "Could not launch application. Install .NET Framework 3.5 (SP1 or later)." If this message is displayed, install .NET Framework 3.5 (SP1 or later) or enable settings. (P. 1-7)• "JavaScript is unavailable or not enabled." If this message is displayed, set [Active Script] to [Enable] in Internet Explorer's security settings. (See (2) below for instructions on how to set this.)• "Could not launch application. The following settings are required to use Admin Viewer or Admin Tools." If this message is displayed, set the following.<ol style="list-style-type: none">(1) Register your Admin Tools certificate with a "Trusted Publisher" (P. 3-4).(2) In Internet Explorer click [Tools] > [Internet Options] > [Security] > [Custom level] and under the Security Settings list, set [XAML browser applications], [File download] and [Launching programs and files in an IFRAME] to [Enable].
Video is not displayed.	<ul style="list-style-type: none">• To improve video quality, refer to "[Video] Image Size, Quality and Frame Rate Settings" in "Chapter 4 Setting Page" (P. 4-13) to change settings and make adjustments.• Up to 30 viewers can access the camera at the same time. If this limit has been exceeded, video is not displayed and a message appears.
There is no audio	<ul style="list-style-type: none">• If there is no audio, check the audio server settings of the camera and also check the sound and audio device settings for the PC.• If you are using the Admin Viewer with the administrator authorities, check if the camera is connected to the RM Viewer or another viewer that lets the administrator use audio.• Audio cannot be received if you are using a proxy server.• Audio cannot be used when connected via SSL encrypted communications.• Audio reception functions cannot be used during IPv6 connection.• Audio cannot be used if add-ons are not installed.
The camera cannot be controlled.	<ul style="list-style-type: none">• If you connect to the Admin Viewer as an administrator, you will have exclusive possession of the camera control privileges. If you connect to the Admin Viewer as an Authorized User, you cannot control the camera unless the administrator releases camera control. Consult the Administrator (P. 6-2).

Problem	Countermeasures
The viewer gets disconnected.	<ul style="list-style-type: none"> Check the network and PC for abnormality. Reboot the PC and connect again.
You forgot your password	<ul style="list-style-type: none"> You can initialize all settings of the camera excluding date and time using the reset switch (P. 7-21). The factory default setting for the administrator password is "camera". Note, however, that network settings such as the IP address and subnet mask will be initialized and must be set again.
Data cannot be uploaded	<ul style="list-style-type: none"> Check the upload destination in the [Upload] menu, as well as the upload operation upon event in the [Event] menu, to see if both are set correctly. You can perform an operation check based on the currently set upload destination by running a test (P. 4-16) from the [Upload] menu. Check [View Logs] in the [Maintenance] menu or logs on the server to check the detailed operating environment. For [View Logs], see "Application (uploader) messages" (P. 7-9). Also see "Important" in P. 4-15. For the server settings, contact your System Administrator.
Files cannot be saved in the Settings page or Admin Tools.	<ul style="list-style-type: none"> Saving to certain folders is prohibited in Windows 7 and Windows Vista and Windows Server 2008. Accordingly, an attempt to save a file may fail. Specify [Documents], [Pictures] and other folders.

List of Log Messages

Log Messages on the Camera

Log messages are classified into the following 5 types.

Category	Level	Code	Fault level
crit	Error	4xx	Software-level failure (Task operations will stop)
err	Error	3xx	Operational error (Operations will continue)
warning	Warning	2xx	Non-operational error
notice	Warning	1xx	Error external to the system
info	Information	0xx	Information on normal operation

Note

If no content is recorded in a log for approximately two hours, “-- MARK --” will be recorded in the message area.

■ Application (camera) messages

W001 Starting and stopping of system [info]

Description	%1 webview (W001)
%1	Starting or stopping
Meaning	wvhttp server (webview) has started or stopped.

W030 Startup and shutdown of WebView Livescope Client [info]

Description	%1%2 host=<Host>, user=<User>, prio=<Priority> (W030)
%1	W: WebView session, V: Session-less video client, N: Session-less event client
%2	+: Connect, -: Disconnect
Meaning	The camera server client was connected or disconnected.

W031 Transmitted video data size [info]

Description	%1= host=<Host>, user=<User>, video=<jpg h264>:<Number of frames> (W031)
1%	W: WebView session, V: Session-less video client

W101 Invalid user name [notice]

Description	user <User name> not found (W101)
Meaning	The camera was accessed by an unauthorized user.

W102 Invalid password [notice]

Description	user <User name> password mismatch (W102)
Meaning	The password is invalid

W111 Invalid host [notice]

Description	host <IP Address> access denied (W111)
Meaning	The camera was accessed from a host from which access is prohibited.

W210 Camera operation discarded [warning]

Description	camera operation discarded (W210)
Meaning	Camera operation requested was discarded.

■ Application (uploader) messages**A004 Starting and stopping of uploader [info]**

Description	%1 uploader (A004)
%1	Starting or stopping
Meaning	The uploader was started or stopped.

A040 Number of uploads (MAIL) [notice]

Description	uploader mail: normal=%1 test=%2 (A040)
Meaning	Shows the number of uploads executed.
%1	Number of normal uploads.
%2	Number of test uploads.

