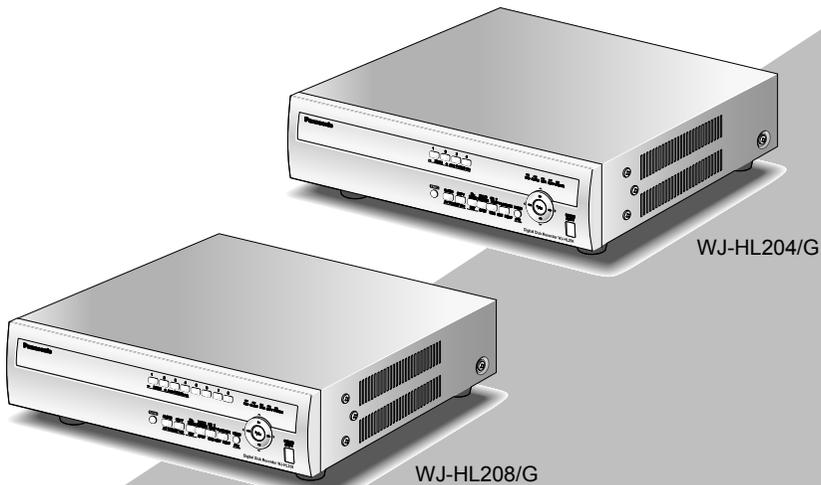


# Panasonic

## Operating Instructions

### Digital Disk Recorder

Model No. WJ-HL204/G  
WJ-HL208/G



Before attempting to connect or operate this product,  
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

We declare under our sole responsibility that the product to which this declaration relates is in conformity with the standards or other normative documents following the provisions of Directives 2006/95/EC and 2004/108/EC.

Wir erklären in alleiniger Verantwortung, daß das Produkt, auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt. Gemäß den Bestimmungen der Richtlinie 2006/95/EC und 2004/108/EC.

Nous déclarons sous notre propre responsabilité que le produit auquel se réfère la présente déclaration est conforme aux normes spécifiées ou à tout autre document normatif conformément aux dispositions des directives 2006/95/CE et 2004/108/CE.

Nosotros declaramos bajo nuestra única responsabilidad que el producto a que hace referencia esta declaración está conforme con las normas u otros documentos normativos siguiendo las estipulaciones de las directivas 2006/95/CE y 2004/108/CE.

Noi dichiariamo sotto nostra esclusiva responsabilità che il prodotto a cui si riferisce la presente dichiarazione risulta conforme ai seguenti standard o altri documenti normativi conformi alle disposizioni delle direttive 2006/95/CE e 2004/108/CE.

Wij verklaren als enige aansprakelijke, dat het product waarop deze verklaring betrekking heeft, voldoet aan de volgende normen of andere normatieve documenten, overeenkomstig de bepalingen van Richtlijnen 2006/95/EC en 2004/108/EC.

Vi erklærer os eneansvarlige for, at dette produkt, som denne deklaration omhandler, er i overensstemmelse med standarder eller andre normative dokumenter i følge bestemmelserne i direktivene 2006/95/EC og 2004/108/EC.

Vi deklarerar härmed vårt fulla ansvar för att den produkt till vilken denna deklaration hänvisar är i överensstämmelse med de standarder eller andra normativa dokument som framställs i direktiv nr 2006/95/EC och 2004/108/EC.

Ilmoitamme yksinomaisella vastuullamme, että tuote, jota tämä ilmoitus koskee, noudattaa seuraavia standardeja tai muita ohjeellisia asiakirjoja, jotka noudattavat direktiivien 2006/95/EC ja 2004/108/EC säädöksiä.

Vi erklærer oss alene ansvarlige for at produktet som denne erklæringen gjelder for, er i overensstemmelse med følgende normer eller andre normgivende dokumenter som følger bestemmelsene i direktivene 2006/95/EC og 2004/108/EC.



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.

Power disconnection. Unit with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. Unplug the power cord to disconnect the main power for all units.

#### 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:

- This apparatus must be earthed.
- Apparatus shall be connected to a main socket outlet with a protective earthing connection.
- The mains plug or an appliance coupler shall remain readily operable.
- To prevent fire or electric shock hazard, do not expose this apparatus to rain or moisture.
- The apparatus should not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, should be placed on the apparatus.
- All work related to the installation of this product should be made by qualified service personnel or system installers.
- The connections should comply with local electrical code.

#### CAUTION:

Before attempting to connect or operate this product, please read the label on the bottom.

Apparaten skall anslutas till jordat uttag.

For U.K.

**FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.**

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 5 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5 amp and that it is approved by ASTA or BSI to BS1362.

Check for the ASTA mark  or the BSI mark  on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

**IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.**

**THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

**WARNING: This apparatus must be earthed.**

**IMPORTANT**

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 wire in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows.

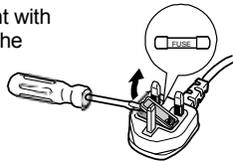
The wire which is coloured **green-and-yellow** must be connected to the terminal in the plug which is marked with the letter **E** or by the earth symbol  or coloured **green** or **green-and-yellow**.

The wire which is coloured **blue** must be connected to the terminal in the plug which is marked with the letter **N** or coloured **black**.

The wire which is coloured **brown** must be connected to the terminal in the plug which is marked with the letter **L** or coloured **red**.

**How to replace the fuse**

Open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



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## Network security

As you will use this product connected to a network, your attention is called to the following security risks.

- (1) Leakage or theft of information through this product
- (2) Use of this product for illegal operations by persons with malicious intent
- (3) Interference with or stoppage of this product by persons with malicious intent

It is your responsibility to take precautions such as those described below to protect yourself against the above network security risks.

- Use this product in a secured network not connected to the Internet.
- If this product is connected to a network that includes PCs, make sure that the system is not infected by computer viruses or other malicious entities (using a regularly updated anti-virus program, anti-spyware program, etc.).
- Protect your network against unauthorized access by restricting users to those who log in with an authorized user name and password.
- Apply measures such as user authentication for the servers and the connected devices to protect your network against leakage or theft of information, including image data, authentication information (user names and passwords), alarm mail information, FTP server information, etc.

## Important safety instructions

- (1) Read these instructions.
- (2) Keep these instructions.
- (3) Heed all warnings.
- (4) Follow all instructions.
- (5) Do not use this apparatus near water.
- (6) Clean only with dry cloth.
- (7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- (8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- (9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- (10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- (11) Only use attachments/accessories specified by the manufacturer.
- (12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



- (13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- (14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

# Precautions

## Power source

The input power source for this product is 100 V AC to 240 V AC, 50 Hz/60 Hz. Do not connect to the outlet that provides the power to equipments that requires a measurable amount of power (such as a copy machine, air conditioner, etc.). Avoid placing this product in locations where is subject to water.

## Ambient operating temperature

Use this product at temperatures between +5 °C to +40 °C. Failure to do so may damage the internal parts or cause malfunction. Performance and lifetime of hard disk drives are easily affected by heat (used at high temperature). It is recommended to use this product at temperatures between +20 °C to +30 °C.

## Power cable

Connect the power cable firmly. Align the connected power cable not to be pulled/stressed. To cut the power supply, unplug the power plug of this product from the AC outlet. When using the power supply control unit, turn off the power of the power supply control unit.

## Built-in backup battery

- Built-in backup battery is consumed when the power supply is shut down from the AC outlet. In this case, internal clock may keep bad time or the operative condition may be different to that before the electric power failure.
- The built-in battery life is approximately 5 years as an indication of replacement. (The built-in battery life may become shorter depending on the use condition.) Replace the built-in battery after 5 years of use. ("5 years of use" is just an indication of replacement. We are not providing any guarantee of the built-in battery lifetime.) When the built-in battery life runs out, some settings such as the time and date setting will not be saved once the power is turned off.
- Ask your dealer when replacement of the battery is required.

## Hard disk drive (HDD)

- Hard disk drives are vulnerable to vibration. Handle them with care. It is possible to damage them if they are moved while their motors are still running.
- Do not move them just after turning the power off (for around 30 seconds).
- The lifetime of hard disk drives is limited by use. Write errors may occur frequently after around 20 000 hours of operation, and the head and motor deterioration may occur after around 30 000 hours of operation. They will reach the end of their lifetime after 30 000 hours of operation if they have been used at the recommended ambient temperature (approx. +25 °C).
- It is recommended to replace them after around 18 000 hours of operation to prevent data loss from disk failures.
- When hard disk drive trouble occurs, replace it immediately.  
Contact your dealer about servicing.

## Prevent condensation from forming

If this happens, it can cause malfunction.

Leave it switched off for around 2 hours in the following cases.

- When this product is placed in an extremely humid place.
- When this product is placed in a room where a heater has just been turned on.
- When this product is moved from an air-conditioned room to a humid and high-temperature room.

## When this product is not supposed to be used for a certain period

Turn on the power (approximately once a week), and perform recording/playback to prevent interferences with functions.

## Cleaning

- Turn the power off, and then use a soft cloth to clean this product. When the dirt is hard to remove, use a mild detergent and wipe gently. Wipe out the detergent completely using a soft cloth.
- Do not use strong or abrasive detergents when cleaning the body.
- When using a chemical cloth for cleaning, read the caution provided with the chemical cloth product.

### AVC patent portfolio license

This product is licensed under the AVC Patent Portfolio License for the personal and non-commercial use of a consumer to (i) Encode video in compliance with the AVC Standard ("AVC video") and/or (ii) Decode AVC video that was encoded by a consumer engaged in a personal and non-commercial activity and/or was obtained from a video provider licensed to provide AVC video. No license is granted or shall be implied for any other use. Additional information may be obtained from MPEG LA, L.L.C. See <http://www.mpegla.com>

### GPL/LGPL

- This product contains software licensed under GPL (GNU General Public License), LGPL (GNU Lesser General Public License), etc.
- Customers can duplicate, distribute and modify the source code of the software under license of GPL and/or LGPL.
- Read the "readme.txt" the provided CD-ROM for further information about the software.
- Please note that Panasonic shall not respond to any inquiries regarding the source code.

### Handle this product with care.

Do not strike or shake, as this may damage this product.

### Do not strike or give a strong shock to this product.

It may cause damage or allow water to enter this product.

## Precautions for installation

**This product is designed for indoor use.**

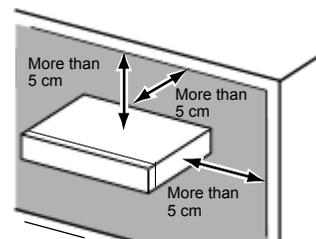
### Avoid the following locations for installation.

- Locations exposed to direct sunlight
- Places subject to having strong vibration or impact
- Near magnetic field sources such as a television or speakers
- Place where condensation forms easily, where temperature changes greatly, humid places
- Steamy and oily places such as kitchens
- Places which are not level
- Places subject to dust
- Places subject to water splash or spray

**Do not install this product in locations where the product or the cables can be destroyed or damaged by persons with malicious intent.**

### Place this product horizontally on a level surface.

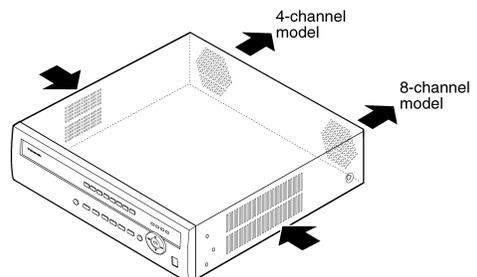
Do not place this product in an upright position. When stacking multiple recorders, clear a space of more than 5 cm from both sides, the top, the bottom and the rear of them.



### Heat dissipation

Refer to the following to prevent fire and malfunction of this product.

- Do not block the ventilation openings in the cover to prevent this product from overheating. Maintain this product periodically to prevent dust from blocking openings.
- A lifetime of cooling fans is limited by use. It is recommended to replace them after approx. 30 000 hours of operation. Contact your dealer for replacement of the cooling fans.
- Clear a space of more than 5 cm from both sides, the top and the rear of this product.



