TOSHIBA

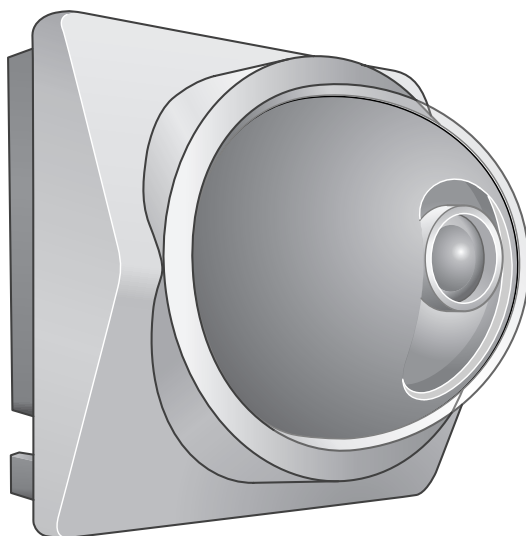## NETWORK CAMERA

Model: IK-WB15A

User's Guide

For information on the latest our products and peripheral devices, refer to the following Web page.
■ http://www.ipvideo.toshiba.com

The above URL is subject to change without prior notice. If the URL changes, refer to the Toshiba website
(http://www.toshiba.com).

FCC(US) Information

Tested To Comply
With FCC Standards
FOR HOME OR OFFICE USE

Product Name : NETWORK CAMERA
Model Number(s) : IK-WB15A

FCC Notice "Declaration of Conformity Information"

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.

Toshiba America Information System, Inc.
Security & Network Video Products
9740 Irvine Boulevard,
Irvine, California 92618-1697
(877)696-3822

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 into 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.
Warning : Changes or modifications made to this equipment, not expressly approved by Toshiba or parties authorized by Toshiba could void the user's authority to operate the equipment.

Canadian Information
Industry Canada
This Class B digital apparatus complies with Canadian
ICES-003.
Cet appareil numérique de la classe B est conforme à norme NMB-003 du Canada.
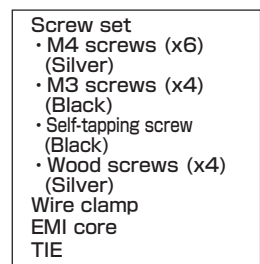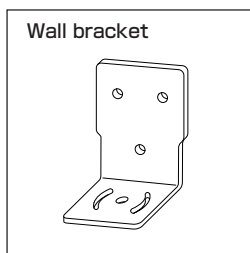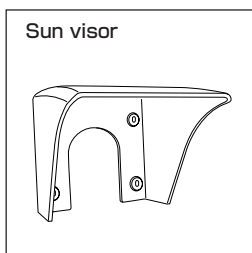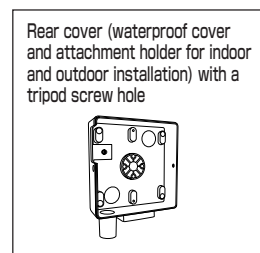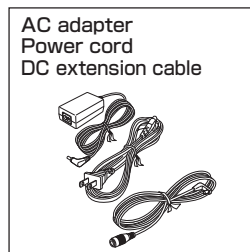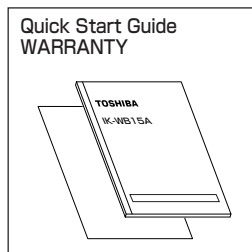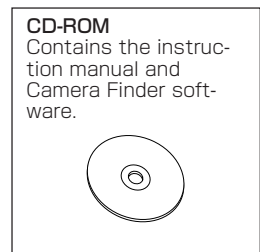
Thank you for purchasing the IK-WB15A Network Camera. Before you start using the camera, read this User's Guide carefully to ensure correct usage. Once you have finished reading this User's Guide, keep it in a convenient place for future reference. The design, specifications, software, and User's Guide contents are subject to change without prior notice.

Terms and Trademarks

● The term "OS" is used in this manual to indicate operating systems compatible with this product.
　— Windows 2000: Microsoft® Windows® 2000 operating system
　— Windows XP: Microsoft® Windows® XP operating system
● The formal name of Windows® is Microsoft® Windows® Operating System.
● Microsoft® and Windows® are trademarks or registered trademarks of Microsoft® Corporation in the United States and other countries.
● Other product names appearing in this User's Guide may be trademarks or registered trademarks of their respective holders.

Accessories

Confirm that all of the following accessories have been supplied with the network camera.

CD-ROM Contains the instruction manual and Camera Finder software.	Quick Start Guide WARRANTY TOSHIBA IK-WB15A	AC adapter Power cord DC extension cable

Rear cover (waterproof cover and attachment holder for indoor and outdoor installation) with a tripod screw hole	Sun visor	Wall bracket

Screw set
· M4 screws (x6)
  (Silver)
· M3 screws (x4)
  (Black)
· Self-tapping screw
  (Black)
· Wood screws (x4)
  (Silver)
Wire clamp
EMI core
TIE

Four ferrite cores are supplied with the camera. Use the core as illustrated below.
Non-use of the core generates undesired radio waves, potentially causing a system flaw problem.
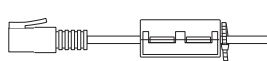
1. DC power cable: 2turns

Insert the DC power cable and fasten it with fastening bands.

2. Audio cable: 2turns　　**3. LAN cable: 1turn**　　**4. Alarm cable: 2turns**

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1. Read Instructions

All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions

The safety instructions and instruction manual should be retained for future reference.

3. Heed Warnings

Comply with all warnings on the product and in the instruction manual.

4. Follow Instructions

Follow all operating and use instructions.

5. Cleaning

Disconnect this video product from the power supply before cleaning.

6. Attachments

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

7. Water and Moisture

Do not use this video product near water. Some examples are: near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool.

8. Accessories

Do not place this video product on an unstable cart, stand, tripod, bracket or table. The video product may fall, causing serious injury to a person, or serious damage to the product. Use only with stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the product should follow the manufacturerr's instructions, and should use a mounting accessory recommended by the manufacturer.

9. Ventilation

This video product should never be placed near or over a radiator or heat register. If this product is placed in a built in installation verify that there is proper ventilation so that the camera temperature operates within the recommended temperature range.

10. Power Sources

This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your product dealer.

11. Power-Cord Protection

Power cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, screws and the point where they exit the product.

12. Installation

Install this video product on a firm and solid part of the ceiling or wall. If installed on a weak place the camera could fall causing injury and damage.

13. Lightning

For additional protection on this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the power supply and cable system. This will prevent damage to the video product due to lightning and power-line surges. If lightning occurs, do not touch the unit or any connected cables in order to avoid electric shock.

14. Overloading

Do not overload the power supply or extension cords as this can result in a risk of fire or electric shock.

15. Object and Liquid Entry

Never push objects of any kind into this video product through openings as they may touch dangerous electrical points or short-out parts that could result in a fire or electrical shock. Never spill liquid of kind on the video product.

16. Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous electricity or other hazards. Refer all servicing to qualified service personnel.

17. Damage Requiring service

Disconnect this video product from the power supply and refer servicing to qualified service personnel under the following conditions.
a. When the power-supply cord or plug is damaged.
b. If liquid has been spilled, or objects have fallen into the video product.
c. If the video product has been exposed to rain or water.
d. If the video product does not operate normally by following the operating instructions in the instruction manual. Adjust only those controls that are covered by the instruction manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
e. If the video product has been dropped or the housing has been damaged.
f. A video product exhibiting a distinct change in performance can indicate a need for service.

18. Replacement Parts

When replacement parts be sure the service technician uses replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

19. Safety Check

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

⚡	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	⚠

The CAUTION label, shown on the above part, is attached on the camera.

⚡ The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

⚠ The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

FIELD INSTALLATION:
THIS INSTALLATION SHOULD BE MADE BY A QUALIFIED SERVICE PERSON AND SHOULD CONFORM TO ALL LOCAL CODES.

· **Do not aim the camera at the sun**

Avoid aiming the camera at the sun with or without power applied.

· **Do not shoot intense light**

Intense light such as a spotlight may cause a bloom or smear. A vertical stripe may appear on the screen. However, this is not a malfunction.

· **Treat the camera with care**

Do not drop the camera or subject it to strong shock or vibration. Otherwise, the camera may malfunction.

· **Never touch internal parts**

Do not touch the internal parts of the camera other than the parts specified. Otherwise, the camera may malfunction.

· **Install the camera where no video noise appears**

Install the camera away from video noise. If cables are wired near electric lighting wires or a TV set, noise may appear in images. In this event, relocate cables or reinstall equipment.

· **Check the ambient temperature and humidity**

Avoid using the camera where the temperature is hotter or colder than specified. Otherwise, the quality of images may deteriorate or internal parts may be affected. Special care is required to use the camera at high temperature and humidity.

· **Should you notice any trouble**

If any trouble occurs while you are using the camera, turn off the power and contact your dealer. Continued use in this state might cause fire or electric shock. For details on repair, consult the place of purchase, or please contact the technical support number.

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Precautions for Use

SD Memory Card

● There is a limit to the number of rewrites that is possible with the SD memory card. Replacing the SD memory card when performing periodic maintenance of the camera is recommended.

● The camera supports the following SD memory cards. Do not use memory cards with other specifications.
SD memory card: 64, 128, 256, and 512 MB, 1 GB SD memory cards (3.3 V) supported.
Physical interface: Part 1. Physical Layer Specification; Version 1.01

● Images may not be recorded or read correctly if an unsupported SD memory card is used with the camera.

● Carefully read the User's guide, precautions on use, and any other information supplied with a purchased memory card.

● An SD memory card can be used for the loop recording of images. The life-span (number of rewrites possible) of an SD memory card is greatly affected by the capacity of the SD memory card. The use of a 128, 256, or 512 MB, 1 GB large-capacity SD memory card is recommended for loop recording.

● To achieve maximum performance of the camera, the use of a Toshiba SD memory card is recommended. If a card of another company is used, the recording intervals may lengthen and the erasure time during overwriting may increase. As a result, the number of delivered frames of live video may decrease.

● Do not use a memory card containing the data recorded by another device with the camera as this may result in the camera not functioning correctly.

● Do not modify, overwrite the data, or change the folder name of an SD memory card. It may result in the camera not to function correctly.

● Data recorded with the camera do not comply with the Exif image file format or the DCF standard. Use a personal computer to view the SD memory card if removed from the camera as other devices may not be capable of displaying the images.

AC adapter

Be sure to use only the supplied AC adapter. Using a different AC adapter may cause the camera to malfunction, heat up, or catch fire. Before using the AC adapter, carefully read and observe the Important Safety Instructions (→page 7) and the notes below.

• Do not allow the connectors on the AC adapter to come into contact with any other metal object as this may result in short circuit.

• To connect the AC adapter, firmly insert the plug end of the cable into the AC adapter jack. Do not insert the plug into other jacks as this may cause a malfunction.

• When removing the connection cable, disconnect the cable by holding its plug. Do not disconnect the cable by pulling on the cable.

• Do not drop the AC adapter or subject it to strong impact.

• Do not use the AC adapter in hot and humid places.

• Do not use the supplied AC adapter with devices other than this camera.

• Temperature increasing on the surface of the adapter is normal. Before moving the adapter to another location, unplug it from the wall outlet, and wait until its temperature decreases.

• Buzzing noises may come from inside. This does not indicate malfunction.

• Using the AC adapter near a radio, TV, or cellphone may cause interference. Use the adapter at sufficient distances from these devices.

Specifications

AC adapter (ADPV16A)

Power source	: AC 100-240V 50/60Hz 35W
Rated output	: DC 12V, 2A
Ambient temperature guaranteed for performance	: 23°F to 104°F
Storage temperature	: 23°F to 149°F
Maximum external dimensions (inch)	: 1.713 x 1.043 x 3.543 inch (Width x height x depth)
Cord length	: 47.244 inch
Length of DC extension cable	: 118.11 inch

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Overview of the Camera

The IK-WB15A network camera can deliver video images and sound in real time using the Internet or an intranet. The camera is equipped with Ethernet (RJ-45) 10BASE-T/100BASE-TX network interfaces.
IK-WB15A can be used in various indoor and outdoor environments.

IK-WB15A
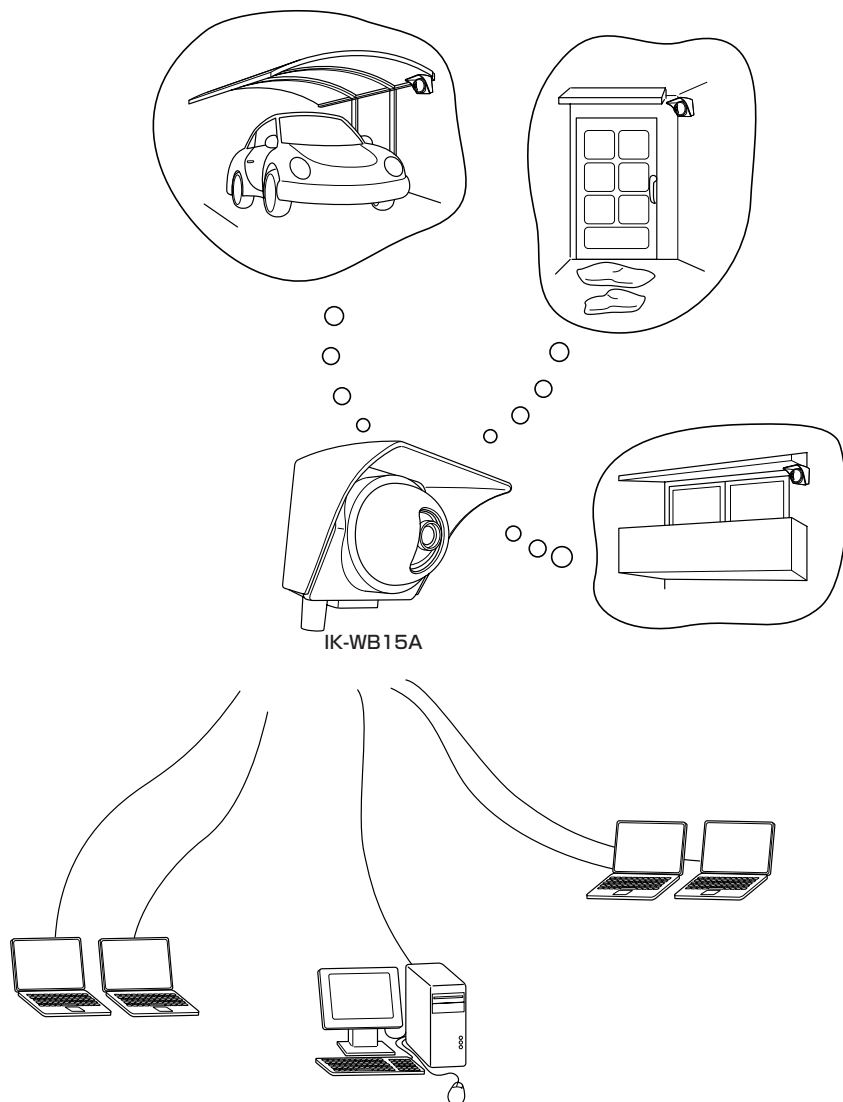
Features of the Camera

● **Built-in pan/tilt mechanism**

A built-in pan (left/right) and tilt (up/down) mechanism enables you to use the Internet browser to change the direction of the camera lens. The camera also comes with Scan, Presets, Auto Patrol and various other monitoring features.

● **Motor powered 2.6x zoom lens**

Allows maximum magnification of 2.6 times.

● **A high-resolution picture element CCD packaged**

A high-resolution picture element progressive CCD (charge coupled device) built in the camera enables delivery of pictures maximum 1280 x 960 pixels. The camera delivers high resolution pictures equal to those of a digital camera.

● **Supports multiple cameras**

Toshiba's original protocol, RNCP, allows Toshiba network cameras to identify each other on the same network. This enables images from automatically identified network cameras to be displayed in multi-view screen in the same browser window.

The number of windows in the multi-view display automatically changes (4 (2 x 2) or 9(3 x 3) windows) accordingly to the number of identified cameras. The cameras on other networks can be displayed on the same multi-view display screen by registering the cameras manually.

● **Interactive audio communication equipment.**

Camera supports interactive two way audio communication.

● **Mailing function**

This feature allows you to receive mail messages with images when alarms go off.

● **Built-in SD memory card interface**

The use of SD memory cards enables the recording of images for long periods of time, as well as recordings when alarms go off.

SD memory card: 8, 16, 32, 64, 128, 256, and 512 MB, 1 GB SD memory cards (3.3 V) supported.
Physical interface: Part 1. Physical Layer Specification; Version 1.01

● **Motion detection**

The camera has built in motion detection for alarm generation.

● **Slow-shutter function assures color images even at low illuminance**

The slow-shutter function enables high-sensitivity monitoring during the night.

● **Waterproof camera that can be used outdoors**

A waterproof structure facilitates outdoor use. ＊1

Waterproof specifications: IPX3 (Weather Resistant Rating)

＊1： Be sure to attach the Sun visor when installing the camera outside. Install the camera where it will not be exposed to direct rain or sunlight. Also, consult with the installation workers to ensure that the AC adapter, power cord, and LAN cable are installed with protection against the weather in an outdoor location.
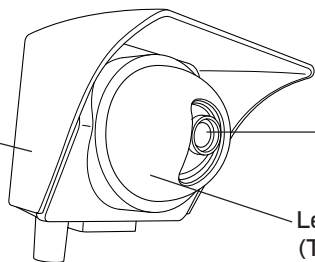
✎ NOTE

• Microphone input and audio output are not available at the same time.
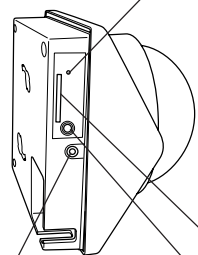
Names of Camera Parts

Front

Sun visor (→page 19)
(Accessory)

Lens
(Focal range: 1 m to infinity)

Lens cover
(Transparent sphere)

Side

Reset button
· Reset the settings to the defaults by using a thin, pointed object to press the button for at least 5 seconds. (The AC adapter must be connected)
(The log information is not returned to the default state. To return the log information to the default state, delete the log information in the settings screen.)
· You can turn video output on/off by pressing the button for less than one second. When video output is on, images and sound cannot be delivered to the network and images cannot be recorded. Use this feature only when, for example, checking the angle of view during installation.

SD memory card slot (→pages 12 and 49)

Microphone input/Audio output jack
· Jack for connecting an external microphone. Use 3.5 φ monaural-plug microphone.
· Sound input from a microphone.
· Sound output to speaker Amp.

Rear cover fixing screw (M3) (→ page 18)

Bottom
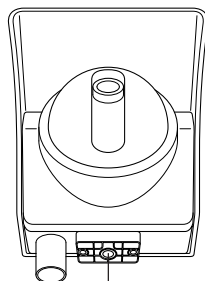
Screw hole for attaching a tripod or other stand

Rear

ALARM IN
Alarm input terminal

DC IN 12V
Power input terminal (→ page 20)
· Be sure to use the AC adapter included with the network camera.

ALARM OUT
Alarm output terminal

GND
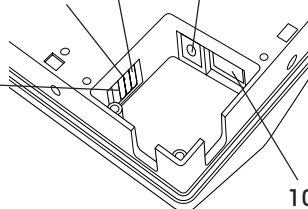
10/100 ETHERNET
Ethernet jack

Installing the Camera

Some provided parts are required for installing the camera.

● Installing the camera indoors
· Rear cover

● Installing the camera outdoors
· Rear cover
· Sun visor
· Wall Bracket

■ Indoor Installation

1 Install the rear cover to the wall

· Install each of the four corners to the wall using four wood screws.
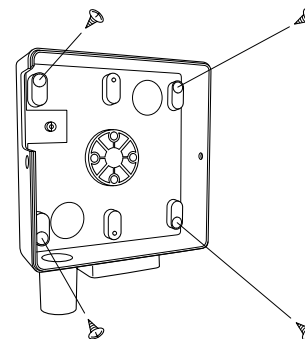
Important

• Securely tighten the screws during installation to ensure not to become loosen.

2 Insert the AC adapter cable and the LAN cable through the cable conduit
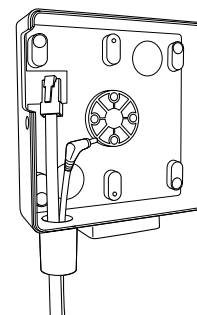
· Insert both cables from below.

Installing the Camera (Cont.)

3 Connect the AC adapter cable and the LAN cable to the camera

· For details, refer to "Connecting the Power Cord" (→ page 20) .
· Verify that the type of LAN cable you plan to use is correct for the connection type. See Connection Configuration on page 24.

4 Install the camera to the rear cover

· Fix the camera to the rear cover from the sides using four M3 screws.
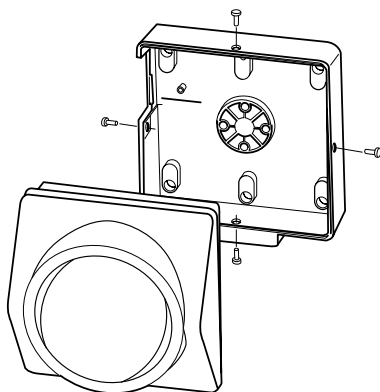
Important

● Take care not to pinch the AC adapter cable and LAN cable when attaching the camera to the rear cover.

■ Outdoor Installation

1 Insert the AC adapter cable and the LAN cable through the cable conduit

· Reference the illustration in Step 2 on page 17.
· Insert both cables from below.

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2 Connect the AC adapter cable and the LAN cable to the camera

· For details, refer to "Connecting the Power Cord" (→ page 20) .
· Verify that the type of LAN cable you plan to use is correct for the connection type. See Connection Configuration on page 24.

3 Attach the camera to the rear cover

· Reference the illustration in Step 4 on page 18.
· Fix the camera to the rear cover from the sides using four M3 screws.

Important

● Take care not to pinch the AC adapter cable and the LAN cable when attaching the camera to the rear cover.

4 Set the Sun visor

· Secure the sun visor to the rear of the camera using the four M4 screws.
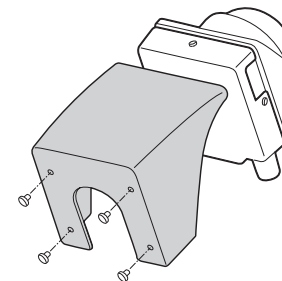
5 Mount the camera directly to the wall using the wall bracket (accessory)
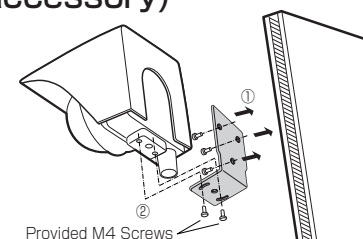
Provided M4 Screws

NOTE

● The screws which attach the wall bracket (①) and the wall are not provided (②). Choose the best screws (①) for your wall when you buy screws (①) at a store.