A041 Number of uploads (FTP) [notice]

Description	uploader ftp: normal=%1 test=%2 (A041)
Meaning	Shows the number of uploads executed.
%1	Number of normal uploads.
%2	Number of test uploads.

A042 Number of uploads (HTTP) [notice]

Description	uploader http: normal=%1 test=%2 (A042)
Meaning	Shows the number of uploads executed.
%1	Number of normal uploads.
%2	Number of test uploads.

A120 Resolution of upload destination name failed [notice]

Description	uploader cannot resolve the server name (A120)
Meaning	The name of the upload destination could not be resolved.

A121 Connection to upload destination failed [notice]

Description	uploader cannot connect the server (A121)
Meaning	Execution of connect () to upload destination failed.

A122 Connection to upload destination failed [notice]

Description	uploader cannot connect the server (A122)
Meaning	The upload destination could not be connected due to a reason other than A120 and A121.

A134 Invalid upload setting (FTP/HTTP mode) [notice]

Description	ftp/http mode invalid. uploader set <none> forcibly (A134)
Meaning	The upload mode setting is invalid. The upload function was forcibly disabled.

A135 Invalid upload setting (FTP PORT/PASV mode) [notice]

Description	ftp port/pasv mode invalid. uploader set <pasv> forcibly (A135)
Meaning	The PORT/PASV mode setting in connection with FTP upload is invalid. The PASV mode was forcibly set.

A136 Invalid upload setting (HTTP notification only/image mode) [notice]

Description	http notice/image mode invalid. uploader set <image> forcibly (A136)
Meaning	The notification only/image mode setting in connection with HTTP upload is invalid. The image mode was forcibly set.

A137 Invalid upload setting (E-mail notification) [notice]

Description	mode invalid. uploader set <none> forcibly (A137)
Meaning	The e-mail notification setting is invalid. E-mail notification was forcibly disabled.

A138 Invalid upload setting (E-mail notification authentication mode) [notice]

Description	authentication mode invalid. uploader set <smtp auth> forcibly (A138)
Meaning	The setting for e-mail notification authentication mode is invalid. "SMTP_AUTH" was forcibly set.

A271 E-mail communication buffer overflowed [warning]

Description	mail queue is full (A271)
Meaning	E-mails overflowed from the communication buffer.
Countermeasure	Make adjustments to reduce the number of event occurrences. Also adjust image quality and image size for upload.

A272 Upload communication buffer overflowed [warning]

Description	ftp/http queue is full (A272)
Meaning	Upload data overflowed from the communication buffer.
Countermeasure	Make adjustments to reduce the number of event occurrences. Also adjust the image quality, image size and frame rate for upload.

A273 Used buffer size is over maximum size [warning]

Description	used buffer size is over maximum size. (A273)
Meaning	The buffer reached maximum usage size.
Countermeasure	Adjust the image quality, image size and frame rate for upload.

A274 Event buffer for upload overflowed [warning]

Description	event queue is full (A274)
Meaning	Event buffer for upload overflowed.
Countermeasure	Make adjustments to reduce the number of event occurrences.

A275 Image buffer for upload overflowed [warning]

Description	buffer queue is full (A275)
Meaning	Image buffer for upload overflowed.
Countermeasure	Make adjustments to reduce the number of event occurrences. Also adjust the image quality, image size and frame rate for upload.

A470 Uploader initialization failed [crit]

Description	uploader initialization failure - %1 (A470)
%1	Error number
Meaning	The uploader could not be initialized.
Countermeasure	If the problem persists after rebooting the camera, the camera is faulty.

■ Application (audio server) messages**B001 Starting and shutdown of audio server [info]**

Description	%1 audio (B001)
%1	starting stopping
Meaning	The audio server was started/shut down.

B011 Audio client connected [info]

Description	[%1] %2 connected n=%3 (B011)
%1	Client type (send recv)
%2	Client host IP address
%3	Total number of clients
Meaning	An audio client was connected.

B012 Audio client closed [info]

Description	[%1] %2 closed n= %3 (B012)
%1	Client type (send recv)
%2	Client host IP address
%3	Total number of clients
Meaning	An audio client was disconnected.

B101 Error request received [notice]

Description	%1 unusual request [%2] (B101)
%1	Client host IP address
%2	Error type (400 404 ...)
Meaning	The request was denied due to a command error (400) or parameter error (404).

B102 Client connection denied [notice]

Description	%1 request denied [%2] (B102)
%1	Client host IP address
%2	Denial type (41 43 ...)
Meaning	Client connection was denied due to an authentication error (41), time specification error (42), insufficient resource (43), specification of unsupported codec (45), specification of unpermitted user level (47), too many clients (49) or invalid operation mode (4a).
Countermeasure	41: Check user name, password or user list used when connecting. 42: Check playtime or maximum connection time settings used when connecting. 43: Reconnect or restart. 45: Use supported client software. 47: Check user level used when connecting. 49: Check client number settings. 4a: Check if usage of audio server is enabled.

B103 Client forcibly disconnected [notice]

Description	%1 access denied [%2] (B103)
%1	Client host IP address
%2	Denial type (41 42 4a)
Meaning	Connection was initially permitted, but the setting has subsequently been changed to prohibit access, thereby triggering a forced disconnection (the denial type is the same with B102).