### Avoid placing the unit near noise sources

If the cables are placed near noise sources such as fluorescent lamps, noises may be produced. In this case, rewire avoiding the noise sources, or move this product to a place far from the source.

### Power source

A grounding connection must be made before connecting the power plug of this product to the main power supply. When disconnecting the grounding wire, make sure that the power plug of this product is disconnected from the main power supply.

### How to mount the power cord

Insert the power cord to the limit on the recorder.

Be sure to connect the power cord via any of the following breaking devices:

- Connect the power cord via a power supply control unit.
- Install the product near a power outlet, and connect the power cord via the power plug.
- Connect the power cord to the breaker with contact gap of 3.0 mm or more of a distribution board. The breaker shall be able to shut down all the poles of the main power supply except the ground protective conductor.

### For BNC cable connection

Use only the recommended plug below when connecting the BNC plug to the connectors on the rear panel of the recorder.

Applicable plug: BS CECC2212: 1981

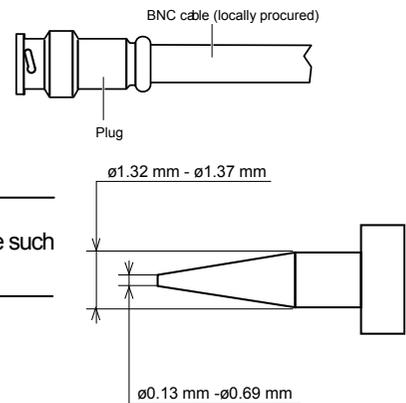
\* Suffixes attached to the standards may be updated.

Tip dimensions inside the recommended BNC plug

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#### Important:

- A compatible plug shall be used. Failure to observe this may cause trouble such as poor contact. At worst, the connector of this product may be damaged.
- 



### Avoid placing receptacles that contain liquids such as water near this product.

If liquid spills onto this product, it may cause fire or an electric shock.

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# Chapter 1 -- Introduction

## Features

Your color digital disk recorder provides recording capabilities for eight camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- 8 or 4 composite video inputs
  - WJ-HL208 is 8-channel model
  - WJ-HL204 is 4-channel model
- H.264 codec for efficient digital video recording
- Real time recording
  - 200 ips with standard (CIF) resolution (8-channel model)
  - 100 ips with standard (CIF) resolution (4-channel model)
- Selectable 4 recording qualities (Very High, High, Standard, Basic)
- Selectable 3 recording resolutions (D1, Half-D1, CIF)
- Multiple Recording mode (Time-Laps, Pre-Event, Alarm, Motion and Panic)
- Multiple Search engine (Date/Time, Calendar, Record table, Event and Motion)
- Easy operation with user-friendly GUI (Graphical User Interface) and mouse
- 4-channel audio recording and 1-channel audio playback
- Camera control via RS-485 (Panasonic and Pelco-D protocol supported)
- Continues recording while transmitting to web browser and during playback
- Self-diagnostics with automatic notification including HDD S.M.A.R.T. protocol
- Equipped with 3 HDD slots

## Technical Overview

In addition to replacing both a time-lapse VCR and a multiplexer in a security installation, your recorder has many features that make it much more powerful and easier to use than even the most advanced VCR.

The recorder converts analog PAL video to digital images and records them on a hard disk drive. Using a hard disk drive allows you to access recorded video almost instantaneously; there is no need to rewind tape. The technology also allows you to view recorded video while the recorder continues recording video.

Digitally recorded video has several advantages over analog video recorded on tape. There is no need to adjust tracking. You can freeze frames, fast forward, fast reverse, slow forward and slow reverse without image streaking or tearing. Digital video can be indexed by time or events, and you can instantly view video after selecting the time or event.

Your recorder can be set up for event or time-lapse recording. You can define times to record, and the schedule can change for different days of the week and user defined holidays.

The recorder can be set up to alert you when the hard disk drive is full, or it can be set to record over the oldest video once the disk is full.

You can view video and control your recorder remotely by connecting via Ethernet. There is a COPY ports that can be used to upgrade the system or copy video clips to external flash drives.

**Note:** This manual covers the 8- and 4-channel digital disk recorders. The recorders are almost the same specification except for the number of cameras and alarms that can be connected and the number of cameras that can be displayed. In the 4-channel model, a part of function is not equipped. For simplicity, the illustrations and descriptions in this manual refer to the 8-channel model.

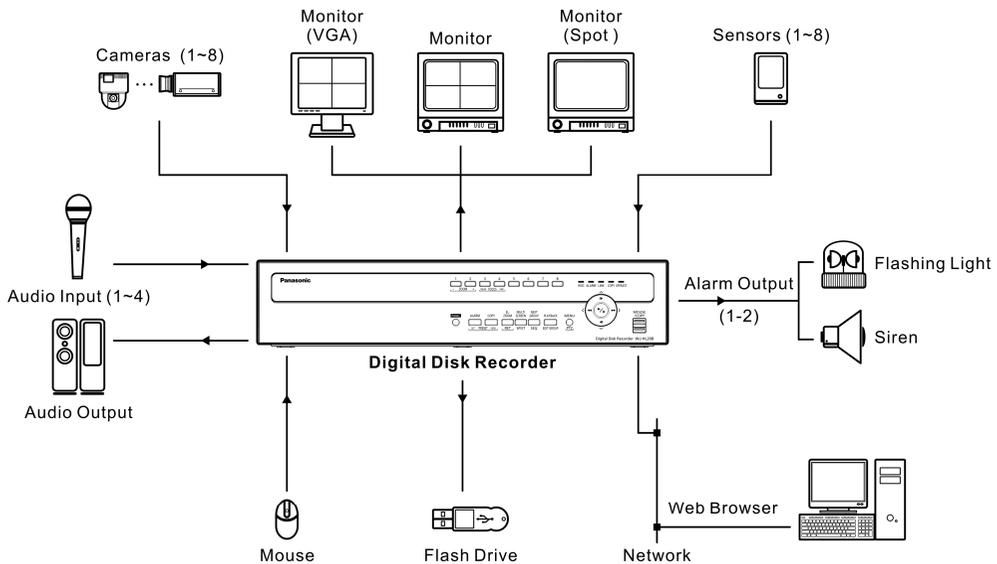


Figure 1 : Typical installation

# Chapter 2 -- Installation

## Package Contents

The package contains the following:

- Digital Disk Recorder
- Power Cord ×2
- Operating Instructions (This Document)
- Assembly Screws for Adding Hard Disk Drives
  - Serial ATA cable ×2
  - HDD Fixing Screw ×12 (including 4 as spares)
- CD-ROM ×1
  - The CD-ROM contains the regulations documents and important safety instructions (PDFs) written in the following language; French, German, Spanish, Italian and Russian.
  - Adobe® Reader® is required to read the PDF files on the provided CD-ROM. When Adobe® Reader® is not installed on the PC, download the latest Adobe® Reader® from the Adobe web site and install it.

## Required Installation Tools

No special tools are required to install the recorder. Refer to the installation manuals for the other items that make up part of your system.

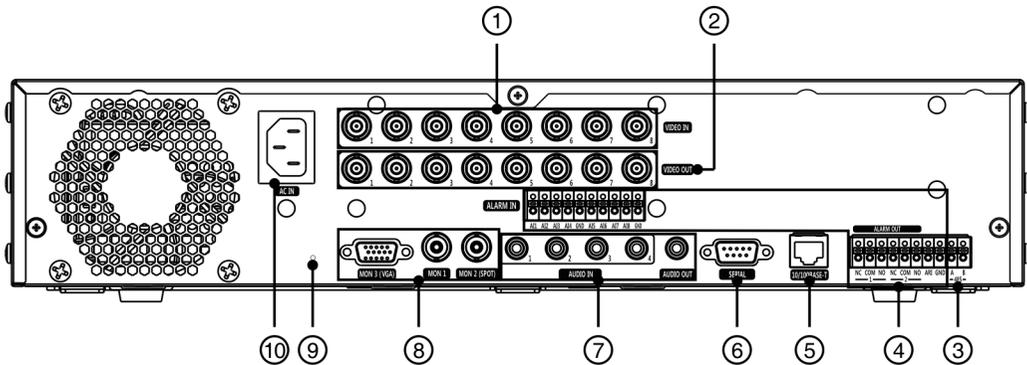


Figure 2 : 8-channel model rear panel

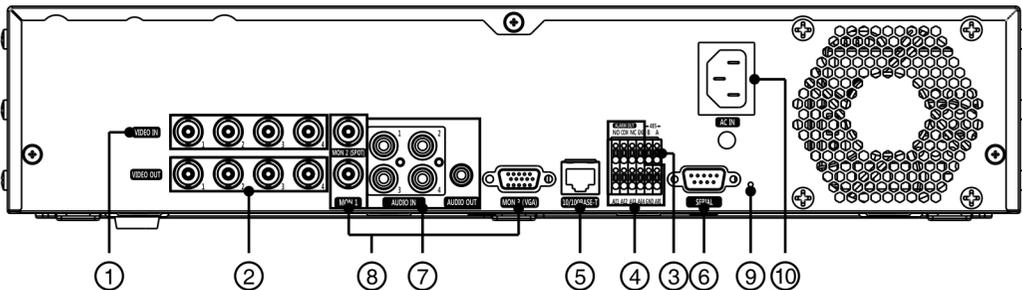


Figure 3 : 4-channel model rear panel

- |                                  |                            |                        |
|----------------------------------|----------------------------|------------------------|
| ① Video Input Connector          | ② Video Output Connector   | ③ RS485 Terminal       |
| ④ Alarm Input / Output Terminal  | ⑤ Network Port             | ⑥ Serial Port          |
| ⑦ Audio Input / Output Connector | ⑧ Monitor Output Connector | ⑨ Factory Reset Switch |
| ⑩ Power Inlet                    |                            |                        |

Your recorder can be used with PAL equipment.

### ① Video Input Connector [VIDEO IN 1 to 8 or 4]

Connect the coaxial cables from the video sources to the Video Input BNC connectors. The 4-channel model has 4 Video Input BNC connectors [VIDEO IN 1 to 4].

### ② Video Output Connector [VIDEO OUT 1 to 8 or 4]

If you would like to connect your video source to another device, you can use the Video Output BNC connectors.

The 4-channel model has 4 Video Output BNC connectors [VIDEO Out 1 to 4].

**Note:** The Video Output BNC connectors are auto terminated. Do NOT connect a cable to the Video Output BNC connectors unless it is connected to a terminated device because it will cause poor quality video.

### ③RS485 Terminal [485 A / B]

The recorder can control PTZ (Pan/Tilt/Zoom) cameras using RS485 half-duplex serial communications signals. Connect RX+/TX+ and RX-/TX- of the control system to the A and B (respectively) of the recorder. See “Chapter 3 – Configuration” and the PTZ camera’s manual for configuring the RS485 connection.

### ④Alarm Input / Output Terminal [ALARM IN] / [ALARM OUT]

**Note:** To make connections on the Alarm Terminal Strip, press and hold the button and insert the wire in the hole below the button. After releasing the button, tug gently on the wire to make certain it is connected. To disconnect a wire, press and hold the button above the wire and pull out the wire.

The 4-Channel model has 4 Alarm Input Terminals [AI1] to [AI4].

**[AI1] to [AI8] or [AI4] (Alarm Input) :** You can use external devices to signal the recorder to react to events. Mechanical or electrical switches can be wired to the [AI] (Alarm Input) and [GND] (Ground) terminals. The threshold voltage of electrical switches for [NC] (Normally Closed) is above 2.4 V and for [NO] (Normally Open) is below 0.3 V, and should be stable at least 0.5 seconds to be detected. The voltage range of alarm input is from 0 V to 5 V. See “Chapter 3 – Configuration” for configuring alarm input.