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Connecting the Power Cord

1 Connect the power cord to the AC adapter
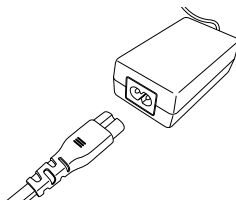
2 Insert the AC adapter plug into the camera power input terminal
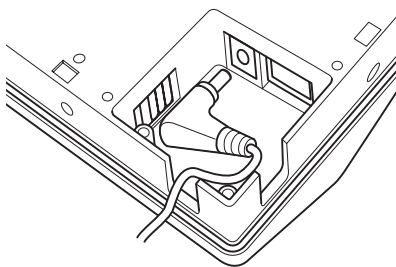
Important

- There is not much space around the opening of the power terminal, so make sure that the plug is properly inserted. The camera may not work properly if the plug is not inserted properly.

3 As shown in the figure below, use a wire clamp to fix the plug in place

- · For the wire clamp, use the self-tapping screw supplied with the camera to hold.
- · When the plug is fixed in place, check that it will not become disconnected by a moderate amount of pulling.
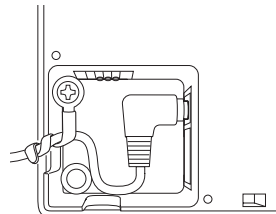
Turning on the Power

The camera has no main power switch or button. To turn the power on, insert the plug of the power cord into a power outlet.
Turn the power on after you have installed the camera.
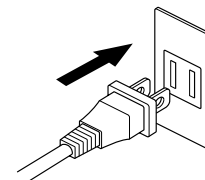
NOTE

- A PoE power supply device is required for supplying power to the camera via the LAN cable.

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Items needed for network camera monitoring system

● Administrator's personal computer

The personal computer that is given all authorities for setting, operating, monitoring and other functions with the network camera is called the "administrator's personal computer" in this manual.

* The personal computer for viewing monitored images is called the "user's personal computer" in this manual. The network camera can be viewed by more than one personal computer at the same time.

Recommended personal computer operating conditions

· Windows® 2000 or XP as OS

· Internet Explorer Ver 6.0 or later

· CPU: Intel® Pentium® III 800MHz or higher

· Memory: 256MB or more

● Connection equipment such as LAN cables and if you are connecting to a network you could need a hub or router.

· The LAN cable type differs depending on the connection method. For further information, see "Connection Configuration" on page 24.

● Camera search application "Camera Finder"

· Install this application from the CD-ROM supplied as an accessory.

(Double-click "Setup.exe" in the CD-ROM and install the application by following the onscreen instructions)

IP Address

To connect to the network, the administrator needs to set the network camera IP address.

There are two options to set the IP address.

· Obtaining an IP address automatically from the DHCP server

· Entering an IP address manually(→page 84)

● **Obtaining an IP address automatically from the DHCP server**
Your camera is set to get data automatically obtain an IP address from the DHCP server (DHCP ON/OFF is set to ON in "Network-Basic Settings") by default. If your network is using DHCP server, you will not need to change the IP address of the camera.

● **Entering the IP address manually**
· Manually enter the IP address when the DHCP server is turned off or if there are no DHCP servers.

· In certain circumstances the Camera's IP address can be changed by the DHCP server. If this happens your camera will stop working over the Internet. To avoid this possibly happening it is best to manually assign an IP address in the camera. Once you have an assigned IP address it must be installed in the camera and reserved for the camera in the router.

· When entering the IP address manually, set DHCP ON/OFF to OFF in "Network-Basic Settings" on page 84 and enter the IP address, subnet mask, default gateway, primary DNS and secondary DNS.

Connection Configuration

Two configurations are available for connecting a network camera..
· Crossover connection
· Connection via a hub, switch, or router

●Using a crossover cable to establish a connection (example)

Network camera   Personal computer

IP address
192.168.0.30

IP address
192.168.0.50

LAN cable (crossover)
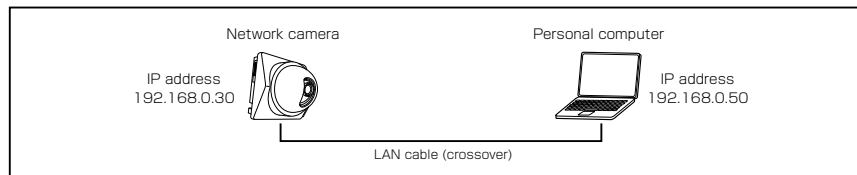
Crossover cable is not provided with the product.

●Establishing a connection via a hub (example)

Network camera

IP address
192.168.0.30

Internet

Personal computer

Hub

IP address
192.168.0.50

LAN cable (straight through)   LAN cable (straight through)

LAN cable (straight through) and Hub are not provided with the product.

NOTE

- You do not need to assign an IP address to a hub.
- The IP address of your camera after purchasing from the store is automatically set to 192.168.0.30 if DHCP is not used. Set the IP address of your personal computer in the same subnet. (The network segment must be the same segment when directly connecting using a cross cable or connecting through the hub)
  When connecting more than one camera, connect each camera using IP Address 192.168.0.30 and change the IP addresses of the second and subsequent cameras to other IP addresses, such as 192.168.0.31.
- You can also use the LAN port of your broadband router.
  However, when using the broadband router, if the DHCP server function is set to "ON", turn on the power after connecting the camera with the router. The camera gets the IP address from the router's DHCP server and it may not be 192.168.0.30.
  For more information, read your user's guide for broadband router.
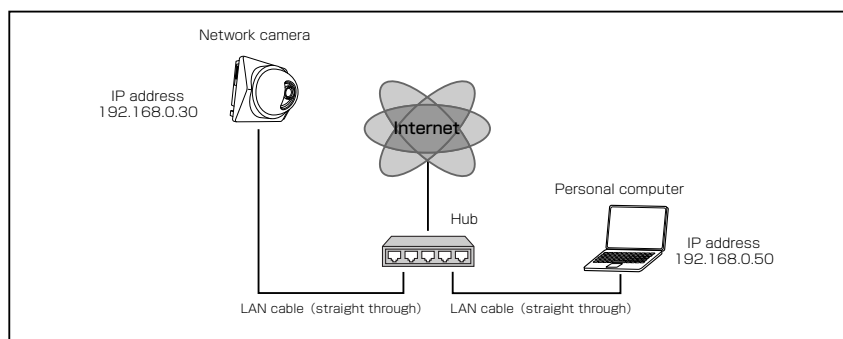 It is also recommended to set the computer's IP address from the router's DHCP server.
  For more information, read your computer's user's guide.

Connecting Camera and Personal Computer

1 Connect LAN cable and turn the power on.

· If you are using a hub, connect the LAN cable (straight cable) from the camera to the hub. Power-up the camera.
· If you are connecting the camera to a personal computer, with the computer turned on connect the LAN cable (cross cable) from the camera to the personal computer. Power-up the camera.
· If using PoE connect the LAN cable (straight cable) from the camera to the PoE hub. A PoE power supply is required.

2 Set the IP address of the personal computer.

· This step is used only if the camera is connected to the personal computer. The IP address of the computer must be set up to communicate with the camera. The camera is set to 192.168.0.30 so select an address that is close to the camera. An example would be 192.168.0.25. The subnet mask number must be 255.255.255.0. Please refer to the personal computers manual for the procedure.
· Set the IP address to 192.168.0.50 (and subnet mask to 255.255.255.0) as an example.
· For details on the procedure, refer to the user's guide of the personal computer.

3 Test the camera connection using ping.

· To locate the command prompt select start, select programs, select accessories, start a command prompt. Type "ping 192.168.0.30" and press "Enter" key.
· If the "Reply from..." message appears, the connection is correctly established.

4 Search the camera by "Camera Finder" explained on page 26 and view a camera image.

1. Start "Camera Finder" and click the "Search" button.
   · Confirm that the camera name "nwcam15" is displayed in the camera list.
2. Click "nwcam15", to select.
   · Check that the camera name, IP address and HTTP port number are displayed in the "Network Camera Log-in" field.
3. Click the Administrator button or the User button.
   · Clicking the Administrator button will display a screen for inputting the user name and password. Input the administrator log-in ID and password. (See "Administrator Log-in" on page 28)
4. A camera image screen of the network camera will appear.

NOTE

- To view images without using "Camera Finder," launch the Internet browser, enter URL http://192.168.0.30/ in the address box and press "ENTER."
- It takes about 30 seconds to activate the camera.
- If a port number other than "80" is set, designate the port number by suffixing it after ":" as in http://192.168.0.30:NN/, where NN is the new port number.

Using the Camera Search Application "Camera Finder"

The "Camera Finder" is an application for searching network cameras, that can currently be viewed from the administrator's personal computer or a user's personal computer, and connecting to those cameras.

● Setting up "Camera Finder"

1 Insert the CD-ROM in the CD-ROM drive of the personal computer.

2 Double-click the "Setup" file in the CD-ROM and install "Camera Finder" by following the on-screen instructions.

Important

● "Camera Finder" is compatible with only Windows 2000 and Windows XP. Glitches may occur with your personal computer if it is operated by any other OS. Do not install "Camera Finder" with other OS.

●Using "Camera Finder" to Search for a Camera

1 From the "Start" menu, point to "Programs" and "TOSHIBA Network Camera", and then select "Camera Finder".

2 Start up "Camera Finder" and click "Search".

· All the cameras currently connected to the network will appear.
To clear the results, click "Clear".

3 Click the camera you want to login from the list of cameras.

· The chosen camera name and IP address is displayed in the
Network camera log-in fields.
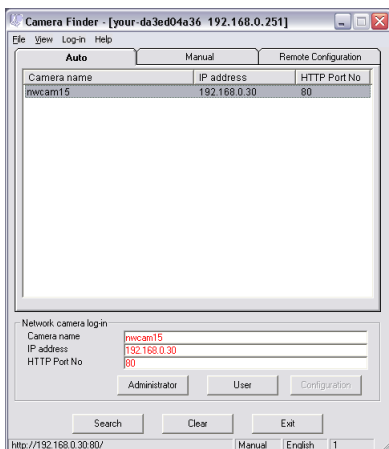
4 Click the Administrator button or the User button.

· Click the Administrator button to log in as an administrator. (See "Administrator Log-in" on page 28)
· Click the User button to log in as a user. (See "User Log-in" on page 29)
· To exit without performing log-in, click the Exit button.

NOTE

● Operations that can be performed after log-in differ between administrator log-in and user log-in. (See page 28)
● Set the personal computer to "Administrator authorization" when using "Camera Finder."

Important

● Toshiba is not responsible for any damages caused by this software.

Administrator Log-in and User Log-in

This product regards a person who has performed Administrator logged in as an "administrator" and a person who has performed User logged in as a "user." Administrator Log-in can perform all functions, while the functions performed by User Log-in are limited.

The following shows the different functions that are available for the administrator and the user.

Function		Administrator	User
Viewing images	Live images	○	○
	Recorded images	○	△※
Listening to sound		○	○
Operation	PAN (left/right)/TILT (up/down) operation	○	△※
	Image playback, presets, starting scan/patrol, etc.	○	△※
Recording	Recording on the camera	○	×
	Recording on the FTP server	○	×
Configuration		○	△※

※Users can use some functions by setting administrator setting.
See "Administrator Function-User Operation Restriction Settings" on page 92.

Administrator Log-in

1 Search the camera by "Camera Finder" explained on page 26 and click the Administrator button.
· The screen for inputting the user name and password will appear.
· Launch the Internet browser, enter URL "http://192.168.0.30/ admin.html" in the address box and click "OK." (Enter the same IP address set by you with the network camera, as the IP address)
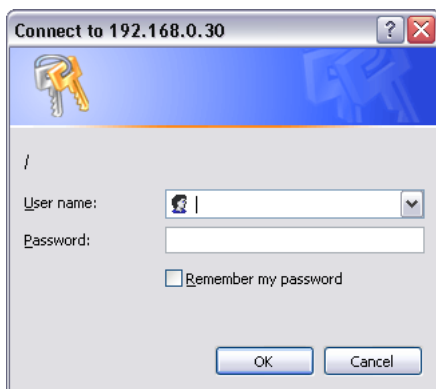
2 Input the administrator log-in ID and password in the user name and password fields and click the OK button.
· The administrator log-in screen and camera image screen will appear.
· The administrator log-in ID and password are set to "root" and to "ikwb" respectively by default.

Important

● Administrator Log-in allows rewriting of all settings. Be certain to change the administrator log-in ID and password already set in the camera by default, to ensure camera security. Keep the new administrator log-in ID and password handy for future use. To change the administrator log-in ID and password, see "Administrator Function/Changing ID and Password" on page 90.

User Log-in

1 Search the camera by "Camera Finder" explained on page 26 and click the User button.
· The screen for user log-in and camera image screen will appear.
· The user login ID is set to "guest" and password, "guest," by default.
· To perform user log-in without using "Camera Finder," launch the Internet browser, input URL "http://192.168.0.30/" in the address box and click "ENTER." (Use the same IP address set by you with the network camera, as the IP address)

Important

● By default, user log-in restrictions are set to ON. Set or reset user log-in restrictions as necessary. Setting log-in restrictions to ON will display a screen for inputting the user name and password prior to log-in. For setting, refer to "User Information" in "Administrator Function/Changing ID and Password" on page 90.

Administrator Log-in and User Log-in (Cont.)   Setup Screen

Administrator Log-in Screen and User Log-in Screen

Administrator Log-in Screen
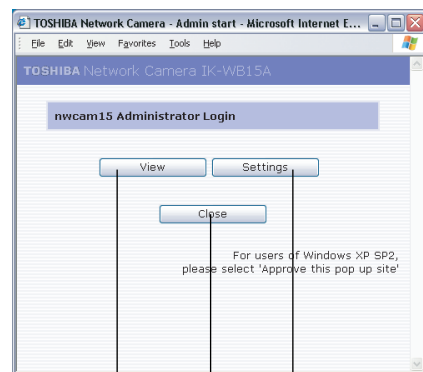
User Log-in Screen

Displays Camera Image screen

Displays Administrator Setup Menu screen

Exits Administrator Log-in screen
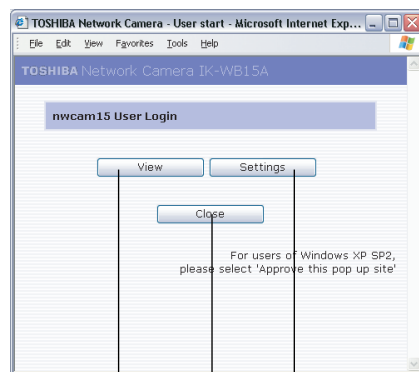
Displays Camera Image screen

Displays User Setup Menu screen

Exits User Log-in screen

When using Windows XP SP2

If clicking of the View button fails to display the Camera Image screen, operate as follows.
1) Choose "Pop-up Blocker" on the tool menu.
2) Choose "Always Allow Pop-ups from This Site…",
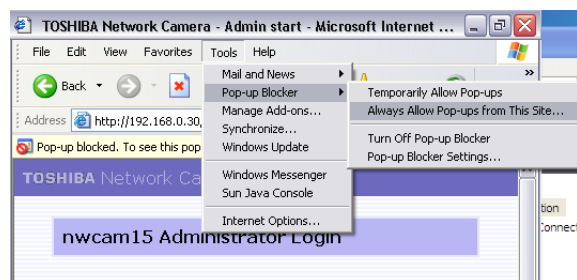
Clicking the Setup button in the Administrator Log-in screen or in the Camera Image screen.
See "Setting" on page 63 for the setting method.

Camera name

LIVE button
Displays the camera image screen.

exit button
Close the Setting screen.

Main Menu   Sub Menu

Default button
Resets settings back to factory default.

Reset button
Resets to condition before change

Save button
Saves changes
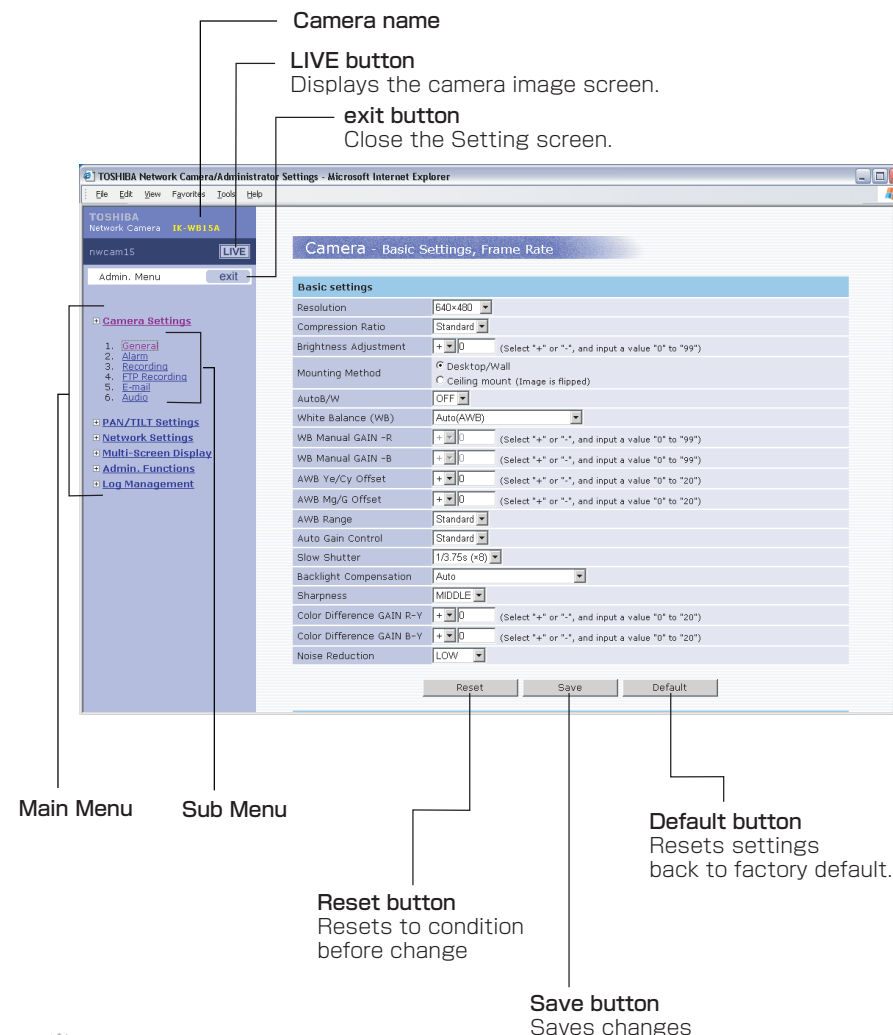
Important

- Performing user log-in does not display the Administrator Setup menu on the left and displays only setup items that can be used by the user (set by "Administrator Function-User Operation Enable Settings" on page 92).

Viewing and listening

Viewing images

Images of the network camera can be viewed through the Internet browser of your personal computer.

● Preparations before displaying

· Enable cookies
· If using a proxy server see "Browser setting when using a proxy server" on page 33.
· Change "security" in Internet options as follows.
1) Click "Internet Option" on the tool menu.
2) Click the Security tab.
3) Click the "Local intranet" icon if the camera to be operated is inside the intranet, click the "Intranet" icon if the camera is on the Internet.
4) Click "Level customize."
5) Check the following radio buttons in the displayed list:
· "Enable" for "ActiveX control and plug in execute"
· "Enable" for "Execution of script of ActiveX control marked safe even when script is executed"
· "Enable" for "Download of signed ActiveX control"
6) Click "OK."

1 Log-in the camera.

· Your browser will launch and the Camera Image screen for the camera will pop up.
· See "Administrator Log-in and User Log-in" on pages 28 and 29 for the log-in method.
· When the security warning screen (VeriSign) appears on the first use of the system, click "Yes."

2 To close the camera image, click the ⊠ button in the upper-right corner of the window.

NOTE

● The single-view screen on the Camera Image screen is the same size as that of images sent by the camera.
● The Camera Image screen can freely enlarge or reduce sizes of windows.
● Reducing the size of delivered images may omit the camera name and clock indication, but these items can be displayed by enlarging the window.
● Use the software "Independent JPEG Group's JPEG software" for JPEG enlargement. "This software is based in part on the work of the independent JPEG Group."
● Administrator authorization is needed to install "Active-X control." Install "Active-X control" after changing the personal computer setting to "Administrator authorization."
● Because the "Active-X" control, which displays the image, is not synchronized with the display adapter (video card) of the PC, the image may flicker.

● Browser setting when using a proxy server

When a proxy server is used it is recommended to set the browser to bypass the proxy server during communication the camera.
1) Launch the browser.
2) Choose "Internet option" on the tool menu.
3) Click "Connect" tab.
4) Click "LAN Setting."
· The screen for setting a local area network (LAN) will appear.
5) Verify if "Will use a proxy server" is checked.
· If the checkbox is not checked.
The browser is not set to use a proxy server. Click "Cancel" and quit setting.
· If the checkbox is checked.
Click "Detail setting." A proxy setup screen will appear.
6) Enter the IP addresses of the network cameras in the field marked "Do not use the proxy server with addresses started with the following.
7) Click "OK."

When Windows XP SP2 is used:

Click "Install" for "Active-X control."
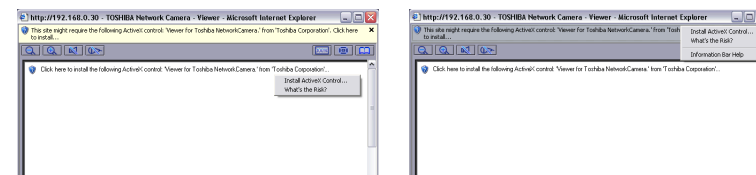
NOTE

● A proxy server protected by an intracompany firewall sometimes cannot be connected to the network camera. Consult the network administrator so as to avoid impacts on network camera operations.
● Communication with the network cameras via a proxy server may cause some problem. Install the network cameras after consulting the network administrator.
● Using the network cameras via a proxy server sometimes takes a long time until images are displayed after log-in or reduces the frame rate of delivered images.

■ Audio

Audio In from the network camera can be heard through the Audio Out of the personal computer.
Set audio input to "ON" in "Camera-Audio" on page 77 and set the [🔇] button of the Camera Image button to [🔊].