B201 Event notification failure [info]

Description	cannot notify %1 event [%2] (B201)
%1	Event type (ald)
%2	Error number
Meaning	The event notification failed.

B202 Event reception failure [info]

Description	cannot recv event [%1] (B202)
%1	Error number
Meaning	The event could not be received.

B203 Audio message send error [info]

Description	audio message send error %1 [%2] (B203)
%1	Message type
%2	Error number
Meaning	The audio message could not be sent.

B204 Audio message reception failure [info]

Description	audio message recv error [%1:%2] (B204)
%1	Error notification number
%2	Cause of error
Meaning	The audio message could not be received.

B301 Audio device error [err]

Description	cannot use audio device for %1 [%2:%3] (B301)
%1	Transmission/reception type (rx tx)
%2	Error handling (open write flush)
%3	Error number
Meaning	An audio device error was detected.
Countermeasure	If the error is not reset automatically, arrange for servicing.

B401 Audio device initialization failed [err]

Description	audio device initialization error [%1] (B401)
%1	Error number
Meaning	The audio device could not be initialized. The audio server stops.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

B402 Audio server initialization failed [err]

Description	audio initialization error [%1] (B402)
%1	Error number
Meaning	The audio server could not be initialized. The audio server stops.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

B403 Settings change failed [err]

Description	cannot set config [%1:%2] (B403)
%1	Error notification number
%2	Error number
Meaning	The settings could not be updated. The audio server stops.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

■ Application (video-related) messages**V001 Starting and shutdown of video server [info]**

Description	%1 video (V001)
%1	Starting or stopping
Meaning	The video server was started/stopped.

V020 Starting intelligent service [info]

Description	starting intelligent. (V020)
Meaning	Intelligent service was started.

V020 Shutting down intelligence service [info]

Description	shutdown intelligent. (V020)
Meaning	Intelligent service was shut down.

V200 Video input warning [warning]

Description	video%1 warning - %2 (V200)
%1	Video number
Meaning	An error that permits recovery of the video input system was detected.
Countermeasure	Change image size or Q value to decrease data size for each JPEG image.

V320 Internal error in intelligent service [err]

Description	cannot work intelligent [%1] [%2] [%3]. (V320)
%1	Error number
%2	Cause of error
%3	Error information
Meaning	An internal error occurred in intelligent service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V321 Pseudo mode setting error in intelligent service [err]

Description	pseudo mode setting fail. (V321)
Meaning	An error occurred in the pseudo mode setting of intelligent service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V400 Video input initialization error [crit]

Description	video%1 initialization failure - %2 (%3) (V400)
%1	Video number
%2	Process description
%3	Error details
Meaning	The video input function was stopped because the video input system could not be initialized.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V401 Video input command error [crit]

Description	video%1 command error - %2 (%3) (V401)
%1	Video number
%2	Process description
%3	Error details
Meaning	The video input function was stopped because a video input command could not be processed.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V402 Video input frozen [crit]

Description	video%1 stalled (V402)
%1	Video number
Meaning	The video input function was stopped because video generation stopped.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V403 Video input error [crit]

Description	video%1 fatal error - %2 (V403)
%1	Video number
%2	Error number
Meaning	The video input function was stopped because an error that does not permit recovery of the video input system was detected.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V420 Could not start intelligent service [crit]

Description	intelligent initialization error [%1] [%2]. (V420)
%1	Error number
%2	Cause of error
Meaning	Failed to initialize intelligent service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

V421 Intelligent service error [crit]

Description	intelligent working error [%1] [%2]. (V421)
%1	Error number
Meaning	An error that does not permit recovery occurred while intelligent service was running.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

■ Application (SD card) messages**M001 Starting and stopping of SD control module [info]**

Description	%1 sdctrl (M001)
%1	Starting or stopping
Meaning	The SD control module (sdctrl) has started or stopped.

■ HTTP Server Messages**H143 User name specification error [notice]**

Description	(http_auth.c.XXX) get_password failed (H143)
Meaning	An unknown user was specified in user authentication.

H144 Password specification error [notice]

Description	(http_auth.c.XXX) password doesn't match for %1 %2, IP:%3 (H144)
%1	URL XSS vulnerability countermeasure implementation (process equivalent to ftpd)
%2	User Name
%3	IP address
Meaning	A wrong password was specified in user authentication.

H145 Connection denied due to host access limitation [notice]

Description	(mod_haccess.c.XXX) host %1 access denied (H145)
%1	IP address
Meaning	Connection was denied due to access limitation imposed on the host.

H201 Timeout disconnect [warning]

Description	a request for %1 timed out after writing %d seconds (H201)
%1	Request URI
%d	360 (Timeout time)
Meaning	Disconnected due to HTTP server timeout (360 sec.).

■ System messages**S001 System started [info]**

Description	starting paramd (S001)
Meaning	Parameter management module started.

S002 System settings changed [info]

Description	Updated system settings. (S002)
Meaning	Settings not requiring rebooting were changed.

S010 Event service started [info]

Description	starting event (S010)
Meaning	The event service was started.

S011 Event service shut down [info]

Description	shutdown event (S011)
Meaning	The event service was shut down.

S012 External device service started [info]

Description	starting extio (S012)
Meaning	The external device input/output service was started.

