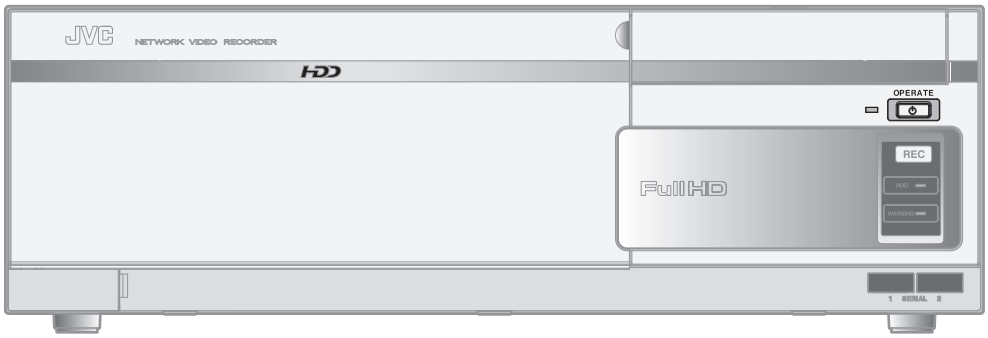
JVC

NETWORK VIDEO RECORDER

VR-X3200U
VR-X1600U

INSTRUCTIONS



Powered by Milestone

Please read the following before getting started:

Thank you for purchasing this JVC product.

Before operating this unit, please read the instructions carefully to ensure the best possible performance.

For Customer Use:

Enter below the Serial No. which is located on the body.

Retain this information for future reference.

Model No. VR-X3200U/VR-X1600U

Serial No.

LST1260-001B

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance. Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer.
   An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

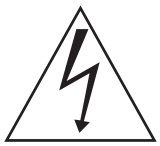
8. Slots and openings in the cabinet and the back or bottom are provided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface. This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance 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 supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. This appliance system is equipped with a 3-wire grounding type plug (a plug having a third (grounding pin). This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding plug.
11. For added protection for this 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 antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
12. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
13. Follow all warnings and instructions marked on the appliance.
14. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
15. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
16. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the appliance.
    c. If the appliance has been exposed to rain or water.
    d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
    e. If the appliance has been dropped or the cabinet has been damaged.
    f. When the appliance exhibits a distinct change in performance - this indicates a need for service.
18. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

SAFETY PRECAUTIONS (for USA)

CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN

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



The 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.

CAUTION:

Please use this unit in an appropriate power source.

To prevent electric shocks and fire hazards, DO NOT use any other power source.

NOTE:

The rating plate (serial number plate) is on the rear of the unit.

INFORMATION:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION:

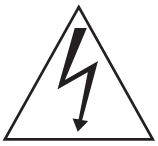
CHANGES OR MODIFICATIONS NOT APPROVED BY JVC COULD VOID USER’S AUTHORITY TO OPERATE THE EQUIPMENT.

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.

ATTENTION

RISQUE D’ELECTROCU-TION NE PAS OUVRIR

ATTENTION: POUR EVITER TOUT RISQUE D’ELECTROCUTION
NE PAS OUVRIR LE BOITER.
AUCUNE PIECE INTERIEURE N’EST
A REGLER PAR L’UTILISATEUR.
SE REFERER A UN AGENT QUALIFIE EN CAS DE PROBLEME.



Le symbole de l’éclair à l’intérieur d’un triangle équilatéral est destiné à alerter l’utilisateur sur la présence d’une “tension dangereuse” non isolée dans le boîtier du produit. Cette tension est suffisante pour provoquer l’électrocution de personnes.

Le point d’exclamation à l’intérieur d’un triangle équilatéral est destiné à alerter l’utilisateur sur la présence d’opérations d’entretien importantes au sujet desquelles des renseignements se trouvent dans le manuel d’instructions.

ATTENTION: * Ces symboles ne sont utilisés qu’aux Etats-Unis.

AVERTISSEMENT:

POUR EVITER LES RISQUES D’INCENDIE OU D’ELECTROCUTION, NE PAS EXPOSER L’APPAREIL A L’HUMIDITE OU A LA PLUIE.

Veuillez employer cette unité dans une source d'énergie appropriée.

Afin d’éviter tout resque d’incendie ou d’électrocution, ne pas utiliser d’autres sources d’alimentation électrique.

REMARQUE:

La plaque d’identification (numéro de série) se trouve sur le panneau arrière de l’appareil.

CAUTION:

RED color indications on the operation panel are provided but they are not safety related, RED color indications :
(1) For Recording Indicator
(2) For Alarm Indicator
(3) For Warning Indicator

IMPORTANT (In the United Kingdom)

Mains Supply

WARNING - THIS APPARATUS MUST BE EARTHED

The wires in this mains lead are coloured in accordance with the following code;
GREEN-and-YELLOW : EARTH
BLUE : NEUTRAL
BROWN : LIVE
As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked with the letter E or by the safety earth symbol or coloured GREEN or GREEN-AND-YELLOW.
The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or which is coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

POWER SYSTEM

Connection to the mains supply

Please use this unit in an appropriate power source.

WARNING:

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

CAUTION

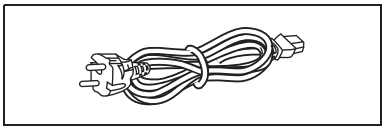
To prevent electric shock, do not open the cabinet. No user serviceable parts inside. Refer servicing to qualified service personnel.

Note:
The rating plate and the safety caution are on the rear and top of the unit.

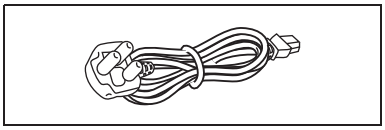
Caution for AC Power Cord

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.
Appropriate AC Power Cord must be used in each local area.

FOR CONTINENTAL EUROPE, ETC.
Not to be used in the U.K.



FOR U.K. ONLY
If the plug supplied is not suitable for your socket outlet, it should be cut off and appropriate one fitted.



PRECAUTIONS WHEN MOUNTING RACK

CAUTION

- Do not install the VR-X1600U/VR-X3200U to the rack in places where ambient temperature becomes 40°C or more.
- When rack mounting, keep the internal temperature of rack assembly 40°C or less.
- When using rack mount, keep the clearance between the rack and the rear of unit 150mm or more.
- When installing this unit or the like to the rack, refer to the consumption current value of the nameplate of each device so that the current capacity (including rated capacity of power supply wire) of the rack is not exceeded.
- Use the rack that meets the following requirements:
  - must be equipped with overcurrent protection
  - must be equipped with protective earthing conductor power plug and socket

To prevent bodily injury when mounting or servicing this unit in a rack, you must take special precautions to ensure that the system remains stable.
The following guidelines are provided to ensure your safety:
This unit should be mounted at the bottom of the rack if it is the only unit in the rack.
When mounting this unit in a partially filled rack, load the rack from the bottom to the top with the heaviest component at the bottom of the rack.
If the rack is provided with stabilizing devices, install the stabilizers before mounting or servicing the unit in the rack.

CAUTION

Before you mount this device in a rack, make sure that the rack is secure and in no danger of tipping over.

WARNING

It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast, or cable programme and in any literary, dramatic, musical or artistic work embodied therein.

CAUTION

RED colour indications on the operation panel are provided but they are not safety related, RED colour indications :
(1) For Recording Indicator
(2) For Alarm Indicator
(3) For Warning Indicator

WARNING

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

WARNING

For PLUGGABLE EQUIPMENT, the socket outlet shall be installed near the equipment and shall be easily accessible.

WARNING

It may be unlawful to record or playback copyright material without the consent of the copyright owner.

CAUTION

(1) Please do not detach the front cover.
(2) Please put it when the front cover comes off.

SAFETY PRECAUTIONS

Information for Users on Disposal of Old Equipment

Attention:
This symbol is only valid in the European Union.

[European Union]

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.
By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product.
Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

(Business users)

If you wish to dispose of this product, please visit our web page http://www.jvc.eu to obtain information about the take-back of the product.

[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

Dear Customer,

This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representatives of
JVC KENWOOD Corporation is:
JVC Technical Services Europe GmbH
Postfach 10 05 04
61145 Friedberg
Germany

INFORMATION (FOR CANADA)
RENSEIGNEMENT (POUR CANADA)

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

Cet appareil num rique de la Class A est conforme á la norme NMB-003 du Canada.

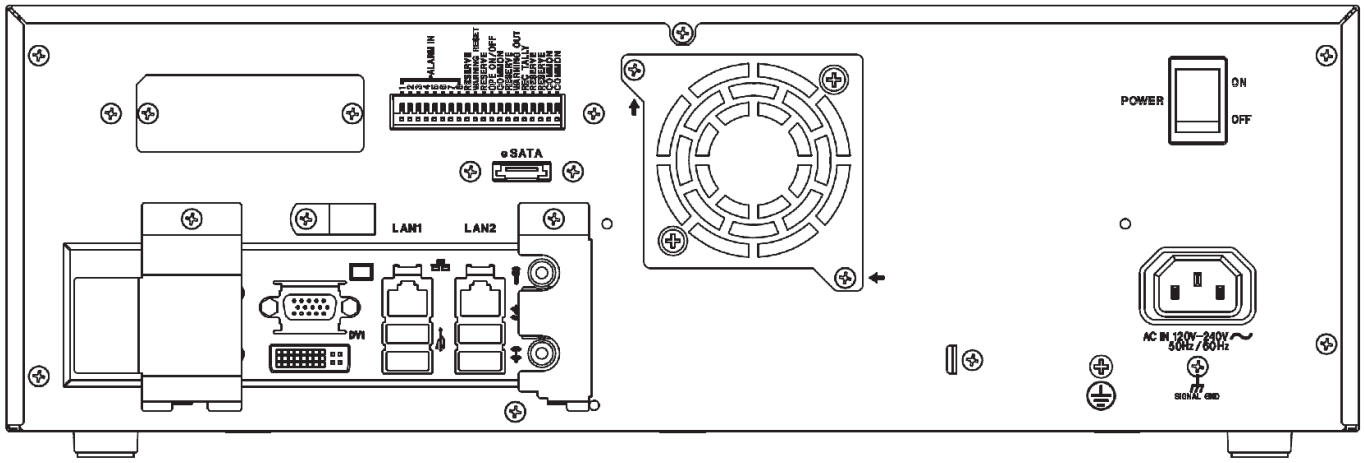
WARNING (FOR EUROPE):

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Precautions

Please note the following when using the VR-X1600U and VR-X3200U in Europe.

1. Ensure that the protective earthing terminal of the product is connected to the indoor protective grounding.
2. Please use a wire that meets the following requirements when connecting the protective earthing terminal of the product to the indoor protective grounding.
   - The color of the wire should be green with yellow stripe.
   - The cross-sectional area of the conductor should be 0.8230 mm^2 (18AWG or equivalent).
3. The wire connected to the protective earthing terminal must not come out easily.
4. Do not use the protective earthing terminal of the product as a signal ground terminal.



Rear view of VR-X1600U/VR-X3200U

Precautions for Proper Use of this Product

Locations of Storage and Use

- Do not place this product in the following locations.

  Doing so may cause this product to malfunction or break down.
  - Hot or cold places beyond the allowable operating temperature range (5°C to 40°C)
  - Humid places beyond the allowable operating humidity range (30%RH to 80%RH)(no condensation)
  - Places that emit a strong magnetic field, such as near transformers and motors
  - Places near devices that emit radio waves, such as transceivers and mobile phones
  - Places with considerable dust and sand
  - Places with strong vibrations
  - Places where water droplets may be formed, such as by a window sides
  - Places with considerable vapor and oil, such as kitchens
  - Places that emit radiation, X-rays, and corrosive gases
- Using this unit and the cable that is connected to it near places where strong radio waves or magnetic fields are emitted (such as near radios, TVs, transformers, and monitors) may cause noise in the video images or color changes.

Handling Precautions

- Do not stack the devices on one another during use

  Heat and noise from the devices may cause the unit to malfunction or break down, and lead to fire.
- Do not block the ventilation holes

  Doing so may cause heat to be trapped inside the unit and result in fire. Do not use this unit by laying it down sideways, upside down, or at an angle.
- Do not place objects on this unit

  Placing heavy objects, such as TV monitors, or objects that are bigger in size on this unit may cause it to lose balance and drop or fall, resulting in injuries.
- Do not stand or sit on this unit

  Doing so may cause this unit to fall or break down, and result in injuries. Keep it out of the reach of young children.
- Do not place objects with water (e.g., vases, flower pots, cups, cosmetic products, and chemicals) on this unit

  Water may enter this unit through the ventilation holes and result in fire or electric shock.
- Do not insert objects into this unit

  Metallic or other flammable objects that enter this unit from the ventilation holes may result in fire or electric shock.
- Remove all connected cords before moving

  Turn off the power and remove the power plug before moving this unit. Failure to do so may cause damage to the cords, and result in fire or electric shock.

Precautions for Handling Power Cords

- Do not use the supplied cords on devices other than this unit.
- Do not place heavy objects on the power cord, or place it under this unit.

  Doing so may cause damage to the cords, and result in fire or electric shock.
- Do not use cords other than those supplied with this unit

  Use only power cords supplied together with this unit. Using cords with different withstanding voltage specifications or damaged cords may result in fire or electric shock.
- Do not remove the power plug during recording or playback, or when the HDD is being accessed.

Maintenance

- Turn off the power before performing maintenance of this unit.
- Wipe this unit using a soft cloth. Wiping using thinner or benzene may cause the surface to melt or fog. When the surface is extremely dirty, wipe using a cloth that is dipped into a neutral detergent diluted with water, followed by wiping with a dry cloth.

Energy Conservation

- Turn off the power of the system for safety reasons and to save energy if this unit is not to be used for a long time.

Copyright

- Use of video or audio sound recorded using this unit for commercial purposes or playing them for public viewing or listening may be an infringement of the copyrights of their respective authors under the copyright law.
- These video (audio) recordings shall be restricted to personal only uses, and their use without prior consent of the copyright holder is strictly prohibited under the copyright law.

- All contents of this manual are the copyright of JVC KENWOOD Corporation. No part of this manual may be reproduced or copied without prior permission of JVC KENWOOD Corporation.
- Names of other companies' products referred to in this manual are generally trademarks or registered trademarks of the companies.In this manual, marks such as ™, ®, and © are omitted.
- Milestone and XProtect Enterprise are registered trademarks of Milestone Systems.

Precautions for Handling Hard Disk Drive

- This unit comes with a high-precision hard disk device. Be careful not to exert vibration or impact on this unit when handling it. Exertion of vibration or impact particularly when the power is on or when the hard disk is being accessed may cause this unit to break down.
- The distance between the head and the disk is only about 0.02 μm when the hard disk (henceforth HDD) is reading the data. Vibration or impact that is exerted on the HDD may therefore cause the head to hit against the disk, causing the disk surface to dent or the disk to chip. When this occurs, data may not be properly read, or in a worse scenario, continued use in this condition may result in head crash (damage). Careful attention must therefore be paid when handling it.
- Precautions During Installation and Change of Installation Location

  Moving of this unit or installation work is strictly prohibited when the power of this unit is on or immediately after the power is turned off (approximately 1 minute). The HDD continues to move under its own inertia for some time after the power is disconnected, and exertion of vibration or impact during this interval may result in HDD failure. When moving this unit, wrap it using cushioning materials to protect it from external shock.
- The HDD is a consumable product. Although it may vary according to the environment of use, it is recommended to replace the HDD after using for 18,000 hours in a surrounding temperature of 25°C. (However, this is only a reference time and not a guarantee for HDD life span.) For inquiries on maintenance plans and expenses, consult your nearest JVC KENWOOD dealer.
- When installing an external hard disk, we recommend the use of UPS (uninterruptible power supply) to ensure the stable operation of the system.
- Power failure that occurs during formatting or disconnection of the HDD may affect its subsequent use even when the UPS is connected.
- JVC KENWOOD shall not be held responsible for the compensation of losses incurred in the event that recording or playback fails due to defects in this unit or its hard disk drive.
- Images recorded on the HDD will be deleted when you replace it with a new disk. Note also that recorded images may be deleted when you upgrade the software for this unit.

Software Installation

- Do not install any software to this device other than the provided application software. Otherwise, operations may become unstable. Any malfunctions which arise in such a case will not be covered under warranty.

Anti-virus

You cannot install anti-virus software on this unit. Instead, prepare anti-virus by Windows Firewall or the router. In addition, do not use Windows update.

Others

- When there is variation in the supply voltage such as during lightning, operation of this unit may be disabled to protect the system until the supply voltage stabilizes again.
- Eliminate static electricity before performing work that requires you to touch the input/output terminals, such as when installing devices.
- Do not touch the rear panel of this unit when it is running as static electricity may cause it to malfunction.
- When there is a large amount of data recorded on this unit, such as short alarm records, a longer time may be required during search or backup. This is not a malfunction.
- Data recorded from TV broadcasts or video (audio) recordings shall be restricted only to personal use, and their use without the prior consent of the copyright holder is strictly prohibited under the copyright law.
- The width of the border lines (black in color) of images on the split screen varies according to the type of input signals. This is due to the characteristics of the camera's input signals, and is not a malfunction. The condition may also be improved by adjusting this unit. For details, consult our authorized dealers or JVC KENWOOD service centers.

When installed in an ordinary household, this unit may cause interference with other devices such as radios or televisions.

Consumable parts

The table below shows consumable parts for this unit. Repair costs including fees for parts or replacement, or travel expenses are charged even while this unit is under warranty.

Parts	Note
HDD	Replace every 18,000 hours (2 years) of use.
CPU fan/Rear fan unit	Replace every 30,000 hours (3 years) of use.
Backup battery (CR2032)	Necessary to replace if the power is not supplied for a long time.

- The maintenance cycle differs depending on the conditions of use. The cycle above is applied when you use this unit in 25°C environment.
- Consult our authorized dealers or JVC KENWOOD service centers for details on the maintenance plan or fees. (The list of JVC KENWOOD service center is attached to this unit.)

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You may allow up to ten other devices to access the software to use
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- Print Services,
- Internet Information Services, and
- Internet Connection Sharing and Telephony Services.

The ten connection limit applies to devices that access the software indirectly through "multiplexing" or other software or hardware that pools connections. You may use unlimited inbound connections at any time via TCP/IP.

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Other Remote Uses. You may allow any number of devices to access the software for purposes other than those described in the Device Connections and Remote Access Technologies sections above, such as to synchronize data between devices.

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- temporarily download them to a printer or other output device to print content.

f. Icons, images and sounds.
While the software is running, you may use but not share its icons, images, sounds, and media.

About the Software (continued)

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a. Consent for Internet-Based Services.
The device may contain one or more of the software features described below. These features connect to Microsoft or service provider computer systems over the Internet. In some cases, you will not receive a separate notice when they connect. For more information about these features, visit go.microsoft.com/fwlink/?linkid=104604.

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  The following features use Internet protocols, which send to the appropriate systems computer information, such as your Internet protocol address, the type of operating system and browser, the name and version of the software you are using, and the language code of the device where you installed the software. Microsoft uses this information to make the Internet-based services available to you. JVC KENWOOD has elected to turn on the following features on the device.
- **Plug and Play and Plug and Play Extensions.**
  You may connect new hardware to your device. Your device may not have the drivers needed to communicate with that hardware. If so, the update feature of the software can obtain the correct driver from Microsoft and install it on your device.
- **Web Content Features.**
  Features in the software can retrieve related content from Microsoft and provide it to you. Examples of these features are clip art, templates, online training, online assistance and Appshelp. You may choose to switch them off or not use them.
- **Digital Certificates.**
  The software uses x.509 version 3 digital certificates. These digital certificates confirm the identity of user sending information to each other and allow you to encrypt the information. The software retrieves certificates and updates certificate revocation lists over the Internet.
- **Auto Root Update.**
  The Auto Root Update feature updates the list of trusted certificate authorities. You can switch off this feature.

- **Windows Media Digital Rights Management.**
  Content owners use Windows Media digital rights management technology (WMDRM) to protect their intellectual property, including copyrights. This software and third party software use WMDRM to play and copy WMDRM-protected content. If the software fails to protect the content, content owners may ask Microsoft to revoke the software's ability to use WMDRM to play or copy protected content. Revocation does not affect other content. When you download licenses for protected content, you agree that Microsoft may include a revocation list with the licenses. Content owners may require you to upgrade WMDRM to access their content. Microsoft software that includes WMDRM will ask for your consent prior to the upgrade. If you decline an upgrade, you will not be able to access content that requires the upgrade. You may switch off WMDRM features that access the Internet. When these features are off, you can still play content for which you have a valid license.
- **Windows Media Player.**
  When you use Windows Media Player, it checks with Microsoft for
  - compatible online music services in your region;
  - new versions of the player; and
  - codecs if your device does not have the correct ones for playing content.

  You can switch off this feature. For more information, go to: go.microsoft.com/fwlink/?LinkId=51331.
- **Malicious Software Removal/Clean On Upgrade.**
  Before installation of the software, the software will check and remove certain malicious software listed at www.support.microsoft.com/?kbid=890830 ("Malware") from your device. When the software checks your device for Malware, a report will be sent to Microsoft about any Malware detected or errors that occurred while the software was checking for Malware. No information that can be used to identify you is included in the report. You may disable the software's Malware reporting functionality by following the instructions found at www.support.microsoft.com/?kbid=890830.
- **Network Awareness.**
  This feature determines whether a system is connected to a network by either passive monitoring of network traffic or active DNS or HTTP queries. The query only transfers standard TCP/IP or DNS information for routing purposes. You can switch off the active query feature through a registry setting.
- **Windows Time Service.**
  This service synchronizes with www.time.windows.com once a week to provide your l device with the correct time. The connection uses standard NTP protocol.
- **Search Suggestions Service.**
  In Internet Explorer, when you type a search query in the Instant Search box or type a question mark (?) before your search term in the Address bar, you will see search suggestions as you type (if supported by your search provider). Everything you type in the Instant Search box or in the Address bar when preceded by a question mark (?) is sent to your search provider as you type. Also, when you press Enter or click the Search button, the text in the Instant Search box or Address bar is sent to the search provider. If you use a Microsoft search provider, use of the information sent is subject to the Microsoft Online Privacy Statement. This statement is available at go.microsoft.com/fwlink/?linkid=31493. If you use a third-party search provider, use of the information sent will be subject to the third party's privacy practices. You can turn search suggestions off at any time. To do so, use Manage Add-ons under the Tools button in Internet Explorer. For more information about the search suggestions service, see go.microsoft.com/fwlink/?linkid=128106.
- **Consent to Update Infrared Emitter/Receiver.**
  The software may contain technology to ensure the proper functioning of the infrared emitter/receiver device shipped with certain Media Center-based products. You agree that the software may update the firmware of this device.
- **Media Center Online Promotions.**
  If you use Media Center features of the software to access Internet-based content or other Internet-based services, such services may obtain the following information from the software to enable you to receive, accept and use certain promotional offers:
  - certain device information, such as your Internet protocol address, the type of operating system and browser you are using, and the name and version of the software you are using,
  - the requested content, and
  - the language code of the device where you installed the software.
  - Your use of the Media Center features to connect to those services serves as your consent to the collection and use of such information.
- **Media Playback Updates.**
  The software on the device may include media playback features which receives updates directly from the MSCORP Media Playback Update servers. If activated by your manufacturer, these updates will be downloaded and installed without further notice to you. The manufacturer is responsible for ensuring these updates work on your device.

About the Software (continued)

MICROSOFT SOFTWARE LICENSE TERMS (continued)

- **Windows Update Agent.**
  The software on the device includes Windows Update Agent ("WUA"). This feature enables your device to access Windows Updates either directly from MSCORP Windows Update server or from a server installed with the required server component and from the Microsoft Windows Update server. To enable the proper functioning of the Windows Update service in the software (if you use it) updates or downloads to the Windows Update service will be required from time to time and downloaded and installed without further notice to you. Without limiting any other disclaimer in these license terms or any license terms accompanying a Windows Update, you acknowledge and agree that no warranty is provided by Microsoft Corporation or their affiliates with respect to any Windows Update that you install or attempt to install on your device.

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Structure of Manuals

The structure of manuals for this unit is as follows.

Name of manual	Intended reader	Format	Description
Set Up Guide	System administrators and operators	Booklet	Installation and setup procedures for this unit, and basic setup and operation procedures for this unit, management software and viewer necessary for operations
INSTRUCTIONS (present document)	System administrators and operators	HTML, PDF (Integrated in this unit)	Installation and setup procedures for this unit, and details of setup and operation procedures for effective use of this unit
Quick Reference (For monitoring)	Monitoring operators	Booklet	The most fundamental operation procedures for the viewer necessary for monitoring works

Structure of This Manual

The structure of this manual is as follows.

Item	Description
Getting Started (☞ Page 2)	Describes precautions for proper use of this product, etc. Be sure to read prior to use.
<Recorder Part>	
Basics (☞ Page 23)	Describes basic operations and setup from installation and connection of this unit to receiving images from the camera.
Applications (☞ Page 38)	Describes concrete setup procedures for specific operation types, including setup of the operation at the time of alarm reception.
Reference (☞ Page 80)	Describes detailed setup items to master this unit and Management Application.
<Viewer Part>	
Basics (☞ Page 132)	Describes procedures from installation of the viewer to a computer to basic setup for monitoring.
Applications (☞ Page 155)	Describes viewer setup procedures for specific operation types, including screen customization.
Reference (☞ Page 163)	Describes detailed setup items to master Smart Client.
Others (☞ Page 180)	Indicates compatible devices, recording time, and default value list, as well as troubleshooting actions and specifications of this unit.

■ Legend of symbols in this manual

Caution Indicates precautions for the operation.

Note Indicates useful information regarding functions and limitations on use.

☞ Indicates the reference page and reference item.

Workflow from Installation to Operations

The workflow from installation of this unit to system operations is as follows.

Caution:

- Install the network cameras and set the IP addresses, etc. before installation and setup of this unit.

For operators and administrators	Install	Install this unit to an EIA rack or the like.	Page 24
	▼		
	Connect	Connect devices necessary to operate this unit such as a monitor and a mouse, and devices essential to configure the security system such as a network cable and other warning system(s).	Page 25
	▼		
	Switch on the power of this unit	After connecting necessary devices, switch on the power of this unit.	Page 29
	▼		
	Connect this unit to the network	Make the network settings on the unit, and connect it with the cameras and computer.	Page 31
	▼		
	Configure basic system settings	Register the cameras and configure settings to show images from the cameras on the screen.	Page 32
	▼		
	Configure settings for specific operation type	Configure settings for the intended purpose.	Page 38
	▼		
	Use the viewer	Set the contents to be displayed in the view in accordance with the surveillance plan.	Page 132

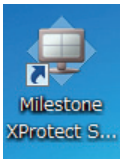
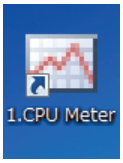
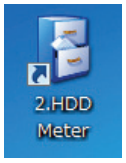
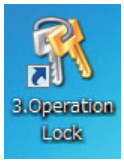
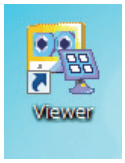
For monitoring operators	Operate	Use the viewer to view live images from the cameras and search for recorded images to play back. Save recorded images to Desktop or other locations as necessary.	Page 132

For operators and administrators	Maintenance and system expansion	System maintenance and configuration changes (addition of camera and HDD, etc.) are possible. For the list of setup items of this unit and Milestone application, refer to the “Reference.”	Page 80 Page 163

About the Software Used with This Unit

Overview of the Software

The following software is used with this unit.

Software	Overview
	Starts up XProtect Enterprise Management Application. XProtect Enterprise Management Application is software to perform settings of the monitoring system using XProtect Enterprise. This software is referred to as "Management Application" in this manual.
	Starts up XProtect Enterprise Smart Client. XProtect Enterprise Smart Client is a software to view live or recorded images with the monitoring system using XProtect Enterprise. This software is referred to as "Smart Client" in this manual.
	Starts up the CPU meter. This software displays the load factor of this unit. By default, the CPU meter appears on the upper left of the desktop automatically when you start up this unit.
	Starts up the HDD meter. This software displays the HDD usage.
	Locking/unlocking the operation of this unit.
	Starts up unit settings menu. You can perform settings of items other than those with Management Application.
	Starts up maintenance information menu. You can display or save information such as the runtime of this unit.
	Starts up the screen keyboard. Use this software to enter characters using the mouse.
	You can view the data exported in database format.
Intel ® Rapid Storage Technology	This software is used to construct RAID. Click [Start], [All Programs], [Intel], [Intel ® Rapid Storage Technology] in this order to start up.

Notices for Changing Settings

If you specify wrong settings, this unit may not operate properly.

- Before you change setting, it is recommended to save unit settings and settings of Management Application. (☞ Page 78 "Saving/Restoring Settings")

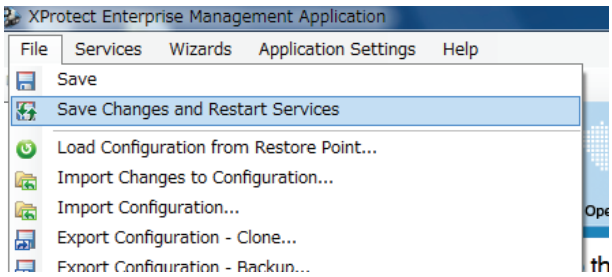
Caution:

- Never turn off the power while saving settings of Management Application.

■ When you change settings of Management Application

When you have changed settings of Management Application, save the settings, then restart the service. otherwise, the new settings are not applied.

Save the settings and restart the service from the [File] menu of Management Application.

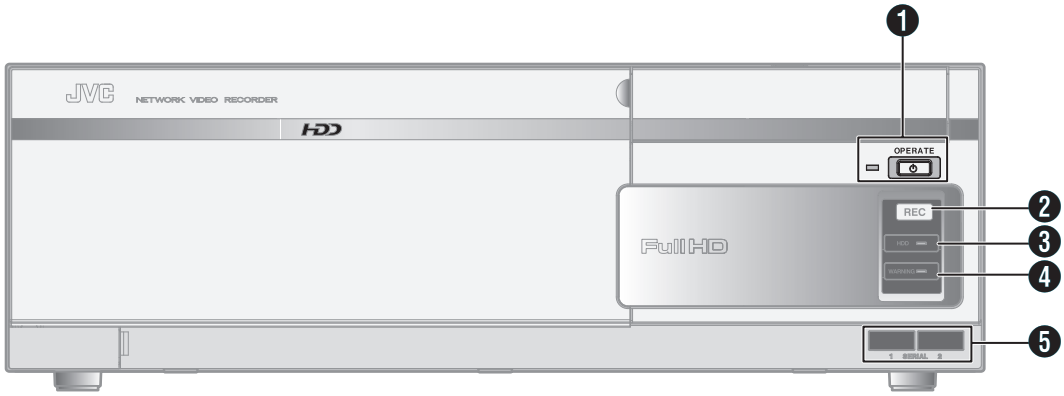


Note:

- You can also restart the service from [Services] in [Advanced Configuration]. (☞ Page 113 "Services") In addition, when you shut down Management Application, the screen to select whether to save the settings or restart the service is displayed. (☞ Page 33 "To close Management Application") Make sure to select "Save changes - restart services" in this case.
- If you change settings of Management Application while Smart Client is on, close Smart Client and restart the service.

Part Names and Functions

Front



❶ [OPERATE] Button/Indicator

Switches operation on or off. Press the button to turn operation ON and hold down the button to turn operation OFF. The indicator blinks while the recorder is starting up or shutting down. When the starting up operation is complete, the indicator stops blinking and is lit.

❷ [REC] Indicator

Lights up during recording.

❸ [HDD] Indicator

Lights up when the built-in hard disk drive is accessed.

❹ [WARNING] Indicator

Lights up when an error occurs in the hardware.

Note:

- Error types: ☞ Page 195
- How to turn off: ☞ Page 129

❺ [SERIAL1/2] Terminals

For connecting the communication control terminals of a USB mouse (sold separately), USB flash memory (sold separately) or UPS (sold separately).

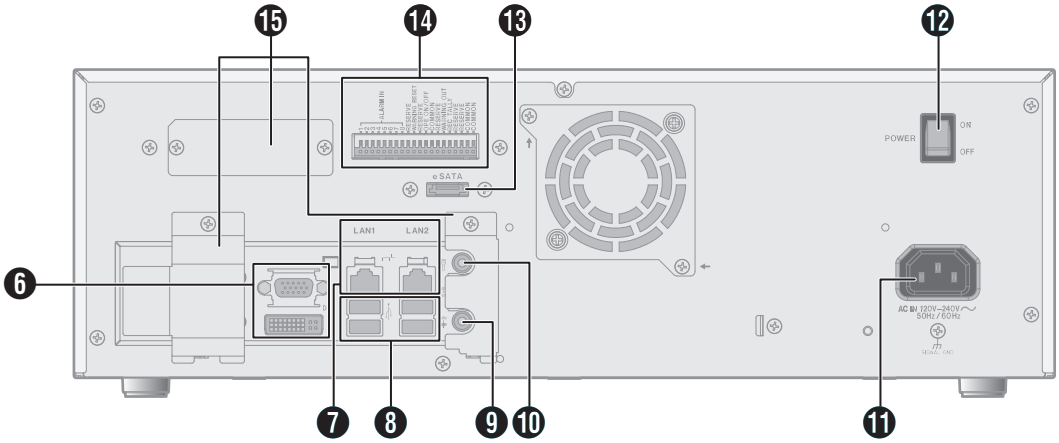
Caution:

- Attach the serial port cover supplied with this product if this port is not in use.
- This product may malfunction due to the presence of static electricity. Remove any static before starting operation.

Note:

- Use the SERIAL terminal or [eSATA] terminal on the rear panel for additional HDD connection. (☞ Page 21)
- For connection of external devices, consult your nearest JVC KENWOOD dealer. You can also check on our website.

Rear Panel



⓰ Monitor Output Terminals (D-sub 15pin, DVI)

Outputs the recorded images, live images or the setup screen.

Note:

- The DVI terminal emits only digital signals.

⓱ LAN1/LAN2 Terminals

Connect to the network using a LAN cable.

Indicator position	Color	Status	
Left	-	Off	Communication at 10 Mbit/s.
	Green	On	Communication at 100 Mbit/s.
	Orange	On	Communication at 1 Gbit/s.
Right	-	Off	Not connecting to the network.
	Yellow	Blinking	Communication is in progress.

Note:

- For how to use LAN1/LAN2, refer to “Proper Use of LAN1/LAN2” (☞ Page 119).

⓲ SERIAL Terminal

For connecting the communication control terminals on a USB mouse (sold separately), USB flash memory (sold separately), UPS (sold separately) or additional HDD (sold separately).

Note:

- For connection of external devices, consult your nearest JVC KENWOOD dealer. You can also check on our website.

⓳ Audio Output Terminal

Connect to an audio output device such as a speaker.

⓴ Audio Input Terminal

Connect to an audio input device such as a plug-in microphone.

⓫ [AC IN 120V - 240V ~ 50Hz/60Hz] power input terminal

Connect to an AC120 V to AC240 V outlet using the power cable supplied.

⓬ [POWER] switch

Switches the power on or off.

Note:

- Be sure to press and hold down the [OPERATE] button on the front panel to shut down the system before switching off the power supply.

⓭ [eSATA] Terminal

Connect to an additional HDD (sold separately).

Note:

- For details on additional HDDs you can connect to this unit, consult your nearest JVC KENWOOD dealer. You can also check on our website.

⓮ Signal input/output terminals

For operating the unit using external alarm signals or signals received from external devices, or for operating external devices by outputting signals.

Note:

- Diameter of applicable cable: AWG22 to AWG28

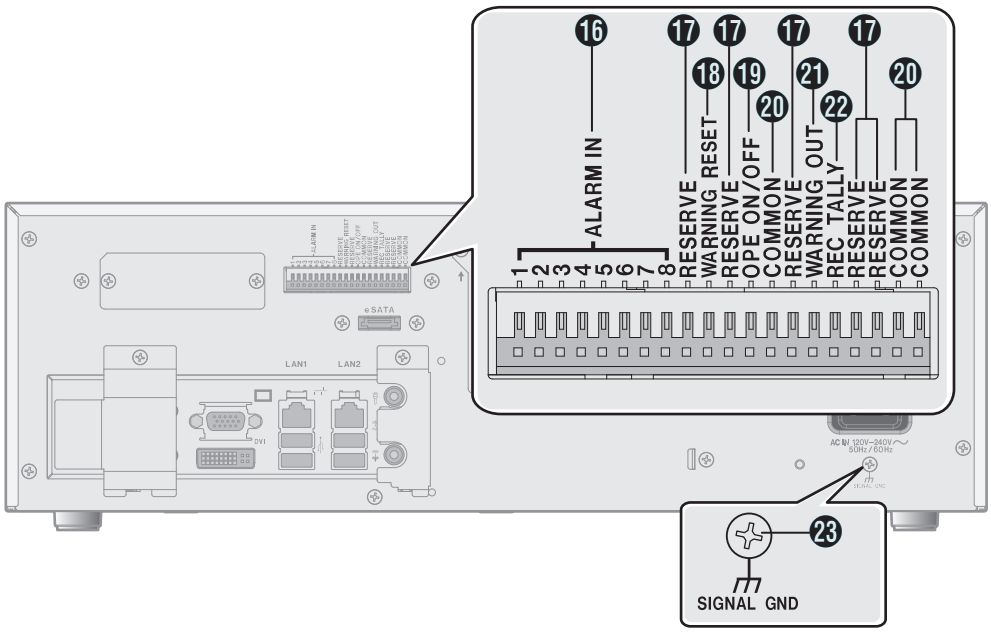
⓯ Connector cover

Note:

- Do not remove the cover.

Part Names and Functions (continued)

Rear I/O Terminals



■ Input ports (☞ Page 27)

⑯ [ALARM IN 1 to 8] alarm input terminals 1 to 8

When a signal is input to these terminals, an alarm event occurs and you can activate alarm recording and/or change the direction of a PTZ camera. (☞ Page 46 "Events and Actions")

⑰ [RESERVE] Terminal

Reserved.

⑱ [WARNING RESET] Warning Reset Input Terminal

Output from the Warning Output Terminal is stopped when a signal is input to this terminal during output of the Warning Out signals.

⑲ [OPE ON/OFF] Operate ON/OFF terminal

Switches between OPERATE ON or OFF when a signal is input to this terminal.

Note:

- The "OPERATE OFF" works even during Operation Lock (☞ Page 116).

■ Output Ports (☞ Page 27)

⑳ [COMMON] Signal Ground Terminal

This is a common ground terminal. Connect it to the signal ground terminal on the connected device.

This can be used when there are insufficient common ground terminals.

㉑ [WARNING OUT] Warning Output Terminal (☞ Page 195)

Outputs signals when an error such as an HDD malfunction occurs.

㉒ [REC TALLY] recording status output terminal

Outputs the recording status of this unit.

㉓ [SIGNAL GND] signal ground terminal

This is a common ground terminal. Connect it to the signal ground terminal on the connected device.

This can be used when there are insufficient [COMMON] Signal Ground Terminals ⑳.

Note:

- Do not use this terminal for protective earthing.

Recorder Part

Basics

This chapter describes procedures for basic operations of this unit (recorder) and basic setup for the surveillance system.

Caution:

- Never turn off the power while saving settings of Management Application.
- When you change settings of Management Application, restart the service; otherwise, the new settings are not applied. (☞ Page 19 "When you change settings of Management Application") In addition, if you change settings of Management Application while Smart Client is on, close Smart Client and restart the service.

Mounting to a Rack

This section describes procedures to use the supplied rack mount bracket to mount this unit to the EIA rack. For the installation to the rack, consult the specialist or dealer.

1 Mount the rack mount bracket using screw ①

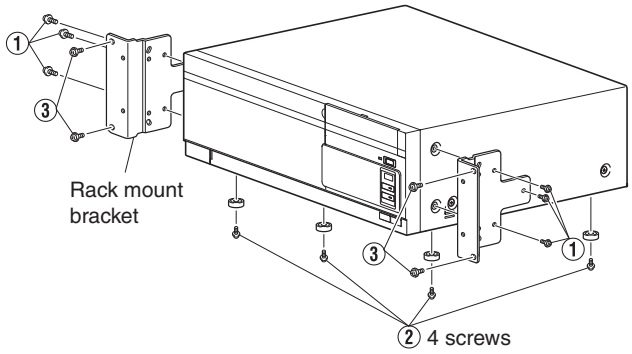
- Use the 6 screws (M4 x 11 mm) supplied to fasten this unit on both sides.

2 Remove the foot screws ② (4 pcs) on the bottom of the unit

- Remove the foot.

3 Mount to the rack using screws ③

- Use the 4 screws (M5 x 10 mm) supplied to fasten this unit to the rack.



Caution:

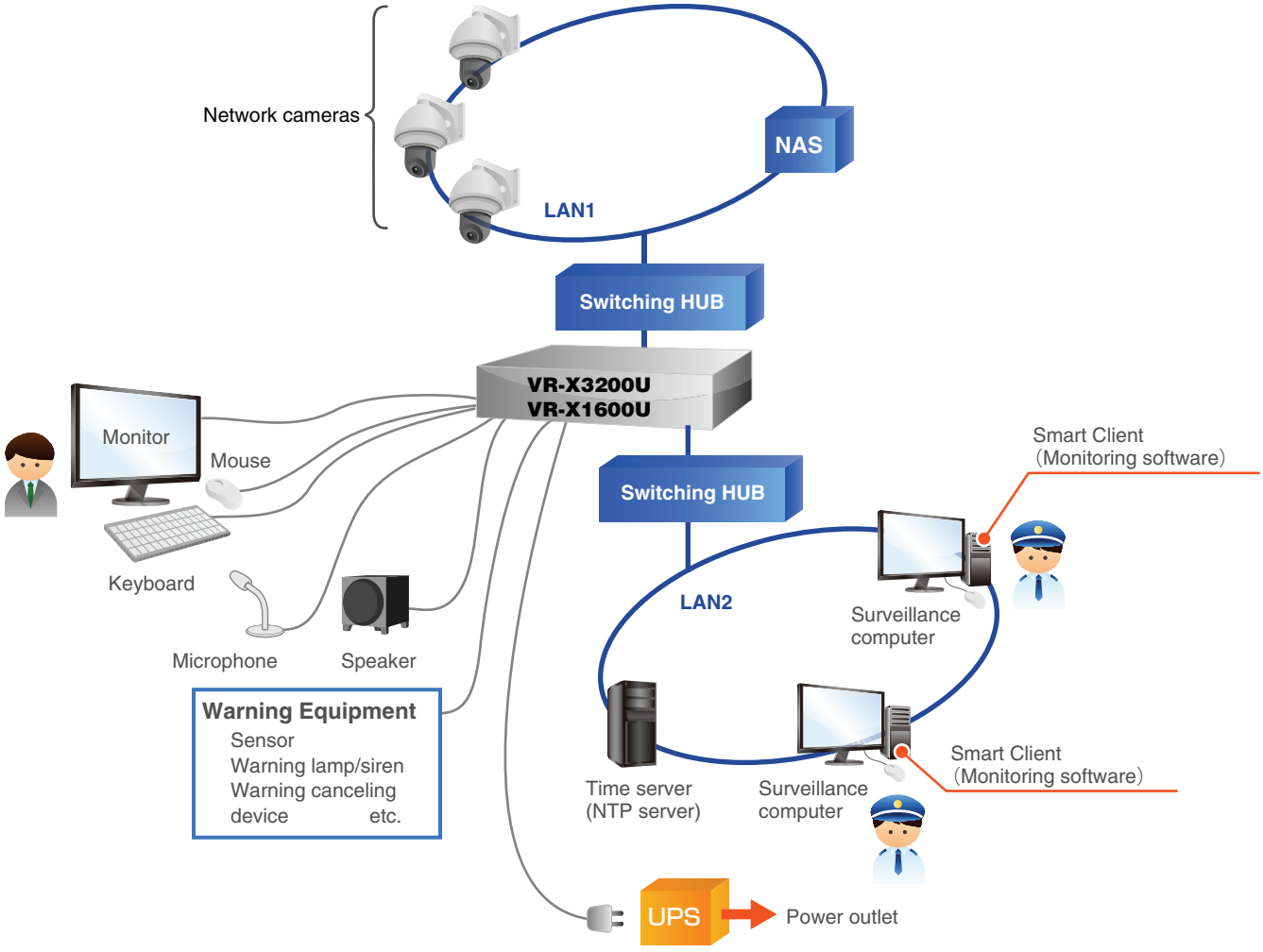
- Do not place any object on this unit when it is mounted to the rack. Doing so may cause it to lose balance and drop or fall, resulting in injuries or damage.
- When mounting more than one of this unit to the rack, make sure to mount each at a distance that is at least equivalent to one U.
- When remounting the removed foot, make sure to use the same screws (M3 x 6 mm). Using a longer screw may cause malfunction.

Connecting

Basic System Configuration

This unit can be used to build the following monitoring system configuration.

- 32 (VR-X3200U)/16 (VR-X1600U) cameras for live image monitoring and image recording and playback (With additional camera licenses, VR-X3200U and VR-X1600U may monitor up to 64 and 32 cameras, respectively)
- Check of recorded images with VGA or DVI monitor
- Audio recording and playback
- Playback of microphone audio sounds through speaker of the specified camera(s)
- Recording by alarm
- Remote monitoring using a computer



Caution:

- Turn off all devices before connecting.
- Do not connect a faulty switching hub or router, or an exhausted network cable. Otherwise, the system may malfunction.
- When you use a NAS or UPS, consult your nearest JVC KENWOOD dealer for details on the compatibility with this unit. You can also check on our website.

Connecting (continued)

Devices Connected to Terminals of This Unit

■ Connecting a monitor

Connect a monitor to the RGB output terminal or DVI output terminal on the rear panel.

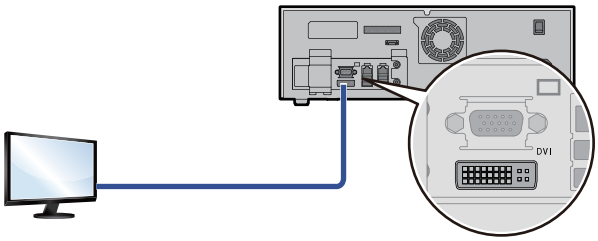
Recommended monitor resolutions are listed below:

- 1024 x 768
- 1280 x 768
- 1280 x 1024
- 1600 x 1200
- 1920 x 1080

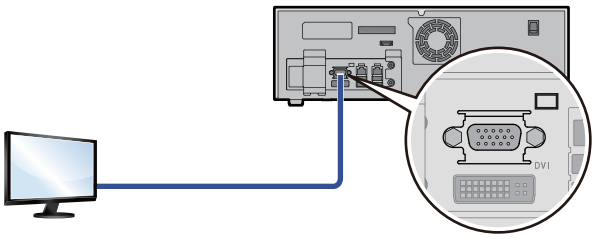
Note:

- Some monitor resolutions above may not be available depending on the monitor you use.

● DVI monitor (Digital only)



● VGA monitor



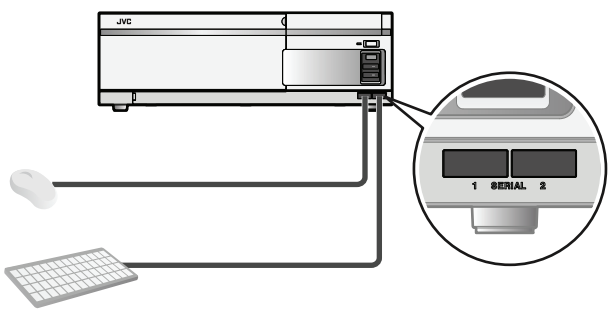
■ Connecting a mouse and keyboard

This unit is used with a mouse.

For setup, use a keyboard connected to the SERIAL terminal on the front panel.

Note:

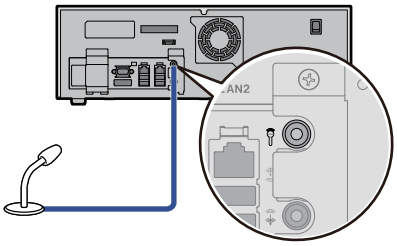
- Characters may also be entered using the built-in on-screen keyboard. For how to use the on-screen keyboard, see "Using the On-screen Keyboard" (☞ Page 30).



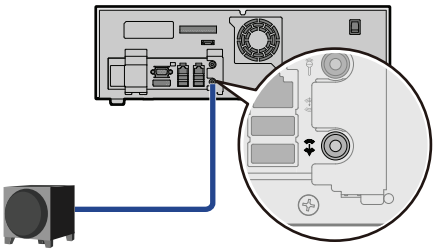
■ Connecting a microphone and speaker

A microphone and speaker on the camera side allows for speech communication.

● Microphone



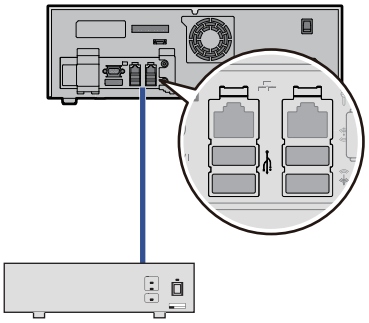
● Speaker



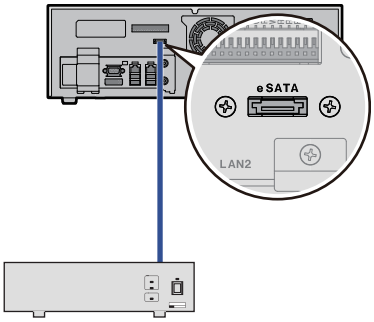
■ Connecting additional HDDs

The SERIAL terminal or eSATA terminal on the rear panel can be used for additional HDD(s).

● SERIAL terminal



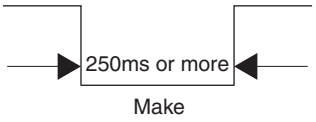
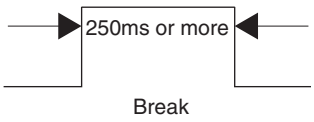
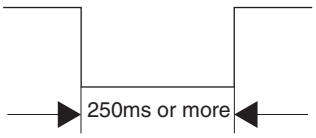
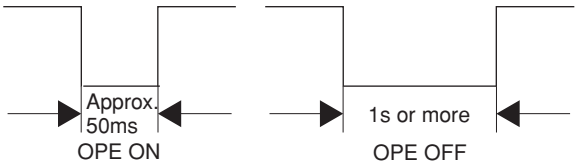
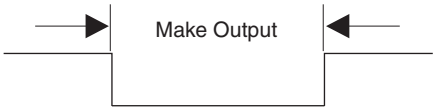
● eSATA terminal



■ Connecting external security devices

Connect devices other than network devices (infrared sensor and warning system, etc.) to the signal input terminals on the rear panel.

● Rear input terminals

Terminal		Remarks
[ALARM IN]	● Name of input event: JVC NVR ALARM IN1 to 8 MAKE (Generic events)  Make ● Name of input event: JVC NVR ALARM IN1 to 8 BREAK (Generic events)  Break **Note:** ● Set the impedance at the output end to 10kΩ or lower.	Make Contact Input
[WARNING RESET]	 **Note:** ● Set the impedance at the output end to 10kΩ or lower.	Make Contact Input
[OPE ON/OFF]	 **Note:** ● Set the impedance at the output end to 10kΩ or lower. ● The "OPERATE OFF" works even during Operation Lock. (☞ Page 116)	Make Contact Input
[REC TALLY] [WARNING OUT]	 The make contact is formed using the individual output terminals and the [COMMON] terminal. Turning off the power of this unit switches the output of the output terminals to break.	Open collector output (DC15V, 10 mA and below)

Connecting (continued)

Devices Connected Through a Network

This unit is connected with network cameras and surveillance computers through the network.

This unit has two network terminals; one for connecting to network cameras (LAN1), and one for connecting to surveillance computers (LAN2).

Caution:

- Make sure to use LAN1 and LAN2 for different segments*.

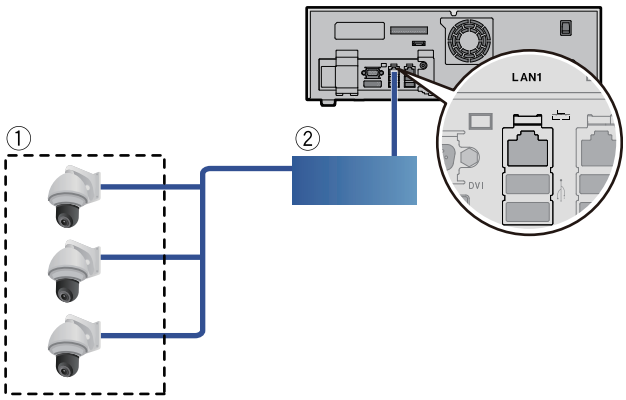
  Example:

  LAN1: 192.168.0.253

  LAN2: 192.168.1.253

  * Segment: Underlined sections
- LAN1 and LAN2 cannot communicate with each other. It is not possible to configure settings of cameras connected to LAN1 from a surveillance computer connected to LAN2. Connect a computer for camera setup to LAN1 in order to configure settings for cameras connected to LAN1.
- LAN1 and LAN2 are non-QoS-compliant. Audio sounds may not be played back properly depending on the line status.
- Do not connect a faulty switching hub or router, or an exhausted network cable. Otherwise, the system may malfunction.

■ Connecting to network cameras (LAN1)



① Network cameras

② Switching hub

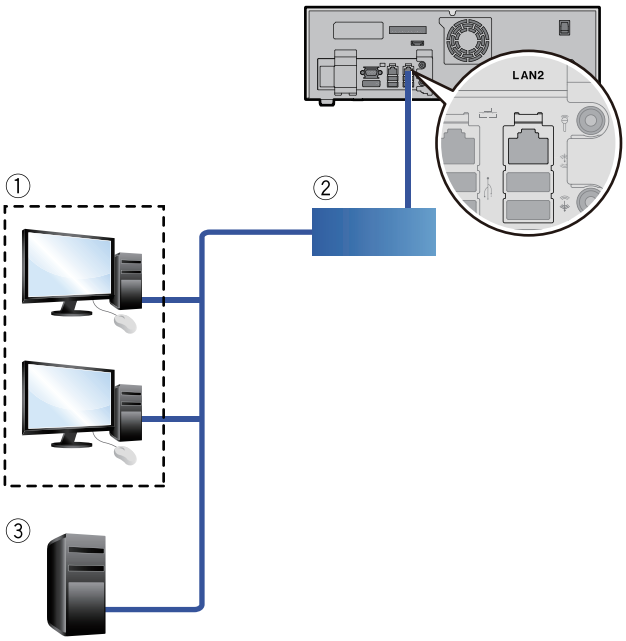
Caution:

- Install cameras and setup IP addresses in advance.
- Do not connect LAN1 to the Internet. Important camera images may not be saved depending on conditions such as Internet congestion and relay status.
  It is recommended to make it a dedicated network to ensure recording performance. Also, the camera network of LAN1 must be the same segment (address conversion such as NAT and NAPT and a router are not used).

Note:

- For protocols and port numbers used by network cameras, refer to the instruction manual of the network cameras.
- The default IP address of LAN1 is “192.168.0.253.” The default value may be changed in [Network and Internet] in [Control Panel] (☞ Page 31).
- With separately-sold camera licenses, the number of cameras that can be connected may be increased to 64 (VR-X3200U) or 32 (VR-X1600U) (☞ Page 118). For purchase of additional licenses, consult an authorized dealer or a JVC KENWOOD service center.

■ Connecting to surveillance computers (LAN2)



① Computer

② Switching hub

③ Time server (NTP server)

Caution:

- When connecting the LAN2 side to the internet and using in on the surveillance computer, global IP acquisition and VPN connection may require a contract with a separate telecommunications carrier. Also, it is necessary to set the broadband router to connect to the internet.
- To use LAN2 on surveillance computer by connecting to the Internet, an IP masquerade setup is necessary.

Note:

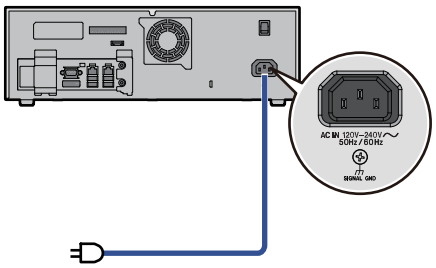
- Protocols and port numbers used are as follows:
  - Surveillance computer: HTTP 80
  - Main sending: SMTP 25, and POP 110
  - Time synchronization: NTP 123
- The default IP address of LAN2 is “192.168.1.253.” The default value may be changed in [Network and Internet] in [Control Panel] (☞ Page 31).

Switching the Power On/ Off

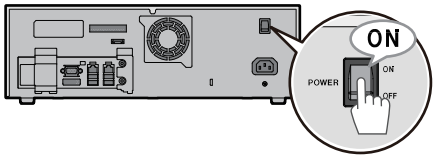
Switching the Power On

1 Connect a power cord

- Connect to an AC 120 V to 240 V (50Hz/60Hz) outlet using the power cable supplied.



2 Turn the power switch on the rear panel “ON”



The system check starts and the Operate indicator blinks. When the system check is completed, the Operate indicator lights up and operations are enabled (the system is activated).

Caution:

- Do not turn the power switch “OFF” during system check or when the system is activated. Otherwise, it may break down. In addition, the power switch must be turned “OFF” before the power cord is disconnected.
- It is recommended that a UPS (uninterruptible power supply) be used in preparation for power failure. For details on the UPS you can connect to this unit, consult your nearest JVC KENWOOD dealer. You can also check on our website.

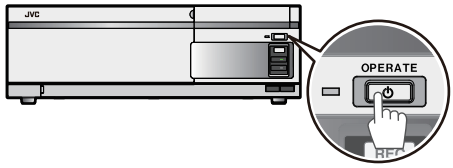
Note:

- Press the [OPERATE] button on the front panel if the unit does not start even when the power switch on the rear panel is turned “ON”.

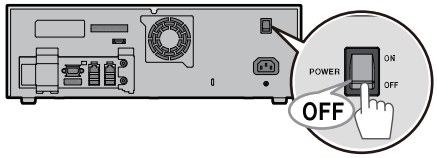
Switching the Power Off

1 Press and hold down the [OPERATE] button for about 2 seconds to shut down the system

The shutting down operation starts and the Operate indicator blinks. When the system is shut down, the screen becomes blank and the Operate indicator is turned off.



2 Turn the power switch on the rear panel “OFF”



Caution:

- If the system can not be shut down normally due to power failure or the like, recorded images may not be played back properly.
- Be sure to turn off the power switch on the rear panel only after pressing and holding down the [OPERATE] button on the front panel to shut down the system. Turning off the power switch on the rear panel with the system being activated may cause malfunction.
- After you switch the power off, do not move the unit for at least one minute; otherwise, the internal HDD may break down due to a shock.

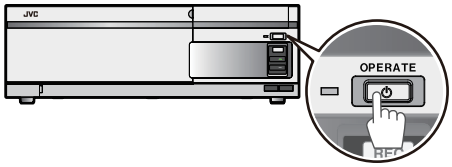
Note:

- The system can also be shut down by selecting [Shut down] from [Start] button on the desktop.
- The system may also be activated/shut down from the device connected to the [OPE ON/OFF] terminal on the rear panel. (☞ Page 27 "[OPE ON/OFF]")

Activating/Shutting Down the System

The system can be activated/shut down.

Activating the System



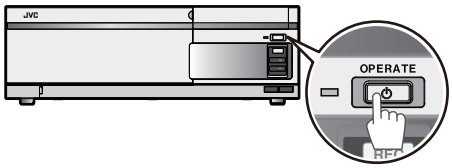
1 Press the [OPERATE] button (with the system shut down)

The system check starts and the Operate indicator blinks. When the system check is completed, the Operate indicator lights up and operations are enabled (the system is activated).

Note:

- The system is automatically activated when the power switch on the rear panel is turned “ON”.
- When the login screen appears, enter the password to login to the system. For details about setting the login password, see "Setting the Password to Login to This Unit" (☞ Page 87).
- If a login password is set, the warning message (☞ Page 195) will not be displayed. In this case, the [WARNING] indicator will light.
- If the [Smart Client] check box is selected in [StartUp auto-display setting], (☞ Page 81) the Smart Client is launched when you successfully login.

Shutting Down the System



1 Press and hold down the [OPERATE] button for about 2 seconds to shut down the system

The shutting down operation starts and the Operate indicator blinks. When the system is shut down, the screen becomes blank and the Operate indicator is turned off.

Note:

- The system can also be shut down by selecting [Shut down] from [Start] button on the desktop.
- The system may also be activated/shut down from the device connected to the [OPE ON/OFF] terminal on the rear panel. (☞ Page 27 "[OPE ON/OFF]")

Using the On-screen Keyboard

In addition to using a keyboard connected to the SERIAL terminal on the front of this unit, characters may also be entered using the on-screen keyboard.

1 Double-click the [Keyboard] button on the desktop

The on-screen keyboard starts up.

2 Move the cursor over a character you want to input and click the mouse button

Connect This Unit to a Network

This section describes procedures to setup an IP address for this unit and connect to the camera network (LAN1) and monitoring PC (LAN2).

- Also setup an IP address for each of LAN1 and LAN2.

Caution:

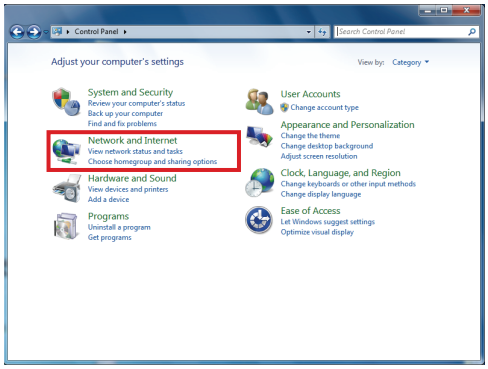
- Install and setup network cameras before network setup for this unit.

1 Click the [Start] button on the desktop, followed by clicking [Control Panel]

The control panel opens up.

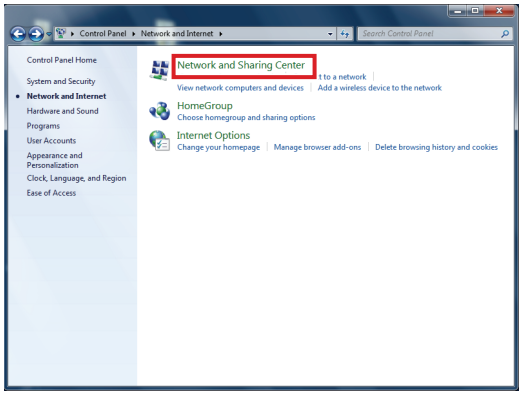
2 Click [Network and Internet]

- If [Category] is not displayed, select [Category].

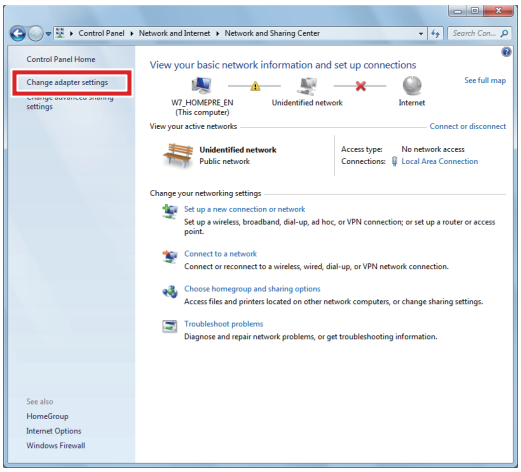


The [Network and Internet] window appears.

3 Click [Network and Sharing Center]

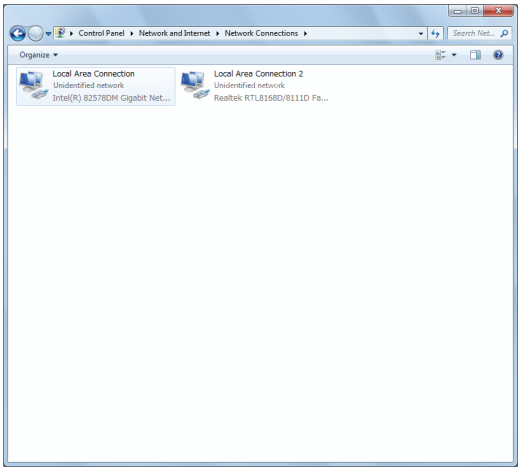


4 Click [Change adapter settings]

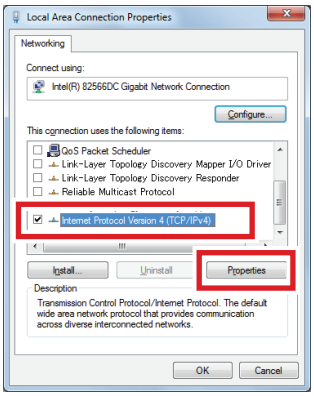


5 Right click on an adapter and click [Properties].

- To setup LAN1: Select " Intel(R) 82578DM Gigabit Network Connection."
- To setup LAN2: Select " Realtek RTL8168D/8111D Family PCI-E Gigabit Ethernet NIC (NDIS 6.20)."

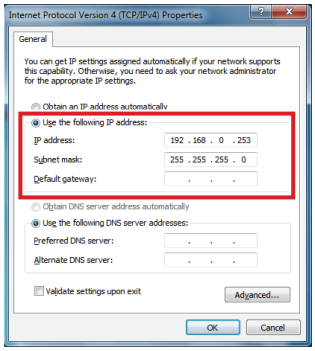


6 Select [Internet Protocol Version 4 (TCP/IPv4)] and click [Properties]



Connect This Unit to a Network (continued)

7 Enter the IP address, subnet mask, and default gateway



- Default settings are indicated below. To set values other than the default values, consult your network administrator.

Item	Default setting
IP address	
LAN1	192.168.0.253
LAN2	192.168.1.253
Subnet Mask	255.255.255.0
Default gateway	
LAN1	(None)
LAN2	192.168.1.254

Caution:

- Make sure to use LAN1 and LAN2 for different segments*.