■ Camera image screen

① ② ③ ④ ⑤ ⑦ ⑧ (diagram labels)

| Number and Item	Description
① **Camera name**	The name of the camera displaying live images.
② **Operation Buttons**	[🔍] : Clicking the [🔍] button will zoom out.
	[🔍] : Each click of the [🔍] button will zoom in on the image. Maximum zoom is 2.6x.
	[🔇] : Clicking the [🔇] button will change the display to the [🔊] button and will output sound. Clicking the [🔊] button will change the display to the [🔇] button and will not output sound.
	[🎤] : Clicking the [🎤] button will change the display to the [)I▣] button and will output sound from the personal computer microphone. Clicking the [)I▣] button will change the display to the [🎤] button and will not output sound from the personal computer microphone.
③ **Operation Buttons**	[100%] : Equal size button. Click [100%] to reset to a viewer size to the camera resolution.

Number and Item	Description
④ **Display controller**	Clicking the [▣] button displays the controller in a separate window.
⑤ **Setup Menu Display**	Clicking the [📖] button will display the Setup Menu screen in another window.
⑥ **Alarm notification**	This alarm message is displayed when "Alarm In" (page 72) or "Motion Detection" (page 72) is activated. The alarm message [⚠Alarm] disappears if it is clicked.
⑦**Displayed images**	When displaying present normal images, "LIVE" will be displayed, and when displaying images from the Alarm List or Record List, "PLAYBACK" will be displayed on the screen. You can switch these views using the controller.
⑧ **Time and date**	The current time and date of the network camera are shown when "LIVE" is displayed, and the recorded time and date are shown when "PLAYBACK" is displayed on the screen. When in PLAYBACK mode, S) or E) may be shown with the time and date. "S)" and "E)" are sometimes displayed in the PLAYBACK mode as date and time data. "S)" means start of playback images and "E)," end of playback images. In these modes, images or date and time cannot be updated. Operate playback on the controller.

■ Moving the screen center.

1 Click on any area in the Camera Image screen.

2 The camera moves so that the clicked point becomes the center of the image.

■ Optical zoom operation with a mouse scroll wheel

When the Camera Image screen is active, you can zoom with the mouse scroll wheel.

✎ NOTE

- This function may not operate depending on the mouse setup settings. Please check the PC's mouse setup.
- Microphone input and audio output are not available at the same time.

Viewing and listening (Cont.)

■ Controller
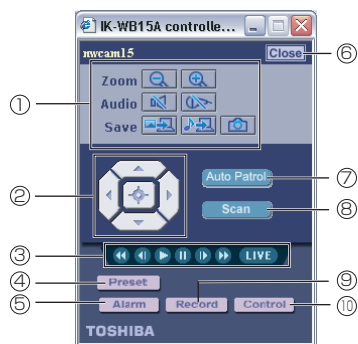
● Functions of components of Administrator basic controller

| Number and Item		Description
① Operation Buttons		
Zoom	🔍 : Zoom out button. Click to zoom out.	
	🔍 : Zoom in button. Click to zoom in.	
Audio	🔇 : Audio input button. Plays sound that is input to the camera.	
	🔈 : Audio output button. Transfers sound that is input from the personal computer microphone to the camera.	
Save	🖼 : Image record button. Continually records images.	
	🎵 : Audio record button. Continually records audio input.	
	📷 : One-shot button. Records one image.	

● Functions of components of Administrator basic controller

Number and Item		Description
② Controller		This feature adjusts the direction of the lens by panning (left/right) and tilting (up/down).
		1. Each time you click the ▲ button, the lens moves up. When the camera lens reaches its upper limit, clicking on the button has no effect.
		2. Each time you click the ◀ button, the lens moves left. When the camera lens reaches its left most limit, clicking on the button has no effect.
		3. Each time you click the ▼ button, the lens moves down. When the camera lens reaches its lower limit, clicking on the button has no effect.
		4. Each time you click the ▶ button, the lens moves right. When the camera lens reaches its right most limit, clicking on the button has no effect.
		5. Clicking the ◆ button returns the lens to its center position.
③ Control buttons for playing and recording	⏪	Fast rewinds play images. When "S)" is indicated in date and time display, recorded images have been rewound to the first image.
	◀⏸	Images are played frame by frame in reverse direction.
	▶	Plays selected images.
	⏸	Pauses an image being played.
	⏯	Images are played frame by frame.
	⏩	Fast fowards play images. When "E)" is indicated in date and time display, recorded images have been fed to the last image.
	LIVE	Resets the play image mode to the current image mode.
④ Preset		The Preset button. The preset control panel will appear.
⑤ Alarm		The Alarm List button. The list of "Alarm In" will appear.
⑥ Close		The Close button. Exits the controller screen.

Viewing and listening (Cont.)

● Functions of components of Administrator basic controller

Number and Item	Description
⑦ [Auto Patrol]	The Auto Patrol feature moves the lens automatically to all the configured preset positions in order. Clicking the [Auto Patrol] button starts Auto Patrol. Clicking one of ⬚ or 🔍 🔍 buttons stops the action.
⑧ [Scan]	The Scan feature automatically moves (swivels) the lens horizontally back and forth once. Clicking the [Scan] button starts Scan. Clicking one of ⬚ or 🔍 🔍 buttons stops the action.
⑨ [Record]	"Continuous Recording" button. The list of "Continuous Recording" will appear.
⑩ [Control]	"EXT. Control In" button. The list of "EXT. Control In" will appear.

NOTE

- Setting the Manual mode adjusts brightness only by the lens aperture.
- A picture displayed by the 📷 button (one-shot button) should be saved using "Save Picture As…" with a mouse right button. However, depending on installation (Ceiling/Desktop) and its settings, the picture may be vertically reversed.

Presetting of Camera Position by Administrator

The presets function enables you to assign up to ten different positions and names for the camera. Clicking the [Preset] button on the basic administrator controller opens the preset controller.
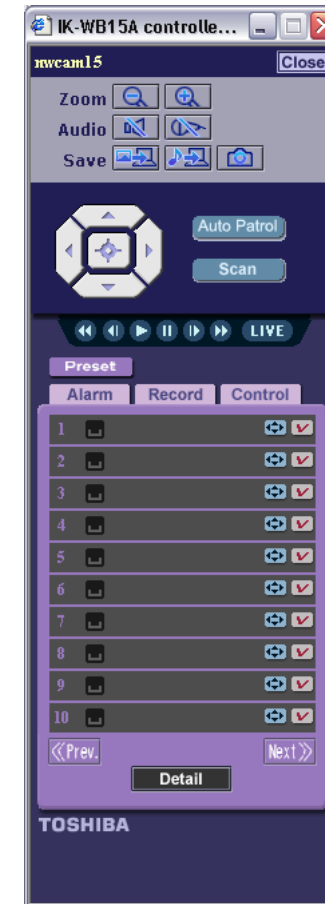
Presetting of Camera Position by Administrator (Cont.)

Selecting a Preset

Selecting a preset from the list moves the camera to the preset position.

1 In the list, click ⬌ (go to Preset) button on the left of the preset you want to select.
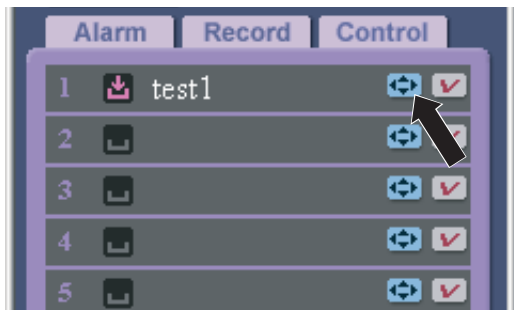
· The camera will only move to a preset that has been set. Selecting a blank preset will not move the camera. See "Configuring a Preset" on the next page.

Configuring a Preset

Assign the camera position in the Preset list.

1 Click the ⬦ button to move the camera to the position you want to set.

2 In the list, click ☑ (set Preset) button on the right of the preset you want to configure.
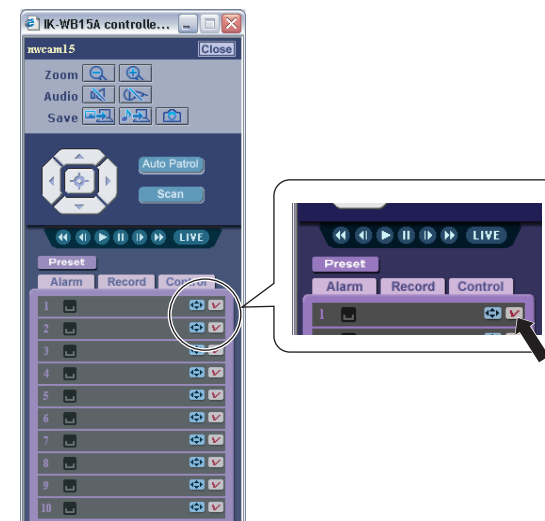
3 Click the OK button to assign a preset position.

· Assign the current camera position in the selected preset.
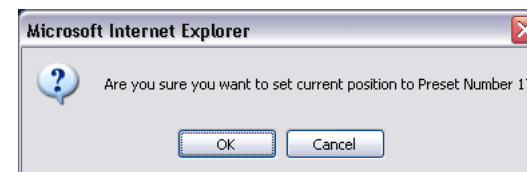
✎ NOTE

- Any existing settings of a preset will be overwritten when you assign new settings to the preset.
- The brightness adjustment value, rear light correction setting and manual/auto focus setting are stored for each preset number.

Presetting of Camera Position by Administrator (Cont.)

Setup Preset Items

Set items in the detailed preset controller setup window that is displayed.

1 Click [Detail] button on the preset controller.

2 The PAN/TILT Preset Settings screen will appear.
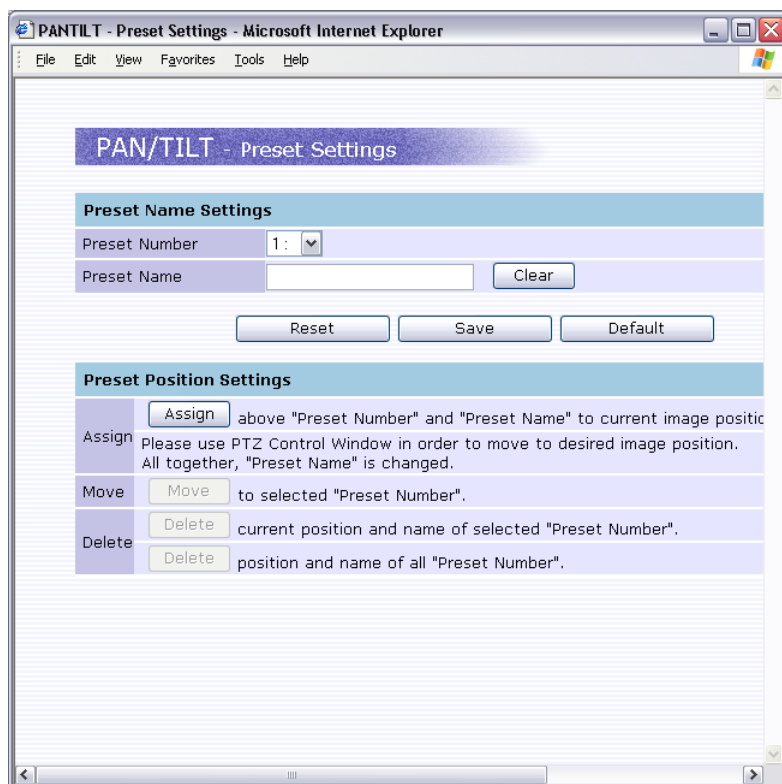
3 Item setup.

■ Preset Name Settings

● **Preset Number**
Choose a number from the list. ("1" to "64" can be set)

● **Preset Name**
Choose preset numbers and name them. Naming numbers facilitates identification of preset registered items.

● **Clear button**
Click when changing a given name.

● **Reset button**
Chose a preset number and click the Reset button.

● **Save button**
Click when entering a new preset name or when changing a name.
· The changes will be saved.

● **Default**
Resets values back to factory default.

■ Preset Position Settings

● **Assign**
Assign the current position of a chosen preset number. (Cannot be assigned unless a preset name is entered and the Save button is clicked. Can be assigned without a prest name.)
Assign: Click

● **Move**
Move to the chosen position and name of a preset number.
Move: Click

● **Delete**
· Delete the current position of a chosen preset number.
Delete: Click
· Deleting positions and names of all preset numbers.
Delete: Click

4 Clicking [Preset] button on the preset controller twice reflects set items.

· Clicking the Preset button on the preset controller once deletes the List window and Detail Setup window.

Playing Recorded Alarm Images

You can play images which are recorded when an alarm is activated. The images play at a fixed speed regardless of the recording setting. Image settings such as "Picture Resolution" correspond to Alarm recording settings.

1 Click 🔲 button while the Camera Image screen is displayed.

· The controller will appear.

2 Click ⌈ Alarm ⌉ button on the controller.

· The Alarm List will appear.
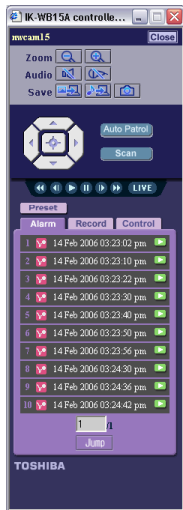
3 In the list, click the ▶ button on the right of the recording you want to play.

· The selected recording plays.

✎ NOTE

- Items in the Alarm list appear from left to right in the order of list number, alarm type, generation time/date, and play button.
- Clicking the ⌈≪Prev.⌉ button in the bottom of the screen will display the list on the previous page. Click ⌈Next≫⌉ to display the list on the next page.
- Entering a page number of the list and clicking the ⌈Jump⌉ button at the bottom of the screen will directly display the list on that page.
- Fast rewind, fast forward and other functions can be performed by operating the Recorded Image Play button on the controller.
- To return from the recorded image to the live image screen, click the (LIVE) button.
- Starting alarm recording or external control recording during play stops play.
- Normal recording is disabled during play.
- When new alarm has been generated while the alarm controller is displayed, the notification will not be added to the list right away. In that case, close the controller once and re-display it.
- If overwrite functions, close the list and display it again.
- You cannot use these characters: ' "

Playing Recorded Normal Images

The administrator can play recorded normal images saved to an SD memory card. The images play at a fixed speed regardless of the recording setting. Image settings such as "Picture Resolution" correspond to Normal recording settings.

1 Click 🔲 button while the Camera Image screen is displayed.

· The controller will appear.

2 Click ⌈ Record ⌉ button on the controller.

· Displays the Record list.
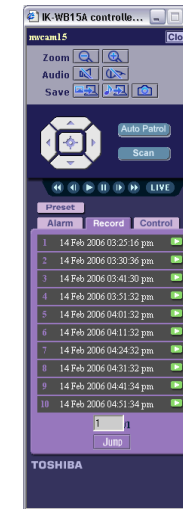
3 In the list, click the ▶ button on the right of the recording you want to play

· The selected recording plays.

✎ NOTE

- Items in the Record list appear from left to right in the order of list number, generation time/date, and play button.
- Clicking the ⌈≪Prev.⌉ button in the bottom of the screen will display the list on the previous page. Click ⌈Next≫⌉ to display the list on the next page.
- Entering a page number of the list and clicking the ⌈Jump⌉ button at the bottom of the screen will directly display the list on that page.
- Fast rewind, fast forward and other functions can be performed by operatingthe Recorded Image Play button on the controller.
- To return from the recorded image to the live image screen, click the (LIVE) button.
- Normal images are recorded by the hour.
- Starting alarm recording or external control recording during play stops play.
- Normal recording is disabled during play.
- If overwrite functions, close the list and display it again.

Playing External Control Recorded Images

External control recorded images recorded in an SD memory card can be replayed. (See page 50) The images play at a fixed speed regardless of the recording setting. Image settings such as "Picture Resolution" correspond to External Control recording settings.

1 Click ▣ button while the Camera Image screen is displayed.

· The controller will appear.

2 Click ⌈Control⌉ button on the controller.

· The external control recorded list will appear.
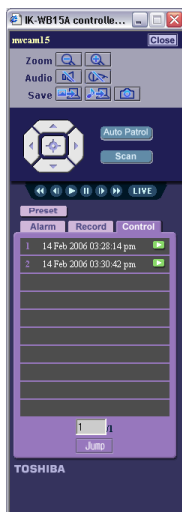
3 In the list, click the ▶ button on the right of the recording you want to play

· The selected recording plays.

📝 **NOTE**

- Items in the external control recorded list appear from left to right in the order of list number, alarm type, generation time/date, and play button.
- Clicking the ⌈≪Prev.⌉ button in the bottom of the screen will display the list on the previous page. Click ⌈Next≫⌉ to display the list on the next page.
- Entering a page number of the list and clicking the ⌈Jump⌉ button at the bottom of the screen will directly display the list on that page.
- Fast rewind, fast forward and other functions can be performed by operating the Recorded Image Play button on the controller.
- To return from the recorded image to the live image screen, click the ⌈LIVE⌉ button.
- Starting alarm recording or external control recording during play stops play.
- Normal recording is disabled during play.
- When new alarm has been generated while the external controller is displayed, the notification will not be added to the list right away. In that case, close the controller once and re-display it.
- If overwrite functions, close the list and display it again.

Audio Out

Audio from a personal computer microphone can be heard through the camera's Audio Out. (See "Names of Camera Parts" on page 16)

1 Click "Camera Settings" on the Admin. menu. Then click "Audio" in the sub menu.

· The screen of "Camera - Audio" will appear.

2 Set "Audio Output" to ON as detailed on page 77.

3 Click the ⌈📷⌉ button, one of the operation buttons of the Camera Image screen and set to display ⌈🔊⌉.

📝 **NOTE**

- Connect a speaker with a built-in amplifier to the Audio Out terminal of the camera. Sound cannot be output if connected to a speaker that does not contain an amplifier.
- See the instruction manual of the personal computer for a description of the microphone to be connected to the personal computer.
- Audio can be output from only one computer at a time.
- Microphone input and audio output are not available at the same time.

About Recording Images

A network camera can record images according to your needs. Recordable media and its recordable contents are as follows.

Recordable Media	Recordable Contents
SD Memory Card	· Alarm Recording images configured in "Alarm Recording" settings (→page 51). · Continuous Recording images configured in "Continuous Recording" settings (→page 51).
FTP Server	· Recorded images by schedule · Data of "When Alarm goes off" · Recorded images by external control
PC	· One image (JPEG) appeared by operating the ⬜ button. (See page 61) · Image (JPEG) recorded by operating the ⬜ button. (See page 61) · Voice (WAVE) recorded by operating the ⬜ button. (See page 62)

NOTE

- The SD memory card cannot perform Alarm recording, Continuous Recording, External Control recording and playing simultaneously.The priority is given in the order of external alarm recording - external control recording - recording activated by motion detection - playing - Continuous Recording. Images are not recorded during replay.
- A picture displayed by the ⬜ button (one-shot button) should be saved using "Save Picture As..." with a mouse right button. However, depending on installation (Ceiling/Desktop) and its settings, the picture may be vertically reversed.

Recording Images in SD Memory Card

Images during "Alarm In", "Motion Detection", "Ext. Control In" and "Continuous Recording" can be stored in an SD memory card inserted in the network camera. When recording alarm images, perform "Alarm Settings" first as explained on page 71 and set records in the following sequence.

Record setting

1 Insert SD memory card to the camera.

- Insert an SD memory card as explained on page 16.
- Click "SD In Out Wizard" and check "Insert SD memory card" in the displayed SD Memory Card In and Out screen. Then click the Execute button.
- Clicking the Format button on the SD Memory Card In/Out screen will format the SD memory card.

Important

- Be certain to check "Remove SD memory card" in the SD Memory Card In and Out screen when removing the SD card. Then click the Execute button. Removing SD Card without executing "Remove SD memory card" may destroy data.

2 Click "Camera Settings" on the Admin. Menu.

- A sub menu for camera setup will appear.
- Unless administrator log-in is made, the Administrator Setup Menu will not be displayed. Perform administrator log-in.

3 Click "Recording" in the sub menu

- The "Camera - Recording" screen will appear.
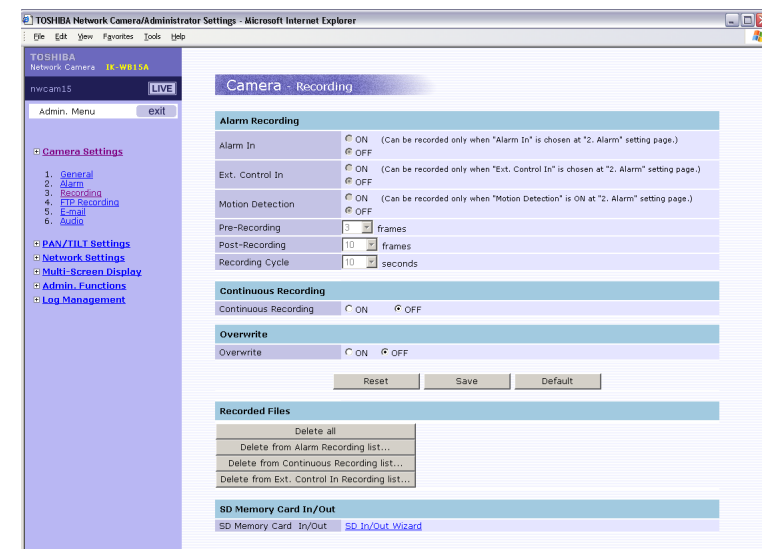
4 Configure each setting items.

■ Alarm Recording

● **Alarm In**
ON: Images are recorded when an external alarm occurs.
OFF: Images are not recorded when an external alarm occurs.
● **Ext. Control In**
ON: External control recording is performed.
OFF: External control recording is not performed.
● **Motion Detection**
ON: Images are recorded when motion is detected.
OFF: Images are not recorded when motion is detected.
● **Pre-Recording**
Set the number of images to be recorded immediately before an alarm occurs. Images at the moment when an alarm occurs are not included.
● **Post-Recording**
Set the number of images to be recorded immediately after an alarm occurs. Images at the moment when an alarm occurs are not included.
● **Recording cycle**
Set a time interval for alarm recording.

■ Continuous Recording

ON: Images are recorded in accordance with schedule and recording interval.
Setting to ON will set a recording schedule and interval.
OFF: Continuous recording is not performed.

■ Overwrite

ON: Records are overwritten beginning with old records when the capacity of the SD memory card becomes full during recording.
OFF: Recording is stopped when the capacity of the SD memory card becomes full during recording.

5 Click the Save button under the items.

· Changes are saved.

✐ NOTE

- Clicking the Reset button under each item resets to the setting last saved.
- Clicking the Default button resets settings back to factory default.
- The total number of recorded frames per alarm will be the number of pre-alarm images + One image when alarm occurs + Number of post-alarm images
- To enable "Alarm In", see the "Camera/Alarm Settings" on page 71.
- To enable "Ext. Control In", see the "Camera/Alarm Settings" on page 71.
- Setting the Overwrite mode to ON deletes files beginning with old files. If important data is to be saved, set the Overwrite mode to OFF.
- Getting a record list of the SD memory card sometimes takes more than 5 minutes after turning the power on. Data cannot be recorded while obtaining a record list.
- The camera recording period may not operate as set depending on the type of the SD memory card.