S013 External device service shut down [info]

Description	shutdown extio (S013)
Meaning	The external device input/output service was shut down.

S014 Timer service started [info]

Description	starting timer (S014)
Meaning	The timer service was started.

S015 Timer service shut down [info]

Description	shutdown timer (S015)
Meaning	The timer service was shut down.

S070 Change to SSL certificate [info]

Description	ssl: succeeded to %1 certificate (S070)
%1	generate load delete restore
Meaning	A certificate was generated/loaded/deleted/restored
Countermeasure	None

S220 PAN/TILT operation warning [warning]

Description	%1 warning detected. [%2] (S220)
1%	PAN TILT
2%	Warning details
Meaning	An error occurred during operation or stopping of PAN/TILT.
Countermeasure	Check that the camera is not touching the dome, etc.

S240 Camera error [warning]

Description	serviceman call (S240)
Meaning	A camera error occurred.
Countermeasure	Camera needs to be serviced.

S250 PAN/TILT error [warning]

Description	serviceman call (S250)
Meaning	An error occurred in the PAN/TILT area.
Countermeasure	Camera needs to be serviced.

S306 Error on saving settings [err]

Description	Can't update system settings (S306)
Meaning	An error generated while the system was saving setting. Setting could not be saved.
Countermeasure	Provide enough memory space by deleting unnecessary files in the user memory area, etc.

S307 Error on saving settings [err]

Description	(vbadmin.c XXX) Can't update system settings (S307)
Meaning	An error generated while the settings were saved by the setup protocol. Setting could not be saved.
Countermeasure	Provide enough memory space by deleting unnecessary files in the user memory area, etc.

S310 Working error in event service [err]

Description	cannot work event [%1] [%2] [%3] (S310)
%1	Error number
%2	Cause of error
%3	Error information
Meaning	An error occurred while the event service was running.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S311 Working error in external input/output service [err]

Description	cannot work extio [%1] [%2] [%3] (S311)
%1	Error number
%2	Cause of error
%3	Error information
Meaning	An error occurred while the external input/output device service was running.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S312 Working error in timer service [err]

Description	cannot work timer [%1] [%2] [%3] (S312)
%1	Error number
%2	Cause of error
%3	Error information
Meaning	An internal error occurred in the timer service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S320 PAN/TILT operation error [err]

Description	%1 error occurred. [%2] (S320)
1%	PAN TILT
2%	Warning details
Meaning	An error occurred during operation or stopping of PAN/TILT.
Countermeasure	Check that the camera is not touching the dome, etc. If the error is not caused by problems such as contact with peripheral items, the camera needs to be serviced.

S410 Event service initialization error [crit]

Description	event initialization error [%1] [%2] (S410)
%1	Error number
%2	Cause of error
Meaning	An error occurred in the initialization of the event service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S411 External input/output service initialization error [crit]

Description	extio initialization error [%1] [%2] (S411)
%1	Error number
%2	Cause of error
Meaning	An error occurred in the initialization of the external input/output device service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S412 Timer service initialization error [crit]

Description	timer initialization error [%1] [%2] (S412)
%1	Error number
%2	Cause of error
Meaning	An error occurred in the initialization of the timer service.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

S413 Timer service runtime error [crit]

Description	timer working error [%1] (S413)
%1	Error number
Meaning	An error occurred while the timer service was running.
Countermeasure	If the problem persists after rebooting, the camera is faulty. Arrange for servicing.

List of Viewer Messages

Messages displayed in the Information Field

Messages displayed in the information field of the viewer are classified into the following three types.

Icon	Category	Explanation
	Information Message	Help messages on various buttons, pull-down lists, etc., as well as PTZ, frame rate and other information from the camera are shown.
	Warning Message	A message will be displayed notifying the user when camera control privileges cannot be obtained, the audio session stops, etc.
	Error Message	Displayed when a system error occurs in the viewer.

■ Information Message

Message	Explanation
Connection closed by the camera.	The camera was disconnected.
{n}fps Pan : {p} Tilt : {t} Zoom : {z}	Communicating with the camera normally
{n}fps Pan : {p} Tilt : {t} Zoom : {z} IS: {Image Stabilizer value}	Communicating with the camera normally
Audio connection has been closed.	The video session has continued after the audio session was disconnected (applicable to both transmission and reception).
Camera control gained.	Displayed when camera control is obtained. You can operate the camera.
Camera control lost.	Displayed when camera control is released. You cannot operate the camera until you get camera control privileges again.

■ Warning Message

Message	Explanation
Could not connect to the camera.	Connection failed due to an invalid IP address, etc.
The camera is busy.	The connection limit was exceeded.
Failed to get camera control privileges.	The request for camera control privileges was denied because the camera was being used by the Admin Viewer, etc.
Failed to establish audio connection.	Connection for audio reception failed.
You are not connected to the camera.	An attempt was made to operate the camera when the camera was not connected.
Please get camera control privileges.	An attempt was made to operate the camera without camera control privileges.
Another user is already connected as an administrator.	The Admin Viewer is already connected to the camera.
The viewer is already connected in another window.	The viewer is already available in another window.
Cookie is not available or blocked on your web browser.	Cookie is not available or blocked on your web browser.
JavaScript is not available or disabled on your web browser.	JavaScript is not available or blocked on your web browser.
No audio device.	The [Audio] button has been clicked when there is no audio device or the audio device has been disabled in the PC.
Initialization of Canon Network Camera Audio Receiver failed.	ActiveX plugin is not installed within ten seconds after clicking the [Audio] button.