**[GND] (Ground) :** Connect the ground side of the Alarm input and/or alarm output to the GND terminal.

**Note:** All the terminals marked GND are common.

**[NC]/[NO] (Relay Alarm Outputs) :** The recorder can activate external devices such as buzzers or lights. Connect the device to the [COM] (Common) and [NC] (Normally Closed) or [COM] and [NO] (Normally Open) terminals. [NC]/[NO] is a relay output which sinks 1 A 30 V<sub>peak</sub> (maximum). See “Chapter 3 – Configuration” for configuring alarm output.

**[ARI] (Alarm Reset In) :** An external signal to the Alarm Reset In can be used to reset both the Alarm Out signal and the recorder’s internal buzzer. Mechanical or electrical switches can be wired to the [ARI] (Alarm Reset In) and [GND] (Ground) terminals. The threshold voltage is below 0.3 V and should be stable at least 0.5 seconds to be detected. Connect the wires to the [ARI] (Alarm Reset In) and [GND] (Ground) terminals.

### ⑤Network Port [10/100BASE-T]

The recorder can be networked using the 10/100Mbps Ethernet connector. Connect a Cat5 cable with an RJ-45 jack to the recorder connector. The recorder can be networked with a computer for remote monitoring, searching. See “Chapter 3 – Configuration” for configuring the Ethernet connections.

**Important:** The network port is not designed to be connected directly with cable or wire intended for outdoor use.

**Please keep away a cat5 cable and other cable which has a lot of noises, lightning and surge.**

### ⑥Serial Port [SERIAL]

Reserved.

### ⑦Audio Input / Output Connector [AUDIO IN 1 to 4] / [AUDIO OUT] (RCA pin jack)

Your recorder can record audio from up to four sources. Connect the audio sources to the Audio Input Connectors 1 to 4 as needed using RCA jacks.

Connect the Audio Output Connector to your amplifier.

**Note:** It is the user’s responsibility to determine if local laws and regulations permit recording audio.

The recorder does not have amplified audio output, so you will need a speaker with an amplifier. The recorder does not have a pre-amplifier for audio input, so the audio input should be from an amplified source, not directly from a microphone.

### ⑧ Monitor Output Connector [MON 1] / [MON 2 (SPOT)] / [MON 3 (VGA)]

A [MON 3 (VGA)] connector is provided so that you can use a standard, multi-sync computer monitor as your main monitor. Use the cable supplied with your monitor to connect it to the recorder.

Connect the main monitor to the [MON 1] connector. Connect the spot monitor to the [MON 2 (SPOT)] connector as needed.

**Note: The [MON 3 (VGA)] and [MON 1] (BNC) connectors may be connected to individual monitors for simultaneous operation.  
Please keep away cables and other cables which have a lot of noises, lightning and surge.**

### ⑨ Factory Reset Switch

The recorder has a Factory Reset switch to the left of the [MON 3 (VGA)] connector (4-channel model : the right of the Serial Port) on the rear panel. This switch will only be used on the rare occasions that you want to return all the settings to the original factory settings.

**Important: When using the Factory Reset Switch, you will lose any settings you have saved. (Excluded camera titles you can change in the Web Browser.)**

To reset the unit, you will need a straightened paperclip:

1. Turn the recorder off.
2. Turn it on again with insert the straightened paperclip into the unlabeled hole in the left of the [MON 3 (VGA)] connector (or the right of the Serial Port : 4-channel model).

**Note: Continue inserting until the internal buzzer starts to sound. (approximately 30 seconds after turned on)**

3. Release the reset switch. All of the recorder's settings are now at the original settings it had when it left the factory.

### ⑩ Power Inlet [AC IN]

Connect the provided AC power cord to the recorder and then to a wall outlet.

**WARNING: ROUTE POWER CORDS SO THAT THEY ARE NOT A TRIPPING HAZARD. MAKE CERTAIN THE POWER CORD WILL NOT BE PINCHED OR ABRADED BY FURNITURE. DO NOT INSTALL POWER CORDS UNDER RUGS OR CARPET.**

**THE POWER CORD HAS A GROUNDING PIN. IF YOUR POWER OUTLET DOES NOT HAVE A GROUNDING PIN RECEPTACLE, DO NOT MODIFY THE PLUG. DO NOT OVERLOAD THE CIRCUIT BY PLUGGING TOO MANY DEVICES IN TO ONE CIRCUIT.**

Your recorder is now ready to operate. Refer to "Chapter 3 -- Configuration" and "Chapter 4 -- Operation".

# Chapter 3 -- Configuration

**Note:** Your recorder should be completely installed before proceeding. Refer to “Chapter 2 -- Installation”.

## Front Panel Controls

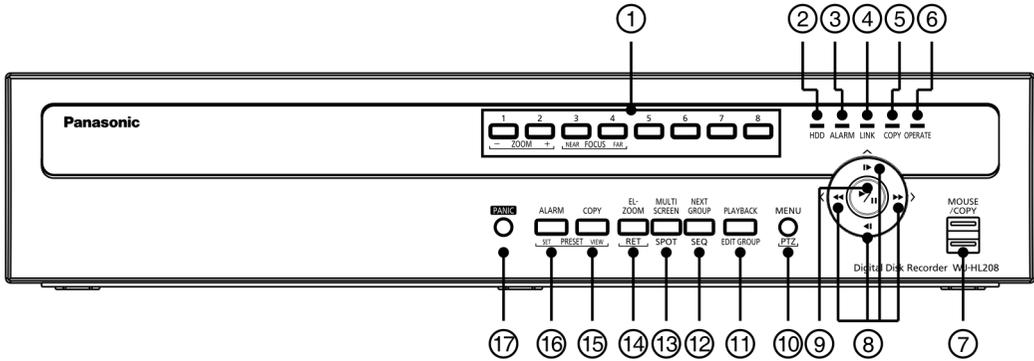


Figure 4 : 8-channel model front panel

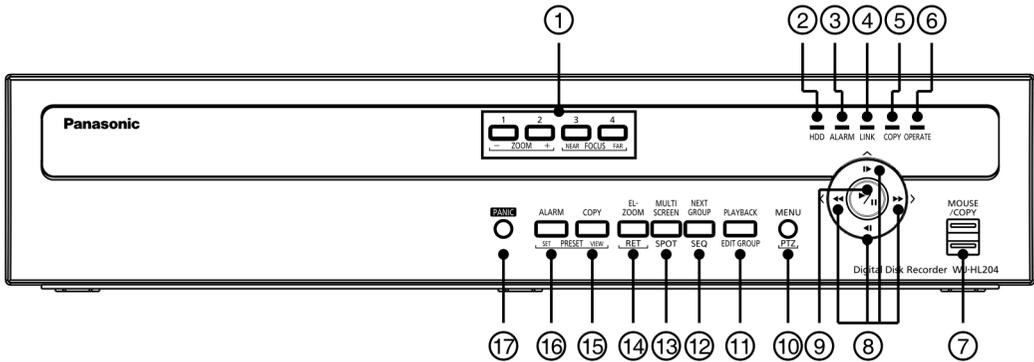


Figure 5 : 4-channel model front panel

- ① Camera Buttons                      ② HDD Indicator                      ③ Alarm Indicator                      ④ Link Indicator
- ⑤ Copy Indicator                      ⑥ Operate Indicator                      ⑦ Mouse / Copy Port                      ⑧ Arrow Buttons
- ⑨ Play / Pause Button                      ⑩ Menu / PTZ Button                      ⑪ Playback / Edit Group Button
- ⑫ Next Group / Sequence Button                      ⑬ Multiscreen / Spot Button                      ⑭ EL-Zoom / Return Button
- ⑮ Copy / Preset View Button                      ⑯ Alarm / Preset Set Button                      ⑰ Panic Button

The front panel looks and operates much like a VCR combined with a multiplexer. Many of the buttons have multiple functions. The following describes each button and control. Take a few minutes to review the descriptions. You will use these to initially set up your recorder and for daily operations.

**Note:** You can also use a USB mouse (not supplied) to navigate through the screens and menus much like you would on a computer.

### ① Camera Buttons [1] to [8] or [4]

Pressing the individual camera buttons will cause the selected camera to display full screen. Buttons [1] to

[8] or [4] ( : 4-channel model) are also used to enter passwords.

In the PTZ mode, pressing the button [1] ([ZOOM -]) zooms out the screen and the button [2] ([ZOOM +]) zooms in the screen, pressing the button [3] ([FOCUS NEAR]) focuses near and button [4] ([FOCUS FAR]) focuses far.

## ②HDD Indicator [HDD]

The HDD Indicator flickers when the recorder is recording or searching video on the hard disk drive.

## ③Alarm Indicator [ALARM]

The Alarm Indicator is lit when alarm output or internal buzzer is activated.

## ④Link Indicator [LINK]

The Link Indicator is lit when the unit is connected to a network via Ethernet.

## ⑤Copy Indicator [COPY]

The Copy Indicator is lit when the recorder is copying video clips.

## ⑥Operate Indicator [OPERATE]

The Operate Indicator is lit when the unit is On.

## ⑦Mouse / Copy Port [MOUSE/COPY]

The [MOUSE/COPY] ports on the front panel are provided to connect flash drives for video clip copying or system upgrades. Position external flash drive close enough to the recorder so that you can make the cable connections, usually less than 1.8 m.

A USB mouse (not supplied) can be connected to one of the ports. You can use the mouse to navigate through the screens and menus much like you would on a computer.

## ⑧Arrow Buttons [◀◀] / [▶▶] / [◀] / [▶]

These buttons are used to navigate through menus and GUI. You can also use them to change numbers by highlighting a number in the menu and using the Up and Down arrow buttons to increase or decrease the number's value.

These buttons are also used to control Pan and Tilt when in the PTZ mode. When in the PIP display format, pressing the Up and Down arrow buttons moves the position of the small screen counter-clockwise and clockwise, and pressing the Left and Right buttons changes the PIP screen size.

In the playback mode, pressing the [◀◀] button plays video backward at high speed. Pressing the button again toggles the playback speed from "◀◀", "◀◀◀" and "◀◀◀◀". The screen displays "◀◀", "◀◀◀" and "◀◀◀◀" respectively. Pressing the [▶▶] button plays video forward at high speed. Pressing the button again toggles the playback speed from "▶▶", "▶▶▶" and "▶▶▶▶". The screen displays "▶▶", "▶▶▶" and "▶▶▶▶" respectively. When in the pause mode, pressing the [▶] button moves to the next image and pressing the [◀] button moves to the previous image.

## ⑨Play / Pause Button [⏸]

In the live monitoring mode, pressing the [⏸] button freezes the current screen and the screen displays ⏸ icon. When in the playback mode, pressing the [⏸] button plays back images at regular speed or pauses playing video.

Pressing the [⏸] button selects a highlighted item or completes an entry that you have made during system setup.

## ⑩Menu / PTZ Button ([MENU] or [PTZ])

Pressing the [MENU] button enters the Setup screen. You will need to enter the authorized user and

password to access Setup. Pressing the button also closes the current menu or setup dialog box. In the Playback mode, pressing the button displays the Search menu.

Pressing and holding the button for three seconds or longer displays the PTZ camera menu. Selecting cameras from the menu by using the arrow buttons and the  (Play/Pause) button, you can enter the PTZ mode and can control configured cameras properly.

### ⑪ Playback / Edit Group Button ([PLAYBACK] or [EDIT GROUP])

Pressing the [PLAYBACK] button enters the playback mode, and pressing the button again exits the playback mode. When entering the playback mode, video is paused. Pressing the  (Play/Pause) button plays back video at regular speed. The screen displays “||” when the recorder is in the Pause mode and the screen displays “▶” when the recorder is playing back video.

When in one of the multi-view formats, pressing this button enters the Triplex mode. The recorder supports the Triplex function: monitoring, recording and playing back at the same time.