Deleting Record File

Image files recorded in an SD memory card can be deleted.

1 Click "Camera Settings" in the Admin. Menu.

· A sub menu for Camera settings will appear.

2 Click "Recording" in the sub menu.

· A setup screen for Camera/Recording will appear.

3 Click "Delete all", "Delete from Alarm Recording list...", "Delete from Continuous Recording list..." or "Delete from Ext. Control In Recording list..." in Recorded Files.

· Clicking "Delete all" deletes all record files.
· Clicking "Delete from Alarm Recording list..." displays an alarm list. Specifying a range for deletion deletes alarm record files.
· Clicking "Delete from Continuous Recording list..." displays a normal list. Specifying a scope for deletion deletes normal record files.
· Clicking "Delete from Ext. Control In Recording list..." displays an external control record list. Specifying a scope for deletion deletes external control record files.

Recording Images on FTP Server

By using FTP server, it becomes possible to manage periodic transferring and saving huge recorded image data. You can record images by "Scheduled Recording", "Alarm Recording" or "Ext. Control In Recording" on FTP server.

Record setting

1 Click "Camera Settings" on the Admin. Menu

· A sub menu for camera settings will appear.
· Unless logged in as an administrator, the Admin. Menu will not be displayed.

2 Click "FTP Recording" in the sub menu.

· The "Camera - FTP Records" screen will appear.
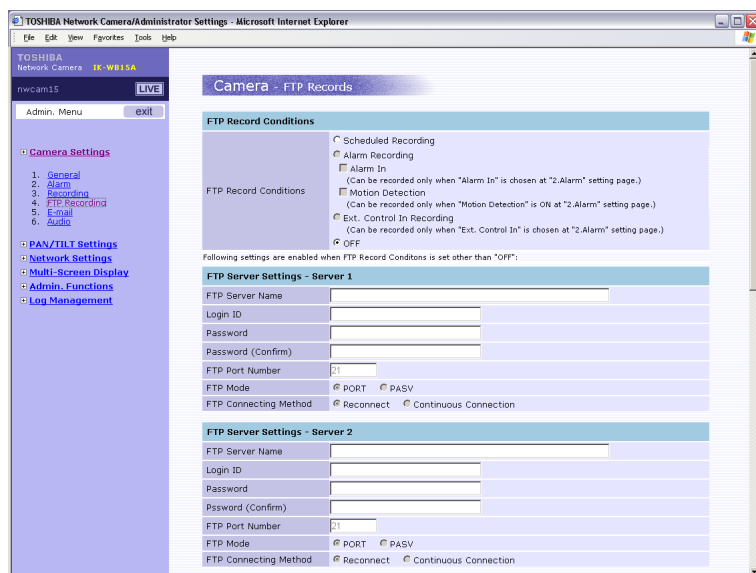
3 Configure each setting items.

· Follow the instructions in following page.

4 Click the Save button to save settings.

· Changes will be saved.
· Clicking the Reset button resets to settings last saved.
· Clicking the Default button resets values to factory default.

📝**NOTE**

● In server name or recording server path you cannot use these characters: ' ""
● Maximum of 16 of the following characters can be entered in "Login ID," "Password" and "Password (confirm)":
　　. (dot), - (hyphen), @, 0 - 9, a to z and A to Z

■ **FTP Record Conditions**

Check "Scheduled Recording," "Alarm Recording" or "Ext. Control In Recording" If "Alarm Recording" is chosen, check both or one of "Alarm In" and "Motion Detection."

■ **FTP Server Settings - Server 1**

Make settings for connection to the FTP server.

● **FTP Server Name**
Input a server name or address.
● **Login ID**
Limited only to users who have authority to access the server.
Ask your FTP system administrator for more information.
● **Password**
Input the password registered during the above log-in ID session.
● **Password (Confirm)**
Re-enter the password.
● **FTP Port Number**
Set to "21" by default.

📝**NOTE**

● Do not change the port number unless your provider or the network administrator tells you to do so.

● **FTP Mode:**
　· PORT (active mode):　Choose this mode for most FTP applications.
　· PASV (passive mode): If the camera's network environment is protected by a Firewall, access FTP server may not be possible with PORT (active mode). In this case, chose PASV (passive mode).

● **FTP Connecting Method**
　· Select "Continuous Connection" when transferring data frequently, such as "Scheduled Recording". This mode enables you to record images faster.
　· Select "Reconnect" when data transfer is not so frequent.
　　In this case, the network camera logs in/out for each file transfer.

📝**NOTE**

● When selecting "Scheduled Recording" or "Ext. Control In Recording", network camera logs in to FTP server automatically before the scheduled recording starts. Even though the scheduled recording stops, when there are some unsent image data left in the camera, the camera will not log out from FTP server automatically until it transfers all the image data.
● When selecting "Alarm In" or "Ext. Control In Recording", network camera logs in/out automatically each time an alarm is detected. When there is more than one alarm at a time (receiving another alarm(s) while transferring a file) , the camera logs out from the server after transferring last image data.
● If the "Recording Cycle" is set longer than the connection timout period of the FTP server, FTP connection will be cut off by the server side even with selecting "Continuous Connection" in the FTP Connection Method. (See pages 54 and 55)

Recording Images on FTP Server (Cont.)

■ FTP Server Settings - Server 2

When using two servers for different purposes or on different occasions, enter the settings for the second server.

■ Transfer Image Size

The size of images transferred to the FTP server can be set.

NOTE

- The frame rate will be reduced if the "Transfer Image Size" differs from "Resolution" in the "Basic Settings" in "Camera Settings".

■ Transfer File Name

When transfering a file to an FTP server,the file name can be saved "with Time Stamp" or "Fixed."

NOTE

- When "with Time Stamp" is set, the "Record File Name" will be formatted with the keyword, time and date as the file name. (See pages 55, 56 and 58)
- When "Fixed" is set, the file name will be the text entered in the "Record File Name" keyword field.
  For example, if "toshiba" is entered as the keyword, the file name will be "toshiba.jpg".
  The file will be overwritten with the same file name on the FTP server with every new transfer.

■ FTP Server Usage

OFF: "Server 2" is not used. (Always recorded in "Server 1")
Use different FTP Server in case of communication fault:
        Choose one of the followings.
        Normally recorded in Server 1.
        Recorded in Server 2 if Server 1 fails.
        Normally recorded in Server 2.
        Recorded in Server 1 if Server 2 fails.

■ Scheduled Recording

(Displayed if "Scheduled Recording" is chosen as an FTP record conditions.)

Set if scheduled recording is desired.

1) **Configure "Recording Schedule"**
   · Select one of the setting items for each day of a week.
     "OFF":   No recording at all.
     "All Day":   Records images all day.
     "Schedule1": Records images in a period you configured in "Schedule 1".
     "Schedule 2": Records images in a period you configured in "Schedule 2".
2) **Configure Schedule**
   · You may configure both "Schedule 1" and "Schedule 2" and use them according to your need.
     Possible setting range is between 0 am and 11 pm for both "Start" and "Stop".
3) **Setting a Recording Cycle**
   · Recording at a rate of one image per set time (seconds).
   · Choose a time interval to set.
     1/30, 1/15, 1/10, 1/5, 1/3 1/2, 1, 2, 3, 5, 10, 30, 60, 120 or 180 second
   · Configured recording cycle will be reflected to "All Day", "Schedule 1" and "Schedule 2".

NOTE

- The cycle may shift depending on image size and networking conditions.

4) **Enter "Record File Name"**
   · Enter characters(no more than 16 characters) in the part described as (keyword).
     File name will be shown like this:
             e.g. LV (Keyword) yyyy mm dd HH MM SS ***N.JPG

NOTE

- You cannot use these characters: \ / : ; , ! ? * < > ' "
- When "Fixed" is set, the file name will be the text entered in the "Record File Name" keyword field. For example, if "toshiba" is entered as the keyword, the file name will be "toshiba.jpg". The file will be overwritten with the same file name on the FTP server with every new transfer.

Following are the meaning of each part.

LV	Indicates this is the "Scheduled Recording" file.
(Keyword)	Enter user defined keyword.
yyyymmdd	Indicates date (Year, Month, Day). (e.g. June 26, 2006 → 20060626)
HHMMSS	Indicates time (Hour, Minute, Second). (e.g. 23:59:00 → 23 59 00). Time is displayed in 24-hour time display.
***	If the camera records more than one image at the same period, the order is indicated with 3-digit number. The bigger the number, the newer (later) the image.
N	Indicates Daylight Saving. N: Not in Daylight Time D: Daylight (Summer) Time

5) **Entering Server path**
   · Set a server path for recording of files. Ask your FTP server administrator if you have a question.

■ Recording by alarm

(Displayed if "Alarm Recording" is chosen as an FTP record conditions.)

Set if recording by Alarm In/Motion Detection is desired.
· To detect external alarms or motion, set to enable "Alarm In" or "Motion Detection" in alarm setting (see page 71).

Recording by Alarm		
Pre-Recording	10 ▾	frames
Post-Recording	10 ▾	frames
Recording Cycle	1 ▾	seconds
Record File Name	External alarm : EX	yyyymmddHHMMSS***N--A.JPG
	Motion detection : MD	yyyymmddHHMMSS***N--A.JPG
Server Path	Server 1:	
	Server 2:	

1) Setting number of pre-Recording

· Choose the number of images
0, 3, 5 or 10 images

2) Setting number of post-Recording

· Choose the number of images
0, 3, 5, 10, 20, 60 or 120 images

✎ NOTE

• The number of recorded images may be decreased depending on the network condition, recording interval or other factor.

3) Setting a "Recording Cycle"

· Recording at a rate of one images per set time (seconds).
· Choose a time interval to set.
1/30, 1/15, 1/10, 1/5, 1/3 1/2, 1, 2, 3, 5, 10, 30, 60, 120 or 180 second

✎ NOTE

• The cycle may shift depending on image size and networking conditions.

4) Enter "Record File Name"

· Enter characters (no more than 16 characters) in the part described as (keyword).
File name will be shown like this:
      e.g. EX (Keyword) yyyy mm dd HH MM SS ***N--A.JPG

✎ NOTE

• You cannot use these characters: \ / : ; , | ? * < > ' "
• When "Fixed" is set, the file name will be the text entered in the "Record File Name" keyword field. For example, if "toshiba" is entered as the keyword, the file name will be "toshiba.jpg". The file will be overwritten with the same file name on the FTP server with every new transfer.

Followings are the meaning of each part.

EX/MD	"EX" indicates this is the file for Alarm In. "MD" indicates this is the file for Motion Detection.
(keyword)	Enter user defined keyword.
yyyymmdd	Indicates date (Year, Month, Day). (e.g. June 26, 2006 → 20060626)
HHMMSS	Indicates time (Hour, Minute, Second). (e.g. 23:59:00 → 23 59 00). Time is displayed in 24-hour time display.
***	If the camera records more than one image at the same period, the order is indicated with 3-digit number. The bigger the number, the newer (latest) the image.
——	Indicates total number of generated alarm(s). when the number reaches to 99, it returns to 00 and starts adding again. Reset to "00" also when the power is turned off.
A/B/C	A: Pre-Alarm Recording images. B: Image when an alarm is generated. C: Post-Alarm Recording.

5) Entering Server path

· Set a server path for recording of files. Ask your FTP server administrator if you have a question.

■ Recording by Ext. Control In

(Displayed if "Ext. Control In Recording" is chosen as an FTP record conditions.)

Set if recording by Ext. Control In is chosen.
· Set to enable "Ext. Control In" in alarm setting (see page 71).

Ext. Control In Recording		
Recording Cycle	60 ▾ seconds	
Record File Name	EC [ ] yyyymmddHHMMSS***N.JPG	
Server Path	Server 1: [ ]	
	Server 2: [ ]	

1) Setting a Recording Cycle

· Recording at a rate of one images per set time (seconds).
· Choose a time interval to set
  1/30, 1/15, 1/10, 1/5, 1/3, 1/2, 1, 2, 3, 5, 10, 30, 60, 120 or 180 second

NOTE

● The cycle may shift depending on image size and Network conditions.

2) Enter "Record File Name"

· Enter characters in the part described as (keyword).
  File name will be shown like this:
          e.g. LV (Keyword) yyyy mm dd HH MM SS ***N.JPG

NOTE

● You cannot use these characters: \ / : ; , ! ? * < > ' "
● When "Fixed" is set, the file name will be the text entered in the "Record File Name" keyword field. For example, if "toshiba" is entered as the keyword, the file name will be "toshiba.jpg". The file will be overwritten with the same file name on the FTP server with every new transfer.
  Followings are the meaning of each part.

EC	Shows a file that is recorded by "Ext. Control In Recording".
(Keyword)	Enter user defined keyword.
yyyymmdd	Indicates date (Year, Month, Day). (e.g. June 26, 2006 → 20060626)
HHMMSS	Indicates time (Hour, Minute, Second). (e.g. 23:59:00 → 23 59 00). Time is displayed in 24-hour time display.
***	If the camera records more than one image at the same period, the order is indicated with 3-digit number. The bigger the number, the newer (latest) the image.
N	Indicates Daylight Saving. N: Not in Daylight Time D: Daylight (Summer) Time

3) Entering Server Path

· Set a server path for recording of files. Ask your FTP server administrator if you have a question.

■ SD card back up

You can choose to store images in the SD card in case images cannot be recorded in the server due to a network failure, server shutdown or other trouble. Stored images can be transferred to the FTP server when the network restores or trouble cause is resolved.

SD Card Back Up		
Function ON/OFF	○ ON ◉ OFF	
Accumulation Cycle	60 ▾ seconds	
Overwrite	○ ON ◉ OFF	

1) Setting ON/OFF of storage function

· Choose "ON" to store images in the SD memory card. Otherwise choose "OFF."

2) Accumulation Cycle

· Set an interval in seconds for recording images to be stored.
· Choose a time interval to set.
  1, 2, 5, 10, 15, 30, 60, 120, 300, 600, 900, 1800 or 3600 seconds

3) Setting overwrite function

Set whether or not to overwrite when the storage capacity of the SD memory card becomes full.
ON: Overwrite beginning old stored images.
OFF: SD Card is not overwritten.

NOTE

● Set "Accumulation Cycle" and "Overwrite" after setting "Function ON/OFF" to "ON."
● Setting the Overwrite mode to "ON" deletes files beginning with old files. Set the mode to "OFF" if important data is stored.
● Do not change settings while storage files are stored in the SD memory card. Otherwise, settings for the current recording conditions will be used for the server path.

File Transfer Order (Scheduled Recording)

Files are transferred in recorded order. However, these cameras may take following steps depending on network conditions.

1) When networking condition causes the file transferring delay, the camera may transfer the old files in the file transfer intervals.
2) Regardless of file transferring schedule, the camera continues to transfer files until all files are transfered.

NOTE

- Files sometimes cannot be transferred depending on the status of the network and FTP server. In this case, data can be stored in the SD memory card. Set "SD card back up" for "FTP recording" in "Camera setup" (see page 59) to transfer data to the FTP server as described in 2) above).

Images (JPEG files) can be recorded in a personal computer.

Recording 1-shot images in personal computer

1 Click 📷 button in the Camera Image screen.

· "JPEG file" will appear on the personal computer.

2 Right-click in the screen, choose "Save as" and save in the personal computer.

Recording images in the personal computer

1 Click 🖼️ button in the Camera Image screen.

· The setup screen for "Jpeg Local Saving" will appear.

2 Set recording seconds or the number of files. Click the Seconds button or the Files button.

Clicking will record for set seconds.

Clicking will record the set number of files.

Enter recording seconds or the number of files.

NOTE

- Recorded files will be saved in the folder "ToshibaNetworkCamera" in My Documents.
- The number of recorded images when the number of seconds is specified and recording interval when the number of files is specified depends on the set frame rate. (See page 70) The frame rate may be decreased depending on the network condition.
- The maximum number of seconds is 3600 seconds and the maximum number of recorded files is 1000.

Recording Sound in personal computer

Setting

Sound can be recorded in a personal computer (wav file).

1 Click 🖳 button in the Camera Image screen.

· The setup screen for "Wave Local Saving" will appear.

2 Set recording seconds or the number of files. Click the Seconds button or the Files button.

```
Wave Local Saving - Microsoft I...  _ □ ✕

Wave File Save Folder:
C:\Documents and Settings\TOSHIBA\My
Documents\ToshibaNetworkCamera

Time/Num:
80
[ Seconds ] [ Files ]
```

Clicking will record for set seconds. ── (Seconds button)

Clicking will record the set number of files. ── (Files button)

Enter recording seconds or the number of files.

✎ NOTE

● Recording is disabled unless the Camera Image screen is set to the Audio Output mode (🔊 button displayed).
● Recorded files will be saved in the folder "ToshibaNetworkCamera" in My Documents.
● Recorded one second as one file.

Only the system administrator can set all settings with the network camera. Clicking the menu on the left of the Administrator Setup menu selects set items.

General setting method

1 Click "Camera Settings", "PAN/TILT Settings", "Network Settings", "Multi Screen Display", "Admin. Function" or "Log Management" in the Admin. Menu.

· The sub menu of the clicked setting will pop up.
· Unless logged in as an administrator, the Administrator Setup Menu will not be displayed.

2 Click an item in the sub menu to set.

· The setup screen for the clicked item appears on the right of the screen.

3 Configure each setting items.

· Click the Save button to save settings.
· Clicking the Reset button resets to settings last saved.
· Clicking the Default button resets settings back to factory default.

✎ NOTE

● See "Recording Image" on page 48, instead of "Setting," to set "Records" and "FTP records" in "Camera setting."
● Clicking the Default button in the setup screen on "5. configuration Information" in "Admin. Functions" resets all settings back to factory default.

Camera/Basic Settings

Basic items such as size and quality of delivered images of the camera can be set.

1 Click "Camera Settings" on the Admin. Menu.

· A sub menu for Camera Settings will appear.

2 Click "1. General" in the sub menu.

· The "Camera - Basic Settings, Frame Rate" screen will appear.
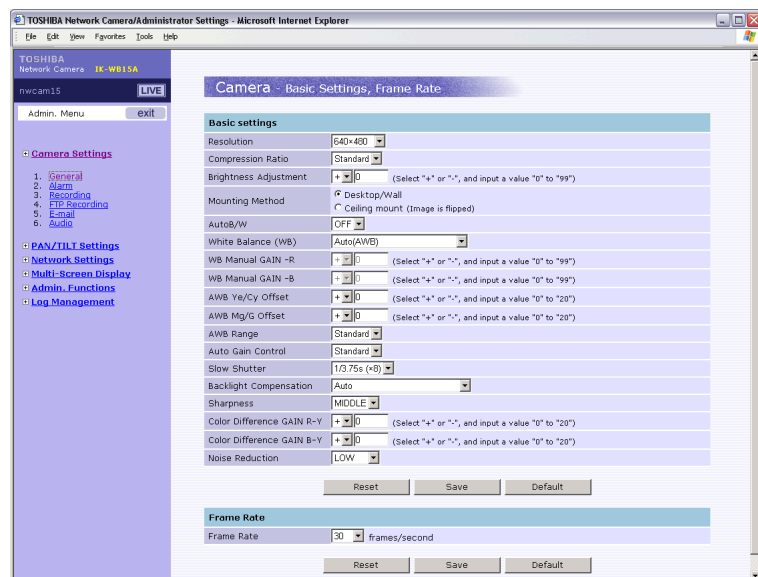
3 Configure each setting.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

✎ NOTE

• This setting item can be set by user log-in also if the item is set correctly in the settings for "Admin Functions-User Operation Restriction Settings" (see page 92).

● **Resolution**
Configures resolution. Higher Resolution results in larger image
Possible settings :   1280×960 (SXVGA)／640×480 (VGA)／320×240 (QVGA)／160×120 (QQVGA)

● **Compression Ratio**
Set quality of delivered images. The size of image files (JPEG files) varies in accordance with compression ratio.
Low compression: This setting produces highest image quality. The file size increases.
Mid-low compression:
                      Intermediate setting between standard and low compression rates.
Standard: Standard setting.
Mid-high compression:
                      Intermediate setting between standard and high compression.
High compression: This setting produces lowest image quality. The file size decreases.

✎ NOTE

• The picture quality and the file size change depending on the conditions of an object (splendor, resolution, movement).
• Size of the files affect the network and smaller file size may increase frame rate.

● **Brightness Adjustment**
The camera automatically adjusts the level of brightness of images. Adjust so that the image level becomes optimum in accordance with conditions of the object. Images become brighter higher the level is. Images are dark lower the level is.

✎ NOTE

• The brightness level of images are controlled automatically by adjustment of the lens, AGC and slow shutter.

● **Mounting Method**
Set to install the camera.
Desktop/Wall: When used on a desk or wall.
Ceiling mount: Suspended on a ceiling

● **Auto B/W**

Configures Auto black and white function. Auto B/W is the function to gain sensitivity by turning to B/W automatically when it becomes dark. The image may have some noise in B/W mode.

ON : Auto B/W takes action.

OFF : Auto B/W does not take action.

● **White Balance (WB)**

White balance adjustment is needed to obtain images of a correct color tone. The camera offers white balance modes - auto white balance (AWB), fixed (indoor and outdoor), hold or manual. In the Auto mode, the camera automatically accomplishes a white balance.

The auto operating color temperature range is approx. 2500K to approx. 7000K when "AWB Range" is set to standard and is approx. 2200K to approx. 9000K when "AWB Range" is set to wide. WB is automatically achieved in almost all situations, except when the object is dark or un-white, in which case a good balance sometimes cannot be achieved. In this case, set to the Fixed or Manual mode.

Operation Mode	Overview	Characteristics	Remarks
Auto (AWB)	Camera automatically measures color temperature and sets white balance.	Camera automatically tracks color temperature variations and sets white balance.	Operating color temperature range varies within AWB control range.
Indoor (Incandescent light color)	Optimizes white balance under illumination of an incandescent lamp.	Effective in environment where illumination conditions are constant.	Optimum white balance is achieved at color temperature of approx. 3000K.
Indoor (Fluorescent light color)	Optimizes white balance under illumination of a fluorescent lamp.	Effective in environment where illumination conditions are constant.	Optimum white balance is achieved at color temperature of approx. 4000K.
Outdoor (Sun light)	Optimizes white balance under solar lights in outdoors.	Effective when incandescent lighting is not used.	Optimum white balance is achieved at color temperature of approx. 5200K.
Hold	Maintains current white balance.	Effective when wishing to fix in current status.	
Manual	Manually adjust R (red) and B (blue) levels while photographing a white object.	Artificially sets according to the object and is effective in environment where precision is high and color temperature varies less.	Adjust while checking on a monitor or a vector scope.