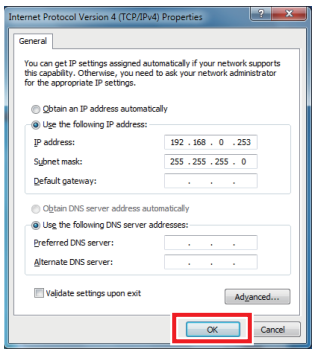
  Example:

  LAN1: 192.168.0.253

  LAN2: 192.168.1.253

  * Segment: Underlined sections

8 Click [OK]



The network has been configured.

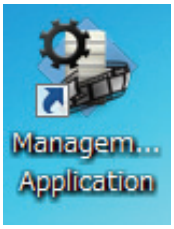
Configuring Basic Monitoring System Settings

Configure monitoring system settings such as registering a camera or record settings using Management Application.

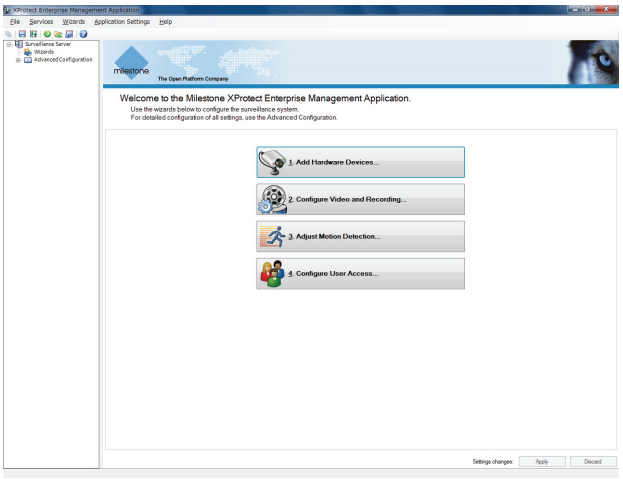
Follow the instructions from the wizard of XProtect Enterprise to configure basic settings.

Starting Up Management Application

1 Double-click [Management Application] on the desktop



The top screen appears.



Follow the instructions of the wizard to register cameras and configure basic settings of the cameras and recording.

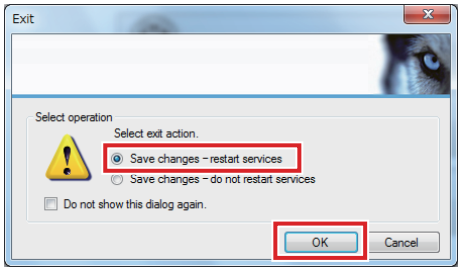
Note:

- Settings of [Adjust Motion Detection...] and [Configure User Access...] should be configured only when it is necessary. (☞ Page 44, ☞ Page 66)

■ To close Management Application

1 Click [(Close)]

2 Select [Save changes - restart services], and click [OK].

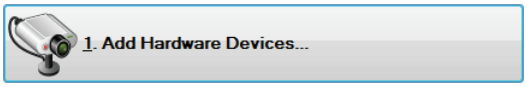


Management Application is closed.

Caution:

- Never turn off the power while saving settings of Management Application.
- When you change settings of Management Application, restart the Management Application service; otherwise, the new settings are not applied.

Connecting Cameras



Use the [Add Hardware Devices...] wizard to register cameras in the network with the system and enable setup and operations from NVR.

- User name and password for each camera are necessary for camera registration. Please check them in advance. For details, refer to the instruction manual of the cameras.

Caution:

- You need to configure an IP address for each network camera in advance.
- By default, the IP address for LAN1 is 192.168.0.253 and the subnet mask is 255.255.255.0.
- It is necessary to set the IP address of the network camera in the same segment* as LAN1 of this unit. If the camera and this unit are not on the same network, the camera cannot be registered. Confirm that the IP address of the camera and LAN1 are in the same segment. If they are in different segments, consult your network administrator.

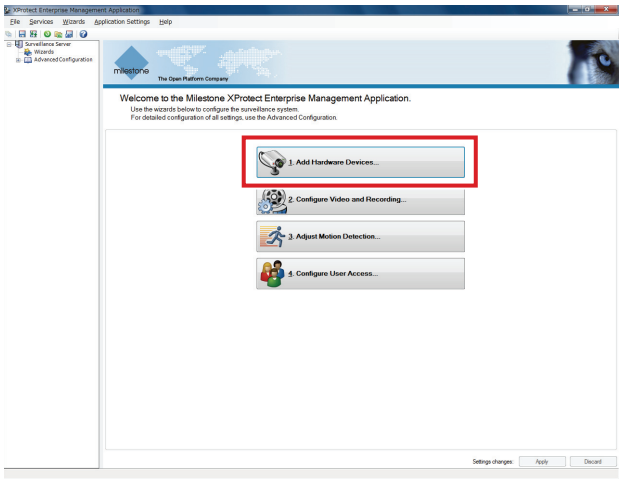
  Example: When the subnet mask is 255.255.255.0

  IP address of this unit: 192.168.0.253

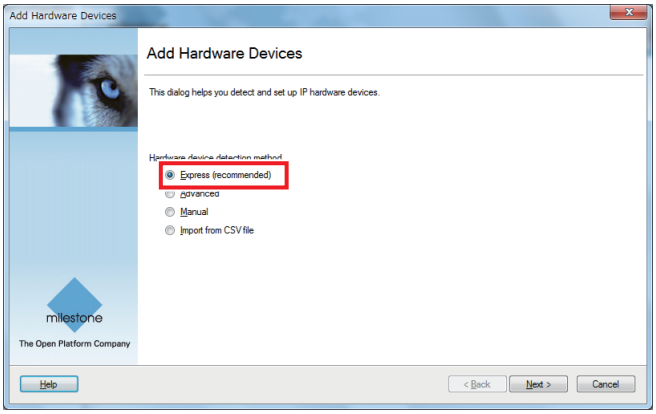
  IP address of the camera: 192.168.0.100

  * Segment: Underlined sections
- Do not set multiple devices to the same IP address. Otherwise, settings cannot be made correctly.

1 Click [Add Hardware Devices...]



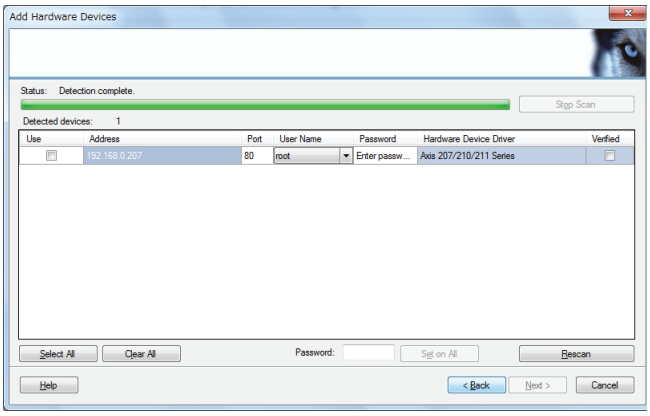
The wizard will start.



- Check to ensure that the [Express (recommended)] check box is selected.

2 Click [Next]

Automatic detection of cameras connected to the network starts. When the automatic detection is completed, a list of cameras detected appears.

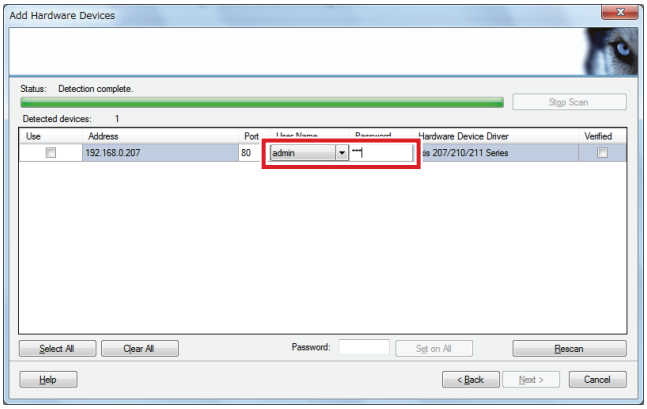


- Depending on the network configuration, the camera may not be detected automatically. Click [Rescan] when there is any camera that is not shown in the list. When the camera is still not shown, register the camera manually. (☞ Page 117 "Manually Registering a Camera")
- VN-C215U will not be detected automatically. Please register it manually. (☞ Page 117 "Manually Registering a Camera")
- If the user name and password of a camera have been changed from the initial settings, there is a chance that the camera will not be automatically detected.

Configuring Basic Monitoring System Settings (continued)

Connecting Cameras (continued)

3 Enter the user name and password of the cameras



Caution:

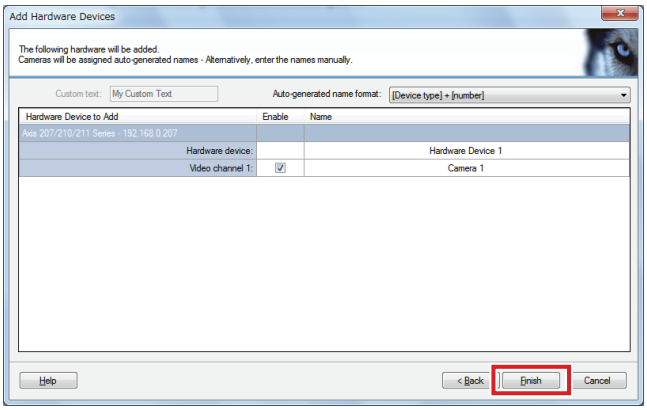
- You cannot proceed to the next step if the user name and password are not correct.

Note:

- If the password is the same for all cameras, enter the password in the [Password] field in the lower part and click [Set on All].

4 Click [Next]

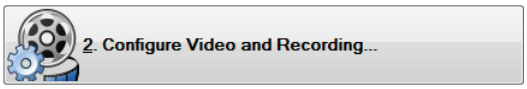
5 Confirm the cameras to register and click [Finish]



Return to the top window.

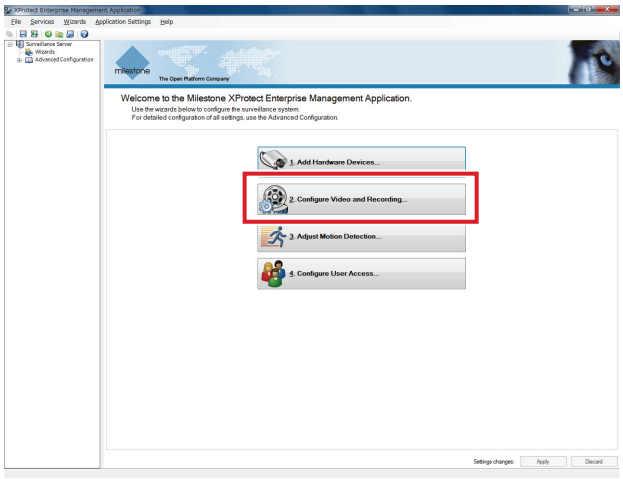
Registration of the cameras has been completed. Now you may receive images from the cameras. Next, configure settings for images and recording of each camera.

Configuring Settings of Cameras Connected

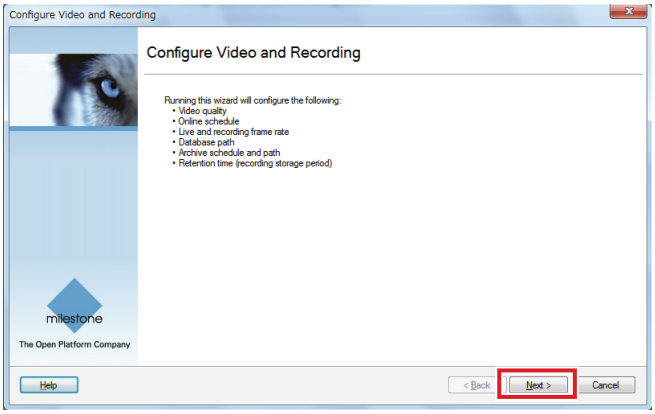


Use the [Configure Video and Recording...] wizard to configure settings of recording schedule and frame rate (image quality) for each camera.

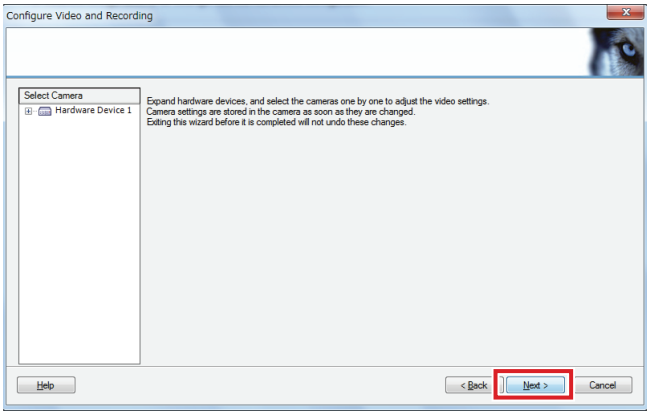
1 Click [Configure Video and Recording...]



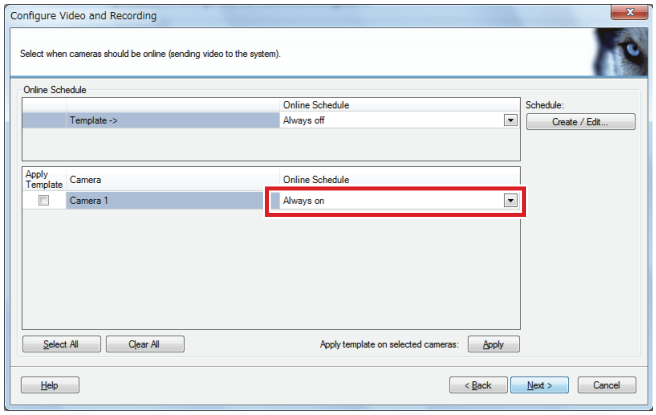
2 Click [Next]



3 Click [Next]



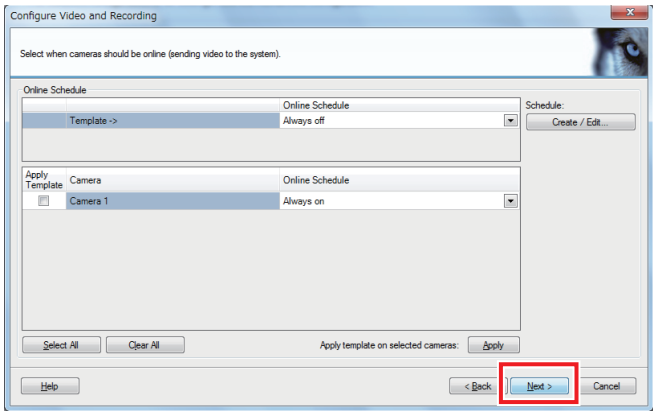
4 Make the settings to receive images for each camera



Item	Description
Always on	Always receive images from the camera.
Always off	Receive no images from the camera.

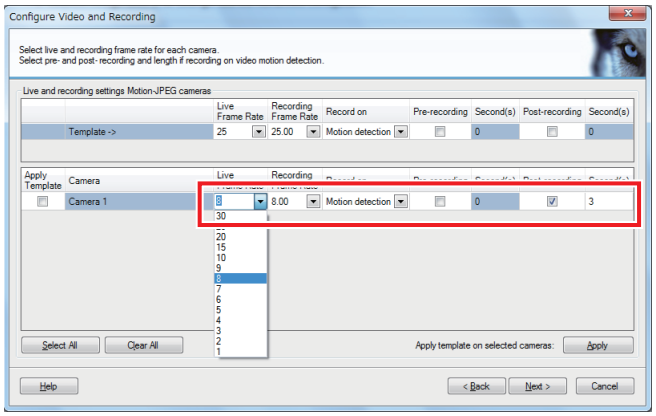
- Select the [Apply Template] check box and click [Apply] to apply the settings selected in [Template - >] in the upper part to all selected cameras.

5 Click [Next]



The frame rate setup screen appears.

6 Specify the frame rate and recording conditions



Configure the following items in order.

Item	Description
Live Frame Rate	For specifying frame rate for live display.
Recording Frame Rate	For specifying frame rate for recording.
Record on	Set the recording conditions. ● Always: records constantly. ● Never: select when only recording manually. ● Motion detection: records when motion is detected. ● Event: records when an event occurs. ● Event and motion detection: records when an events occurs and motion is detected.
Pre-recording/ Post-recording	For specifying units of seconds before and after the motion/event when recording is set to start by motion detection or an event occurring in [Record on].

- Select the [Apply Template] check box and click [Apply] to apply the settings selected in [Template - >] in the upper part to all selected cameras.

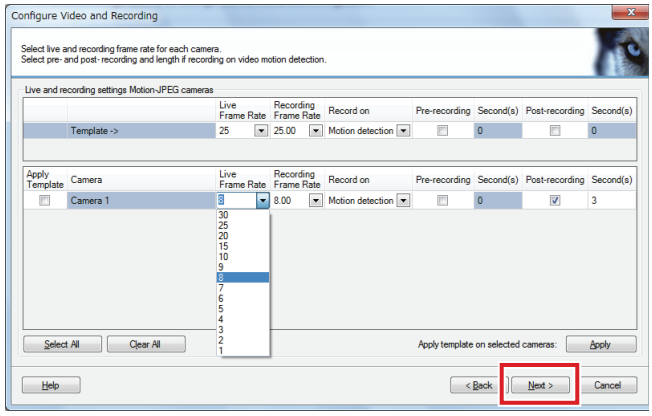
Caution:

- Be sure to set the frame rate so that the total frame rate does not exceed the performance capacity of this unit. For the performance of this unit, see "Recording/Displaying live images/Distribution performance" (☞ Page 196).

Note:

- [Event] or [Event and motion detection] in [Record on] is displayed when an event is specified.

7 Click [Next]

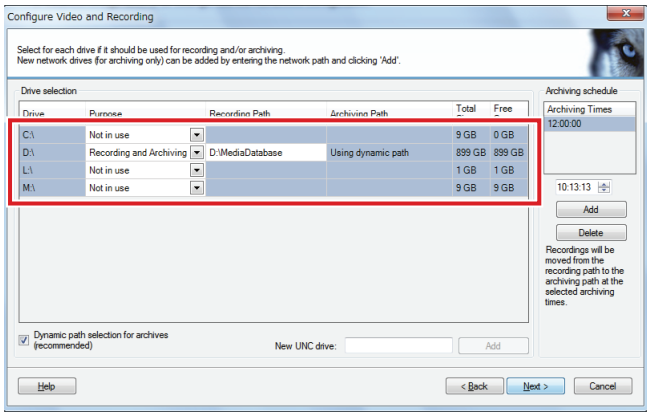


Configuring Basic Monitoring System Settings (continued)

Configuring Settings of Cameras Connected (continued)

8 Specify the type and storage location of recording data to be stored in each drive

- This unit stores images received from cameras in a predefined folder first (recording), then transfers and saves (archives) the recording data to another location. Specify a drive and storage folder location (path) for each.



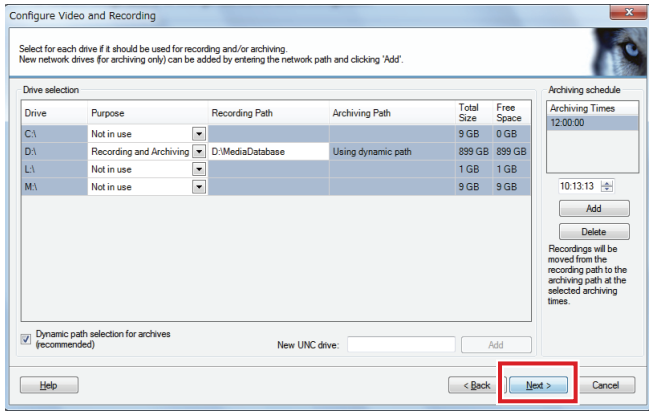
Configure the following items in order.

Item	Description
Purpose	For specifying the usage of each drive. ● Recording and Archiving: Select this check box to use the drive for both recording and archiving. ● Recording: Select this check box to use the drive only for recording. ● Archiving: Select this check box to use the drive only for archiving.
Recording Path	For specifying the location of recording data storage. This item is available when [Recording] or [Recording and Archiving] is selected in [Purpose].
Archiving Path	For specifying the location of archive storage. This item is available when [Recording and Archiving] or [Archiving] is selected in [Purpose]. **Note:** ● By default ([Using dynamic path]), a path is automatically determined. To save data in any other location, deselect the [Dynamic path selection for archives (recommended)] check box to specify a storage location.

Note:

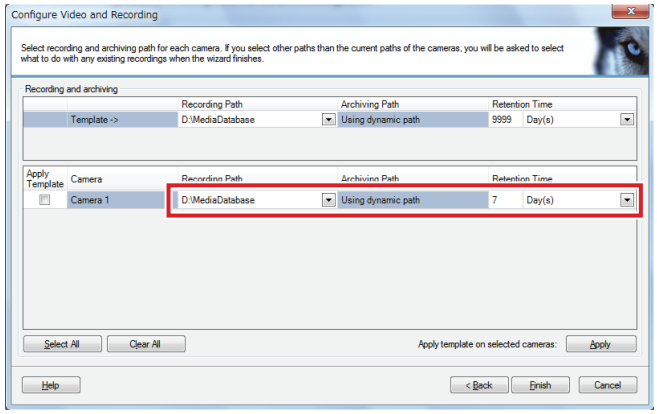
- Be sure to specify both a recording path and an archive path; otherwise, an error occurs and you cannot continue to the next step.

9 Click [Next]



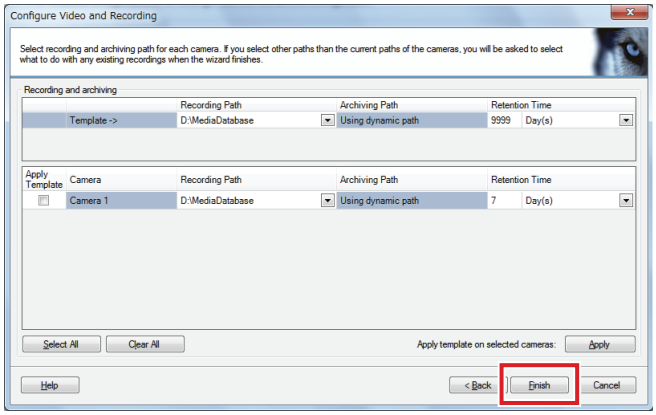
The data location setting screen for each camera appears.

10 Specify the data storage location and retention time for each camera



- Each drive cannot be used for anything other than that specified for “Purpose” in step 8.
- Select the [Apply Template] check box and click [Apply] to apply the settings selected in [Template - >] in the upper part to all selected cameras.

11 Click [Finish]



Return to the top window.

In the end, restart the service so that the specified settings are applied. (☞ Page 33 "To close Management Application")

Basic setup of the monitoring system has been finished. Now you can receive, view and record images from installed cameras.

Making Full Use of Recording Performance

To ensure sufficient data storage on this unit, be sure to add additional HDD and make the appropriate saving method settings.

■ Building a RAID10 configuration

By adding internal HDD you can increase the storage capacity.

Furthermore, the data duplication and dispersion achieved through using RAID allows for more secure data and high speed saving.

As this unit supports RAID10, you can build a RAID10 configuration to achieve the maximum recording performance (frame rate).

For adding internal HDD and building a RAID configuration, see "Adding an HDD" (☞ Page 71) and "Building a RAID Configuration" (☞ Page 72).

■ Setting the recording data and archiving destination to the same drive

By setting the recording data and archiving destination (recording path/archiving path) to the same drive, you can reduce the strain on this unit when moving data.

Set the recording/archiving path in [Cameras and Storage Information] in [Advanced Configuration] of Management Application. (☞ Page 100)

■ Making settings to erase old recordings

By setting an appropriate storage period for recording data, old recording data will be erased at fixed intervals to retain a constant capacity.

Set the storage period for recording data in [Cameras and Storage Information] in [Advanced Configuration] of Management Application. (☞ Page 100)

Recorder Part

Applications

This chapter describes procedures for setup of PTZ camera and event actions according to specific monitoring system operations. Perform settings using Management Application.

Caution:

- Never turn off the power while saving settings of Management Application.
- When you change settings of Management Application, restart the service; otherwise, the new settings are not applied. (☞ Page 19 "When you change settings of Management Application") In addition, if you change settings of Management Application while Smart Client is on, close Smart Client and restart the service.

Defining a Preset PTZ Position

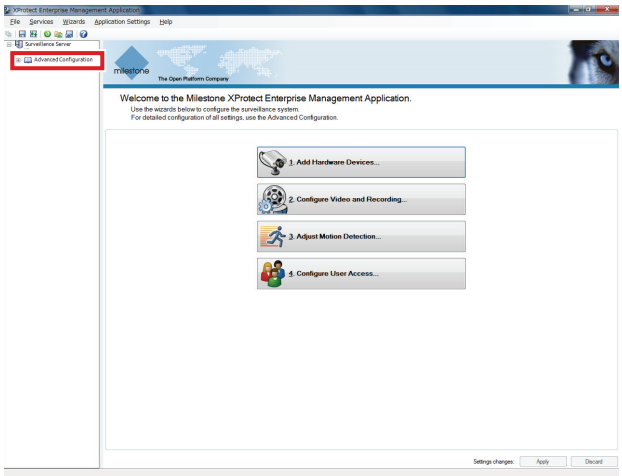
When cameras are compatible with the PTZ (pan, tilt and zoom) functions, you can set the preset position from this unit.

Defining a Preset Position

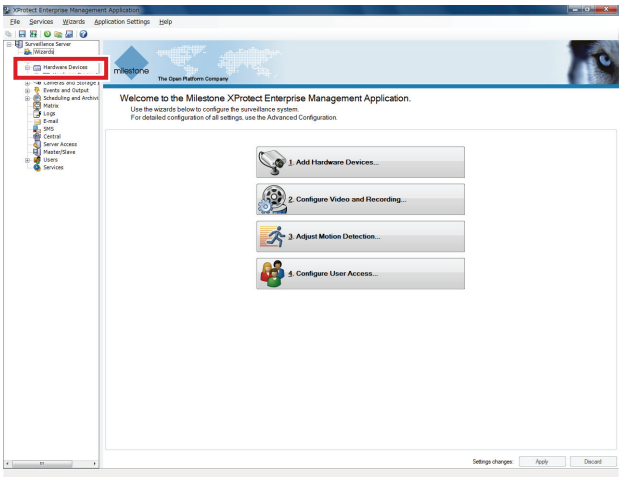
Caution:

- The preset position may be displaced by a few degrees for some cameras.
- The configurable items may differ according to the camera in use.
- When using VN-V685U/VN-V686U/VN-V686BU Series, the preset position cannot be registered if the electronic zoom feature of a camera is functioning. Please take note that no error message will be displayed in such a case. During PTZ preset setting, set [EZoom Limit] to “1” from [PTZ page] of VN-V685U/VN-V686U/VN-V686BU to prevent registration by mistake. For VN-686BU Series users, in addition, set [PTZ Type] to [Type 3] on this unit. For details, refer to [INSTRUCRTIONS] of VN-V685U/VN-V686U/VN-V686BU Series.

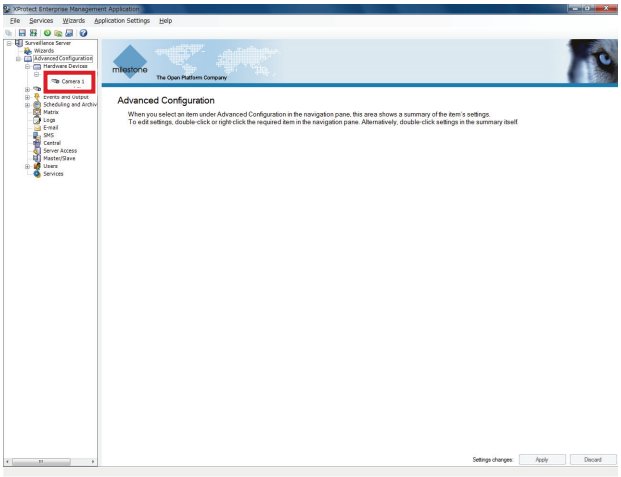
1 Click [+] in [Advanced Configuration]



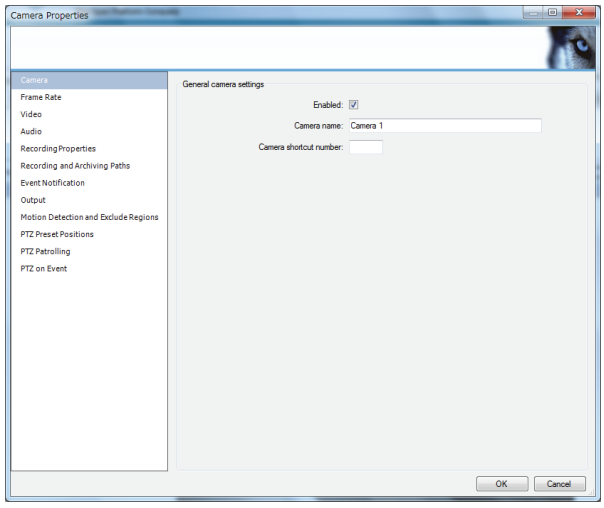
2 Click [+] in [Hardware Devices] and click [+] for the hardware device name of a PTZ camera



3 Double-click a camera name



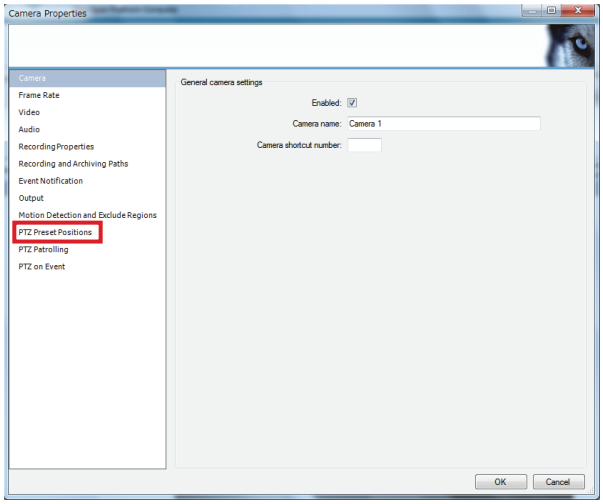
The [Camera Properties] window appears.



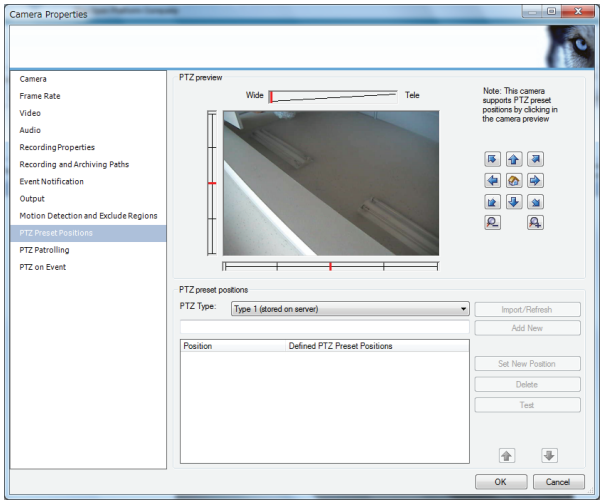
Defining a Preset PTZ Position (continued)

Defining a Preset Position (continued)

4 Click [PTZ Preset Positions]



The setting screen appears.



Item	Description
PTZ preview	For moving the PTZ camera to the desired position. You can check the position on the screen.
PTZ preset positions	For registering, deleting and testing a PTZ camera position.

5 Select [PTZ Type]

The following three methods can be used to register a preset position.

Item	Description
Type 1 (stored on server)	Set the preset position on this unit.
Type 2 (stored on server)	Import the preset position set on the camera into this unit. The preset position is stored on this unit.
Type 3 (stored on camera)	Import the preset position set on the camera into this unit. The preset position is stored on the camera.

Note:

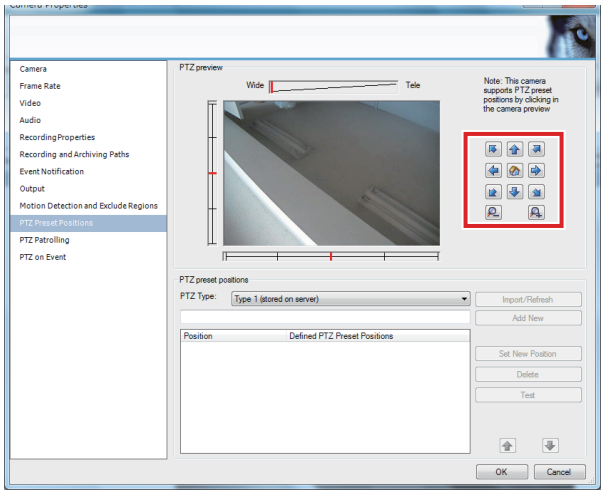
- When using a JVC camera, it is recommended to select the more positionally accurate [Type 3]. (Not selectable depending on the camera.)

6 When [Type 2] or [Type 3] is selected: Click [Import/Refresh]

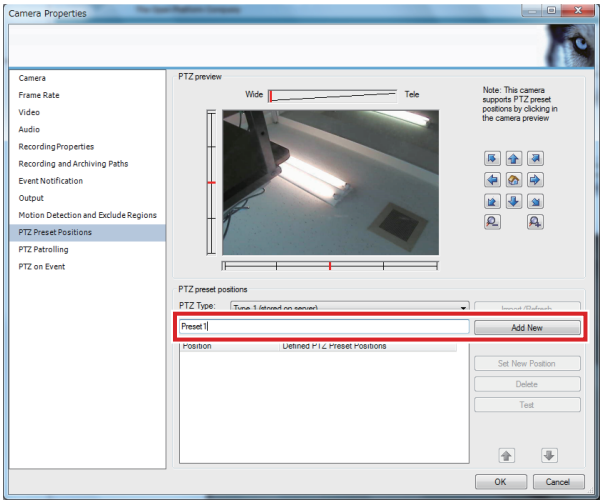
The preset position is imported and the list appears.

- The displayed order may differ to that set on the camera.

7 When [Type 1] is selected: Determine the camera position from [PTZ preview]



8 When [Type 1] is selected: Enter a name for the preset position, and click [Add New]



The preset position is set and added to the list.

9 Click [OK]

Note:

- The position at the top of the list corresponds to Preset Position 1.
- The number of preset positions that can be registered may differ according to the camera in use.
- To test the defined preset position, click [Test]. You can check the position on the screen.

■ To change the order of the list

Select a preset to change the order from the list and click [ ] or [ ]

■ To modify a preset position

Select a preset to modify from the list and modify the position in the [PTZ preview] screen. Click [Set New Position] to modify the preset position.

■ To delete a preset position

Select a preset to delete from the list and click [Delete].

Note:

- Do not insert space at the beginning of the preset position name. Such preset positions may not work.

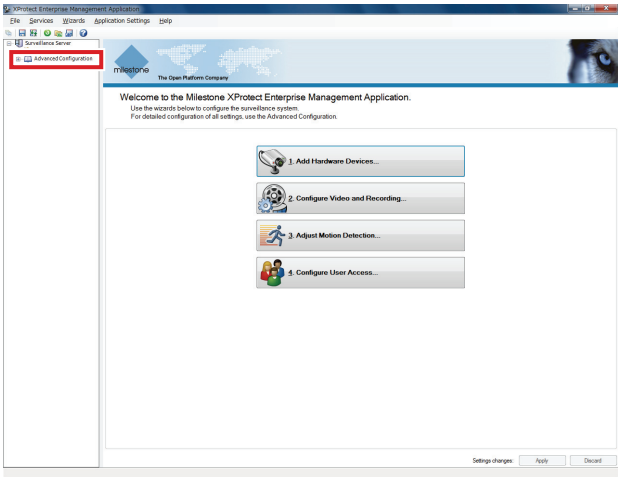
Auto PTZ Patrolling

PTZ patrolling is a feature that enables automatic movement of a PTZ camera between several preset positions.

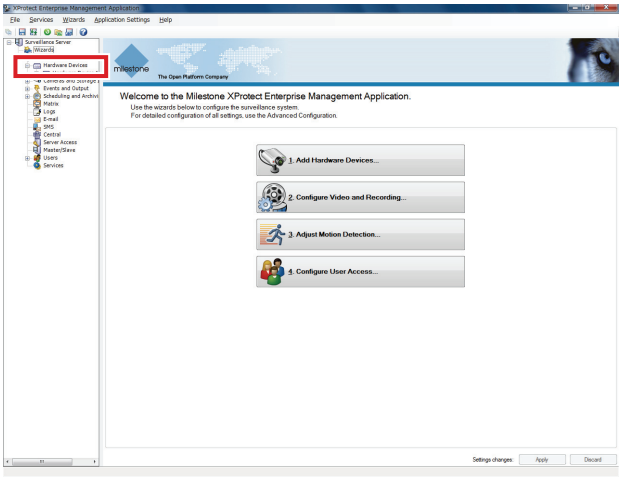
Caution:

- To define a patrol scheme, you must specify at least two preset positions. You must also specify the PTZ patrolling schedule of any camera in [Advanced Configuration]➡ [Scheduling and Archiving] (☞ Page 121).

1 Click [+] in [Advanced Configuration]



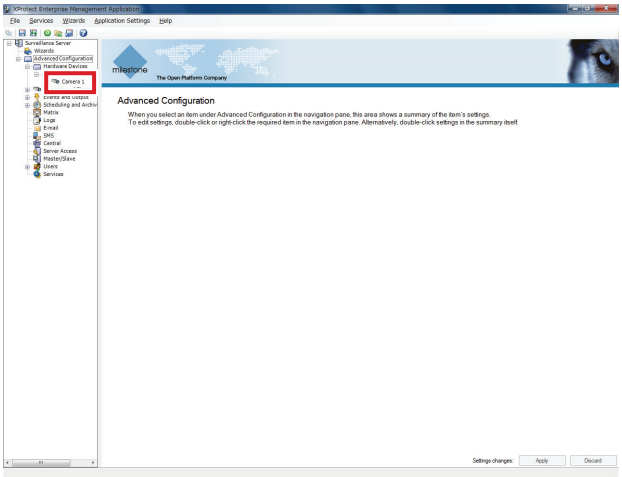
2 Click [+] in [Hardware Devices] and click [+] for the hardware device name of a PTZ camera



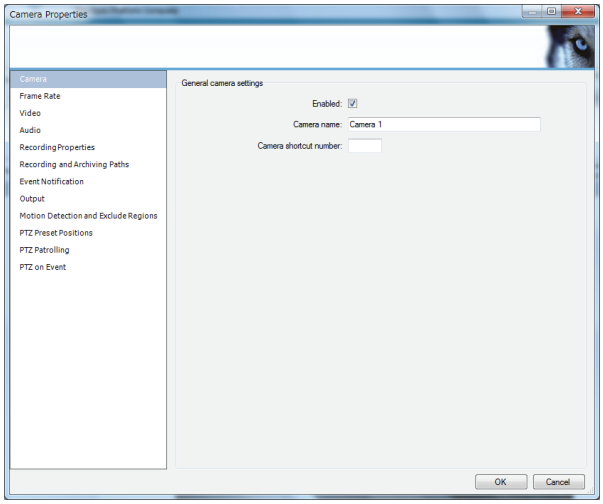
Defining a Preset PTZ Position (continued)

Auto PTZ Patrolling (continued)

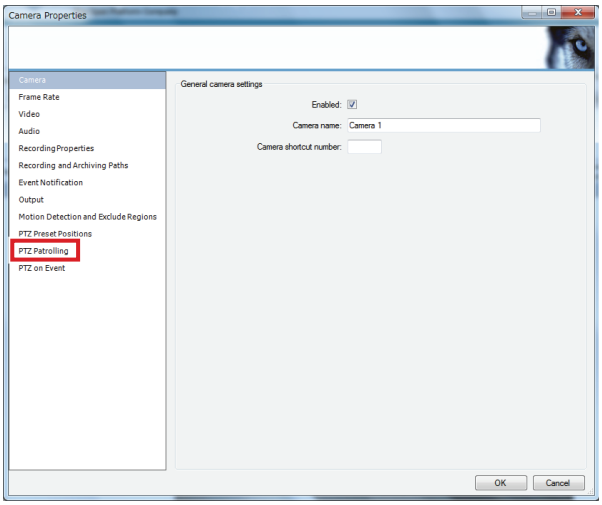
3 Double-click a camera name



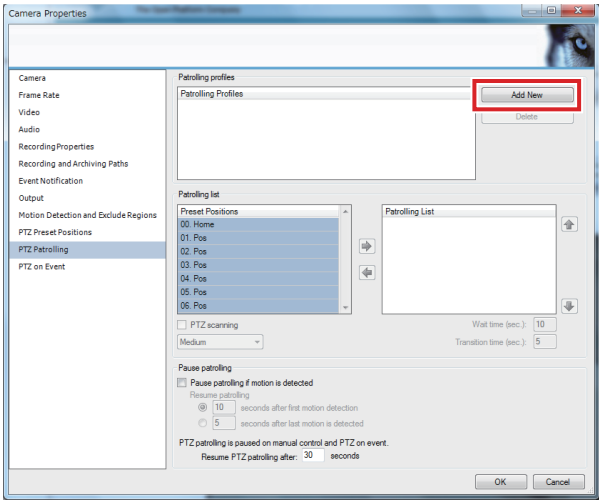
The [Camera Properties] window appears.



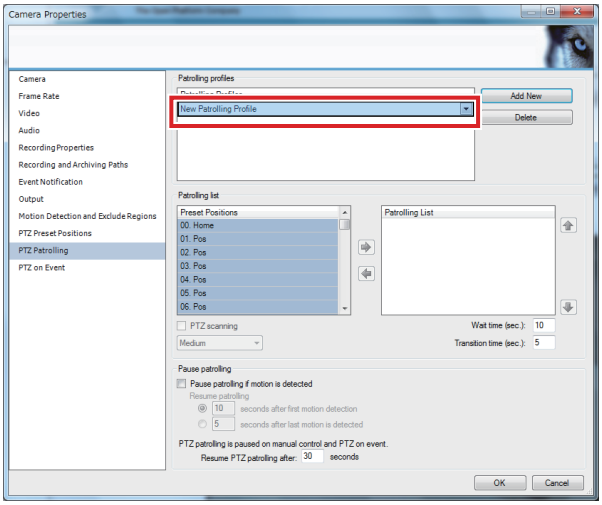
4 Select [PTZ Patrolling]



5 Click [Add New]



6 Enter the PTZ patrol profile name.



Caution:

- The PTZ patrol profile name must be unique.

7 Select the preset positions you want to use in the [Preset Positions], and click [ ]

Doing so copies the selected preset positions to the [Patrolling list].

- A preset position can be used more than once in a patrol scheme.
- The camera will move between the preset positions in the sequence shown in the [Patrolling list], starting from the top position.
- To change the sequence of preset positions in the [Patrolling list] list, select a preset position name, and click [ ][ ].
- To remove a preset position from the [Patrolling list], select the preset position and click [ ].

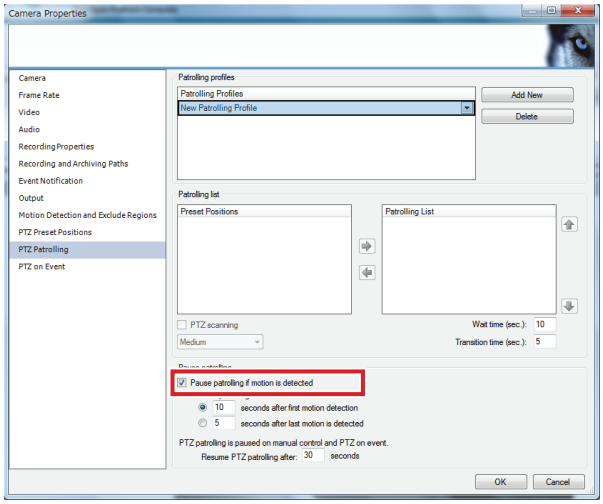
8 Specify patrol timing

Item	Description
Wait time (sec.)	For specifying the down time (in seconds) at each preset position.
Transition time (sec.)	For specifying the time (in seconds) that the PTZ camera takes to move between the preset positions. The motion detection is disabled during the transition time.

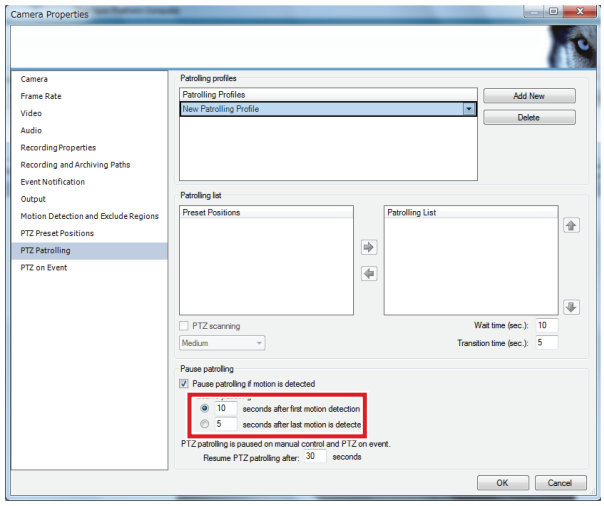
9 Click [OK]

■ Pause patrolling when any motion is detected

1 Select the [Pause patrolling if motion is detected] check box in the PTZ patrolling screen



2 Select the conditions for resuming PTZ patrolling and specify units of seconds



Item	Description
seconds after first motion detection	For resuming patrolling when a specific time interval has lapsed after the first detected motion, regardless of whether any subsequent motion is detected.
seconds after last motion is detected	For resuming patrolling when a specific time interval has lapsed after the last detected motion.

■ Resume patrolling paused manually or by any event

Patrolling is paused at the time of manual PTZ operations or occurrence of any event.

Time to resume paused patrolling is specified in [Resume PTZ patrolling after:] in [Pause patrolling] in the PTZ patrolling screen.

Note:

- The settings in this section are applied to all PTZ cameras installed in the system.

■ PTZ Scanning

For cameras that support PTZ scanning, enable this feature by selecting the [PTZ scanning] check box. You may select a PTZ scanning speed.

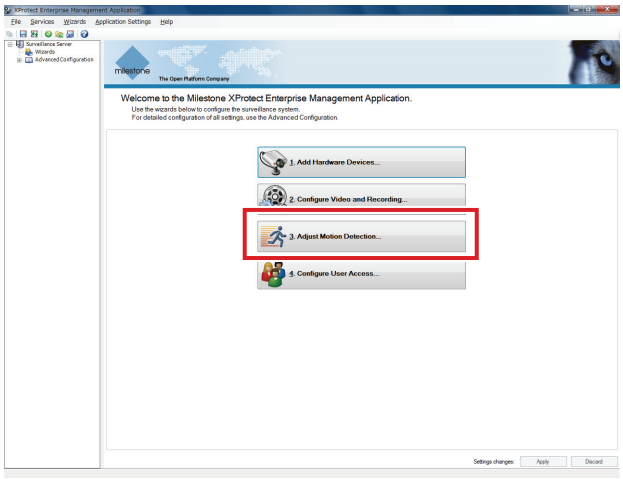
Adjusting Motion Detection

This section describes procedures to adjust the detection sensitivity and range in accordance with conditions of camera installation locations. Use the [Adjust Motion Detection...] wizard for this setting.

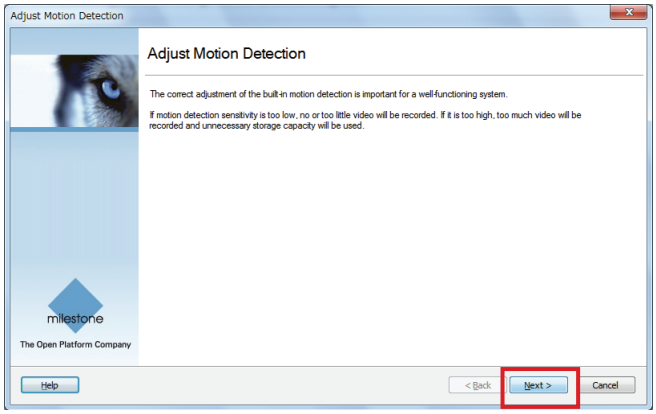
Note:

- The setting method using the "Adjust Motion Detection..." wizard will be explained. Settings can also be made by double-clicking the camera name in "Hardware Devices" of [Advanced Configuration] and displaying [Camera Properties].

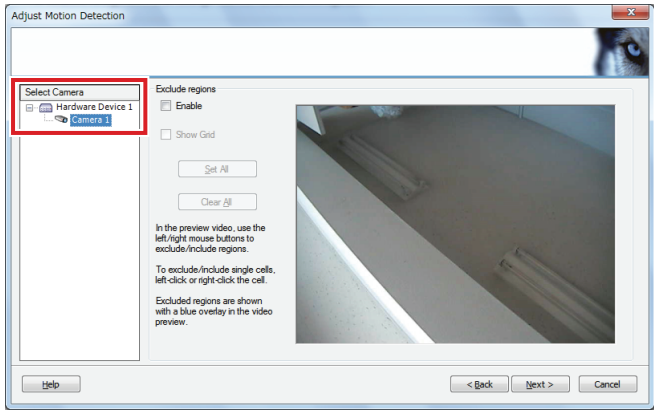
1 Click [Adjust Motion Detection...]



2 Click [Next]



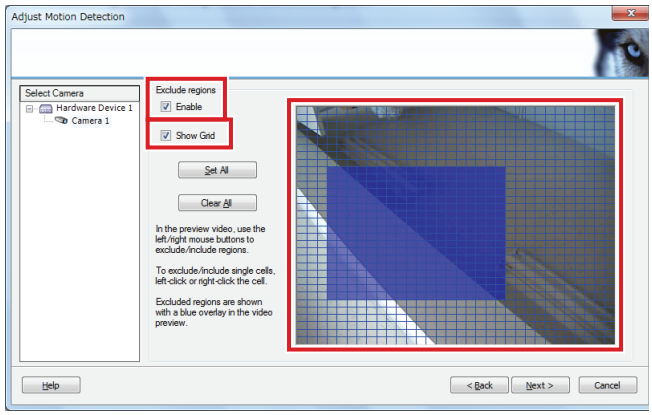
3 Select a camera from [Select Camera]



4 Specify an area to be excluded

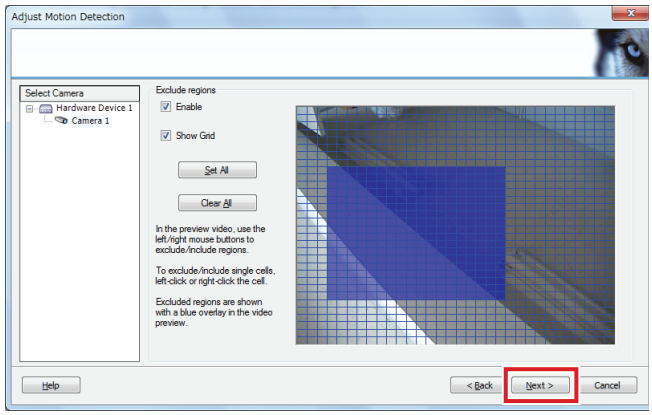
Select the [Enable] check box in [Exclude regions] and drag the mouse on the preview screen to specify an area to be excluded in motion detection. The area to be excluded is indicated in blue.

- Select the [Show Grid] check box to show a grid in the preview screen.



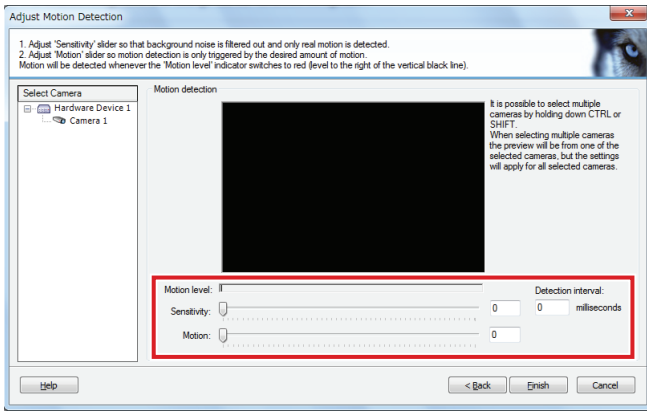
5 Click [Next]

The sensitivity setting screen appears.

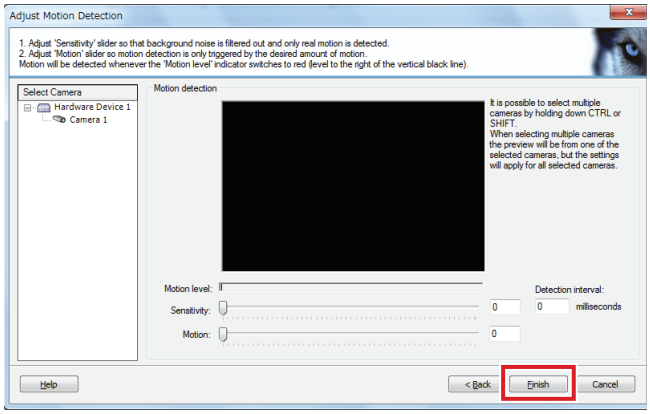


6 Select a camera from [Select Camera] and specify noise sensitivity, detection interval and motion sensitivity

- If you do not want to detect minute movements, move the [Sensitivity] slider to the right.
- When any motion exceeds the sensitivity level defined by the [Motion] slider, the [Motion level] indication turns to red to indicate a motion is detected.



7 Click [Finish]



Return to the top window.

Next, specify the settings of starting recording by motion detection (☞ Page 55) or sending an e-mail (☞ Page 62).

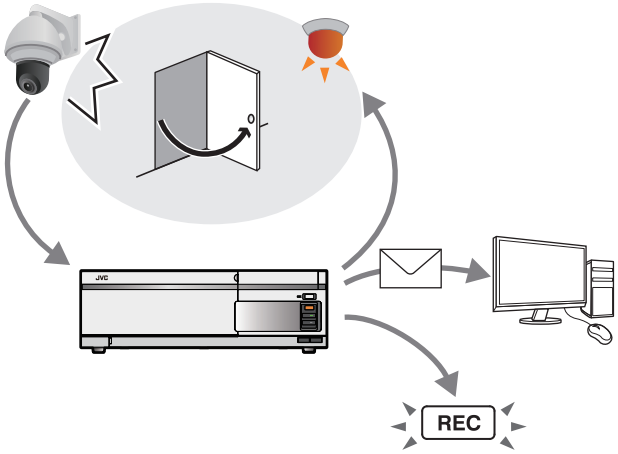
Note:

- After adjusting motion detection, specify the action when detecting motion (starting recording (☞ Page 55) or sending an e-mail (☞ Page 59)).

Events and Actions

This system can perform particular actions such as recording start and camera direction change, triggered by reception of particular signals from cameras. A triggering input is called an “event” and a behavior triggered by the event is called an “action.”

With event and action settings, a certain action can be activated when a certain event occurs by enabling the event preset in a connected device in settings of this unit and associating it with the action.



Types of Event and Action

Types of event and action are indicated below.

■ Event types

Event	Description
Generic events (right column)	Reception of particular character strings (TCP/UDP format)
Input events (☞ Page 48)	● Detection of camera motion ● Input to cameras or input port on the rear panel of this unit
Manual events (☞ Page 50)	Events to be generated manually by using buttons, etc.
Timer events (☞ Page 51)	Events to stop action after a specified time from occurrence of any of the above events

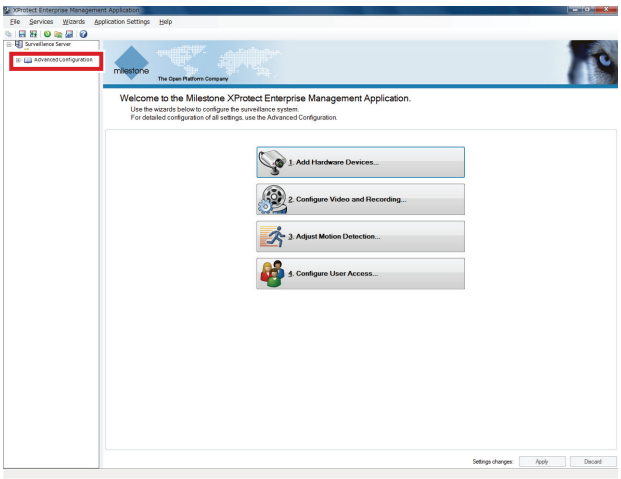
■ Action types

Action	Description
Movement to PTZ camera preset position (☞ Page 52)	The PTZ camera is moved to a preset position defined for each event.
Image distribution (Matrix) (☞ Page 53)	Images are distributed to defined recipient(s).
Record start (☞ Page 55)	Recording is started.
Output (☞ Page 56)	Sends a signal to the alarm device, etc.

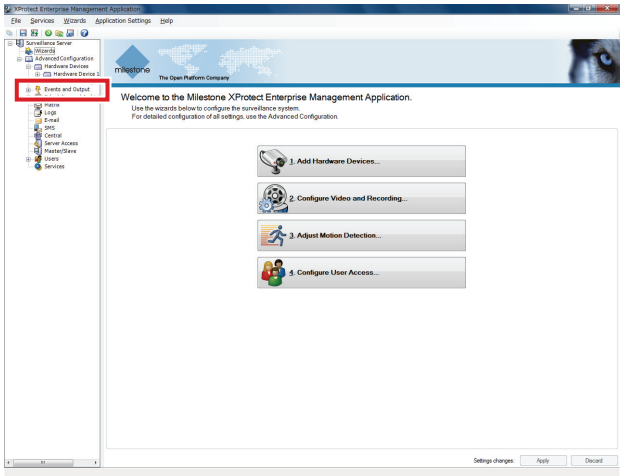
Events Configuration—Generic Event

When character strings received by this unit match the predetermined conditions, a generic event is triggered. The following is the procedure for setup on this unit including communication data reception setting. For outgoing data setting, settings of sender devices such as cameras are necessary.

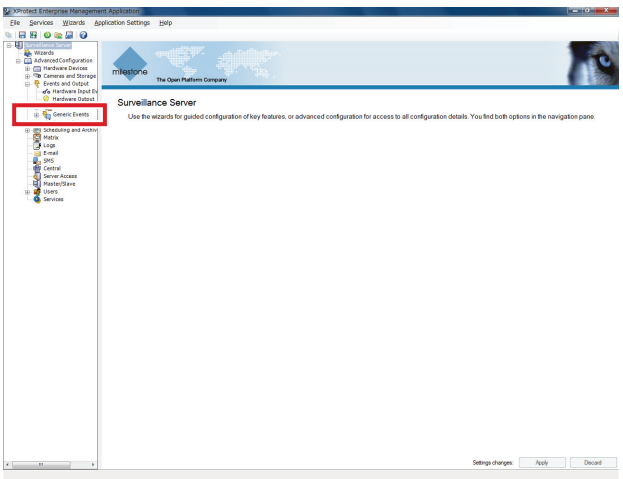
1 Click [+] in [Advanced Configuration]



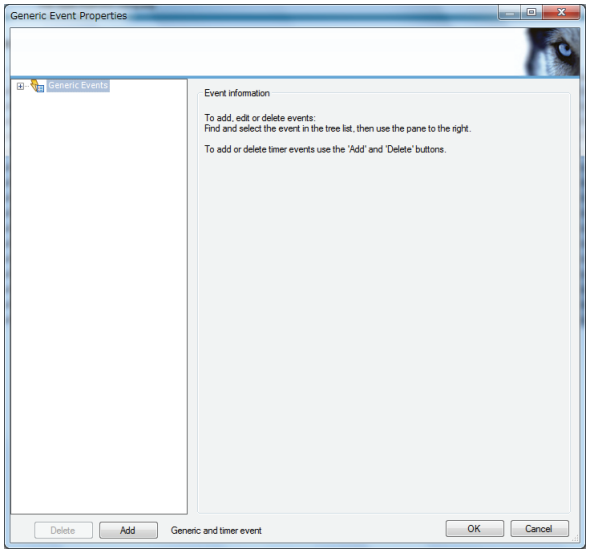
2 Click [+] in [Events and Output]



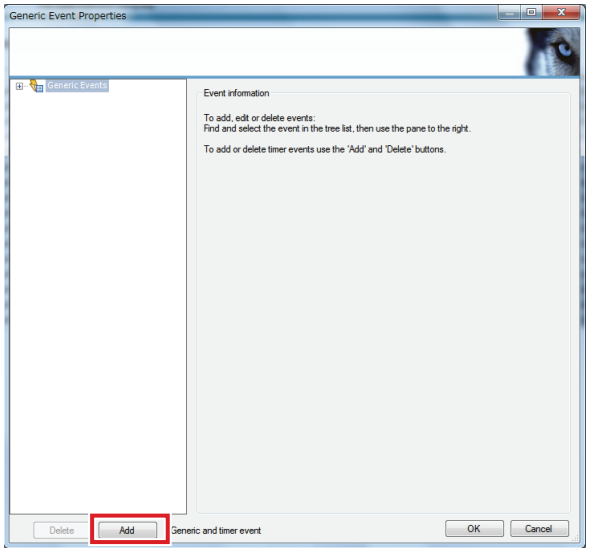
3 Double-click [Generic Events]



The [Generic Event Properties] window appears.

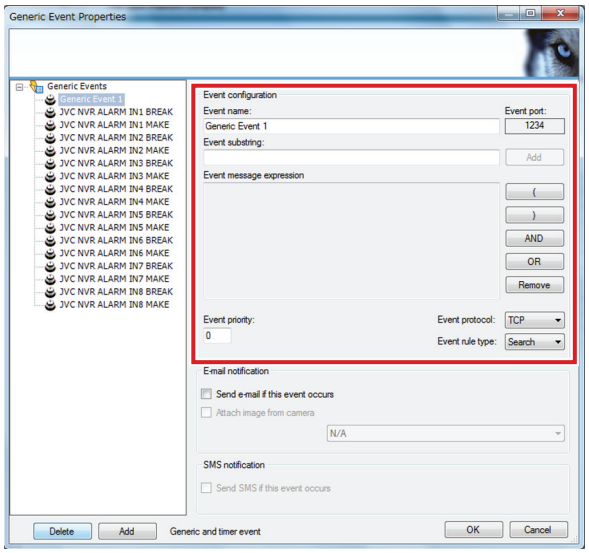


4 Click [Add]



The setting screen appears.

5 Specify the event name and contents



Item	Description
Event substring	For specifying an expression as a key word for analysis of received character strings. Click [Add] to add the expression you entered to [Event message expression].
Event message expression	The added expression is displayed. Furthermore, the following conditions are edited.
()	For putting related expressions as a single entity. Expressions put in parenthesis are processed in priority to other expressions.
AND	Add this between expressions that must be included.
OR	Add this between expressions either of which must be included.
Remove	For deleting expression to the left of the cursor.
Event protocol	Select which protocol this unit uses to receive on the detection of an event. ● Any: Both TCP and UDP data are received and analysed. ● TCP: Only TCP data is received and analysed. ● UDP: Only UDP data is received and analysed.
Event rule type	Set the rule for analysing the received data. ● Match: Only data which exactly matches the message set in “Event message expression” is analysed. ● Search: Data which includes the message set in “Event message expression” is analysed.
Event priority	Each event is prioritized from “0” (lowest) to “1000” (highest) to determine which event will function when the received data complies with more than on event rule.

Note:

- The event name must be unique.
- The following characters cannot be used as part of the event name and character strings.
  < > & ' " \ / : * ? | [ ]

Events and Actions (continued)

Events Configuration—Generic Event (continued)

6 Click [OK]

The generic event has been configured.

Note:

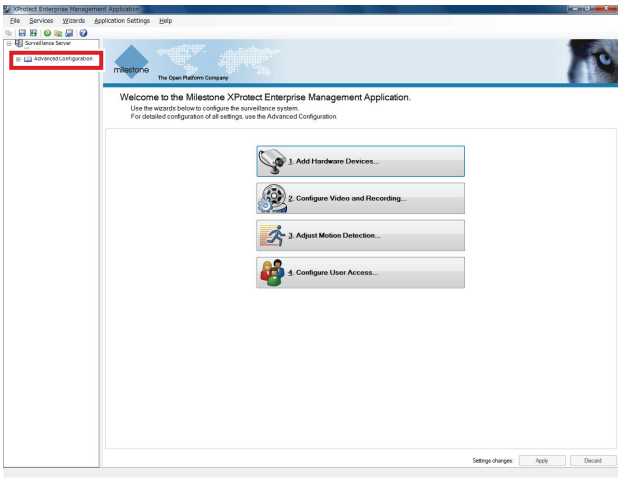
- When you specify the event, specify the action for the event. (☞ Page 52 to 56).
- When you select the setting to receive an e-mail when the event you specified occurs, perform mail setup (☞ Page 60 "Mail Setup for Management Application") and activate the setting to receive an e-mail upon the occurrence of an event. (☞ Page 62 "Receive an e-mail upon the occurrence of an event")

Event Configuration—Input Event

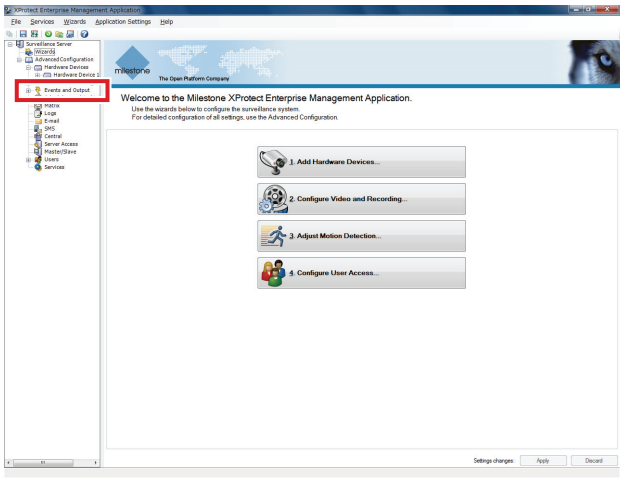
This section describes procedures to specify possible events by signals from devices (hardware) connected to this unit (including motion detection from cameras).