Pressing and holding the [EDIT GROUP] button for three seconds or longer enters the Edit Group mode. The yellow outline surrounding the video indicates the active channel, and pressing the arrow buttons moves the active channel. Pressing the desired camera button in the active channel edits the Group and displays the video of selected camera. Pressing the  (Play/Pause) button exits the Edit Group mode. Selecting “Exit Group Edit” in the Edit Group menu displayed when pressing the [MENU/PTZ] button also exits the Edit Group mode.

### ⑫ Next Group / Sequence Button ([NEXT GROUP] or [SEQ])

When in the live mode, pressing the [NEXT GROUP] button changes the screen from the current camera group to the next camera group, and the screen displays the page number. (The 4-channel model's multi-screen is excluded.)

Pressing and holding the [SEQ] button for three seconds or longer displays live channels sequentially.

### ⑬ Multiscreen / Spot Button ([MULTISCREEN] or [SPOT])

Pressing the [MULTISCREEN] button toggles between different display formats. The available formats are: PIP, 2x2, and 3x3(only 8-channel model).

Pressing and holding the [SPOT] button for three seconds or longer allows you to select which cameras will display on the Spot monitor.

### ⑭ EL-Zoom / Return Button ([EL-ZOOM] or [RET])

Pressing the [EL-ZOOM] button zooms digitally in the current image in double on the screen. You can use the arrow buttons to move the rectangle to another area. Pressing the  (Play/Pause) button zooms in the image in rectangle.

Pressing the [RET] button allows you to return to the previous menu when you are operating the camera setup menu in the PTZ mode.

### ⑮ Copy / Preset View Button ([COPY] or [PRESET VIEW])

Pressing the [COPY] button allows you to copy video clips.

The [PRESET VIEW] button is used to load a View Preset in the PTZ mode.

### ⑯ Alarm / Preset Set Button ([ALARM] or [PRESET SET])

The [ALARM] button has two functions. First, it will reset the recorder's outputs including the internal buzzer during an alarm. Second, it will display the event log when you are in the live protected. The [PRESET SET] button is used to save Presets in the PTZ mode.

### ⑰ Panic Button [PANIC]

Pressing the [PANIC] button starts panic recoding of all camera channels, and displays “!” on the screen. Pressing the button again will stop panic recording.

## Turning on the Power

Connecting the power cord to the recorder turns on the unit. The Operate Indicator will light and initializing will start. While the recorder is initializing, the front panel indicators (except the Operate Indicator) will blink. The unit takes approximately 60 seconds to initialize.

## Initial Unit Setup

Before using your recorder for the first time, you will want to establish the initial settings. This includes items such as time and date, display language, camera, record mode, network and password. Your recorder can be set up using various screens and dialog boxes.

Throughout the screens you will see “↶”. Highlighting the “↶” and pressing the  button gives you the opportunity to reset that screen to its default settings.

Press the [MENU] button or move the mouse pointer to the top of the screen and then select  (Login) in the Live Monitoring menu to enter the setup screens. The Login screen appears.



Select a User and enter the password by pressing the appropriate combination of Camera number buttons and then the  button. Enter the password (default:1234) when logging in the “ADMIN” user (default) for the first time.

Figure 6 : Login screen

**Note:** To assure the secure management of the system, changing the password from the default setting is strongly recommended.

If you cannot use the front panel buttons, click the  button using the mouse to enter a password, and the virtual keyboard displays. See instructions below for using the virtual keyboard.

To log the user out of the system, press the [MENU] button or move the mouse pointer to the top of the screen and then select  (Logout) in the Live Monitoring menu. The Logout screen displays asking you to confirm whether or not you want to log out the current user.

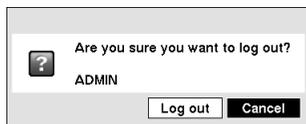


Figure 7 : Logout screen

## Setup Screen



Figure 8 : Setup screen

Press the [MENU] button or move the mouse pointer to the top of the screen and then select “” (Setup) in the Live Monitoring menu to enter the setup screen.

While setting up the recorder, there will be many opportunities to enter names and titles. When making these entries, a Virtual Keyboard will appear.

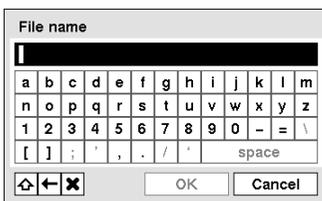


Figure 9 : Virtual Keyboard screen

Use the arrow keys to highlight the character you want in the name or title and press the  button. That character appears in the title bar and the cursor moves to the next position. Pressing “” toggles between the upper and lower case keyboards, “” backspaces, and “” deletes entered characters. You can use up to 31 characters including spaces in your title.

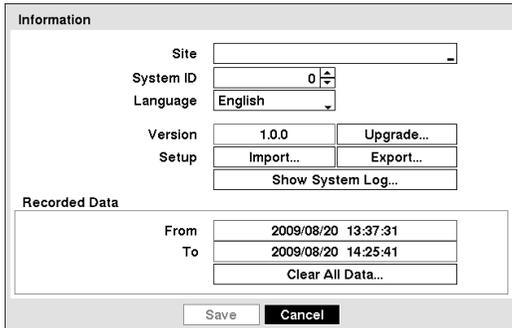
## System Setup



Figure 10 : System menu

## Information

Highlight Information and press the  button. The Information screen appears.



The screenshot shows the 'Information' screen with the following fields and buttons:

- Site: Text input field
- System ID: Spin box with '0' and up/down arrows
- Language: Drop-down menu showing 'English'
- Version: Text input field with '1.0.0' and an 'Upgrade...' button
- Setup: 'Import...' and 'Export...' buttons
- Show System Log...: Button
- Recorded Data: Section with 'From' and 'To' date/time fields (2009/08/20 13:37:31 and 2009/08/20 14:25:41) and a 'Clear All Data...' button
- Save and Cancel buttons at the bottom

Figure 11 : Information screen

In the “Information” screen, you can name the site location, assign a System ID number, select the language the screens are displayed in, display software version number, upgrade the software, show the System Log, display recorded time data, and clear all data.

Highlight the “Site” box and press the  button. A virtual keyboard appears that you can use to enter a Site Name.

Once you have entered your site name, highlight “OK” and press the  button.

Highlight the box beside System ID and press the  button. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number from 0 to 99.

**Note: The System ID number is used to identify the unit when it is connected with cameras through the RS485 port.**

Highlight the box beside “Language” and press  button. A drop-down menu displays the available languages. Highlight the desired language and press the  button.

The box beside “Version” displays the software version of the recorder.



The screenshot shows the 'Upgrade' screen with the following elements:

- Select a package. label
- Package: Drop-down menu showing 'upgrade.rui'
- Install and Cancel buttons

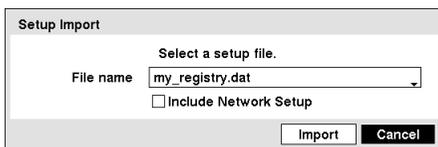
Figure 12 : Upgrade screen

To upgrade the software, connect a USB flash drive containing the upgrade package file to the recorder. Highlight “Upgrade...” and press the  button. The “Upgrade” screen appears.

The screen displays the upgrade package file names that are available. The “.rui” indicates that the file is for software upgrades.

Select the desired file and press the  button. Highlighting the “Install” button and pressing the  button will install the selected software package. Highlighting the “Cancel” button and pressing the  button will close the window without upgrading the software. If the upgrade package file is not installed on the recorder properly, you will get an error message. The system restarts automatically after completing the upgrade.

**Important: The USB flash drive must be FAT16 or FAT32 format. The recommended flash drive is USB 2.0 type.**



The screenshot shows the 'Setup Import' screen with the following elements:

- Select a setup file. label
- File name: Drop-down menu showing 'my\_registry.dat'
- Include Network Setup checkbox
- Import and Cancel buttons

Figure 13 : Setup Import screen

You can import saved recorder settings or export the current recorder settings. To import saved recorder settings, connect the USB flash drive containing the setup file (.dat) to the recorder. Highlight “Import...” on the Information screen and press the  button.

Select the desired setup file and press the “Import” button to import the selected settings and change the recorder settings accordingly. Highlight “Include Network Setup” and press the  button to toggle between On and Off. When set to Off, the network settings will not be changed.

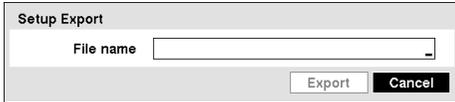


Figure 14 : Setup Export screen

A virtual keyboard allows you to enter the file name. Selecting “Export” will save the current settings in “.dat” file format on the USB flash drive.

**Note:** Even after changing the recorder settings by importing saved settings, the time-related settings (Date/Time, Time Zone and Daylight Saving Time) will NOT be changed.

**Important:** The USB flash drive must be FAT16 or FAT32 format. The recommended flash drive is USB 2.0 type.

Highlight “Show System Log...” and press the  $\odot$  button to display the System Log.

Time	Type
2009/08/20 14:25:42	Setup Begin
2009/08/20 14:25:33	Setup End
2009/08/20 14:25:32	Setup Begin
2009/08/20 14:25:32	Login : ADMIN
2009/08/20 14:25:17	Boot Up
2009/08/20 14:24:21	Setup End
2009/08/20 14:22:15	Setup Begin
2009/08/20 14:22:06	Setup End
2009/08/20 14:22:05	Setup Begin
2009/08/20 14:22:05	Login : ADMIN

Figure 15 : System Log screen

The “System Log” screen lists system activities (up to 5,000 from the latest) that have occurred along with the time and date. The  $\text{⏏}$  icon will be displayed in the last column for system activities of the web browser. You can scroll through the log pages by using the Up and Down arrows, or you can go directly to a log page by entering the log page number in the box at the bottom left of the screen.

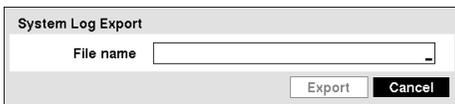


Figure 16 : System Log Export screen

A virtual keyboard allows you to enter the file name. Selecting “Export” will save the System Log in .txt file format on the USB flash drive.

Highlighting the “Cancel” button and pressing the  $\odot$  button will close the window without saving the System Log.

**Note:** When opening the saved .txt file, setting to the proper character encoding and using fixed width fonts will be required to read the file properly.

**Important:** The USB flash drive must be FAT16 or FAT32 format. The recommended flash drive is USB 2.0 type.

The box beside “Recorded Data – From / To” displays the time information of recorded data.

Highlighting “Clear All Data...” and pressing the  $\odot$  button will clear all video data. You will be asked to verify that you wish to clear all data before the recorder erases the video data. “Clear All Data...” will not clear the System Log.

After you are finished with the Information Screen, you can highlight “Save” and press the  $\odot$  button to save the changes and exit the screen. If you do not wish to save the changes, highlight “Cancel” and press the  $\odot$  button to exit the screen.



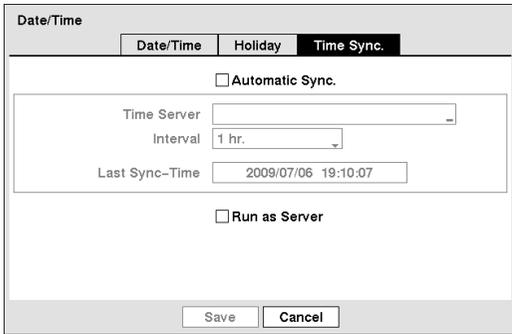


Figure 19 : Date/Time - Time Sync. screen.

“Last Sync-Time” displays the last time the recorder was synchronized with the time server.

Highlight “Run as Server” and press the button. Pressing the button toggles between On and Off. When it is On, the recorder you are setting up will run as a time server.

**Note:** You can use the domain name instead of IP address if you already set up the DNS Server when setting up the LAN.