✒ **NOTE**

• The Auto mode may not be effective if lighting is insufficient and the object is dark. In this case, increase the camera sensitivity (high limit values of AGC and slow shutter) or set white balance to the Fixed mode.

• White balance may not be optimal depending on the type of fluorescent lamp even when shooting indoors (fluorescent lamp), in which case change to other setting.

• White balance may not be optimal in the Auto mode under a sodium vapor lamp. In this case, set the AWB control range to wide or to the Manual mode referring to "AWB Control Range."

● **WB Manual GAIN - R, WB Manual GAIN - B**

Set a gain for a white balance in the Manual mode. Match the white balance by operating R gain and B gain.

Increase the value to increase the set gain and reduce the value to reduce the set gain.

● **AWB Ye/Cy Offset, AWB Mg/G Offset**

Set the white balance offset. In the Auto mode of white balance, offset the convergent point of white balance in the direction of a preset color, to obtain a desired color tone.

Ye/Cy Offset: The convergent point shifts to the yellow side when the value is increased toward the plus side, shifting to the cyan side when increased toward the minus side.

Mg/G Offset: The convergent point shifts to the magenta side when the value is increased toward the plus side, shifting to the green side when increased toward the minus side.

● **AWB Range**

Set the control range of white balance in the Auto mode.

Standard: The operating color temperature range is approx. 2500K to approx. 7000K.

Wide: The operating color temperature range is approx. 2200K to approx. 9000K.

✒ **NOTE**

• A wide setting may cause an unnatural hue of the image.

● **Auto Gain Control**

Set a maximum value for operational gain of the auto gain control circuit. Set to maximum if the object is too dark and camera sensitivity is low.

The camera sensitivity increases in the order of "OFF," "standard" and "Max" Noise also increases when Auto Gain Control is near maximum. Lighting is recommended to obtain good image quality.

✒ **NOTE**

• If sensitivity is still short after setting Auto Gain control, set the high limit value of the slow shutter and auto B/W function, to further increase sensitivity.

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● **Slow Shutter**
Set a high limit value of the slow shutter. The camera sensitivity is maintained on an optimum image level between 1x and a set high limit value. Increasing the high limit value increases the camera sensitivity.

NOTE

• Setting the high limit value of slow shutter other than to 1x automatically increases the camera sensitivity to the set high limit value as the object becomes dark. When the sensitivity is high, the exposure time becomes longer and frame rate becomes smaller. Blurred images sometimes are prominent with moving objects.
• When the camera sensitivity is high, some pixels may appear white. This is a characteristic of the CCD and not a malfunction.

● **Backlight Compensation**
Set an area for backlight compensation. Backlight compensation is a function that achieves the brightness of a selected area to an optimum image level. This function is effective when the auto aperture lens tends to close due to an intense light that enters in areas other than those wished to view so that areas desired to see become dark and difficult to see. In this case, set the area so that the portion wished to see enters the selected area. The area size is roughly as follows.
(The image level of shaded parts is maintained appropriate)
When OFF, rear light correction is not performed.
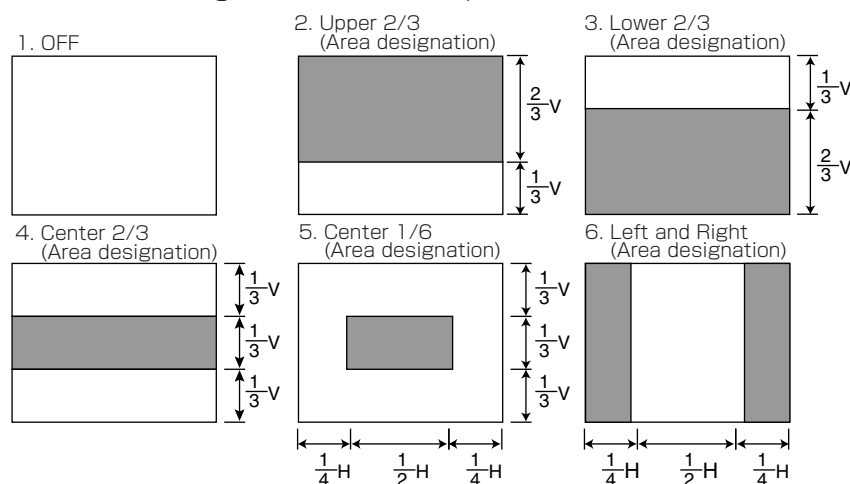
1. OFF
2. Upper 2/3 (Area designation)
3. Lower 2/3 (Area designation)
4. Center 2/3 (Area designation)
5. Center 1/6 (Area designation)
6. Left and Right (Area designation)
7. Auto
   Areas 1 to 6 are combined and controlled depending on the condition of the object.

NOTE

• The Auto mode controls to optimize brightness of a dark part of the screen by letting the camera automatically decide. For this reason, part of an image of a bright part is sometimes washed out.

● **Sharpness**
Set image outline correction. Chose "HIGH" to make the outline clearer, choosing "LOW" to make the outline softer.
LOW: The contour becomes soft.
MIDDLE: Standard setting
HIGH: The contour becomes sharp.

● **Color Difference GAIN R-Y, Color Difference GAIN B-Y**
Set a color difference gain. Increase the value to increase the gain, reducing the value to reduce the gain.
Color difference GAIN R-Y: Sets a color gain of R-Y axis.
Color difference GAIN B-Y: Sets a color gain of B-Y axis.

● **Noise Reduction**
Set a noise reduction effect. The noise reduction effect increases in the order of "LOW" "MIDDLE," and "HIGH."
HIGH: Activates strong noise reduction.
MIDDLE: Standard setting
LOW: Activates weak noise reduction.

NOTE

• Setting to "LOW" or "HIGH" increases the noise reduction effect. Blurred images sometimes become prominent when a moving object is photographed.

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Camera/Basic Settings, Frame Rate

Set a frame rate (transfer rate, frames/s) of image data delivered to the network.

1 Click "Camera Settings" on the Administrator Setup menu.
  · A sub menu for Camera Settings will appear.

2 Click "1. General" in the sub menu.
  · The "Camera - Basic Settings, Frame Rate" screen will appear.
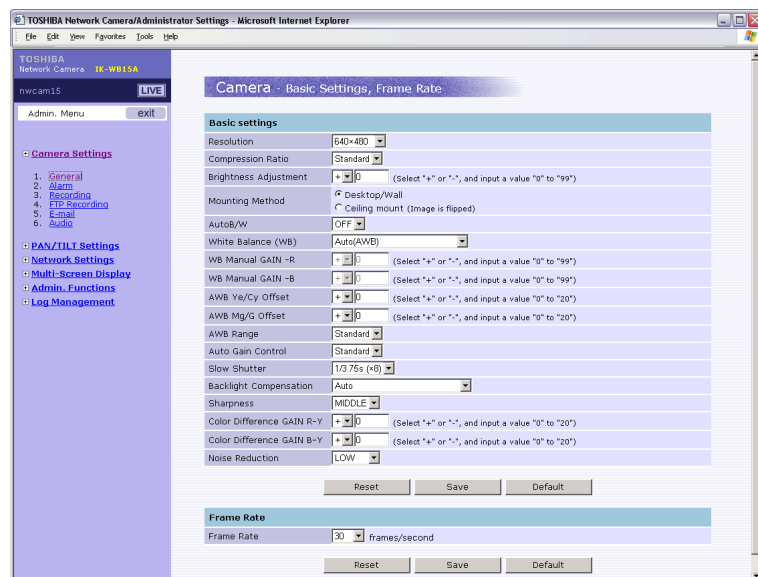
3 Item setting.
  · Choose "Frame Rate" in the pull-down menu.
    30, 15, 7.5, 3, 2, 1, 1/2, 1/5 or 1/10 frame/s
  · Click the Save button to save settings.
  · The settings will not be reflected unless the Save button is clicked.

✎ NOTE

• This setting sets the number of JPEG images the network camera delivers in one second. Set in accordance with the network bandwidth and size of JPEG images to be delivered.
• One image is delivered every 2 seconds in 1/2, one image every 5 seconds in 1/5 and one image every 10 seconds in 1/l0.
• Fewer images than a set frame rate are sometimes sent depending on the image size and network condition.
• Setting the delivery image size to 1280 x 960 sets the frame rate to 7.5 frames/second maximum.

Camera/Alarm Settings

External alarms and motion sensors can be set. Connecting a sensor or other device to the alarm input terminal (see page 99) notifies an alarm condition when the sensor detects trouble. For example, mounting a sensor on a door notifies an alarm condition each time the door is opened or closed. By setting the motion sensor to activate, an alarm condition is notified by detecting a change in the image.

1 Click "Camera Settings" on the Admin. Menu.
  · A sub menu for Camera Settings will appear.

2 Click "2. Alarm" in the sub menu.
  · The "Camera - Alarm Settings" screen will appear.
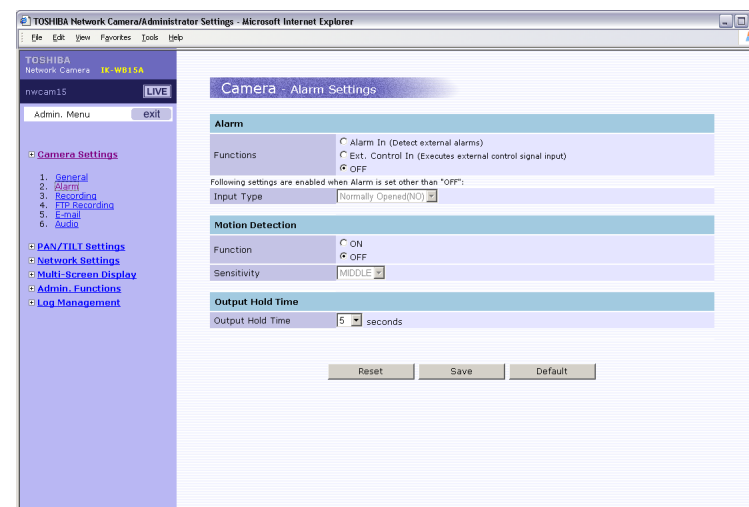
3 Configure each setting items.
  · Click the Save button to save settings.
  · The settings will not be reflected unless the Save button is clicked.

● **Alarm In/Ext. Control In**

1) Set an "alarm" to be detected.

Alarm In: Detects an external alarm.
Ext. Control In: Performs external control.
OFF: Does not perform "Alarm In" or "Ext. Control In."

2) Set "Input type" for alarms if "Function" is set to other than "OFF."

Normally Opened (NO): A no-voltage contact system. Set in case of normally open, closed in case of an alarm.
Normally Closed (NC): A no-voltage contact system. Set in case of normally closed, open in case of an alarm.

✎ NOTE

- Camera starts alarm recording when the camera detects alarm signal. (Signal lenghth requires more than 100ms).
- Camera starts "Ext. Control In Recording" when control signal comes in. (Control signal should be more than 1 second).

● **Motion Detection**

1) Function

ON: Camera detects motion. (A change in the image is detected and an alarm is sent)
OFF: Camera does not detect motion.

2) Sensitivity

Set "Sensitivity."
HIGH: Motion is detected with even a small change in brightness or motion is detected.
MIDDLE: Intermediate between HIGH and LOW.
LOW: Motion is detected only when a large change in brightness or motion is detected.

✎ NOTE

- Detection sometimes fails if the object is dark.
- Incorrect detection is sometimes made due to noise if the object is dark and AGC gain is high. Set the sensitivity to low.

● **Output Hold Time**

Set a time to hold alarm output.
Choose from 1, 5, 10, 15, 30 and 60 seconds
This function is used when connecting to alarm output terminals and activating a siren, buzzer or emergency light.

E-mail can be sent to a maximum of 11 destinations including the administrator e-mail address in case of Alarm In or Motion Detection.

1 Click "Camera Settings" on the Admin. Menu.

· A sub menu for Camera Settings will appear.

2 Click "5. E-mail" in the sub menu.

· The "Camera - E-mail Settings" screen will appear.
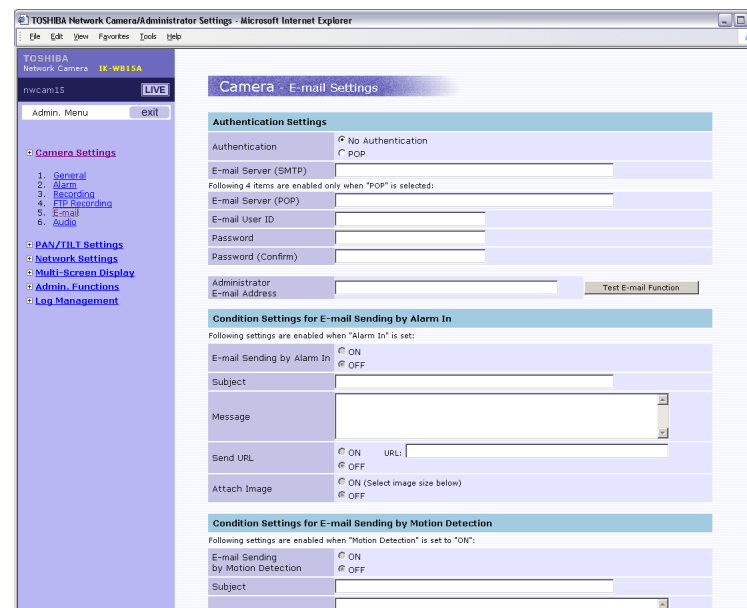
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

Camera/E-mail Settings (Cont.)

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● **Authentication Settings**
1) Choose "No Authentication" or "POP" as the authentication system.
2) Enter an SMTP IP address or server name in "E-mail Server (SMTP)."
3) Enter the following when "POP" is chosen in authentication.

"E-mail server (POP)": Enter an IP address or the POP server name.

"E-mail User ID": Enter a login ID for authentication.

"Password": Input a password.

"Password (confirm)": Enter the same password again.

4) Enter the administrator e-mail address in "Administrator E-mail Address."

· Clicking the "Test E-mail Function" button sends e-mail to the administrator as a test.

NOTE

● You cannot use these characters: ' "
● Maximum of 32 of the following characters can be entered in "E-mail User ID," "Password" and "Password (confirm)":
. (dot), - (hyphen), @, 0 - 9, a to z and A to Z
● If a server name is input instead of an IP address in "E-mail server (SMTP)" and "E-mail Server (POP)," the DNS server must be input correctly. (See "Network-Basic Settings" on page 84)
● Be sure to enter the administrator e-mail address. If the administrator e-mail address is not entered correctly, the camera may not send the e-mail.

● **Condition Settings for E-mail Sending by Alarm In**
1) Set ON or OFF in "E-mail Sending by Alarm In."

ON: E-mail is sent when Camera detects alarms.

OFF: E-mail is not sent when Camera detects alarms.

2) Enter a title in "Subject".
3) Enter a message in "Message."
4) Set ON or OFF in "Send URL."

ON: Adds server address information to message.

OFF: Does not add server address information to message.

Input address information such as network camera and FTP server if "ON" is selected.

5) Set "ON" or "OFF" in "Attach Image".

ON: Captured images are attached to e-mail.

OFF: Images are not attached to e-mail.

6) Choose "Attached Image Size" in the sizes shown below if "ON" is set for "Attach Image."

1280 x 960, 640 x 480, 320 x 240 and 160 x 120
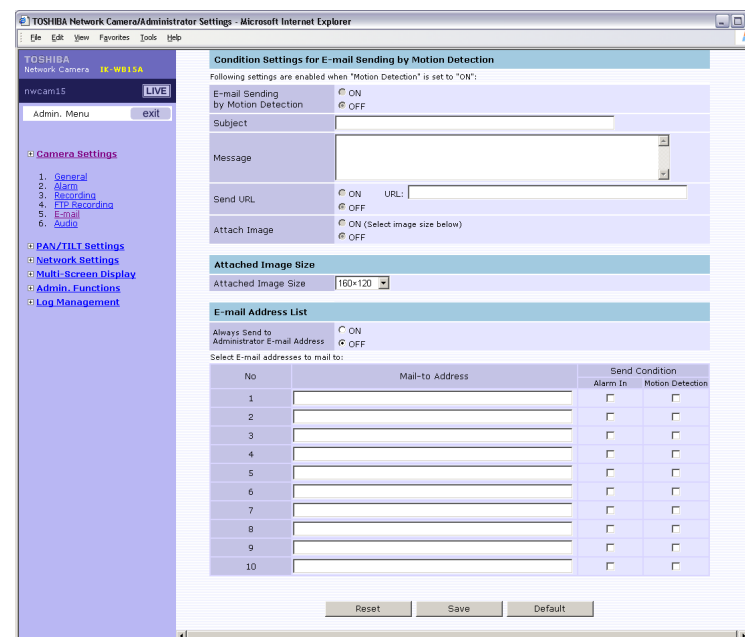
● **Condition Setting for E-mail Sending by Motion Detection**
1) Set ON or OFF in "E-mail Sending by Motion Detection."

ON: E-mail is sent when motion is detected.

OFF: E-mail is not sent when motion is detected.

2) Enter a title in "Subject".
3) Enter a message in "Message."
4) Set ON or OFF in "Send URL."

ON: Adds server address information to message.

OFF: Does not add server address information to message.

Enter address information such as network camera and FTP server if "ON" is selected.

5) Set ON or OFF for image attaching in "Attach Image."

ON: Captured images are attached to e-mail.

OFF: Images are not attached to e-mail.

6) Choose "Attached Image Size" in the sizes shown below if "ON" is set for "Attach Image."

1280 x 960, 640 x 480, 320 x 240 and 160 x 120

● **E-mail Address List**
1) Set ON or OFF in "Always Send to Administrator E-mail Address."

ON: Always send to administrator E-mail address.

OFF: Not send to administrator E-mail address.

2) Enter "Mail-to Address." (Up to ten addresses)

3) Check send conditions.

Alarm In: E-mail is sent to checked addresses when camera detect alarms.

Motion Detection: E-mail is sent to checked addresses when camera motion is detected.

NOTE

- POP is a protocol for receiving e-mail from e-mail box. As the network camera does not receive e-mail, e-mail in POP server will not be lost due to this setting.
- The e-mail function of the network camera is not compatible to "SMTP Auth."
- The frame rate deteriorates if resolution of "Attached Image Size" differs from "Resolution" in "1. General" of "Camera Settings".
- When wishing to send e-mail to administrator's address only in case of either "Alarm In" or "Motion Detectoin", set to "OFF" in "Always Send to Administrator E-mail Address", add the Administrator E-mail address to "Mail-to Address" and check one of "Send Conditoins."

Set audio input to and output from the network camera.

1 Click "Camera Settings" on the Admin. Menu.
· A sub menu for Camera Settings will appear.

2 Click "6. Audio" in the sub menu.
· The "Camera - Audio" screen will appear.
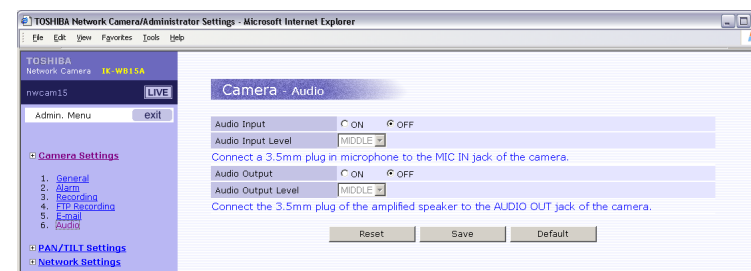
3 Configure each setting items.
· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Audio Input**
Set audio input.
ON: The camera receives audio.
OFF: The camera does not recieve audio.
· Set to "ON" when inputting audio from a microphone connected to the camera.

● **Audio Input Level**
An audio input level is set.
HIGH: Increases the audio input level.
MIDDLE: Adjusts the audio input level to a medium level.
LOW: Reduces the audio input level.

● **Audio Output**
Set audio output.
ON: The camera receives audio.
OFF: The camera does not recieve audio.
· Set to "ON" when outputting audio from a speaker connected to the camera.

● **Audio Output Level**
An audio output level is set.
HIGH: Increases the audio output level.
MIDDLE: Adjusts the audio output level to a medium level.
LOW: Reduces the audio output level.

PAN/TILT Basic Settings

Basic settings for PAN and TILT.

1 Click "PAN/TILT Settings" in the Admin. Menu.

· The sub menu for PAN/TILT Settings will appear.

2 Click "1. General" in the sub menu.

· The "PAN/TILT - Basic Settings" screen will appear.
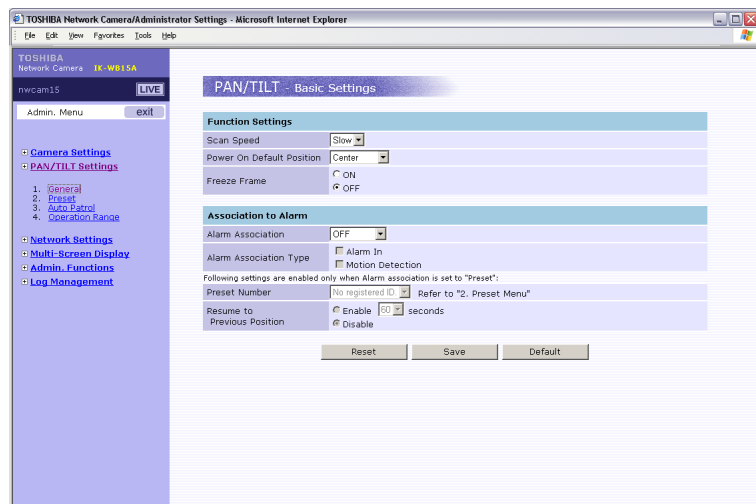
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Function Settings**
1) Set a "Scan Speed."

Fast
Slow

2) Set "Power on Default Position"

This function designates where camera moves when camera is turned on.

Center: Moves to positions of 0° for PAN and 0° for TILT.
Home: Moves to Preset Number 1.
Scan: Starts panning one round trip.
Auto Patrol: Starts auto patrol.

3) Set "Freeze Frame."

ON: Under "Auto Patrol", images will not be shawn while camera moves from Preset Number to next Perset Number.
OFF: No "Freeze Frame".

● **Association to Alarm**
1) Set "Alarm Association."

OFF: Does nothing. "Alarm Association Type" or "Preset Number" cannot be set.
Preset: Performs preset moving when an alarm occurs.
Auto patrol: Starts auto patrol when an alarm occurs.

2) Set "Alarm Association Type."

Alarm In: "Alarm In" will activate "Association to Alarm".
Motion Detection: "Motion Detection" will activate "Association to Alarm".

3) Set when "Alarm Association" is set to "Preset."