Restore Settings

Since this camera supports various functions, it is recommended that you write down the settings for respective functions. If you have forgotten the settings and want to set the camera from the beginning, restore the factory default settings first.

*For factory default settings, see P. 7-23.

Restoring the Initial Setting from the Maintenance Page in the Web Browser

1 Launch the web browser and display the settings menu.

To display the settings menu, you need to enter the IP address of the camera, user name and administrator password (P. 3-3).



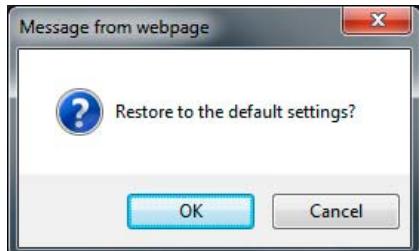
2 On the Settings Menu page, click [Maintenance].

The maintenance page appears.

Tool	View Logs	View
Tool	View Current Settings	View
Tool	Reboot	Exec
Tool	Restore Settings	Exec

3 Click [Exec] under [Restore Settings].

A confirmation message appears, asking if you want to restore to the default settings. To restore to the default settings, click [OK].



Caution

- You must not turn off the camera while it is performing the [Restore Settings] operation. Turning off the camera at this stage may result in disabling its ability to boot correctly.
- Once [OK] is clicked, you can no longer stop the process of restoring the default settings.

4 The camera will be reset to the factory default settings excluding the following items.

Administrator password for the camera, maximum packet size, network settings, date, time, time zone, SSL certificate, encrypted communications.

Restore Factory Default Settings with the Reset Switch on the Camera

If you have forgotten or don't know the IP address of the camera or your Administrator password, you cannot operate the camera via the network. In this case, press the reset switch at the back of the camera.

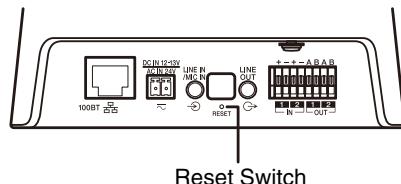
1 Turn off the camera.

There is no on/off switch on the camera. Turn the camera on and off by plugging in or unplugging LAN cable (PoE supply), AC adaptor or external power plug.

2 Turn on the power while pushing the reset switch, and keep pushing the reset switch for 5 seconds or more.

The reset switch is located in a recessed area at the back. Push the switch using the tip of a slender object such as a clip.

All settings of the camera, except for the date and time, are restored to factory default settings.





Important

If the reset switch is pushed, network-related settings will also be restored to factory default settings including the camera's IP address, subnet mask, default gateway address etc.

Accordingly, you can no longer operate the camera from the PC you were using to connect to the camera before. When initializing the camera, use the "VB Initial Setting Tool v5.0.1" installed in your PC to set an IP address appropriate for the environment in which the camera is used (see "Performing Initial Settings for the Camera" (P. 2-4)).

List of Factory Default Settings

The factory default settings are shown. If you have changed the settings, be sure to write down the new settings.