You can save your changes by highlighting “Save” and pressing the button. Selecting “Cancel” exits the screen without saving the changes.

## Storage

Highlight “Storage” in the System menu and press the button. The Storage setup screen appears and displays information about the recorder’s storage devices.

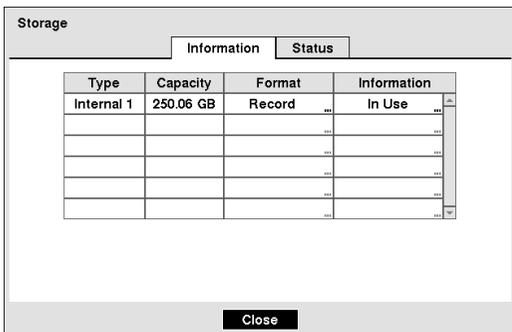
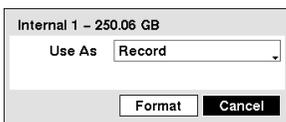


Figure 20 : Storage - Information screen

The information in the “Type” column describes the storage device.

The capacity of the storage device is displayed in the “Capacity” column.

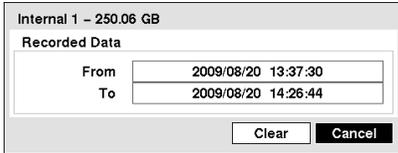
The “Format” column displays whether the device is used for recording “Record” or not “Not Using”. “Not formatted” indicates the device is not formatted.



Highlight the box in the “Format” column for the desired storage device and press the button. You will be able to format the device for recording. When selecting “Not Using” from “Use As” and highlighting the “Format” button, the device will not be used for recording.

Figure 21 : Internal 1(Storage Format) screen

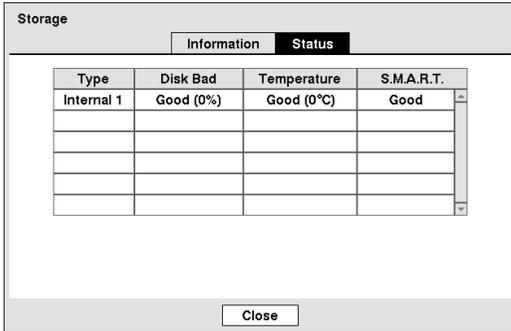
Highlight the box in the “Information” column for the desired storage device and press the button. You will be able to check the time information about recorded data.



If you want to erase recorded data on the selected device, highlight “Clear” and press the button. You will be asked whether or not you want to delete the data.

Figure 22 : Internal 1 (Storage Information) screen

Highlight the “Status” tab, and the Storage Status screen displays.



The “Type” column displays the type of storage device.

The “Disk Bad” column displays the percentage of bad sectors. “Not formatted” indicates the device is not formatted.

The “Temperature” column displays the temperature of the storage device.

The “S.M.A.R.T.” column displays “Good”, “Bad” or “N/A”, depending on storage conditions.

Figure 23 : Storage - Status screen

- Good : The storage condition is normal.
- Bad : Data cannot be written on or read from the storage device.
- N/A : Storage conditions are normal, however, the S.M.A.R.T. monitoring is not working or supported.

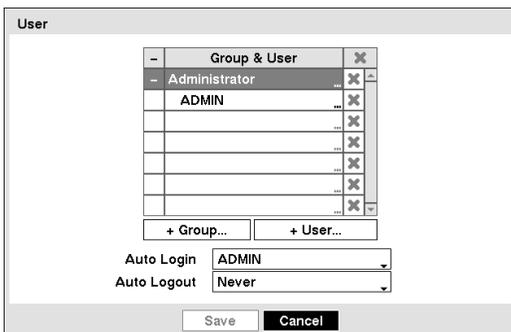
**Note:** When the storage condition is “Bad”, the Event Status – Storage screen displays and you can check the storage condition for details. Once the “Bad” message displays, contact your dealer as soon as possible.

“Temperature” and “S.M.A.R.T.” information will be available only for internal hard disk drives supporting the SMART (Self-Monitoring Analysis and Reporting Technology) monitoring program.

Selecting “Close” and pressing the button exits the screen.

## User

Highlight “User” in the System menu and press the button. The “User” setup screen displays the authorized groups and users. You can add and delete groups and users. When adding a group, you can assign authority levels to the group.



The “+” / “-” column is used to collapse and expand user groups. If there is a “+” or “-” in this column, it indicates the item is a Group Name. If there is a “-” in front of the Group Name, it indicates that the group has been “expanded” and all of the User Names within that group are displayed below the Group Name. If there is a “+” in front of the Group Name, it indicates that the group has been “collapsed” and all of the User Names within that group are hidden. To collapse or expand a group, highlight the “+” / “-” column in front of the desired group and press the button.

Figure 24 : User screen

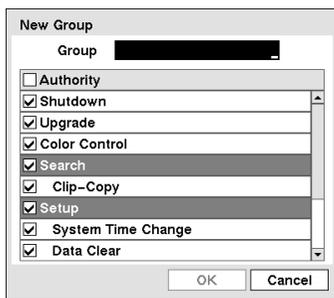
Highlighting a Group Name and pressing the button allows you to change the authority levels assigned to the group.

**Important: If the password is forgotten, the unit must be reset using the Factory Reset Switch and all data settings will be lost.**

Highlighting a User Name and pressing the  button allows you to add or change the password assigned to that user. You can also change the group to which the user is assigned.

The  column can be used to delete a User Name or an entire Group. If the  is grayed out, that Group or User cannot be deleted. Highlight the  and press the  button. You will be asked to confirm that you want to delete the User or Group. To delete the User currently logged into the recorder on a local system or Web browser, log out of the system first and then delete the user.

To add a Group, highlight the "+ Group..." and press the  button. A virtual keyboard appears allowing you to enter the Group name. You can use up to 15 characters including spaces in the group name. Enter the name and assign authority levels to the group.



Highlighting the "Authority" and pressing the  button will toggle between all authority levels being turned On and Off. Highlighting the individual authority level boxes and pressing the  button will toggle between that authority level being turned On and Off. The authority levels that can be turned On and Off are:

- Shutdown** : The user can shut the system down on a local system.
- Upgrade** : The user can upgrade the software on a local system.
- Color Control** : The user can control brightness, contrast, hue and saturation for cameras on a local system or Web browser.
- Search** : The user can access the Search mode on a local system or Web browser.

Figure 25 : New Group screen

**Clip-Copy** : The user can copy video clips on a local system or Web browser, and save video data in an AVI, bitmap or JPEG file format.

**Setup** : The user without Setup authority cannot establish any system settings excluding system shutdown and logout on a local system.

**System Time Change** : The user can change the system date and time on a local system.

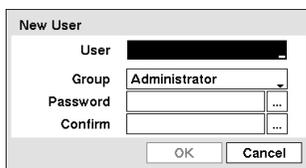
**Data Clear** : The user can clear all video data or format disks on a local system.

**PTZ Control** : The user can control the PTZ camera on a local system or Web browser.

**Alarm-Out Control** : The user can reset the recorder's outputs including the internal buzzer during an alarm by pressing the [ALARM] button on a local system or alarm-out control button on Web browser.

**Covert Camera View** : The user can view video from cameras set as Covert while in the Live Monitoring or Search mode on a local system or Web browser.

**Record Setup** : The user can establish all Record settings on a local system.



To add a User, highlight the "+ User..." box and press the  button. A virtual keyboard appears allowing you to enter the User Name. Enter the name and assign the User to a Group and password. You can use either the front panel's camera buttons 1 to 8 (or 4) or virtual keyboard screen to assign the password. The password can be input from 4 to 8 letters. You will be asked to confirm the password.

Figure 26 : New User (User Information) screen

**Note:** In addition to using the front panel buttons, you can use the virtual keyboard to assign the password. To display the virtual keyboard click the  button using the USB mouse (not supplied).

Highlighting the box beside "Auto Login" allows you to select a User to be automatically logged in when the recorder is powered up. It can also be set to never automatically login a user.

Highlighting the box beside "Auto Logout" allows you to select from a list of times that the user will be automatically logged out. The options are: "Never", "1 min.", "3 min.", "5 min.", "10 min.", "15 min.", "20 min.", "30 min." and "1 hr."(hour)

You can save your changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Shutdown

Highlight “Shutdown” in the System menu and press the  button. The “Shutdown” screen displays asking you to confirm whether or not you want to shut the system down.



Figure 27 : Shutdown screen

After selecting “Shutdown” and pressing the  button, a screen will appear telling you when it is safe to disconnect power.

**Note: If you turn off the recorder without this Shutdown operation, the last recorded video for maximum 60 seconds may be lost.**

## Network Setup

In the Setup screen, use the Left or Right arrow buttons to display the Network menu.



Figure 28 : Network menu

## Network

Highlight “Network” in the Network menu and press the  button. The Network setup screen displays. You will be able to change the Network, LAN and Web Browser settings.

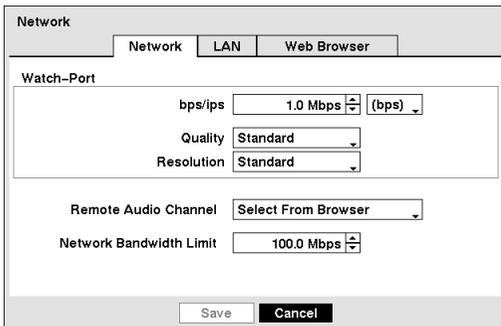


Figure 29 : Network - Network screen

Highlight the first box beside “bps/ips”. Press the Up and Down arrow buttons to set the Transfer Speed from 50 kbps to 100 Mbps or from 1.00 ips to 25.00 ips.

Highlight the second box beside “bps/ips”. You can select the unit of measure for the transfer speed between: “bps” and “ips”. Press the  button to set the transfer speed.

Highlight the box beside “Quality” and press the  button. You can select the Quality from: “Very High”, “High”, “Standard” and “Basic”. Press the  button to set the Quality.

Highlight the box beside “Resolution” and press the  button. You can select the Resolution from: “Very High” (D1), “High” (Half D1) and “Standard” (CIF). Press the  button to set the Resolution.

**Note: The higher Quality and Resolution settings require higher Transfer Speed settings. The transfer speed you set is the maximum speed. Depending on the network environment, this speed may not be achieved.**

The recorder supports two-way audio communication between a local system and Web browser. Highlighting the box beside “Remote Audio Channel” and pressing the  button allows you to select the audio channel that sends audio to the web browser. Selecting “Select From Browser” will send audio of the channel selected from Web browser.

**Note: Depending on network conditions, audio might be interrupted or out of synchronization during transmission.**

You can control the network bandwidth by limiting the network bandwidth depending on the network traffic. Highlight the box beside “Network Bandwidth Limit” and press the Up and Down arrow buttons to set the desired maximum bandwidth from 50 kbps to 100 Mbps.

**Note:** When limiting the network bandwidth, the remote watch image on Web browser might not be displayed properly.  
The recording speed would be down than the set speed by operating on Web browser while recording.

Highlight the “LAN” tab, and the LAN screen displays.

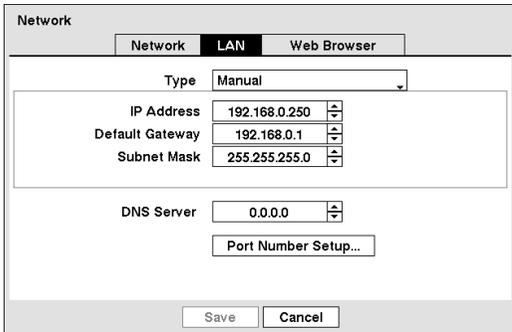


Figure 30 : Network - LAN (Manual) screen

Highlight the box beside “Type” and press the  $\uparrow/\downarrow$  button. You can select the type of network configuration from: “Manual” and “DHCP”. Select the desired type and press the  $\uparrow/\downarrow$  button.