- You need to configure signals for each device in advance.

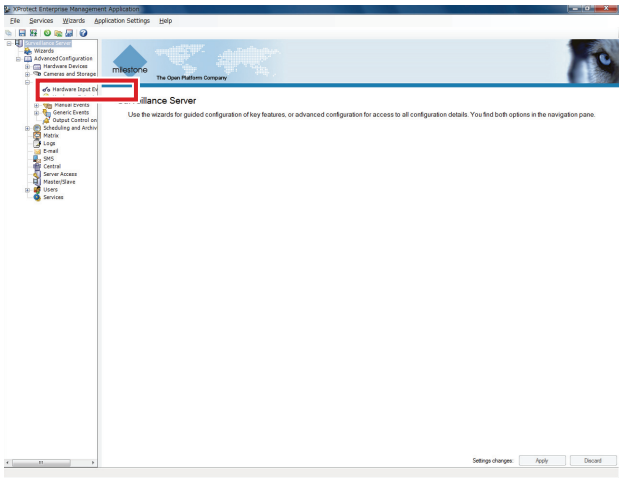
1 Click [+] in [Advanced Configuration]



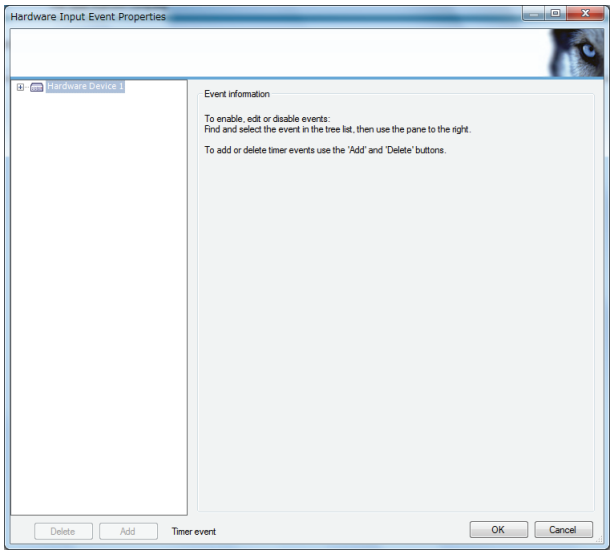
2 Click [+] in [Events and Output]



3 Double-click [Hardware Input Events]

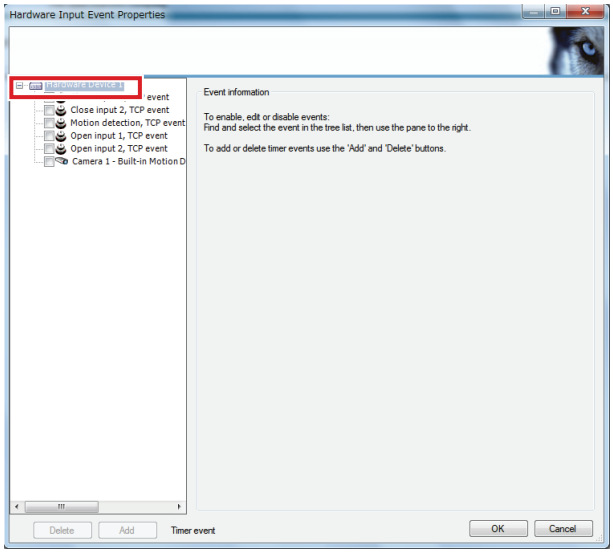


The [Hardware Input Event Properties] window appears.



4 Click [+] of the hardware to configure settings

A list of input events specified in the hardware is displayed.

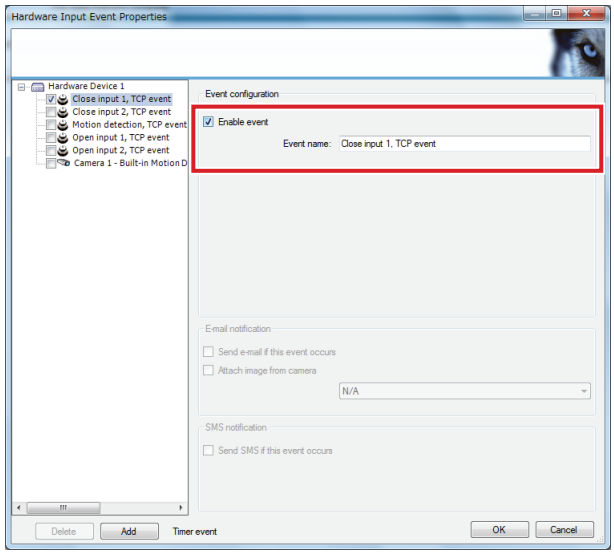


5 Click an input event to enable

The applicable input event setting screen appears.

6 Select the [Enable event] check box

- Then the check box in the input event list is selected and the event is enabled.
- To change the event name, enter [Event name].



7 Repeat Steps 5 and 6 for each input event to enable

Note:

- Some input events may not be selected at the same time.

8 Click [OK]

The input event has been configured.

Note:

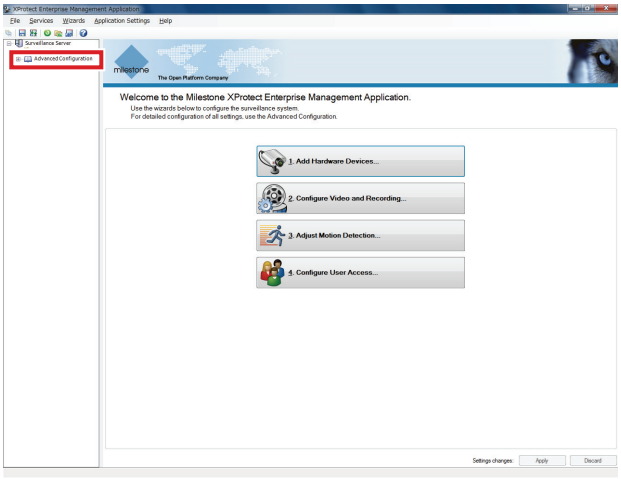
- When you specify the event, specify the action for the event. (☞ Page 52 to 56).
- When you select the setting to receive an e-mail when the event you specified occurs, perform mail setup (☞ Page 60 "Mail Setup for Management Application") and activate the setting to receive an e-mail upon the occurrence of an event. (☞ Page 62 "Receive an e-mail upon the occurrence of an event")

Events and Actions (continued)

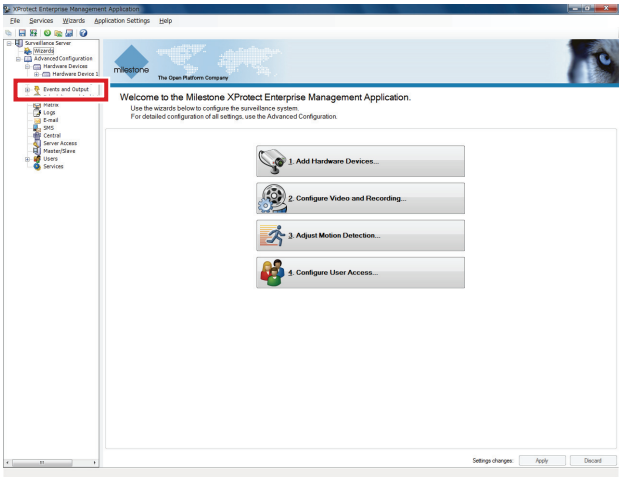
Event Configuration—Manual Event

If a manual event is set (created), any event can be produced through operation on the Smart Client.

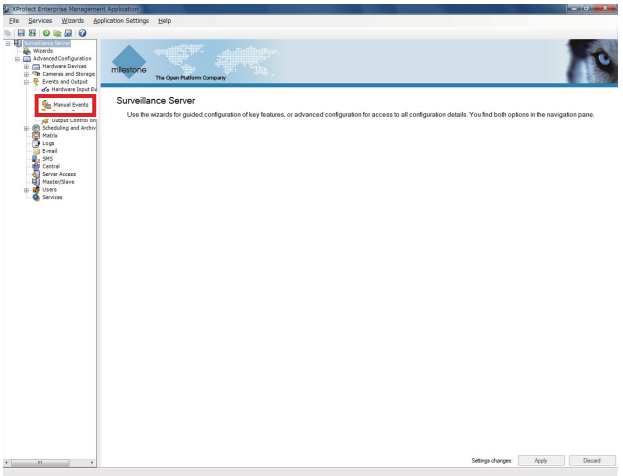
1 Click [+] in [Advanced Configuration]



2 Click [+] in [Events and Output]



3 Double-click [Manual Events]

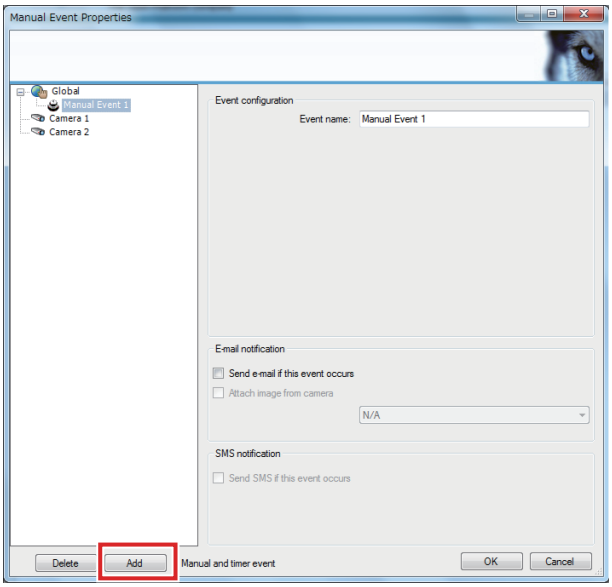


The [Manual Event Properties] window appears.

4 Select the event setting target

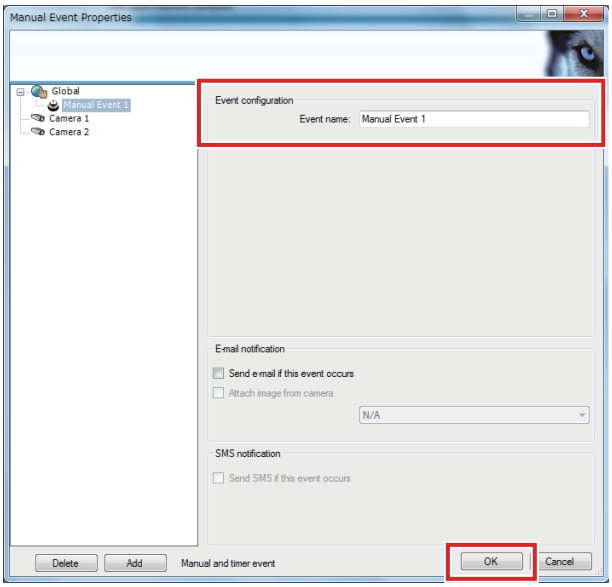
- For setting all cameras: select [Global]
- For setting each camera individually: select the camera name to set

5 Click [Add]



The event name setting screen appears.

6 Enter the event name and click [OK]



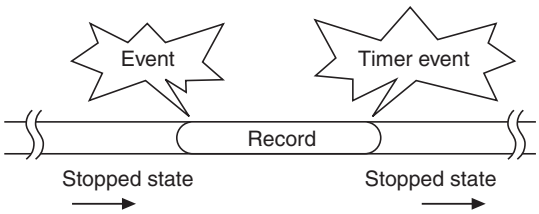
Note:

- If you change the camera name after setting the manual events, manual events already registered may not work. In this case, delete the manual events, then register them again.
- When you specify the event, specify the action for the event. (☞ Page 52 to 56).
- When you select the setting to receive an e-mail when the event you specified occurs, perform mail setup (☞ Page 60 "Mail Setup for Management Application") and activate the setting to receive an e-mail upon the occurrence of an event. (☞ Page 62 "Receive an e-mail upon the occurrence of an event")

Events Configuration—Timer Event

This section describes procedures to specify an additional event to end the action triggered by a generic event, input event, or manual event.

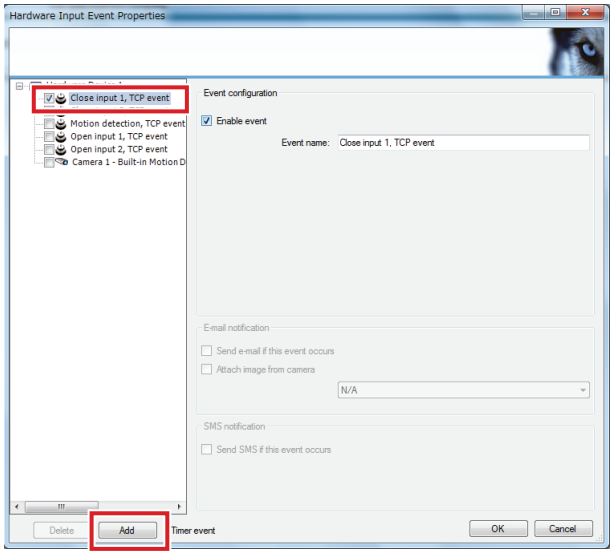
After the time specified for the timer event from occurrence of each event, the monitoring system returns to the normal state.



1 Open the properties screen of each event

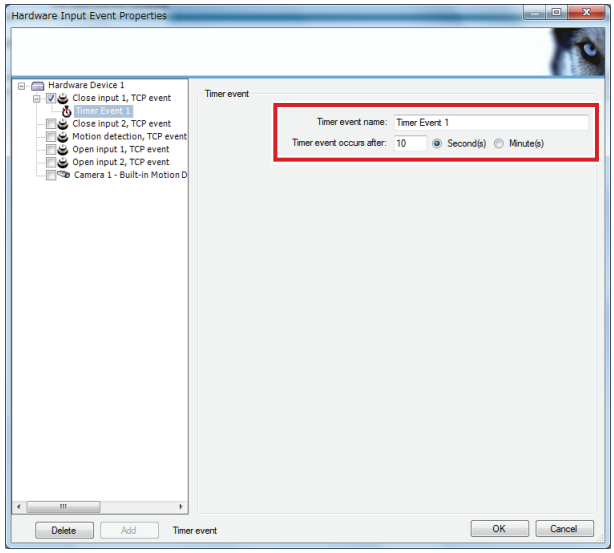
2 Select the event to set the timer event and click [Add]

- To add a timer event for an input event



3 Enter a name and generation timing of the timer event

- For generation timing of the timer event, specify the time elapsed from occurrence of the event you want to end.



4 Click [OK]

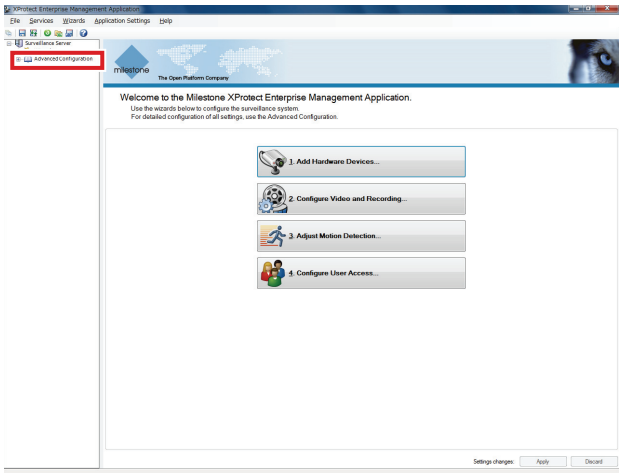
The timer event has been configured.

Events and Actions (continued)

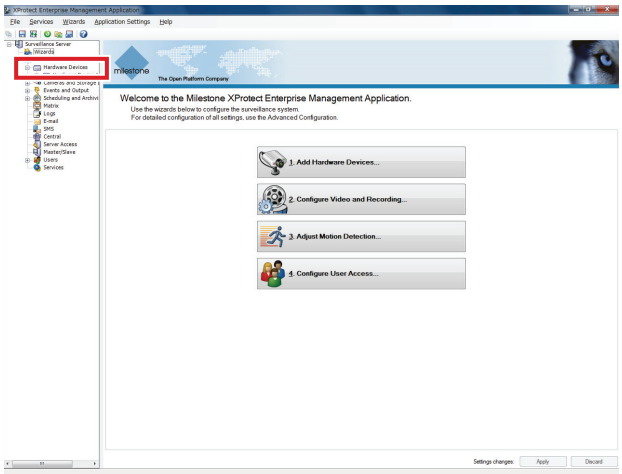
Action Setup—Moving the PTZ Camera Preset Position

When the event occurs, the PTZ camera is directed to the defined preset position. (☞ Page 39 "Defining a Preset PTZ Position")

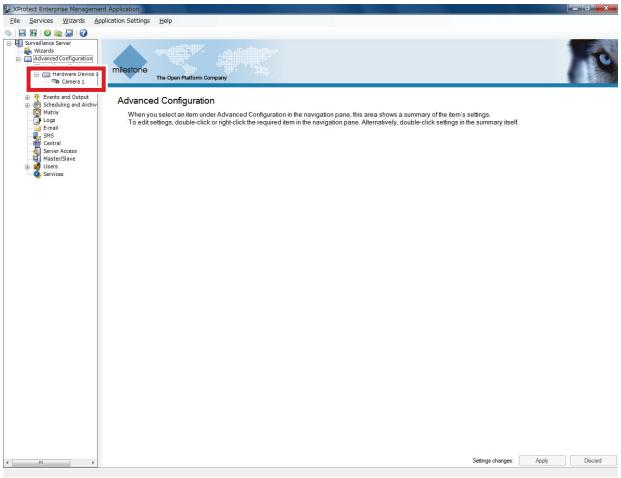
1 Click [+] in [Advanced Configuration]



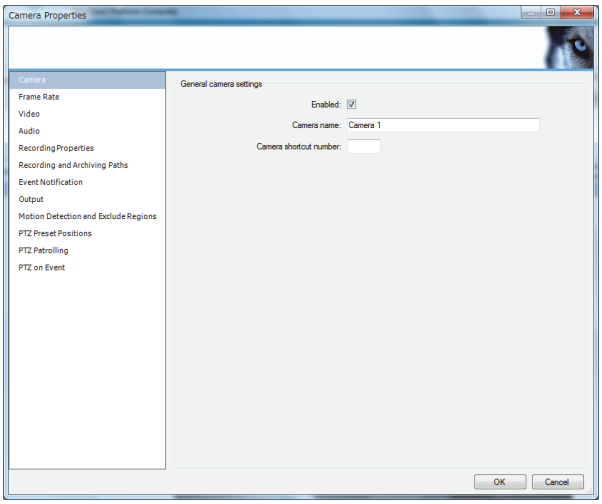
2 Click [+] in [Hardware Devices]



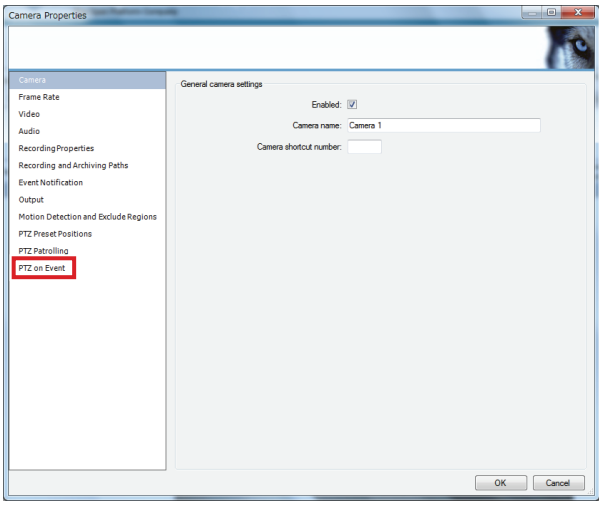
3 Click the [+] of [Hardware Device] of the camera to set and double-click the camera name



The [Camera Properties] window appears.

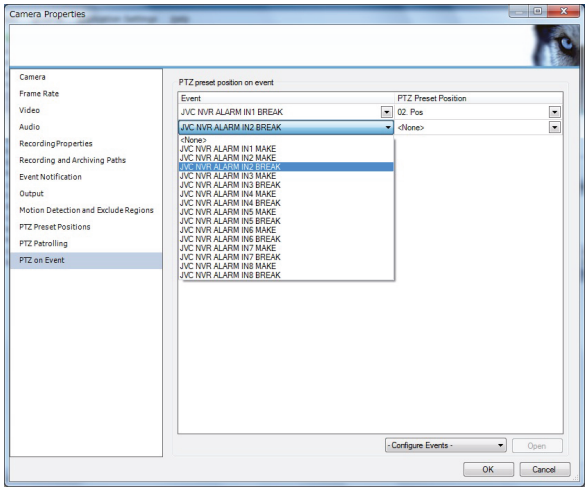


4 Select [PTZ on event]



5 Specify a combination of an event and a preset position

- The same event cannot be coupled with more than one preset position.



6 Click [OK]

The preset position movement by event has been set.

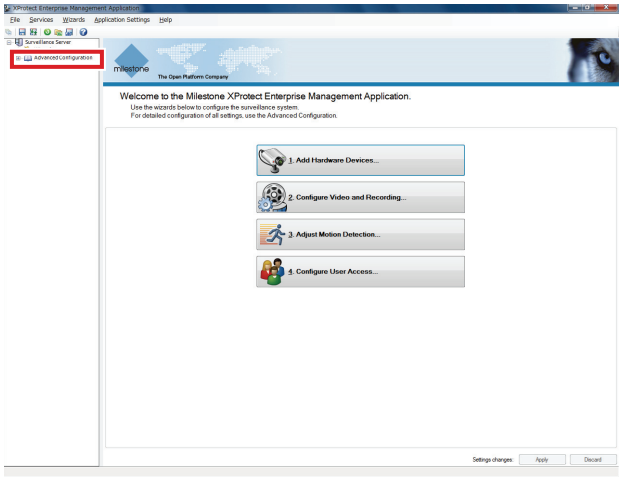
Note:

- To remove the association between a preset position and an event, select [None] for the event and preset position.

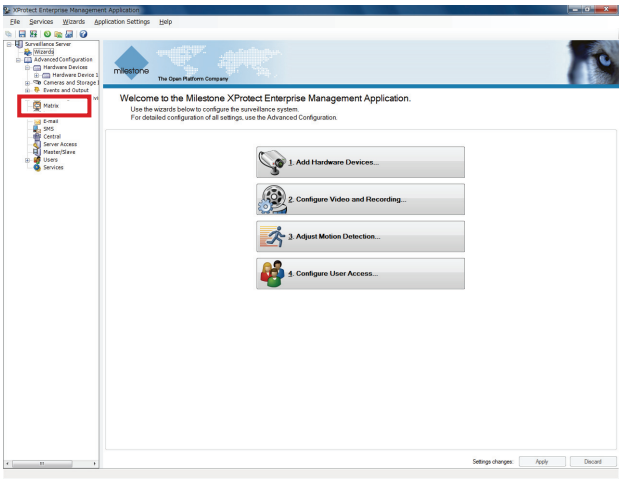
Action Setup—Distributing Camera Images (Matrix)

Live images can be distributed to specified computer(s) (recipient(s)) when any event occurs. You can view the distributed images on a computer with the Smart Client.

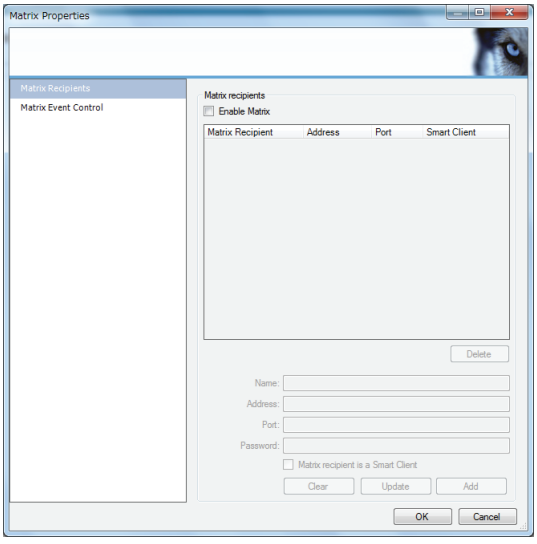
1 Click [+] in [Advanced Configuration]



2 Double-click [Matrix]



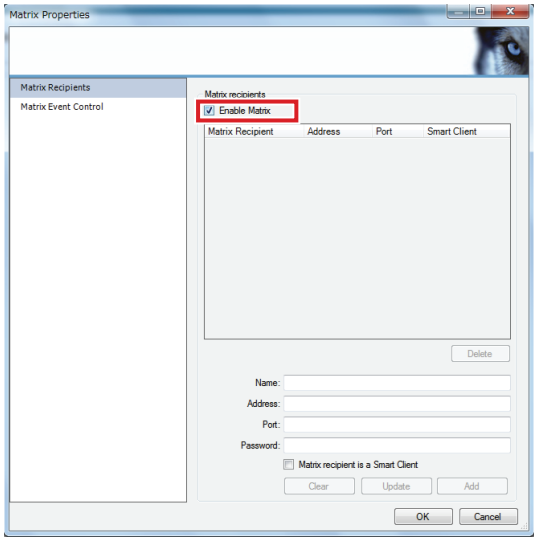
The [Matrix Properties] window appears.



Events and Actions (continued)

Action Setup—Distributing Camera Images (Matrix) (continued)

3 Select the [Enable Matrix] check box



4 Enter recipient properties and click [Add]

Specify the information in the following items.

Item	Description
Name	Recipient's name
Address	Recipient's IP address
Port	Recipient's port number
Password	Recipient's password

- Click [Clear] to cancel all entries.
- If the Smart Client is installed in the recipient's terminal, select the [Matrix recipient is a Smart Client] check box.

Caution:

- Do not set multiple Matrix recipients to the same port.

5 Click [Matrix Event Control]

A list of events for each recipient is displayed.

6 Select an event for each recipient

When relating Matrix to events, right-click the event name and select a method from [Connect], [Disconnect, then connect], or [Disconnect].

Caution:

- When multiple Matrix windows are set by the recipient, select [Connect]. If [Disconnect] or [Disconnect, then connect] is selected, the connection information of the Matrix window and the camera will be erased and images will not displayed in windows with [Window Index] (☞ Page 179) set to [2] or higher.

7 Select a camera to distribute live images to computer(s).

Right-click the action ([Connect], [Disconnect, then connect], or [Disconnect]) selected in step 6, then specify settings of the camera.

8 Click [OK]

The image distribution by event has been set.

Caution:

- If Matrix images are not displayed, select [Block, and reconnect] and reconnect. If images are not displayed even when connected, check the Matrix settings such as the recipient's port number, the event settings, and whether or not an event has occurred.

Note:

- You need to perform settings of Smart Client from the recipient to distribute images. See "Setting the Matrix Display Area" (☞ Page 179) to specify the display position of the images.

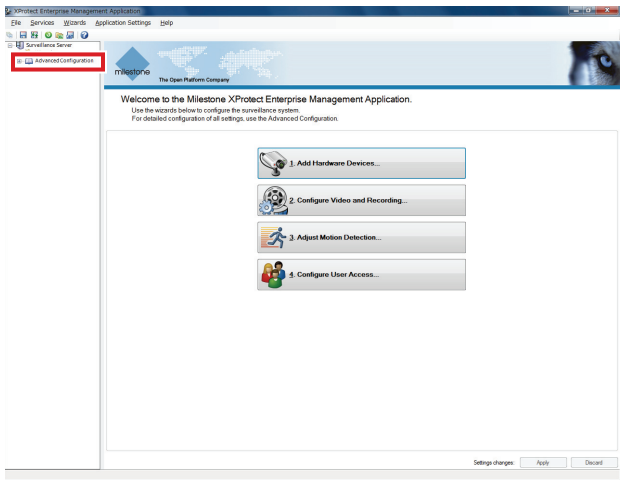
Action Setup—Starting Recording

Recording is started upon the occurrence of any event.

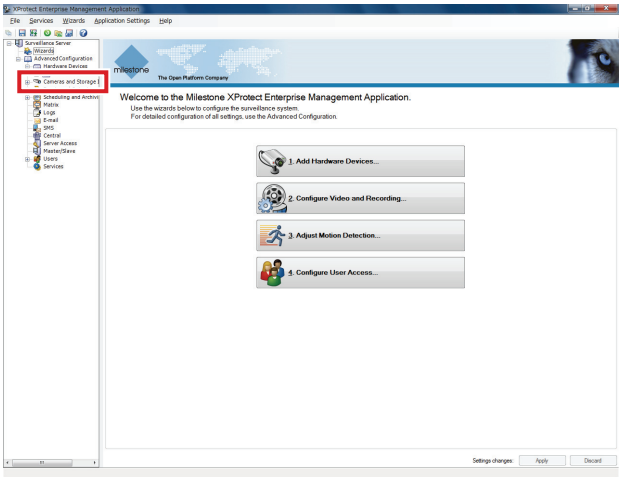
Note:

- You can perform the same settings below by opening the properties of each camera from [Hardware device] in [Advanced Configuration]. (☞ Page 95 "Recording Properties")

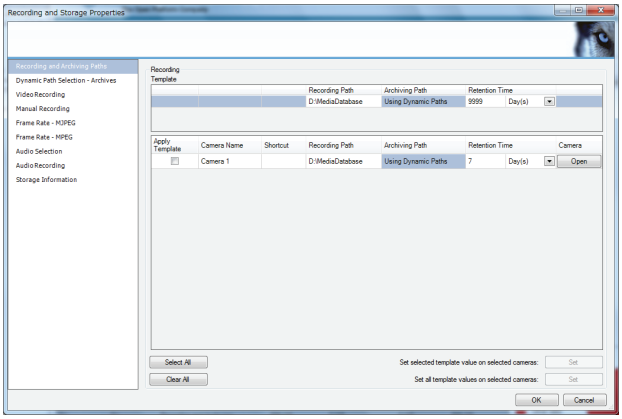
1 Click [+] in [Advanced Configuration]



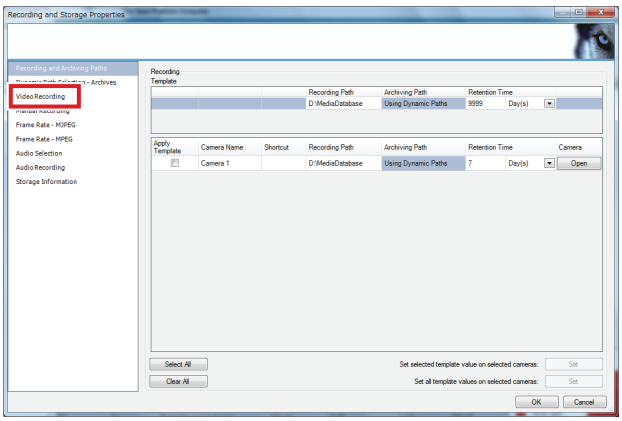
2 Double-click [Cameras and Storage Information]



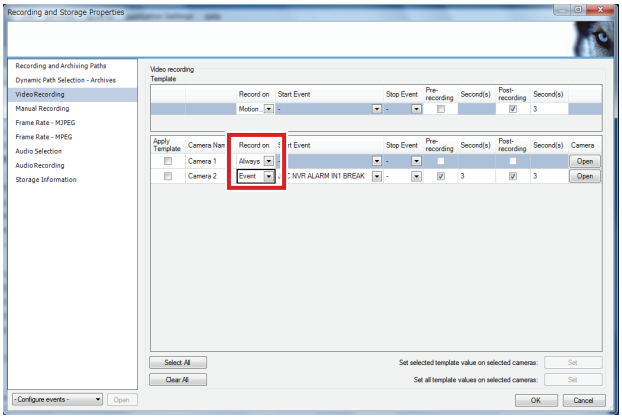
The [Recording and Storage Properties] window appears.



3 Select [Video Recording]



4 Select an event that starts recording



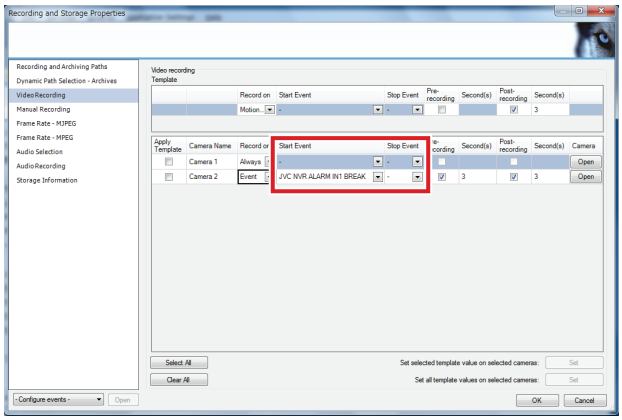
Item	Description
Always	For recording images always. (Recording is not triggered by an event.)
Motion Detection	For starting recording by motion detection.
Event	For starting recording by any event other than motion detection.
Event and motion detection	For starting recording upon the occurrence of an event including motion detection.

- Select the [Apply Template] check box and click [Apply] to apply the settings selected in [Template - >] in the upper part to all selected cameras.

Events and Actions (continued)

Action Setup—Starting Recording (continued)

5 Select the event to start/stop recording



- If [Event] or [Event and motion detection] has been selected in step 4, select [Start Event] and [Stop Event].

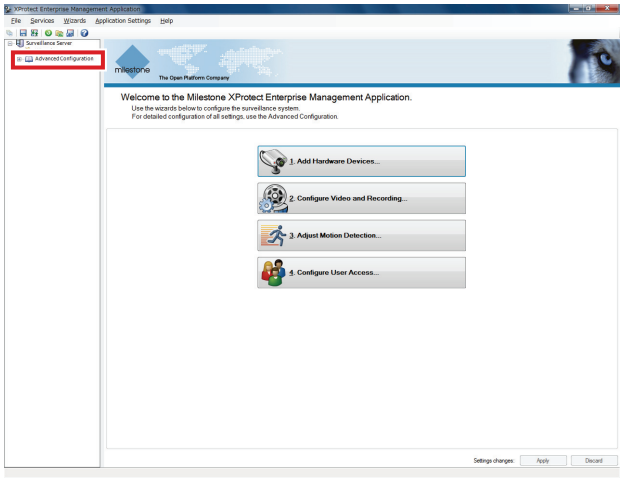
6 Click [OK]

The recording start by event has been set.

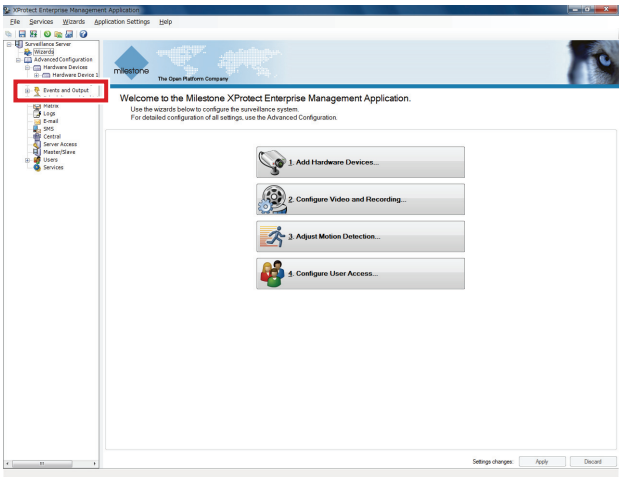
Action Setup—Output

This section describes procedures to set an action to control external devices such as lights, sirens and door opening/ shutting system connected with this unit.

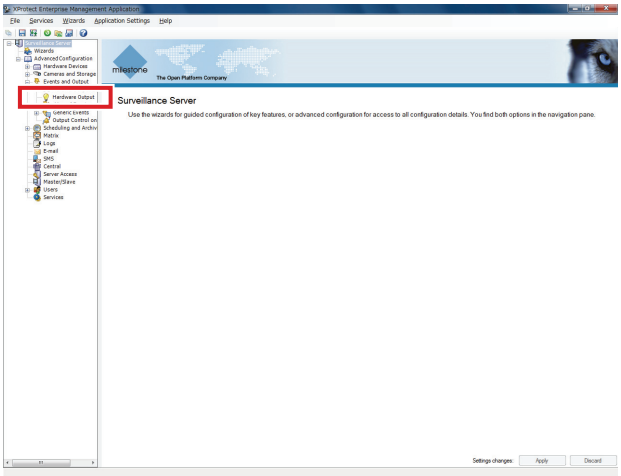
1 Click [+] in [Advanced Configuration]



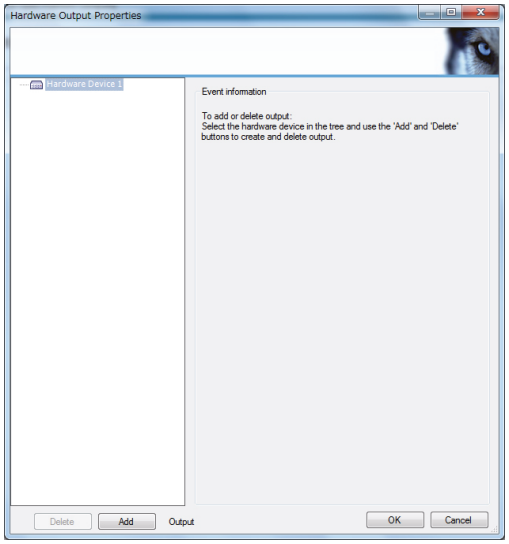
2 Click [+] in [Events and Output]



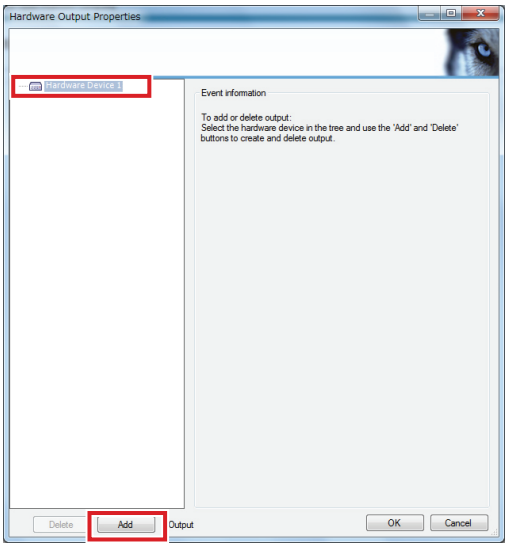
3 Double-click [Hardware Output]



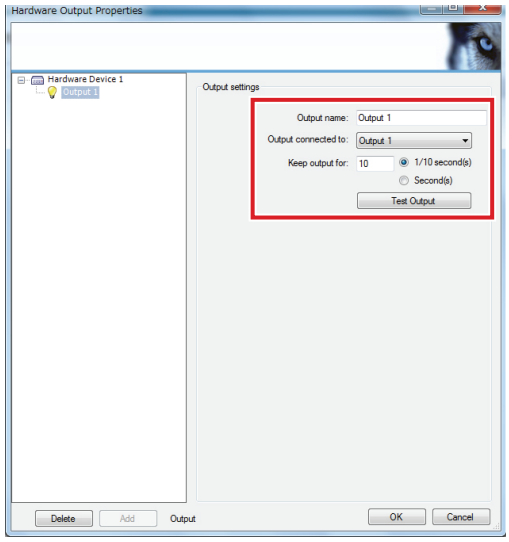
The [Hardware Output Properties] window appears.



4 Select hardware to configure and click [Add]



5 Specify essential properties



Item	Description
Output name	For specifying a name for the output.
Output connected to	For specifying an output destination device.
Keep output for	For specifying the time of output.

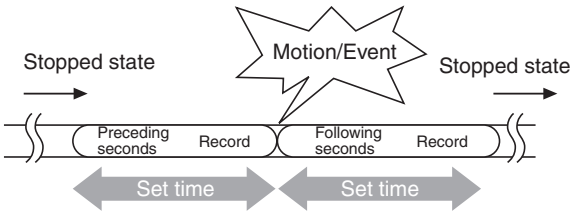
- Some output devices may have limitations on the number of characters and format for the name.
- Some output devices may have relatively short and/or limited continuous output time.
- Click [Test Output] to test the output.

6 Click [OK]

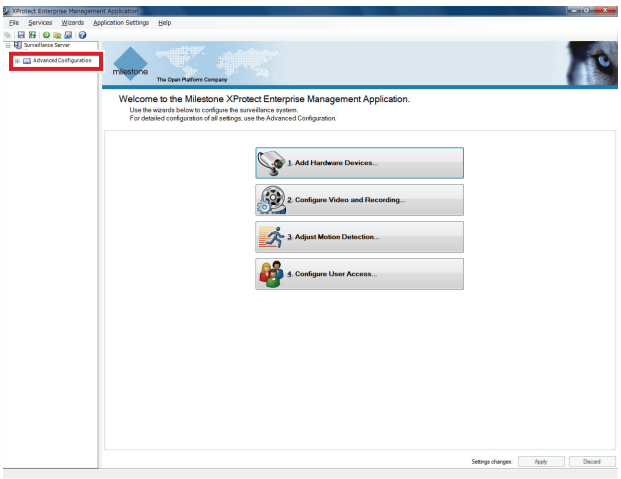
The output by event has been set.

Recording Images Before/ After Occurrence of Event or Motion

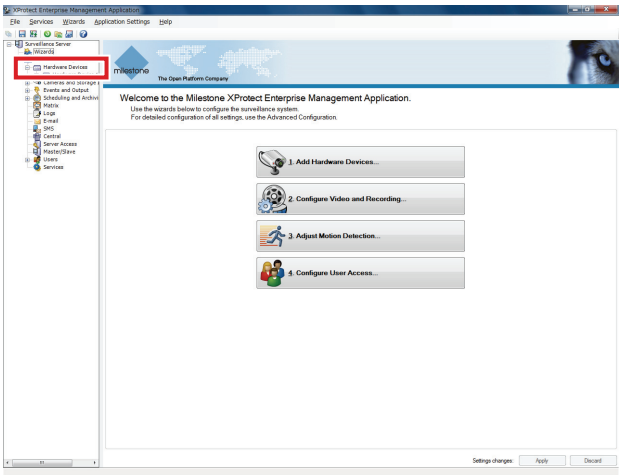
Images before/after the occurrence of an event or motion can be recorded.



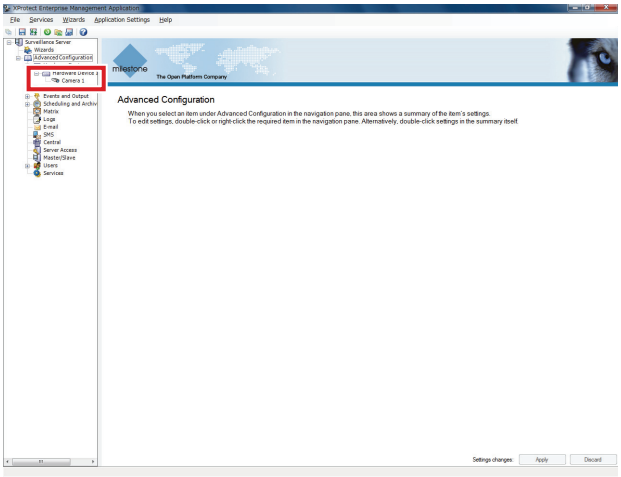
1 Click [+] in [Advanced Configuration]



2 Click [+] in [Hardware Devices]

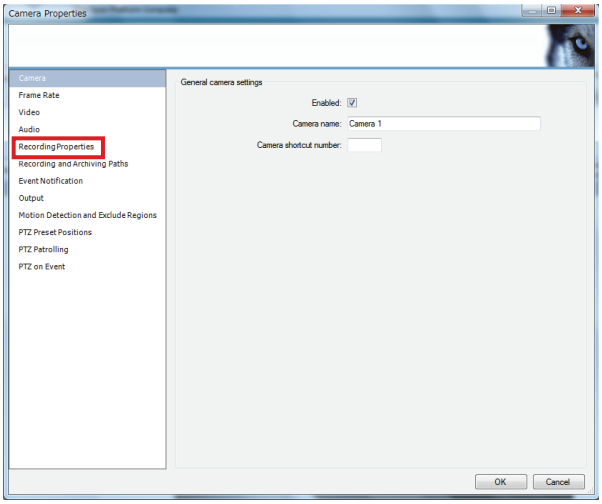


3 Click the [+] of [Hardware Device] of the camera to set and double-click the camera name

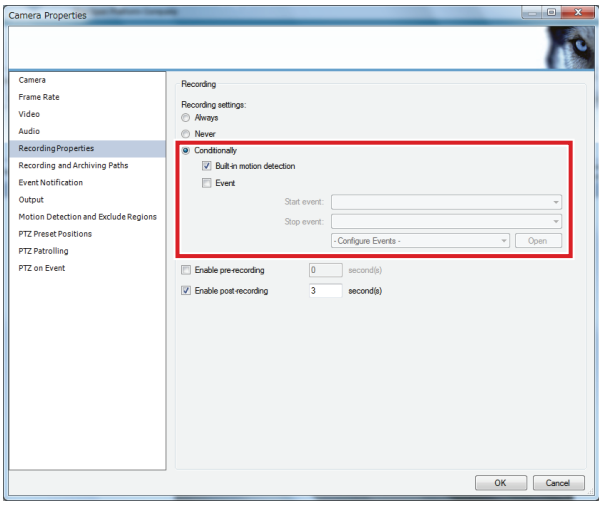


The [Camera Properties] window appears.

4 Select [Recording Properties]



5 Set [Recording Settings] to [Conditionally] and set the type of condition (motion detection or event)



6 Specify units of seconds to record before/after the occurrence

Item	Description
Enable pre-recording	To record images before any motion/event, select this check box and enter units of seconds for recording.
Enable post-recording	To record images after any motion/event, select this check box and enter units of seconds for recording.

7 Click [OK]

Note:

- A group of images before/after any motion/event is called a sequence.
- For how to use a sequence, refer to "Searching from the Image List" (☞ Page 149) "Searching for Recorded Images" (☞ Page 151).

Configuring Mail Settings

Any abnormality in this unit or monitoring system can be notified through e-mail.

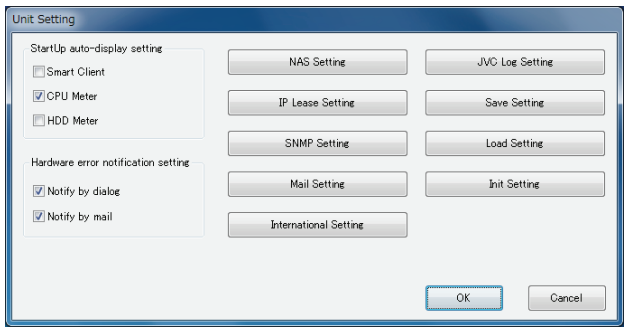
Use 2 windows to configure mail settings.

- **Notifications related to hardware**
  - Formatting of built-in HDD
  - Formatting of external HDD
  - Deterioration of built-in HDD reliability
  - RAID abnormality (if applicable)
  - Detection of heat radiation stoppage
- **Notifications from Management Application or Smart Client**
  - Motion detection
  - Event occurrence
  - Disconnection and restoration of communication with cameras
  - Archive error occurrence

Mail Settings of Unit Setting

1 Double-click [4. Unit Setup] on the desktop

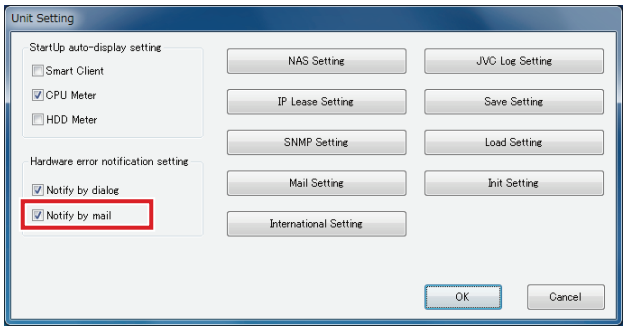
The [Unit Setting] window appears.



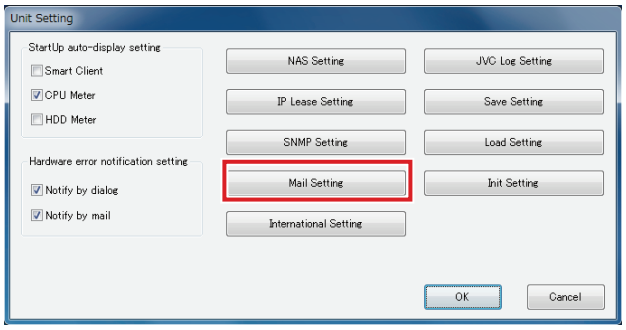
Configuring Mail Settings (continued)

Mail Settings of Unit Setting (continued)

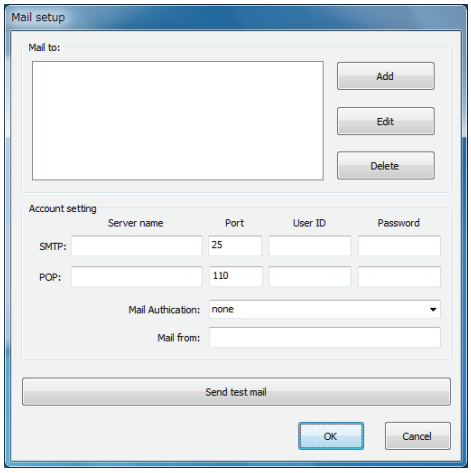
2 Select the [Notify by mail] check box in [Hardware error notification setting]



3 Click [Mail Setting]



The [Mail setup] window appears.



4 Specify the recipient address(es)

- Add an address that is not listed, click [Add] and enter the address.
- To change e-mail address(es), select any address to change from the list and click [Edit].
- To delete e-mail address(es), select any address to delete from the list and click [Delete].

5 Configuring the outgoing and incoming mail servers

Item	Description
SMTP (outgoing mail server)	
Server name	For specifying the server name.
Port	For specifying the port number. (Default value: 25)
User ID	For specifying the user ID.
Password	For specifying the password.
POP (incoming mail server)	
Server name	For specifying the server name.
Port	For specifying the port number. (Default value: 110)
User ID	For specifying the user ID.
Password	For specifying the password.

6 Specify the authentication method for mail delivery

- For queries on the settings, consult your system administrator.

7 Enter the mail sender's address

- Click [Send test mail] to send a test mail.

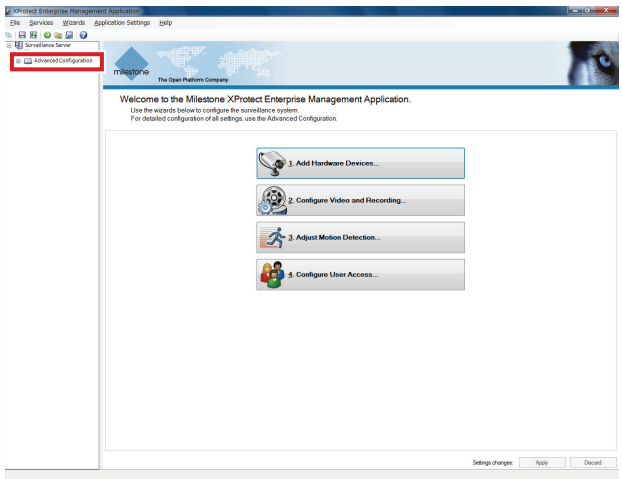
8 Click [OK]

Mail Setup for Management Application

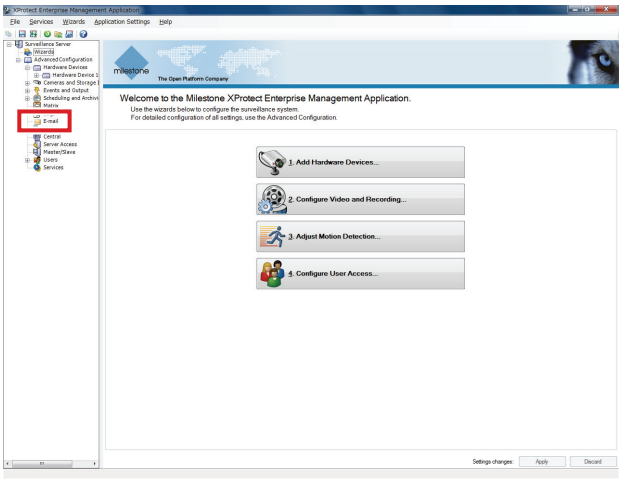
Note:

- To receive a notification upon the occurrence of an event, you need to enable mail notification in the settings of the event you want to receive notifications for.
- The email notification period can also be specified in [Scheduling and Archiving] in [Advanced Configuration] (☞ Page 121)
- This unit does not support notifications by SMS.

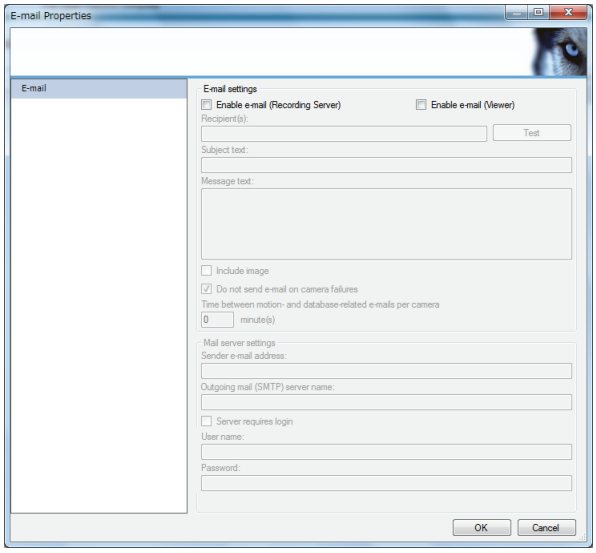
1 Click [+] in [Advanced Configuration]



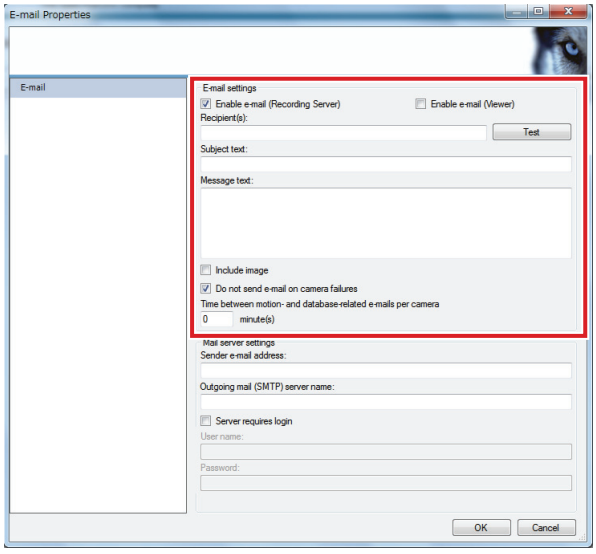
2 Double-click [E-mail]



The [E-mail Properties] window appears.

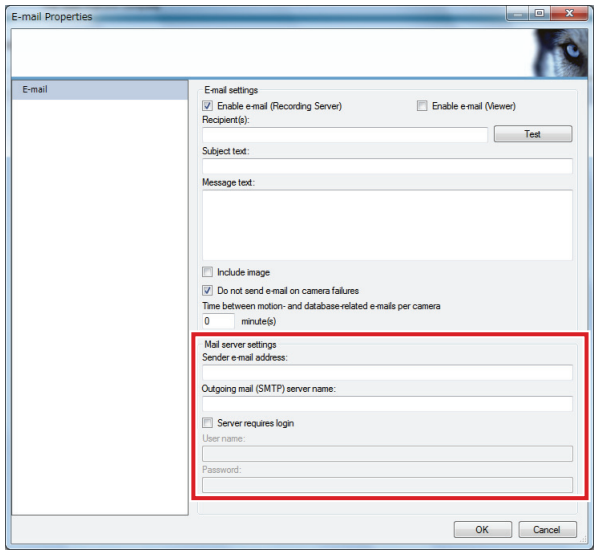


3 Select the [Enable e-mail (Recording Server)]/ [Enable e-mail (Viewer)] check box and configure settings of recipient(s) and mail content



Item	Description
Recipient(s)	For specifying the mail address(es) to receive the notification e-mail
Subject text	For specifying the mail title.
Message text	For specifying the message body.
Include Image	Select this check box to attach images to the notification mail.
Do not send e-mail on camera failures	Select this check box to send no mail when the camera is faulty.
Time between motion- and database-related e-mails per camera	For specifying the time interval (minutes) for sending each mail notification.

4 Specify the mail sender



Item	Description
Sender e-mail address	For specifying the e-mail address to send notifications from.
Outgoing mail (SMTP) server name	For specifying the server name.
Server requires login	Select this check box to specify a user name and password to require login to the server for sending mails.

5 Click [OK]

Configuring Mail Settings (continued)

Mail Setup for Management Application (continued)

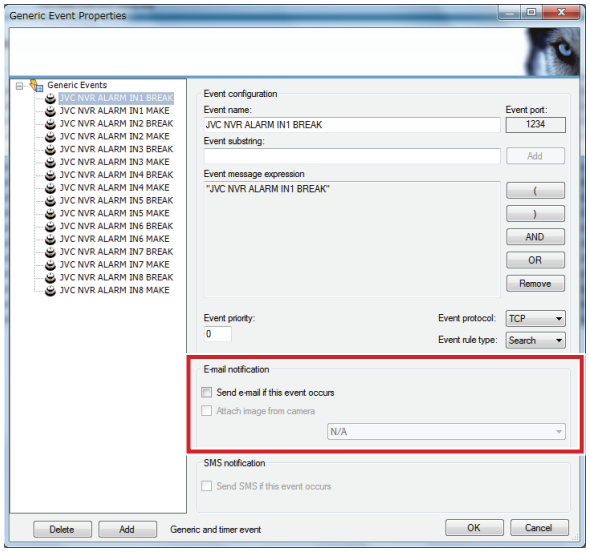
■ Receive an e-mail upon the occurrence of an event

Select the e-mail notification setting check box in each event setting screen.

Note:

- This unit does not support notifications by SMS.

● When a generic event occurs



1 Click [+] in [Advanced Configuration]

2 Click [+] in [Events and Output]

3 Click [+] in [Generic Events]

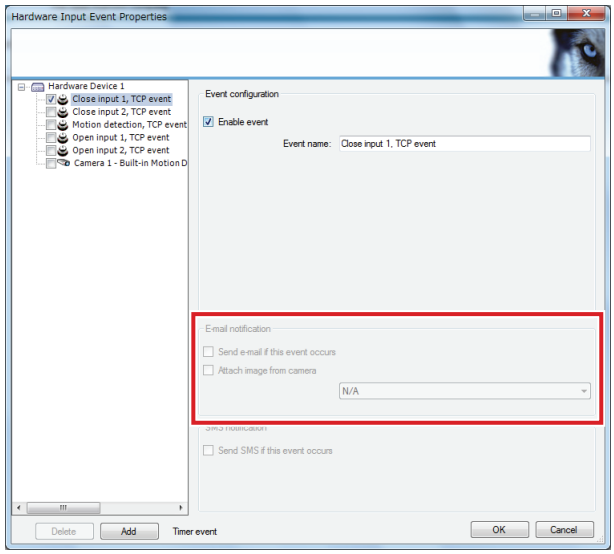
4 Double-click any event name you want to set

The [Generic Event Properties] window appears.

5 Select the [Send e-mail if this event occurs] check box

- To attach images to notification mails, select [Attach image from camera] and select an image source.

● When an input event occurs/a motion is detected



1 Click [+] in [Advanced Configuration]

2 Click [+] in [Events and Output]

3 Double-click [Hardware Input Events]

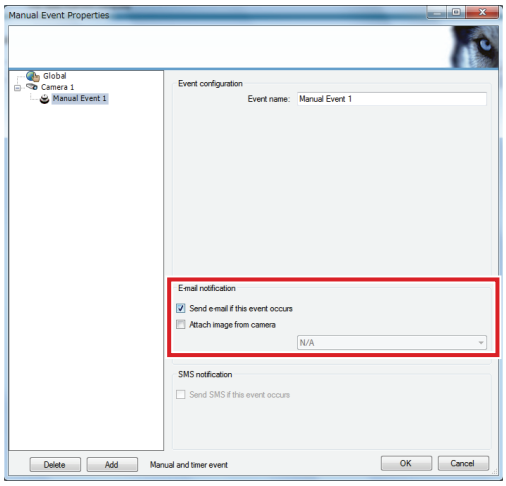
4 Double-click any event name you want to set

The [Hardware Input Event Properties] window appears.

5 Select the [Send e-mail if this event occurs] check box

- To attach images to notification mails, select [Attach image from camera] and select an image source.

● When a manual event occurs



1 Click [+] in [Advanced Configuration]

2 Click [+] in [Events and Output]

3 Click [+] in [Manual Events]

4 Double-click any event name you want to set

The [Manual Event Properties] window property appears.

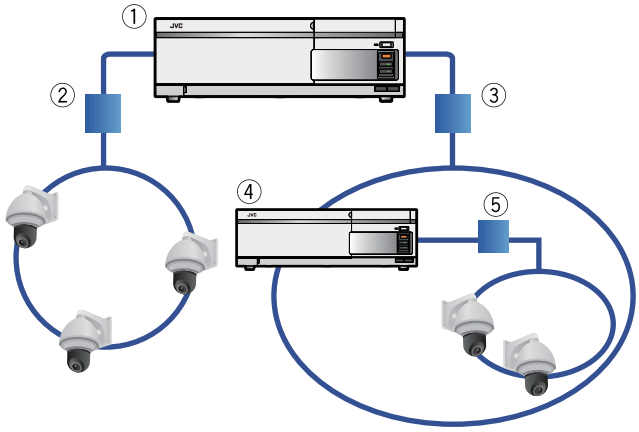
5 Select the [Send e-mail if this event occurs] check box

- To attach images to notification mails, select the [Attach image from camera] and select an image source.

Using More Than One NVR

You can use more than one NVR to build a large-scale system with a large number of cameras. In this case, one NVR is used as a master and other NVRs are registered with the master NVR as slaves.

- Up to seven Slave NVR can be registered for a single Master NVR.
- Up to 128 cameras can be controlled by a single master/slave system.



① Master NVR

② Switching hub (LAN1 of the master NVR)

③ Switching hub (LAN2 of the master NVR/LAN2 of the slave NVR)

④ Slave NVR

⑤ Switching hub (LAN1 of the slave NVR)

Caution:

- If you set this unit as a slave, connect only one master NVR. Connecting more than one master NVR may cause this unit to malfunction.
- The version of all NVR units in a master/slave system must be set the same.
- The NVR unit operating as the master server cannot be used as a slave server for another NVR unit.
- When operating as the master server, the recording display performance may drop.

Note:

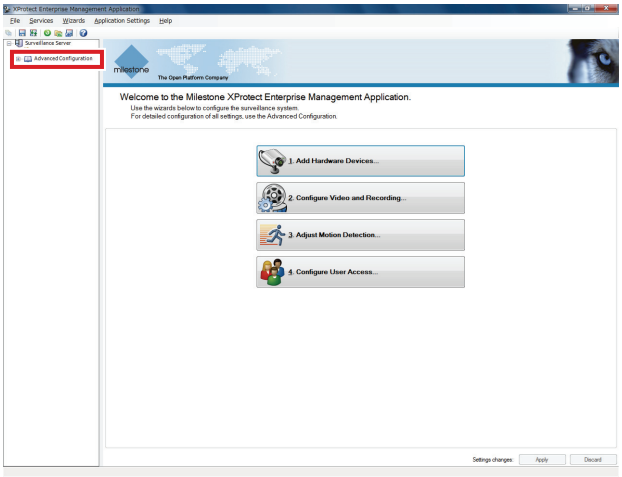
- VR-X3200U and VR-X1600U may be mixed in a master/slave system.
- If you change the identity (host name) of an NVR within the network, each NVR will become easier to identify. Select [Advanced Configuration], [Server Access], [Server name] in this order to specify the host name. (☞ Page 111)

Using More Than One NVR (continued)

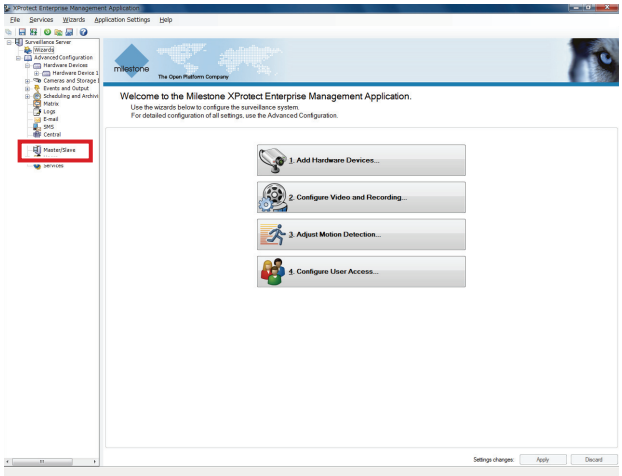
Specifying a Master NVR

Configure settings from the NVR to be used as the master.