Preset Number: Choose preset Number.
Resume to Previous Position: Camera moves back to position before "Assciation to Alarm" ocured.
Enable: 10, 30 and 60 seconds
Disable: Stays in the position moved to "Association to Alarm."

PAN/TILT Preset Settings

Name assignment, position assignment, moving, deletion and other functions related to PAN and TILT can be set.

1 Click "PAN/TILT Settings" in the Admin. Menu.

· The sub menu for PAN/TILT Settings will appear.

2 Click "2. Preset" in the sub menu.

· The "PAN/TILT - Preset Settings" screen will appear.
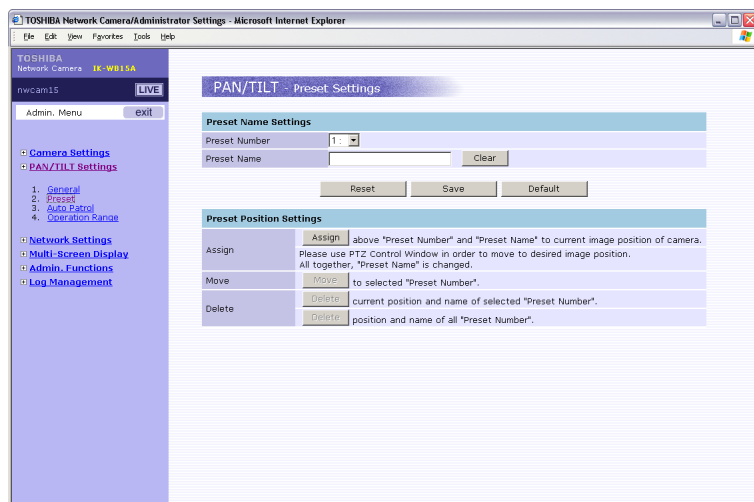
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Preset name settings**

1) Choosing Preset Number

Choose a number during name assignment, position assignment, moving and deletion.
Numbers 1 to 64 can be choosen.

2) Position Name

Name the chosen Preset Number. Click the Clear button if incorrect name is entered.
· Click the "Save" button under items to reflect the foregoing setting.
· Clicking the Reset button resets to the setting last saved.
· Clicking the Default button resets values to factory default.

● **Preset position settings**

1) If you would like to assign chosen "Preset Number" and "Position Name" to current position, click "Set" button.

If you would like camera to move to different postion, use the controller window.

2) Click "Move" button if you would like camera to move to selected "Preset Number" above.

3) current position and name of selected "preset Number".

position and name of all "Preset Number".
· Click each button on the right to reflect the foregoing settings.

NOTE

● Preset Name must have 12 characters or less in length.
● You cannot use these characters: ' "

PAN/TILT Auto Patrol

Dwell time for Auto Patrol can be set.

1 Click "PAN/TILT Settings" in the Administrator Setup menu.

· The sub menu for PAN/TILT setting will appear.

2 Click "3. Auto Patrol" in the sub menu.

· The "PAN/TILT - Auto Patrol" screen will appear.
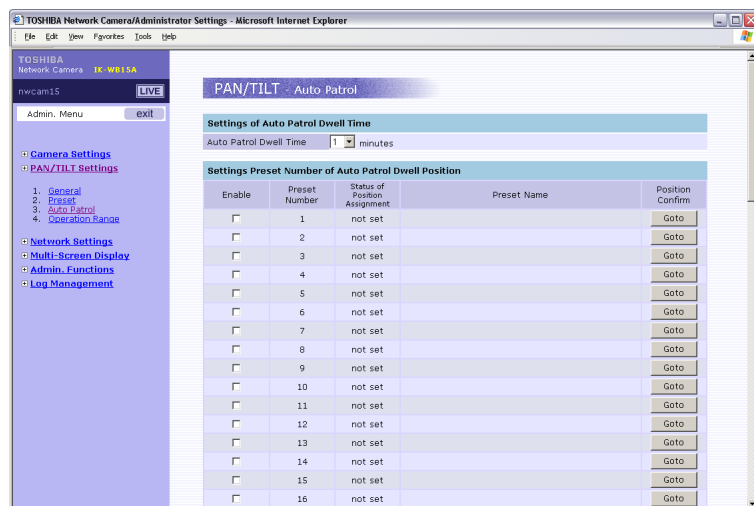
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Setting of Auto Patrol Dwell Time**
Set a dwell time for Auto Patrol.
Choose from among 1, 2, 5 and 10 minutes.
This item sets the time to dwell in the position of each Preset Number.

● **Settings Preset Number of Auto Patrol Dwell Position**
Set whether or not to dwell at each Preset Number.

PAN/TILT Operation Range

A PAN/TILT operation range of the camera can be set.

1 Click "PAN/TILT Settings" in the Administrator Setup menu.

· The sub menu for PAN/TILT setting will appear.

2 Click "4. Operation Range" in the sub menu.

· The "PAN/TILT - Operation Range Settings" screen will appear.
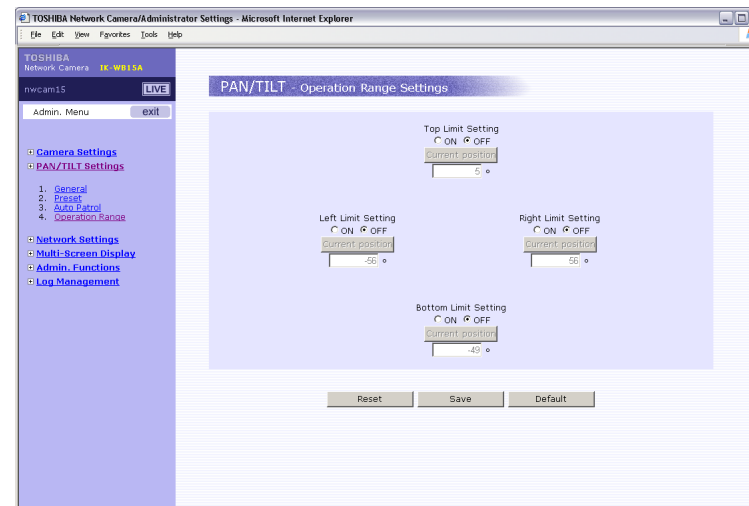
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Setting Operation Range of Left, Right, Top and Bottom.**
Align the position by using Controller Window.
ON: Enables to limit Operation Range.
OFF: Disables to limit Operation Range.
Current position: Set the current position as each limit.

NOTE

● Moving to the preset position and in auto patrol operation has been restricted.

Network Basic Settings

An IP address and other items for connection to the network are set.

1 Click "Network Settings" in the Admin. Menu.

· The sub menu for Network Settings will appear.

2 Click "1. General" in the sub menu.

· The "Network - Basic Settings" screen will appear.
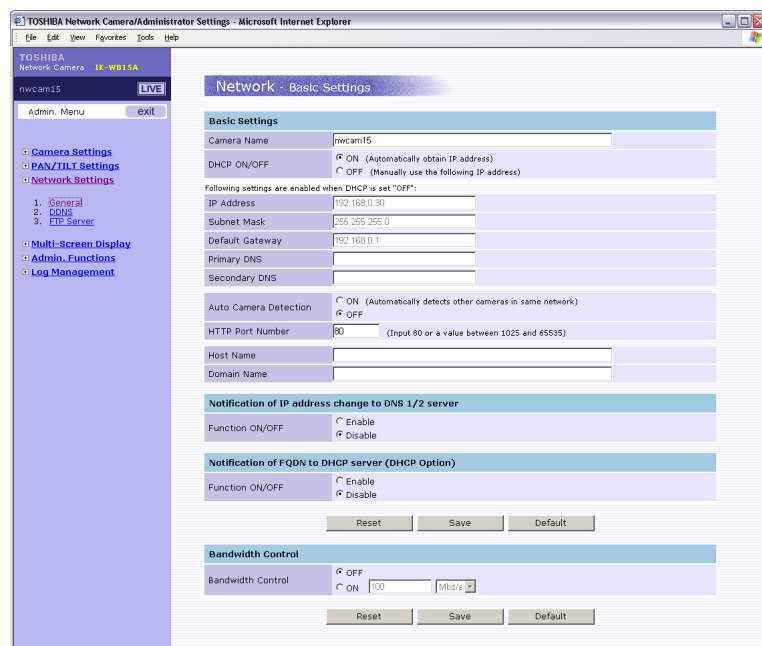
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Camera name**
Enter maximum 32 alphanumeric characters as a name for the camera.
You cannot use these characters: ' "

● **DHCP ON/OFF**
1) Set ON or OFF for DHCP.

　ON:　An IP address is automatically obtained.
　OFF: Sets an IP address by self.

2) When "OFF" is chosen, enter the "IP address", "Subnet Mask", "Default Gateway", "Primary DNS" and "Secondary DNS."

● **Auto Camera Detection**
Set ON or OFF for Auto Camera Detection.
The camera is equipped with a function to automatically detect and store other cameras (only cameras provided with RNCP) in the same network. This function is useful in the multi-view screen function. "ON" is recommended if there are other network cameras in the same network.

● **HTTP Port Number**
Enter an HTTP port number. Normally, "80" is default.

● **Host Name**
Set Host Name.

● **Domain Name**
Set Domain Name.

● **DNS　Update**
Enable:　The network camera informs the DNS server of DNS update when the camera is booted or the IP address is changed.
Disable:DNS is not updated.

● **DHCP　Option**
Enable:　The network camera notifies Fully Qualified Domain Name server when it requires an IP address from the DHCP server.
Disable:Does not notify Fully Qualified Domain Name server.

● **Bandwidth Control**
Set ON or OFF for bandwidth control.
OFF: The network Camera will display images maximum frame rate allowed by the network.
ON:　The Network Camera displays images up to the set bandwidth using a lower bandwidth results in higher frame rates.

📝 **NOTE**

• Ask your system administrator for Subnet Mask information.
• It is not necessary to enter Default Gateway if it is not used. Ask your Network Administrator for Default Gateway information.
• When reconnecting Network Camera after changing the IP address and/or HTTP port number, be sure to check IP address and the HTTP port number in the browser are correct.
• Clicking the Save button displays the confirmation message "This sill save setting changes and reboot the camera. Do you want to continue? (Please type in the address in the browser after rebooting the camera.)" Click "Yes" save settings.
• You cannot use these characters: ' "
• Be sure to set Host Name and Domain Name when using DNS Update and DHCP Option with "Enable" setting.

Network/DDNS Settings

DDNS can be used. Establish DDNS server connection.

1 Click "Network Settings" in the Admin. Menu.
· The sub menu for network setting will appear.

2 Click "2. DDNS" in the sub menu.
· The "Network - DDNS Settings" screen will appear.
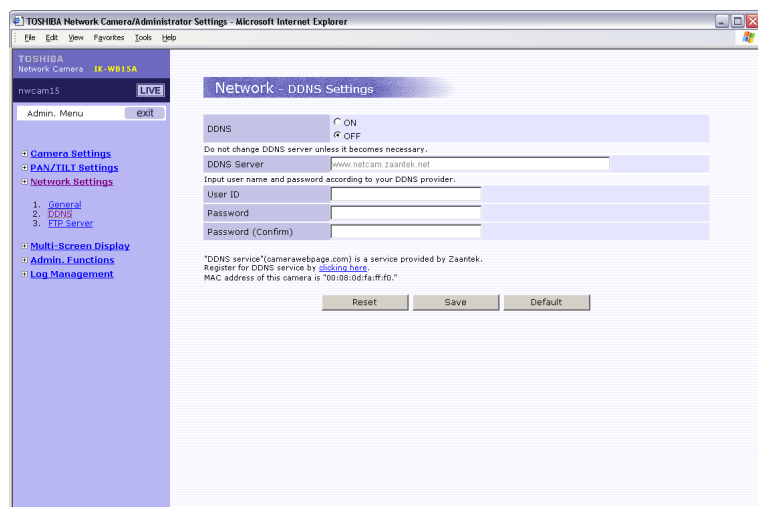
3 Configure each setting items.
1) Set ON or OFF for "DDNS use."
   ON: Use DDNS.
   OFF: Do not use DDNS.
2) When using DDNS, be sure to register with DDNS provider. Enter "DDNS Server", "User ID", "Password" and "Password (confirm)".

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

NOTE

• Maximum of 32 characters can be used in "User ID," "Password" and "Password (confirm)":
   . (dot), - (hyphen), @, 0 - 9, a to z and A to Z
• You cannot use these characters: ' "
• Be sure that the DDNS server information is entered correctly. (See "Network-Basic Settings" on page 84)

Network / FTP Server Settings

The network camera can be set as an FTP server for connection from a personal computer or other terminal.

1 Click "Network Settings" in the Admin. Menu.
· The sub menu for network setting will appear.

2 Click "3. FTP Server" in the sub menu.
· The "Network - FTP Server Settings" screen will appear.
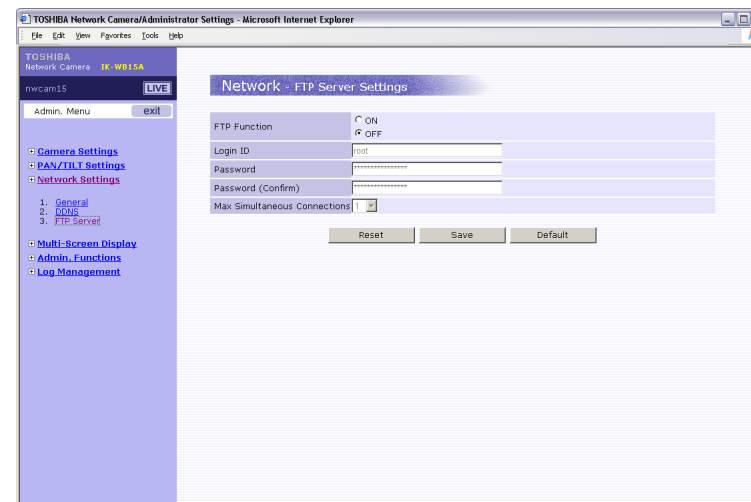
3 Configure each setting items.
1) Set ON or OFF for "FTP function."
   ON: Used as an FTP server.
   OFF: Not used as an FTP server.
2) When using as an "FTP server," enter the user name in "Login ID" and the password in "Password." Enter the same password in "Password (confirm)". Choose the maximum number of connections in the pull-down menu in "Maximum number of simultaneous connections."

· Click the Save button to save the settings.
· The settings will not be reflected unless the Save button is clicked.

NOTE

• Maximum of 16 following characters can be used in "Login ID", "Password" and "Password (confirm)":
   . (dot), - (hyphen), @, 0 - 9, a to z and A to Z
• Only the contents of the SD memory card can be viewed when the network camera is logged in by FTP. Therefore, the network camera cannot be logged in by FTP even though the FTP function is set to ON in case an SD memory card is not inserted.

Multi-Screen Display/Adding and Removing Cameras

Cameras for displaying in the multi-view screen can be added.

1 Click "Multi-Screen Display" in the Admin. Menu.

· The sub menu for multi-screen display setting will appear.

2 Click "1. Adding and Removing Cameras" in the sub menu.

· The "Multi-Screen Display - Camera Addition and Deletion" screen will appear.
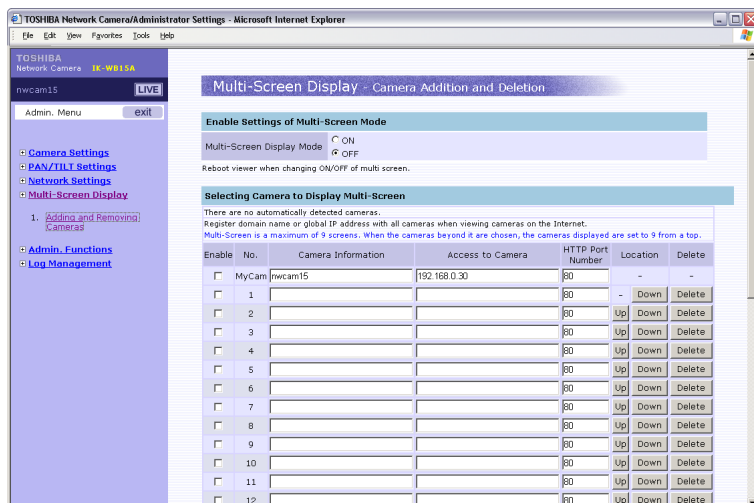
3 Configure each setting items.

· Click the Save button to save the settings.
· The settings will not be reflected unless the Save button is clicked.

● **Enable settings of Multi-Screen Mode**
Set ON or OFF for Multi-Screen Display Mode.
ON: Enables the Multi-Screen Display.
OFF: Disables the Multi-Screen Display.

● **Selecting Camera to Display Multi-Screen**
· Enter "Camera Information", "Access to Camera", and "HTTP Port Number", of the cameras for displaying in the multi-view screen. Up to 30 cameras can be entered.
Enter the information of own camera when displaying images of own camera in the multi-view screen.
Camera Information: Enter the camera name.
Access to Camera: Enter the camera IP address or a domain name or other name.
HTTP Port Number: Enter the HTTP port Number. "80" will be entered as a default value.
Click the Save button save the settings.

✎ NOTE

● Register a domain name or a global IP address with all cameras when viewing camera images on the Internet.
● Multi-Screen is a maximum of 9 screens.
● You cannot use these characters: ' "

Administrator Function/Changing ID and Password

The administrator log-in name and password can be set.

1 Click "Admin. Function" in the Admin. Menu.

· The sub menu for administrator functions will appear.

2 Click "1. Changing ID/Password" in the sub menu.

· The "Administrator Function - ID Password Change" screen will appear.
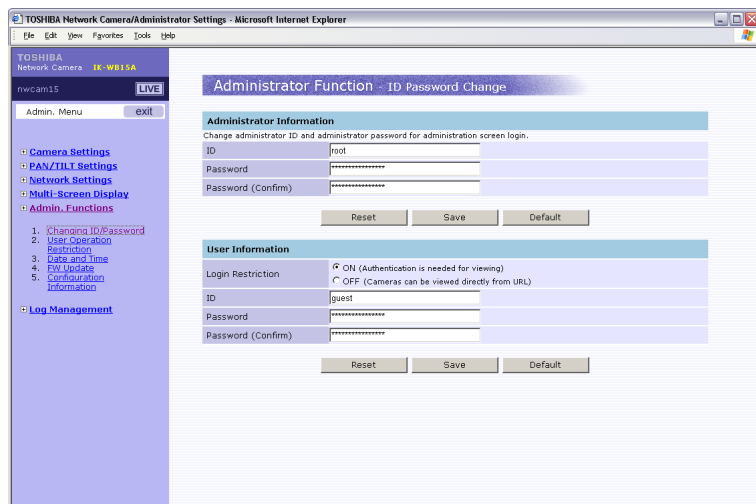
3 Configure each setting items.

· Click the Save button to save the settings.
· The settings will not be reflected unless the Save button is clicked.

● **Administrator information setting**
· Set (change) the administrator ID and administrator password for logging in the camera.
ID: Enter an ID (administrator log-in name) for authentication.
Password: Enter the password.
Password (Confirm): Enter the same password again.
Click the Save button to save the settings.

✎ NOTE

● Maximum of 16 following characters can be used in "ID", "Password" and "Password (confirm):
         . (dot), - (hyphen), @, 0 - 9, a to z and A to Z
● Clicking the Save button displays the confirmation message "This will save setting changes and reboot the camera. Do you want to continue? Clicking the OK button will automatically connect to the camera in 30 seconds. Please wait in this condition." Click "OK" to save the settings and to automatically reboot the network camera.

● **User Information**
Set ON or OFF for "Login Restriction."
ON: The user ID and Password are requested for authentication during login.
OFF: Can login without authentication.

Set user ID and password of users who are authorized to login on the camera.
"ID":   Enter an ID for authentication.
"Password":   Enter the password for authentication.
"Password (confirm)": Enter the same password again.
Click the Save button save the settings.

✎ NOTE

● Maximum of 16 following characters can be used in "ID", "Password" and "Password (confirm)":
         . (dot), - (hyphen), @, 0 - 9, a to z and A to Z
● Log-in restriction is set to on by default. Change the login restriction according to your use.
● Clicking the Save button displays the confirmation message "This will save setting changes and reboot the camera. Do you want to continue? Clicking the OK button will automatically connect to the camera in 30 seconds. Please wait in this condition." Click "OK" to reflect the settings and to automatically reboot the network camera.

Admin Functions/User Operation Restriction Setting

Users can use some setup items and operations but must be enabled by the administrator.

1 Click "Admin. Function" in the Admin. Menu.

· The sub menu for administrator function will appear.

2 Click "2. User Operation Restriction" in the sub menu.

· The "Administrator Function - User Operation Restriction Settings" screen will appear.
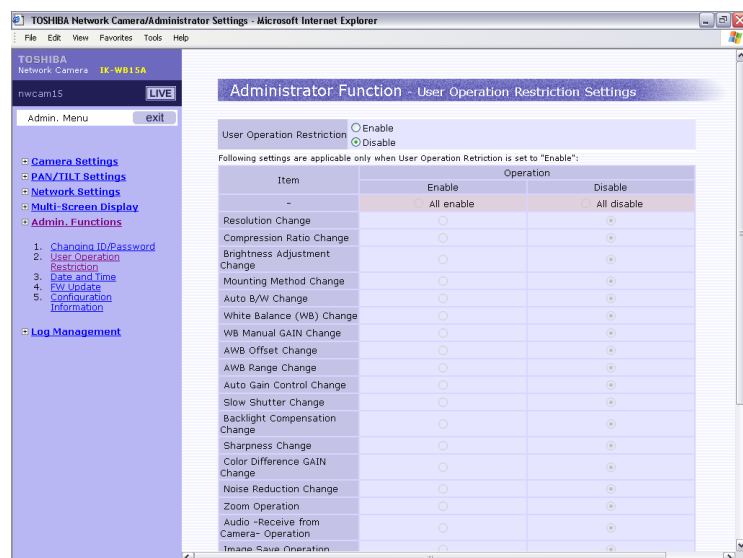
3 Set "User Operation Restriction" to "Enable".

4 Configure each setting items.

Set whether or not users also can set items in Camera/Basic Settings on page 64.
Check "Enable": Users also can set.
Check "Disable": Users cannot set.
· Click the Save button to save settings.

Administrator Function/Date and Time

Administrator log-in name and password can be set.

1 Click "Admin. Functions" in the Admin. Menu.

· The sub menu for administrator functions will appear.