Selecting “Manual” from the Type allows you to set up LAN parameters manually.

Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number. The factory default LAN settings are:

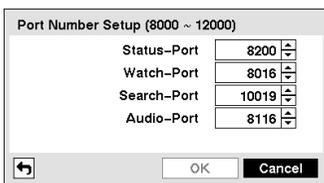
IP Address:	192.168.0.250
Default Gateway:	192.168.0.1
Subnet Mask:	255.255.255.0

**Note:** You will need to get the appropriate IP Address, Default Gateway and Subnet Mask from your network administrator.

Highlight the box beside “DNS Server”. Press the Up and Down arrow buttons to set the IP address of the DNS server.

Highlight the “Port Number Setup...” box and press the  $\uparrow/\downarrow$  button. The “Port Number Setup” screen appears.

**Note:** You will need to get the appropriate Port Numbers for Web browser related program (Watch, Search and Audio) from your network administrator.



Change the numbers by highlighting them and using the Up and Down arrow buttons to increase or decrease the number. The factory default Port settings are:

Status-Port:	8200
Watch-Port:	8016
Search-Port:	10019
Audio-Port:	8116

Figure 31 : Port Number Setup screen

**Note:** The system restarts automatically after changing the port settings.

**Do NOT** use the same port number for two different programs, otherwise, the recorder cannot be connected with Web browser.

**Important:** When changing the port settings, you must change the port settings on Web browser as well.

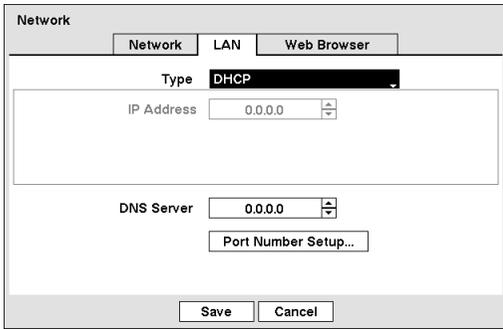


Figure 32 : Network - LAN (DHCP) screen

Selecting “DHCP” from the Type and highlighting “Save” button reads the current IP address of the recorder configured by DHCP (Dynamic Host Configuration Protocol) network.

**Note: If the recorder is configured for DHCP, the IP address of the recorder might change whenever the unit is turned on.**

Highlight the “Web Browser” tab, and the Web Browser setup screen displays.

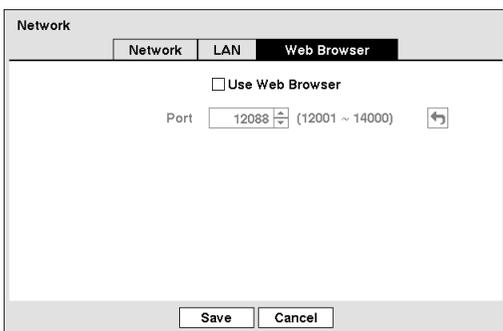


Figure 33 : Network - Web Browser screen

Highlight “Use Web Browser” and press the  button to toggle between On and Off. See “Appendix C — Web Browser” for detailed descriptions of the Web Browser .

Highlight the box beside “Port” and press the  button. Set the port number used when accessing Web browser by using the Up and Down arrow buttons to increase or decrease the numbers. The default port number is 12088.

You can save your Network changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Mail

The recorder can be set up to send an e-mail when an event occurs.

Highlight “Mail” in the Network menu and press the  button. The Mail screen displays. You will be able to change the Mail settings.

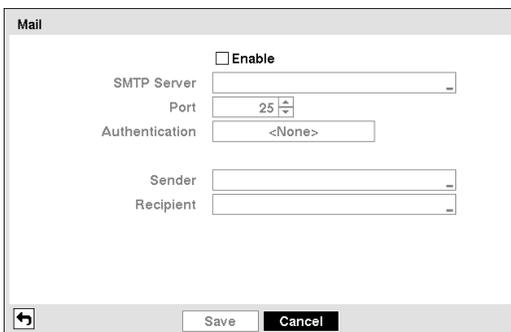


Figure 34 : Mail screen

Highlight “Enable” and press the  button to toggle between On and Off. You will only be able to change the settings if Mail is enabled.

Highlight the box beside “SMTP Server” and press the  button. A virtual keyboard appears that you can use to enter the IP address or domain name of the SMTP server.

**Note: You will need to get the IP Address or domain name of the SMTP Server from your network administrator.**

**You can use the domain name instead of IP address if you already set up the DNS Server when setting up the LAN.**

Highlight the box beside “Port” and press the  button. Use the arrow buttons to enter the SMTP Server port number obtained from your system administrator. The default port number is 25.



Highlight the box beside “Authentication” and press the  button. An Authentication screen appears. Highlight “Use” and press the  button to toggle between On and Off. Highlight the box beside “User” / “Password” and press the  button. A virtual keyboard appears allowing you to enter the user ID and password.

Figure 35 : Authentication screen

Highlight the box beside “Sender” and enter the sender’s e-mail address. Use the virtual keyboard to enter the e-mail address.

**Note:** The e-mail address must include the “@” character to be a valid address.

Highlight the box beside “Recipient” and enter the recipient’s e-mail address. Use the virtual keyboard to enter the e-mail address.

You can save your Mail changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Devices Setup

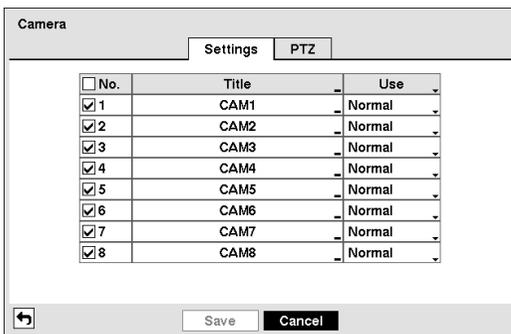
You can configure the video, audio, alarm and display.



Figure 36 : Devices menu

### Camera

Highlight “Camera” in the Devices menu and press the  button. The “Camera” setup screen appears.



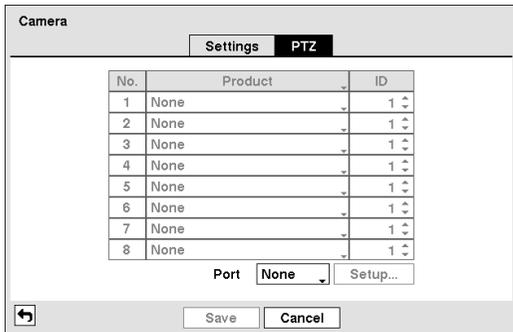
You can turn the camera number On or Off, and you can change the Title of each camera using the virtual keyboard. You can also determine which cameras will display on the monitors by selecting “Normal”, “Covert 1” or “Covert 2” from a drop-down list in the “Use” column.

Figure 37 : Camera - Settings screen

**Note:** When selecting the “Covert 1”, the recorder displays the camera title and status icons on the covert video. When selecting the “Covert 2”, the recorder displays only camera title on the covert video.

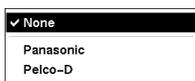
**A user who does not have “Covert Camera View” authority cannot view video from cameras set to “Covert 1” or “Covert 2” in both the live monitoring and playback modes.**

Highlight the “PTZ” tab, and the PTZ setup screen displays.



**Note:** You will only be able to set up PTZ devices if the PTZ port is set to RS485.

Figure 38 : Camera - PTZ screen

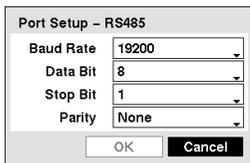


Highlight the box in the “Product” column for the PTZ camera you wish to configure and press the  $\odot$  button. A list of PTZ devices appears. Select your camera from the list and press the  $\odot$  button. You will need to connect the camera to the RS485 connector on the back of the recorder following the camera manufacturer’s instructions.

Figure 39 : PTZ device list

You can assign IDs to each camera by highlighting the box under the “ID” heading and pressing the  $\odot$  button. Change the number by highlighting it and using the Up and Down arrow buttons to increase and decrease the number. The PTZ ID number can be set from 1 to 96.

Highlight the “Setup...” and press the  $\odot$  button. The Port Setup screen appears.



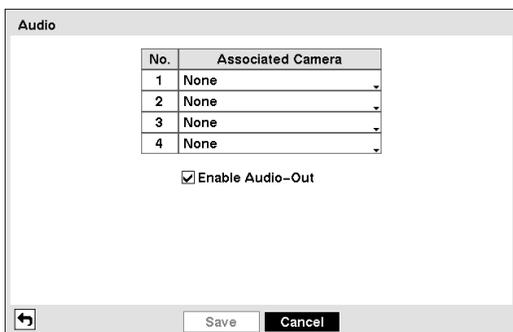
Configure the port’s setting based on the PTZ camera manufacturer’s instructions.

Figure 40 : Port Setup screen

You can save your Camera changes by highlighting “Save” and pressing the  $\odot$  button. Selecting “Cancel” exits the screen without saving the changes.

## Audio

Highlight “Audio” in the Devices menu and press the  $\odot$  button. The Audio setup screen appears.



The recorder can record up to four audio inputs. Highlight the box in the “Associated Camera” column and press the  $\odot$  button. A list of cameras appears, and you can select which camera you want associated with that audio input.

Highlight “Enable Audio-Out” and press the  $\odot$  button. This toggles between enabling and disabling audio out.

Figure 41 : Audio screen

You can save your Audio changes by highlighting “Save” and pressing the  $\odot$  button. Selecting “Cancel” exits the screen without saving the changes.

## Alarm-Out

Highlight “Alarm-Out” in the Devices menu and press the  button. The Alarm-Out setup screen allows you to change the settings and establish a schedule for each alarm output from the recorder. (The 4-channel model has only 1 Alarm Output Terminal.)

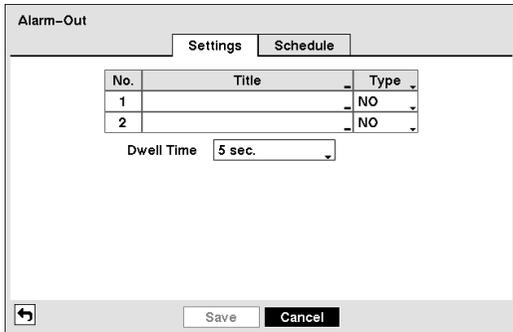


Figure 42 : Alarm-Out - Settings screen

Each alarm output can be given its own title by highlighting the box under the “Title” heading and pressing the  button. A virtual keyboard appears allowing you to enter the title.

Highlighting the box under the “Type” heading allows to set the alarm output.

If “Type” set to “NO”(default), when alarms : [NC-GND] turns to OPEN circuit (Normally closed), [NO-GND] turns to CLOSE circuit (Normally opened). If “Type” set to “NC”, when alarms : [NC-GND] turns to CLOSE circuit (Normally opened), [NO-GND] turns to OPEN circuit (Normally closed).

**Note: When “Type” is set to “NC”, the alarm output’s status turns to “ON” while the recorder is off. (Refer to the Appendix – “Pin Outs” for details.)**

Highlighting the box beside “Dwell Time” and pressing the  button allows you to set the dwell time of the alarm output. Dwell times range from 5 seconds to 30 minutes.

Highlighting the “Schedule” tab causes the Schedule screen to display.

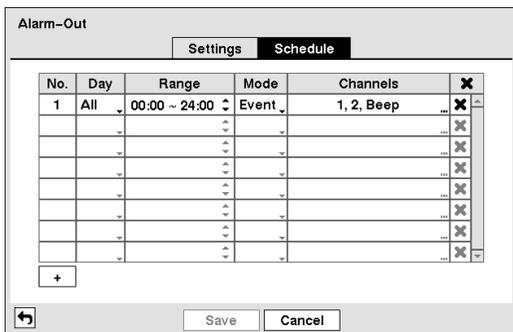


Figure 43 : Alarm-Out - Schedule screen

You can add and edit alarm output schedules on this screen. Highlight the “+” and press the  button to add a schedule. Highlighting the boxes under the Column heading and pressing the  button allows you to edit the information in those boxes.