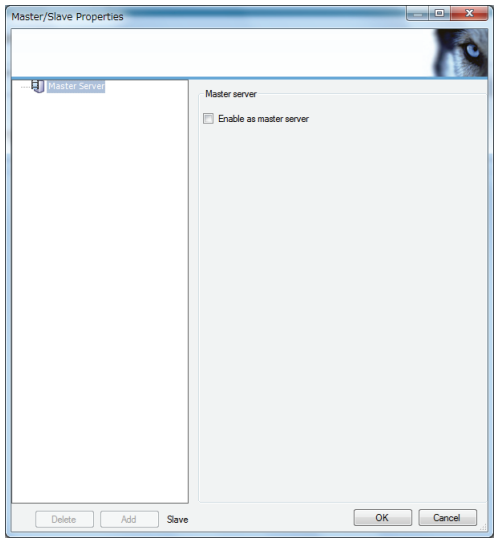
1 Click [+] in [Advanced Configuration]



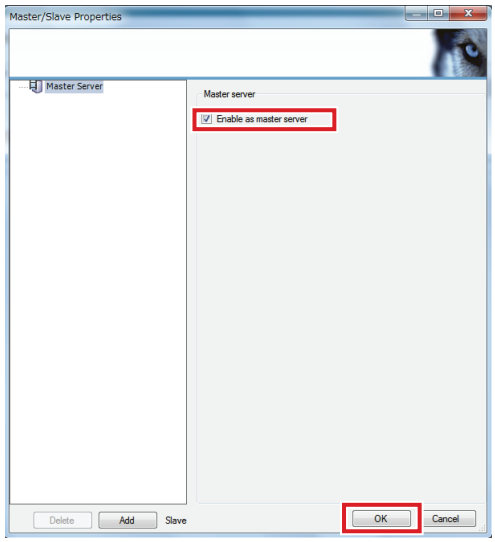
2 Double-click [Master/Slave]



The master/slave setting screen appears.



3 Select the [Enable as master server] check box and click [OK]



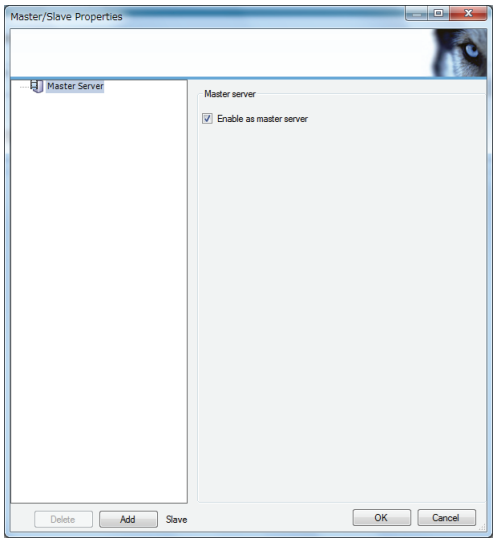
Registering a Slave NVR

Configure settings from the NVR to be used as the master.

1 Click [+] in [Advanced Configuration]

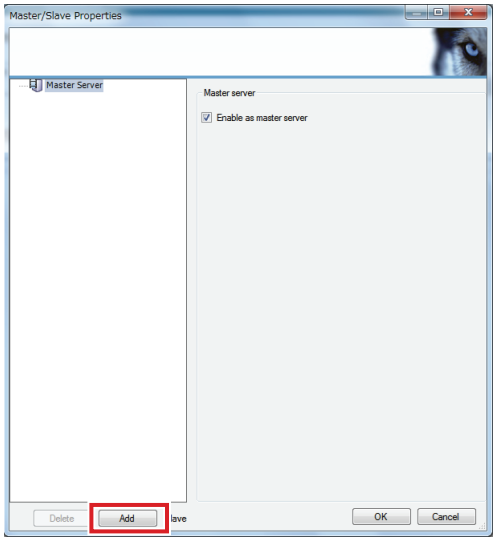
2 Double-click [Master/Slave]

The master/slave setting screen appears.

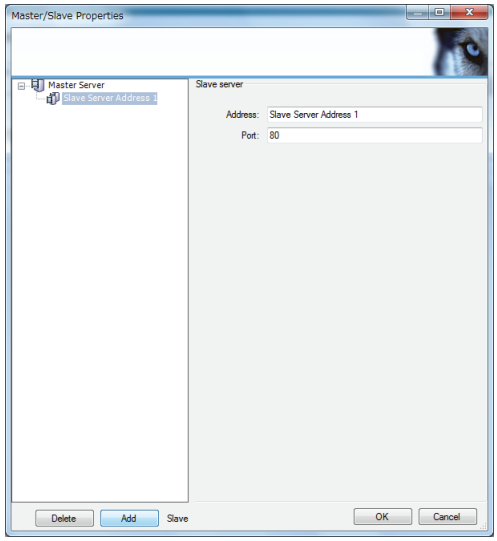


- Ensure that the [Enable as master server] check box is selected.

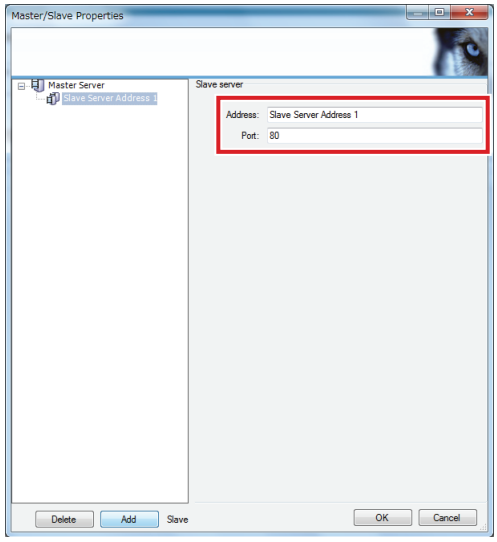
3 Click [Add]



The slave server setting screen appears.



4 Specify the address and port number of the slave server



5 Click [OK]

The NVR you just configured is registered as a slave.

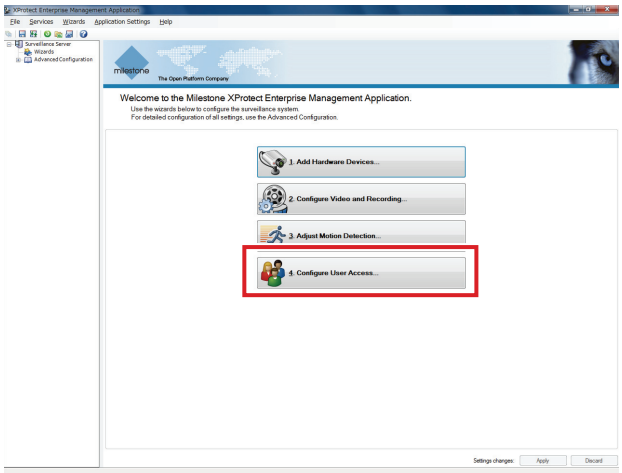
Configuring Smart Client User Settings

This section describes procedures to register user(s) of Smart Client and configure the rights of each user.

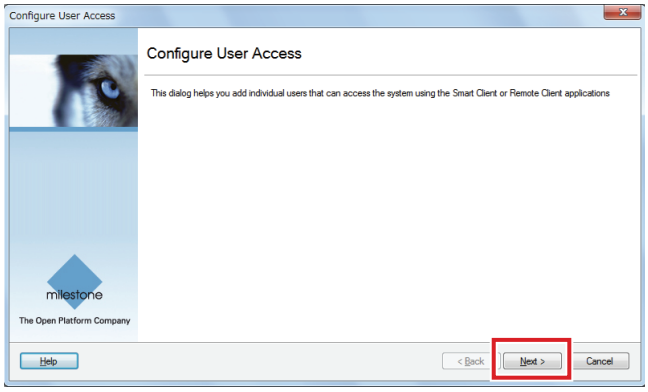
Adding a User

The following is the procedure to configure the settings with the [Configure User Access...] wizard. You may also configure the settings from [Users] in [Advanced Configuration].

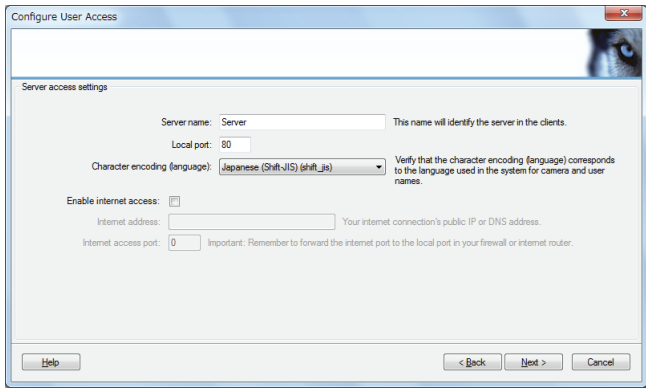
1 Click [Configure User Access...]



2 Click [Next]



3 Configure server access settings

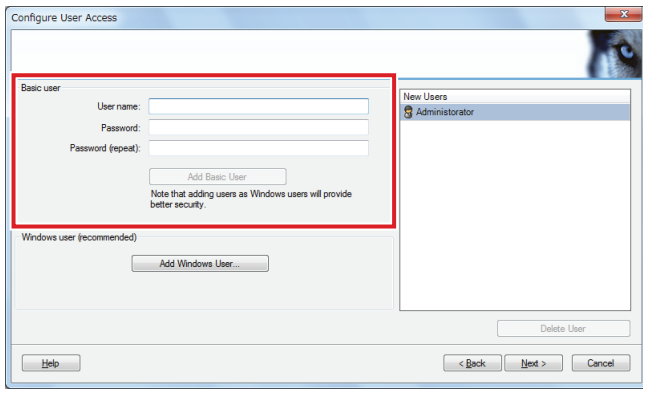


Item	Description
Server name	For specifying the name to identify this unit in the network.
Local port	For specifying the port number to use for the server.
Character encode (language)	Make sure to set to [Western European (ISO) (iso-8859-1)].
Enable internet access	Select this check box when connecting a surveillance computer to the unit through the internet. When selected, specify the global IP address of the router or firewall in the internet access field, and the port number for access of the surveillance computer in the internet port field.

4 Click [Next]

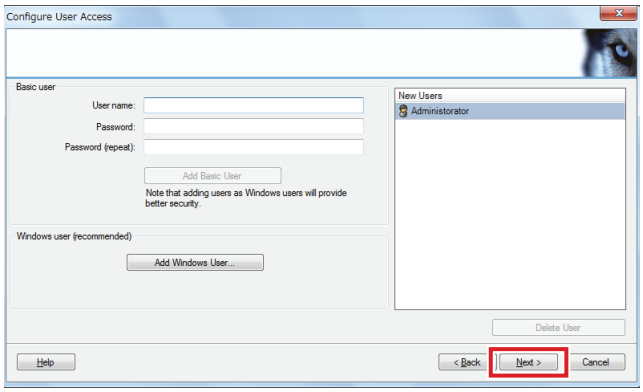
The user type (basic user or Windows user) setting screen appears.
Set the standard user which uses the viewer (Smart Client).

5 Enter the user name and password and click [Add Basic User]

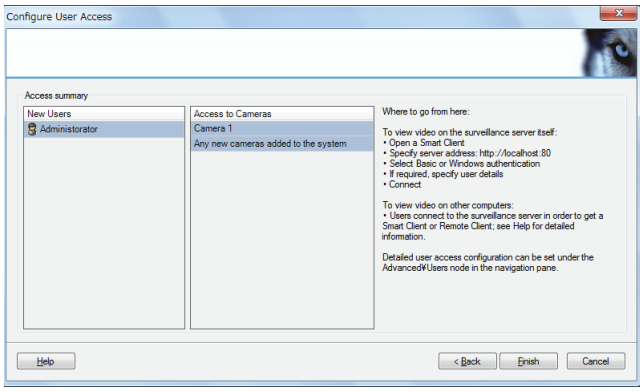


The user is registered as a new user.

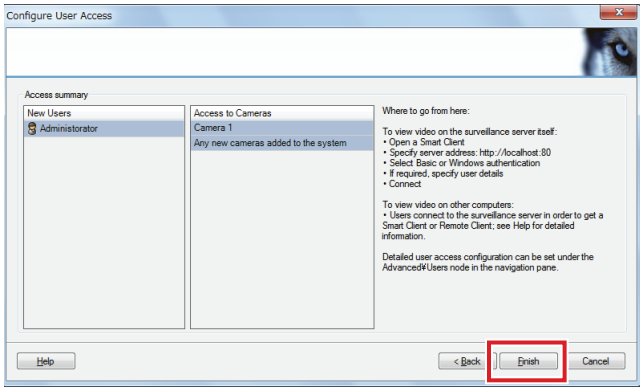
6 Click [Next]



The access overview screen appears. Check the added user's right to access the cameras.



7 Click [Finish]

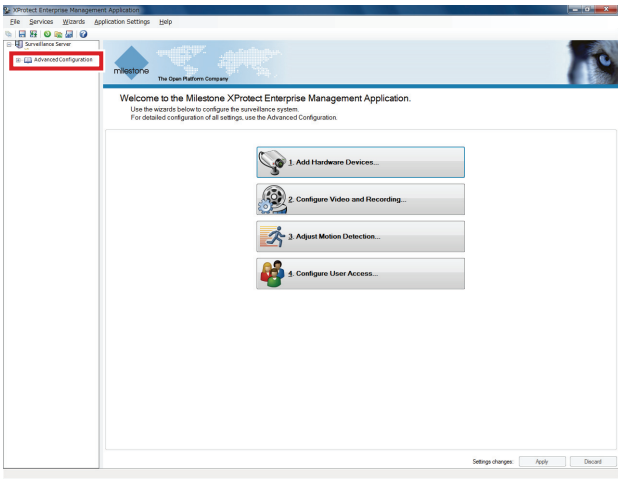


The user has been configured.

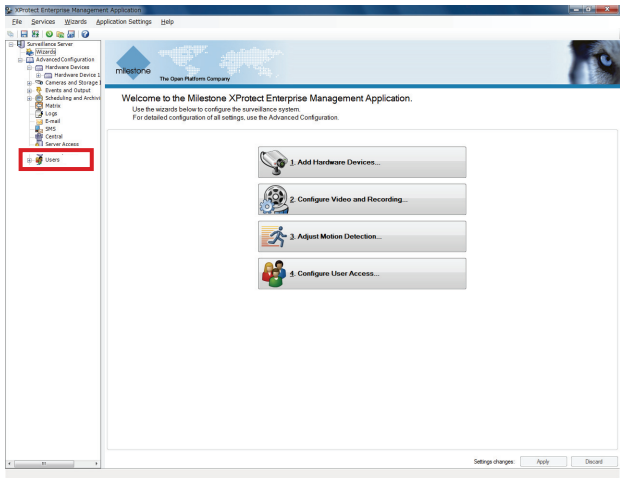
Limiting the Rights of Each User

You can limit allowed operations of cameras and the viewer for each user.

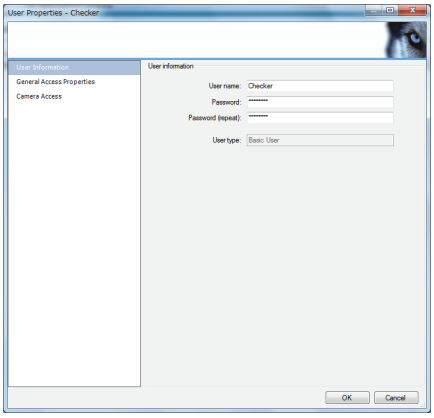
1 Click [+] in [Advanced Configuration]



2 Click [+] in [Users] and double-click a user name to configure settings for



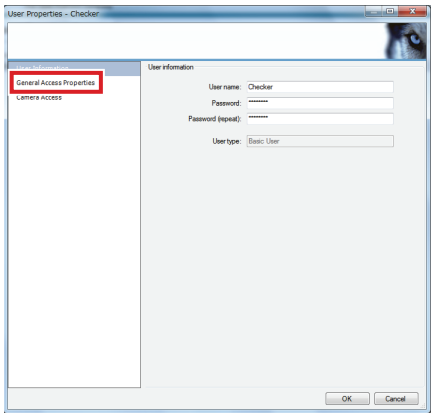
The user property screen appears.



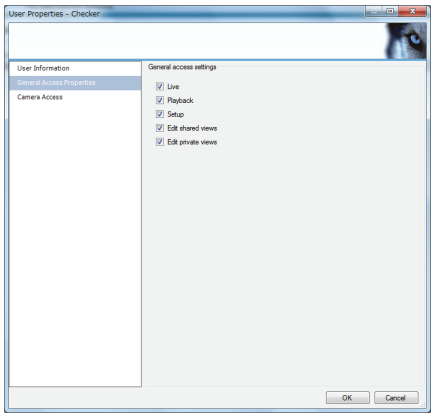
Configuring Smart Client User Settings (continued)

Limiting the Rights of Each User (continued)

3 Click [Generic Access Properties]

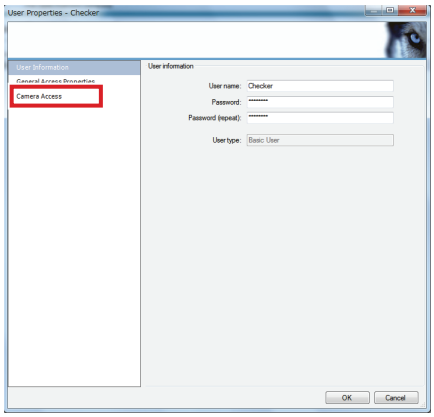


The screen for setting the viewer access authorizations appears.

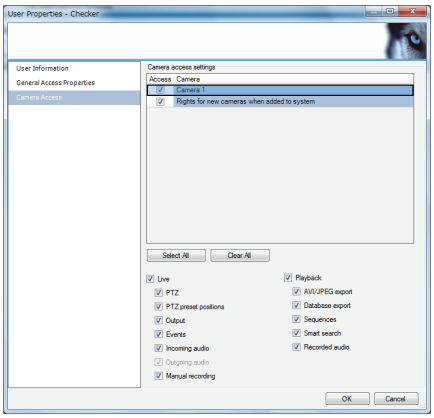


4 Deselect functions you want to limit the use of (prohibit)

5 Click [Camera Access]



The screen for setting the camera access authorizations appears.



6 Deselect functions you want to limit the use of (prohibit)

- To prohibit all functions, deselect the [Access] check box to the left of the camera name.

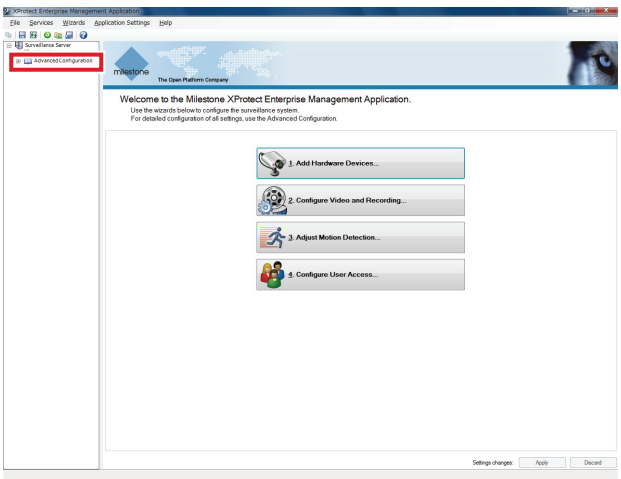
7 Click [OK]

The settings have been changed.

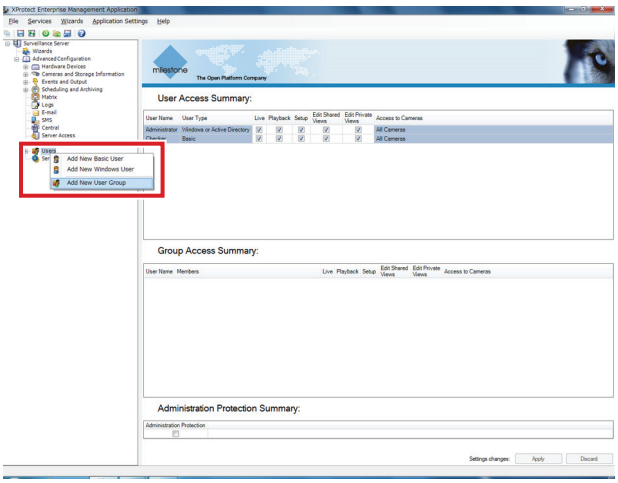
Adding a User Group

When registering more than one user with the same rights, rather than set each user separately, it is more convenient to create a group.

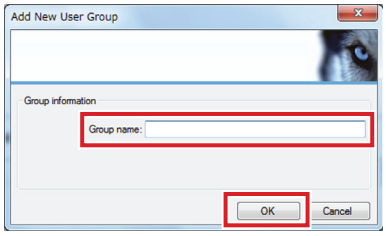
1 Click [+] in [Advanced Configuration]



2 Right-click [Users], then click [Add New User Group]



3 Enter the group name, and click [OK]



The group properties window appears.

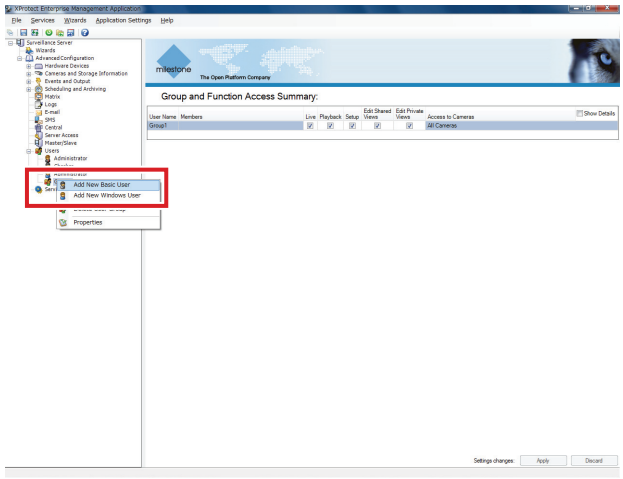
4 Set the group access rights, then click [OK]

A new user group has been added.

- For access rights settings, see steps 3 to 6 in "Limiting the Rights of Each User" (☞ Page 67).

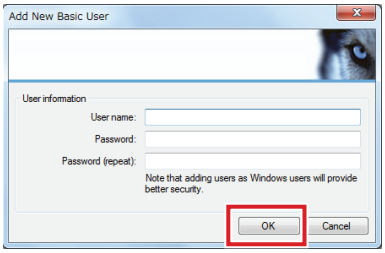
Next, add a user to the created user group.

5 Right-click the user group and click [Add New Basic User] or [Add New Windows User]

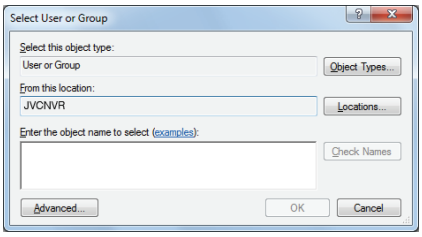


6 Set the user name and password, then click [OK]

- When [Add New Basic User] has been selected



- When [Add New Windows User] has been selected

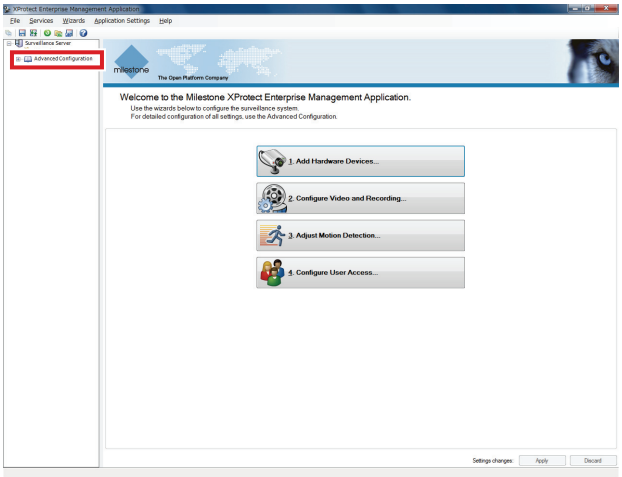


The user has been registered to the group.

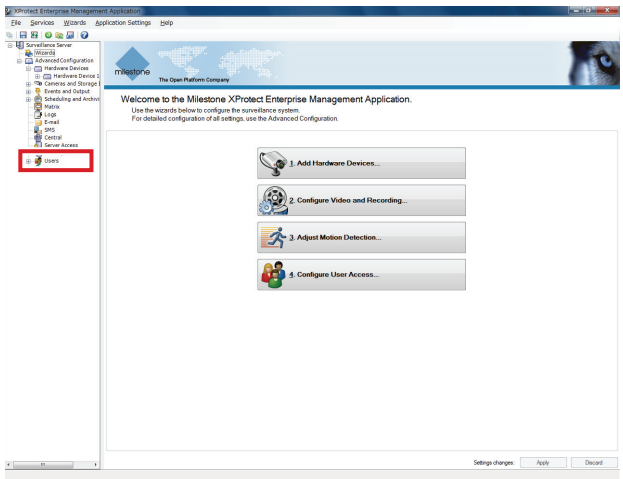
Configuring the Startup Password of Management Application

You can set a login password so only the administrator can operate Management Application.

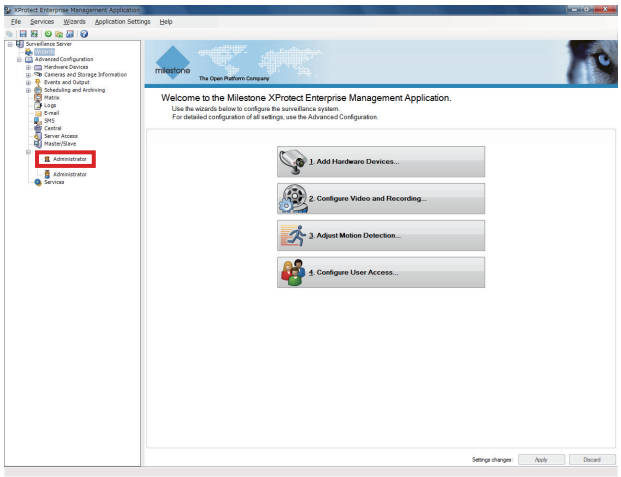
1 Click [+] in [Advanced Configuration]



2 Click [+] in [Users]

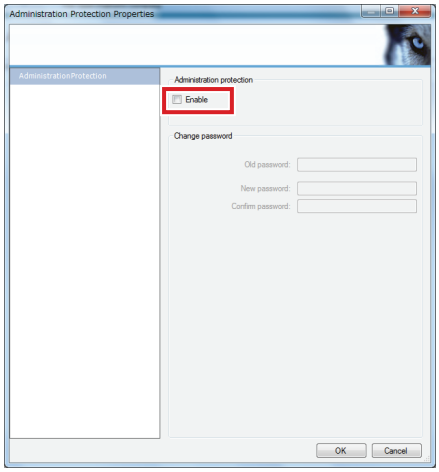


3 Double-click [Administrator]

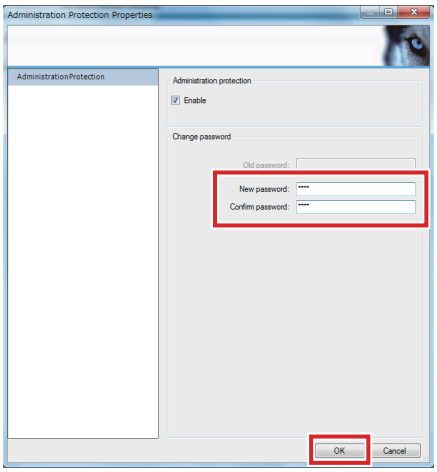


The [Administration Protection Properties] screen appears.

4 Select the [Enable] check box for [Administration protection]



5 Enter a password, then click [OK]



The activation password for Management Application is set, and the password will be required the next time Management Application is started.

Adding an HDD

The SERIAL terminal and eSATA terminal on the rear panel of this unit can be used for additional HDD(s).

Also, up to 3 built-in HDDs can be added to increase the capacity up to 4TB.

Note:

- For details of compatible additional HDD, consult your nearest JVC KENWOOD dealer or service center. You can also check on our website.
- For addition of built-in HDD(s), consult an authorized dealer or a JVC KENWOOD service center.

Connecting an External HDD

This section describes procedures to connect a drive to the SERIAL terminal or eSATA terminal on the rear panel of this unit.

1 Press and hold down the [OPERATE] button for about 2 seconds to shut down the system

2 Turn off the power switch on the rear panel

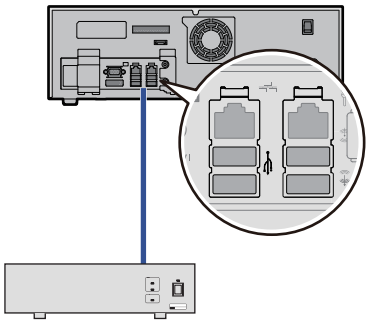
Caution:

- Make sure to turn off the power switch.

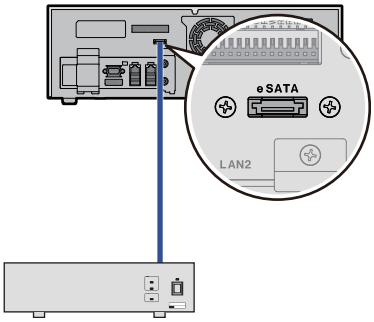
3 Connect additional HDD(s) to the SERIAL terminal and/or eSATA terminal on the rear panel and switch the power of the additional HDD(s) on

- Make sure to switch on the power of the additional HDD(s) before switching on the power of this unit. Otherwise, the additional HDD(s) may not be recognized.

● SERIAL terminal



● eSATA terminal



■ When an External HDD has been added

When an external HDD has been added, follow the steps below to format it.

1 Turn on this unit

2 Click the [Start] button on the desktop

3 Right-click [Computer], then select [Computer Control]

The [Computer Control] screen appears.

4 Select [Disk Control]

5 Right-click the added HDD and select [New Simple Volume]

The wizard will start up.

6 Follow the wizard to set drive partitions, etc.

Once the wizard is complete, formatting will start.
Once the formatting is complete, the drive name is displayed and the external HDD is ready to use.

Caution:

- When an additional HDD is connected, several seconds of the recorded image may be lost during archiving.
- Note that playing back video recorded in an external HDD simultaneously on this unit and multiple clients may cause delay in the playback of video images and audio sound. This is not a malfunction and there is no problem with the recorded images. Normal playback will be restored when simultaneous playback stops or when the number of devices playing back at the same time decreases.

Note:

- It is recommended that a UPS be used to ensure stable operation of the system. (☞ Page 125 "Using UPS")
- You are unable to view recorded images on the computer by disconnecting the external HDD from this unit and connecting it to the computer.

Adding an HDD (continued)

Building a RAID Configuration

You can add built-in HDD(s) to build a RAID configuration.
This unit is compliant to RAID 1/5/10.

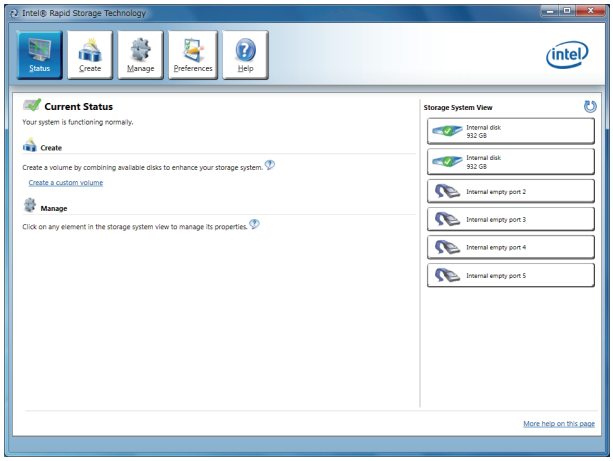
Note:

- For addition of built-in HDD(s), consult an authorized dealer or a JVC KENWOOD service center.

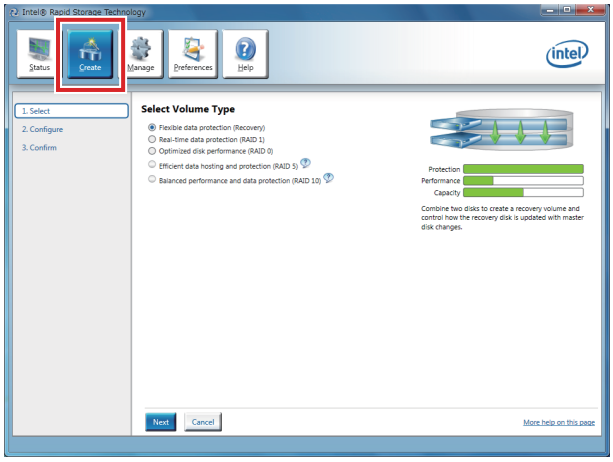
1 Turn on this unit

2 Click the [Start] button on the desktop, then click [All Programs] > [Intel] > [Intel(R) Rapid Storage Technology]

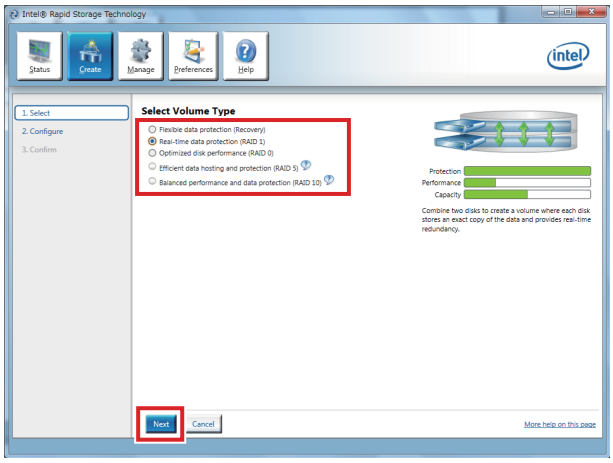
The Intel(R) Rapid Storage Technology is launched.



3 Click [Create]



4 Select the volume, then click [Next]



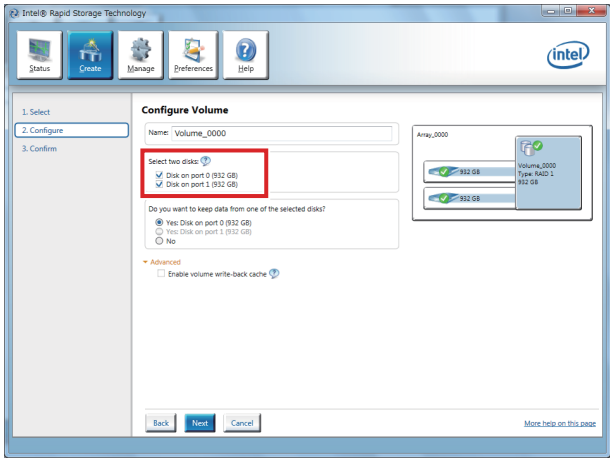
Item	Description
RAID0/RAID1	Add one HDD, and build using a total of two HDDs.
RAID5	Add two HDDs, and build using a total of three HDDs.
RAID10	Add three HDDs, and build using a total of four HDDs.

Note:

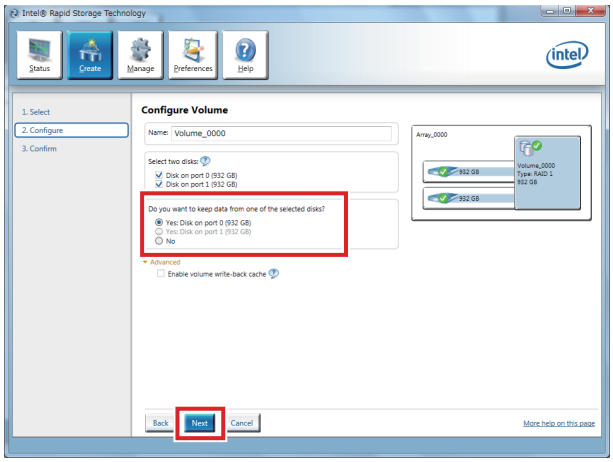
- Build RAID1, RAID5, or RAID10.

5 Select the HDDs to build the RAID configuration

Select [port 0] and the required additional HDDs ([port 1] to [port 3]).



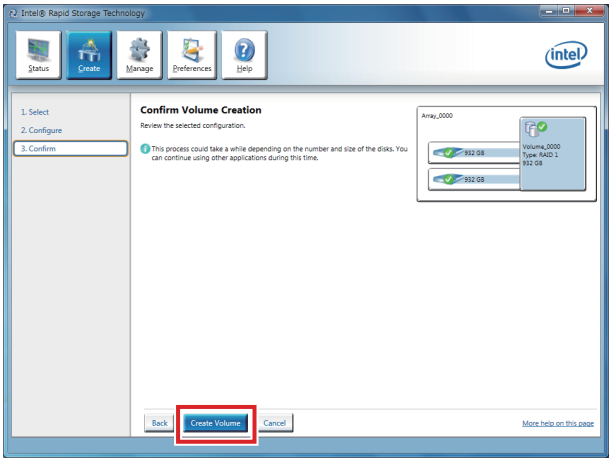
6 Select [Yes: Disk on port 0] for [Do you want to keep data from one of selected disk?], then click [Next]



Caution:

- Keep [Enable volume write-back cache] in the advanced settings disabled; otherwise, performance of the unit may drop.

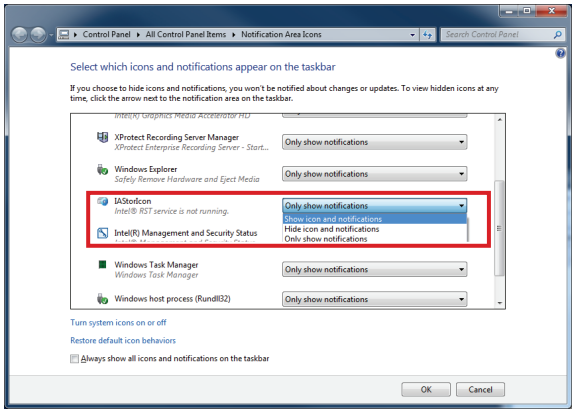
7 Click [Create Volume]



8 Click [▲] on the taskbar at the lower right corner of the screen, and click [Customize]

[Selection of icon and notice to display on the taskbar] starts up.

9 Change the setting of [IAStorIcon] to [Display Icon and Notice]



10 Click [OK]

■ Creating a simple volume

After building a RAID5 or RAID10 configuration, follow the procedure below to use free space of the HDD effectively.

1 Click the [Start] button on the desktop, followed by clicking [Control Panel]

The control panel opens up.

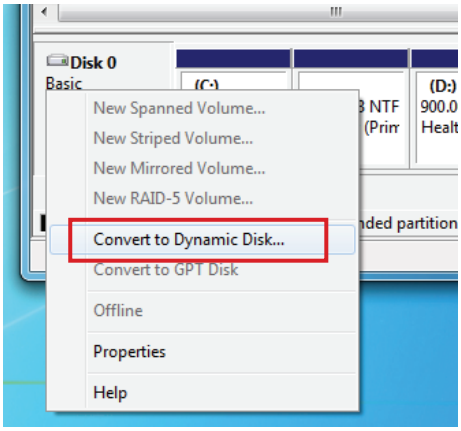
2 Click [System and Security]

The [System and Security] window appears.

3 Click [Create and format hard disk partitions] on [Administrative Tools]

The [Disk Management] window appears.

4 Right-click [Disk 0], and select [Convert to Dynamic Disk....]



The [Convert to Dynamic Disk] window appears.

Adding an HDD (continued)

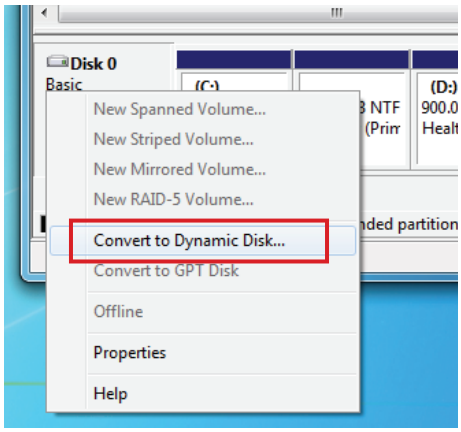
Building a RAID Configuration (continued)

5 Confirm that the [Disk 0] check box is selected, and click [OK]

The [Disks to Convert] window appears.

6 Click [Convert], and click [Yes] on the confirmation screen

7 Right-click [(E:)], and select [Change Drive Letter and Paths...]



The [Change Drive Letter and Paths for E: ()] window appears.

8 Confirm that [(E:)] is selected, and click [Remove]

The confirmation screen appears.

9 Click [Yes]

[WARNING:HDD(E) Deleted] appears and the WARNING indicator lights up.

10 Click [OK] to close the window

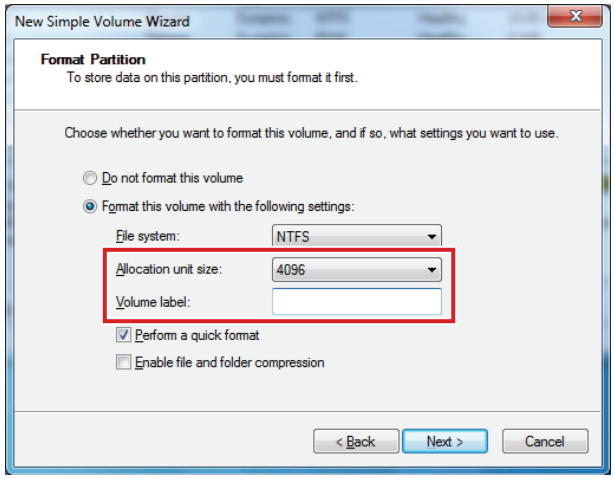
11 Right-click [Unallocated], and select [New Simple Volume]

The [New Simple Volume Wizard] window appears.

12 Click [Next]

On the [Specify Volume Size] window, click [Next] to proceed to the next.
On the [Assign Drive Letter or Path] window, click [Next] to proceed to the next.
The [Format Partition] window appears.

13 Select [4096] for [Allocation unit size] and delete the characters in [Volume label]



14 Click [Next]

The confirmation screen appears.

15 Click [Finish]

16 Select [Shutdown] > [Restart] from the [Start] menu to restart the unit

Using NAS

NAS (Network Attached Storage) is a dedicated file server that is connected to the LAN1 network.

In the case of NVR, you can specify NAS connected to the camera network (LAN1) as a drive for archiving data.

Caution:

- When NAS is used, the recording frame rate will decrease depending on the NAS performance.

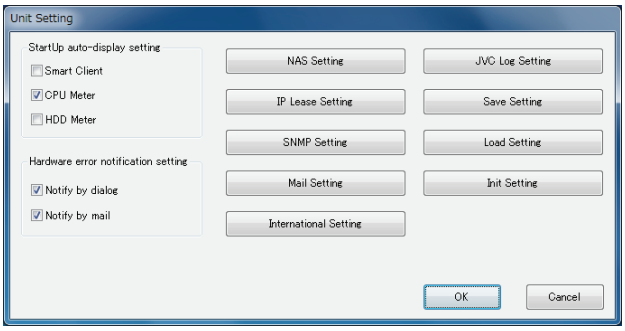
Note:

- Follow the NAS [Instruction Manual] for settings on NAS. This may take a while depending on the format and RAID settings, etc. For further details, please contact the NAS manufacturer.
- For details on NAS you can connect to this unit, consult your nearest JVC KENWOOD dealer. You can also check on our website.

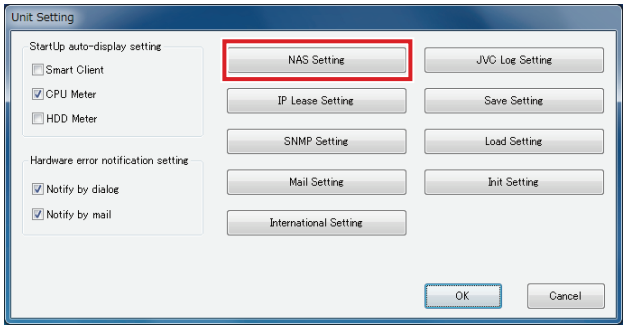
■ Connecting to NAS

1 Double-click [4. Unit Setup] on the desktop

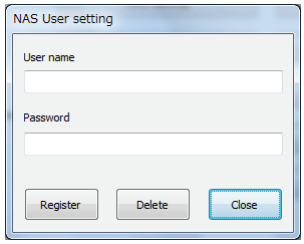
The [Unit Setting] window appears.



2 Click [NAS Setting]



The NAS connection user setting screen appears.



3 Enter the [User name] and [Password] that are configured on the NAS device for access to NAS in [NAS User setting], and click [Register]

A Windows user is created on the this unit with the entered user name and password.

Caution:

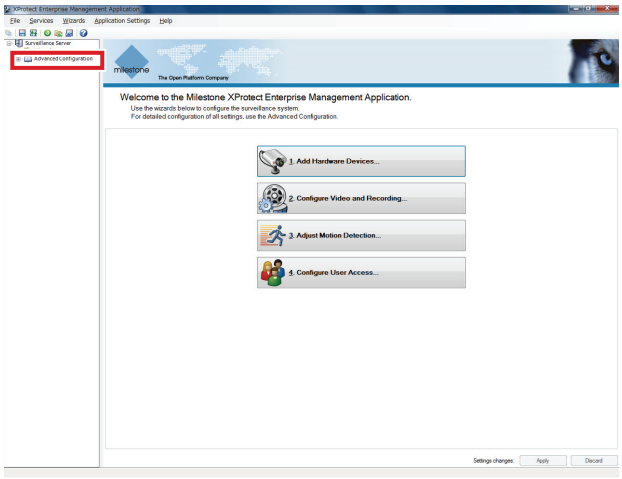
- Specify a name different from the host name defined in "Connect This Unit to a Network" (☞ Page 31) as the user name for NAS setting.
- If other Windows users have been created outside [NAS User setting], those users will be erased. (Basic users created using Management Application will not be deleted.)

Adding an HDD (continued)

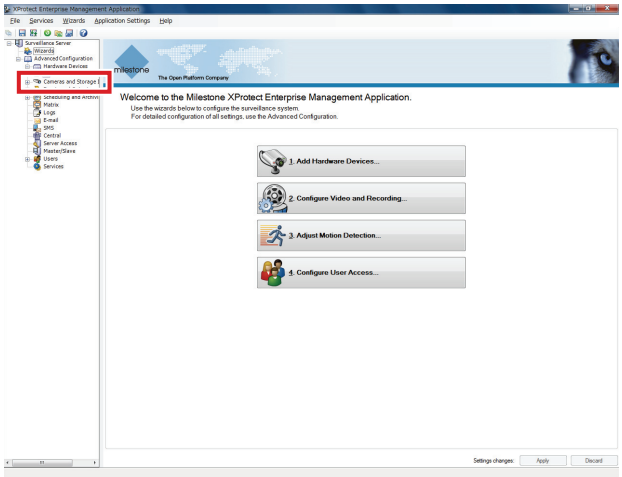
Using NAS (continued)

■ Specify NAS as the archiving destination

1 Click [+] in [Advanced Configuration]

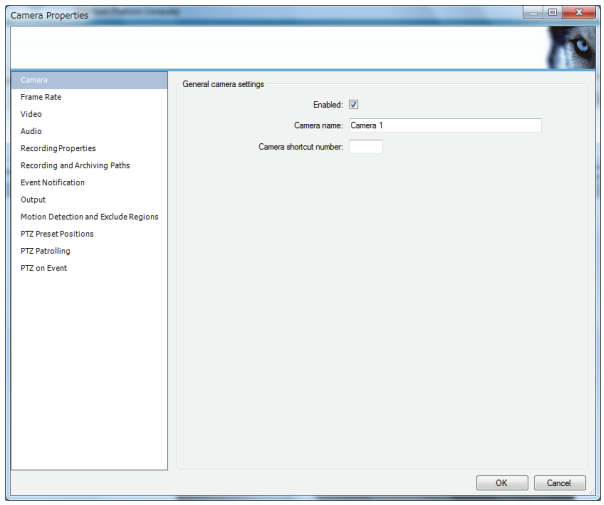


2 Click [+] in [Cameras and Storage Information]

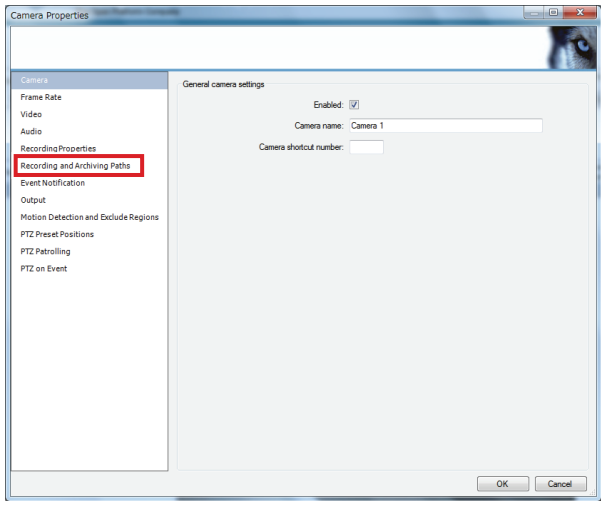


3 Double-click a camera name to configure settings for

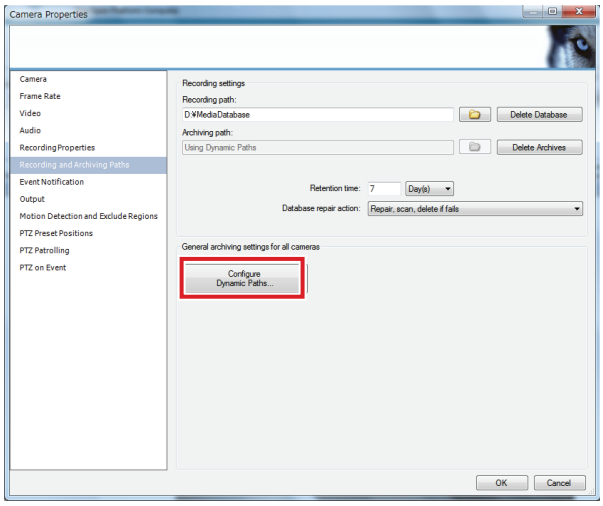
The [Camera Properties] window appears.



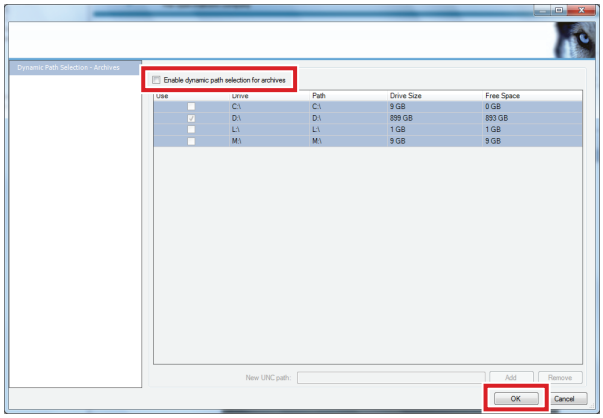
4 Select [Recording and Archiving Paths]



5 Click [Configure Dynamic Paths...]



6 Deselect the [Enable dynamic path selection for archives] check box, then click [OK]



You are returned to the [Camera Properties] screen.

7 Specify the path to the NAS drive in [Archiving path]

- The path can be set by specifying through the network drive, or by setting the UNC path (network name and folder name of NAS.)
- An error message will be displayed when setting; however, there are no problems with recording operations.

8 Click [OK]

Caution:

- You cannot play back past archive data if you change the archiving destination after actual operations.
- When specifying NAS as the archiving destination, a message stating that the path could not be confirmed may be displayed; however, archiving will be performed correctly.
- Perform the NAS setting only after the NAS device setting is complete and when the device is connected to the network.
- An error message may appear on the Smart Client and live images may not be displayed for several minutes after the NAS drive setting.

Saving/Restoring Settings

You can save the settings for Unit Setting and for Management Application on a USB flash memory and restore the previously saved settings.

Saving/Restoring the Settings of Unit Setting

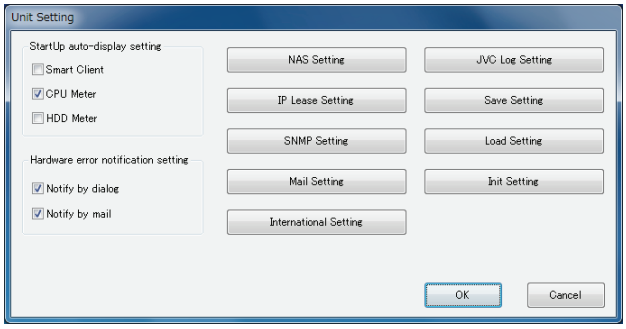
Settings will be saved on a USB flash memory.

■ Saving

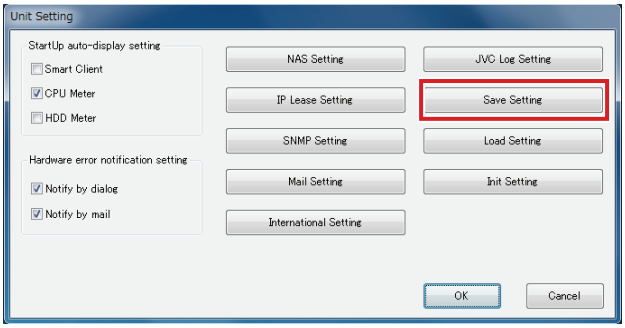
1 Connect a USB flash memory

2 Double-click [4. Unit Setup] on the desktop

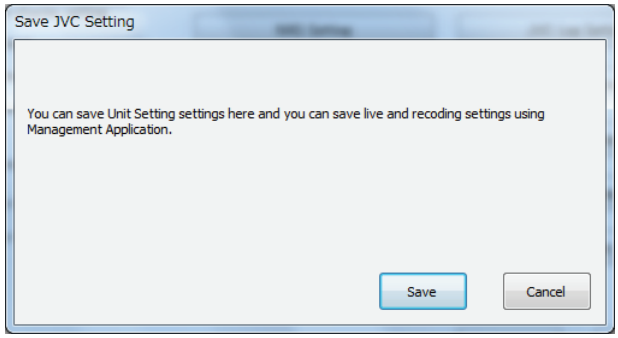
The [Unit Setting] window appears.



3 Click [Save Setting]



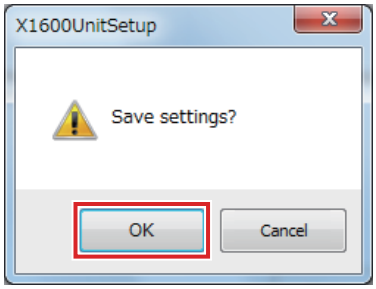
A confirmation screen appears.



4 Click [Save]

A confirmation message appears.

5 Click [OK]



The settings are saved.

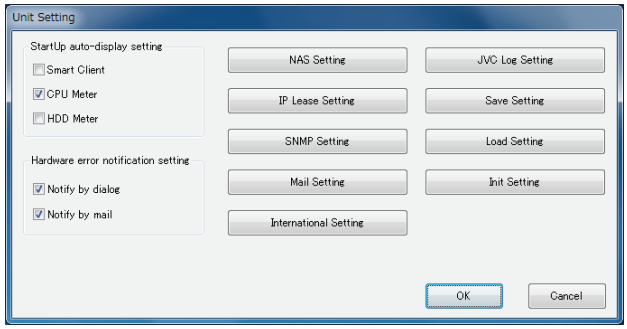
- When the saving operation is complete, [Saving succeeded] appears. Click [OK] to close the window.

■ Restoring

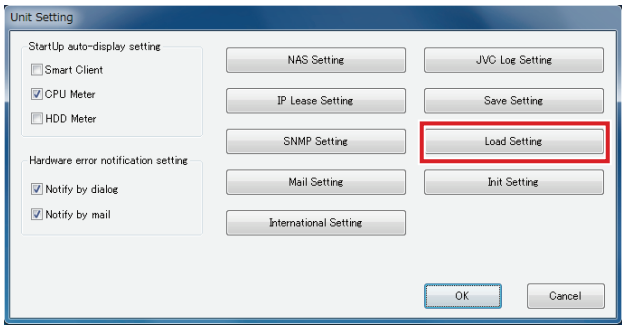
1 Connect a USB flash memory

2 Double-click [4. Unit Setup] on the desktop

The [Unit Setting] window appears.

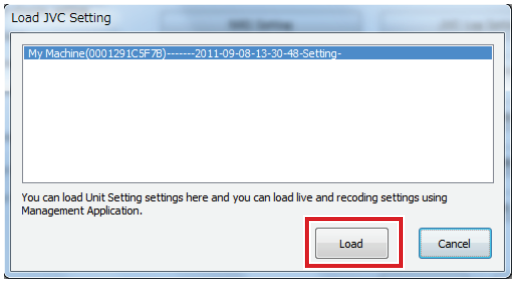


3 Click [Load Setting]



Settings stored on the USB flash memory are displayed.

4 Select a file to load and click [Load]



A confirmation message appears.

5 Click [OK]

The setting is loaded from the USB flash memory.

Saving/Reading the Settings of Management Application

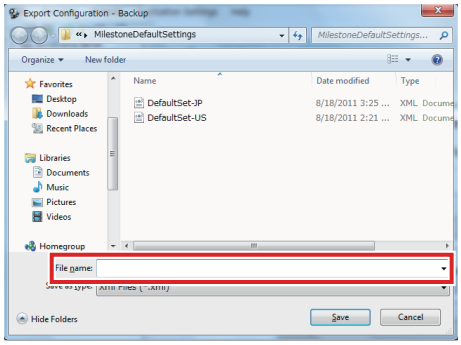
To save or read the Management Application settings, open the [File] menu of Management Application. You can save the settings in xml format anywhere on this unit.

■ Saving

1 Open the [File] menu and click [Export Configuration - Backup...]

The saving window appears.

2 Select a storage location and enter the file name



3 Click [Save]

The settings are saved.

Caution:

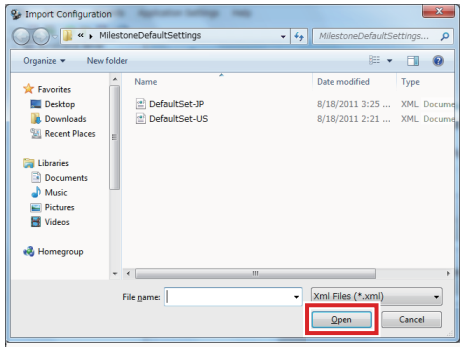
- Viewer information set on the viewer will not be saved.

■ Reading Settings

Reading the saved settings and making adjustments.

1 Open the [File] menu and click [Import Configuration...]

2 Select the file to read and click [Open]



Reading starts.

3 Restart the recording server

The read settings are implemented.

- To restart the recording server, see “When you change settings of Management Application” (☞ Page 19).

Recorder Part

Reference

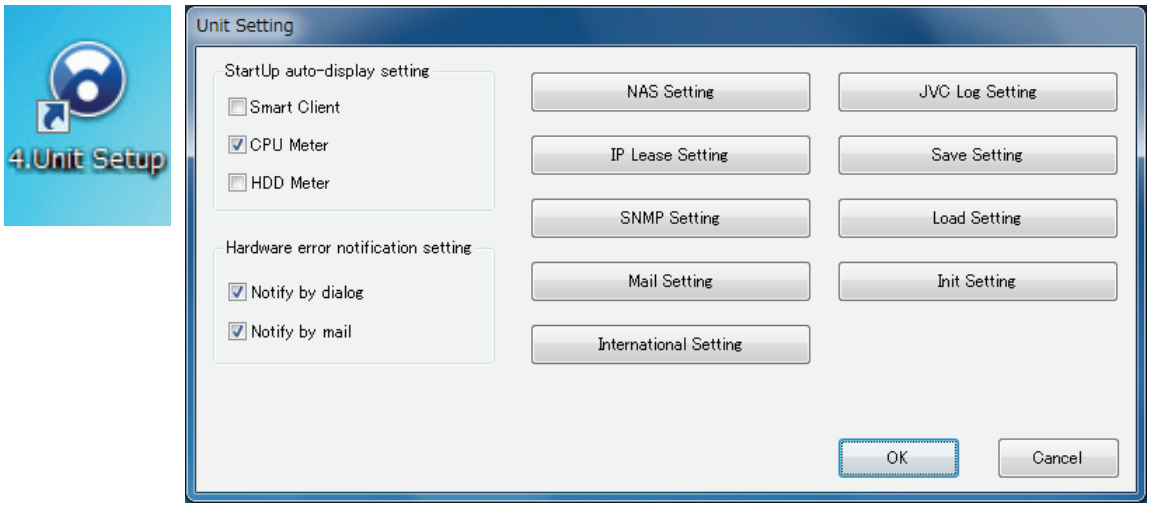
This chapter provides lists of setting items of this unit. Also read this chapter when any changes of system configuration such as camera additions and maintenance are required.

Caution:

- Never turn off the power while saving settings of Management Application.
- When you change settings of Management Application, restart the service; otherwise, the new settings are not applied. (☞ Page 19 "When you change settings of Management Application") In addition, if you change settings of Management Application while Smart Client is on, close Smart Client and restart the service.

Setup (This Unit)

Unit Setup



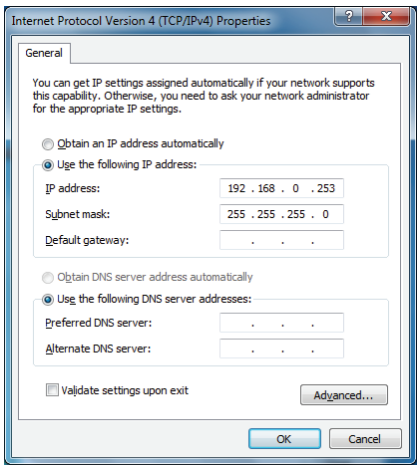
●: Initial value

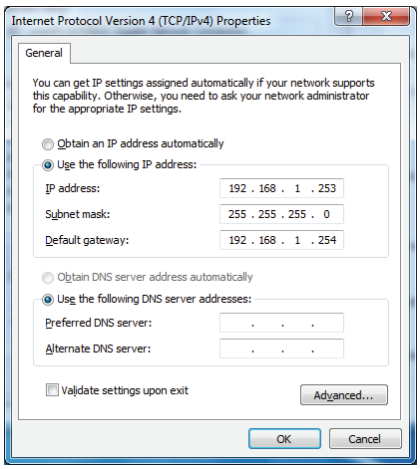
Item	Preset Values	Description
StartUp auto-display setting		For selecting the items to be displayed automatically when this unit is started.
Smart Client	Select check box ● **Do not select check box**	Select this check box to launch the Smart Client at system startup.
CPU Meter (☞ Page 130)	● **Select check box** Do not select check box	Select this check box to launch the CPU meter at system startup.
HDD Meter (☞ Page 130)	Select check box ● **Do not select check box**	Select this check box to launch the HDD meter at system startup.
Hardware error notification setting		For specifying the error notification method used in the event of any abnormality of this unit.
Notify by dialog	● **Select check box** Do not select check box	Select this check box to display a warning dialog on the screen.
Notify by mail	● **Select check box** Do not select check box	Select this check box to notify the registered recipient(s) of any abnormality.

Item	Preset Values	Description
NAS Setting (☞ Page 75)		For configuring settings for NAS connection.
User name	—	For specifying the user name for NAS connection.
Password	—	For specifying password for NAS connection.
IP Lease Setting		For configuring settings to assign IP addresses to each network camera from this unit. **Note:** ● In order to assign the IP address of the network camera using the IP Lease feature, you need to enable the DHCP of the network camera. For procedures to enable the DHCP of the network camera, refer to the instructions of the network camera. ● If the network uses more than one of this unit, enable the IP lease function only for one unit. Also, do not enable the IP lease function when any DHCP server is running on the same network. Enabling the IP lease function for more than one unit may cause IPs to be fixed, leading to malfunction of cameras.
IP Lease feature		
Enable IP Lease	● **Select check box** Do not select check box	Set whether to assign IP addresses to each network camera from this unit.
Delete past IP information	Select check box ● **Do not select check box**	Select this check box to delete past IP information of each network camera and to assign the new IP address.
Lease period	● **Unlimited** Limited (24H)	For specifying the valid period of the IP address assigned to the cameras.
Parameters		
Head IP address	● **192.168.0.100**	For specifying the first IP address to be assigned to the network cameras.
Number	1 to 99 units ● **20Units**	For selecting the number of IP addresses to be assigned to the cameras. The selected number of IP addresses will be assigned starting from the first IP address.
Subnet mask	● **255.255.255.0**	For specifying the subnet mask for the cameras.
Gateway	● **192.168.0.254**	For specifying the gateway for the cameras.
Primary DNS	● **192.168.0.253**	For specifying the primary DNS for the cameras.
Secondary DNS	● **192.168.0.252**	For specifying the secondary DNS for the cameras.
Domain name	—	For specifying the domain name for the cameras.
SNMP Setting (☞ Page 126)		You can monitor the status of this unit from the SNMP manager on the surveillance computer.
Enable SNMP	Select check box ● **Do not select check box**	Select this check box to enable the SNMP function.
Enable TRAP	Select check box ● **Do not select check box**	Select this check box to enable the TRAP function.
SNMP Manager IP address	—	Specify the IP address of the SNMP manager.
Community name	—	Specify the SNMP community name. (1 to 32 characters. Alphanumeric characters only.)
Monitoring interval		
CPU Load	10 to 9999 seconds ● **10 sec**	Specify the interval to monitor CPU usage.
D drive writing rate	30 to 9999 seconds ● **60 sec**	Specify the interval to monitor the writing rate to the D drive.
Smart Client	10 to 9999 seconds ● **10 sec**	Specify the interval to monitor the startup status of the Smart Client.
Camera status	60 to 9999 seconds ● **60 sec**	Specify the interval to monitor the connection status of the camera.
Copy extended MIB file to flash memory		Copy the MIB extension information into a USB flash memory. ● For details on SNMP settings, refer to "Setting SNMP" (☞ Page 126).