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
• User Name (Administrator ID) • Administrator password	root camera		
• Path to setting pages	admin		
• LAN LAN Interface Maximum Packet Size	Auto 1500		
• IPv4 IPv4 Address Setting Method IPv4 Address Subnet Mask IPv4 Default Gateway Address	Manual 192.168.100.1 255.255.255.0		
• IPv6 IPv6 Auto IPv6 Address (Manual) Prefix Length IPv6 Default Gateway Address IPv6 Address (Auto)	Enable Enable 64		
• DNS Name Server Address 1 Name Server Address 2 Host Name Host Name Registration with DDNS	Disable		
• SNMP SNMP Community Name Administrator Contact Information Administration Function Name Installation Location	Disable public VB-M40		
• Current Date and Time • Setting Setting Method NTP Server Time Zone	Set manually (GMT+09:00) Osaka, Sapporo, Tokyo		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> • Camera Name Camera Name (alphanumeric characters) • Initial Camera Settings AE Mode Slow Shutter Shutter Speed Exposure Compensation Metering Mode Focus Mode Smart Shade Control White Balance <ul style="list-style-type: none"> R Gain B Gain • Camera Control Digital Zoom Image Stabilizer • Day/Night Mode Switching Brightness Response (sec.) • Installation Conditions Dome LED Setting Image Flip • Camera Position Control Restricted to Presets Camera Position without Control • External Input Device 1 Device Name (alphanumeric characters) • External Input Device 2 Device Name (alphanumeric characters) • External Output Device 1 Device Name (alphanumeric characters) • External Output Device 2 Device Name (alphanumeric characters) 	Camera Auto Disable 1/100 0 Center-Weighted Auto Disable Auto 255 255 Disable Disable Manual Standard 20 Do not use Turn On Disable No Restriction Do not return to Home Position		
<ul style="list-style-type: none"> • Initial Camera Settings Intelligent Function Information • JPEG Image Quality: 160 x 120 Image Quality: 320 x 240 Image Quality: 640 x 480 Image Quality: 1280 x 960 Image Size: Image Transmission Maximum Frame Rate: Image Transmission Image Size: Upload • H.264 Bit rate Control Video Quality Target Bit Rate (kbps) Video Size Frame Rate (fps) • On-screen display Date display Position of date display Format of date display Time display Position of time display Text display Position of text display Text string display Color of text Color of text outline Color depth of text and outline 	Do not add 3 3 3 3 320 x 240 30.0 320 x 240 Use bit rate control 3 1024 320 x 240 30 Disable Upper left YYYY/MM/DD Disable Upper left Display nothing Upper left Black White Fill text and outline		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> General Upload <ul style="list-style-type: none"> Upload HTTP Upload <ul style="list-style-type: none"> Notification URI User Name Password Proxy Server Proxy Port Proxy User Name Proxy Password Parameter (query string) FTP Upload <ul style="list-style-type: none"> Notification FTP Server User Name Password PASV Mode File Upload Path File Naming <ul style="list-style-type: none"> Subdirectory Name to Create File Name to Create Maximum Number of Loops E-mail Notification <ul style="list-style-type: none"> Notification Mail Server Name Mail Server Port Sender (From) Recipient (To) Authentication <ul style="list-style-type: none"> User Name Password POP Server Subject Message Body 	Upload Disabled Notification Only with HTTP 80 Image data upload with FTP Enable YYMMDDHHMMSSms image.jpg 0 Text Only 25 None		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)																																														
<ul style="list-style-type: none"> Image Server <table> <tr><td>Maximum Number of Clients</td><td>30</td></tr> <tr><td>Maximum Control Queue Length</td><td>30</td></tr> <tr><td>Maximum Connection Time (sec.)</td><td>0</td></tr> <tr><td>Camera Control Time (sec.)</td><td>20</td></tr> </table> Audio Server <table> <tr><td>Audio Transmission from the Camera</td><td>Disable</td></tr> <tr><td> Input Volume</td><td>50</td></tr> <tr><td> Voice Activity Detection</td><td>Disable</td></tr> <tr><td>Audio Reception from the Viewer</td><td>Disable</td></tr> <tr><td> Output Volume</td><td>50</td></tr> <tr><td> Echo Canceller</td><td>Disable</td></tr> <tr><td> Audio Input</td><td>Line In</td></tr> </table> HTTP Server <table> <tr><td>Authentication Method</td><td>Basic Authentication</td></tr> <tr><td>HTTP Port</td><td>80</td></tr> <tr><td>HTTPS Port</td><td>443</td></tr> <tr><td>Global Address for the Web Page</td><td>IP Address</td></tr> <tr><td>IPv4 Address (global address for the web page)</td><td></td></tr> <tr><td>Port Number (global address for the web page)</td><td></td></tr> </table> 	Maximum Number of Clients	30	Maximum Control Queue Length	30	Maximum Connection Time (sec.)	0	Camera Control Time (sec.)	20	Audio Transmission from the Camera	Disable	Input Volume	50	Voice Activity Detection	Disable	Audio Reception from the Viewer	Disable	Output Volume	50	Echo Canceller	Disable	Audio Input	Line In	Authentication Method	Basic Authentication	HTTP Port	80	HTTPS Port	443	Global Address for the Web Page	IP Address	IPv4 Address (global address for the web page)		Port Number (global address for the web page)																
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Global Address for the Web Page	IP Address																																																
IPv4 Address (global address for the web page)																																																	
Port Number (global address for the web page)																																																	
<ul style="list-style-type: none"> Image Buffer <table> <tr><td>Frame Rate</td><td>1</td></tr> <tr><td>Pre-event Buffer (number of image frames)</td><td>0</td></tr> <tr><td>Post-event Buffer (number of image frames)</td><td>0</td></tr> </table> Volume Detection <table> <tr><td>Volume Detection Event</td><td>Disable</td></tr> <tr><td> Detect Criteria</td><td>The reference volume level or above</td></tr> <tr><td> Reference Volume Level</td><td>50</td></tr> <tr><td> Detect Criteria Duration (sec)</td><td>0</td></tr> <tr><td> ON Event Operation</td><td>Disable</td></tr> <tr><td> OFF Event Operation</td><td>Disable</td></tr> <tr><td> Preset</td><td>None</td></tr> <tr><td> Upload</td><td>Disable</td></tr> <tr><td> E-mail Notification</td><td>Disable</td></tr> </table> External Device Input <table> <tr><td>External Device Input Event</td><td>Enable</td></tr> </table> External Device Input 1 <table> <tr><td>ON/OFF Input Inversion</td><td>Disable</td></tr> <tr><td>ON Event Operation</td><td>Disable</td></tr> <tr><td>OFF Event Operation</td><td>Disable</td></tr> <tr><td> Preset</td><td>None</td></tr> <tr><td> Upload</td><td>Disable</td></tr> <tr><td> E-mail Notification</td><td>Disable</td></tr> <tr><td>Audio Playback at ON Event</td><td>Disable</td></tr> <tr><td>Audio Playback at OFF Event</td><td>Disable</td></tr> <tr><td> Sound Clip</td><td></td></tr> <tr><td> Volume</td><td>50</td></tr> </table> 	Frame Rate	1	Pre-event Buffer (number of image frames)	0	Post-event Buffer (number of image frames)	0	Volume Detection Event	Disable	Detect Criteria	The reference volume level or above	Reference Volume Level	50	Detect Criteria Duration (sec)	0	ON Event Operation	Disable	OFF Event Operation	Disable	Preset	None	Upload	Disable	E-mail Notification	Disable	External Device Input Event	Enable	ON/OFF Input Inversion	Disable	ON Event Operation	Disable	OFF Event Operation	Disable	Preset	None	Upload	Disable	E-mail Notification	Disable	Audio Playback at ON Event	Disable	Audio Playback at OFF Event	Disable	Sound Clip		Volume	50			
Frame Rate	1																																																
Pre-event Buffer (number of image frames)	0																																																
Post-event Buffer (number of image frames)	0																																																
Volume Detection Event	Disable																																																
Detect Criteria	The reference volume level or above																																																
Reference Volume Level	50																																																
Detect Criteria Duration (sec)	0																																																
ON Event Operation	Disable																																																
OFF Event Operation	Disable																																																
Preset	None																																																
Upload	Disable																																																
E-mail Notification	Disable																																																
External Device Input Event	Enable																																																
ON/OFF Input Inversion	Disable																																																
ON Event Operation	Disable																																																
OFF Event Operation	Disable																																																
Preset	None																																																
Upload	Disable																																																
E-mail Notification	Disable																																																
Audio Playback at ON Event	Disable																																																
Audio Playback at OFF Event	Disable																																																
Sound Clip																																																	
Volume	50																																																