The “Day” box allows you to select the days that the alarm schedule will be active. The choices are: “Sun”, “Mon”, “Tue”, “Wed”, “Thu”, “Fri”, “Sat”, “M~F”, “Hol” and “All”.

The “Range” box allows you to set the time that the alarm schedule will be active in 15-minute increments from 00:00 to 24:00.

**Note: Set the range as “00:00 ~ 24:00” when you want to set up the schedule for 24 hours.**

The “Mode” box allows you to set how the alarm reacts during the scheduled time. When set to “On”, the Alarm-Out is active during the scheduled time. When set to “Event”, the Alarm-Out is only active when there is an Event during the scheduled time.

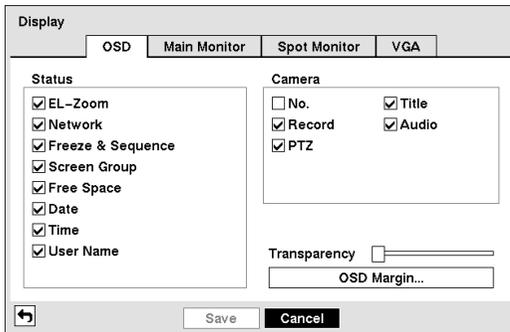
The “Channels” box allows you to set which alarm outputs will be active. You can also select the recorder’s internal buzzer.

The  box allows you to delete an alarm output schedule. You will be asked to confirm whether or not you really wish to delete the schedule.

You can save your Alarm-Out changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Display

Highlight “Display” in the Devices menu and press the  button. The Display setup screen allows you to select what information will be displayed on the monitor.



Highlighting an item and pressing the  button toggles that item On and Off. When an item is On, there is a checkmark in the box beside it. The following items can be turned On or Off:

**EL-Zoom** : The icon  displays on the enlarged video.

**Network** : The icon  displays when the unit is connected to a network via Ethernet.

**Freeze & Sequence** : The icon  displays while in the Freeze mode, and the  displays while in the Sequence mode.

**Screen Group** : The number of screen group displays when the recorder is not in the 3x3 display mode of the 8-channel model.

Figure 44 : Display - OSD screen

**Free Space** : The icon  displays when the recorder is in the Overwrite mode, and the percentage of available storage space displays when the recorder is not in the Overwrite mode.

**Date/Time** : The current date and time information displays.

**User Name** : The name of the current user logged in displays.

**Camera No.** : The camera number displays at the top-left corner of each camera screen.

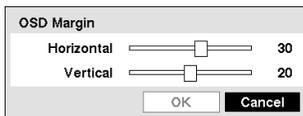
**Camera Title** : The camera title displays at the top-left corner of each camera screen.

**Record** : The record related icons      display on each camera screen.

**Audio** : The icon  displays on each camera screen for which the recorder can play live audio on a local system.

**PTZ** : The icon  displays on each PTZ camera screen.

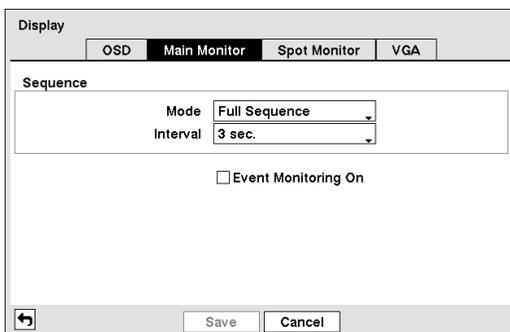
You can adjust the transparency of the setup screens by highlighting the slide bar beside “Transparency” and using the Left and Right arrow buttons.



Highlighting “OSD Margin...” and pressing the  button displays how OSD text will be displayed on the monitor. You can adjust the horizontal and vertical margins so that text and icons will not be hidden beyond the edges of the monitor.

Figure 45 : OSD Margin screen

Highlight the “Main Monitor” tab to switch to the Sequence screen.



Highlight the box beside “Mode” and press the  button. You can select between “Full Sequence” and “Partial Sequence”. (“Partial Sequence” is a function only of the 8-channel model.)

Pressing the [SEQ] button causes the recorder to sequence cameras, and the recorder can sequence cameras in two modes: “Full Sequence” and “Partial Sequence”. In the Full mode, the recorder sequences through the cameras and displays them on the multi-screen. In the Partial mode, the bottom right window in a multi-screen format sequences through the cameras.

Figure 46 : Display - Main Monitor screen

**Note:** Any cameras that are Off or have lost video will be excluded from the Partial Sequence. Unless the user has authority to view covert cameras, the Covert cameras will be displayed with a black image in the Partial mode.

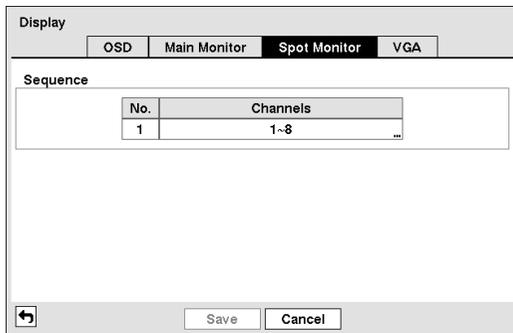
You can define the screen layout in a variety of formats and set the recorder to sequence through the different screen layouts (pages) so that all the cameras will be displayed. You can also set up the recorder to display one camera or a group of cameras all the time while cycling through the remaining cameras in a “channel” window. This can be done with one camera displayed full screen while displaying the channel window as a PIP (picture in picture), or displaying the cameras in a grid pattern with the bottom right window as the channel.

**Note: Sequence cannot be used in the 3x3 display mode of the 8-channel model.  
A channel is defined as any cell within multi-screen display. The Edit Group mode allows you to change the screen layout by editing the group.**

You can adjust the display dwell time by highlighting the box beside “Interval” and pressing the  $\frac{1}{n}$  button. You can select dwell intervals ranging from 1 second to 1 minute.

Highlight “Event Monitoring On” and press the  $\frac{1}{n}$  button. Pressing the  $\frac{1}{n}$  button toggles between On and Off. When it is On, the recorder will display the camera associated with the event when an event occurs.

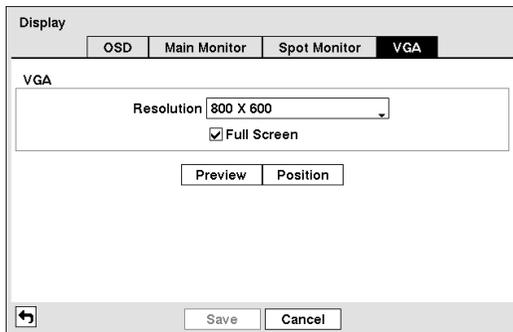
Highlight the “Spot Monitor” tab to switch to the Spot Monitor screen.



You can define which cameras display sequentially on the Spot Monitor. Highlight the box in the “Channels” column and press the  $\frac{1}{n}$  button. You can select cameras and Dwell time ranging from 1 second to 20 seconds.

Figure 47 : Display - Spot Monitor screen

Highlight the “VGA” tab to switch to the VGA screen.



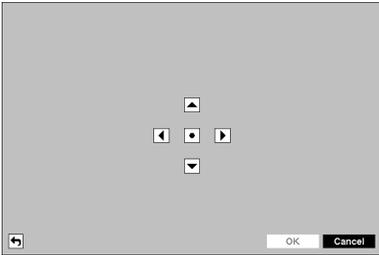
Highlight the box beside “Resolution” and press the  $\frac{1}{n}$  button. You can select from 800x600, 1024x768 and 1280x1024.

Highlight “Full Screen” and press the  $\frac{1}{n}$  button. Pressing the  $\frac{1}{n}$  button toggles between On and Off. When it is On, the screen on the VGA monitor displays in full screen mode.

Highlighting “Preview” and pressing the  $\frac{1}{n}$  button allows you to preview how the screen will be displayed on the VGA monitor.

Figure 48 : Display - VGA screen

Highlighting “Position” and pressing the  $\frac{1}{n}$  button allows you to adjust the screen position on the VGA monitor.



Use the arrow buttons on the setup screen to move the VGA screen position in the direction you want. Selecting the  button at the center returns to the previous position.

Figure 49 : VGA monitor position screen

You can save your Display settings by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Recording Setup

Your recorder offers a variety of flexible recording modes. You can set it up to record all the time or to only record events. It can be set up to continue recording once the hard disk drive is full by recording over the oldest video, or you can set it up to alert you when the hard disk is full and stop recording.



Figure 50 : Record menu

### Record

Highlight “Record” in the Record menu and press the  button. The “Record” setup screen appears.

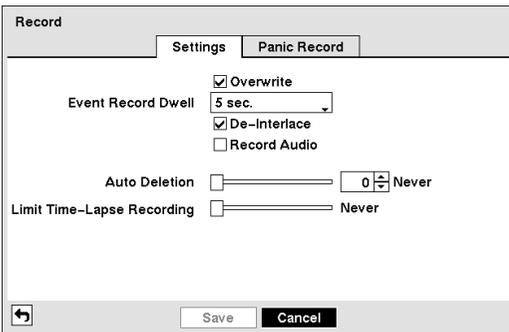


Figure 51 : Record - Settings screen

Highlighting “Overwrite” and pressing the  button toggles between On and Off. In the Overwrite mode, the recorder records over the oldest video data once all available storage space has been used. When Overwrite is turned off, the recorder stops recording once all available storage space has been used.

Highlight the “Event Record Dwell” box and set the length of time you would like to record for the associated event. You can set the dwell from 5 seconds to 30 minutes (Simple Mode only). Refer to Event Actions screen in this chapter for information regarding event recording.

Highlighting “De-Interlace” and pressing the  button toggles between On and Off. When set to On, the recorder will turn the de-interlace filter on while recording video with Very High (D1) resolution.

**Note:** The video signal has a time difference of 1/50 second between odd and even fields because it is composed of 50 interlaced fields per second. When recording video with Very High (D1) resolution, video is made up of frame units combining two fields – one odd field and one even field. This can cause horizontal scan lines or flashes in areas with motion because of the time difference between the two fields. Turning on the de-interlace filter provides clearer video by eliminating these horizontal scan lines and flashes.

The recorder can record up to four audio inputs. Highlighting “Record Audio” and pressing the  button toggles between On and Off.

Highlight the slide bar beside “Auto Deletion”, and use the Left and Right arrow buttons to adjust the length of time recorded data will be kept from 1 to 999 days. The recorder automatically deletes video recorded earlier than the user-defined period under three conditions: at midnight, whenever the system reboots or whenever the user changes the Auto Deletion settings. Selecting “Never” will disable the Auto Deletion function.

Highlight the slide bar beside “Limit Time-Lapse Recording”, and use the Left and Right arrow buttons to adjust the length of the maximum storage time for time-lapse recording from 1 to 99 days. The Limit Time-Lapse Recording feature will function when the storage device has enough space to record video data longer than the preset period. When this feature is On, the recorder records over the oldest “time-lapse” video once all available storage has been used in the Overwrite mode, so more event video can be saved. Selecting “Never” will disable the Limit Time-Lapse Recording function.

**Note:** When the storage device does not have enough space to record video data longer than the preset Limit Time-Lapse Recording period, the recorder records over the oldest video data (time-lapse or event video) as it would in the Overwrite mode even if this feature is turned On.

The maximum storage time is only an estimate because the amount of space required to store video varies depending on many factors such as motion and image complexity.

**Important:** When more than one disk is installed in the unit, the recorder records video on the disks sequentially based on time. And these sequentially recorded videos have the advantage that you can search recorded video easily even though a disk is removed from the unit. However, video recorded in the same time range might be saved on different disks by channel and by the type of recording mode. Once the Limit Time-Lapse Recording is set to On, the recorder will maintain this recording limitation even after disabling the function. If you want the recorder to record video on the disks sequentially based on time again, you must format all disks that are currently used for recording.