Item	Preset Values	Description
Mail Setting (☞ Page 59)		For configuring mail settings for error notification by mail in the event of any abnormality of this unit.
Mail to		For specifying e-mail address to receive error notification in the event of any abnormality of this unit.
Add		For adding e-mail address(es).
Edit		For editing an e-mail address selected in the list.
Delete		For deleting an e-mail address selected in the list.
Account setting		
SMTP		Settings for the outgoing mail server.
Server name	—	
Port	● **25**	
User ID	—	
Password	—	
POP		Settings for the incoming mail server.
Server name	—	
Port	● **110**	
User ID	—	
Password	—	
Mail Authentication	● **none** SMTP Authentication POP before SMTP	Enables you to set the method of user authentication when sending out a mail. For queries on the settings, consult your system administrator.
Mail from	—	For specifying the sender's e-mail address to send error notification.
Send test mail	—	For sending a test mail.
International Setting		
Select language	● **English**	For selecting the display language used for the [Unit Setting] screen.
JVC Log Setting (☞ Page 128)		For specifying the method to save logs. ● Log information may be required for diagnosing problems.
LOG storage period [Days]	● **10**	For specifying the period for retention of the logs.
Automatically delete old log file in case of storage space shortage.	● **Select check box** Do not select check box	Select this check box to delete older logs automatically when the free space of the destination HDD decreases below 50MB.
Save Setting (☞ Page 78)		For saving the contents of the unit settings to a USB flash memory.
Load Setting (☞ Page 78)		For displaying the settings stored on the USB flash memory. Select setting(s) to copy and click [Load].
Init Setting (☞ Page 131)		Initialize all UNIT settings. Viewing and recording settings are not initialized.

Network Settings





■ IP address setting

The settings may be configured in [Network and Internet] in [Control Panel]. Please refer to "Connect This Unit to a Network" (☞ Page 31).

●: Initial value

Item	Preset Values	Description
Network adapter interface name		For selecting a network you want to configure.
LAN1	Intel(R) 82578DM Gigabit Network Connection	Settings when you are using a network with cameras (LAN1).
LAN2	Realtek RTL8168D/ 8111D Family PCI-E Gigabit Ethernet NIC (NDIS 6.20)	Settings when you are using surveillance computers (LAN2).
Obtain an IP address automatically	● **Select check box** Do not select check box	Select this check box to obtain an IP address automatically.
IP address	● **192.168.0.253** ● **192.168.1.253**	**Note:** ● To specify an IP address other than the default value, consult your system administrator. ● There is a common host name for LAN1 and LAN2. If the host name is changed, you need to add a new Windows user. (☞ Page 66) **Caution:** ● Make sure to use LAN1 and LAN2 for different segments*. Example: LAN1: 192.168.0.253 LAN2: 192.168.1.253 * Segment: Underlined sections
Subnet mask	● **255.255.255.0**	
Default gateway		
LAN1	—	
LAN2	● **192.168.1.254**	
Obtain DNS server address automatically	Select check box ● **Do not select check box**	
Preferred DNS server	—	
Alternate DNS server	—	

■ Host name setting

Make the settings from [Control Panel] ➡ [System and Security] ➡ [System] ➡ [System Details] ➡ [Computer Name] tab ➡ [Network ID].

Item	Preset Values
Host Name	JVCNVR
DNS Domain Name	—

Setting the Date and Time of This Unit

This section describes procedures to set the date and time of this unit.

Caution:

- There may be a daily error of 10 to 20 seconds depending on the operating environment.
- The clock time may vary significantly when the lithium battery level used for backup in this unit is running low. In such a case, consult your nearest JVC KENWOOD dealer.

■ Using the time server

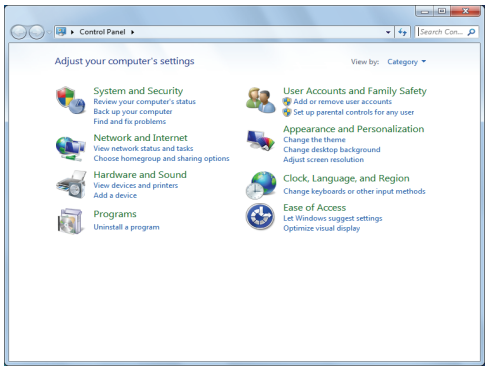
Use of a time server (NTP server) is recommended to ensure recording at an accurate time.

Caution:

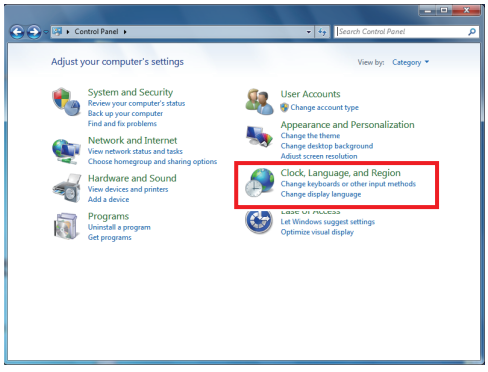
- Connect the time server to the LAN2 network.

1 Click the [Start] button on the desktop, followed by clicking [Control Panel]

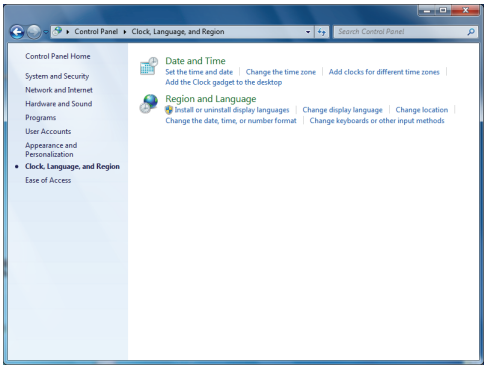
The control panel opens up.



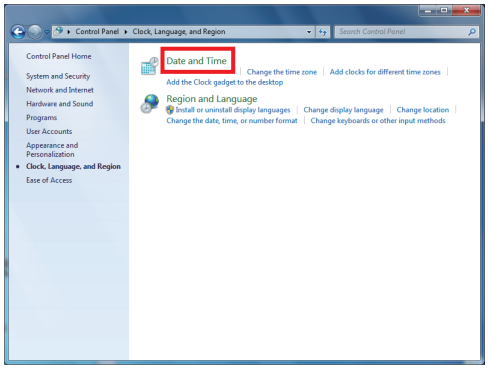
2 Click [Clock, Language, and Region]



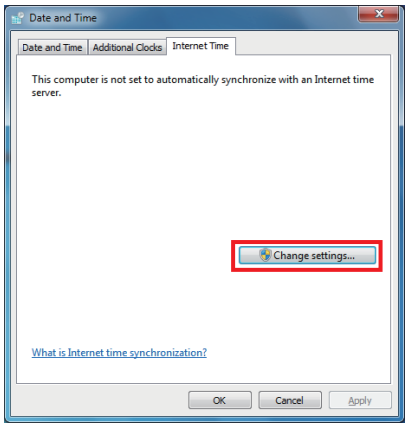
The [Clock, Language, and Region] screen appears.



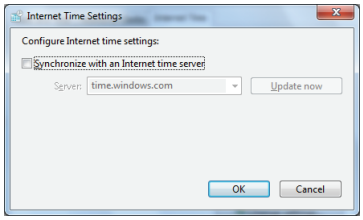
3 Click [Date and Time] and select [Internet Time]



4 Select [Change settings...]



The [Internet Time Settings] window opens up.



5 Select the [Synchronize with an Internet time server] check box and select a server

6 Click [OK]

■ Setting the time manually

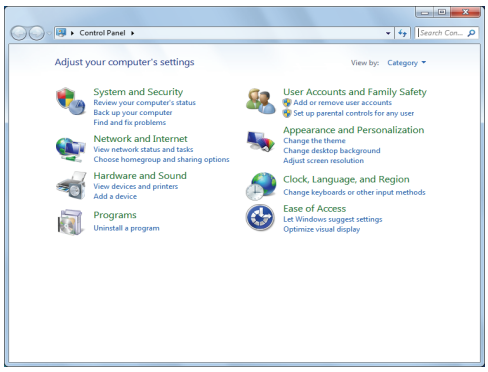
If you do not use a time server (NTP server), click [Change date and time] in [Date and Time] screen in Step 3 in “Using the time server”.

Setting the Volume

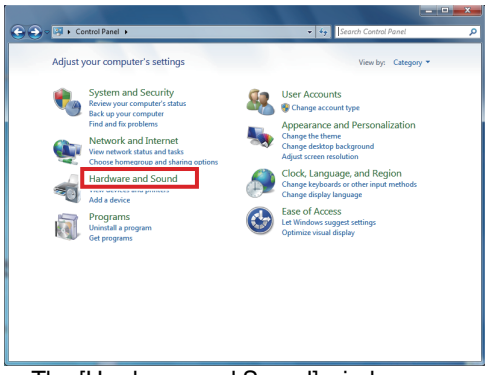
This setting is applicable when a speaker is connected with this unit.

1 Click the [Start] button on the desktop, followed by clicking [Control Panel]

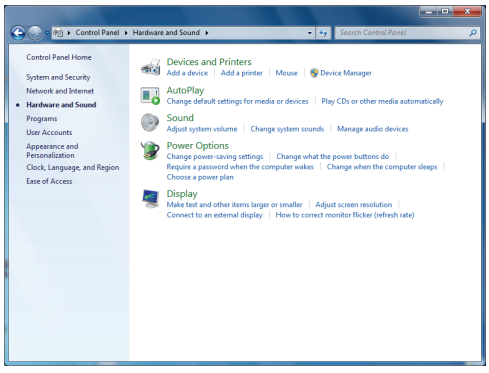
The control panel opens up.



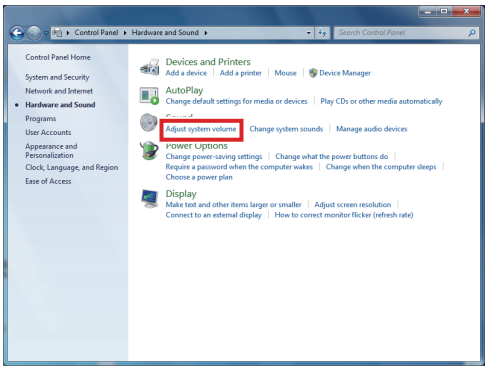
2 Click [Hardware and Sound]



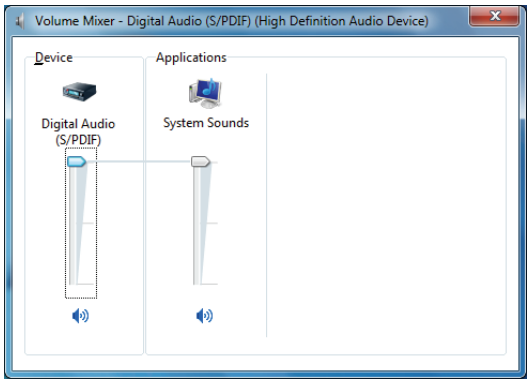
The [Hardware and Sound] window appears.



3 Click [Adjust system volume]



The [Volume Mixer] window appears.



4 Adjust the volume by dragging the volume slider in [Device]

- Adjust the volume while listening sound from the speaker.

5 Click [(Close)]

Setting the Password to Login to This Unit

This section describes procedures to set a password used to start this unit.

Setting the Password

Set the password to log in to this unit.

Caution:

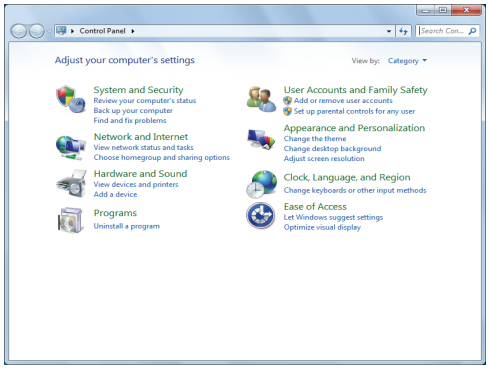
- The warning message (☞ Page 195) will not be displayed unless you login after startup of this unit. In this case, the [WARNING] indicator lights up.

Note:

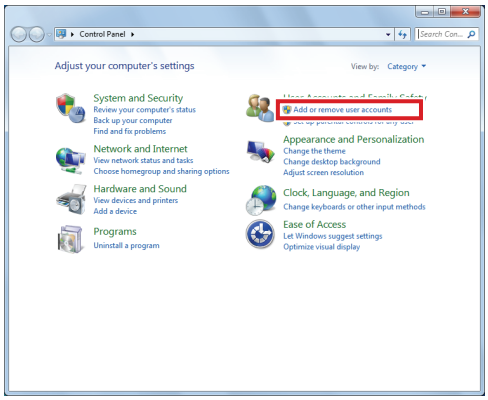
- Password is not set by default. If you do not want to use a password for login, this setting is not necessary.

1 Click the [Start] button on the desktop, followed by clicking [Control Panel]

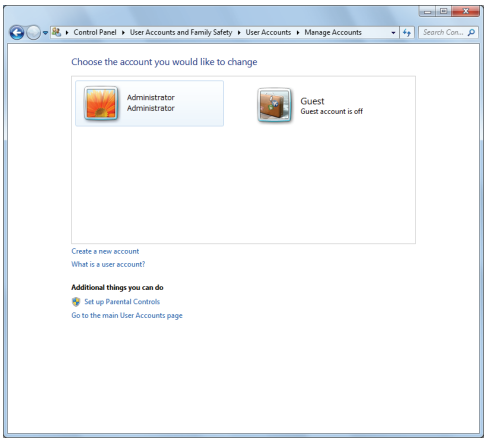
The control panel opens up.



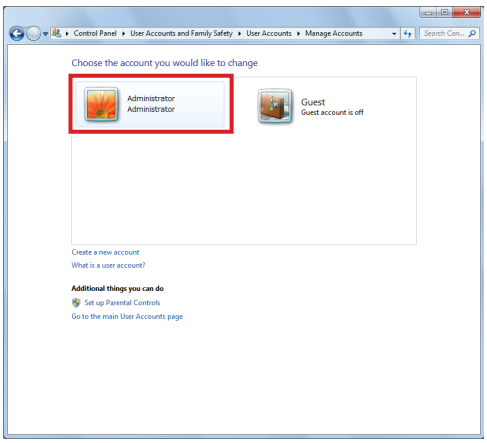
2 Click [Add or remove a User Account]



The account selection screen appears.

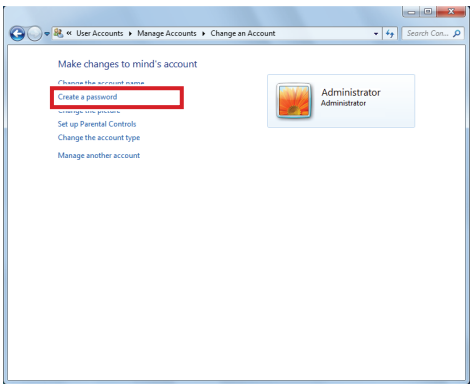


3 Click [Administrator]



The account modification screen appears.

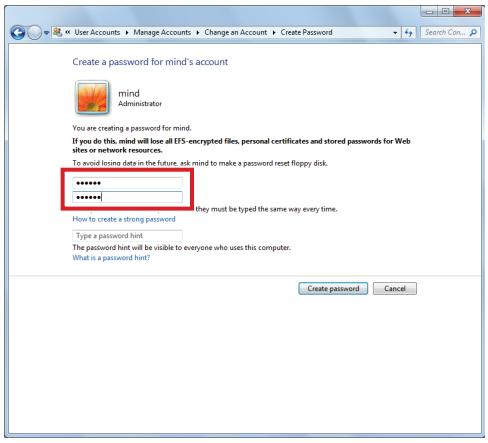
4 Click [Create a password]



Setting the Password to Login to This Unit (continued)

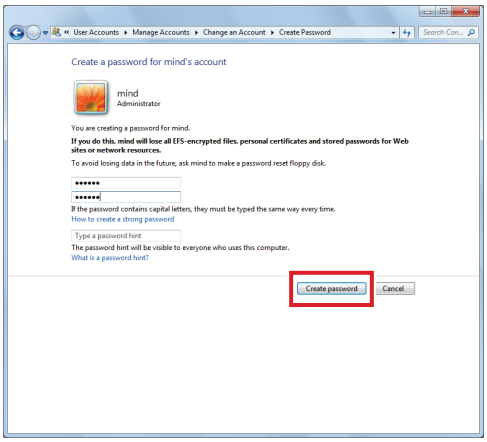
Setting the Password (continued)

5 Enter the password



- Enter the password twice for confirmation.

6 Click [Create password]



The password is created.
To validate the created password, see "Validating the Password" (☞ Page 88).

Validating the Password

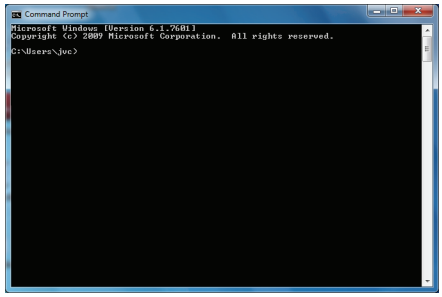
Once the password has been set, validate it from the command prompt and set the password to be entered when logging in.

Note:

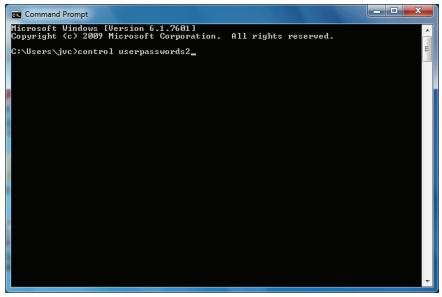
- If the password is not validated, an error will appear when attempting to log in.

1 Click the [Start] button on the desktop, [All Programs], [Accessories], then click [Command Prompt]

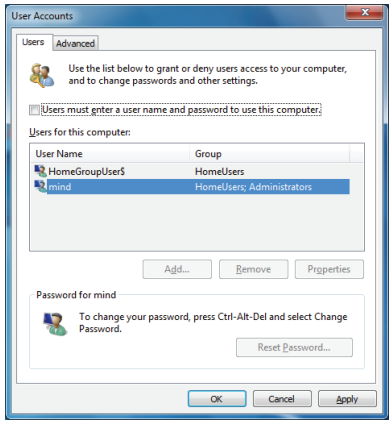
The command prompt starts up.



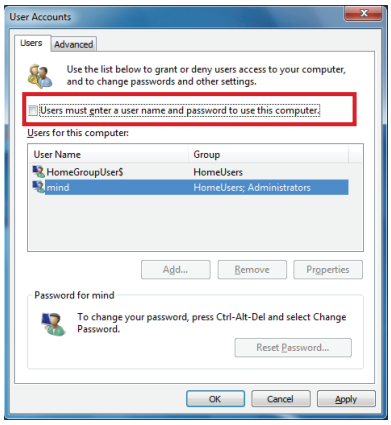
2 Enter [control userpasswords2], then press the enter key on the keyboard



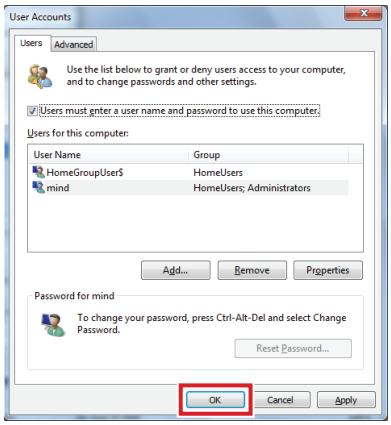
The [User Accounts] window appears.



3 Select [Users must enter a user name and password to use this computer]



4 Click [OK]



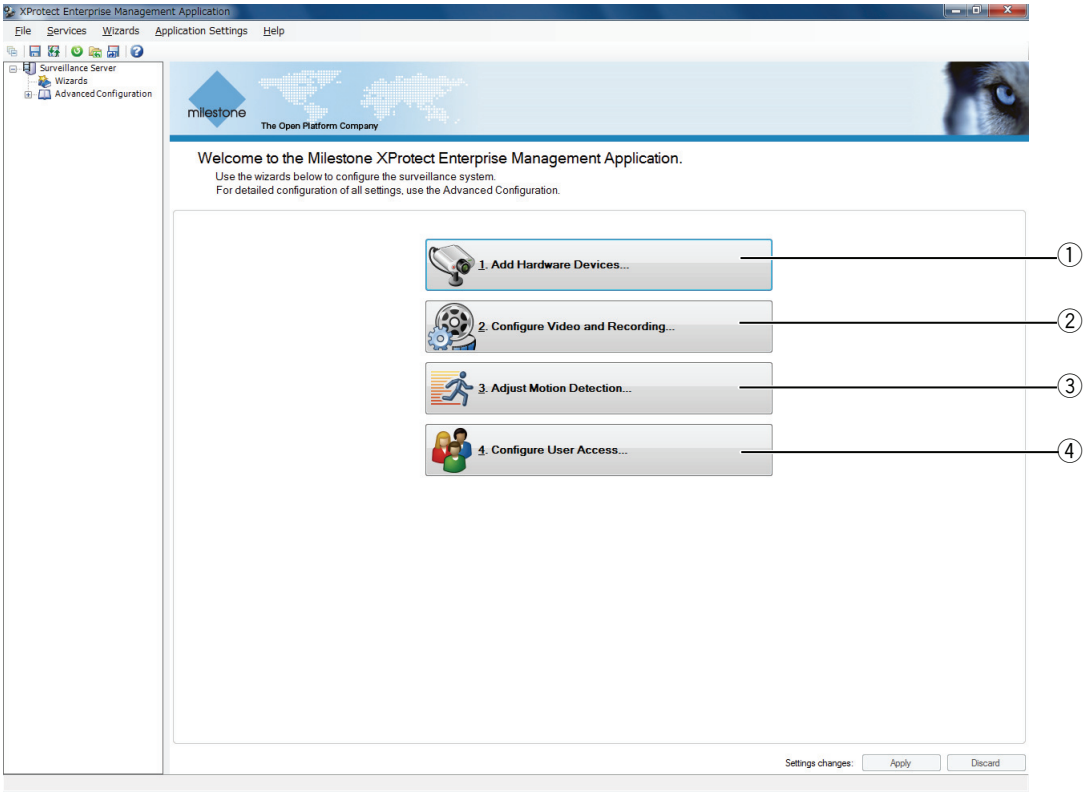
5 Click [(Close)] to close the command prompt

Note:

- To log in automatically, deselect [Users must enter a user name and password to use this computer] in step 3.
- To display the screen keyboard on the Windows login screen (after the password is valid), click the [Ease of access] button, then activate [Type without the keyboard (On-Screen Keyboard)].

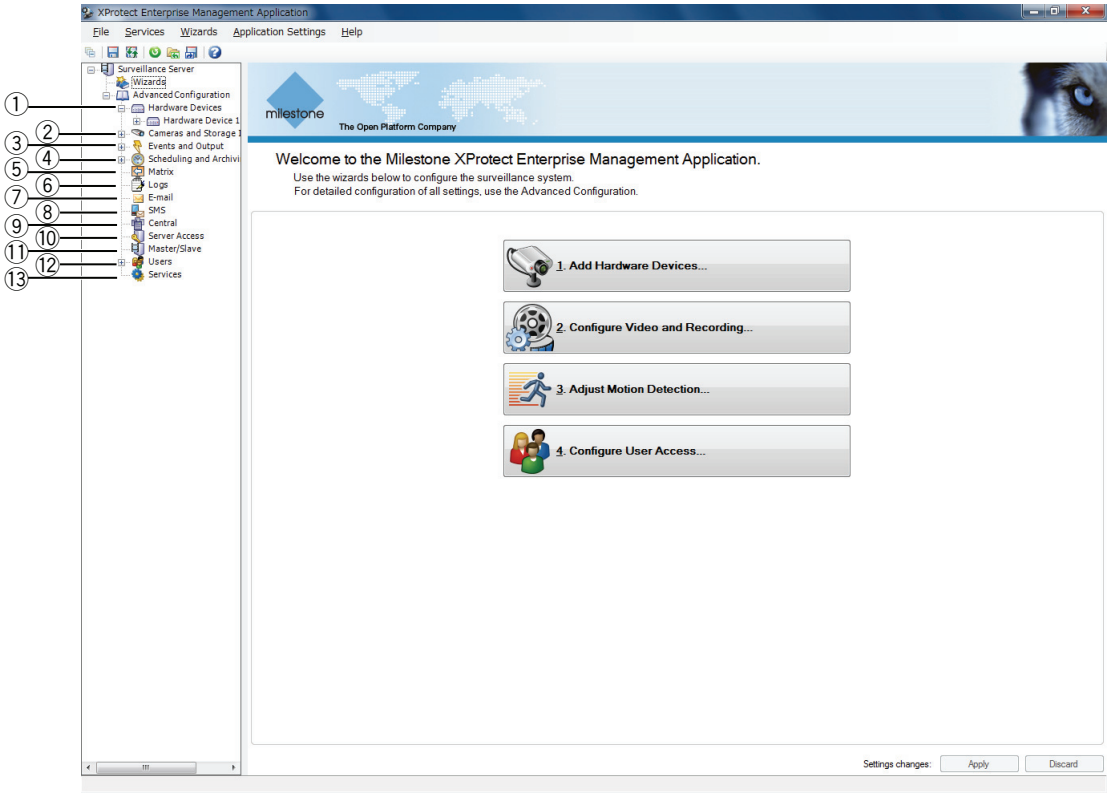
Management Application (Wizards)

The wizard setup of Management Application allows you to configure basic setting items in order.



Item	Description	Reference
① **Add Hardware Devices...**	For registering network cameras.	☞ Page 33
② **Configure Video and Recording...**	For configuring settings related to camera images and recording.	☞ Page 34
③ **Adjust Motion Detection...**	For configuring settings related to motion detection. This setting is not necessary if the recording condition is not set to [Motion detection] in [Configure Video and Recording...].	☞ Page 44
④ **Configure User Access...**	This section describes procedures to register user(s) of Smart Client and configure the rights of each user.	☞ Page 66

Management Application (Advanced Configuration)



Item	Description	Reference
① **Hardware Devices**	For displaying properties and settings of devices connected to the system.	☞ Page 92
② **Cameras and Storage Information**	For specifying the frame rate and storage location of camera images.	☞ Page 100
③ **Events and Output**	For configuring various event settings.	☞ Page 105
④ **Scheduling and Archiving**	For specifying various schedules for recording, archiving, notification, and PTZ patrolling, etc.	☞ Page 107
⑤ **Matrix**	For configuring settings of Matrix function to distribute images upon the occurrence of any event.	☞ Page 109
⑥ **Logs**	For configuring settings for logging.	☞ Page 109
⑦ **E-mail**	For configuring e-mail notification settings.	☞ Page 110
⑧ **SMS**	For configuring SMS notification settings. **Note:** ● This unit does not support notifications by SMS.	—
⑨ **Central**	Settings for using Milestone's Milestone XProtect Central. **Note:** ● This unit does not support Central functions.	—
⑩ **Server Access**	For configuring settings related to servers.	☞ Page 111
⑪ **Master/Slave**	For configuring master/slave settings in case more than one NVR is used.	☞ Page 112
⑫ **Users**	For adding/changing users and/or user rights.	☞ Page 112
⑬ **Services**	For starting/stopping various services of Management Application.	☞ Page 113

Note:
- When an item is clicked, a summary of the settings appears.
- When there are items below, click [+] to display them.
- When you double-click an item, the properties window appears and detailed settings can be made.

Hardware Devices

●: Initial value

Item				Preset Values	Description
Hardware Devices (Hardware Properties)					
	Name and Video Channels	Hardware name and video channels	Hardware name	—	Name used to identify the device. You cannot assign the same name to multiple devices. ● The following characters cannot be used.< > & ' " \ / : * ? | [ ]
			Enable	Select check box Do not select check box	Select this check box to use this device. ● Default value varies depending on devices.
	Network, Device Type and License	Network	Address	—	IP address or DNS host name of the device.
			HTTP port	● **80**	If [Use default HTTP port] is selected, HTTP communication to the unit will be performed through the default port number 80. To use another port, deselect the check box and specify the port number in the field to the left of the check box. Default value for [Use default HTTP port] varies depending on the device.
			FTP port	● **21**	If [Use default FTP port] is selected, FTP communication to the unit will be performed through the default port number 21. To use another port, deselect the check box and specify the port number in the field to the left of the check box. Default value for [Use default FTP port] varies depending on the device.
			User Name	—	Enter the password for logging into the device using the root account (also known as Admin or Administrator account).
			Password	—	
		Device type	Hardware type		For selecting the type of device from the list.
			Serial number (MAC address)		Serial number of the device. The 12-character MAC address of the device is normally used.
			Device license key (DLK)		Not used.
			Replace Hardware Device		Replace the device in use with a new one (☞ Page 118 "Replacing a Hardware Device").

Item			Preset Values	Description
Hardware Devices (Hardware Properties) (continued)				
PTZ Device	PTZ settings	Connected cameras have Pan/Tilt/Zoom capabilities	Select check box ● **Do not select check box**	Select this check box when a PTZ camera is included in the cameras connected to the unit. If this check box is not selected, the PTZ function is not available.
		PTZ type on COM1 PTZ type on COM2	● **None** JCBP-S Pelco-P Pelco-D	Select a control method suitable for PTZ camera(s) if the camera is controlled through the COM1/COM2 port of the network encoder (IP video server). Select [None] when no PTZ cameras are controlled through the COM1/COM2 port.
		Camera		The camera name is displayed.
		Type	● **Fixed** Moveable	Select whether the camera is [Fixed] or [Moveable]. [Fixed]: Fixed camera [Moveable]: PTZ camera
		Port	COM1 COM2	Available when [Moveable] is selected for [Type]. Select the control port of the network encoder (IP video server) to control the PTZ function.
		Port Address	● **0**	Available when [Moveable] is selected for [Type]. Specify the camera's port address. Normally, specify the address as "0" or "1". When series connection is applied for PTZ cameras, the unit identifies the cameras by the port address. Confirm the recommended setting for each camera referring to the camera's instruction.
Fisheye	Fisheye	Enable fisheye	Select check box ● **Do not select check box**	Select this check box to use the fisheye lens function.
		Fisheye license key		For specifying the license key to use the fisheye lens function. ● For details on purchasing a license key, consult our authorized dealers or JVC KENWOOD service center.

Item			Preset Values	Description
Camera (Camera Properties)				
Camera Properties	General camera settings	Enabled	Select check box Do not select check box	Select this check box to use this camera. Default value varies depending on the camera.
		Camera name	—	The name is used to identify the selected camera. Do not assign the camera name already used for other devices. ● The “Camera name” is not the name specified for the camera unit, but for identifying the camera on this unit. ● The following characters cannot be used.< > & ' " \ / : * ? | [ ]
		Camera shortcut number	—	For specifying the camera number. ● Do not assign a camera number that is used by other cameras.
Frame rate	Frame rate selection (MJPEG)	Regular frame rate: Live frame rate	1 to 10, 15, 20, 25, 30, Second, Minute, Hour ● **20 Second**	For specifying the frame rate for live display.
		Regular frame rate: Recording frame rate	● **10.00 Second**	For specifying the frame rate for recording. ● The values that can be specified differ depending on the settings for [Regular frame rate: Live frame rate]. ● You cannot specify values larger than [Regular frame rate: Live frame rate].
		Enable speedup	Select check box ● **Do not select check box**	Select this check box to use the speedup function. ● The speedup function is enabled by [Motion detection] or [Event].
		Speedup frame rate: Live frame rate	● **20 Second**	For specifying the frame rate for live display when the speedup function is enabled. ● The values that can be specified differ depending on the settings for [Regular frame rate: Live frame rate]. ● You cannot specify values smaller than [Regular frame rate: Live frame rate].
		Speedup frame rate: Recording frame rate	● **10.00 Second**	For specifying the frame rate for recording when the speedup function is enabled. ● The values that can be specified differ depending on the settings for [Speedup frame rate: Live frame rate]. ● You cannot specify values larger than [Speedup frame rate: Recording frame rate].
		On motion	Select check box ● **Do not select check box**	For specifying whether or not the speedup setting is enabled to increase the frame rate for recording when any motion detection or event occurs. Select this check box to enable it. ● If the [Event] check box is selected, set the start event and stop event.
		On Event	Select check box ● **Do not select check box**	
		Start event	● —	
		Stop event		
		Configure events	Hardware input events Manual events Generic events ● —	Select an event and click [Open] to display the settings screen for the selected event.

Caution:

- Be sure to set the frame rate so that the total frame rate does not exceed the performance capacity of this unit. For the performance of this unit, see “ Recording/Displaying live images/Distribution performance” (☞Page 196).

Item				Preset Values	Description
Camera (Camera Properties) (continued)					
	Video	Video Properties			
			Configure Video Properties	—	Click to display the [Video Properties] screen. Make detailed display settings for the selected camera. **Note:** ● The displayed items and initial settings differ depending on the camera. For details, see the instruction manual of the camera.
			Preview	—	For displaying the preview.
	Audio	Audio selection	Default microphone	—	This setting is applicable when microphones and/or a speaker are used. Available microphones/speakers vary depending on the camera.
			Default speaker	—	
	Recording Properties	Recording	Recording settings	Always Never Conditionally	Always: Select this check box to always record images. Never: For recording images manually without recording settings. Conditionally: For setting the conditions to record images. ● Default value varies depending on the camera. ● Configure settings below when you select [Conditionally].
			Built-in motion detection	Select check box ● **Do not select check box**	Select this check box to record all images where any motion is detected.
			Event	Select check box ● **Do not select check box**	Select this check box to start recording at the occurrence of an event. ● If the [Event] check box is selected, set the start event and stop event.
			Start event	—	
			Stop event		
			Configure Events	Hardware input events Manual events Generic events ● —	Select an event and click [Open] to display the settings screen for the selected event.
			Enable pre-recording	Select check box ● **Do not select check box**	Images before/after the occurrence of motion or an event can be recorded. You can specify units of seconds to record before/after the occurrence. ● Default value varies depending on the camera.
			second(s)	—	
			Enable post-recording	Select check box ● **Do not select check box**	
			second(s)	—	

Item				Preset Values	Description
Camera (Camera Properties) (continued)					
	Recording and Archiving Paths	Recording settings	Recording path	D:\MediaDatabase	Do not change this setting.
			Archiving path	● **Using dynamic path**	For specifying the archiving destination of the database. ● You can not specify the destination when a dynamic path is used.
			Retention Time	Day(s), Hour(s), Minute(s) ● **7 Day(s)**	For saving records to the database until the record reaches the predefined recording time. Specify the recording time in the next field and select the unit of time (Minute(s), Hour(s), or Day(s)) from the list.
			Database repair action	● **Repair, scan, delete if fails** Repair, delete if fails Repair, archive if fails Delete (no repair) Archive (no repair)	For selecting the action to take when problems are found in the database. The number of options available varies depending on whether archiving is enabled. **Caution:** ● Select [Archive (no repair)] in normal circumstances. If you have selected another option, the data may be lost if problems occur in the database. Repair, scan, delete if fails: Two different repair methods, quick repair (recovery) and complete repair (scan), are used. Content of the database will be deleted if both repair methods fail. Repair, delete if fails: The fast repair method is used. Content of the database will be deleted if fast repair fails. Repair, archive if fails: This option is available only if archiving is enabled for the camera. The fast repair method is used. Content of the database will be archived if fast repair fails. Delete (no repair): Do not select this item. Archive (no repair): This option is available only if archiving is enabled for the camera. Content of the database is archived. **Select this option.**

Item			Preset Values	Description
Camera (Camera Properties) (continued)				
General archiving settings for all cameras				For configuring common archiving settings for all cameras.
	Configure Dynamic Paths...	Enable dynamic path selection for archives	● **Select check box** Do not select check box	Select this check box to automatically select an archiving destination drive from the registered list. The registered archiving destination will be listed along with the drive, path, capacity and free space. Deselecting the [Use] check box will disable the selection.
		Use	● **Select check box** Do not select check box	
		Drive	—	
		Path	—	
		Drive Size	—	
		Free Space	—	
		New UNC path	—	For specifying a drive path you want to register for automatic selection by dynamic path.
Event Notification	Event notification	Available events	Hardware Manual Generic	You can view the yellow display in the title bar area on the upper part of the live image display screen in case a specific event occurs. ● Select an event from the [Available events] list and move it to the [Selected events] list.
		Selected events	● **None**	
		Configure events	Hardware input events Manual events Generic events ● —	Select an event and click [Open] to display the settings screen for the selected event.
Output	Output activation	Available output	● **None**	For displaying the available output ports.
		On manual activation	● **None**	For specifying an output port to output when a specific event or manual event occurs.
		On motion detected	● **None**	For specifying an output port to output when motion is detected.
		Configure events	Hardware input events Manual events Generic events ● —	Select an event and click [Open] to display the settings screen for the selected event.
Motion Detection and Exclude Regions (☞ Page 44)	Motion detection	Sensitivity	0 to 256 ● **40**	For determining the level of change in the image pixel that is to be recognized as motion. As the value is decreased, the sensitivity is increased, and minor changes in the pixels are recognized as motion.
		Motion	0 to10000 ● **640**	For determining the number of pixels for which a change is to be recognized as motion. When the slider is moved from side to side, the black vertical line at the bottom of the screen moves together, and the boundary (Motion Sensitivity) is adjusted. When detected motion exceeds the selected sensitivity level, the bar changes from green to red, indicating a positive detection.
		Motion detection interval	● **240 milliseconds**	For specifying the motion detection interval.
	Exclude regions	Enable	Select check box ● **Do not select check box**	Select this check box to specify region(s) where the motion detection is disabled.
		Show Grid	Select check box ● **Do not select check box**	Select this check box to show the grid on the preview screen.

Item			Preset Values	Description
Camera (Camera Properties) (continued)				
PTZ Preset Positions (☞ Page 39)	PTZ preview		—	For directing the PTZ camera to any position.
	Audio selection	Default microphone	—	This setting is applicable when microphones and/or a speaker are used. Available microphones/speakers vary depending on the camera.
		Default speaker	—	
	PTZ preset positions	PTZ Type	Type 1 (stored on server) Type 2 (stored on server) Type 3 (stored on camera)	Type 1 (stored on server): For setting and saving a preset position on the server. Type 2 (stored on camera): Click [Import/Refresh], then read the preset position from the camera. The preset position is saved on this unit. Type 3 (stored on camera): Click [Import/Refresh]. The preset position is imported from the camera and stored on the camera. **Note:** ● When using a JVC camera, it is recommended to select the more positionally accurate [Type 3]. (Not selectable depending on the camera.)
		Add New	—	For adding a preset position you just set to the list.
		Set New Position	—	For modifying a preset position selected in the list. Use the PTZ preview screen to modify the position.
		Delete	—	For deleting a preset position selected in the list.
		Test	—	For testing a preset position.
PTZ Patrolling (☞ Page 41)	Patrolling profiles		—	For displaying a defined patrol and creating a new patrolling profile.
		Patrolling Profiles	—	For displaying a defined patrolling profile.
		Add New	—	For creating a new patrolling profile.
		Delete	—	For deleting a patrolling profile selected in the list.
	Patrolling list		—	For editing the patrolling details.
		Preset Positions	—	For displaying a defined preset position on the selected camera. Select a preset position you want to add to the patrolling profile and click [ ] and then it is added to the profile.
		Patrolling List	—	For displaying a preset position registered with the patrolling profile. To delete it from the patrolling profile, select a preset position you want to delete and click [ ].
		Wait time (sec.)	● **10**	For specifying the period for which the camera stops in each preset position.
		Transition time (sec.)	● **5**	For specifying the period for which the camera moves between preset positions. During the period, motion detection is disabled.

Item			Preset Values	Description
Camera (Camera Properties) (continued)				
PTZ Patrolling (continued)	PTZ scanning		Select check box ● **Do not select check box**	For confirming and specifying the scanning speed in case of a camera with the PTZ scanning function.
		(Speed)	High ● **Medium** Low	
	Pause patrolling	Pause patrolling if motion is detected	Select check box ● **Do not select check box**	Select this check box to pause patrolling when any motion is detected.
		Resume patrolling	seconds after first motion detection	For specifying timing to resume the patrolling paused due to motion detection.
			seconds after last motion is detected	
		Resume PTZ patrolling after	● **30 seconds**	For specifying timing to resume manual PTZ operation or to resume patrolling interrupted due to an event.
PTZ on event (☞ Page 52)		Event	● **None**	For specifying a combination of an event and a preset position in case the PTZ camera is configured to be moved by an event.
		PTZ Preset Position	● **None**	

Cameras and Storage Information

●: Initial value

Item			Preset Values	Description
Recording and Archiving Paths				
	Template			For displaying template settings.
		Recording Path	D:\MediaDatabase	Do not change this setting.
		Archiving Path	● **Using dynamic path**	For specifying the archiving destination of the database. ● You can not specify the destination when a dynamic path is used.
		Retention Time	Day(s), Hour(s), Minute(s) ● **7 Day(s)**	For saving records to the database until the record reaches the predefined recording time. Enter the recording time, then select a unit from the list.
	(For each camera)			For configuring settings for each camera.
		Apply Template	Select check box ● **Do not select check box**	Select this check box to apply the template setting. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
		Camera Name	—	For displaying the camera name.
		Shortcut	—	For specifying the camera number. ● Do not assign a camera number that is used by other cameras.
		Recording Path	D:\MediaDatabase	Do not change this setting.
		Archiving Path	● **Using dynamic path**	For specifying the archiving destination of the database. ● You can not specify the destination when a dynamic path is used.
		Retention Time	Day(s), Hour(s), Minute(s) ● **7 Day(s)**	For saving records to the database until the record reaches the predefined recording time. Specify the recording time in the next field and select the unit of time (Day(s), Hour(s), Minute(s)) from the list.
		Cameras	Open	For displaying the [Camera Properties] window.
Dynamic Path Selection – Archives				
	Dynamic path selection - All cameras	Enable dynamic path selection for archives	Select check box Do not select check box	Select this check box to automatically select an archiving destination drive from the registered list. ● Default value varies depending on the camera.
		Use	—	The registered archiving destination will be listed along with the drive, path, capacity and free space. Deselecting the [Use] check box will disable the selection.
		Drive	—	
		Path	—	
		Drive Size	—	
		Free Space	—	
		New UNC path	—	For specifying a drive path you want to register for automatic selection by dynamic path.

Item			Preset Values	Description
Video Recording				
	Template			For displaying template settings.
		Record on	Always Never ● **Motion detection** Event Event and motion detection	For selecting a recording method.
		Start Event	● **None**	For specifying an event to start recording and an event to stop recording.
		Stop Event		
		Pre-recording	Select check box ● **Do not select check box**	Images before/after the occurrence of motion or an event can be recorded. You can specify units of seconds to record before/after the occurrence.
		Second(s)	● **3**	
		Post-recording	● **Select check box** Do not select check box	
		Second(s)	● **3**	
	(For each camera)			For configuring settings for each camera.
		Apply Template	Select check box ● **Do not select check box**	Select this check box to apply the template setting. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
		Record on	Always Never ● **Motion detection** Event Event and motion detection	For selecting a recording method.
		Start Event	● **None**	For specifying an event to start recording and an event to stop recording.
		Stop Event		
		Pre-recording	Select check box ● **Do not select check box**	Images before/after the occurrence of motion or an event can be recorded. You can specify units of seconds to record before/after the occurrence. ● Default value varies depending on the camera.
		Second(s)	—	
		Post-recording	● **Select check box** Do not select check box	
		Second(s)	—	
Manual Recording				
	Manual Recording	Enable manual recording	Select check box Do not select check box	Select this check box to use the manual recording function. ● Default value varies depending on the camera.
		Default duration of manual recording	● **300 sec**	For specifying the recording time for manual recording. Recording will end automatically after the defined time.
		Maximum duration of manual recording	● **1800 sec**	For specifying the maximum duration of manual recording.

Item		Preset Values	Description
Frame Rate - MJPEG			
Frame rate (MJPEG)			
Regular Frame Rate			
	Live Frame Rate	1 to 10, 15, ● **20**, 25, 30	For specifying the frame rate for normal live display. **Note:** ● The validated setting value differs depending on the camera. Refer to the instruction manual of the camera and confirm the validated setting value before setting.
	Recording Frame Rate	● **10.00**	For specifying the frame rate for normal recording. ● The values that can be specified differ depending on the settings for [Regular frame rate: Live frame rate]. ● You cannot specify values larger than [Regular frame rate: Live frame rate]. **Note:** ● The validated setting value differs depending on the camera. Refer to the instruction manual of the camera and confirm the validated setting value before setting.
	Time Unit	● **Second** Minute Hour	For specifying the time unit.
	Apply Template	Select check box ● **Do not select check box**	Select this check box to use a template when you configure settings for each camera. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
	Camera	Open	For displaying the [Camera Properties] window.
Speedup Frame Rate			
	Enable Speedup	Select check box ● **Do not select check box**	Validates speedup.
	Live Frame Rate	● **20**	For specifying the frame rate for speedup live display. ● The values that can be specified differ depending on the settings for [Regular frame rate: Live frame rate]. ● You cannot specify values larger than [Regular frame rate: Live frame rate]. **Caution:** ● Be sure to set the frame rate so that the total frame rate does not exceed the performance capacity of this unit. For the performance of this unit, see "Recording/Displaying live images/Distribution performance" (☞Page 196).
	Recording Frame Rate	● **10.00**	For specifying the frame rate for speedup recording. ● The values that can be specified differ depending on the settings for [Speedup frame rate: Live frame rate]. ● You cannot specify values larger than [Speedup frame rate: Live frame rate]. **Caution:** ● Be sure to set the frame rate so that the total frame rate does not exceed the performance capacity of this unit. For the performance of this unit, see "Recording/Displaying live images/Distribution performance" (☞Page 196).
	Time Unit	● **Second** Minute Hour	For specifying the time unit.

Item			Preset Values	Description
Frame Rate - MJPEG (continued)				
	Frame rate (MJPEG) (continued)			
		Speedup Frame Rate (continued)		
		Speedup on	Motion Detection ● **Event** Event and motion detection Schedule only	Set when the speed up setting is activated.
		Start Event Stop Event	● **None**	When [Speedup on] is set to [Event] or [Event and motion detection], select the start/stop event.
		Apply Template	Select check box ● **Do not select check box**	Select this check box to use a template when you configure settings for each camera. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
		Camera	Open	For displaying the [Camera Properties] window.
Frame Rate - MPEG				
	Frame rate (MPEG)	Live FPS	1 to 10, 15, 20	For specifying the frame rate in live display. **Note:** ● The validated setting value differs depending on the camera. Refer to the instruction manual of the camera and confirm the validated setting value before setting.
		Record Keyframes Only	Select check box ● **Do not select check box**	Select this check box to record keyframes (I Frame) only.
		Record All Frames on	Motion detection Event Event and motion detection ● **Schedule only**	For selecting conditions for recording all frames.
		Start Event Stop Event	● **None**	For specifying an event to start recording and an event to stop recording.
		Apply Template	Select check box ● **Do not select check box**	Select this check box to use a template when you configure settings for each camera. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
		Camera	Open	For displaying the [Camera Properties] window.

Item		Preset Values	Description
Audio Selection			
Audio selection	Default Microphone	● **None**	This setting is applicable when microphones and/or a speaker are used.
	Default Speaker	● **None**	
	Apply Template	Select check box ● **Do not select check box**	Select this check box to use a template when you configure settings for each camera. **Note:** ● Click [Select All] to select check boxes of all cameras. ● Click [Clear All] to deselect check boxes of all cameras.
	Camera	Open	For displaying the [Camera Properties] window.
Audio Recording			
Audio recording	Record audio - all cameras	● **Always** Never	For selecting whether to record audio sound together with images.
Storage Information			
Storage information	Drive		Information of the storage currently used is displayed. Path, capacity, video data amount, other data amount and free space are displayed for each drive.
	Path		
	Usage		
	Drive Size		
	Video Data		
	Other Data		
	Free Space		

Events and Output

●: Initial value

Item				Preset Values	Description
Ports and Polling					
	Ports and polling	Alert and generic event port		1 to 65535 ● **1234**	For specifying a port number to handle a warning triggered by an event, such as a generic event.
		SMTP event port		1 to 65535 ● **25**	For specifying a port number to send event information from a device to the monitoring system via SMTP.
		FTP event port		1 to 65535 ● **21**	For specifying a port number to send event information from a device to the monitoring system via FTP.
		Polling interval [1/10] second		● **10 (1 sec)**	For some devices, the monitoring system must check the status of device input port to detect whether or not the input has been received. Such regular status check is referred to as “polling.” ● For I/O devices, set the polling interval as short as possible. ● For devices that require polling, refer to the relevant instruction manuals for I/O devices.
Hardware Input Events (☞ Page 48)					
	(Hardware Device name)	Event configuration	Enable event	● **Select check box** Do not select check box	Select this check box to use the event function. **Note:** ● The following setting items vary depending on selected events.
			Event name	For specifying an event name. ● The following characters cannot be used. < > & ' " \ / : * ? | [ ]	
		Pre/post alarm images	Images from camera	—	For selecting cameras to acquire images.
			Number of pre-alarm images	● **3**	For specifying the number of images to acquire.
			Frames per second	● **1**	For specifying the number of image frames.
		E-mail notification	Send e-mail if this event occurs	Select check box ● **Do not select check box**	Select this check box to send an e-mail when an event occurs.
			Attach image from camera	Select check box ● **Do not select check box**	Select this check box when you attach an image to the e-mail, and select an image source by using the pull-down menu.
		SMS notification	Send SMS if this event occurs	Select check box ● **Do not select check box**	**Note:** ● This unit does not support notifications by SMS.
		System motion detection event	Create a system motion detection event for the camera	Select check box ● **Do not select check box**	Select this check box when you create an event to be triggered by motion detection.
Hardware Output (☞ Page 56)					
	(Hardware Device name)	Output Settings	Output name	For specifying a name for the output. ● The following characters cannot be used. < > & ' " \ / : * ? | [ ]	
			Output connected to	For selecting which destination to connect the output to.	
			Keep output for	For specifying the output holding time in units of 1/10 seconds or seconds.	
			Test Output	Click this to perform a test on the output settings.	

Item				Preset Values	Description
Manual events (☞ Page 50)					
	Global/(Manual Event name)	Event configuration	Event name	For specifying an event name. ● The following characters cannot be used. < > & ' " \ / : * ? | [ ]	
		E-mail notification	Send e-mail if this event occurs	Select check box ● **Do not select check box**	Select this check box to send an e-mail when an event occurs.
			Attach image from camera	Select check box ● **Do not select check box**	Select this check box when you attach an image to the e-mail, and select an image source by using the pull-down menu.
		SMS notification	Send SMS if this event occurs	Select check box ● **Do not select check box**	**Note:** ● This unit does not support notifications by SMS.
Generic Events (☞ Page 46)					
	(Generic event name)	Event configuration	Event name	—	For specifying an event name. ● The following characters cannot be used. < > & ' " \ / : * ? | [ ]
			Event substring	—	Enter the words to be used as keywords when analysing the received character string. When [Add] is clicked for and entered word, it is added to [Event message expression]. ● The following characters cannot be used. < > & ' " \ / : * ? | [ ]
			Event message expression	—	The added words are displayed. Use the following buttons to edit the conditions. ● (): Bundle related words. Words enclosed with () are prioritized over other words. ● AND: Insert between words which must both be included. ● OR: Insert between words where either is required. ● Delete: Delete the word to the left of the cursor.
			Event protocol	Any ● **TCP** UDP	Choose which protocol this unit uses to receive on the detection of an event.
			Event rule type	Match ● **Search**	Set the rule for analysing the received data (data which exactly matches is analysed, or data which partially matches is analysed).
			Event priority	0 to 1000 ● **0**	Each event is prioritized to determine which event will function when the received data complies with more than on event rule.
		E-mail notification	Send e-mail if this event occurs	Select check box ● **Do not select check box**	Select this check box to send an e-mail when an event occurs.
			Attach image from camera	Select check box ● **Do not select check box**	Select this check box when you attach an image to the e-mail, and select an image source by using the pull-down menu.
		SMS notification	Send SMS if this event occurs	Select check box ● **Do not select check box**	**Note:** ● This unit does not support notifications by SMS.

Item			Preset Values	Description
Output Control on Event				
Output on Event	Activate output on event	Event	—	Set the combination of set events and outputs.
		Output	—	
	Configure events		I/O input events Manual events Generic events	Select an event and click [Open] to display the settings screen for the selected event.
	Configure Output...		—	Display the output settings screen (☞ Page 105 "Hardware Output").

Scheduling and Archiving

●: Initial value

Item			Preset Values	Description
Scheduling All Cameras (☞ Page 121)				
Schedule all cameras				For specifying options for Online, Speedup, Send e-mail/SMS, and PTZ patrolling schedule for each camera. **Note:** ● This unit does not support notifications by SMS.
	Online		● **Always off** Always on	
	Speedup			
	E-mail			
	SMS			
	PTZ Patrolling		● **None**	
	Apply Template (for each camera)		Select check box ● **Do not select check box**	Select this check box to use a template when you configure settings for each camera.
Scheduling Options				
Scheduling options	Start cameras on client request		Select check box ● **Do not select check box**	Select this check box to start the camera on request from the viewer.
	Schedule profile for new cameras		Always off Always on	For specifying the default schedule value applied to any new camera added. ● Default value varies depending on the camera.
Hardware device communication	Maximum delay between reconnect attempts		● **10**	For specifying the maximum delay for reconnect.
	Restore Default		—	Reset the maximum delay time for reconnection.
Archiving				
Archiving time			● **12:00:00**	For specifying the archiving time.
Archive failure notification	Send e-mail on archive failure		● **Select check box** Do not select check box	Select this check box to send an e-mail when any failure occurs during archiving.
	Send SMS on archive failure		● **Select check box** Do not select check box	**Note:** ● This unit does not support notifications by SMS.

Item		Preset Values	Description
(Camera name)			
Online Period (☞ Page 123)			
Online schedule	Schedule profiles	● **Always on** Always off	For selecting a schedule profile.
Set camera to start/stop on time		● **Select check box** Do not select check box	For activating/deactivating cameras at a specified time.
Set camera start/stop on event		Select check box ● **Do not select check box**	For activating/deactivating cameras when an event occurs.
Start event		—	For specifying a start event and a stop event.
Stop event		—	
Configure Events		Hardware Input Events Manual Events Generic Events ● —	Select an event and click [Open] to display the settings screen for the selected event.
Start time		0:00 to 23:59	For specifying the start time and stop time.
End time			
Day		Monday to Sunday, Weekdays, Everyday	For specifying the duration.
Speedup (☞ Page 123)			
Speedup schedule	Schedule profiles	Always off Always on	For selecting a schedule profile. ● Default value varies depending on the camera.
Start time		0:00 to 23:59	For specifying the start time and stop time.
End time			
Day		Monday to Sunday, Weekdays, Everyday	For specifying the duration.
E-mail Notification (☞ Page 123)			
E-mail schedule	Schedule profiles	Always off Always on	For selecting a schedule profile. ● Default value varies depending on the camera.
Start time		0:00 to 23:59	For specifying the start time and stop time.
End time			
Day		Monday to Sunday, Weekdays, Everyday	For specifying the duration.
SMS Notification			**Note:** ● This unit does not support notifications by SMS.
SMS schedule	Schedule profiles	Always off Always on	For selecting a schedule profile. ● Default value varies depending on the camera.
Start time		0:00 to 23:59	For specifying the start time and stop time.
End time			
Day		Monday to Sunday, Weekdays, Everyday	For specifying the duration.
PTZ Patrolling (☞ Page 124)			
PTZ Patrolling schedule	Schedule profiles	● **None**	For selecting a schedule profile. ● Default value varies depending on the camera.
Patrolling profile		—	For selecting a patrolling profile.
Start time		0:00 to 23:59	For specifying the start time and stop time.
End time			
Day		Monday to Sunday, Weekdays, Everyday	For specifying the duration.

Matrix

●: Initial value

Item			Preset Values	Description
Matrix Recipients (☞ Page 53)				
	Matrix recipients	Enable Matrix	Select check box ● **Do not select check box**	For enabling the Matrix function to distribute images at the occurrence of an event.
		Name	—	For specifying the recipient of the images distributed by the Matrix function.
		Address	—	
		Port	—	
		Password	—	
		Matrix recipient is a Smart Client	● **Select check box** Do not select check box	
Matrix Event Control (☞ Page 53)				
	Matrix event control	Configure events	Hardware Input Events Manual Events Generic Events	Select an event and click [Open] to display the settings screen for the selected event.

Logs

●: Initial value

Item			Preset Values	Description
Logs (☞ Page 128)				
	Logs	Path	● **L:\Log\MS**	For specifying the path of the storage location of system log files.
		Days to log	● **10**	For specifying the number of days for storing the system log files.
	Event log	Path	● **L:\Log\MS**	For specifying the path of the storage location of event log files. **Caution:** ● Do not change this setting.
		Days to log	● **10**	For specifying the number of days for storing the event log files.
	Audit log	Enable audit logging	Select check box ● **Do not select check box**	Enables you to configure log file settings related to client computer users. Select this check box to enable logging.
		Path	● **L:\Log\MS\ISAuditLog**	For specifying the path of the storage location of audit log files.
		Days to log	● **10**	For specifying the number of days for storing the audit log files.
		Minimum logging interval	● **60 (seconds)**	For specifying the minimum time interval for acquiring logs.
		In sequence timespan	● **10 (seconds)**	For specifying the maximum viewing time interval that is to be considered as the same sequence.

E-mail

●: Initial value

Item			Preset Values	Description
E-mail Settings (☞ Page 59)				
	E-mail settings	Enable e-mail (Recording Server)	Select check box ● **Do not select check box**	Select this check box to send e-mail from Management Application.
		Enable e-mail (Viewer)	Select check box ● **Do not select check box**	Select this check box to send e-mail from Smart Client.
		Recipient(s)	—	For specifying the e-mail addresses to send alerts to. If you are specifying more than one e-mail address, separate the e-mail addresses using semicolons.
		Subject text	—	For specifying the mail title.
		Message text	—	For specifying the message text.
		Include image	Select check box ● **Do not select check box**	Select this check box to include images in the message.
		Do not send e-mail on camera failures	● **Select check box** Do not select check box	Select this check box not to send e-mail when the camera is faulty.
		Time between motion- and database-related e-mails per camera	● **0 minute(s)**	For specifying the time interval (minutes) for sending each e-mail alert.
		Test	—	For sending a test e-mail.
	Mail server settings	Sender e-mail address	—	For specifying the sender's e-mail address, outgoing (SMTP) mail server name and login settings.
		Outgoing mail (SMTP) server name	—	
		Server requires login	Select check box ● **Do not select check box**	
		User name	—	
		Password	—	

Server Access

●: Initial value

Item		Preset Values	Description
Server Access			
Server access	Server name	● **Server**	For specifying the server name.
	Local port	● **80**	For specifying the port number to use for the server.
	Enable internet access	Select check box ● **Do not select check box**	Select this check box to enable access to this unit from a surveillance computer connected to the Internet via the router or firewall. If you have selected this option, specify the global IP address in the Internet address field for the Internet router or firewall, and the port number in the Internet port field for access to the Internet by the surveillance computer. You have to configure an appropriate port forwarding on the router or firewall to allow access by a surveillance computer that is connected to the Internet. For details, refer to the relevant instruction manuals of the respective devices.
	Internet address	—	For specifying the global IP address or host name when connecting to this unit via the Internet.
	Internet port	—	For specifying the port number to use when connecting to this unit via the Internet.
	Max. number of clients	● **11**	For specifying the maximum number of Smart Client users who can connect to the system at the same time. Those who use the Smart Client on the live display and playback display of this unit are also included in the users. Do not specify 11 or higher.
Local IP Ranges			
Local IP ranges	Start Address End Address	Validate access to this unit from the internet, and set when connection to this unit from a surveillance computer within the local network is necessary. Click [Add], and specify the IP address range of the surveillance computer. The IP address range can be set for only when it is necessary. ● You may specify only one IP address. (Example: 192.168.10.1 to 192.168.10.1)	
Language Support and XML Encoding			
Language support	Language	For selecting the language used for the camera name, user name, and password (local character set). Arabic (864) (IBM864) Arabic (ASMO 708) (ASMO-708) ⋮ Western European (DOS) (ibm850) Western European (IA5) (x-IA5) ● **Western European (ISO) (iso-8859-1)** Western European (Mac) (macintosh) Western European (Windows) (Windows-1252) **Caution:** ● Make sure to set this item to [Western European(ISO)(iso-8859-1)] before use. Use with a language other than [Western European(ISO)(iso-8859-1)] will cause a failure.	

Master/Slave

●: Initial value

Item			Preset Values	Description
Master Server (☞ Page 64)				
	Master server	Enable as master server	Select check box ● **Do not select check box**	Master/slave settings for using more than one of this unit. Select this check box to use this unit as the master server.
	Add		—	For adding a new slave server.
(Slave server) (☞ Page 65)				
	(Slave server 1)	Address	—	For registering the address and port of the slave server.
		Port	● **80**	

Users

●: Initial value

Item			Preset Values	Description
Administrator (☞ Page 70)				
	Administration Protection			
		Administration protection	Enable	Select check box ● **Do not select check box**	Select the check box and set a password to enable start up security for Management Application. Once set, a login screen will appear and the password must be entered when Management Application starts up.
		Change password	Old password	—	
			New password	—	
			Confirm password	—	
(User name)				
	User information (☞ Page 67)			
		User access overview		—	The list of the registered user name, type, and access authority is displayed. By default, the user below is specified. ● User name: Administrator Password: None User type: Windows user ● User name: admin Password: jvc User type: Basic user
		Group access overview		—	The list of the registered group name, user, and access authority is displayed.
		Administration protection overview		—	Display/change the startup security settings of Management Application.
		User information	User name	—	For creating a user account.
			Password	—	
			Password (repeat)	—	
			User type	—	For displaying the user type.
	General Access Properties (☞ Page 67)			
		General access settings		For specifying authorities to use Smart Client functions for each user. Deselected functions are not available for the user.	
			Live	● **Select check box** Do not select check box	You can view live images.
			Playback		You can play back recorded images.
			Setup		You can use screen display setup tabs.
			Edit shared views		You can create and edit views shared in the group.
			Edit private views		You can create and edit a private view.

Item			Preset Values	Description
(User 1) (continued)				
Camera Access (☞ Page 67)				
	Camera access settings	(Camera name)	● **Select check box** Do not select check box	For specifying authorities to use Smart Client functions for all cameras or each camera. Deselected functions are not available for the user. **Note:** ● The initial setting differs depending on the camera. For details, see the instruction manual of the camera.
		Rights for new cameras when added to system		
		Live		
		PTZ		
		PTZ preset positions		
		Output		
		Events		
		Incoming audio		
		Outgoing audio		
		Manual recording		
		Playback		
		AVI/JPEG export		
		Database export		
		Sequences		
		Smart search		
		Recorded audio		

Services

Item		Description
Service Name	Recording Server service	For starting/stopping/restarting each service of the recording server, as well as confirming status of each service by using Management Application.
	Image Server service	
	Image Import service	
	Log Check service	
Status	Started (Starting) (Stop)	
Service Start/Stop	Stop (Start)	
Service Restart	Restart	

Changing the Monitor Settings

Changing the Monitor Resolution

This section describes procedures to change the resolution of a display connected to this unit.

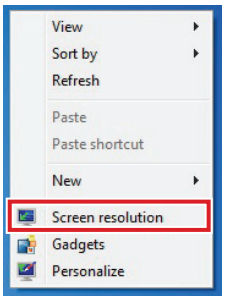
Recommended monitor resolutions are listed below:

- 1024 x 768
- 1280 x 768
- 1280 x 1024
- 1600 x 1200
- 1920 x 1080

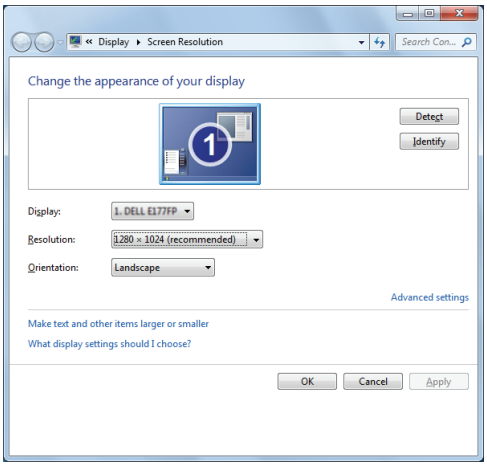
Note:

- Using a monitor with more than 1280 x 1024 resolution is recommended.
- Some monitor resolutions may not be displayed depending on the monitor connected.

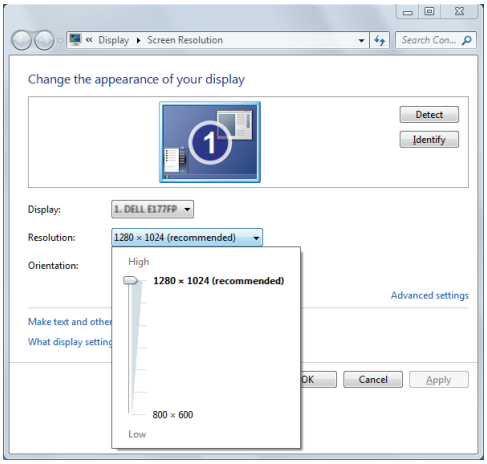
1 Right-click on the desktop and select [Screen resolution]



The [Change the appearance of your display] window appears.



2 Click [Resolution] and drag the slider to select a resolution.



Caution:

- If you attempt to set a resolution that is not supported by the monitor, monitor synchronization may be interrupted.

3 Click [OK]

The preview is displayed.

4 Click [Keep changes]

The setting is changed.

Note:

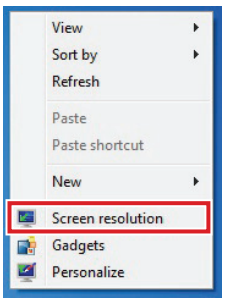
- If no operations are made for 15 seconds, the setting is reverted.

Establishing a Dual-monitor Configuration

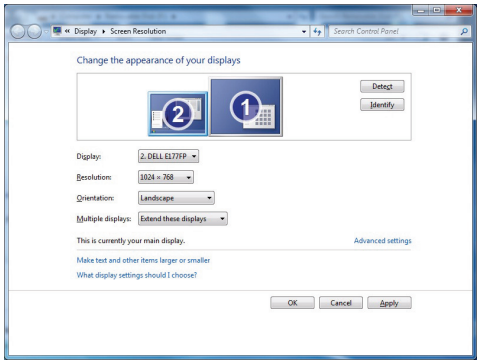
This section describes procedures to connect multiple monitors to this unit and use them as one display.