2 Click "3. Date and Time" in the sub menu.

· The "Administrator Function - Date and Time" screen will appear.
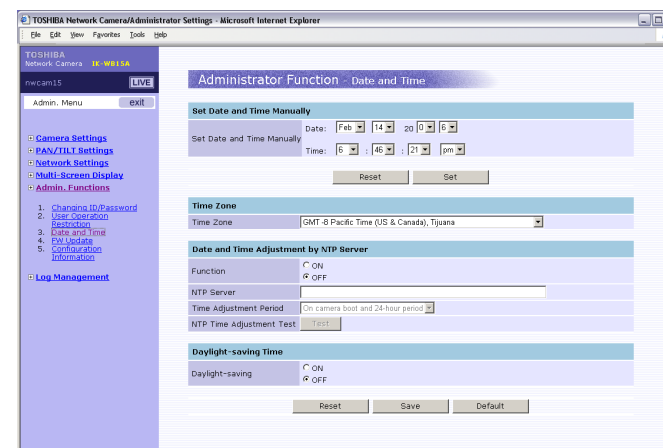
3 Configure each setting items.

· Click the Save button to save settings.
· The settings will not be reflected unless the Save button is clicked.

● **Set Date and Time Manually**
The camera date and time can be set manually.
Select date and time.

● **Time Zone**
Select appropriate time zone.

● **Date and time adjustment by NTP server**
Time can be adjusted using the NTP server.
1) Select "ON" or "OFF" in function.

ON: Time is adjusted using the NTP server.

OFF: Time is not adjusted using the NTP server.

2) Enter a host name for the NTP server in "NTP server".(You cannot use these characters: ' ")

3) Choose from the pull-down menu in "Time Adjustment Period".

4) Click "Test" button to check that date and time are correctly obtained.

Version Updating (Administrator Function/FW Update)

To update the camera firmware.

■ First step

To download the latest firmware.
● Create a folder to save the latest firmware.
● Access the following Toshiba web site on the Internet:
  URL: http://www.ipvideo.toshiba.com
● Download the latest firmware.

Do the following to update the firmware version.

1 Click "Admin. Function" in the Admin. Menu.

· The sub menu for administrator function will appear.

2 Click "4. FW Update" in the sub menu.

· The "Administrator Function - FW Update" screen will appear.

3 Click the "Browse..." button.

· A screen for file selection will appear.

4 Select the file for the latest firmware saved in "First step."

· The selected file name will appear in the screen for Step 2.

5 Click the Upload button in the screen for Step 2.

· Start updating the firmware version according to the instructions in the displayed screen.
· The camera automatically reboots as soon as firmware update is completed.

Important

● It is the customer's responsibility to update firmware.
● All camera motions will shut down during firmware update.
● Close any other screens before starting a firmware update.
● Never power off the camera during firmware update.
● Never disconnect the LAN cable during firmware update. Camera may not operate.
● Rebooting the camera after firmware update may take approx. 5 minutes.
● After updating the firmware, delete Internet temporary files executing "Internet Options" on the tool menu - "General" - "File delete."

Importing/Exporting Configuration Information (Administrator Function/Configuration Information)

Camera configuration information (setup information) can be exported and saved to a personal computer ("Export") and can be imported from the personal computer ("import").

Exporting Configuration Settings

1 Click "Admin. Functions" in the Admin. Menu.

· The sub menu for administrator functions will appear.

2 Click "5. Configuration Information" in the sub menu.

· The "Administrator Function - Configuration Information" screen will appear.
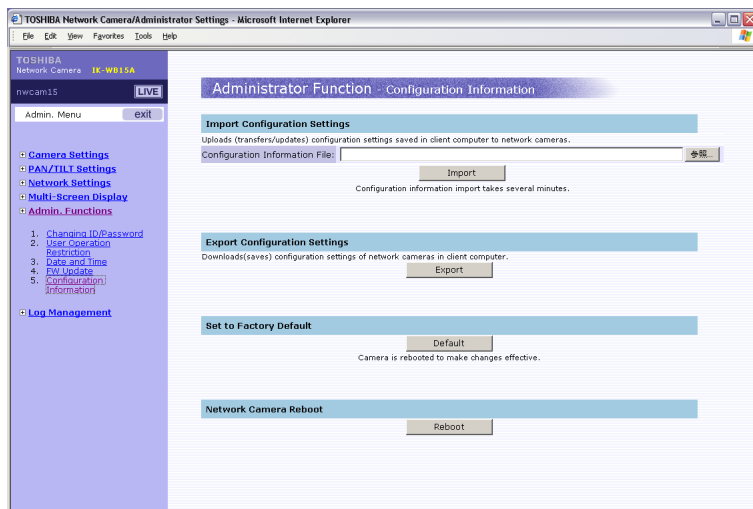
3 Click the "Export" button.

· Click "Save" when file download Window appears.

4 Choose a location to save the file.

· Assign a name and the saved screen will appear.
· A setup file will be saved in the personal computer. (Example of file name: ikwb15 conf.bin)

Importing Configuration Settings

1 Click the "Browse…" button in the setup screen for Administrator Function - Configuration Information.

· A screen for file selection will appear.

2 Select a saved setup file.

· The selected file name will appear in the Administrator Function- Configuration Information screen.

3 Click the "Import" button.

· The settings for the network camera will change to the saved settings.

Set to Factory Defaults

● Clicking the Default button in the setup screen for Administrator Function- Configuration Information resets all values to factory default.

Network Camera Rebooting

The camera is rebooted.
· Clicking the Reboot button displays the confirmation message "This will reboot the camera. Are you sure?" Click "OK" to reboot the network camera.

The log display can be viewed and managed.
See"Log display" on page 104 for data in log display.

1 Click "Log Management" in the Admin. Menu.

· The sub menu for Log Management will appear.

2 Click "1. Browse and Delete" in the sub menu.

· The "Log Management /Browse and delete" screen will appear.
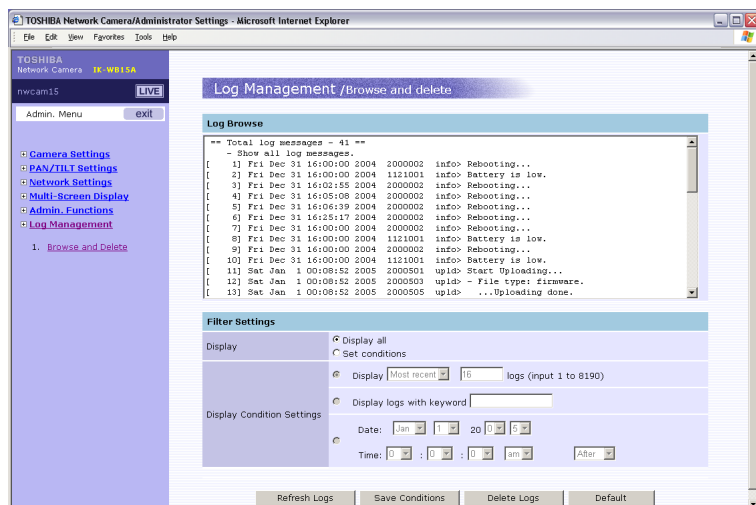
3 Looking up the log or setup items.

● **Log Browse**
The log is displayed.

● **Filter Settings**
To filter the log:
1) Select "Set Condition" in "Display."

2) Select appropriate option in "Display Condtion Settings".

3) Click the "Refresh Logs" button.

Only logs of set conditions will appear.

✐**NOTE**

• Click the "Save Conditions" button to save conditions.
• Click the "Delete Logs" button to delete logs.
• In keyword you cannot use these characters: ' "

Alarm Terminals

You can connect a variety of sensors to the camera by using alarm terminals.
See following table for functions of each terminal.

Name	Function	Description
ALARM IN	Alarm Input	· Inputs External Alarm signal. You can choose the type of input signal: Normal Opened (NO) or Normal Closed (NC). Connect a sensor or other devices to the camera.
ALARM OUT	Alarm Output	· Outputs open corrector. Max.DC 24V, 50mA. Output holding time follows the setting made in Alarm Settings/Alarm Output. (→page 71)
GND	GND	GND for a signal

ALARM IN
Alarm input terminal

ALARM OUT
Alarm output terminal

GND
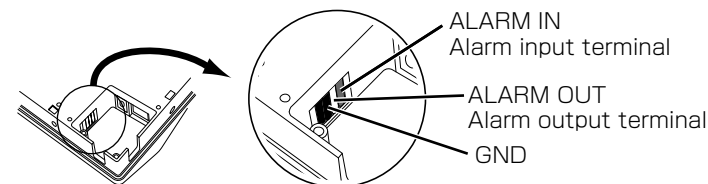
■ Connecting External Alarm Devices to the Alarm Input/ Output Terminals

· Be sure to connect cables of external alarm devices before connecting AC adapter cable and LAN cable to the camera.

◯◦◦

Alarm Terminals (Cont.)

◯◦◦

Glossary (Index)

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Others

■ Specifications of Alarm Signals

Name	Internal Circuit	Signal Condition
Alarm Input	DC3.3V 47kΩ 220Ω Inside the Camera To CMOS input	Non-Voltage point signal, CMOS 3.3V-GND signal inputs Normal Opened 3.3V 100ms or more 0V Normal Closed 3.3V 100ms or more 0V
Alarm Output	220Ω Inside the Camera To CMOS Output	Max. DC24V, 50mA

■ Example Circuit Connection

Network Camera

Light Buzzer etc...

ALARM IN
ALARM OUT
GND

Door Sensor

MIC IN
AUDIO OUT
GND

AUDIO IN/OUT Jack(3.5Φ)

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Log Display

Logs are saved in the memory contained in the camera.
Up to about 8000 logs can be saved.

ID	Output message	Message
1110001	webm> Reset to default configuration.	All settings are reset to configuration information at time of shipment from factory.
1121001	info> Battery is low.	Power of internal battery is low.
1241001	ctrl> SD memory card full.	Capacity of SD memory card is full.
1240002	ctrl> SD memory card formatted.	SD memory card has been formatted.
1250001	ctrl> Successfully mounted SD memory card.	SD memory card has been mounted correctly.
1251002	ctrl> Failed to mount SD memory card.	Failed in SD memory card mounting.
1250003	ctrl> Successfully unmounted SD memory card.	SD memory card has been unmounted correctly.
1251004	ctrl> Failed to unmount SD memory card.	Failed to unmount SD memory card.
1260001	ctrl> Successfully formatted SD memory card.	SD memory card has been formatted correctly.
1261002	ctrl> Failed to format SD memory card.	Failed in formatting SD memory card.
1301001	strm> Invalid parameter on streaming.	Error found in stream delivery request parameter.
1301002	strm> Unknown client ID on streaming.	Unclear client ID received in stream delivery request.
1301003	strm> Not permitted ID or password on streaming.	Invalid ID or password received in stream delivery request.
1301004	strm> Streaming could not carry on.	Stream delivery cannot be continued.
1401011	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1401012	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1401013	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1401014	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1401015	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1401016	rncp> Failed remote configuration.	Failed in remote configuration by Camera Finder.
1611001	mail> Not found SMTP Server.	SMTP server cannot be found.
1611002	mail> Faile to connect SMTP Server.	Failed to connect to the SMTP server.
1611021	mail> Not found POP Server.	POP server cannot be found.
1611022	mail> Failed to connect POP Server.	Failed to connect to the POP server.
1611023	mail> Failed to authenticate POP Server.	Failed in authentication with the POP server.
1601101	ftc1> Failed to connect server.	Failed to connect FTP server.
1601102	ftc1> Failed to log into server.	Failed to log in FTP server.
1601103	ftc1> Could not change directory.	Could not move to specified directory.
1601104	ftc1> Could not change into binary mode.	Could not change to binary mode.
1601105	ftc1> Could not change into passive mode.	Could not change to passive mode.
1601106	ftc1> Could not change into active mode.	Could not change to active mode.
1601107	ftc1> Failed to send data.	Failed in JPEG data transfer.
1601108	ftc1> Communication time out.	Communication timeout between FTP server.
1601100	ftc1> Invalid ID or password.	Specified ID or password is illegal.
1601113	ftc1> Server not available.	Server cannot be used.
1601114	ftc1> CWD error.	Directory moving (CWD) is prohibited by the server.
1601115	ftc1> Directory not found or no permissions.	Specified directory is not existing or is write disabled.
1601116	ftc1> Server error on binary mode.	Binary mode is prohibited by the server.
1601117	ftc1> Server error on passive mode.	Passive mode is prohibited by the server.
1601118	ftc1> Server resource not available.	Server does not have adequate vacant capacity.
1601201	ftc2> Failed to connect server.	Failed to connect FTP server.
1601202	ftc2> Failed to log into server.	Failed to log in FTP server.
1601203	ftc2> Could not change directory.	Could not move to specified directory.
1601204	ftc2> Could not change into binary mode.	Could not change to binary mode.
1601205	ftc2> Could not change into passive mode.	Could not change to passive mode.
1601206	ftc2> Could not change into active mode.	Could not change to active mode.
1601207	ftc2> Failed to send data.	Failed in JPEG data transfer.
1601208	ftc2> Communication time out.	Communication timeout between FTP server.
1601200	ftc2> Invalid ID or password.	Specified ID or password is illegal.

ID	Output message	Message
1601213	ftc2> Server not available.	Server cannot be used.
1601214	ftc2> CWD error.	Directory moving (CWD) is prohibited by the server.
1601215	ftc2> Directory not found or no permissions.	Specified directory is not existing or is write disabled.
1601216	ftc2> Server error on binary mode.	Binary mode is prohibited by the server.
1601217	ftc2> Server error on passive mode.	Passive mode is prohibited by the server.
1601218	ftc2> Server resource not available.	Server does not have adequate vacant capacity.
1620001	ddns> Success to connect server.	Succeeded in connecting the DDNS server.
1620002	ddns> Activate communication ok.	Succeeded and responded in activate communication.
1621001	ddns> Failed to connect server.	Failed to connect to the DDNS server.
1621002	ddns> Activate communication failed.	Failed to connect to the DDNS server. Activate communication failed.
1621003	ddns> Received server error.	Received "Server error" response.
1621004	ddns> Received few informations.	Received response "Information inadequate or contract not signed yet."
1621005	ddns> Received unknown status.	Received unknown status.
1621006	ddns> Received unknown format.	Received unknown format.
1621011	ddns> Failed to resolve name.	Failed to resolve DDNS server name.
1621012	ddns> Failed to resolve name.	Failed to resolve DDNS server name temporarily.
1621013	ddns> Failed to resolve name.	Unclear error notified in DDNS server name solution.
1621014	ddns> Initializing error.	Failed to boot DDNS service program of the camera.
1621015	ddns> Error terminated.	DDNS functions are halted due to an error in DDNS service program of the camera.
1631001	ntpc> Failed to launch NTPc.	Failed to boot NTP.
1630002	ntpc> Successfully adjusted.	Succeeded in NTP time adjustment.
1631003	ntpc> Failed to adjust.	Failed to adjust time with NTP.
1631004	ntpc> NTP error.	NTP error has occurred.
1631005	ntpc> Unknown server name.	NTP server cannot be found.
2000002	info> Rebooting...	Camera reboot
2000221	rgst> Success to save. Camera info.	Camera setting has been made.
2000223	rgst> Success to save. Alarm info.	Alarm setting has been made.
2000226	rgst> Success to save. Recording info.	Record setting has been made.
2000227	rgst> Success to save. FTPc info.	FTP client setting has been made.
2000228	rgst> Success to save. Sound info.	Audio setting has been made.
2000229	rgst> Success to save. Network info.	Network setting has been made.
2000230	rgst> Success to save. Mail info.	E-mail setting has been made.
2000231	rgst> Success to save. DDNS info.	DDNS setting has been made.
2000232	rgst> Success to save. FTPs info.	FTP server setting has been made.
2000233	rgst> Success to save. Band Control.	Band control setting has been made.
2000234	rgst> Success to save. User restriction.	User setting has been made.
2000235	rgst> Success to save. User functions.	User utilization function setting has been made.
2000236	rgst> Success to save. Malti reg.	Multi-view screen camera registration setting has been made.
2000237	rgst> Success to save. Malti selection.	Multi-view screen camera selection setting has been made.
2000238	rgst> Success to save. Admin info.	Administrator function setting has been made.
2000239	rgst> Success to save. Syslog info.	Log setting has been made.
2000240	rgst> Success to save. PT info.	Pan/Tilt setting has been made.
2000241	rgst> Success to save. Preset info.	Preset setting has been made.
2000242	rgst> Success to save. Autopatrol info.	Auto patrol setting has been made.
2000501	upld> Start Uploading...	Started uploading configuration information file.
2000502	upld> - File type: ini file.	Started uploading configuration information file.
2000503	upld> - File type: firmware.	Started uploading firmware.
2001504	upld> ...Uploading fail.	Failed in uploading.
2000505	upld> ...Uploading done.	Succeeded in uploading.
2001506	upld> Invalid HTTP query.	Error experienced in HTTP query. Refused HTTP request.
2001507	upld> Invalid HTTP header.	Error experienced in HTTP header. Refused HTTP request.
2000516	upld> ...Updating done.	Camera rebooting was executed.

Log Display (Cont.)

ID	Output message	Message
2000517	upId> ...Updating fail.	Camera rebooting was cancelled.
2000632	webm> Log was cleared.	Cleared logs.
2000701	webm> Success to default. Camera info.	Camera settings have been reset to factory preshipment inspection state.
2000705	webm> Success to default. Alarm info.	FTP client settings have been reset to factory preshipment inspection state.
2000707	webm> Success to default. Record info.	DDNS settings have been reset to factory preshipment inspection state.
2000709	webm> Success to default. FTPc info.	FTP server settings have been reset to factory preshipment inspection state.
2000711	webm> Success to default. Sound info.	Administrator function settings have been reset to factory preshipment inspection state.
2000713	webm> Success to default. Network info.	Network settings have been reset to factory preshipment inspection state.
2000715	webm> Success to default. Mail info.	E-mail settings have been reset to factory preshipment inspection state.
2000717	webm> Success to default. DDNS info.	DDNS settings have been reset to factory preshipment inspection state.
2000719	webm> Success to default. FTPs info.	FTP server settings have been reset to factory preshipment inspection state.
2000721	webm> Success to default. FrameRate info.	Frame rate settings have been reset to factory preshipment inspection state.
2000723	webm> Success to default. User ID/PW info.	User management settings have been reset to factory preshipment inspection state.
2000725	webm> Success to default. User Func info.	User utilization function settings have been reset to factory preshipment inspection state.
2000727	webm> Success to default. Malti info.	Multi-view screen settings have been reset to factory preshipment inspection state.
2000729	webm> Success to default. Admin info.	Administrator information settings have been reset to factory preshipment inspection state.
2000731	webm> Success to default. NTP info.	Date and time NTP settings have been reset to factory preshipment inspection state.
2000733	webm> Success to default. ALL info.	All settings have been reset to factory preshipment inspection state.
2000735	webm> Success to default. log info.	Log management settings have been reset to factory preshipment inspection state.
2000737	webm> Success to default. PT info.	Pan/Tilt setting has been reset to the factory preshipment inspection condition.
2000739	webm> Success to default. PT Range info.	Pan/Tilt operation range setting has been reset to the factory preshipment inspection condition.
2000741	webm> Success to default. Preset info.	Preset setting has been reset to the factory preshipment inspection condition.
2000743	webm> Success to default. Autopatrol info.	Auto patrol setting has been reset to the factory preshipment inspection condition.
2001300	inif> Successfully completed 'Import'.	Succeeded in unfolding the configuration information file.
2001304	inif> Failed to import.	Failed in unfolding the configuration information file.
2001305	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001306	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001307	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001308	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001309	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001310	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001311	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001312	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001313	inif> Ini file syntax error.	Error has been found in format of configuration information file.
2001101	prsr> Invalid HTTP request.	Error found in format of HTTP request or in content of it. HTTP request was refused.

ID	Output message	Message
2001102	prsr> Invalid HTTP request.	Error found in format of HTTP request or in content of it. HTTP request was refused.
2001103	prsr> Invalid HTTP request.	Error found in format of HTTP request or in content of it. HTTP request was refused.
2001104	prsr> Invalid HTTP request.	Error found in format of HTTP request or in content of it. HTTP request was refused.
2001105	prsr> Invalid HTTP request.	Error found in format of HTTP request or in content of it. HTTP request was refused.
3001001	apim> Invalid HTTP request.	Received method other than HTTP GET during API booting.
3001002	apim> Invalid HTTP request.	Abnormal request received during API booting.
3001006	apim> ...Failed.	Abnormally ended.
3000101	apim> Called wbsetcambasic.cgi.	API wbsetcambasic.cgi was booted.
3000103	apim> Called wbsetcamalarm.cgi.	API wbsetcamalarm.cgi was booted.
3000104	apim> Called wbsetcamrecord.cgi.	API wbsetcamrecord.cgi was booted.
3000105	apim> Called wbsetcamftprecord.cgi.	API wbsetcamftprecord.cgi was booted.
3000106	apim> Called wbsetcamsound.cgi.	API wbsetcamsound.cgi was booted.
3000111	apim> Called wbsetptbasic.cgi.	API wbsetptbasic.cgi has been booted.
3000112	apim> Called wbsetptpreset.cgi.	API wbsetptpreset.cgi has been booted.
3000113	apim> Called wbsetptautopatrol.cgi.	API wbsetptautopatrol.cgi has been booted.
3000121	apim> Called wbsetnwkbasic.cgi.	API wbsetnwkbasic.cgi was booted.
3000122	apim> Called wbsetcammail.cgi.	API wbsetnwkmail.cgi was booted.
3000123	apim> Called wbsetnwkddns.cgi.	API wbsetnwkddns.cgi was booted.
3000124	apim> Called wbsetnwkftpserver.cgi.	API wbsetnwkserver.cgi was booted.
3000125	apim> Called wbsetcamframerate.cgi.	API wbsetnwkframerate.cgi was booted.
3000131	apim> Called wbsetmultiscreen.cgi.	API wbsetmultisceen.cgi has been booted.
3000141	apim> Called wbsetadminuserinfo.cgi.	API wbsetsecuserrestrict.cgi was booted.
3000142	apim> Called wbsetadminuserrectrict.cgi.	API wbsetuserfunctions.cgi was booted.
3000161	apim> Called wbsetadmininfo.cgi.	API wbsetadmininfo.cgi was booted.
3000162	apim> Called wbsetadminTaD.cgi.	API wbsetadminTaD.cgi was booted.
3000181	apim> Called wbsetadmintime.cgi.	API wbsetadmintime.cgi was booted.
3000182	apim> Called wbsetlogconditions.cgi.	API wbsetlogconditions.cgi was booted.
3000183	apim> Called wbsetlogclear.cgi.	API wbsetlogclear.cgi was booted.
2000184	apim> Called wbsetnwkbandwidth.cgi	API wbsetnwkbandwidth.cgi has been booted.
3000201	apim> Called wbgetallinfo.cgi.	API wbgetallinfo.cgi was booted.
3000221	apim> Called wbgtcambasic.cgi.	API wbgetcambasic.cgi was booted.
3000223	apim> Called wbgetcamalarm.cgi.	API wbgetcamalarm.cgi was booted.
3000224	apim> Called wbgetcamrecord.cgi.	API wbgetcamrecord.cgi was booted.
3000225	apim> Called wbgetcamftprecord.cgi.	API wbgetcamftprecord.cgi was booted.
3000226	apim> Called wbgetcamsound.cgi.	API wbgetcamsound.cgi was booted.
3000231	apim> Called wbgetptbasic.cgi.	API wbgetptbasic.cgi has been booted.
3000232	apim> Called wbgetptpreset.cgi.	API wbgetptpreset.cgi has been booted.
3000233	apim> Called wbgetptautopatrol.cgi.	API wbgetptautopatrol.cgi has been booted.
3000241	apim> Called wbgetnwkbasic.cgi.	API wbgetnwkbasic.cgi was booted.
3000242	apim> Called wbgetcammail.cgi.	API wbgetnwkmail.cgi was booted.
3000243	apim> Called wbgetnwkddns.cgi.	API wbgetnwkddns.cgi was booted.
3000244	apim> Called wbgetnwkftpserver.cgi.	API wbgetftpserver.cgi was booted.
3000245	apim> Called wbgetcamframerate.cgi.	API wbgetnframerate.cgi was booted.
3000251	apim> Called wbgetmultiscreen.cgi.	API wbgetmultiscreen.cgi has been booted.
3000261	apim> Called wbgetadminuserinfo.cgi.	API wbgetsecuserrestrict.cgi was booted.
3000262	apim> Called wbgetadminuserrectrict.cgi.	API wbgetsecuserfunctions.cgi was booted.
3000281	apim> Called wbgetadmininfo.cgi.	API wbgetadmininfo.cgi was booted.
3000282	apim> Called wbgetadminTaD.cgi.	API wbgetadinTaD.cgi was booted.
3000283	apim> Called wbgetadmintime.cgi.	API wbgetadmintime.cgi was booted.
3000301	apim> Called wbgetlogconditions.cgi.	API wbgetlodconditions.cgi was booted.
3000302	apim> Called wbgetloglist.cgi.	API wbgetloglist.cgi was booted.
2000303	apim> Called wbgetnwkbandwidth	API wbgetnwkbandwidth.cgi has been booted.
3000321	apim> Called wblistalarm.cgi.	API wblistalarm.cgi was booted.