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
• External Device Input 2			
ON/OFF Input Inversion	Disable		
ON Event Operation	Disable		
OFF Event Operation	Disable		
Preset	None		
Upload	Disable		
E-mail Notification	Disable		
Audio Playback at ON Event	Disable		
Audio Playback at OFF Event	Disable		
Sound Clip			
Volume	50		
• Timer			
Timer Event Setting1	Disable		
Start Time	00:00		
Repeat Setting	Disable		
Repeat Interval	1 sec.		
Repeat Count	1		
Timer Event Setting2	Disable		
Start Time	00:00		
Repeat Setting	Disable		
Repeat Interval	1 sec.		
Repeat Count	1		
Timer Event Setting3	Disable		
Start Time	00:00		
Repeat Setting	Disable		
Repeat Interval	1 sec.		
Repeat Count	1		
Timer Event Setting4	Disable		
Start Time	00:00		
Repeat Setting	Disable		
Repeat Interval	1 sec.		
Repeat Count	1		
Upload	Disable		
E-mail Notification	Disable		
• Sound Clip Upload 1			
Browse File			
Sound Clip Name			
• Sound Clip Upload 2			
Browse File			
Sound Clip Name			
• Sound Clip Upload 3			
Browse File			
Sound Clip Name			

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> • Authorized User Account <ul style="list-style-type: none"> User Name Password User List • User Authority <ul style="list-style-type: none"> Authorized User <ul style="list-style-type: none"> Privileged Camera Control Camera Control Image Distribution Audio Distribution Guest User <ul style="list-style-type: none"> Camera Control Image Distribution Audio Distribution • IPv4 Host Access Restrictions <ul style="list-style-type: none"> Apply Host Access Restrictions <ul style="list-style-type: none"> Default Policy Network Address / Subnet 	<ul style="list-style-type: none"> Checked Checked Checked Checked Checked Checked Checked <ul style="list-style-type: none"> Disable Authorize Access 01: / 32 Authorize 02: / 32 Authorize 03: / 32 Authorize 04: / 32 Authorize 05: / 32 Authorize 06: / 32 Authorize 07: / 32 Authorize 08: / 32 Authorize 09: / 32 Authorize 10: / 32 Authorize 11: / 32 Authorize 12: / 32 Authorize 13: / 32 Authorize 14: / 32 Authorize 15: / 32 Authorize 16: / 32 Authorize 17: / 32 Authorize 18: / 32 Authorize 19: / 32 Authorize 20: / 32 Authorize 		
<ul style="list-style-type: none"> • IPv6 Host Access Restrictions <ul style="list-style-type: none"> Apply Host Access Restrictions <ul style="list-style-type: none"> Default Policy Prefix / Prefix Length 	<ul style="list-style-type: none"> Disable Authorize Access 01: / 128 Authorize 02: / 128 Authorize 03: / 128 Authorize 04: / 128 Authorize 05: / 128 Authorize 06: / 128 Authorize 07: / 128 Authorize 08: / 128 Authorize 09: / 128 Authorize 10: / 128 Authorize 11: / 128 Authorize 12: / 128 Authorize 13: / 128 Authorize 14: / 128 Authorize 15: / 128 Authorize 16: / 128 Authorize 17: / 128 Authorize 18: / 128 Authorize 19: / 128 Authorize 20: / 128 Authorize 		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> IPsec <ul style="list-style-type: none"> IPsec Auto Key Exchange Settings <ul style="list-style-type: none"> IPsec SA Encryption Algorithm IPsec SA Authentication Algorithm IPsec SA Validity Period (min) ISAKMP SA Encryption Algorithm ISAKMP SA Authentication Algorithm DH Group ISAKMP SA Validity Period (min) IPsec Set 1 <ul style="list-style-type: none"> IPsec Set IPsec Mode Destination IPv4 Address Destination IPv6 Address Source IPv4 Address Source IPv6 Address Security Protocol Security Gateway IPv4 Address Security Gateway IPv6 Address Destination Subnet Mask Length Destination Prefix Length IKE Pre-Shared Key SA ESP Encryption Algorithm SA ESP Authentication Algorithm SA ESP Encryption Key (outbound) SA ESP Authentication Key (outbound) SA ESP SPI (outbound) SA ESP Encryption Key (inbound) SA ESP Authentication Key (inbound) SA ESP SPI (inbound) SA AH Authentication Algorithm SA AH Authentication Key (outbound) SA AH SPI (outbound) SA AH