- Connect multiple monitors to this unit in advance.

1 Right-click on the desktop and select [Screen resolution]

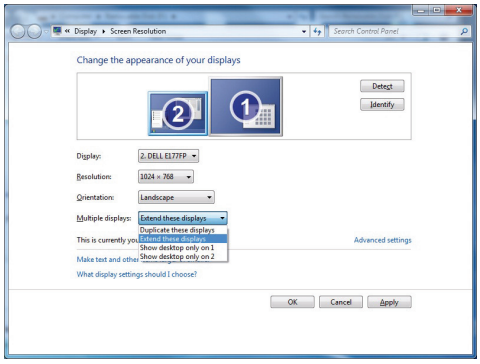


The [Change the appearance of your display] window appears.



2 Drag a monitor in the [Change the appearance of your display] window to align the main display (①) and sub display (②) to their actual positions

3 Click the [Multiple displays] pull-down menu and select [Extend these displays]



4 Click [OK]

Caution:

- When a dual-monitor configuration is used or the output size is large, the load on the CPU will be increased. If the CPU meter becomes red, reduce the load by, for example, lowering the displaying or recording frame rate.

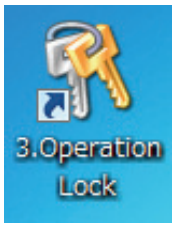
Locking Operations

This unit is equipped with an operation lock feature to prevent unintended shutting down by mistake.

Note:

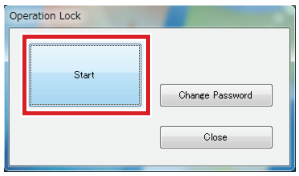
- A password for locking or unlocking operation is not set at the time of purchase. When no password is set, do not enter anything.

1 Double-click [3. Operation Lock] on the desktop



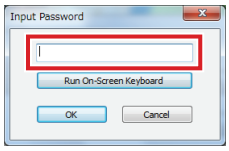
The [Operation Lock] window appears.

2 Click [Start]



3 Enter the password

Click [Run On-Screen Keyboard] as necessary to enter the password.



4 Click [OK]

Operations are locked and the [Unlock] button appears on the desktop.

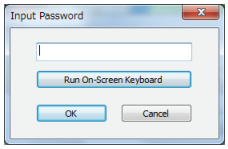
Note:

- When operations are locked, no operations other than closing the on-screen keyboard or canceling operation lock are available.

■ To unlock operations

1 Double-click [Unlock] on the desktop

The password entry window appears.



2 Click [Run On-Screen Keyboard]

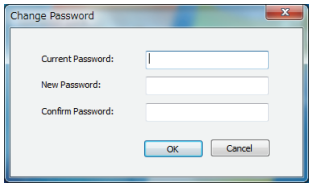
3 Enter the password and click [OK]

Operations are unlocked and you can perform operations.

■ To change the password

1 Click [Change Password] in the [Operation Lock] window

The [Change Password] window appears.



2 Enter the current password

3 Enter a new password

- Enter the password twice for confirmation.

4 Click [OK]

Changing the System Configuration

Even after configuring the system, you can add new cameras and remove or replace registered cameras.

Caution:

- Never turn off the power while saving settings of Management Application.
- When you change settings, restart the Management Application service; otherwise, the new settings are not applied.

Manually Registering a Camera

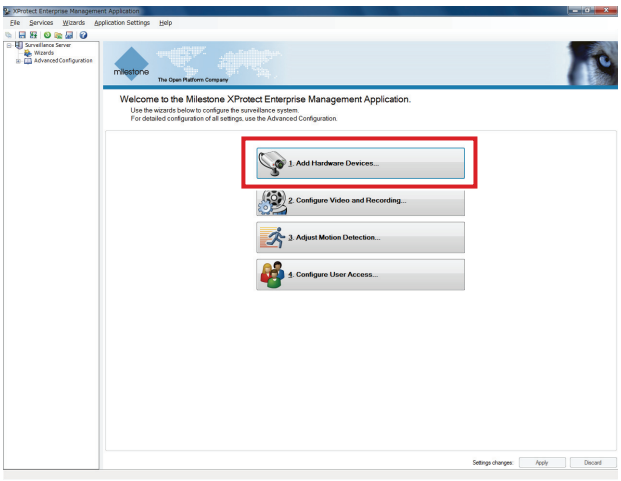
Cameras not automatically detected or newly installed cameras may be registered on the system manually by entering the IP address and port.

Caution:

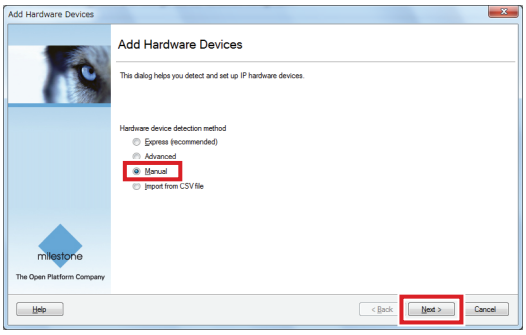
- A user name and password is required for camera registration. Be sure to confirm beforehand. For details, see the instruction manual of the camera.
- Cameras with restricted user access may not be registered. For more information about the access restrictions, see the instruction manuals of the respective cameras.

1 Double-click [Management Application] on the desktop

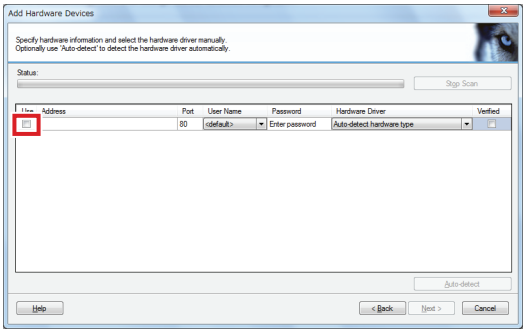
2 Click [Add a Hardware Devices...]



3 Select [Manual] and click [Next]

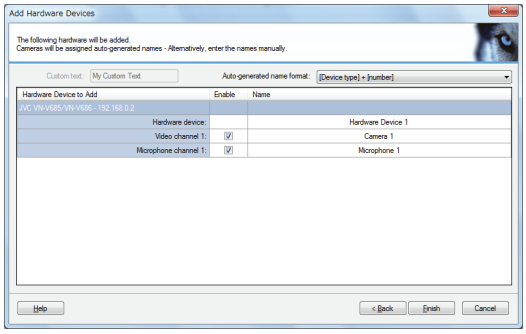


4 Click [Use]



5 Enter the address, port number, user name, and password for the camera to add and click [Next]

Camera verification starts.
When verification is complete, a summary of the added camera (hardware device) appears.



Note:

- For the registered device, a name such as “Camera 1,” “Camera 2,” etc. will be assigned names automatically according to the device type (camera, microphone, etc.) and the added order number. Click on a device name to edit it.
- In the case that a camera cannot be verified, please confirm the user name and password. If the user name for the camera has been changed, it is possible to verify by resetting the user name and selecting [default]. If it can still not be registered, click [Back] and confirm whether the driver for the camera is displayed on the pull-down menu of [Hardware Drivers].

Changing the System Configuration (continued)

Manually Registering a Camera (continued)

6 Click [Finish]

The camera has been added.
The added camera will be listed in “Hardware Devices” of [Advanced Configuration].

Note:

- A camera can also be added by right clicking [Hardware Devices] of [Advanced Configuration] and selecting [Add New Hardware Device].
- Devices other than cameras (dedicated input/output devices, etc.) can be added using the same procedure.

Adding a Camera License

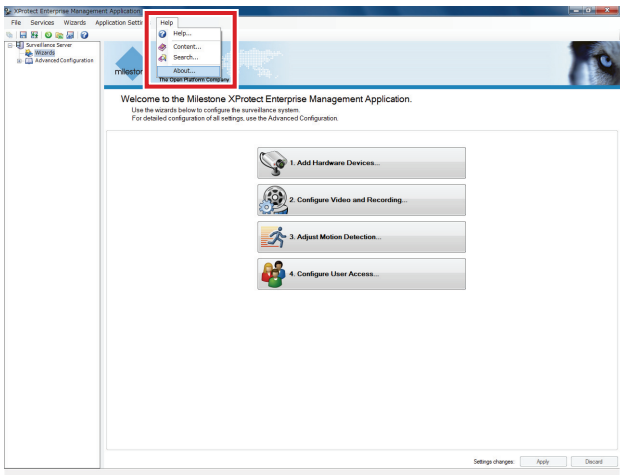
To increase the registration allowance for NVR cameras, purchase additional camera licenses and add them to this unit. With additional licenses, up to 64 cameras (32 additional) can be registered for VR-X3200U, and up to 32 cameras (16 additional) can be registered for VR-X1600U.

Note:

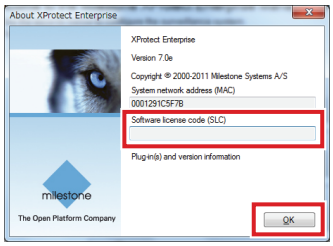
- For purchasing additional licenses, consult your nearest JVC KENWOOD dealer or service center.

1 Double-click [Management Application] on desktop

2 Click [Help] and select [About...]



3 Enter the license code in the [Software license code (SLC)] field, and click [OK]



If the code is valid, the number of licenses will appear.

Replacing a Hardware Device

This section describes procedures to replace a hardware device currently used such as a camera with a new hardware device.

- Use the [Replace Hardware…] wizard for configuration after connecting a new hardware device.

1 Double-click [Management Application] on the desktop

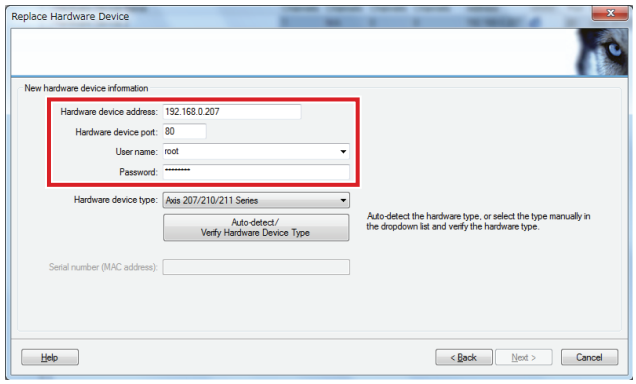
2 Click [+] in [Advanced Configuration]

3 Click [+] in [Hardware Devices]

4 Right-click the hardware device you want to replace and select [Replace Hardware Device]

The wizard is launched.

5 Follow the instructions of the wizard to enter the IP address, port number, user name, and the password of the new hardware device



6 Select the driver for the new hardware device from the [Hardware device type] list and click the [Auto Detect/Device Type Confirmation] button

The driver is configured.

- If you click the [Auto Detect/Device Type] button without selecting a driver, a necessary driver will be automatically detected and configured.

7 Confirm the serial number (MAC address)

8 When replacing a camera, decide whether to carry over the recorded images from the camera

There are three options.

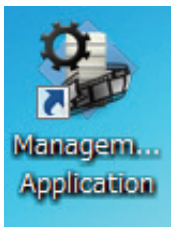
- Take over recorded images: The new camera takes over past image data.
- Discard past recorded images of the camera.
- Record new image data: Record new image data while maintaining past image data.

9 Click [Finish]

Deleting a Hardware Device

This section describes how to delete an unused hardware device such as a camera from the surveillance system.

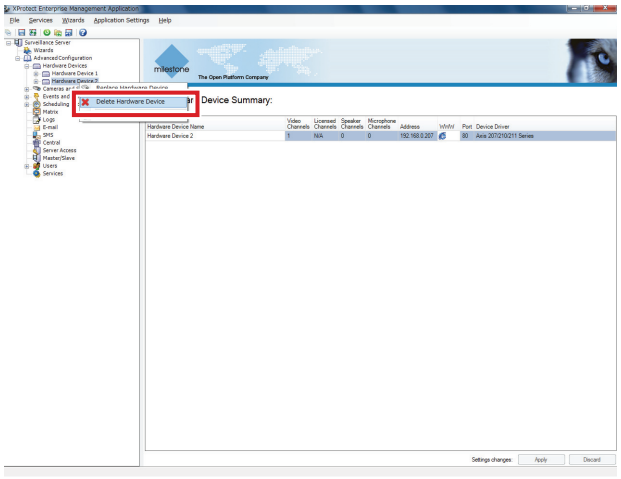
1 Double-click [Management Application] on the desktop



2 Click [+] in [Advanced Configuration]

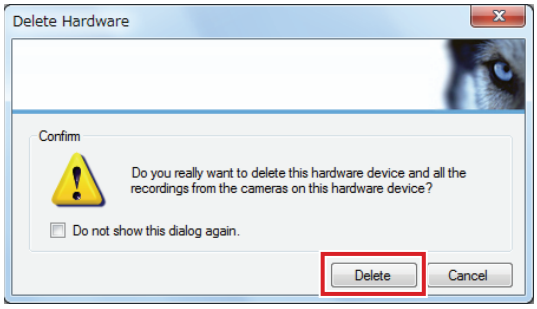
3 Click [+] in [Hardware Devices]

4 Right-click the hardware device you want to delete and select [Delete Hardware Device]



A confirmation message appears.

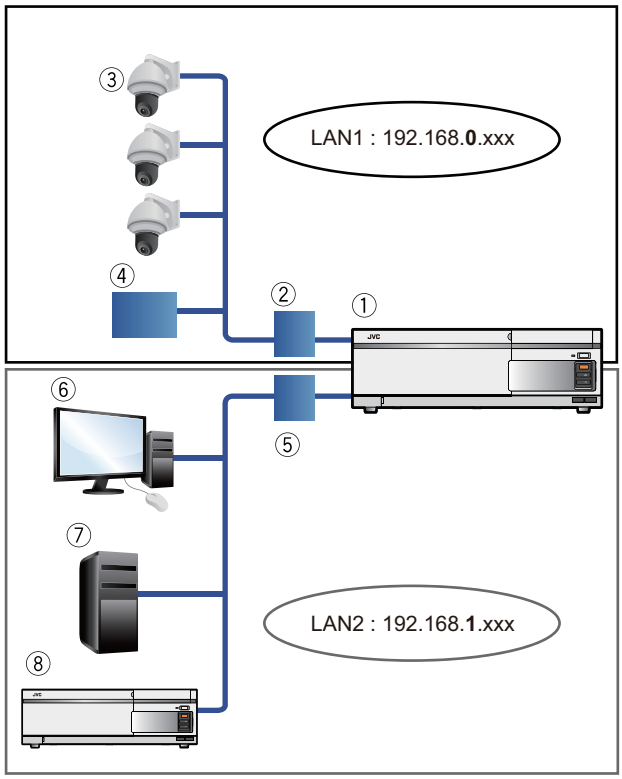
5 Click [Delete]



How to Use a Network

Proper Use of LAN1/LAN2

In this system, use LAN1 to connect to network cameras, and LAN2 to connect to surveillance computers and the timer server (NTP server).



① This unit (master NVR)
② Switching hub (LAN1)
③ Network cameras
④ NAS
⑤ Switching hub (LAN2)
⑥ Surveillance computer
⑦ Time server (NTP server)
⑧ Slave NVR

Caution:

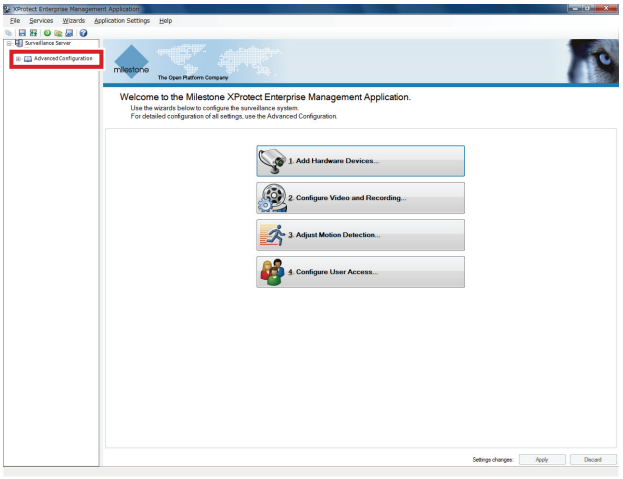
- LAN1 and LAN2 cannot communicate with each other. It is not possible to configure settings of cameras connected to LAN1 from a surveillance computer connected to LAN2. Connect a computer for camera setup to LAN1 in order to configure settings for cameras connected to LAN1.

How to Use a Network (continued)

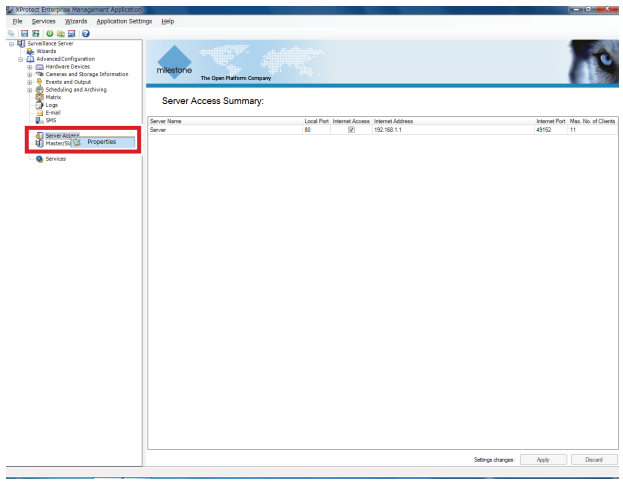
Performing Remote Monitoring through WAN

This section describes settings for using the monitoring service of this unit through the Internet.

1 Click [+] in [Advanced Configuration]

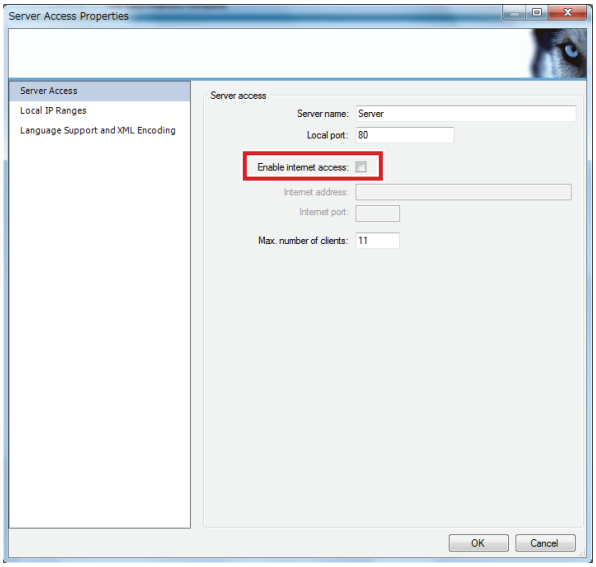


2 Right-click [Server Access], and select properties

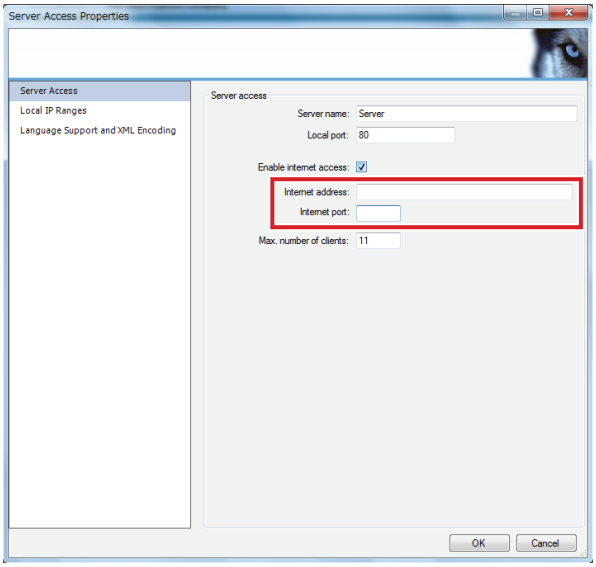


The [Server Access Properties] window is displayed.

3 Select the [Enable internet access] check box



4 Set the internet address and internet port



Item	Description
Internet address	Set the global IP address or host name for connecting to this unit through the internet.
Internet port	Set the port number for connecting to this unit through the internet.

Note:

- For more information, consult the network administrator.

5 Click [OK]

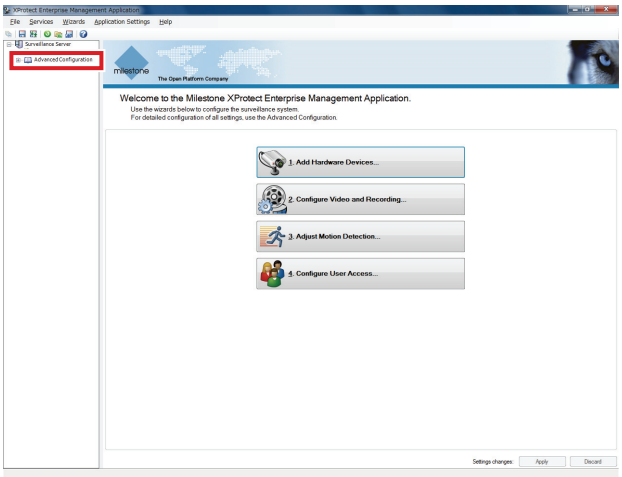
Changing the Recording Settings

Defining a Recording Schedule

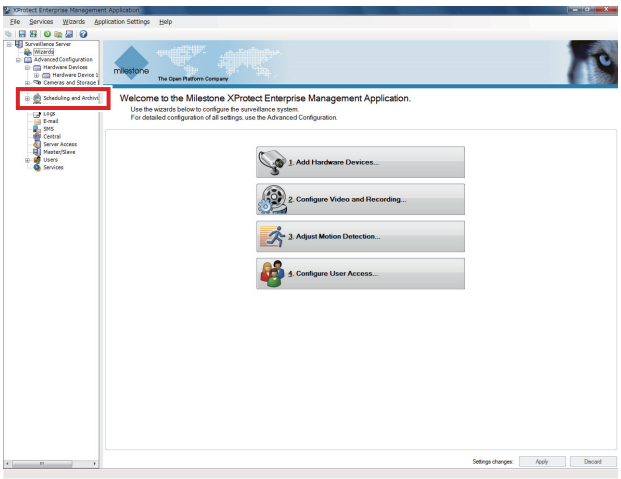
To set a recording schedule for a camera, create schedule properties and apply them to the camera.

■ Creating a Profile

1 Click [+] in [Advanced Configuration]

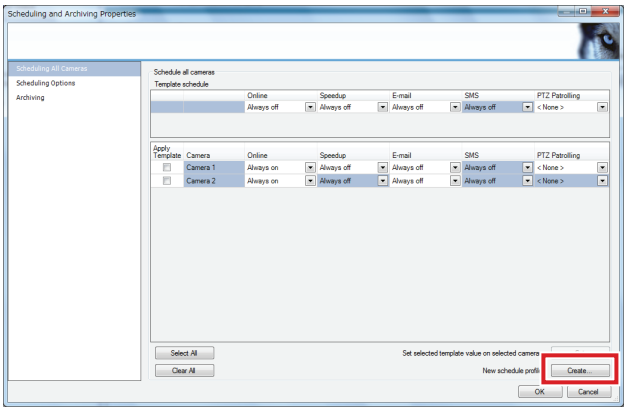


2 Double-click [Scheduling and Archiving]

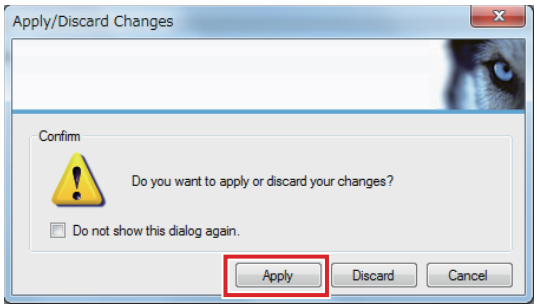


[Scheduling and Archiving Properties] screen appears.

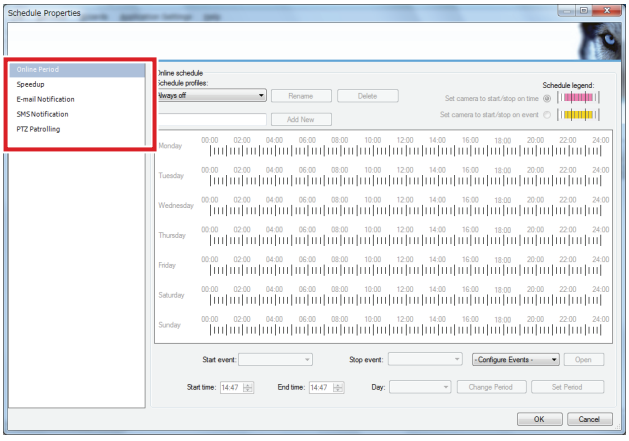
3 Click [Create...]



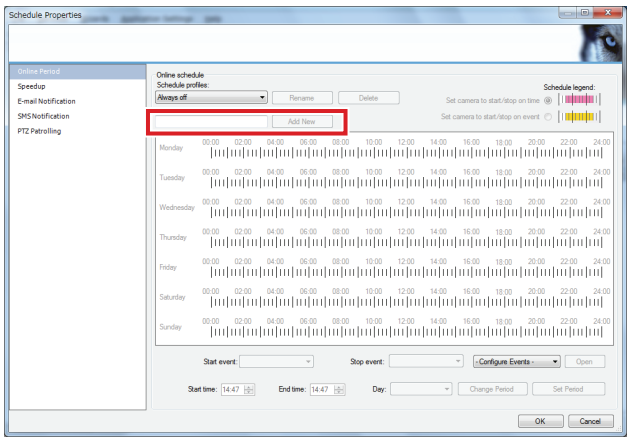
4 Click [Apply]



5 Select an item



6 Input the profile name, and click [Add New]



Changing the Recording Settings (continued)

Defining a Recording Schedule (continued)

7 Prepare a schedule

- For details of the setting items, see "Scheduling Profile Setting Descriptions" (☞Page 123)

Item	Description
Online Period	Duration in which images are received from the camera
Speedup	Duration in which speedup recording is enabled
E-mail Notification	Duration in which e-mail notification is sent
SMS Notification	—
PTZ Patrolling	Duration in which the PTZ camera performs patrolling (☞ Page 41)

Note:

- This unit does not support notifications by SMS.

8 Click [OK]

The schedule profile is set.

Note:

- To edit the name of a registered profile, select the profile to edit from the "Schedule Profile: " list and click [Rename].
- To delete a registered profile, select the profile to delete from the "Schedule Profile: " list and click [Delete].

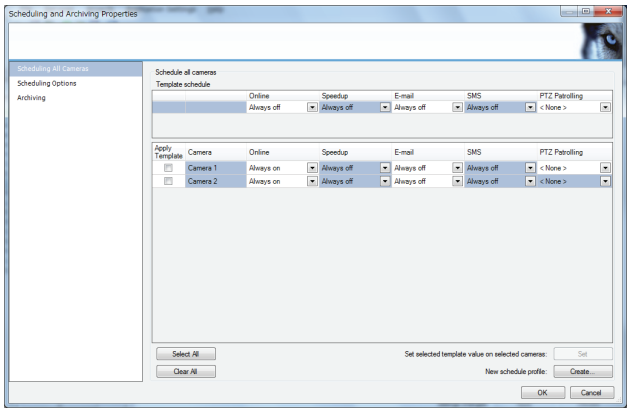
■ Applying a Scheduling Profile to a Camera

1 Click [+] in [Advanced Configuration]

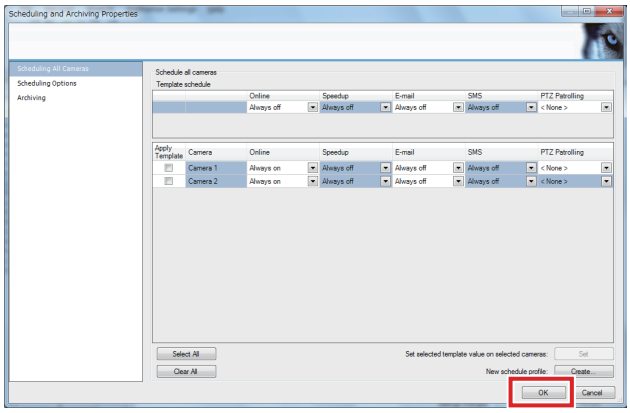
2 Double-click [Scheduling and Archiving]

The schedules of the cameras in use appear.

3 Select the profile to apply for each item of the camera you want to set



4 Click [OK]



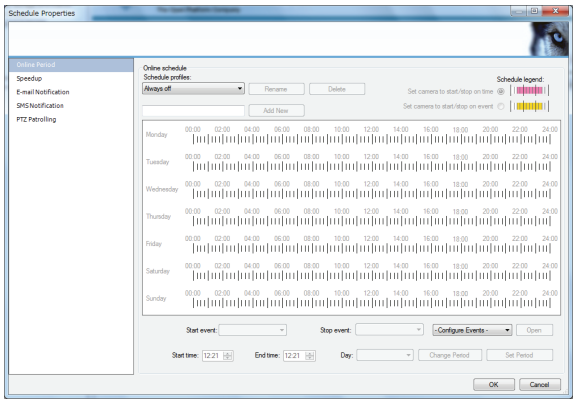
The schedule of the camera is set.

Note:

- By selecting the [Apply template] check box to the left of the camera name and clicking [Set], you can apply the profile selected in [Template Schedule] to all selected cameras at once.
- If you click [Select All], the check boxes of all cameras will be selected.
- If you click [Clear All], the check boxes of all cameras will be deselected.

■ Scheduling Profile Setting Descriptions

● Online Period

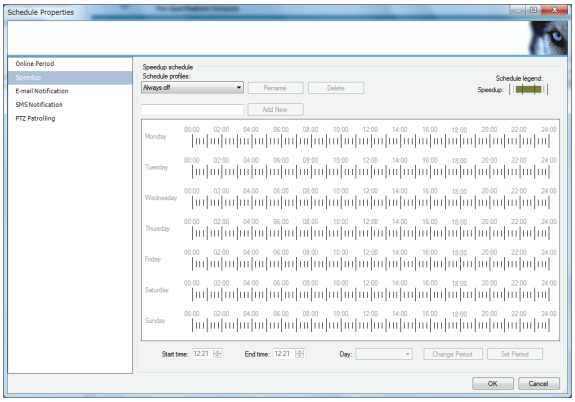


Item	Description
Set camera to start/stop on time	Select to set a period for which this unit will constantly show images from the camera. This is indicated by the pink bar on the scheduling screen.
Set camera to start/stop on event	Select to display images at the occurrence of the specified event. This is indicated by the yellow bar on the scheduling screen.
Start event/Stop event	Select the event which brings the camera online and the event which takes in offline for when [Start up/shut down the camera with an event] in selected.
Start time/End time/Day	Select the period (time/day) for which the images from the camera are displayed. ● You can also set the period by dragging the mouse on the display bar.
Set Period	The period set by the [Start time] and [End time] will be represented on the bar display.
Change Period	Adjust the period shown on the bar. With the bar selected, enter and click [Start time], [End time], and [Day].
Configure Events	Select an event and click [Open]. The setting screen of the selected event will appear.

Note:

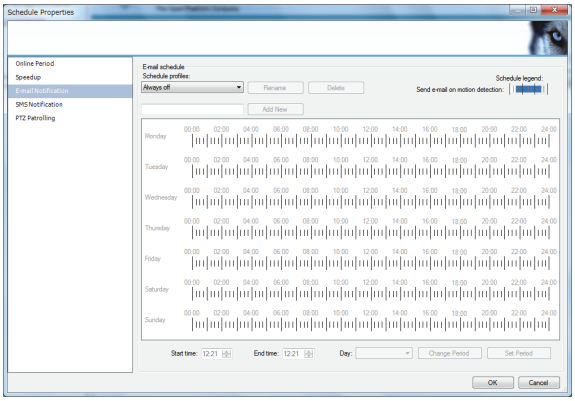
- If the event name for [Start event] or [Stop event] is too long, it will not be displayed fully.

● Speedup



Item	Description
Start time/End time/Day	Select the period (time/day) for which speedup recording is enabled. ● You can also set the period by dragging the mouse on the display bar.
Set Period	The period set by the [Start time] and [End time] will be represented on the bar display.
Change Period	Adjust the period shown on the bar. With the bar selected, enter and click [Start time], [End time], and [Day].

● E-mail Notification

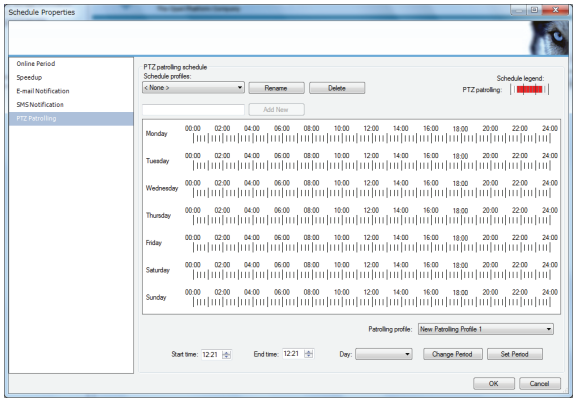


Item	Description
Start time/End time/Day	Select the period (time/day) for which email notification is enabled. ● You can also set the period by dragging the mouse on the display bar.
Set Period	The period set by the [Start time] and [End time] will be represented on the bar display.
Change Period	Adjust the period shown on the bar. With the bar selected, enter and click [Start time], [End time], and [Day].

Changing the Recording Settings (continued)

Defining a Recording Schedule (continued)

● PTZ Patrolling



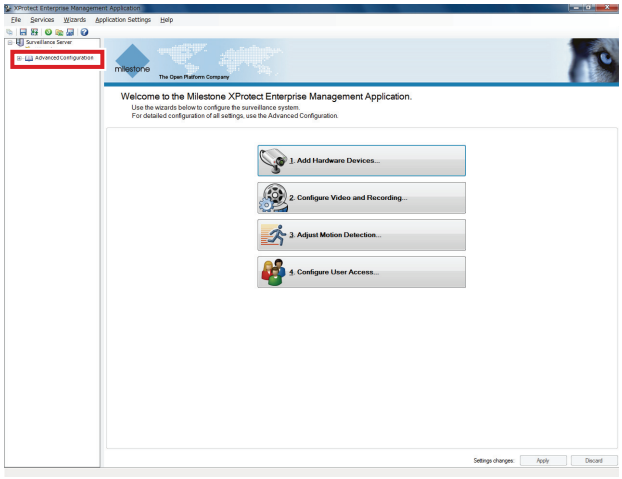
Item	Description
Patrol profile	Select the PTZ patrol profile to set the schedule.
Start time/End time/Day	Select the period (time/day) for which the PTZ patrol profile is enabled. ● You can also set the period by dragging the mouse on the display bar.
Set Period	The period set by the [Start time] and [End time] will be represented on the bar display.
Change Period	Adjust the period shown on the bar. With the bar selected, enter and click [Start time], [End time], and [Day].

Setting Speech Communication with Cameras

Settings for exchanging audio sounds between this unit and cameras.

- You cannot send/receive audio sounds without a microphone and a speaker for each camera.
- Some cameras follow the settings on camera side. If you cannot send/receive audio sounds by configuring settings of this unit, check the settings at the camera side.

1 Click [+] in [Advanced Configuration]



2 Click [+] in [Hardware Devices]

3 Right-click a camera you want to configure settings for to display [Camera Properties]

4 Click [Audio]

5 Select a device for each of [Default microphone:] and [Default speaker:]

6 Click [OK]

Adding a Drive

You may add the following drives as a storage destination for recorded images, archiving, and export data.

Type	Connection method
DVD drive	One of the SERIAL terminals on the rear panel
External HDD	A SERIAL terminal or eSATA terminal on the rear panel (☞ Page 71)
Built-in HDD	For details, consult our authorized dealers or JVC KENWOOD service centers.
NAS	Network (LAN1) connection (☞ Page 75)

Note:

- For details of compatible devices and additional HDD, consult your nearest JVC KENWOOD dealer. You can also check on our website.
- For formatting additional external HDD, see "When an External HDD has been added" (☞ Page 71).
- For setting NAS as the archive destination, see "Specify NAS as the archiving destination" (☞ Page 76).
- For building a RAID configuration using the built-in HDD, see "Building a RAID Configuration" (☞ Page 72).

Using UPS

Connecting a UPS (uninterruptible power supply) to the HDD will protect it from damage by automatically shutting down all operations prior to switching off the power supply in the event of a power failure.

Note:

- For details of compatible UPS, consult you nearest JVC KENWOOD dealer or service center. In some cases, a UPS used with VR-N1600/VR-N900 series may not work with this unit.

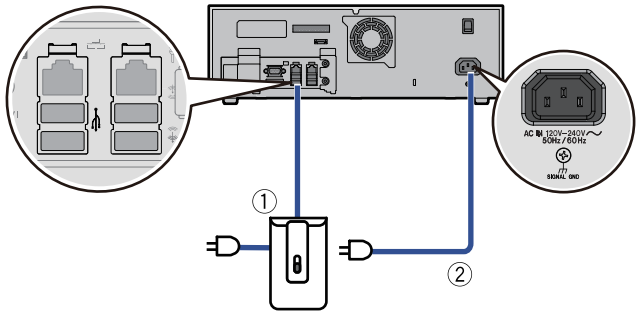
■ Connection and setup

1 Set up the UPS.

- For details, refer to the instruction manual of the device.

2 Press and hold down the [OPERATE] button for about 2 seconds to shut down the system and switch off the power switch on the rear panel

3 Connect a UPS communication cable to the SERIAL terminal on the rear panel



① UPS	Connect to a SERIAL terminal on the rear panel.
② Supplied power cord	Connect the power cable of this unit to the power outlet of the UPS.

4 Switch on the power of the UPS and then this unit

Caution:

- Make sure that the UPS communication cable is connected before switching on the power of this unit.
- Do not disconnect the communication cable when operations are in progress.
- When a power failure occurs while formatting a HDD or archiving, subsequent operations may be affected even when a UPS is connected.
- The recorded images may not be played back properly if they are not archived before the power failure.
- The connecting cable and settings vary depending on the UPS used.

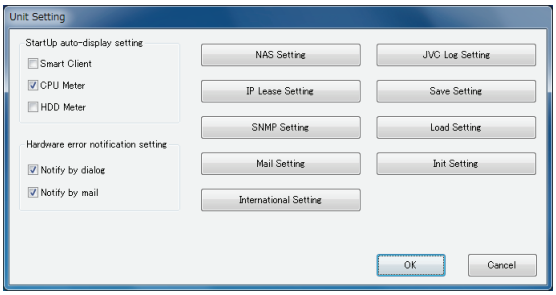
Setting SNMP

By enabling SNMP, you can monitor the status of this unit from an SNMP manager on the surveillance computer. For monitoring, you need to register MIB extension information (JVCNVRMIB.txt) with the SNMP manager.

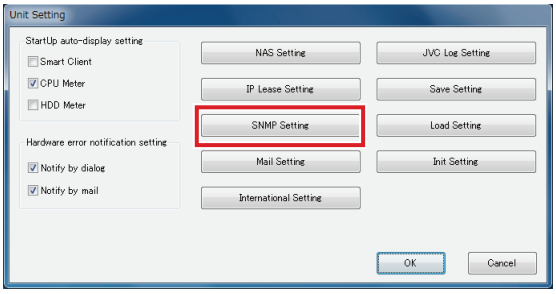
1 Insert a USB flash memory to the SERIAL terminal

2 Double-click [4. Unit Setup] on the desktop

The [Unit Setting] window appears.

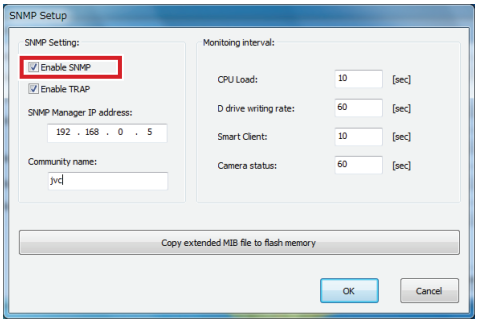


3 Click [SNMP Setting]



The [SNMP Setup] window appears.

4 Select the [Enable SNMP] check box in the [SNMP Setting] section



- Select the [Enable TRAP] check box in the [SNMP Setting] section to use TRAP.
- For TRAP notifications supported by this unit, refer to "A list of TRAPs supported by this unit" (☞ Page 127).

5 Enter the IP address of the surveillance computer in the [SNMP Manager IP address] field

6 Specify the SNMP community name

Example: kanshi1

Caution:

- You can use up to 32 characters for the community name.
- For TRAP, transmission may fail at the recipient side due to its communication specifications. Use TRAP only as an auxiliary measure and use polling judgment as a primary measure.

7 Click [Copy extended MIB file to flash memory]

- The MIB extension information (JVCNVRMIB.txt) is copied to a USB flash memory.

8 Resister the MIB extension information with the SNMP manager on the surveillance computer

- For procedures to register the obtained MIB extension information with the surveillance computer, refer to the relevant instruction manuals of the SNMP manager.

9 Configure settings for monitoring (polling) by the SNMP manager on the surveillance computer

- For setup procedures, refer to the relevant instruction manuals of the SNMP manager.
- For available statuses supported by this unit, refer to "A list of statuses that can be obtained from this unit" (☞ Page 127).

Caution:

- To disconnect the USB device from the unit, be sure to perform “remove” by right-clicking the target removal disk on the explorer.

■ A list of statuses that can be obtained from this unit

OID: iso(1) - org(3) - dod(6) - internet(1) - private(4) - enterprises(1) - jvc(718) - nvr(916) - nvrObjects(1)

Group		Identifier	Name	SYNTAX	MAX-ACCESS	UNITS	Description
Current value	nvrStausGroup (1)	1	nvrRecStatus	INTEGER { off(0), on(1) }	read-only	-	REC status
		4	nvrCpuUsage	INTEGER(0..100)	read-only	%	CPU usage
		5	nvrDdriveWrite	INTEGER(0.. 4294967295)	read-only	Byte/ Sec	Writing rate of D drive
		6	nvrRunViewer	INTEGER { stop(0), run(1) }	read-only	-	Smart Client executed status
Warning list	nvrWarningGroup (2)	1	nvrWarningTable	SEQUENCE OF NvrWarningEntry	not-accessible	-	Table of last 10 warnings
		1.1	nvrWarningEntry	NvrWarningEntry INDEX { nvrWarningIndex }	not-accessible	-	Table of last 10 warning entries
		1.1.1	nvrWarningIndex	INTEGER(1..10)	read-only	-	Warning list index
		1.1.2	nvrWarningDate	DateAndTime	read-only	-	Warning date and time
		1.1.3	nvrWarningInfo	DisplayString	read-only	-	Warning information
Camera List	nvrCameraGroup (3)	1	nvrRegistCameraTable	SEQUENCE OF NvrRegistCameraEntry	not-accessible	-	Table of 32 connected cameras
		1.1	nvrRegistCameraEntry	NvrRegistCameraEntry INDEX { nvrRegCamIndex }	not-accessible	-	Table of 32 connected camera entries
		1.1.1	nvrRegCamIndex	INTEGER(1..64)	read-only	-	Connected camera list index
		1.1.2	nvrRegCamIpAddress	IpAddress	read-only	-	Connected camera IP address
		1.1.3	nvrRegCamName	DisplayString	read-only	-	Camera Name
		1.1.4	nvrRegCamConnection	INTEGER { disconnect(0), connect(1) }	read-only	-	Camera connection status

■ A list of TRAPs supported by this unit

OID: iso(1) - org(3) - dod(6) - internet(1) - private(4) - enterprises(1) - jvc(718) - nvr(916) - nvrTraps(2)

Identifier	Name	OBJECTS	STATUS	Description
1	nvrRecStatusChange	nvrRecStatus	current	REC status change notification
3	nvrNotifyWarning	nvrWarningIndex, nvrWarningDate, nvrWarningInfo	current	Warning occurrence notification
4	nvrNotifyCamConnect	nvrRegCamIndex, nvrRegCamIpAddress, nvrRegCamName, nvrRegCamConnection	current	Camera connection status change notification

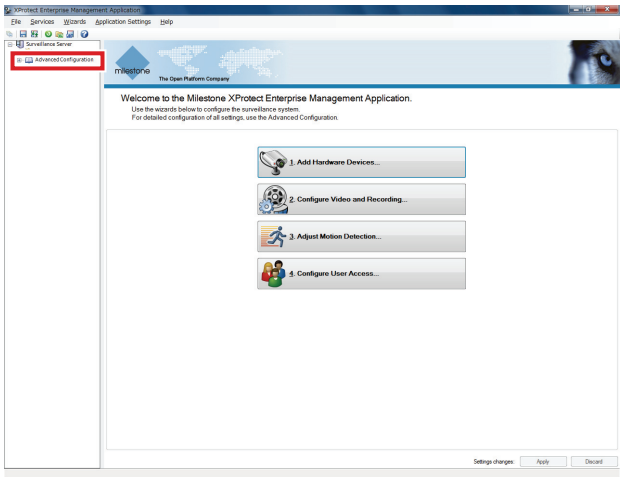
Changing the Log Storage Period

The logs for this unit are stored on the L drive.
Logs are used in the case of maintenance service.
Use 2 windows to configure log settings.

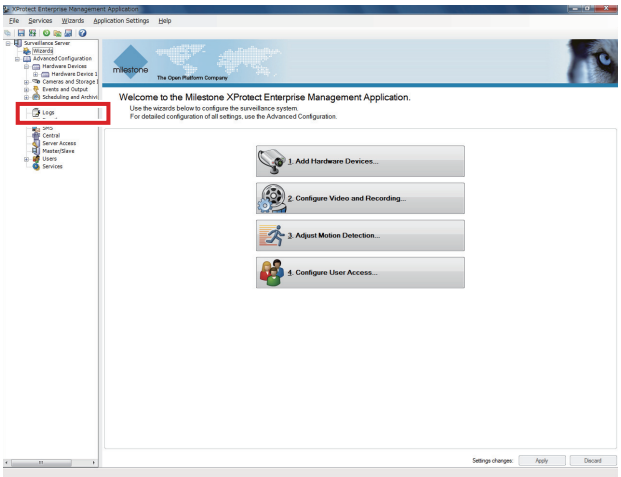
Changing the Log Storage Period for Management Application

With the Management Application, 3 types of logs can be saved: system logs, event logs and audit logs.

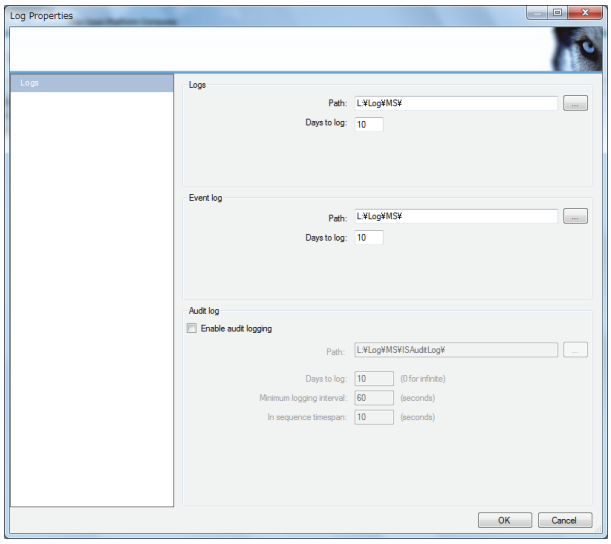
1 Click [+] in [Advanced Configuration]



2 Right-click [Logs] and select [Properties]



The [Log Properties] window appears.



3 Change the retention days

Caution:

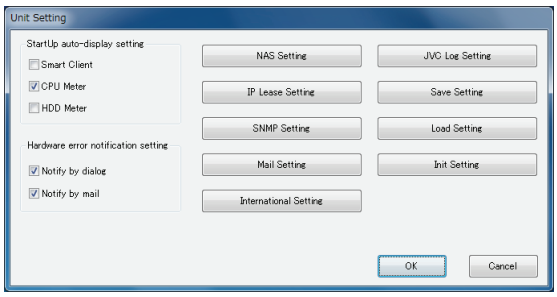
- Do not change the destination.

4 Click [OK]

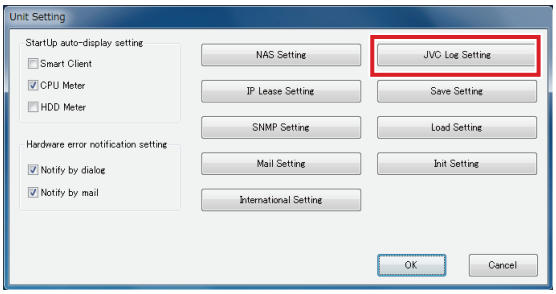
Changing the Log Storage Period for the Unit Settings

1 Double-click [4. Unit Setup] on the desktop

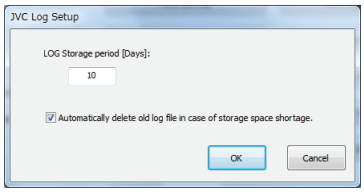
The [Unit Setting] window appears.



2 Click [JVC Log Setting]



The JVC log setting screen appears.



3 Specify the retention days

- Select this check box to delete unnecessary logs and reduce the load on this device. Old logs will be deleted automatically.

4 Click [OK]

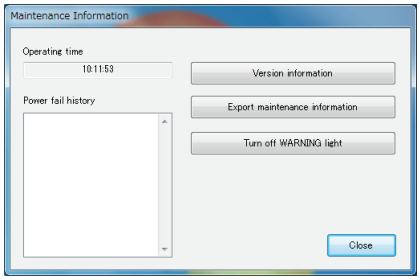
Saving Maintenance Information

You can save maintenance information on a USB flash memory.

1 Connect a USB flash memory to a SERIAL terminal on the front panel

2 Double-click [5. Maintenance Info] on the desktop

The [Maintenance Information] screen appears.



Item	Description
Operating time	For displaying the runtime of this unit.
Power fail history	The power failure history appears.The [Power fail history] is empty if no power failure has occurred in the past.
Version information	For displaying the version information of this unit.
Export maintenance information	For displaying the save maintenance information screen.
Turn off WARNING light	For turning off the WARNING light on the front panel.
Close	Closes the [Maintenance Information] screen.

3 Click [Export maintenance information]

4 Select a period and click [Export]

A folder called “NVR_Log” will be created on the USB flash memory and the maintenance information and log will be stored.

Caution:

- To disconnect the USB device from the unit, be sure to perform “remove” by right-clicking the target removal disk on the explorer.

HDD Maintenance

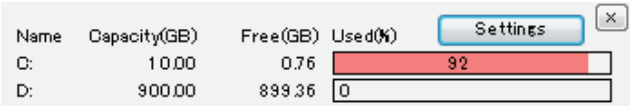
Checking HDD Usage

■ Displaying the HDD meter

You can check the usage of HDD(s) of this unit with the meter.

1 Double-click the [2. HDD Meter] on the desktop

The HDD meter appears.



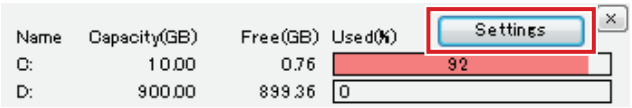
■ Changing HDD meter settings

You can specify the monitoring interval and HDD settings.

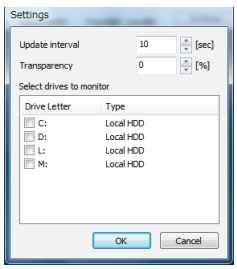
- Each drive is used for the purpose indicated below.

Drive	Purpose
C	System disk
M	For saving temporary files of export data.
L	For saving operation logs.
D or other than the above	For saving recorded images.

1 Click [Settings] in the HDD meter screen



2 Adjust the settings



Item	Preset Values	Description
Update interval	10 to 300 seconds	For specifying the update interval in seconds.
Transparency	0 to 90%	For specifying the transparency of the HDD meter.
Select drives to monitor	—	Built-in HDD(s) and recognized external HDD(s) are listed. Select HDD(s) to monitor.

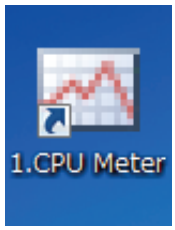
3 Click [OK]

Checking the Load Factor of This Unit

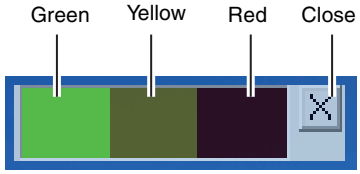
This unit is equipped with a CPU meter, so you can check the load factor of this unit from the meter.

When the load factor increases, malfunctions such as failure to record images at the specified frame rate may occur.

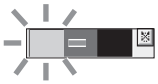
1 Double-click the [1. CPU Meter] on the desktop



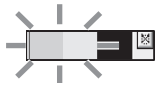
The CPU meter appears.



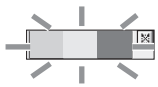
Load factor below 5%: Grayed out



Load factor below 60%: Lighting up in green



Load factor below 90%: Lighting up in green and yellow



Load factor over 90%: Lighting up in green, yellow and red

Caution:

- When there is a red indication on the CPU meter, decrease the load by, for example, lowering the displaying/recording frame rate.

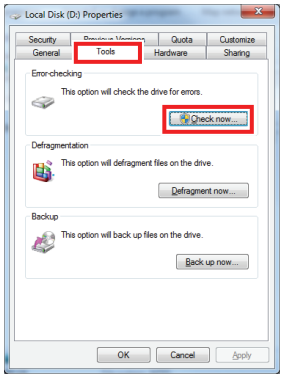
Performing Error Check

1 Click the [Start] button on the desktop and select [Computer]

2 Right-click a drive to perform error check and select [Properties]

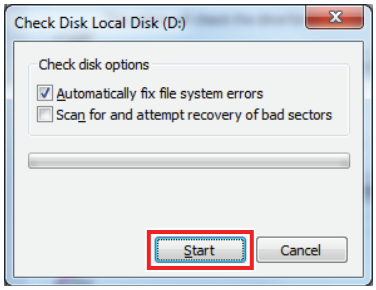
The [Properties] screen of the drive you selected appears.

3 Click the [Tools] tab and click [Check now…]

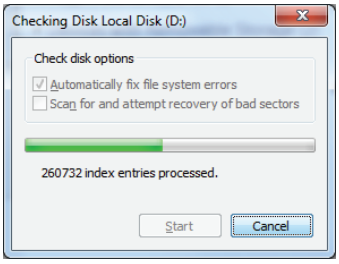


The [Check Disk] screen of the drive you selected appears.

4 Click [Start]

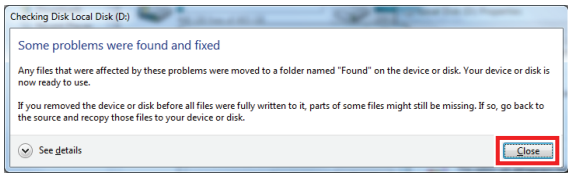


The error check starts.



Once the error check is completed, the result of the check is shown.

5 Click [Close]



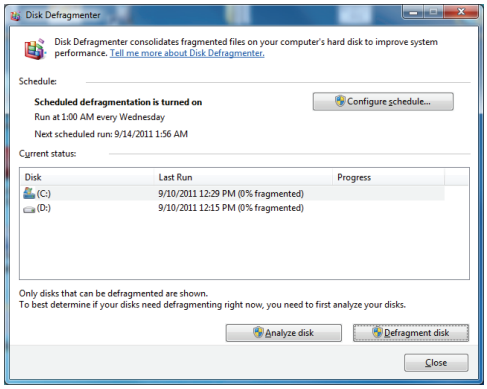
Performing Defragmentation

- Defragmentation may take several hours.

1 Click the [Start] button on the desktop, followed by clicking [All Programs]

2 Click [Accessories] – [System Tools] – [Disk Defragmenter]

The [Disk Defragmenter] window appears.



3 Right-click a drive to perform defragmentation and click [Defragment disk]

Defragmentation of the selected drive starts.

- When the defragmentation is completed, current date and time is displayed in the [Last Run] field.

4 Click [Close]

Initializing the Settings

Initialize the unit settings.

1 Double-click [4. Unit Setup] on the desktop

2 Click [Init Settings]

A confirmation message appears.

3 Click [Init]

4 Click [OK]

Caution:

- When the settings have been initialized, restart the unit.

Viewer Part

Basics

You can view live images and play back recorded images by using the viewer (Smart Client). This chapter describes basic settings of the viewer and how to install the viewer to a surveillance computer.

Caution:

- If you change settings of Management Application while Smart Client is on, shut down Smart Client, then restart it.

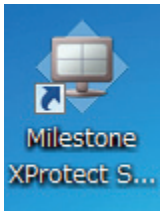
Starting Smart Client

You can view live images and play back recorded images by using the viewer (Smart Client).

Note:

- To use the Smart Client on a computer other than this unit, make sure to install the Smart Client in advance. (☞ Page 136)

1 Double-click the Smart Client shortcut on the desktop



The Smart Client login screen appears.

Note:

- If the Smart Client shortcut is not found on the desktop, select "Smart Client" from [All Programs] in the [Start] menu.

2 Specify your login information in the following fields

Note:

- Each of the default of the user name and password is set as follows:
  User Name: admin
  Password: jvc

Item	Description
① **Server address**	For specifying the IP address and port number of this unit. (For example, in the case of [http://192.168.1.253:80], [:80] is the port number.) The port number is the number as specified in [Advanced Configuration] under [Server Access] of the Management Application. (☞ Page 111)
② **Authentication**	For selecting one of the three types of authentication. Select [Basic authentication].
Windows authentication (current user)	Login as the current Windows user.
Windows authentication	Login as the Windows user, but a user name and password (MUST) will be required. **Note:** ● You will use this setting when you login as the Windows user to this unit from an outside monitoring PC. You need to set the login password for this unit (☞ Page 87).
Basic authentication	A user name and password will be required to login to this unit.
③ **User name**	For entering the Windows user name if you have selected [Windows authentication] for the [Authentication] in ② (☞ Page 87). For entering the user name registered in the [Users] (☞ Page 66) of the Management Application if you have selected [Basic authentication].
④ **Password**	For entering the login password for this unit if you have selected [Windows authentication] for the [Authentication] in ② (☞ Page 87). For entering the password registered in [User Setup] (☞ Page 66) of Management Application if you have selected [Basic authentication].
⑤ **Remember password**	If you have selected [Windows authentication] or [Basic authentication] for the [Authentication] in ②, select this check box to login the next time simply by clicking the [Connect] button.
⑥ **Auto-login**	Enables you to login automatically. Select this check box to automatically login to the Smart Client from the next time.

Starting Smart Client (continued)

3 Click the [Connect] button

- The Smart Client screen appears after a short while.

Caution:

- When you log out after reaching the maximum number of distribution clients, you may need to wait for several minutes before you can establish the connection again.
- When multiple computers are connected and audio sound is played back, the sound may be distorted.

■ To log out

1 Click [(Log Out)]

You are logged out and the Login screen of the Smart Client appears again.

Caution:

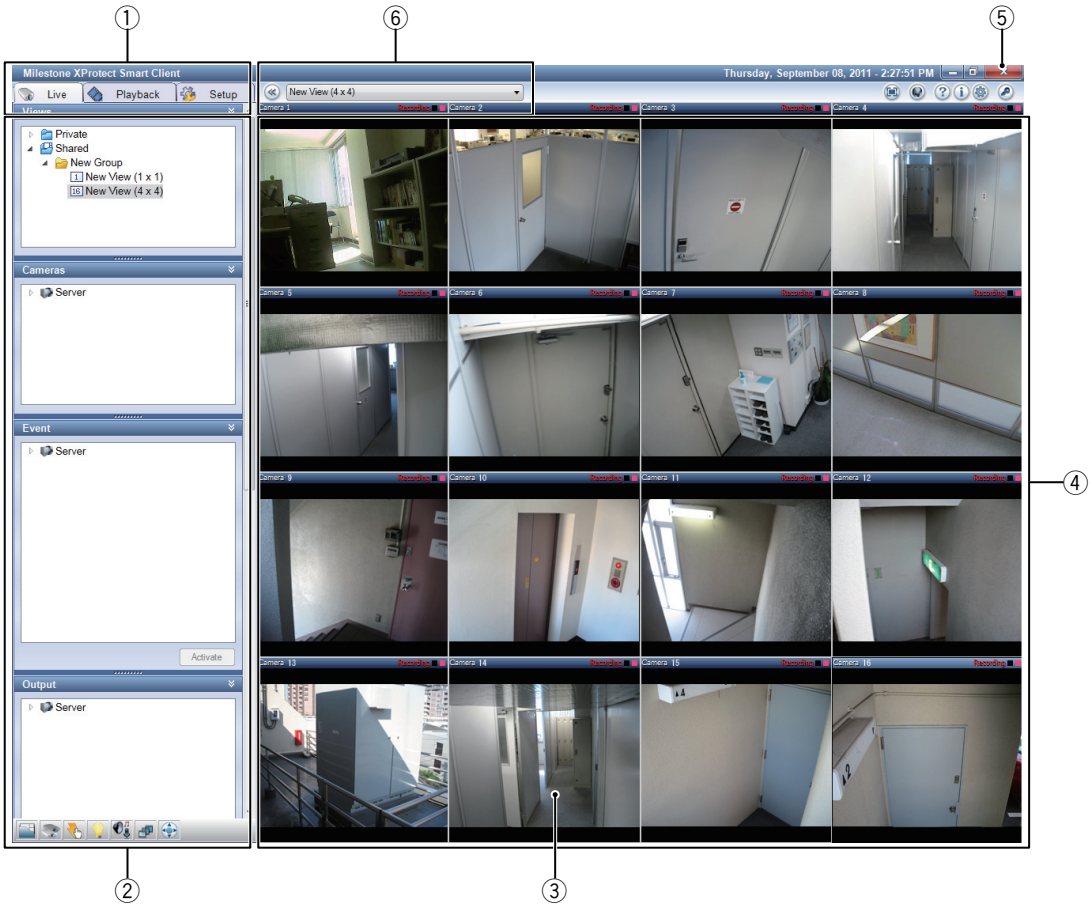
- If you have restarted this unit, or the Smart Client on this unit, log out from the Smart Client at the surveillance computer, and login again.

■ To finish

1 Click [(Close)]

The Smart Client is closed.

Viewer Description



Item	Description
① **Screen selector tabs**	
[Live]	For viewing live images from cameras. (☞ Page 142)
[Playback]	For playing back recorded images. (☞ Page 147)
[Setup]	For displaying the viewer setting screen. (☞ Page 139, Page 171)
② **Operation section**	● The section to be displayed varies depending on the current content of the screen. ● Click any icon at the bottom of this section to display the section you want to use.
③ **Camera images**	
④ **View**	For viewing a split screen display of images from multiple cameras. (☞ Page 139)

⑤ **Viewer operation buttons**	
(Full screen)	For enlarging camera images.
(Notification Dialog)	Display the status of the connected server.
(Help)	For displaying the help.
(About)	For viewing information about the Smart Client.
(Options)	For confirming/changing settings of the Smart Client.
(Log Out)	For logging out.
(Minimize)	For minimizing the window.
(Maximize/ Restore)	For maximizing the window.
(Close)	For closing the Smart Client.
⑥ **View list**	For selecting one of the registered views.

Viewer Description (continued)

Note:

- The Smart Client logs in to a distribution server within the VR-X3200U/VR-X1600U to operate.
- Embedded Smart Client also logs in to the distribution server of this unit (http://localhost or http://127.0.0.1). By default, it is configured to automatically log in to this unit. For how to log in, refer to "Starting Smart Client" (☞ Page 133).
- If surveillance computers of the maximum number of clients are connected, you cannot log into the Smart Client built into this unit.

Caution:

- If you have changed recording settings using the Management Application, log out from the Smart Client and then log in again. (☞ Page 133)
- By default, you can log in to the system by just clicking [Connect] in the [Connect to Server] screen. When you have changed the settings, refer to descriptions from Step 2 in the "Starting Smart Client" section (☞ Page 133).
- Even in the following situations, you may restore the system by restarting the Smart Client:
  - Live images and playback screen black out.
  - Operations of the Smart Client are slow.
  - The Smart Client is not responding.
- In the Smart Client, images and audio sounds may be out of synchronization.
- If you have configured e-mail settings, conduct a test to ensure that e-mails will be sent. (☞ Page 110)
- If you have connected an additional HDD, startup may take several minutes.
- Be sure to set the Smart Client so that the live frame rate does not exceed the performance of this unit; otherwise, the recording frame rate may decrease. For the performance of this unit, see "Recording/Displaying live images/Distribution performance" (☞ Page 196).
- Avoid continuous playback of recorded images (for longer than 1 hour) as it may cause recording failure.

Installing the Viewer on a Computer

Installing the viewer (Smart Client) on a computer connected to NVR and network will allow for:

- Viewing live images on the computer
- Controlling network cameras on the computer
- Viewing recorded images on the computer

Caution:

- Connect the computer to the LAN2 network.
- Settings for cameras connected to the LAN1 network cannot be specified from a computer connected to the LAN2 network.

System Requirements

Item	Description
Operating System	Microsoft Windows Server 2008 R1/R2 (32- or 64-bit*) Windows Server 2003 (32- or 64-bit*) Windows Vista Business (32- or 64-bit*) Windows Vista Enterprise (32- or 64-bit*) Windows Vista Ultimate (32- or 64-bit*) Windows XP Professional (32- or 64-bit*) Windows 7 Professional (32- or 64-bit*) Windows 7 Enterprise (32- or 64-bit*) Windows 7 Ultimate (32- or 64-bit*)
CPU	Intel Core2 Duo or higher (Xeon for large views) recommended, minimum 2.4 GHz
RAM	Minimum 1 GB (more than 1 GB is recommended for large screens)
Network	Ethernet, 100 Mbps or higher recommended
Graphics Card	AGP or PCI-Express, minimum 1280 x 1024, 16-bit colors or higher
Hard Disk Space	At least 100 MB free
Software	Microsoft .NET 4.0 Framework and DirectX 9.0 or later versions Microsoft Internet Explorer 6.0

Computer Network Settings

If using this unit with the factory default settings, set the following computer network.