ID	Output message	Message
3000322	apim> Called wblistnormal.cgi.	API wblistnormal.cgi was booted.
3000323	apim> Called wblistextcontrol.cgi.	API wblistextcontrol.cgi was booted.
3000341	apim> Called wbstoragestatus.cgi.	API wbstragestatus.cgi was booted.
3000342	apim> Called wbstoragemount.cgi.	API wbstragemount.cgi was booted.
3000343	apim> Called wbstoragemountstatus.cgi.	API wbstragemountstatus.cgi was booted.
3000344	apim> Called wbstorageformat.cgi.	API wbstrageformat.cgi was booted.
2000345	apim> Called wbsetadminsetdefault.cgi.	API wbsetadmininsetdefault.cgi was booted.
2000346	apim> Called wbsetadmincamreboot.cgi.	API wbsetadmincamreboot.cgi was booted.

Symptom	Cause	How to Manage
There is no IP address of your network camera on The Camera Finder's Network Camera List. (Part 1)	●Camera is not powered on.	●Turn on the power.
	●LAN cable is not connected.	●Connect the LAN cable of the camera to a hub or router correctly. ●Be sure to turn on the power of the hub and router.
	●LAN cable is not connected to the PC.	●Connect the LAN cable to the PC correctly.
	●IP address of the PC is not configured.	●Configure the IP address of your PC correctly. (User's Guide page 25)
Cannot display a browser from Camera Finder.	●Installed directory of browser is wrong.	●Assign the directory where you are going to install the browser. Start Camera Finder and go to "View"/"Customize"/"Browser Selection."
The message, "The page cannot be displayed," shows up, and cannot login to the camera even if you start Camera Finder.	●The IP addresses of the camera and your PC are wrong.	●Set the correct IP address of the network camera. ●Set the correct IP address of your PC.
	●Proxy server has been set in the browser settings.	●When proxy is set to the browser, sometimes you may not able to login. Add Camera's IP address to bypass proxy server.
Cannot login to the camera even though entering the IP address of the camera directly to the browser, and "The page cannot be displayed" shows up.	This is the same cause as "The message ,"The page cannot be displayed," shows up, and cannot login to the camera even if you start Camera finder. Please see "Cause" and "How to Manage" above.	

Symptom	Cause	How to Manage
Error message shows up when trying to login.	●Entering wrong login ID and password.	●Enter the correct login ID and password. ※The default login ID is "root," and the password is "ikwb."
	●CapsLock of the PC is ON.	●The camera discriminates between capital letter and lower-case letter. Enter the correct login ID and password.
	●You forget your login ID and the password.	●You need to reset the camera. Remember that if you perform reset procedure of the camera, all the settings you have made will be deleted and the camera goes back to its default settings.
Cannot access to the camera from the Internet.	●Default gateway is not configured.	●Register your broadband router to the network camera as default gateway. (→ page 84)
	●Port forwarding is not configured to the broadband router.	●Configure port forwarding function (static IP masquerade, NAPT) to your broadband router. For details, read the user's guide of your broadband router.
	●Setting access restriction from the Internet (WAN side), like IP filter, to the broadband router.	●Change the restriction setting. For details, read the user's guide of your broadband router.
	●Using local (private) IP address.	●When accessing via the Internet, you need to set global IP address provided from your Internet provider to the broadband router. For details, read the user's guide of your broadband router. ※There are fixed IP address and IP address from DHCP server that an Internet provider provides as a global IP address. Ask your Internet provider for more information.
	●The IP address which was provided from the DHCP server of the provider has been changed.	●Confirm the new IP address and try to access again with the new IP address. ●Renew the information registered to the DDNS server.

Symptom	Cause	How to Manage
Cannot perform administrator settings.	●Lost camera power during the performance.	●Verify that camera power is ON.
	●Camera LAN cable has been pulled off during the performance.	●Make sure that the LAN cable is correctly to a hub or router.
	●PC LAN cable has been pulled off during the performance.	●Make sure that the LAN cable is correctly connected to a hub or router.
	●Lost hub power or router during the performance.	●Make sure that the hub or router power is ON.
	●IP address in "Network Connection Settings" under "Network Settings" has been changed.	●If you change the IP address, you cannot keep your settings in the setting screen with your old IP address. Search your camera with the application, Camera Finder, and try administrator login procedure again. ●When you enter camera IP address directly to the browser, enter the new IP address in URL like example below, and try login procedure again. http://192.168.0.40/admin.htm
Images are upside down	●Mounting method is not correct.	●Set environment for installation on a ceiling or on a desk/wall. (See page 65)
Image colors are not correct.	●The display monitor is not adjusted correctly.	●Adjust the display monitor correctly.
	●Color setting for the personal computer monitor is less than 16bits.	●Set more than 16bits.
	●Lighting is dark.	●Make lighting brighter.
	●White balance setting is not appropriate.	●Set white balance in accordance with the object. (See page 66.)
	●Setting for color difference gain is not appropriate.	●Set color difference gain correctly. (See page 69)

Symptom	Cause	How to Manage
Images are not colored.	●Auto B/W is set to ON.	●Set auto B/W setting to OFF. (See page 66)
	●Setting for color difference gain is small.	●Increase color difference gain. (See page 69)
Cannot display images from the network camera.	●The Internet line is busy.	●Wait for a little while. Sometimes it takes time to display images.
	●There are not enough resources (CPU power, RAM).	●There are the recommended requirements of PC to view the images of the network camera. (See page 22) ●Close all applications other than the network camera browser.
	●Cookie is not enabled.	●Enable Cookie.
	●Security settings for Internet options don't match.	●Change security settings for Internet options. (See page 32)
	●Browser is set for "proxy."	●Proxy setting with the browser sometimes disables camera image display. Reset browser proxy setting to setting of the camera IP address or host name that bypasses a proxy. (See page 33)
Frame Rate of network camera images are too slow.	●Picture size is too large.	●The default setting of picture size is VGA(640x480). Go to "Camera Settings"/ "General Settings"/ "Resolution" and set smaller picture size to have faster Frame Rate. (See page 64)
	●The "Picture Quality" is set to "HIGH."	●Selecting a low compression rate in "Camera/Basic setting" increases the delivery speed, but lowers image quality. (See page 65)
	●More than one users are accessing the camera at the same time.	●When many users access to the camera at the same time, the image frame rate becomes slow.
	●Browser is set for "proxy."	●Proxy setting with the browser sometimes slows camera image updating. Reset browser proxy setting to setting of the camera IP address or host name that bypasses a proxy. (See page 33)

Symptom	Cause	How to Manage
Cannot display the camera images in the dark.	●Exposure is not enough.	●Go to "Camera Settings"/ "General Settings"/"Auto B/W" and set the "Auto B/W" to ON. The images in the dark become black and white. If you still cannot display images, try using lights to have enough exposure. (See page 66) ●Images taken during the day are not affected. In addition to the auto B/W function, the camera is set with AGC (maximum value) and high limit for slow shutter. Set them according to the environment. (See page 67 and 68)
Focus is poor.	●The lens cover of the camera is not clean, or some dust is on it.	●Wipe off the lens with dried cloth.
	●Distance to an object is to close.	●Keep 1m distance between the camera and the object.
No sound is output.	●Sound volume on your PC is "0."	●Adjust the sound volume of your personal computer. (See page 16)
	●No microphone is installed.	●Install commercial microphone to your camera.
	●The microphone you are using is not a supported microphone.	●You can install only condenser typed monaural microphone. Plug type has to be monaural 3.5mm.
	●Setting for audio input is mismatched.	●Set "Audio input" in "Camera/Audio setting" to ON. (See page 77)
	●The 🔊 button in Camera Image screen is set to 🔇.	●Click the 🔇 button in Camera Image screen to set it to 🔊. (See page 34)
	●Browser is set for "proxy."	●Proxy setting with the browser sometimes disables camera audio output. Reset browser proxy setting to setting of the camera IP address or host name that bypasses a proxy. (See page 33)
Sound sensitivity of your camera is poor	●The microphone is facing wrong way.	●Face the microphone of the camera where you want to gather sound.

Before Calling Service Personnel... (Cont.)

Symptom	Cause	How to Manage
Cannot send mail.	●Settings of SMTP, POP server may not be correct.	●Check your SMTP and POP server which are provided from your provider. (→ page 73)
	●DNS server setting may not be correct.	●Set your DNS server from your provider to "Primary" and "Secondary" in "DNS Settings." (→ page 85) ※Sometimes "primary" is described as "master" and "secondary" is described as "slave," but these meanings are the same.
	●Mail sending conditions are not configured.	●To send mail, you need to perform mail sending settings of the camera. (→ page 74)
Cannot perform Auto Time Settings.	●NTP server setting may not be correct.	●The NTP server released on the Internet may become invalid without notifying users.
Couldn't complete firmware updating.	●Couldn't complete the updating because of network trouble, the power has cut off or other reasons.	●Retry updating firmware by following steps of "Updating the Firmware" on page 94.

Symptom	Cause	How to Manage
Recorded images are not saved in FTP server.	●FTP recording function is not set to ON.	●Check your SMTP and POP3 ● Check the FTP recording function whether it is set to ON. (→ page 53)
	●Log-in name and password of FTP server are incorrect.	●Set the correct information in the setting screen. (→ page 53)
	●Could not keep the communication with the server during file transfer using FTP.	●The network camera watches the status of the FTP server all the time. If you leave that condition for approximately 5 minutes, the recording resumes. ●Setting storage function to ON (see page 59) stores record files, which could not be sent, in the SD memory card inside the network camera. All records that have been stored will be sent as soon as the line restored.
Pre-/Pos-Alarm recording files are not sent to the FTP server.	●Pre-Alarm Recording data is the data before alarm has generated. Therefore, its data sending order is not necessarily in order.	●Pre-Alarm Recording images will be sent after all the Post-Alarm Recording images are sent. Also, depending on the conditions of your server, networking, image size and/or image quality settings, numbers of sent images may become fewer than your expectation.
Problem cannot be solved.	———————	●Press the Reset button to restore camera firmware settings to default condition. <Resetting camera setting information to initial status> 1 Connect the camera and a hub with the power turned on using a LAN cable. 2 Connect power cable to the camera and outlet. 3 Wait about one minute. 4 Keep pressing the Reset button on the camera 5 to 10 seconds. 5 Wait about one minute. See page 23 for initializing the network and other devices.
	———————	Please contact the store at which purchase was made.

Before Calling Service Personnel... (Cont.)

Others

· When very strong light strikes at the lens, you might see stripe patterns (smear) on the images, but these are not malfunctions. If this happens, reinstall the camera in another place, or try to change the direction of the lens.

· Audio may not always synchronize with the camera images.

· If mechanical parts, such as PAN/TILT, are moved by hand etc., unusual Audio may occur from the mechanical parts during operation after that. This is not a malfunction. In such a case, please push the ⟨⟩ button of the controller and correct a gap.

Specifications

Model Name	IK-WB15A
Power supply	DC12V ±10%(Use AC adapter supplied as an accessory) / POE(IEEE802.3.af)
Power consumption	Approx.10W
Image pickup device	1/4.2" CCD
Effective picture element	Horizontal 648, vertical 486 × 2 629,856 pixels (honeycomb array)
Effective pixel area size	Horizontal 3.4992mm, vertical 2.6244mm
Scanning system	Progressive scanning
Minimum object illuminance*1	0.5lx (1/7.5s F1.9 AGC High), 1.9lx (1/30s, F1.9 AGC High), 0.016lx (4s F1.9 AGC High)
White balance	Auto(AWB : 2500 to 7000K), manual and 4 other fixed WBs
Rear light correction	OFF/Auto, 5 area can be designation
Pan	112° (-56° to 56°)
Tilt	54° (-49° to 5°)
Zoom lens	Optical 2.6x motor powered zooming(f=2.8 to 7.3mm)
F value	F1.9 (wide), F3.1 (tele)
Picture angle	Wide end: Diagonal 89.51°, hirizontal 71.34°, vertical 53.12° Tele end: Diagonal 34.82°, hirizontal 27.95°, vertical 20.95°
Minimum focal distance	1.0m
Brightness adjustment	Available (-99 to 99, target value adjusted)
Electronic high sensitivity	off,1/7.5s(x4),1/3.75s(x8),1/2.5s(x12),1/1.8s(x16), 1s(x30) ,2s(x60),4s(x120) (off=1/30s)
Alarm terminal	input 1, output 1
Image size	1280 x 960(SXVGA), 640x480(VGA), 320x240QVGA) and 160x120(QQVGA) pixels
Image compression system	JPEG M-JPEG
Image quality setting	5 levels
Output image size	SXVGA/VGA/QVGA/QQVGA (SXVGA: 1280x960)
Maxmum frame rate*2	SXVGA 7.5fps(Network output VGA/QVGA/QQVGA: 30fps)
Number of simultaneous deliveries for image or audio	10 clients(maximum), Audio: 10 clients(maximum)
Audio*3	MIC input/Line out: 3.5mm stereo mini jack(all in one)
Motion alarm function	Available
Image recording function	Available
Recording media	SD memory card
E-mail notification function	Available
Network interface	Standard: IEEE 802.3af, type 10BASE-T, 100BASE-TX, connector RJ-45
Protocols	TCP/IP, UDP/IP, HTTP, SMTP, DNS, FTPc, FTPs, DDNS, NTPc, DHCPc, ICMP, RNCP, ARP
OS and browser	Windows2000, WindowsXP, InternetExplorer6.0sp1
Guaranteed operating temperature	14° F to 122° F
Guaranteed operating humidity	90% RH or less(no condensation)
Storage temperature	-4° F to 140° F
Mass	approx.650g (camera only)
External dimensions	127(W) × 127(H) × 110(D) mm (camera only)
Accessories	AC power adapter(x1),AC power cable(x1), DC extension cable(x1), waterproof cover/wall-mount holder (indoor/outdoor model), (tripod screw socket), sun visor (to be used when installing outdoors), wall bracket, Set screw, Operation manual(CD-ROM)(x1), Quick guide(x1),Ferrite core(x4)

*1: Y level 10% (Y: digital luminosity outputs)
*2: Varies in accordance with the object, image quality, network environment and performance of the personal computer used.
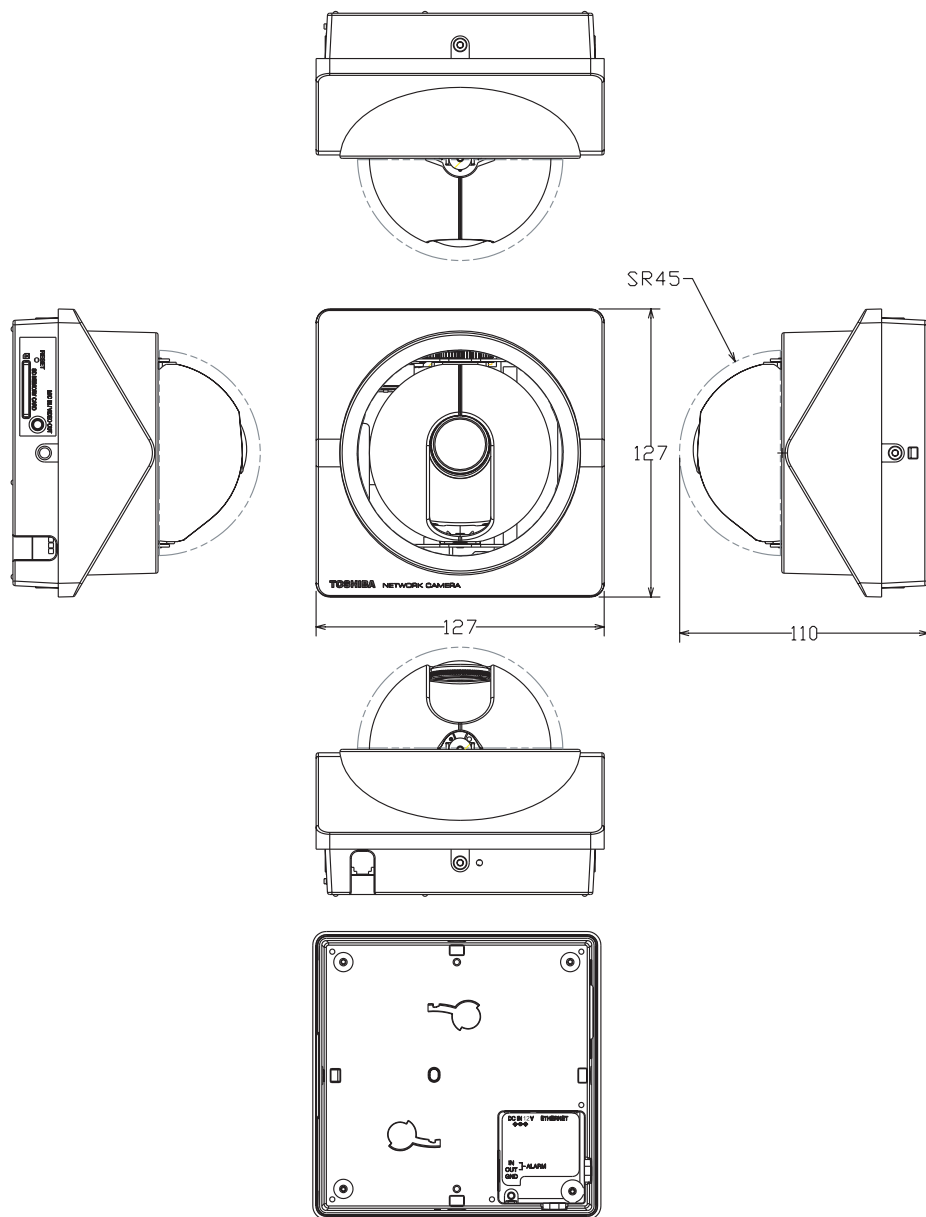*3: The sound may not be clear depending on the conditions of the lines.

● Designs and specifications may change without prior notice for better improvement.
● Screens, photos, illustrations and other diagrams contained in this user's guide may slightly change from actual ones.
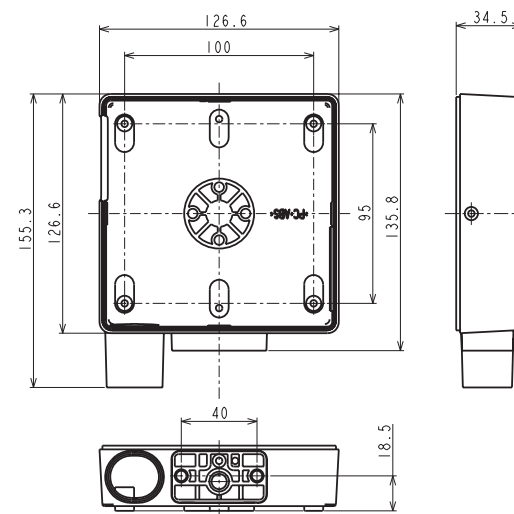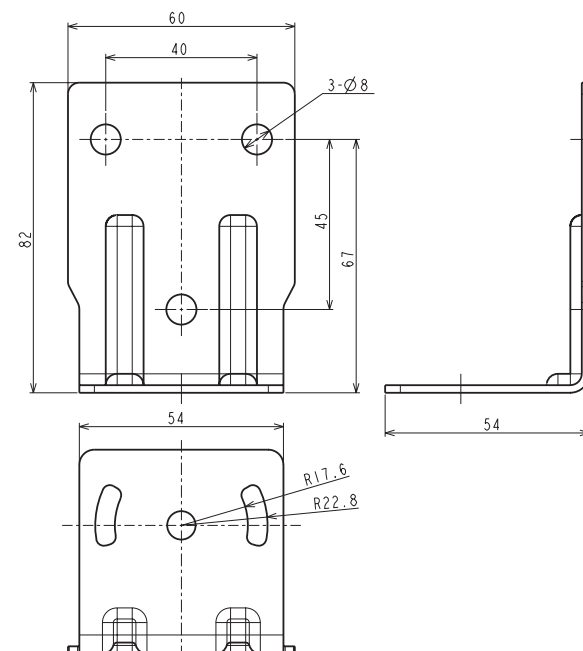
· Refer to "Installing the Camera" for installation.

REAR COVER

WALL BRACKET

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mkdosfs, Iproute2	Refer to Exhibit A.
login	Refer to Exhibit B.

Exhibit A

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Version 2, June 1991

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<one line to give the program's name and a brief idea of what it does.>

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Gnomovision version 69, Copyright (C) 19yy name of author

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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