Authentication Key (inbound) SA AH SPI (inbound) 	Auto Key Exchange AES->3DES HMAC_SHA1_96 480 AES->3DES SHA1 Group 2 480 Disable Tunnel Mode ESP 16 16 AES HMAC_SHA1_96 HMAC_SHA1_96		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> • IPsec Set 2 <ul style="list-style-type: none"> IPsec Set IPsec Mode Destination IPv4 Address Destination IPv6 Address Source IPv4 Address Source IPv6 Address Security Protocol Security Gateway IPv4 Address Security Gateway IPv6 Address Destination Subnet Mask Length Destination Prefix Length IKE Pre-Shared Key SA ESP Encryption Algorithm SA ESP Authentication Algorithm SA ESP Encryption Key (outbound) SA ESP Authentication Key (outbound) SA ESP SPI (outbound) SA ESP Encryption Key (inbound) SA ESP Authentication Key (inbound) SA ESP SPI (inbound) SA AH Authentication Algorithm SA AH Authentication Key (outbound) SA AH SPI (outbound) SA AH Authentication Key (inbound) SA AH SPI (inbound) • IPsec Set 3 <ul style="list-style-type: none"> IPsec Set IPsec Mode Destination IPv4 Address Destination IPv6 Address Source IPv4 Address Source IPv6 Address Security Protocol Security Gateway IPv4 Address Security Gateway IPv6 Address Destination Subnet Mask Length Destination Prefix Length IKE Pre-Shared Key SA ESP Encryption Algorithm SA ESP Authentication Algorithm SA ESP Encryption Key (outbound) SA ESP Authentication Key (outbound) SA ESP SPI (outbound) SA ESP Encryption Key (inbound) SA ESP Authentication Key (inbound) SA ESP SPI (inbound) SA AH Authentication Algorithm SA AH Authentication Key (outbound) SA AH SPI (outbound) SA AH Authentication Key (inbound) SA AH SPI (inbound) 	<ul style="list-style-type: none"> Disable Tunnel Mode ESP 16 16 AES HMAC_SHA1_96 HMAC_SHA1_96 Disable Tunnel Mode ESP 16 16 AES HMAC_SHA1_96 HMAC_SHA1_96 		

Item	Setting	Setting 1 (year/month/day)	Setting 2 (year/month/day)
<ul style="list-style-type: none"> IPsec Set 4 <ul style="list-style-type: none"> IPsec Set IPsec Mode Destination IPv4 Address Destination IPv6 Address Source IPv4 Address Source IPv6 Address Security Protocol Security Gateway IPv4 Address Security Gateway IPv6 Address Destination Subnet Mask Length Destination Prefix Length IKE Pre-Shared Key SA ESP Encryption Algorithm SA ESP Authentication Algorithm SA ESP Encryption Key (outbound) SA ESP Authentication Key (outbound) SA ESP SPI (outbound) SA ESP Encryption Key (inbound) SA ESP Authentication Key (inbound) SA ESP SPI (inbound) SA AH Authentication Algorithm SA AH Authentication Key (outbound) SA AH SPI (outbound) SA AH Authentication Key (inbound) SA AH SPI (inbound) IPsec Set 5 <ul style="list-style-type: none"> IPsec Set IPsec Mode Destination IPv4 Address Destination IPv6 Address Source IPv4 Address Source IPv6 Address Security Protocol Security Gateway IPv4 Address Security Gateway IPv6 Address Destination Subnet Mask Length Destination Prefix Length IKE Pre-Shared Key SA ESP Encryption Algorithm SA ESP Authentication Algorithm SA ESP Encryption Key (outbound) SA ESP Authentication Key (outbound) SA ESP SPI (outbound) SA ESP Encryption Key (inbound) SA ESP Authentication Key (inbound) SA ESP SPI (inbound) SA AH Authentication Algorithm SA AH Authentication Key (outbound) SA AH SPI (outbound) SA AH Authentication Key (inbound) SA AH SPI (inbound) 	<ul style="list-style-type: none"> Disable Tunnel Mode ESP 16 16 AES HMAC_SHA1_96 HMAC_SHA1_96 Disable Tunnel Mode ESP 16 16 AES HMAC_SHA1_96 HMAC_SHA1_96 Not Installed Disable Save Log 		
Certificates			
<ul style="list-style-type: none"> Certificate Status Country (C) State/Province (ST) Locality (L) Organization (O) Organizational Unit (OU) Common Name (CN) Validity Period Start Date Validity Period End Date 			
Encrypted Communications			
SSL Communications	Disable		
SD Card Operations			
Operation Settings	Save Log		

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