- For details, consult the network administrator. If using this unit with settings different from the factory default settings, confirm the setting with the network administrator.

■ Initial LAN2 Settings of This Unit

External address	192.168.1.253
Subnet mask	255.255.255.0
Default gateway	192.168.1.254

■ Computer Settings

External address	192.168.1.11
Subnet mask	255.255.255.0
Default gateway	192.168.1.254

Caution:

- Do not use the same IP address in the same network environment.
- Do not register multiple IP addresses with one NIC when specifying the computer network settings.

Installing the Viewer on a Computer (continued)

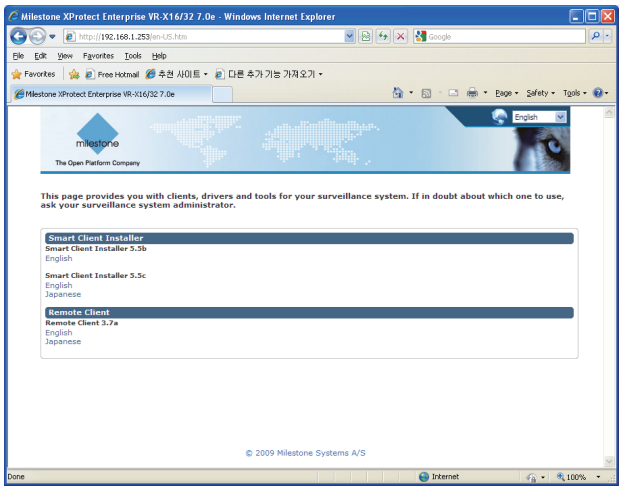
Installing the Smart Client

Caution:

- Before installing, check to ensure that Microsoft.NET Framework 4.0, DirectX 9.0 or later versions, and Microsoft Internet Explorer 6.0 or later versions are already installed on the computer. If any of these are not installed, installation of the Smart Client may fail.

1 Open the Internet Explorer browser (6.0 or later versions), and enter the IP address of NVR as "http://192.168.1.253"

A welcome page will appear.



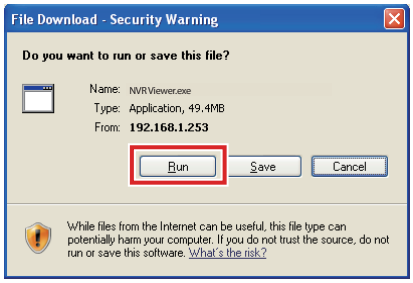
Caution:

- Do not select [Remote Client].

2 Click [(Smart Client Installer) English]

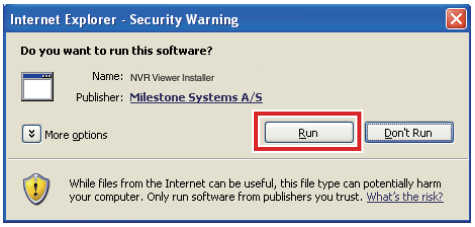
The [Do you want to run or save this files?] confirmation message appears.

3 Click [Run].

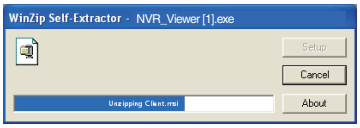


Confirmation message appears, asking "Do you want to run this software?".

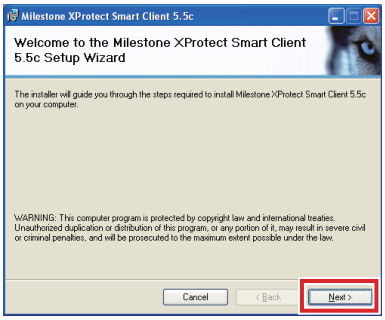
4 Click [Run].

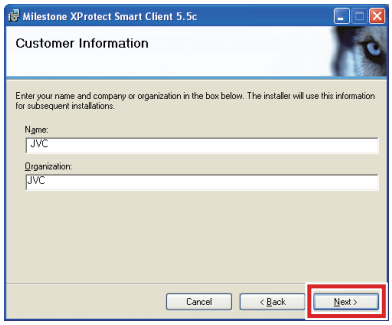


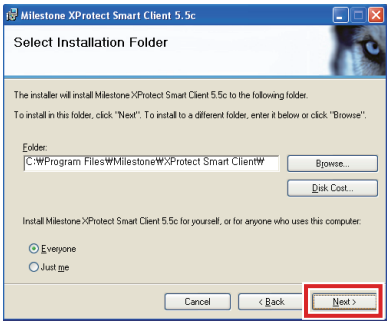
Doing so starts up the Smart Client Setup Wizard.

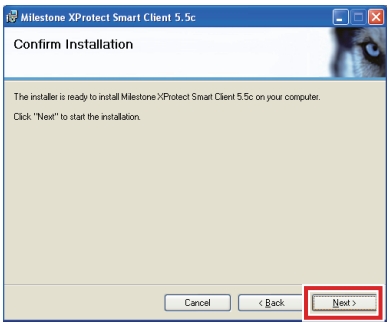


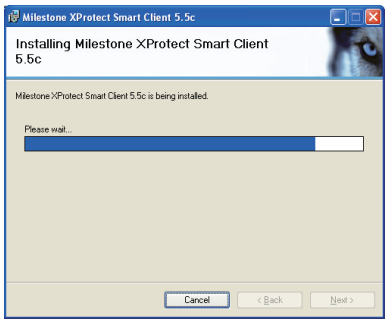
5 Click [Next] and follow the installation instructions

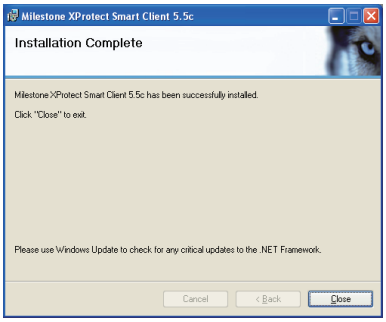












6 Click [Close]

Installation ends and a shortcut to the "Smart Client" is created on the desktop.

Caution:

- If the .Net Framework 4.0 installation window is displayed during installation and the computer is not connected to the internet, it may not be possible to continue with the installation.

Creating a View

Groups and Views

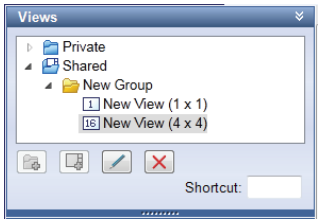
Split screen display of images from multiple cameras in the Smart Client is called "view." Any number of views can be created in accordance with camera locations and quantity and managed by groups (folders).

■ Group and view structure

The following 2 groups are preset as root groups for groups you will create.

Private	Views in this folder are only accessible to the user who created them.
Shared	Views in this folder are accessible to all computer users who can access the system.

- You can check the group and view structure from the [Views] section.



Caution:

- Select [Basic Authentication] for the authentication method. Enter the user name and password of the basic user. For details of the default registered basic user, see "Users" (☞ Page 112).
- The [View group saving error] dialog may appear when you attempt to change views in the shared folder. In this case, click [OK] to close the error dialog and log out from the Smart Client (☞ Page 134). Then log in to the system again to try to change views again.

Creating a View (continued)

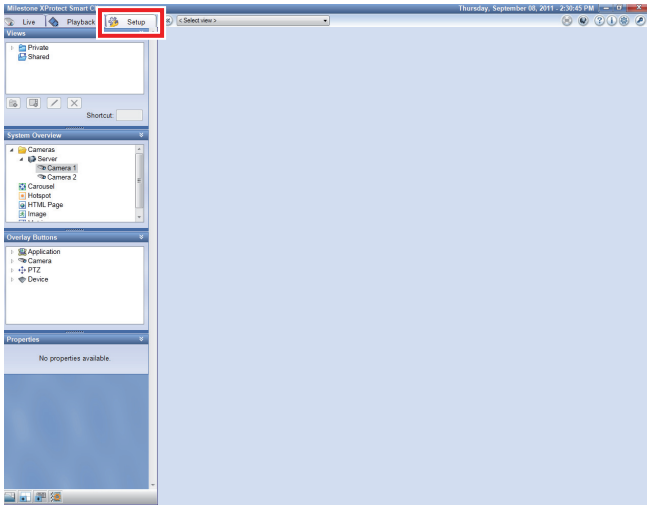
Creating a View

To create a view, you need to create a group first and registers a camera to show in the view.

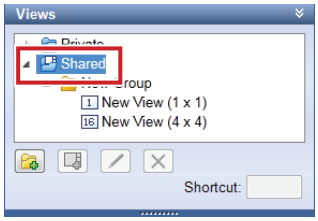
Note:

- If the [View] section is not displayed, click [ ] to display it.

1 Click the [Setup] tab

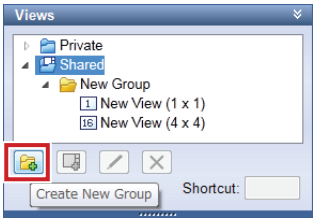


2 In the [Views] section, select a root folder (Private or Shared) you want to create a new group in

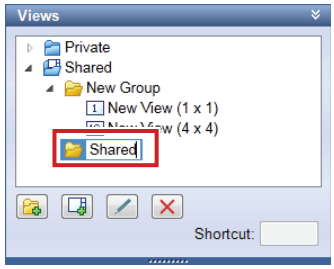


3 Click [(Create New Group)]

A new group is created.

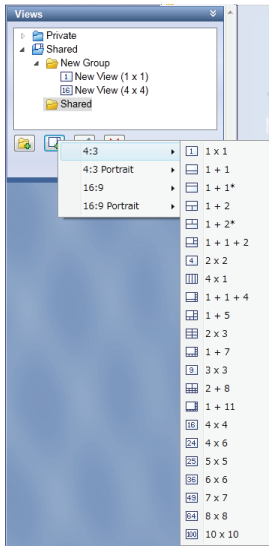


4 Enter a group name for the new group

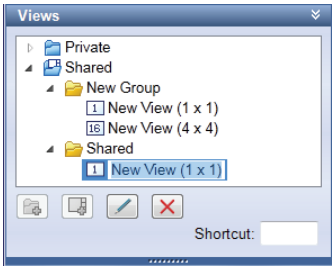


Then, create a new view in the group you just created.

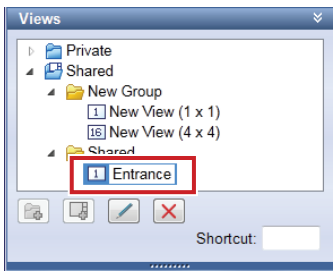
5 Click [(Create New View)] and select a layout for a new view



A new view is created in the group.



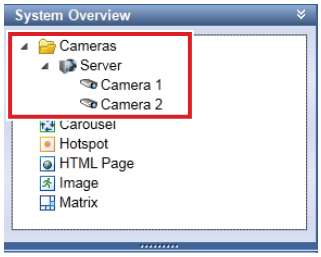
6 Enter a view name



Next, register the camera to display the created view.

7 Click [▶] to the left of [Server] in the [System Overview] section

A list of available cameras appears.



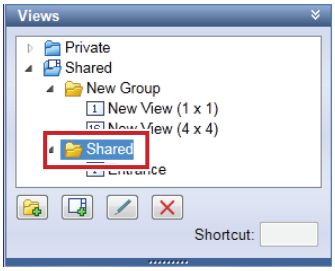
8 Select a camera you want to view from the list and drag it onto the image display screen to the right

- Images from the selected camera are displayed along with its camera name.
- Repeat the same steps for each camera.

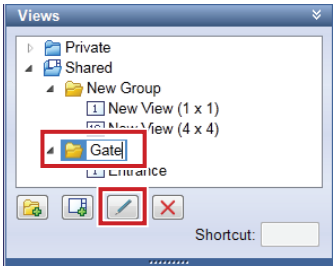
Editing Views

■ Changing a group/view name

1 Select a group/view you want to change the name for in the [Views] section



2 Click the [(Rename)] button and enter a group/view name



■ Deleting a group/view

1 Select a group/view you want to delete in the [Views] section

2 Click the [(Delete)] button

A confirmation message prompts you to confirm you want to delete the selected group and all views in the group, or selected views.

3 Click [Yes]

■ Remove the camera from the view

1 Click [×] in the upper right of the camera window to remove

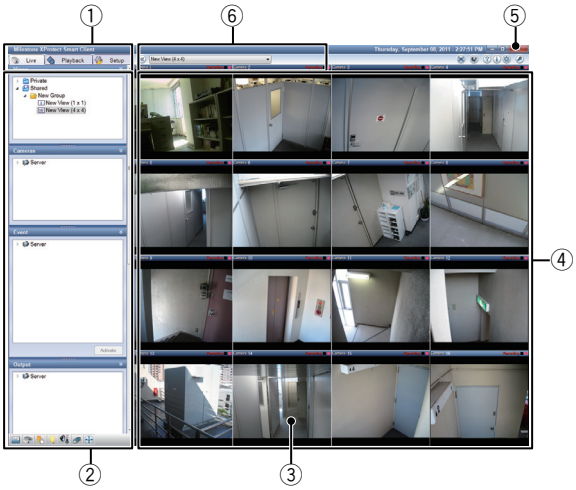
The camera is removed from the view.

Viewing Live Images

Showing the Live Window

1 Click the [Live] tab

The live window appears.



Item	Description
① **[Live] tab**	For displaying the Live window.
② **Operation section**	(☞ Page 143)
③ **Camera images**	Live images from the camera
④ **View**	Segmented display of images from multiple cameras
⑤ **[Close] button**	For closing the Smart Client.
⑥ **View list**	For switching views.

- If you configure camera recording settings without closing the live window, live images may not be displayed correctly after you configure the camera recording settings.
  In this case, “Cannot connect to server! Retry” or “Cannot connect to 127.0.0.1:80 on [device name] (camera name)” will be displayed in the live screen. (127.0.0.1:80 is an internal IP address of this unit during operations.)

Note:

- It may take a while to show images from cameras depending on the network line status.
- It may take several minutes to show the live image display screen depending upon the number of additional HDD(s) connected.

■ To check the camera status

Check the status from the 3 color box indicators and the characters that indicate camera operation status on the blue bar at the top of the window of each camera.

Item		Description
① **Camera operation status indications**		
	Live (green)	For indicating that live images are being displayed without recording.
	Recording (red)	For indicating that images are being recorded.
	Stopped (yellow)	For indicating that images cannot be acquired form the camera or the camera is offline.
② **Event indicator (left: yellow)**		Turned on when any event occurs. If no event is specified or exists, the indicator remains in black.
③ **Motion indicator (center: red)**		Turned on when any motion is detected.
④ **Live indicator (right indicator: green)**		Blinking each time it receives images from the camera.

Note:

- To enlarge the camera window, double-click the upper blue bar. To restore the original size, double-click the upper blue bar again.
- Click the active event or motion indicator to turn off the indicator. You can hide the live indicator in "Display settings" (☞ Page 172)

■ Operation section on the live screen

In the live image screen, you may use the following operations in corresponding sections.

- You can select to show/hide each section by clicking an icon.

Section name	Icon	Operation
Views		For selecting a view to display from the registered views.
Cameras		For displaying a camera list. By selecting a camera not listed in the view and drag it into the view, you can view images from the camera.
Event		For manually triggering a preset event.
Output		For performing a preset output.
Audio		For using a microphone or a speaker connected to the camera.
Sequence Explorer		For displaying a list of recorded images.
PTZ Control		For performing camera operations (pan, tilt and zoom).

Switching Views

This section describes procedures to switch views and display images from another camera.

1 Select a view in the [Views] section, or from the view list on the upper part of the window

Caution:

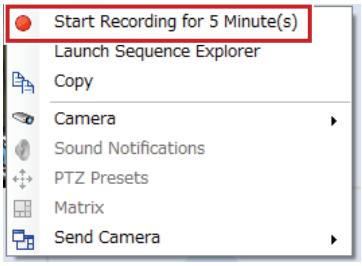
- Do not switch views frequently in a short time.
- If live images are not displayed in VN-C625U/VN-C655U, change the password for VN-C625U/VN-C655U connection set in the camera and this unit. For setup procedures, refer to the relevant instruction manuals of cameras used, and the [Password] setup procedures under [Hardware Devices] in [Advanced Configuration] described in this manual (☞ Page 92).

Manually Recording Images of a Specific Camera

You can record images of a specific camera when you view live images.

- Access to this feature is limited. For details, please contact your monitoring system administrator.
- You need to set an upper limit of recording time in the Management Application in advance. (“Manual Recording” (☞ Page 101)

1 Right-click on a camera image you want to record and select [Start Recording…] from the shortcut menu



Recording starts and will automatically end after the specified time.

Note:

- You cannot stop recording while it is in progress.
- You cannot change the recording time from the Smart Client. For details, please contact your monitoring system administrator.

Operating Cameras on the Live Image Screen

Viewing Images by Using PTZ Features

PTZ (pan, tilt and zoom) operations are available only when the camera supports the PTZ features.

- Button operations are ignored when the camera does not support the PTZ features.

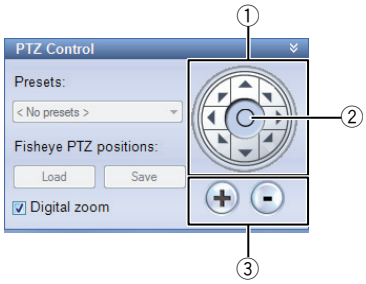
Note:

- If the [PTZ Control] section is not displayed, click [ ] to display it.

1 Click the top bar of the live screen of a camera you want to select, and select the camera

- When you select a camera, the blue top bar turns to light blue.

2 Click the PTZ navigation buttons in the [PTZ Control] section



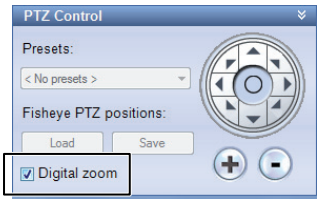
Item	Description
① **PTZ navigation buttons**	For moving the camera in the direction of arrows.
② **Home button**	For returning to the home position.
③ **[+]/[-]**	For zooming in/out.

Note:

- When the mouse pointer turns to a crosshair point on the PTZ camera image screen, you may change the direction of the camera by pointing and clicking the image screen. If it does not, you cannot perform camera operations on the image screen. For some PTZ cameras, the mouse pointer may not turn to a crosshair pointer. Moreover, operations may not be available even when the mouse pointer turns to a crosshair pointer, depending on the type of PTZ camera. In these cases, perform operations by using the PTZ navigation buttons in the [PTZ Control] section.
- For any analog camera connected to a network encoder (IP video server: VN-E4U/E, etc.) the pointer does not turn to a crosshair pointer.
- With a mouse with a scroll wheel, you can use the wheel to zoom in/out with a PTZ camera.
- If you use the electronic zoom feature of VN-V685U/VN-V686U/VN-V686BU Series, the electronic zoom operations stop temporarily on the boundary between the optic zoom and electronic zoom. To continue zooming, perform the zoom operation again.

■ Digital zoom

You can view enlarged images from cameras by selecting the [Digital zoom] check box in the [PTZ Control] section. Performing the digital zoom operation will show a small view of the whole image at the lower right.



Note:

- Images to be recorded are not zoomed even when digital zoom is used.
- When digital zoom is used, the recording frame rate may decrease due to increased load on this unit.
- Deselect the [Digital zoom] check box to finish digital zoom.

Caution:

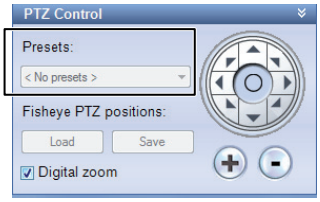
- When the [Digital zoom] check box is selected, actual PTZ operations are not performed.

Using the Preset Features

By selecting from the preset list, you can move the camera direction to the preset position.

Note:

- If the [PTZ Control] section is not displayed, click [ ] to display it.
- This operation is available only when the camera supports the PTZ features.
- The preset list can be configured from [Advanced Configuration] ➡ [Hardware Devices] ➡ (PTZ camera's) [Camera Properties] ➡ [PTZ Preset Positions] in the Management Application. (☞ Page 39)



1 Select a preset position from the preset list in the [PTZ Control] section

- The camera moves to the preset position.

Playing Back Recorded Images for Specific Camera(s) (Independent Playback)

In the [Live] tab, you can view live images of all cameras.
By using the independent playback function, you can switch to view past recorded images on specific camera(s) only.

- Independent playback function can be used for multiple cameras.
- Independent playback function can also be performed from the view in the [Playback] tab.

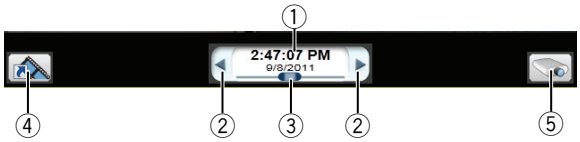
1 Point the cursor to camera images in the view

The independent playback start button appears on the camera images.

2 Click the independent playback start button

The camera's title bar turns yellow and playback pauses. To start playback, click [ ] to the right of the time and date display.

3 Search for images you want to view



Item	Description
① Time and date	For displaying the date and time when the image was recorded.
②	For reverse/normal playback ● Click once to use them as pause buttons.
③ Slider	For changing playback speed during playback. ● Audio sounds will not be played back.
④	For switching to the playback view at the time of the present recorded image.
⑤	For finishing independent playback.

- The controller disappears when the cursor goes out of the camera images.

4 Click [ ] to finish independent playback

The color of the title bar returns to normal.

Note:

- If the camera window is displayed small, the slider is not displayed. In this case, display the slider by maximizing the Viewer or double-clicking the bar on the upper edge of the camera window to enlarge it.

Other Useful Features

■ Speech communication

A speech communication feature is available from the [Audio] section with a microphone or a speaker is installed to the camera.

Note:

- If the [Audio] section is not displayed, click [ ] to display it.

To hear audio sounds from a microphone installed to the camera, select the microphone from the [Listen to] list.

- Select the [Mute] check box to temporarily mute the microphones.

To talk to the other party through a speaker installed to the camera, select the speaker from the [Talk to] list. Select [All Speakers] to talk to all speakers at the same time.

- During talking, keep [Talk] clicked.
- Talker's volume level can be checked from the level meter.

Caution:

- Audio sounds may be interrupted when more than one surveillance computer listen to the sounds.
- When you return from the setting screen to the live image display screen, the microphone and/or speaker are deselected. Select them again if necessary.
- If the network is congested, audio sounds may not be transmitted.

Note:

- If any camera for which an audio source is specified in [Audio] under [Camera Properties] of [Hardware Devices] is selected, the specified audio sounds are output. (☞ Page 95)
- If you select the [Lock to selected audio devices] check box, the current microphone and/or speaker will remain selected when you select another camera with a microphone and/or speaker.
- Select the [List only devices from current view] check box to list the audio devices in the view only.
- If any camera for which an audio source is specified is selected, the last audio sound output will be used continuously.
- When live images are displayed at the same time as recording, images and sounds may be out of synchronization. (This does not affect recording to this unit of additional HDD.)

Operating Cameras on the Live Image Screen (continued)

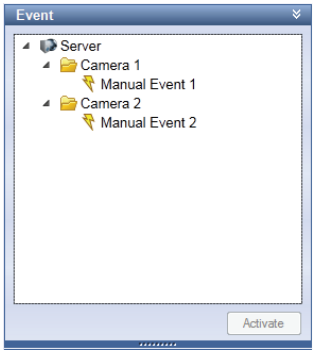
Other Useful Features (continued)

■ Manual events

You can trigger an event manually. Select an event in the [Event] section and click [Activate].

Note:

- If the [Event] section is not displayed, click [ ] to display it.



Note:

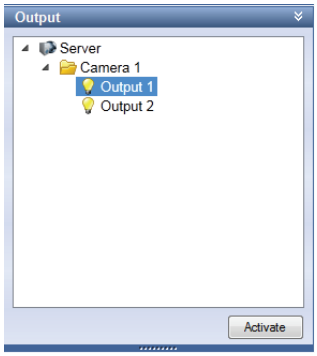
- For events, refer to "Events and Actions" (☞ Page 46).
- You need to set an event in advance. (☞ Page 50 "Event Configuration—Manual Event")

■ Output control

This feature provides a preset output such as lighting on/off and siren, etc. Select an output in the [Output] section and click [Activate].

Note:

- If the [Output] section is not displayed, click [ ] to display it.



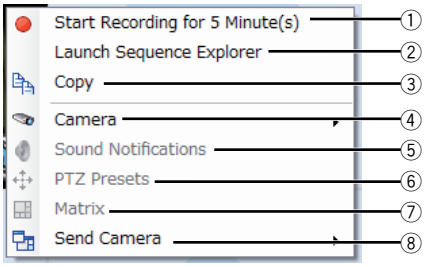
Note:

- You need to set an output in advance. (☞ Page 56 "Action Setup—Output")

■ Camera shortcut menu

You can open the shortcut menu by right-clicking on the camera image screen.

- The menu items may differ according to the camera settings.



Item	Description
① **Start recording for...**	For starting recording with the selected camera (manual recording).
② **Launch Sequence Explorer**	For launching the Sequence Explorer of the selected camera.
③ **Copy**	Copy the image from the selected camera as a still picture. The copied still picture can be pasted into other applications (word processing software, etc.) as a bitmap file.
④ **Camera**	For displaying images of other camera in the selected position.
⑤ **Sound Notifications**	For muting warning sound, etc. temporarily.
⑥ **PTZ Presets**	For selecting a preset position and moving the camera.
⑦ **Matrix**	Manually distribute images using Matrix.
⑧ **Send Camera**	For displaying images of the selected camera in the specified window.

Viewing Recorded Images

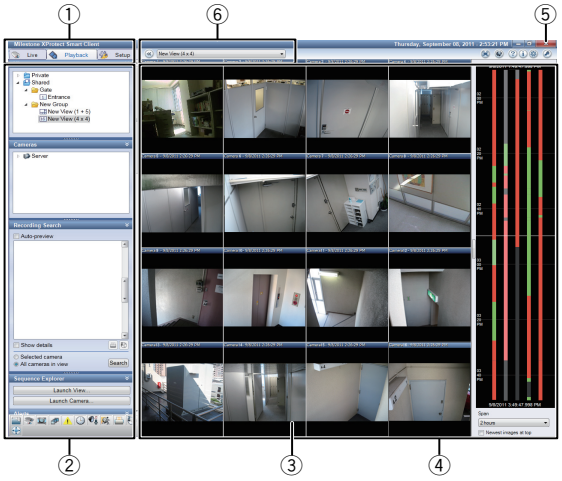
Notes:

- The recording frame rate may decrease during operations in the playback screen.
- When there is frequent access to the HDD, i.e. recorded images are played back at the same time with recording, playback images or audio sounds may be interrupted. (This does not affect recording to this unit of additional HDD.)
- When returning to the playback screen from the setting screen, the microphone selection for the [Audio] section may return to [None]. Reselect the microphone.
- Use the same time zone for the computer and this unit. When you play back recorded images on a computer with different time zone, the time of recorded images of this unit will be converted to the computer's time zone.
- If you want to change the time zone from date and time settings, click the [×] button to exit the Smart Client and restart.

Displaying the Playback Screen

1 Click the [Playback] tab

The playback screen appears (it may take several minutes).



Item	Description
① **[Playback] tab**	For displaying the [Playback] screen.
② **Operation section**	(☞ Page 148)
③ **Camera images**	Recorded images from the camera
④ **View**	Segmented display of recorded images from multiple cameras ● Recorded images of the same time and date (the time and date displayed in the [Time Navigation] section) are displayed for all cameras in the view.
⑤ **[Close] button**	For closing the view.
⑥ **View list**	For switching views.

- If you configure camera recording settings when the playback screen is active, playback images may not be displayed correctly after you configure the camera recording settings.
  In this case, "Cannot connect to server! Retry" or "Cannot connect to 127.0.0.1:80 on [device name] (camera name)" will be displayed in the playback screen. (127.0.0.1:80 is an IP address of this unit during operations.)
- If you attempt to play back when there are no recorded images, the playback screen keeps showing "Connect: [NVR] Camera1 on 127.0.0.1:80".

Note:

- The live indicator appears in the top bar of the playback screen. It lights up in green each time new images are displayed.
- Recorded images are saved as a database. Recording data is called a database in this unit.
- If a message such as "Before database start" is displayed in the playback screen, there is no database (recorded images) before the current position.
- If a message such as "No data" is displayed in the playback screen, there is no database (recorded images) after the current position.
- If the timeline is not displayed correctly (for example, it is split), switch the screen by clicking the [Live] or [Playback] tab, then click the [Setup] tab again.

Caution:

- Do not switch between the live screen and the playback screen frequently in a short time.

Viewing Recorded Images (continued)

Displaying the Playback Screen (continued)

■ Operation section on the playback screen

In the playback screen, you may use the following operations in corresponding sections.

- You can select to show/hide each section by clicking an icon.

Section	Icon	Description
Views		For selecting a view to display from the registered views.
Cameras		For displaying a camera list. By selecting a camera not listed in the view and dragging it into the view, you can view images from the camera.
Recording Search		For searching for recorded images by sequences.
Sequence Explorer		For displaying a list of sequence images of all cameras in the view.
Alerts		For searching for recorded images by alerts.
Time Navigation		For searching for recorded images by specifying date and time, as well as for performing playback operations for recorded images.
Audio		For performing speech communication with camera(s).
Smart Search		For searching for images with any motion.
Print		For printing recorded images.
Export		For saving recorded images on the desktop, etc.
PTZ Control		For performing PTZ camera operations.

Switching Views

This section describes procedures to switch views to show images of other cameras.

1 Select a view in the [Views] section, or from the view list on the upper part of the window

Caution:

- Do not switch views frequently in a short time.
- If live images are not displayed in VN-C625U/VN-C655U, change the password for VN-C625U/VN-C655U connection set on the camera and this unit. For setup procedures, refer to the relevant instruction manuals of cameras used, and the [Password] setup procedures under [Hardware Devices] in [Advanced Configuration] described in this manual (☞ Page 92).

Searching for Recorded Images

You can search for images recorded by this unit in following ways.

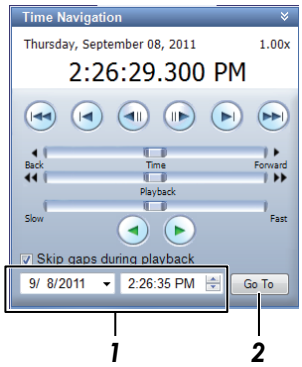
Search method	Reference
Search by recording date and time	(☞ Page 149)
Search by listing sequences of recorded images	(☞ Page 149)
Search by with/without recording	(☞ Page 150)
Search for sequences of recorded images by recorded date and time	(☞ Page 151)
Search from the alert list	(☞ Page 151)
Search by changes in images in specific areas (Smart Search)	(☞ Page 152)

Search for recorded images by date and time

This section describes procedures to search for recorded images by using the [Time Navigation] section in the playback screen.

Note:

- If the [Time Navigation] section is not displayed, click [ ] to display it.



1 Select a search date and time in the [Time Navigation] section

- Specify a date and time in the left and right boxes, respectively.

2 Click [Go To]

Images of the specified date and time are displayed in the view.

- Date and time of the present images are displayed in the master time display part.

Note:

- There may be no images of the specified date and time of multiple cameras in the view if, for example, images were recorded by motion detection. In this case, the last images before the specified date and time in the camera database are displayed. (Recorded images are saved in a database.)
- Playback speed currently selected is displayed.

Caution:

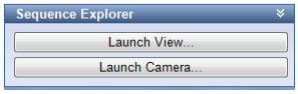
- Items in the master time display part may be beyond the recording date and time of the latest recorded images. In this case, click in the browser button section to move to the latest recorded images, and click the playback button .
- If the [Skip gaps during playback] check box is selected in the [Time Navigation] section, playback may be stopped when it reaches the end of the recording part during simultaneous image playback. In such a case, deselect the [Skip gaps during playback] check box. When playback is stopped, click the playback button again.

Searching from the Image List

You can use the Sequence Explorer to search from a list of the first image of each sequence (a group of recorded images triggered by an event or motion) or specified time interval.

Note:

- If the [Sequence Explorer] section is not displayed, click [ ] to display it.



1 Select a target for listing in the [Sequence Explorer] section and launch it

Item	Description
Launch View...	For displaying a list of recorded images of all cameras in the current view.
Launch Camera...	For displaying a list of recorded images of the selected camera.

2 Select a list type (sequence or span)

3 Click images you want to view from the list

The images you selected are displayed in the left part of the screen.

Note:

- To change the listed images, drag the [Resize] slider right or left.
- You can exclude any camera from search objects by deselecting the corresponding check box of each camera.
- If images are not displayed correctly in the sequence explorer window, changing the display by clicking [ ] at the top right of the window may solve the problem.

Caution:

- It may take time if lots of sequences exist. In such a case, the recording frame rate may decrease while displaying the sequence.
- It you close the sequence explorer before all sequences are displayed, the recording frame rate may decrease or live images will not be displayed correctly for a while.
- To prevent unwanted sequences from being created, set [Motion Detection and Excluded Regions] in [Camera Properties] correctly. If motion detection is not used, set [Exclude regions] to [Enable], then select [Select All]. (☞ Page 97)

Searching for Recorded Images (continued)

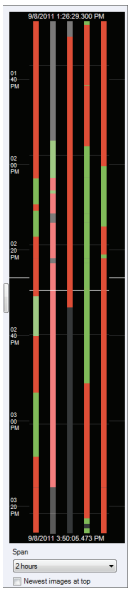
Searching for Images by With/ Without Recording

The timeline browser in the right part of the playback screen enables you to search for images by with/without recording and/or types.

Caution:

- Timeline is only for reference. It may be misaligned with the actual time.

■ Timeline Description



Timeline		For indicating recording status. One for each camera available in the Smart Client is displayed. The timeline of the selected camera is highlighted.
	Red	For indicating recording triggered by any motion detection or event occurrence. (In pink when highlighted)
	Green	For indicating recording before/after a motion detection. (In light green when highlighted)
	Black	For indicating a period with no recording. (In grey when highlighted)
	White center line (time indication pointer)	For indicating the time of present images.
	(At the left hand side of the timeline/ browser)	For showing or hiding the timeline/ browser.

■ Search by timeline

1 Select a timeline display

Item	Description
Span	For selecting a span to display.
Newest images at top	Select this check box to reverse the time flow on the timeline.

2 Drag the timeline upwards or downwards to search

- Check the time indication pointer when you drag it.

Note:

- Display settings of the timeline browser will not be retained. Settings will be lost when you restart the Smart Client.
- With a mouse with a scroll wheel, you can use the wheel to search through the timeline.
- Double-click any part of the timeline to show images at the time.

Caution:

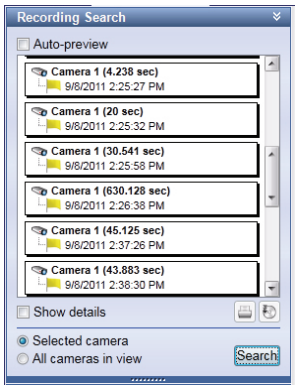
- When you drag the timeline upwards or downwards with your mouse, a part of the timeline may not be updated. In such a case, exit the Smart Client (☞ Page 134) and then restart it (☞ Page 133).

Searching for Recorded Images

This section describes procedures to list recorded images by sequences of images recorded due to any event or motion.

Note:

- If the [Recording Search] section is not displayed, click [ ] to display it.



1 Select a search target

- When searching for a camera: select a camera to search in the view, and then select [Selected camera] in the [Recording Search] section
- When searching for a view: display a view to search, and then select [All cameras in view] in the [Recording Search] section.

2 Click [Search]

20 images each for before/after the displayed time are listed.

- Select the [Auto-preview] check box to view a preview image when you point the mouse pointer to a sequence in the list.

3 Click a sequence in the list

All images in the view are displayed according to the date and time of the selected sequence.

Note:

- When [Auto-preview] is selected, a sequence preview can be displayed by hovering the cursor over a sequence name in the list.
- The first image of the selected sequence can be printed by clicking the print icon in the [Recording Search] section (☞ Page 156 "Printing a Recorded Image (operation from surveillance computer)").
- Exporting can be performed by clicking the export icon. (☞ Page 164 "Saving Images and Audio Sounds on a USB Flash Memory (Export)")
- The exact date and time of when a detected motion or event triggered recording to start, and the exact date and time of the start and finish of a sequence can be displayed by clicking [Show details].

Caution:

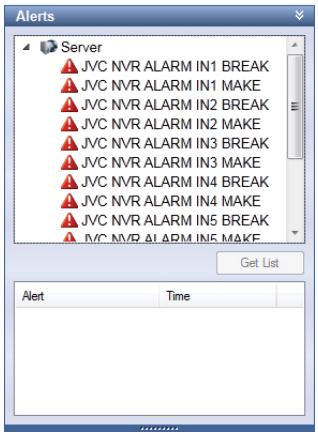
- Multiple sequences in a row may be consolidated as one sequence depending on settings for recording before/after any motion/event occurrence (☞ Page 58).

Searching for Recorded Images from the Alert List

This section describes procedures to list recorded images by types of trigger (event) of recording.

Note:

- If the [Alerts] section is not displayed, click [ ] to display it.



1 Select an event from the alert list of the [Alerts] section

- You can select a preferred event, camera or [Server].

2 Click [Get List]

A list of detected events is displayed.

- You can view recorded images of a selected event by clicking the event list.

Note:

- Event(s) in the period before and after the time specified in the [Time Navigation] are obtained in the alert list.

Searching for Recorded Images (continued)

Smart Search

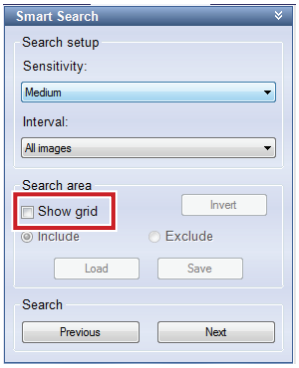
You can search for images with any motion by specifying a search area from recorded images of the selected camera.

Note:

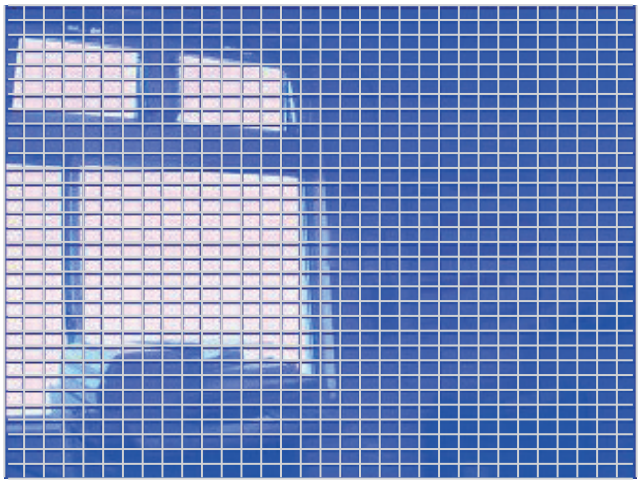
- If the [Smart Search] section is not displayed, click [ ] to display it.

1 Select a camera for searching by clicking camera images

2 Select the [Show grid] check box under [Search area] in the [Smart Search] section



- Blue grids are displayed.



3 Click and drag within the screen to specify an area to search

The specified area becomes transparent.

- Select the [Include] check box to add the dragged part to the search area. Select the [Exclude] check box to delete the dragged part from the search area.
- Select the [Invert] check box to select to include or exclude the selected area.

4 Select a sensitivity level from the [Sensitivity] list under [Search setup]

Select from parameters below:

- [Very high]
- [High]
- [Medium]
- [Low]
- [Very low]

5 Specify a time interval in the [Interval] list

6 Search by repeatedly clicking [Next] or [Previous]

Searching for data where any motion is detected in the area starts. It will be displayed when any motion is detected in the area and such motion will be highlighted.

Caution:

- Smart Search searches for data [Forward] or [Backward] from the present image time.
- When Smart Search is used during recording, the recording frame rate may decrease. Use the feature to the extent that the display does not turn red by checking the CPU meter.

Note:

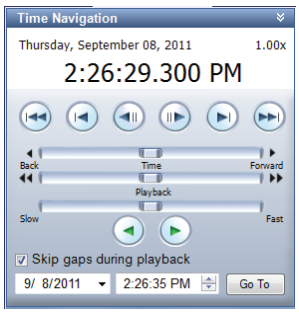
- You can save the area specified in Step ***3*** temporarily by clicking [Save].
  You can restore the saved area settings by clicking [Load] after specifying another area.
- To cancel the area selection, select the [Exclude] check box and drag the whole area.

Playing back Recorded Images

This section describes procedures to perform playback, stop, and skip operations in the [Time Navigation] section of the Smart Client.

Note:

- If the [Time Navigation] section is not displayed, click [ ] to display it.



Functions of buttons and sliders are as follows.

● **Browse buttons**

: Move to the previous image of the selected camera. (Frame rewind)

: Move to the next image of the selected camera. (Frame advance)

: Move to the top image of the previous sequence of the selected camera. (The function may not work properly depending on the existence or length of the sequence.)

: Move to the top image of the next sequence of the selected camera. (The function may not work properly depending on the existence or length of the sequence.)

: Move to the oldest recorded images of the selected camera. (The function may not work properly during playback at 10 or more times faster than normal)

: Move to the latest recorded images of the selected camera. (The function may not work properly during playback at 10 or more times faster than normal)

Caution:

- The browse buttons are inactive unless a camera is selected.
- It may take a while to complete movement after you click the browse buttons . Note that clicking any of the buttons in a row before completion of the movement will move the sequence as a whole.

● **[Time] slider**

Drag the slider to the left to show older images and to the right to show newer images. Use the upper slider for fine adjustment in a limited time span (0.4 to 240 times), and the lower slider for rough adjustment in a longer time span (20 to 36,000 times).

● **[Playback] slider**

Playback speed is normal with the slider at the center position. Drag the slider to the left to decrease the playback speed and to the right to increase the speed. Drag the slider to the left end to pause.

The speed during playback is indicated in the upper right in the master time display part.

● **[Playback] buttons**

: For reverse playback.

: For normal playback.

: For pausing playback.

Note:

- When the playback slider is at the left end (pause), the playback buttons are inactive. Set the playback slider to a preferred speed.

■ To skip parts with no recording

You can skip parts with no recorded images on the selected camera during playback by selecting the [Skip gaps during playback] check box in the [Time Navigation] section.

- When in split screen display, even when there are no images recorded by the selected camera, if there are images recorded by another camera this part will not be skipped. In this case, the image shown last is displayed on the camera with no recording.

Searching for Recorded Images (continued)

Playing Back Recorded Images of Different Times for Specific Camera(s) (Independent Playback)

In the playback tab, recorded images of the same time are played back all together for all cameras.

By using the independent playback function, you can view images of different recording times for specific camera(s).

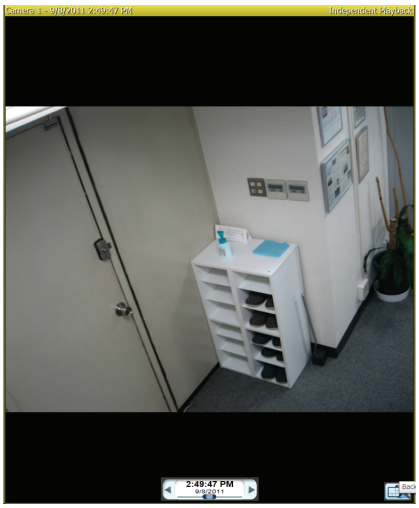
- Independent playback function can be used for multiple cameras.
- Independent playback function can also be performed from the view in the live tab.

1 Point the cursor to camera images in the view

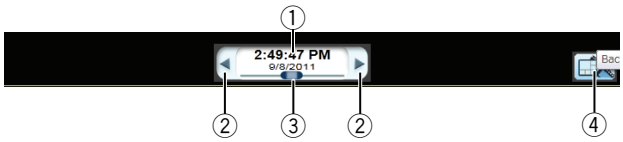
The independent playback start button appears on the camera images.

2 Click the independent playback start button

The camera's title bar turns yellow and playback pauses. To start playback, click [ ] to the right of the time and date display.



3 Search for images you want to view



Item	Description
① **Time and date**	For displaying the date and time when the image was recorded.
②	For reverse/normal playback ● Click once to use them as pause buttons.
③ **Slider**	For changing playback speed during playback. ● Audio sounds will not be played back.
④	For finishing independent playback.

- The controller disappears when the cursor goes outside of the camera image.

4 Click [ ] to finish independent playback

The color of the title bar returns to normal.

Note:

- If the camera window is displayed small, the slider is not displayed. In this case, display the slider by maximizing the Viewer or double-clicking the bar on the upper edge of the camera window to enlarge it.

Listening to recorded audio sounds

You can listen to audio sounds (recorded sounds) of a camera with a microphone.

Note:

- If the [Audio] section is not displayed, click [ ] to display it.

1 Select an audio sound from the [Listen to] list in [Microphones].

- To mute temporarily, select the [Mute] check box.

Caution:

- Audio sounds may be interrupted when more than one surveillance computer plays back the sounds.
- When returning to the playback screen from the setting screen, the microphone selection for the [Audio] section may return to [None]. Reselect the microphone.
- No audio sound is output during still image display, searching at other than forward × 1 speed or frame advance playback.
- When any playback operation of recorded images is performed during recording, playback sounds may be interrupted.

Note:

- If any camera for which the audio sound setting is specified, the specified audio sound will be output.
- If any camera for which the audio sound setting is not specified, the last audio sound output will be used continuously.
- [Speakers] cannot be used on the playback screen.

Viewer Part

Applications

This chapter describes procedures to customize views according to specific applications.

Caution:
- If you change settings of Management Application while Smart Client is on, shut down Smart Client, then restart it.

Printing a Recorded Image (operation from surveillance computer)

You can print a playback image presented on the screen.

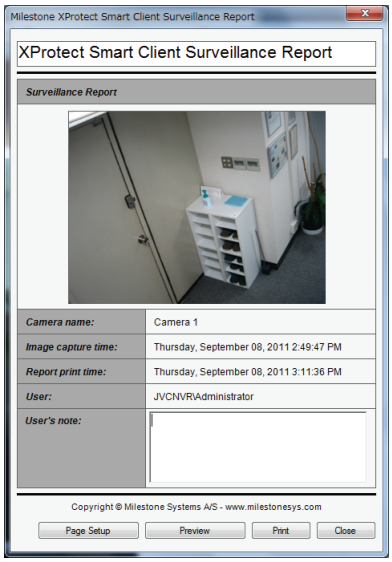
Caution:

- You cannot print images from VR-X3200U/VR-X1600U. This is a function used in [Smart Client] downloaded from the surveillance computer.

1 Click the [Playback] tab

2 Click [Print...] in the [Print] section

- The [XProtect Smart Client Surveillance Report] screen appears.
- When any comment is entered in [User's note], it will also be printed.



3 Click [Page Setup] to configure printer settings

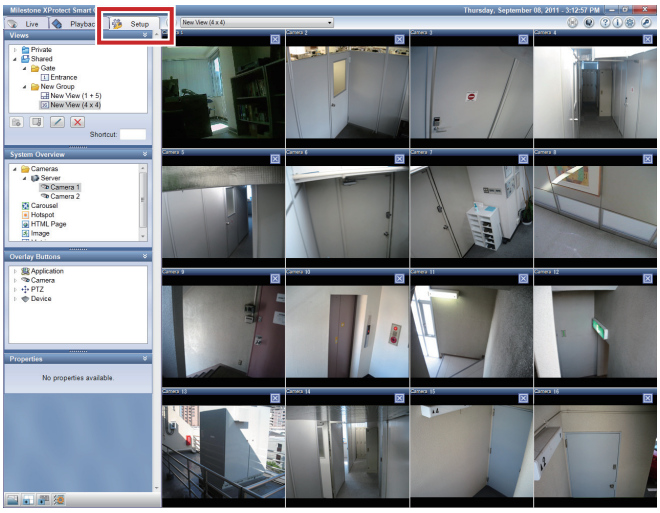
4 Click [Print] to start printing

- When printing is finished, click [Close] to exit the printing screen.

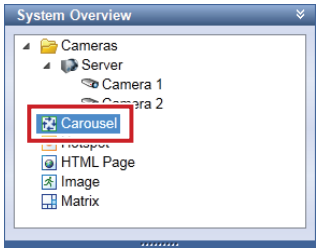
Automatically Switching Images of Multiple Cameras

You can use the carousel function to view images from multiple cameras in one display position by rotation. You can also specify the camera switching interval.

1 Click the [Setup] tab

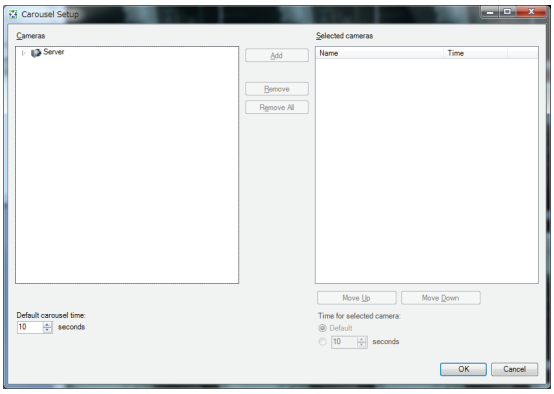


2 Click [Carousel] in the [System Overview] section and drag to a preferred position in the view



3 Release the mouse button at a preferred position

The setting screen appears.



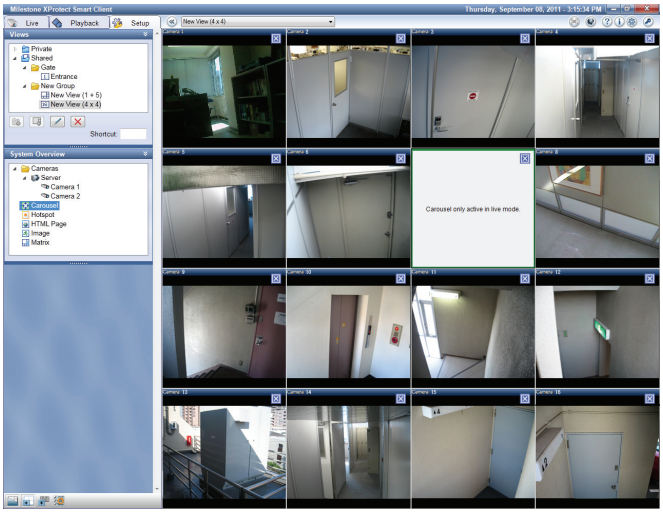
4 Select a camera in the [Cameras] list and click [Add]

It is added to the [Selected-cameras] list.

5 Specify a display period in seconds

Item	Description
① **Default carousel time**	For specifying units of seconds common to multiple cameras, if applicable.
② **Time for selected camera**	For specifying a display period for cameras selected in the list in seconds. Select the [Default] check box to set the units of time set in [Default carousel time].
③ **Move Up/ Move Down**	For changing the order of the selected cameras.

6 Click [OK]



Note:

- The green frame indicates that the area in the frame is set for the carousel feature.

■ Changing the Camera While the Carousel Function is Active

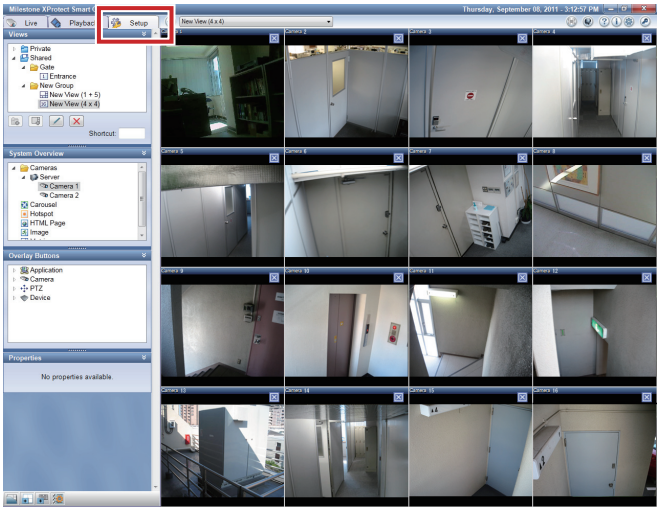
On the live images screen, the following operation icons will be displayed if you place the cursor in the bar of the camera window set for the carousel function.

Item	Description
< >	Change the camera in the order set for the carousel function.
⏸	Pause playback.

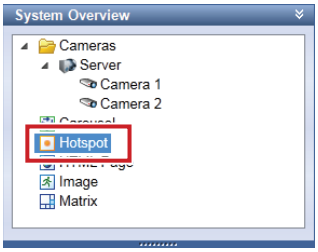
Enlarging Images of a Selected Camera (Hotspot)

This section describes procedures to display a camera selected in the view in the hotspot area. You can view an enlarged view by setting a display area larger than the others, i.e. [1] in the [1 + 7] layout, as a hotspot.

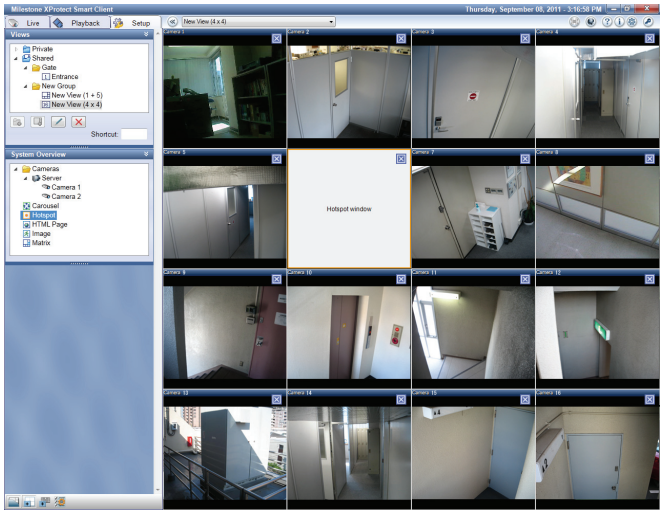
1 Click the [Setup] tab



2 Click [Hotspot] in the [System Overview] section and drag to a preferred position in the view



3 Release the mouse button at a preferred position



Enlarging Images of a Selected Camera (Hotspot) (continued)

4 Select the area you set as [Hotspot] and configure properties in the [Properties] section

Item	Description
Image quality	For adjusting resolution and image quality of images to display. Always set this to [Full].
Frame rate	Frame rate of the display. Select from [Unlimited] (the same as default and live settings), [Medium] (25% frame rate), or [Low] (5% frame rate) for the frame rate set on the [Camera Properties] screen.
Keep when maximized	Select to preserve the set image quality when enlarging the display by double-clicking the camera window. If not selected, full quality will always be used when enlarging the display.
Maintain image aspect ratio	Select this check box to not expand/contract images to the display area size. Images will be displayed at the original aspect ratio.
Show	For showing/hiding the title bar and live indicator.

Caution:

- The recording frame rate may decrease when the image quality is changed. Use the [Full] setting since [Image quality] settings affect the recording performance.

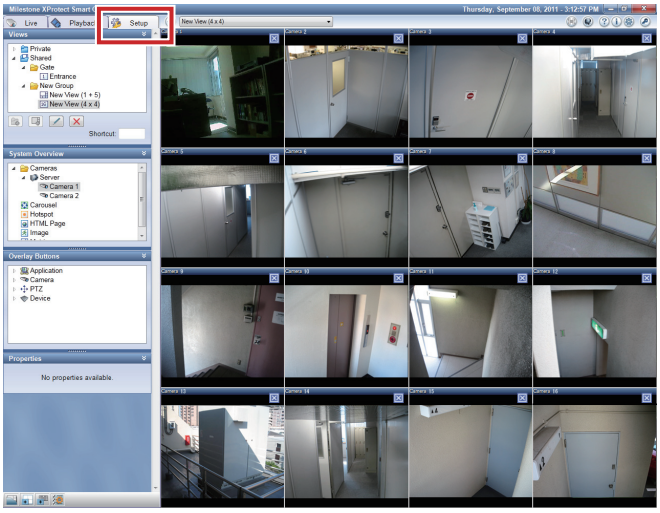
Note:

- You can use the hotspot feature to use a higher frame rate for the hotspot and a lower frame rate for the other images for your convenience.
- The orange frame indicates that the area in the frame is set as a hotspot.
- When you set multiple views as hotspots and switch views, the hotspot window you switched to shows camera images that have been displayed in the view you switched from.

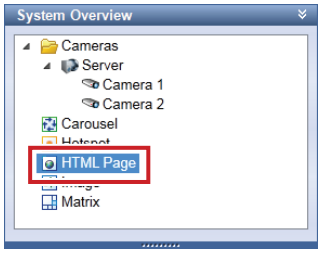
Displaying a Web Page (HTML Page) in View

You can display an HTML page instead of camera images.

1 Click the [Setup] tab

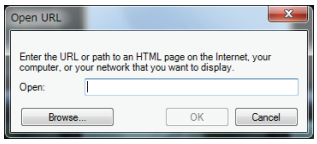


2 Click [HTML Page] in the [System Overview] section and drag to a preferred position in the view



3 Release the mouse button at a preferred position

The [Open URL] window appears.



4 Enter a URL and click [OK]

5 Select an HTML page in the view and configure properties in the [Properties] section

Item	Description
URL	To enter a new URL, click [New…] button.
Scaling	For selecting a display size of the HTML page.
Enable HTML scripting	Select this check box to specify an HTML file including navigation and trigger features.
Hide toolbar	Select to hide the toolbar on HTML pages.

Caution:

- This unit does not support ActiveX and Flash, etc.
- Do not install ActiveX.
- Some link destinations may pose security problems.

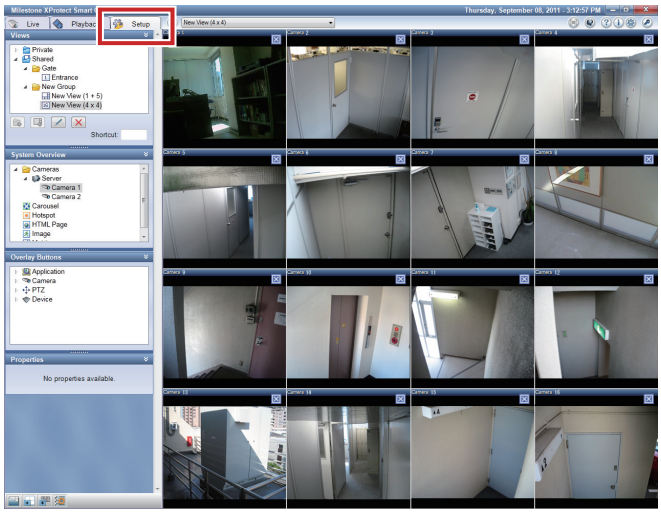
Displaying a Still Image instead of Camera Images

You can display a still image in the view instead of images when there is an unused camera.

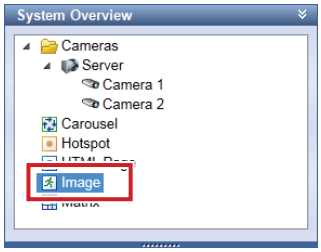
Caution:

- This setting is for surveillance computers. Do not set still images on the unit.
- Any still images located on other computers cannot be used.

1 Click the [Setup] tab

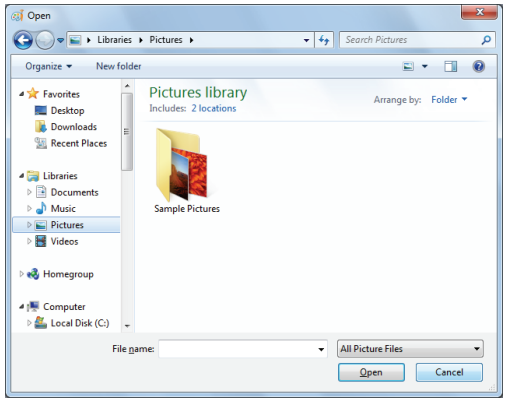


2 Click [Image] in the [System Overview] section and drag to a preferred position in the view



3 Release the mouse button at a preferred position

The [Open] window appears.



4 Select an image file and click [Open]

Creating a Frequently-used Operation Button

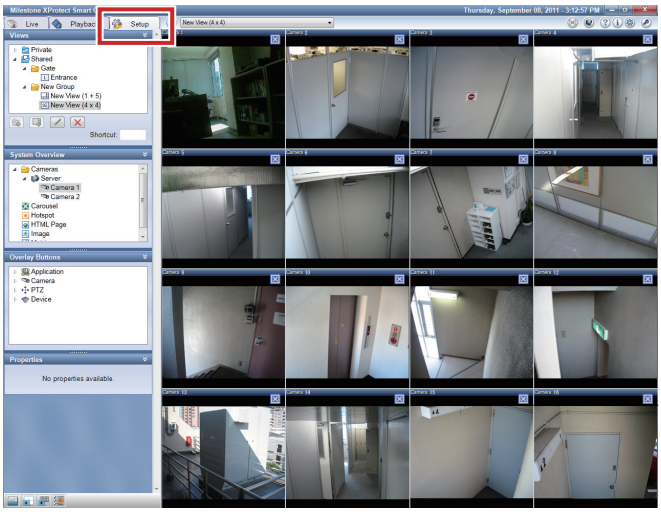
You can register frequently-used features as overlay buttons.

- The overlay buttons are displayed when you point the cursor on camera images and you can click each button to execute the corresponding feature.
- You can create buttons for each camera image.
- Some features may be unavailable depending on users due to access limitations of each feature.

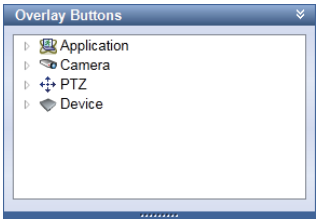
Caution:

- Available features vary depending on the camera.

1 Click the [Setup] tab



2 Select a necessary feature in the [Overlay Buttons] section and drag an overlay button onto the preferred camera images



3 Release the mouse button

An overlay button for the features is displayed.

4 Resize and/or rename

- Drag a button handle to resize.
- Double-click the button text and edit the button name. Press the [ENTER] button on the keyboard after editing.

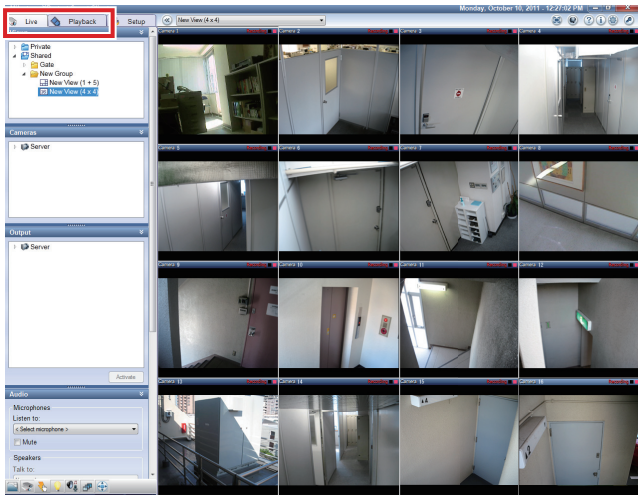
Note:

- You can also rename the button by right-clicking an overlay button you want to rename and selecting [Edit].
- To delete an overlay button, right-click the overlay button you want to delete and select [Delete].

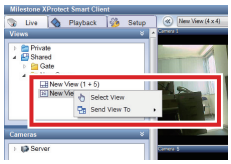
Displaying a Floating Window

You can display the view as a floating window when, for example, using multiple monitors.

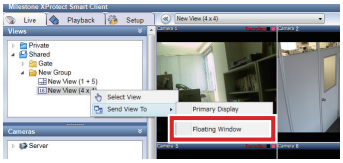
1 Click the [Live] tab or [Playback] tab



2 In the [Views] section, right-click the view you would like to display as a floating window



3 Select [Floating Window] from [Send View To] in the popup menu



Note:

- Display live images in a floating window even when displaying the [Playback] tab.

Caution:

- If many floating windows are used, the load on the CPU will be increased.
  If the CPU meter is red, reduce the load on the CPU by, for example, lowering the display or recording frame rate.
- You may not be able to move Smart Client after closing the floating window. In this case, once maximize Smart Client, and then restore it to enable you to move Smart Client.

Customizing Joystick Settings

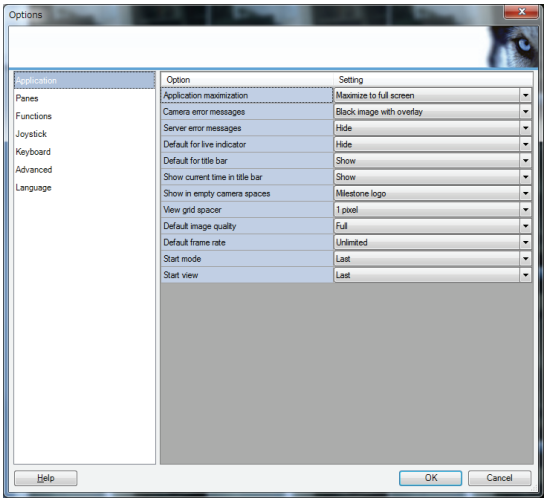
You can perform PTZ camera operations by using a joystick (sold separately).

Note:

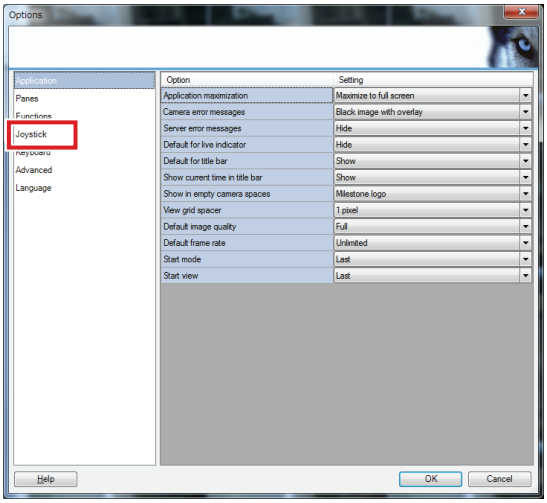
- For details of compatible joysticks, consult you nearest JVC KENWOOD dealer or serve center. You can also check on our website.

1 Click the [(Options)] button at the top right corner of tne screen

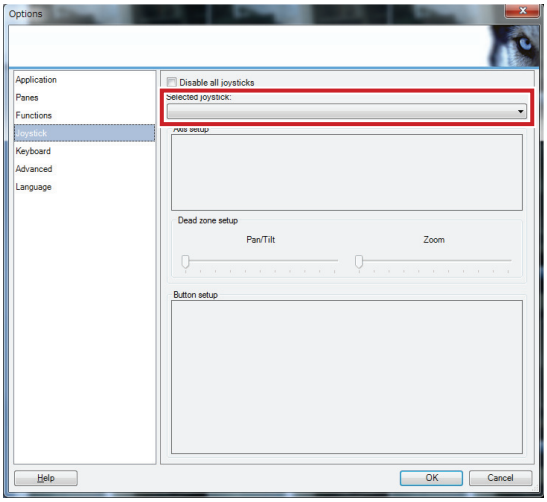
The [Options] window appears.



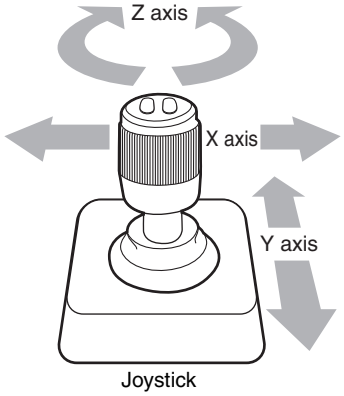
2 Select [Joystick]



3 Select a joystick from the [Selected joystick] list



4 Specify the settings for each axis in the [Axis setup] section



Item		Description
Invert		By default, the PTZ camera moves to the right when you push the joystick to the right along the X-axis, and moves up when you pull the joystick towards you along the Y-axis. The movements are reversed if you select [Invert].
Absolute		The angle of the joystick corresponds to the direction of the camera.
Action		For specifying the action when you move the joystick.
	PTZ Pan	Moves the camera horizontally
	PTZ Tilt	Moves the camera vertically
	PTZ Zoom	Zooms in or zooms out the camera
	No Action	No action
Preview Image		You can check how each camera moves on each axis with the joystick.

Customizing Joystick Settings (continued)

5 Set the "play" (dead zone) of the joystick for pan/tilt and zoom

- As the slider is moved to the right, the dead zone is expanded and the amount of joystick movement required for operation of the camera is increased.

6 Assign an action to each joystick button in the [Button setup] section

- Select the action to assign in the [Action] field.

■ Disabling Joystick Operation

To disable the joystick operation, select the [Disable all joysticks] check box.

Viewer Part

Reference

This chapter describes operations to make full use of the viewer. Lists of available features in each screen and settings are also provided.

Caution:
- If you change settings of Management Application while Smart Client is on, shut down Smart Client, then restart it.

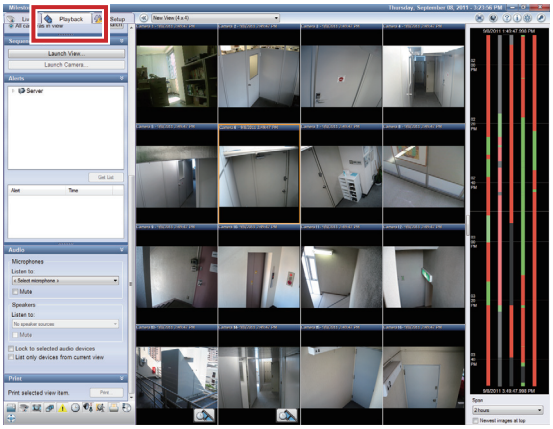
Saving Images and Audio Sounds on a USB Flash Memory (Export)

Images and audio recorded on this unit can be saved (exported) as video, still pictures, or in database format, and be viewed on computers outside the surveillance system.

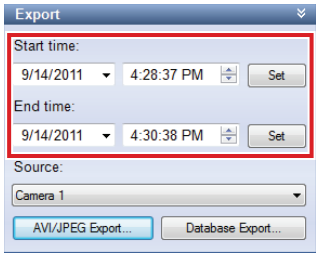
- A surveillance computer may write recorded images and audio sounds to a USB flash memory or the desktop.
- When using a USB flash memory, connect the USB flash memory to the front of this unit beforehand.

Saving as a Video or Still Image

1 Click the [Playback] tab



2 Enter start date/time and stop date/time in the [Export] section

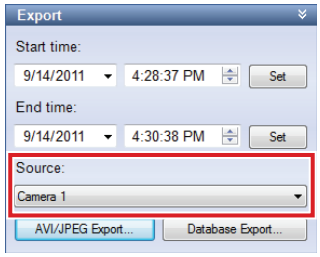


- When you click [Set] in [Start time], the date/time is entered in the master time display part in [Time Navigation].
- When you click [Set] in [End time], the date/time displayed in the master time display part in [Time Navigation] plus 1 second is entered.

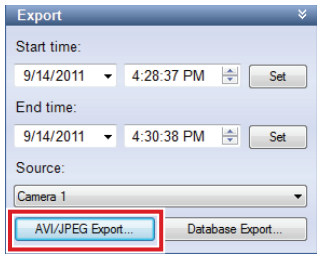
Caution:

- You may fail to use [Export] if images to export contain ones with a large time gap by changing the time. In this case, export images separately, images before changing the time and ones after changing the time. (Example: summer time, etc.)

3 Select a camera from the [Source:] list

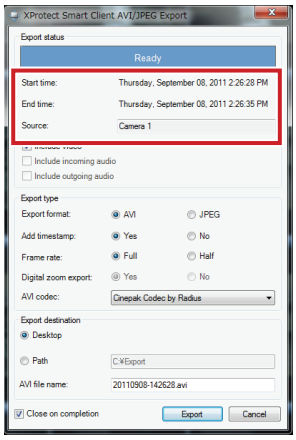


4 Click [AVI/JPEG Export...]



The export dialog will appear.

- Ensure that the start and end date/time and camera name you entered are displayed.



Note:

- Preparation for export may take a while depending on connection status of additional HDD(s).

5 Select the export format

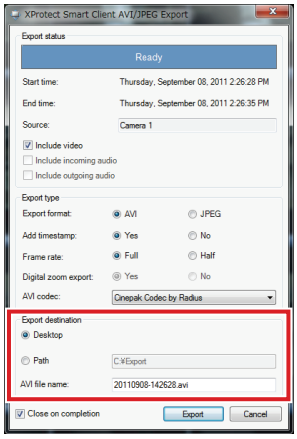
- Select [AVI] (movie clip) or [JPEG] (still image).
- Select whether to display the time in the image to export.

6 If you have selected [AVI], select a frame rate

- Select either [Full] to transmit all images to an AVI file, or [Half] to transmit images for each second to decrease the AVI file size (images are played back in real time).

7 When AVI format is selected, select the codec type from the [AVI codec] list

8 Specify the export destination



Item	Description
Desktop	Select this radio button to export data to the desktop.
Path	Select this radio button to specify a folder to which data will be exported and to enter a path. ● When viewing on another computer, select [Path] and specify a path from the USB flash memory.

9 Enter a file name (when AVI is selected)

- Unless you specify a name, the file name will be the export start date/time (“yyyymmdd-hhmmss.avi”).

Caution:

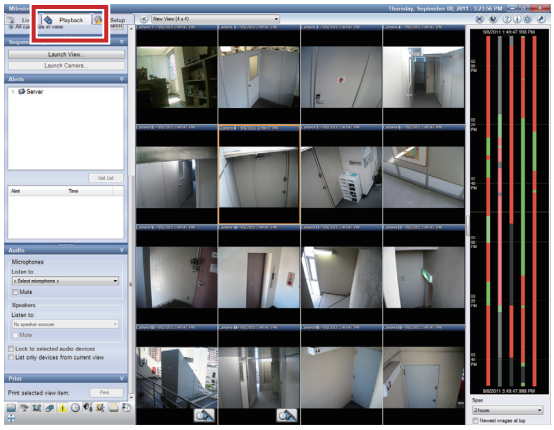
- If the date/time of data you ran [Export] previously is the same as Start date/time, AVI file will be overwritten. If you want to store the previous data, run [Export] only after changing the path or AVI file name.

10 Click [Export]

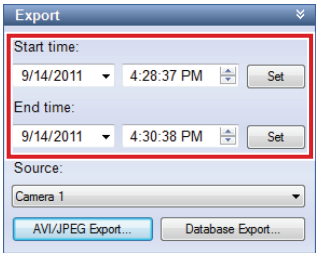
An [Exported Images] folder is automatically created in the specified location and exporting is started.

Saving Images in Database Format

1 Click the [Playback] tab



2 Enter start date/time and stop date/time in the [Export] section

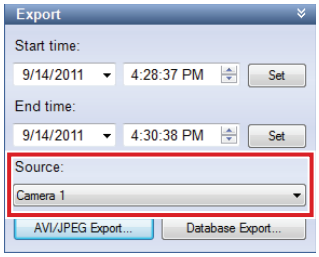


- When you click [Set] in [Start time], the date/time is entered in the master time display part in [Time Navigation].
- When you click [Set] in [End time], the date/time displayed in the master time display part in [Time Navigation] plus 1 second is entered.

Caution:

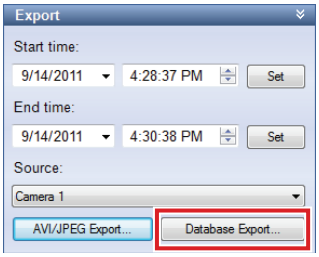
- You may fail to use [Export] if images to export contain ones with a large time gap by changing the time. In this case, export images separately, images before changing the time and ones after changing the time. (Example: summer time, etc.)

3 Select a camera from the [Source:] list



- When you have selected [- Current view sources -], images from all cameras in the view will be exported.

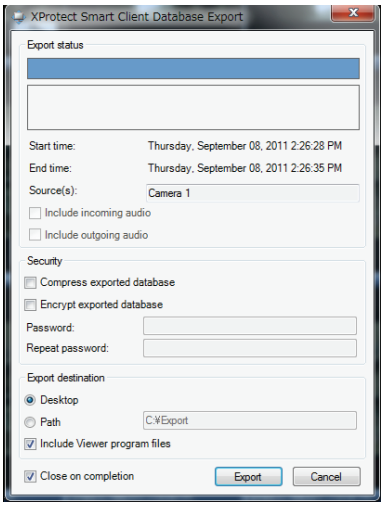
4 Click [Database Export...]



Saving Images and Audio Sounds on a USB Flash Memory (Export) (continued)

Saving Images in Database Format (continued)

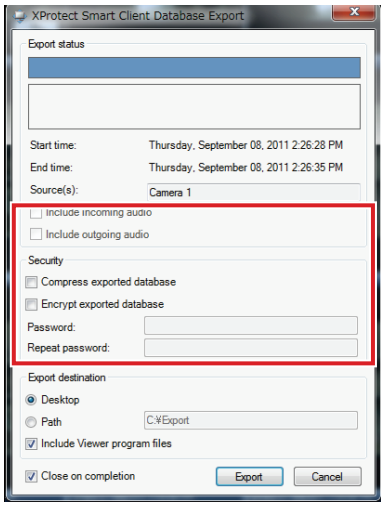
The export dialog will appear.



Note:

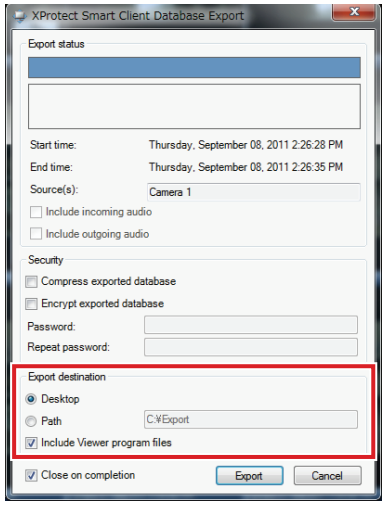
- Preparation for export may take a while depending on connection status of additional HDD(s).

5 Specify contents to save



Item	Description
Include incoming audio/Include outgoing audio	Select these check boxes to include incoming/outgoing audio sounds in images to export. (The check boxes are inactive when there is no audio source.)
Compress exported database	Select this check box to compress data to export.
Encrypt exported database	Select this check box to encrypt data to export. Set a password for decryption.

6 Specify the export destination



Item	Description
Desktop	Select this radio button to export data to the desktop.
Path	Select this radio button to specify a folder to export data to. ● When viewing on another computer, select [Path] and specify a path from the USB flash memory.

- Select the [Include Viewer program files] check box to assign a dedicated application to play back recorded images with data to export. For viewers, refer to "Viewing Exported Data by Computer" (☞ Page 167).

Caution:

- If the destination of database that you ran [Export] previously is the same as the current destination, the database will be overwritten. If you want to store the previous data, run [Export] only after changing the path.

7 Click [Export]

An [Exported Images] folder is automatically created in the specified location and exporting is started.

Caution:

- The recording frame rate may decrease during exporting.

Viewing Exported Data by Computer

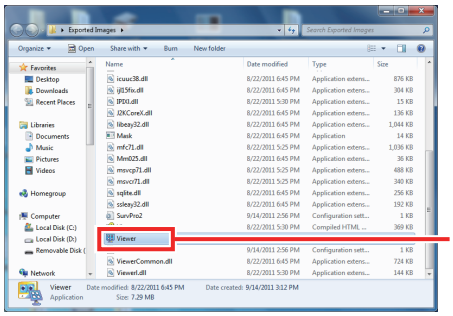
To view data exported in the database format by a computer, use the dedicated viewer (export viewer). The installer of the dedicated viewer is located in the [Exported Images] folder created at the time of exporting.

Starting the Export Viewer

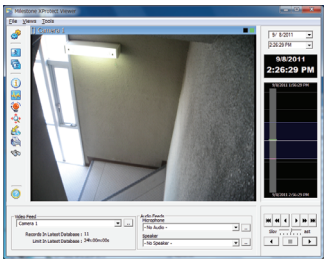
1 Copy the exported data ([Exported Images] folder) onto the computer's desktop

2 Open the [Exported Images] folder

3 Double-click [Viewer.exe] in the data folder



The viewer is launched.

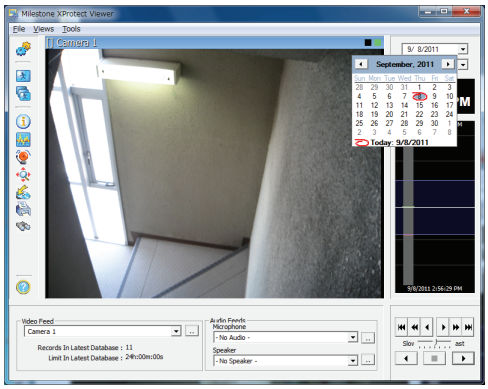


Viewing Exported Data

■ Viewing Data on a Specific Date/Time Using Date/Time Selection

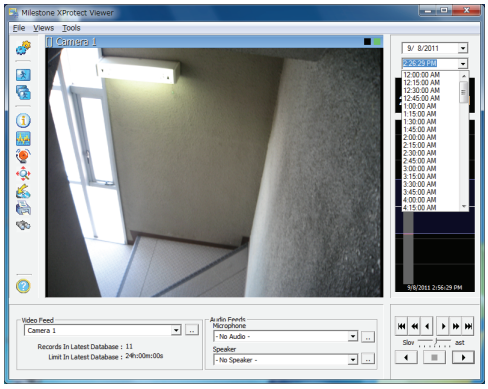
1 Click the [▼] button for date selection, and select the specified date from the calendar

Images of the selected date appear.



2 Click the [▼] button for time selection, and select a specific time

Images of the selected time appear.

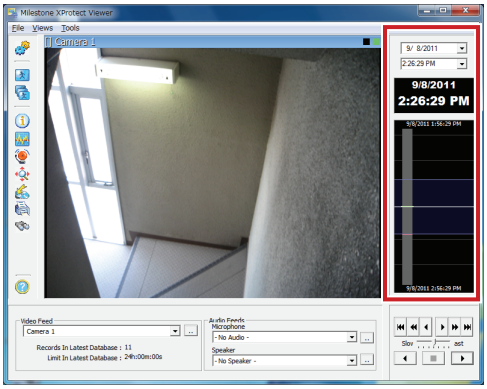


Viewing Exported Data by Computer (continued)

Viewing Exported Data (continued)

■ Viewing Data on a Specific Date/Time Using Timeline

The vertical timeline indicates the progress status of a recording operation.



1 Drag the mouse pointer upwards or downwards on the Timeline

- You can view data at the specified date/time while checking the images.

Note:

- You can also use the Smart Search function. If the start time and end time cannot be set when using the Smart Search function, click [...] of [ ] > [Image Feed] and select each file to play back (extension ".pqz") one by one.

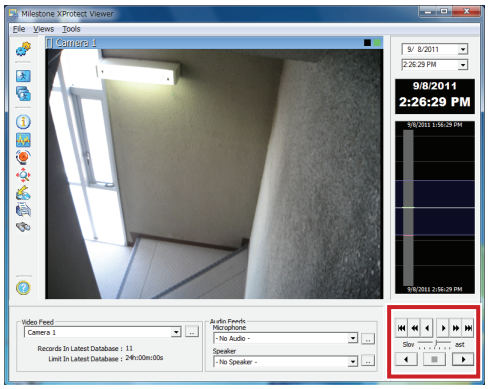
Data Playback/Stopping Data Playback

■ Playback

1 Set the playback speed using the speed control

2 Click the Play button

- The database is played back at the specified speed.



■ Stopping Playback

1 Click the Stop button

- Data playback stops.

Exiting the Export Viewer

1 Select [File] > [Exit] from the menu

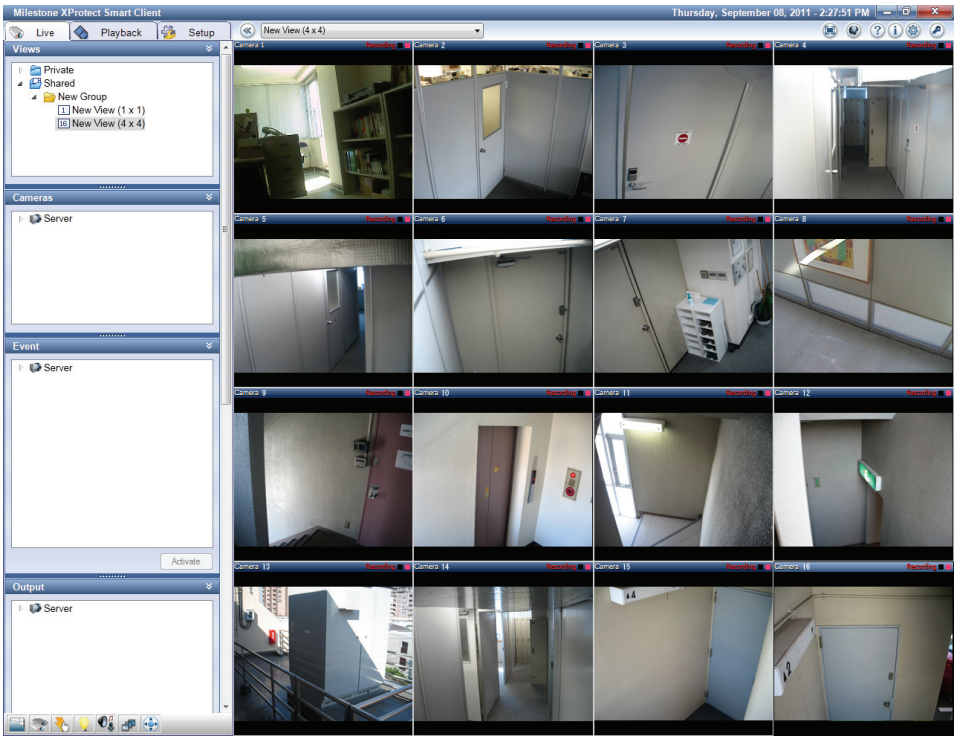
- The Export Viewer is closed.

Note:

- You can also click [×] on the top right of the screen to exit the viewer.
- For details of the viewer, refer to the "Help" (by clicking) or Milestone XProtect Smart Client User's Manual available on the website of Milestone Systems (http://www.milestonesys.com).
- The URL address may be subject to change.

Operations and Settings Available on Each Screen

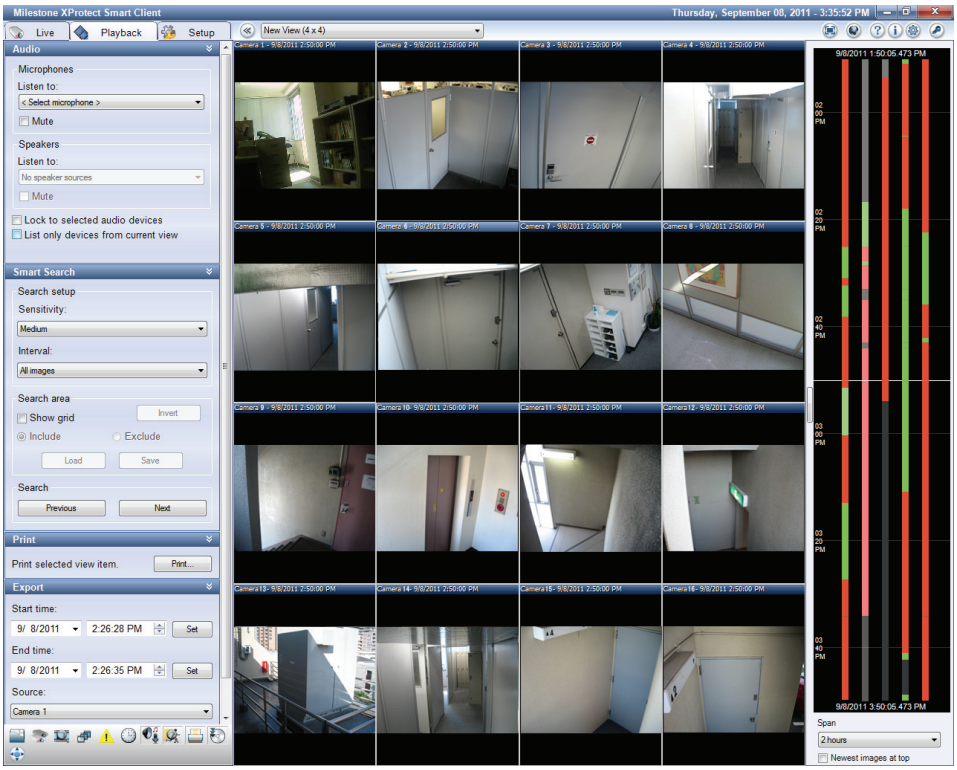
Live Screen



Section	Item		Description
Views	—		For hierarchical display of the registered views.
Cameras	—		For displaying a camera list. By selecting a camera not listed in the view and dragging it into the view, you can view images from the camera.
Event	—		For starting a manual event. Select an event to start from the list and click [Activate].
Output	—		For activating an output. Select an output to activate from the list and click [Activate].
Audio	Microphones		For selecting a source (camera) you want to listen to audio sounds from. ● Select the [Mute] check box to mute the microphone.
	Speakers		For selecting a speaker to use. ● During talking, keep [Talk] clicked.
	Lock to selected audio devices		Check the check box to keep using the selected microphone and/or speaker when you select another camera with a microphone and/or speaker.
	List only devices from current view		Check the check box to list the audio devices in the view only.
Sequence Explorer	Launch View...		For displaying a list of sequence images of all cameras in the view.
	Launch Camera...		For displaying a list of sequence images of the selected camera.
PTZ Control	Presets		For selecting a preset position.
	Fisheye PTZ positions	Load	For moving to a location where the fisheye lens camera is saved.
		Save	For saving a specific location of the fisheye lens camera.
	Navigation buttons	Arrows	For directing the PTZ camera in the direction of each arrow.
		+/-	For zooming in/out.
		Digital zoom	Select this check box to use the digital zoom feature.

Operations and Settings Available on Each Screen (continued)

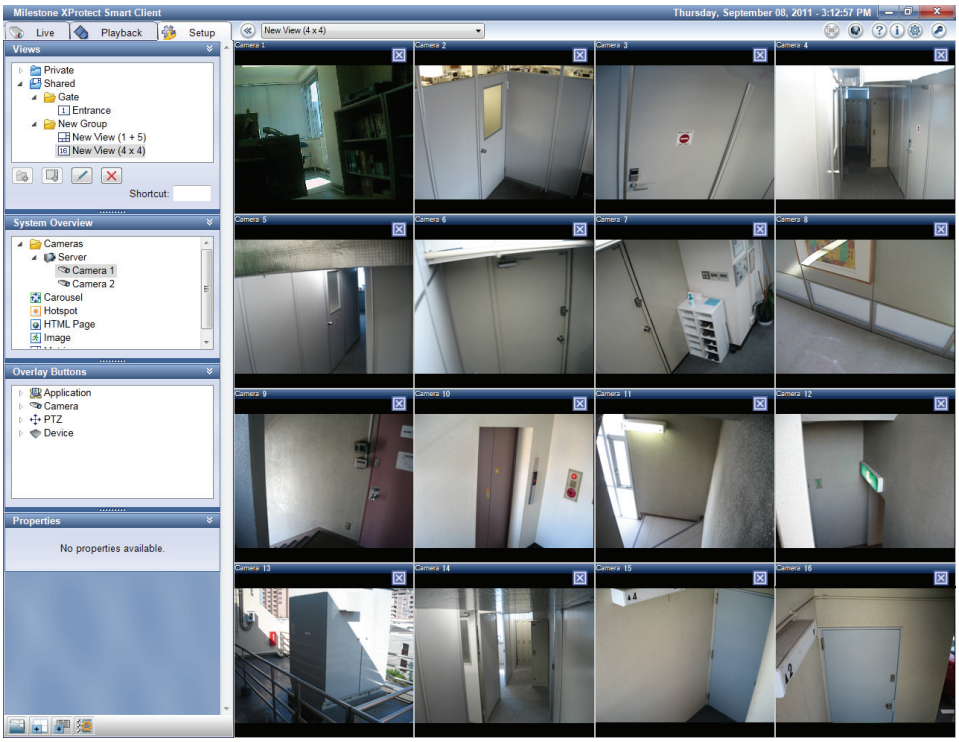
Playback Screen



Section	Item	Description
Views	—	For hierarchical display of the registered views.
Cameras	—	For displaying a camera list. By selecting a camera not listed in the view and dragging it into the view, you can view images from the camera.
Recording Search	—	For searching for sequences of recorded images by recorded date and time.
Sequence Explorer	Launch View...	For displaying a list of sequence images of all cameras in the view.
	Launch Camera...	For displaying a list of sequence images of the selected camera.
Alerts	—	For displaying a list of images triggered by alerts.
Time Navigation		For date/time search and playback operations for recorded images.
	(Date/time)	Date/time of recorded images presented in the view (master time).
	Playback navigation button	For performing playback and frame advance.
	Skip gaps during playback	Select this check box to skip the specified period.
	(Date) (Time) [Go To]	For specifying search date/time and displaying in [Go To].
Audio	Microphones	For selecting a source (camera) you want to listen to audio sounds from. ● Select the [Mute] check box to mute the microphone.
	Speakers	● Disabled in the playback screen.
	Lock to selected audio devices	Check the check box to keep using the selected microphone when you select another camera with a microphone.
	List only devices from current view	Check the check box to list the audio devices in the view only.
Smart Search	—	For performing Smart Search.
Print	—	For printing recorded images.
Export	—	For saving recorded images on the desktop, etc.

Section	Item		Description
PTZ Control	Presets		● Disabled in the playback screen.
	Fisheye PTZ positions	Load	● Disabled in the playback screen.
		Save	
	Navigation buttons	Arrows	Move the zoomed position during digital zoom.
		+/-	For zooming in/out. (Disabled unless the [Digital zoom] check box is selected.)
		Digital zoom	Select this check box to use the digital zoom feature.

Setting Screen



●: Initial value

Section	Item	Preset Values	Description
Views		For creating and editing a view.	
System Overview		For adding cameras and setting features such as HTML pages and hotspots for the view.	
Overlay Buttons	Application Camera PTZ Device	For creating an overlay button.	

Section	Item	Preset Values	Description
Properties			
When the camera window is selected			
	Camera name	—	Display the name of the selected camera.
	Image quality	● **Full** Super high (for megapixel) High Medium Low	Set the display image quality.
	Keep when maximized	Select check box ● **Do not select check box**	Select to preserve the set image quality when enlarging the display by double-clicking the camera window. If not selected, full quality will always be used when enlarging the display.
	Frame rate	● **Unlimited** Medium Low	Set the display frame rate.
	Fisheye split mode	● **No split** 2 at a time	Select whether to use split mode when a fisheye camera is selected.
	Maintain image aspect ratio	● **Select check box** Do not select check box	Select to preserve the aspect ratio of the camera image.
	Update on motion	Select check box ● **Do not select check box**	If selected, the live image screen will be updated only when motion is detected.
	Sound on motion detection	● **Always off** Always on	Select whether sound is emitted to notify of motion detection on the live image screen.
	Sound on event	● **Always off** Always on	Select whether sound is emitted to notify of an event occurring on the live image screen. In order to use this function, it is necessary to set the event notification.
	Display settings		
	Use default display settings	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar and live indicator is determined by the settings of [Application] in the [Options] settings (☞ Page 176).
	Show title bar	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
	Show live indicator	● **Select check box** Do not select check box	If selected, the showing/hiding of the live indicator is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
	Apply to all	—	Apply all of the above settings to every camera.
When the HTML window is selected			
	URL	—	Display the URL. To enter a new URL, click [New...].
	Scaling	● **No scaling** 1280 x 1024 1024 x 768 860 x 600 640 x 480 320 x 200	Select the display size for HTML pages.
	Enable HTML scripting	● **Select check box** Do not select check box	Select when specifying HTML files which contain navigation or trigger functions.
	Hide toolbar	● **Select check box** Do not select check box	Select to hide the toolbar on HTML pages.

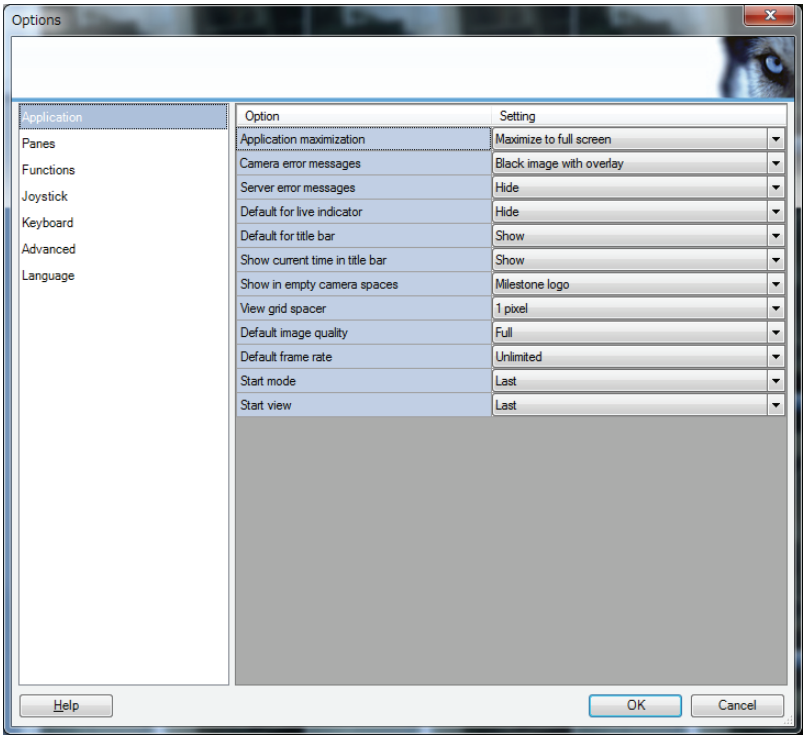
Section	Item		Preset Values	Description
Properties (continued)				
When the Matrix window is selected				
	Image quality		● **Full** Super high (for megapixel) High Medium Low	Set the image quality of the distributed image.
	Keep when maximized		Select check box ● **Do not select check box**	Select to preserve the set image quality when enlarging the display by double-clicking the camera window. If not selected, full quality will always be used when enlarging the display.
	Frame rate		● **Unlimited** Medium Low	Set the frame rate of the distributed image.
	Maintain image aspect ratio		● **Select check box** Do not select check box	Select to preserve the aspect ratio of the camera image.
	Window index		1 to 30	Set the window ranking order for when multiple Matrix windows are set within the view. Starting from "1," newly distributed live images from cameras are displayed in order.
	Show			
		Use default display settings	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar and live indicator is determined by the settings of [Application] in the [Options] settings (☞ Page 176).
		Title bar	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
		Live indicator	● **Select check box** Do not select check box	If selected, the showing/hiding of the live indicator is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
	Connection Settings...		—	Set the TCP port and password for distributed image signals.

Section	Item		Preset Values	Description
Properties (continued)				
When a hot spot is selected				
	Image quality		● **Full** Super high (for megapixel) High Medium Low	Set the display image quality.
	Keep when maximized		Select check box ● **Do not select check box**	Select to preserve the set image quality when enlarging the display by double-clicking the camera window. If not selected, full quality will always be used when enlarging the display.
	Frame rate		● **Unlimited** Medium Low	Set the display frame rate.
	Maintain image aspect ratio		● **Select check box** Do not select check box	Select to preserve the aspect ratio of the camera image.
	Show			
		Use default display settings	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar and live indicator is determined by the settings of [Application] in the [Options] settings (☞ Page 176).
		Title bar	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
		Live indicator	● **Select check box** Do not select check box	If selected, the showing/hiding of the live indicator is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
When an image is selected				
	Image location		—	Display the storage location of the image file. To select a new image, click [...].

Section	Item	Preset Values	Description
Properties (continued)			
When automatic screen conversion is selected			
	Image quality	● **Full** Super high (for megapixel) High Medium Low	Set the display image quality.
	Keep when maximized	Select check box ● **Do not select check box**	Select to preserve the set image quality when enlarging the display by double-clicking the camera window. If not selected, full quality will always be used when enlarging the display.
	Frame rate	● **Unlimited** Medium Low	Set the display frame rate.
	Maintain image aspect ratio	● **Select check box** Do not select check box	Select to preserve the aspect ratio of the camera image.
	Show		
	Use default display settings	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar and live indicator is determined by the settings of [Application] in the [Options] settings (☞ Page 176).
	Title bar	● **Select check box** Do not select check box	If selected, the showing/hiding of the title bar is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
	Live indicator	● **Select check box** Do not select check box	If selected, the showing/hiding of the live indicator is set separately to the settings of [Application] in the [Options] settings (☞ Page 176).
	Carousel Setup	—	Set the camera to display and the order.

Option Setting

You can configure advanced settings of the viewer in the option setting screen.
To display the option setting screen, click "⚙" shown at the upper right of the screen.



●: Initial value

Item	Preset Values	Description
Application		
Application maximization	● **Maximize to full screen** Maximize as normal window	Select a display type when maximizing the Smart Client screen.
Camera error messages	Show as overlay ● **Black image with overlay** Hide	For selecting the camera error message display method.
Server error messages	Show as overlay ● **Hide**	For selecting whether to show or hide messages from the server.
Default for live indicator	Show ● **Hide**	For selecting whether to show or hide the live indicator.
Default for title bar	● **Show** Hide	Set whether to display the title bar.
Show current time in title bar	● **Show** Hide	Set whether to display the current time on the title bar.
Show in empty camera spaces	● **Milestone logo** Nothing Black image	For selecting contents to show in a space where no camera is assigned in the view.
View grid spacer	Hide ● **1 pixel** 2 pixels 3 pixels 4 pixels	For specifying the grid interval.

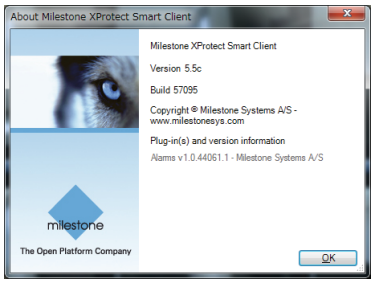
Item	Preset Values	Description
Application (continued)		
Default image quality	● **Full** Super high High Medium Low	For specifying the default image quality of the Smart Client.
Default frame rate	● **Unlimited** Medium Low	For specifying the default frame rate of the Smart Client.
Start mode	Full screen Maximized Window ● **Last**	For specifying the default screen size of the Smart Client.
Start view	● **Last** None Ask	For specifying whether to start the view at the startup of the Smart Client.
Panel		
Mode Function Setting	● **Available** Unavailable	For selecting a section used in each of live, playback and setting screens.
Functions		
Live/Camera playback	● **Available** Unavailable	For selecting whether to enable functions of each of live, playback and setting screens (modes).
Live/Overlay buttons	● **Available** Unavailable	
Playback/Independent playback	● **Available** Unavailable	
Setup/Edit overlay buttons	● **Available** Unavailable	
Setup/Edit video buffering	Available ● **Unavailable**	
Joystick	—	For allocating the PTZ features to a joystick.
Disable all joysticks	Select check box ● **Do not select check box**	Select this check box to disable joysticks.
Selected joystick	—	For selecting a joystick to configure settings for.
Axis setup	For setting available axis.	
	Invert display	By default, the PTZ camera moves to the right when you push the joystick to the right along the X-axis, and moves up when you pull the joystick towards you along the Y-axis. The movements are reversed if you select [Invert].
	Absolute value	The angle of the joystick corresponds to the direction of the camera.
	Action	For specifying the action when you move the joystick.
	Preview Image	For checking settings by preview display.
	Dead zone setup: Pan/Tilt Dead zone setup: Zoom	Set the dead zone of the joystick. As the [pan/tilt]/[zoom] slider is moved to the right, the dead zone is expanded and the amount of joystick movement required for operation of the camera is increased.
Button setup	—	Select actions in the [Action] field and assign an action to each button on the joystick.

Item		Preset Values	Description
Keyboard		For allocating a shortcut key combining with keys such as Ctrl or Alt and other key(s) to a certain operation.	
Press shortcut key		—	Press a combination of shortcut keys you want to register.
Use new shortcut in		● **Global** Live mode Playback mode Setup mode	For specifying in which screen of the Smart Client the shortcut key to register will be used.
Categories/Commands		PTZ Application Events All Camera Keyboard Detached windows Views Views All Time Navigation	For selecting a category of a command to allocate and then selecting the command from the command list of the category.
Assigned keys		—	A list of assigned combinations of shortcut keys is displayed.
Delete		—	For deleting a shortcut selected in [Assigned keys].
Advanced	Maximum decoding threads	Auto ● **Normal** 1 to 8	Set the number of threads used when decoding a video stream. The performance on the live/playback screen will be increased for multicore computers. Select the optimal setting according to the number of computers and cameras used, and the frame rate setting. **Caution:** ● This setting cannot be adjusted for each individual screen or camera.
	Deinterlacing	● **No filter** Vertical stretch top field Vertical stretch bottom field Content adaptive	When the camera image is interlaced, specify the deinterlacing method. If the camera image is not interlaced, this setting will have no effect on image quality or performance. **Caution:** ● When the camera image is interlaced, the recording frame rate may decrease.
Language		● **English (United States)**	For selecting the language used in the Smart Client. To apply settings, restart the Smart Client.

Checking Version Information

1 Click [(About)]

The version information is displayed.



2 Click [OK] to close the window

Setting the Matrix Display Area

Set the display position, image quality, etc. of the distributed live video using the Matrix function.

Note:

- Matrix is a function to distribute images from the recorder to display them on the viewer (Smart Client) installed on any computer on the network. Settings for Matrix are mainly made on the recorder. When an event occurs or motion is detected, or important live images are to be shared with another user, etc., live images are automatically displayed on the specified computer.

1 Click the [Setup] tab

2 Drag [Matrix] in the [System Overview] section into the view

3 Release the mouse button at a preferred position

A thin blue frame is displayed.

4 Make the image settings in the [Properties] section

- Image quality

Item	Description
Full	The same image quality as the original images (default)
Super high (for megapixel)	640 pixels (VGA)
High	320 pixels (QVGA)
Medium	200 pixels
Low	160 pixels

- Frame rate

Item	Frame rate by formats		
	JPEG	MPEG (I frame)	MPEG (P frame)
Unlimited (default)	For transmitting all frames.		
Medium	For transmitting 1 frame for every 4 frames.	For transmitting all frames.	
Low	For transmitting 1 frame for every 20 frames.	For transmitting all frames.	No transmission.

- Maintain image aspect ratio: Select this check box to maintain camera image aspect ratio. Deselect this check box to reduce images according to the Matrix position.

5 Click [Connection Settings...] and set a TCP port and a password

- Enter the TCP port and password set in Matrix of Management Application. (☞ Page 53 "Action Setup—Distributing Camera Images (Matrix)")

Note:

- Multiple Matrix positions can be set in the view. In such a case, set the window ranking order in [Window index] in the [Properties] section. The most recently distributed camera image will always be displayed in the Matrix 1 position.

Others

This section contains reference information such as the recording performance, summary of initial values, and specifications of this unit. You may also want to refer to this chapter when any trouble occurs.

Compatible Network Cameras

- Refer to the relevant instruction manuals of network cameras used.

● : Compatible
—: Not compatible

	Functions / Network camera	JPEG	MPEG4	H.264	Mega Pixel	PTZ	Microphone	Speaker
JVC	VN-V25U	●	●	—	—	—	—	—
	VN-V26U	●	●	—	—	—	●	●
	VN-V685U	●	●	—	—	●	—	—
	VN-V686U	●	●	—	—	●	—	—
	VN-V686BU	●	●	—	—	●	—	—
	VN-V686WPBU	●	●	—	—	●	—	—
	VN-V225U/VPU	●	●	—	—	—	●	●
	VN-X235U/VPU	●	●	—	●	●	●	●
	VN-C20U	●	—	—	—	—	—	—
	VN-C655U	●	—	—	—	●	—	—
	VN-C625U	●	—	—	—	●	—	—
	VN-E4U/E	●	—	—	—	●	●	●
	VN-C215U	●	—	—	—	—	—	—
	VN-X35U	●	●	—	●	●	●	●
AXIS	M1054	●	—	●	●	●	●	●
	M1114	●	—	●	●	●	●	●
	M 3014	●	—	●	●	●	—	—
	P 1346	●	—	●	●	●	●	●

Note:

- When VN-V685U and VN-V686BU Series are registered to NVR, do not enable the audio device although it is displayed. If it is enabled, camera images may not be displayed correctly.
- When VN-X35U is used, make sure that the firmware version of VN-X35U is V2.00 or a newer version.
- When sending out audio data to VN-V26U, make sure that the firmware version of VN-V26U is 1.01 or a newer version.

Recording Time Schedule

The actual recording time varies according to the camera settings, input image content, and condition of the HDD.
Use the tables below as a guide to the recording time.

● JPEG VGA 32KB Recording (Unit: Hour)

Frame rate per channel, per second [ips]		30	15	10	5	3	1	0.5	0.2
Recording channel	Video 16 ch	—	(*) 31	47	93	156	467	933	2333
	Video 16 ch + Audio 2 ch	—	(*) 31	47	93	156	452	878	2018
	Video 32 ch	—	—	—	47	78	233	467	1166
	Video 32 ch + Audio 2 ch	—	—	—	47	77	230	452	1082

● H.264 Recording (Unit: Hour)

Bit rate per channel, per second [bps]		3.6M	2M	1.8M	1M	660K	330K	128K	64K
Typical example of the bitrate above		Full HD 30ips	720P 30ips	Full HD 15ips	720P 15ips	VGA 30ips	VGA 15ips	VGA 1ips	VGA (Low quality) 1ips
Recording channel	Video 16 ch	(*) 32	58	65	117	181	362	933	1866
	Video 16 ch + Audio 2 ch	(*) 32	58	65	116	179	353	878	1659
	Video 32 ch	—	—	(*) 32	58	90	181	467	933
	Video 32 ch + Audio 2 ch	—	—	(*) 32	58	90	179	452	878

(*) Available only when RAID10 is built.

24-168	169-720	721-
1day to 1 week	1 week to 1 month	Over 1 months

Caution:

- Recording time may be reduced by about 10% depending on HDD status and images.
- Recording time may be reduced due to secular variation of HDD.

Default Value List

Settings of This Unit

■ StartUp auto-display setting

Smart Client	[Do not select check box]
CPU Meter	[Select check box]
HDD Meter	[Do not select check box]

Hardware error notification setting

Notify by dialog	[Select check box]
Notify by mail	[Select check box]

■ NAS Setting

User name	[None]
Password	[None]

■ IP Lease Setting

IP Lease feature	[Enable IP Lease]
Lease period	[Unlimited]

Parameters

Head IP address	[192.168.0.100]
Number	[20 Units]
Subnet mask	[255.255.255.0]
Gateway	[192.168.0.254]
Primary DNS	[192.168.0.253]
Secondary DNS	[192.168.0.252]
Domain name	[None]

■ SNMP Setting

Enable SNMP		[Do not select check box]
Enable TRAP		[Do not select check box]
SNMP Manager IP address		— (IP address)
Community name		— (1 to 32 characters. Alphanumeric characters only.)
Monitoring interval	CPU Load	[10 sec]
	D drive writing rate	[60 sec]
	Smart Client	[10 sec]
	Camera status	[60 sec]

■ **Mail Setting**

Mail to	[None]
Server name	[None]
SMTP Port	[25]
POP Port	[110]
User ID	[None]
Password	[None]
Mail Authentication	[None]
Mail from	[None]

■ **International Setting**

Select language	[English]

■ **JVC Log Setting**

LOG storage period [Days]	[10]
Automatically delete old log file in case of storage space shortage.	[Select check box]

■ **HDD meter setting**

Update interval	[10 seconds]
Transparency	[0%]
Select drives to monitor	[Do not select check box]

Settings of This Unit (Network Settings)

■ **LAN1**

Network adapter interface name	Intel(R) 82578DM Gigabit Network Connection
Obtain an IP address automatically	[Do not select check box]
IP address	[192.168.0.253]
Subnet Mask	[255.255.255.0]
Default Gateway	[None]
Preferred DNS Server	[None]
Alternate DNS Server	[None]
Host Name	[JVCNVR]
DNS Domain Name	[None]

■ **LAN2**

Network adapter interface name	Realtek RTL8168D/8111D Family PCI-E Gigabit Ethernet NIC (NDIS 6.20)
Obtain an IP address automatically	[Do not select check box]
IP address	[192.168.1.253]
Subnet Mask	[255.255.255.0]
Default Gateway	[192.168.1.254]
Preferred DNS Server	[None]
Alternate DNS Server	[None]
Host Name	[JVCNVR]
DNS Domain Name	[None]

Management Application (Advanced Configuration)

■ Hardware Devices

Item			Initial value
Hardware Devices (Hardware Device Properties)			
Name and Video Channels	Hardware name and video channels	Hardware name	
		Enable	(Depending on cameras)
Network, Device Type and License	Network	Address	[None]
		HTTP port	[80]
		Use default HTTP port	[Select check box]
		FTP port	[21]
		Use default FTP port	[Select check box]
		User name	[None]
		Password	[None]
Device type		Hardware type	[None]
		Serial number (MAC address)	[None]
		Device license key (DLK)	[None]
PTZ Device	The connected camera features pan, tilt, and zoom functions.		[Do not select check box]
	COM1 PTZ type/COM2 PTZ type		[None]
	Type		[Fixed]
	Port		[None]
	Port address		[0]
Fisheye	Fisheye	Enable fisheye	[Do not select check box]
		Fisheye license key	[None]
Camera (Camera Properties)			
Camera Properties	General camera settings	Enabled	(Depending on cameras)
		Camera name	[None]
		Camera shortcut number	[None]
Frame rate	Frame rate selection (MJPEG)	Regular frame rate: Live frame rate	[20 Second]
		Regular frame rate: Recording frame rate	[10.00 Second]
		Enable speedup	[Do not select check box]
		Speedup frame rate: Live frame rate	[20 Second]
		Speedup frame rate: Recording frame rate	[10.00 Second]
		On motion	[Do not select check box]
		On Event	[Do not select check box]
		Start event	[None]
		Stop event	

Item			Initial value
Camera (Camera Properties) (continued)			
Video	Video Properties		**Note:** ● The displayed items and initial settings differ depending on the camera. For details, see the instruction manual of the camera.
Audio	Audio selection	Default microphone	[None]
		Default speaker	[None]
Recording Properties	Recording	Recording settings	(Depending on cameras)
		Built-in motion detection	[Do not select check box]
		Event	[Do not select check box]
		Start event	[None]
		Stop event	
		Enable pre-recording	[Do not select check box]
		second(s)	[None]
		Enable post-recording	[Do not select check box]
		second(s)	[None]
Recording and Archiving Paths	Recording settings	Recording path	D:\MediaDatabase
		Archiving path	[Using Dynamic Path]
		Retention time	[7 Day(s)]
		Database repair action	[Repair, scan, delete if fails]
General archiving settings for all cameras			
	Configure Dynamic Paths...	Enable dynamic path selection for archives	[Select check box]
		Use	[Select check box]
		Drive	[None]
		Path	[None]
		Drive Size	[None]
		Free Space	[None]
		New UNC path	[None]

Item			Initial value
Camera (Camera Properties) (continued)			
Event Notification	Event Notification	Available events	[None]
		Selected events	[None]
		Configure events	[None]
Output	Output activation	Available output	[None]
		On manual activation	[None]
		On motion detected	[None]
Motion Detection and Excluded Regions	Motion detection	Sensitivity	[40]
		Motion	[640]
		Motion detection interval	[240 milliseconds]
	Exclude regions	Enable	[Do not select check box]
		Show Grid	[Do not select check box]
PTZ Preset Positions	PTZ preset positions	PTZ Type	[None]
PTZ Patrolling	Patrolling list	Wait time (sec.)	[10 seconds]
		Transition time (sec.)	[5 seconds]
	PTZ scanning		[Do not select check box]
		(Speed)	[Medium]
	Pause patrolling	Pause patrolling if motion is detected	[Do not select check box]
		Resume patrolling ...	[30 seconds]
PTZ on event	Event		[None]
	PTZ Preset Position		[None]

■ Cameras and Storage Information

Item		Initial value
Recording and Archiving Paths		
Recording	Recording Path	[D:\MediaDatabase]
	Archiving Path	[Using dynamic path]
	Retention Time	[7 Day(s)]
	Apply Template	[Do not select check box]
	Shortcut	[None]
Dynamic Path Selection – Archives		
Dynamic path selection - All cameras	Enable dynamic path selection for archives	[Do not select check box]
	Use	[None]
	Drive	[None]
	Path	[None]
	Drive Size	[None]
	Free Space	[None]
	New UNC path	[None]

Item			Initial value
Video Recording			
	Video Recording	Record on	[Motion detection]
		Start Event	[None]
		Stop Event	
		Pre-recording	[Do not select check box]
		Second(s)	(Depending on cameras)
		Post-recording	[Select check box]
		Second	(Depending on cameras)
		Apply Template	[Do not select check box]
Manual Recording			
	Manual Recording	Enable manual recording	(Depending on cameras)
		Default duration of manual recording	[300 sec]
		Maximum duration of manual recording	[1800 sec]
Frame Rate - MJPEG			
	Frame rate (MJPEG)		
		Regular Frame Rate	Live frame rate	[20]
			Recording Frame Rate	[10.00]
			Time Unit	[Second]
		Speedup Frame Rate	Enable Speedup	[Select check box]
			Live Frame Rate	[20]
			Recording Frame Rate	[10.00]
			Time Unit	[Second]
			Speedup on	[Event]
			Start Event	[None]
			Stop Event	
			Apply Template	[Do not select check box]
Frame Rate - MPEG			
	Frame rate (MPEG)	Live FPS	(Depending on cameras)
		Record Keyframes Only	[Do not select check box]
		Record All Frames on	[Schedule only]
		Start Event	[None]
		Stop Event	
		Apply Template	[Do not select check box]
Audio Selection			
	Audio selection	Default Microphone	[None]
		Default Speaker	[None]
		Apply Template	[Do not select check box]
Audio Recording			
	Audio Recording		[Always]
Storage Information			
	Storage information	Drive	[None]
		Path	
		Use	
		Drive Size	
		Video Data	
		Other Data	
		Free Space	

■ Events and Output

Item			Initial value
Ports and Polling			
Ports and polling	Alert and generic event port		[1234]
	SMTP event port		[25]
	FTP event port		[21]
	Polling interval [1/10] second		[10]
Hardware Input Events			
(For each Hardware Device)	Event configuration	Enable event	(Depending on cameras)
		Event name	[None]
	Pre/post alarm images	Images from camera	[None]
		Number of pre-alarm images	[3]
		Frames per second	[1]
	E-mail Notification	Send e-mail if this event occurs	[Do not select check box]
		Attach image from camera	[Do not select check box]
	SMS notification	Send SMS if this event occurs	[Do not select check box] **Note:** ● This unit does not support notifications by SMS.
	System motion detection event	Create a system motion detection event for the camera	[Do not select check box]
Hardware Output			
(For each Hardware Device)	Output name		[None]
	Output connected to		[None]
	Keep output for		10 (1/10 seconds)
Manual events			
Global	Event configuration	Event name	[None]
	E-mail notification	Send e-mail if this event occurs	[Do not select check box]
		Attach image from camera	[Do not select check box]
	SMS notification	Send SMS if this event occurs	[Do not select check box] **Note:** ● This unit does not support notifications by SMS.
(For each manual event)	Event configuration	Event Name	[None]
	E-mail notification	Send e-mail if this event occurs	[Do not select check box]
		Attach image from camera	[Do not select check box]
	SMS notification	Send SMS if this event occurs	[Do not select check box] **Note:** ● This unit does not support notifications by SMS.

Item			Initial value
Generic events			
Generic events **Note:** ● The following generic events are set by default. JVC NVR ALARM IN1 to 8 BREAK JVC NVR ALARM IN1 to 8 MAKE			
	Event name		[None]
	Event substring		[None]
	Event message expression		[None]
	Event protocol		[TCP]
	Event rule type		[Search]
	Event priority		[0]
	Event configuration	Event Name	[None]
	E-mail notification	Send e-mail if this event occurs	[Do not select check box]
		Attach image from camera	[Do not select check box]
	SMS notification	Send SMS if this event occurs	[Do not select check box] **Note:** ● This unit does not support notifications by SMS.
Output Control on Event			
Output on Event	Activate output on event	Event	[None]
		Output	[None]
	Configure...		[None]

■ Scheduling and Archiving

Item		Initial value
Scheduling All Cameras		
Schedule all cameras		
Online		[Always off]
Speedup		[Always off]
E-mail		[Always off]
SMS		[Always off] **Note:** ● This unit does not support notifications by SMS.
PTZ Patrolling		[None]
Apply Template (for each camera)		[Do not select check box]
Scheduling Options		
Scheduling options	Start cameras on client request	[Do not select check box]
Schedule profile for new cameras		(Depending on cameras)
Hardware device communication	Maximum delay between reconnect attempts	[10]
Archiving		
Archiving time		[12:00:00]
Archive failure notification	Send e-mail on archive failure	[Select check box]
	Send SMS on archive failure	[Select check box] **Note:** ● This unit does not support notifications by SMS.
(Camera name)		
Online Period		
Online schedule	Schedule profiles	[Always on]
Set camera to start/stop on time		[Select check box]
Set camera start/stop on event		[Do not select check box]
Start event		[None]
Stop event		[None]
Configure Events		[None]
Start time		[None]
End time		[None]
Day		[None]
Speedup		
Speedup schedule	Schedule profiles	(Depending on cameras)
Start time		
End time		
Day		

Item			Initial value
(Camera name) (continued)			
E-mail Notification			
	E-mail schedule	Schedule profiles	(Depending on cameras)
	Start time		
	End time		
	Day		
SMS Notification			
	SMS schedule	Schedule profiles	(Depending on cameras) **Note:** ● This unit does not support notifications by SMS.
	Start time		
	End time		
	Day		
PTZ Patrolling			
	PTZ Patrolling schedule	Schedule profiles	(Depending on cameras)
	Patrolling profile		
	Start time		
	End time		
	Day		

■ Matrix

Item			Initial value
Matrix Recipients			
	Matrix recipients	Enable Matrix	[Do not select check box]
		Name	[None]
		Address	[None]
		Port	[None]
		Password	[None]
		Matrix recipient is a Smart Client	[Select check box]
Matrix Event Control			
	Matrix event control	Configure events	[None]

■ Logs

Item		Initial value
Logs	Path	[L:\Log\MS]
	Days to log	[10]
Event log	Path	[L:\Log\MS]
	Days to log	[10]
Audit log	Enable audit logging	[Do not select check box]
	Path	[L:\Log\MS\ISAuditLog]
	Days to log	[10]
	Minimum logging interval	[60]
	In sequence timespan	[10]

■ E-mail

Item		Initial value
E-mail settings	Enable e-mail (Recording Server)	[Do not select check box]
	Enable e-mail (Viewer)	[Do not select check box]
	Recipient(s):	[None]
	Subject text	[None]
	Message text	[None]
	Include image	[Do not select check box]
	Do not send e-mail on camera failures	[Select check box]
	Time between motion- and database-related e-mails per camera	[0 minute(s)]
Mail server settings	Sender e-mail address	[None]
	Outgoing mail (SMTP) server name	[None]
	Server requires login	[Do not select check box]
	User name	[None]
	Password	[None]

■ SMS

Note:

- This unit does not support notifications by SMS.

■ Central

Note:

- This unit does not support the Central funtion.

■ Server Access

Item			Initial value
Server Access			
	Server access	Server name	[Server]
		Local port	[80]
		Enable internet access	[Do not select check box]
		Internet address	[None]
		Internet port	[None]
		Max. number of clients	[11]
Local IP Ranges			
	Local IP ranges	Start Address	[None]
		End Address	
Language Support and XML Encoding			
	Language support	Language	[Western European(ISO)(iso-8859-1)]

■ Master/Slave

Item			Preset Values
Master Server			
	Master server	Enable as master server	[Do not select check box]
(Slave server)			
	(Slave server 1)	Address	[None]
		Port	[80]

■ Users

Item				Preset Values
Administrator				
	Administration Protection			
		Administration protection	Enable	[Do not select check box]
		Change password	Old password	[None]
			New password	[None]
			Confirm password	[None]
(User name)				
	User Information			
		User Information	User name	[None]
			Password	[None]
			Password (repeat)	[None]
			User type	[None]
	Generic Access Properties			
		Client access settings		
			Live	[Select check box]
			Playback	[Select check box]
			Setup	[Select check box]
			Edit shared views	[Select check box]
			Edit private views	[Select check box]
	Camera Access			
		Camera access settings	(Camera name)	[Select check box]
			Rights for new cameras when added to system	[Select check box]
			Live	[Select check box]
			PTZ	[Select check box]
			PTZ preset positions	[Select check box]
			Output	[Select check box]
			Events	[Select check box]
			Incoming audio	[Select check box]
			Outgoing audio	[Select check box]
			Manual recording	[Select check box]
			Playback	[Select check box]
			AVI/JPEG export	[Select check box]
			Database export	[Select check box]
			Sequences	[Select check box]
			Smart search	[Select check box]
			Recorded audio	[Select check box]

Troubleshooting

Symptom	Action
Power cannot be turned on.	Check to ensure that the power cable has been plugged in correctly. Check to ensure that the power switch on the rear panel is switched on.
Camera is not automatically detected.	Follow instructions in the camera's [Instruction Manual] to check the IP address settings. When the IP Lease feature is in use, turn OFF the camera and ON again with this unit started up. If the user name and password of a camera have been changed from the initial settings, there is a chance that the camera will not be automatically detected.
Unable to operate.	Check to ensure that the operations are not locked. (☞ Page 116)
Images are not recorded.	Check the [Camera Recording Settings]. Check to ensure that the scheduler is set to online.
Unable to play back audio sound.	Check the audio settings in camera properties under [Hardware Devices] in [Advanced Configuration]. Check to ensure that [Listen to] is correctly selected in the [Audio] section. If the network is congested, audio sounds may not be transmitted.
Unable to operate in a section(s) in the viewer.	Check to ensure that the section you want to operate in is set to [Available] under [Panels] in option settings. (☞ Page 176)
The message below appears after turning on the power. "CMOS Settings Wrong CMOS Date/ Time Not Press F1 to Run SETUP Press F2 to load default values and continue"	The built-in backup battery level is running low. Consult your nearest JVC KENWOOD dealer.

■ Actions when Warning Indicator Lights Up

Error Message	Action to Take
WARNING:HDD(Disk)	The HDD seems to no longer be serviceable. Consult your nearest JVC KENWOOD dealer.
WARNING:HDD(Drive name:) Deleted	Check to ensure that the power of the external HDD is switched on. Check to ensure that the connecting cable is properly inserted. If no abnormality is found above, consult your nearest JVC KENWOOD dealer.
WARNING:HDD(Raid)	This is a HDD (during RAID setting) warning. Consult your nearest JVC KENWOOD dealer.
FAN STOP	Fan abnormality. Check to ensure that the fan is running. If the fan is not moving, stop using it. Otherwise, it may break down. Consult your nearest JVC KENWOOD dealer.

Recording/Displaying live images/Distribution performance

■ VR-X1600U

● When displaying live image on this unit

Image format (*1)	Recording [ips] (*2)	Live image on this unit [ips] (*3)	Live Distribution [ips]
JPEG VGA	192	192	192
H.264 VGA	300	300	300
H.264 720P	100	100	100
H.264 Full HD	44	44	44

● When not displaying live image on this unit

Image format (*1)	Recording [ips] (*2)	Live image on this unit [ips]	Live Distribution [ips]
JPEG VGA	270	0	192
H.264 VGA	960	0	300
H.264 720P	900	0	100
H.264 Full HD	480	0	44

■ VR-X3200U

● When displaying live image on this unit

Image format (*1)	Recording [ips] (*2)	Live image on this unit [ips] (*3)	Live Distribution [ips]
JPEG VGA	192	192	192
H.264 VGA	450	450	450
H.264 720P	150	150	150
H.264 Full HD	66	66	66

● When not displaying live image on this unit

Image format (*1)	Recording [ips] (*2)	Live image on this unit [ips]	Live Distribution [ips]
JPEG VGA	270	0	192
H.264 VGA	1920	0	450
H.264 720P	900	0	150
H.264 Full HD	480	0	66

(*1) Standard image quality of each format is as follows.

JPEG VGA	32KB per image
H.264 VGA	30ips 660Kbps
H.264 720P	30ips 2Mbps
H.264 Full HD	30ips 3.6Mbps

(*2) Performance when RAID10 is built. 65% performance for no RAID configuration and 28% performance for RAID5 configuration.

(*3) Performance when outputting to an XGA monitor. 80% performance when outputting to a Full HD monitor.

Caution:

- The above-stated performance is dependent on achieving the maximum performance from the HDD. For more information, see “Making Full Use of Recording Performance” (☞ Page 37), or consult your nearest JVC KENWOOD dealer.

Specifications

■ General

Allowable Operating Temperature
: 5 °C to 40 °C

Allowable Storage Temperature
: -20 °C to 60 °C

Allowable Operating Humidity
: 30% to 80%

Power Supply : AC 120 V to AC 240 V ~ 50 Hz/60 Hz

Power Consumption:

VR-X1600U: 1.1 A

VR-X3200U: 1.2 A

Mass : Approx. 9.1 kg

■ Interface

Network : RJ-45 x 2

LAN1 1000BASE-T/100BASE-TX/10BASE-T

LAN2 1000BASE-T/100BASE-TX/10BASE-T

Serial : USB2.0 A-type (or equivalent) x 6

eSATA : x 1

Video Output : D-sub 15 pin x 1 (up to 1920 x 1080)
DVI x 1 (up to 1920 x 1080)

Audio input : Analog audio mini jack
monaural x 1

Audio output : Analog audio mini jack
stereo x 1

I/O Terminals : Push terminal
Input x 10
Output x 2

■ Compatible Compression Formats

Video : JPEG/MPEG-4/H.264

Audio : μ-law

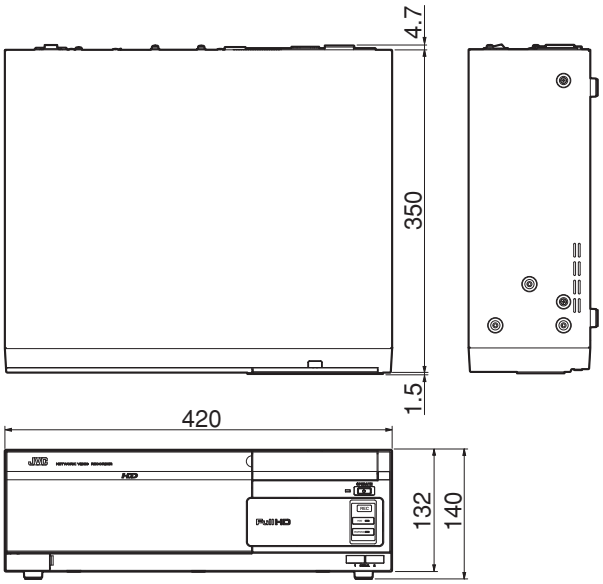
■ Recording

HDD Capacity : 1 TB x 1

■ Attachments/Accessories

Quick Reference 5
Set Up Guide 1
Power Cord (2.4 m) 1
Power Cord (2 m) 2
Rack Mount Bracket 2
Warranty Card 1
Screw (M4 x 11 mm) 6
Screw (M5 x 10 mm) 4

■ Dimensional Outline Drawing (Unit: mm)



※ The specifications and appearance of this unit may be modified for improvement without prior notice.

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NETWORK VIDEO RECORDER
VR-X3200U/VR-X1600U

JVC

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