Highlight the “Panic Record” tab, and the Panic Record setup screen appears.

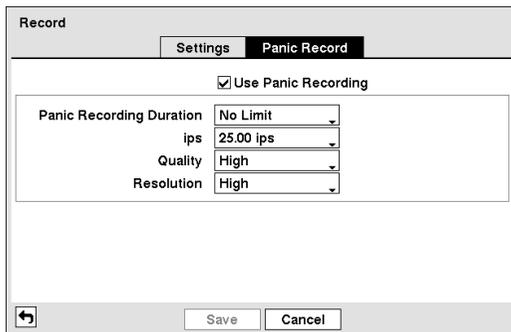


Figure 52 : Record - Panic Record screen

Highlighting “Use Panic Recording” and pressing the  button toggles between On and Off.

Highlight the “Panic Recording Duration” box and set the duration of panic recording. Panic recording will stop automatically after the preset duration as long as the [PANIC] button is not pressed to stop the panic recording. You can set the dwell from 5 minutes to 1 hour. Select “No Limit” if you want to stop panic recording manually.

Highlighting the “ips” and pressing the  button allows you to set the images per second for Panic recording. You can select from 1.00 ips to 25.00 ips.

Highlighting the “Quality” and pressing the  button allows you to set the recorded image quality for Panic recording. You can select from: “Very High”, “High”, “Standard” and “Basic”.

Highlighting the “Resolution” and pressing the  button allows you to set the recorded image resolution for Panic recording. You can select from: “Very High” (D1), “High” (Half D1) and “Standard” (CIF).

You can save your Record settings by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Schedule

Highlight “Schedule” in the Record menu and press the  button, and the Schedule setup screen appears.

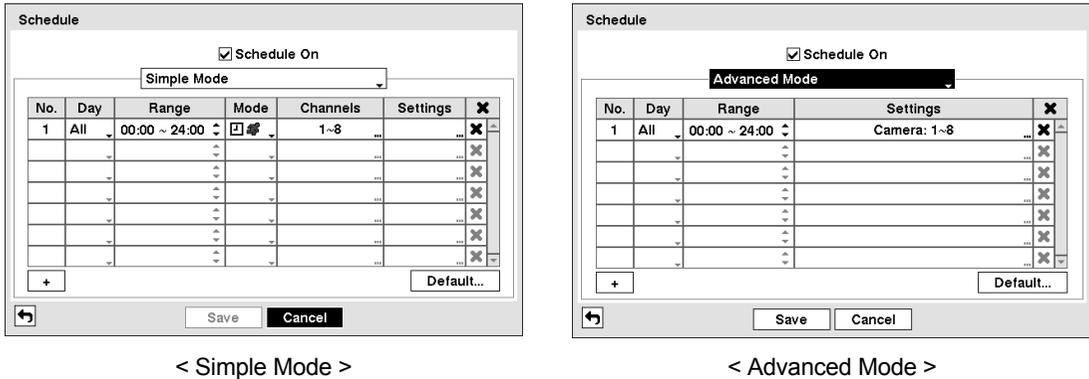


Figure 53 : Schedule screen

You can program the recorder to record only during certain times based on time, day of the week, and holidays. The smallest time segment you can use is 15 minutes.

Highlighting “Schedule On” and pressing the  button toggles between On and Off. In the Schedule On mode, the recorder records video based on the schedule established in the Schedule screen. When turning Schedule recording Off, you will be asked to confirm your decision, and  displays at the top-left corner of each camera screen. Panic recording will function even when Schedule is turned off.  displays during panic recording.

Highlight the Schedule Mode box and press the  button. You can select between “Simple Mode” and “Advanced Mode”. Selecting “Advanced Mode” allows you to set up individual recording schedule for each event.

**Note: Changing the schedule mode will reset all event and action statuses.**

Highlight the “+” and press the  button to add a schedule item.

Highlight the box under the “Day” heading and press the  button to change the days that the scheduled recording will take place. Choose from: “Sun”, “Mon”, “Tue”, “Wed”, “Thu”, “Fri”, “Sat”, “M~F”, “Hol” and “All”.

Highlight the box under the “Range” heading and press the  button to change the time range that the scheduled recording will take place. The smallest time segment you can use is 15 minutes.

Highlight the box under the “Mode” heading and press the  button to change the recording mode that will be used. Choose from: “No Record”, “Time”, “Event” and “Time & Event”. (Simple Mode Only)

When the recorder is in the “No Record” mode, it will not record during the preset day and time range as long as the [PANIC] button is not pressed. Use the “No Record” mode when you do NOT want the recorder to record during certain times.

When the recorder is in the “Time” mode, the  icon displays at the top-left corner of the screen. The recorder will record and displays the  icon at the top-left corner of the screen during the scheduled times.

When the recorder is in the “Event” mode, the red  icon displays at the top-left corner of the screen. The recorder will record and displays the  icon at the top-left corner of the screen when any event occurs. When the recorder is in the “Pre-Event” recording mode, the yellow  and  icons display when there is no event, and the recorder is not recording. When the recorder is in the “Pre-Event” mode, the red  and  icons display when any event occurs and the recorder starts recording.

When the recorder is in the “Time & Event” mode, the recorder will follow the Time settings and the  icon displays at the top-left corner of the screen. The recorder follows the Event settings and the  icon displays.

Highlight the box under the “Channels” heading and press the  button to select which cameras will be recorded. (Simple Mode Only)

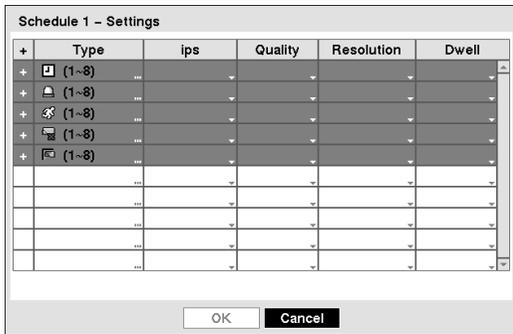


Figure 54 : Schedule - Settings (Advanced Mode) setup screen

Highlight the box under the “Settings” heading and press the button to define the recording settings. You can set the ips, Quality and Resolution (ips, Quality, Resolution and Dwell for Advanced Mode setup) of the recording for any modes you set up in the Mode column. If you do not set the ips, Quality, Resolution and Dwell in the Settings column, the recorder will follow the default settings. See below for details.

**Note: Descriptions of the Record icons in the “Type” column are as follows:**

- Time-lapse (Time)      Alarm-In      Motion
- Video Loss      Video Blind

**Channels that are not defined will use the setting values of the previous schedule item.**

**When multiple events are detected at the same time from a specific channel, the recorder will record event video with the high setting values if the ips, Quality, Resolution and Dwell values of events are different from each other. However, the ips will be reset to the supported maximum value when the ips, Quality, Resolution and Dwell are all set to the highest value. (Advanced Mode Only)**

Highlight the box under the heading and press the button to delete the recording settings. You will be asked to confirm that you want to delete the settings.

Highlight “Default...” and press the button. The Default screen appears.

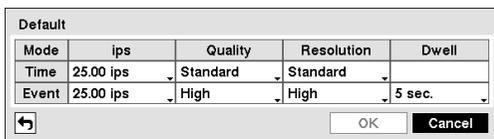


Figure 55 : Default (Schedule - Advanced Mode) screen

Highlighting boxes under “ips” and pressing the button allows you to set the images per second for Time and Event recording. You can select from 1.00 ips to 25.00 ips.

Highlighting boxes under “Quality” and pressing the button allows you to set the recorded image quality for Time and Event recording. You can select from: “Very High”, “High”, “Standard” and “Basic”.

Highlighting boxes under “Resolution” and pressing the button allows you to set the recorded image resolution for Time and Event recording. You can select from: “Very High” (D1), “High” (Half D1) and “Standard” (CIF).

Highlighting boxes under “Dwell” and pressing the button allows you to set the length of time you would like to record for the associated event. You can select from 5 seconds to 30 minutes. (Advanced Mode Only)

You can save your changes by highlighting “Save” and pressing the button. Selecting “Cancel” exits the screen without saving the changes.

## Pre-Event

Highlight “Pre-Event” in the Record menu and press the button, and the Pre-Event setup screen appears. If you do not have Event set up in the Record Schedule, a message will display alerting you to this fact.



Figure 56 : Pre-Event screen

You can set the amount of time to record prior to the event by adjusting the “Dwell”. You can set the “Dwell” from 5 seconds to 30 minutes. The longer the dwell set, the fewer maximum ips can be set.

**Note:** When the recorder is in the Time or Time & Event mode, it ignores the pre-event settings and follows the time settings.

You can save your changes by highlighting “Save” and pressing the  $\odot$  button. Selecting “Cancel” exits the screen without saving the changes.

**Note:** The Pre-Event settings might change automatically by the constraint performance, when you save your changes.

## Event Setup

Your recorder can be set to detect many different events. You can also determine how it reacts to these events.



Figure 57 : Event menu

### Alarm-In

Highlight “Alarm-In” in the Event menu and press the  $\odot$  button. The Alarm-In setup screen appears.

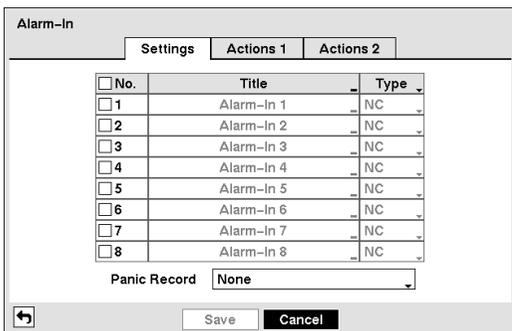


Figure 58 : Alarm-In - Settings screen

The alarm terminal strip on the back of the recorder has inputs associated with each alarm. You can set up each input on the “Alarm-In” screen. You can turn each input On or Off by highlighting the alarm number and pressing the  $\odot$  button.

Each input can be given a title. Highlight the desired “Title” box and press the  $\odot$  button. A virtual keyboard appears allowing you to enter a title name.

Each input can be set as “NO” (normally open) or “NC” (normally closed).

You can set up the recorder to start panic recording whenever it senses an input on one of its Alarm Input

Terminals. Highlight the box beside “Panic Record” and press the  button. A list of Alarm Inputs appears, and you can select which alarm input you want associated with panic recording. The recorder will continue panic recording until an input on the selected alarm input is released as long as the [PANIC] button is not pressed to stop the panic recording.

Highlight the “Actions 1” and “Actions 2” tabs, and the Actions 1 and Actions 2 setup screens appear.

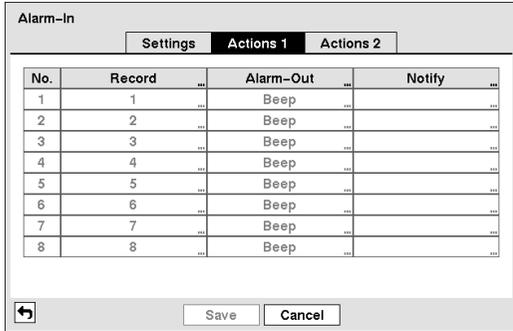


Figure 59 : Alarm-In - Actions 1 screen

You can set the actions the recorder will take whenever it senses an input on one of its Alarm Input Terminals.

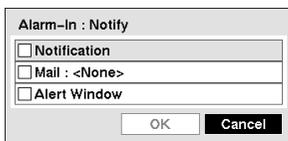
Highlight the desired box under the “Record” heading, and press the  button. A list of cameras appears. Select the cameras that you want the recorder to record whenever it detects an input on the associated alarm input.

**Note: For the Record action, the camera you select should be set to the Event or Time & Event recording mode in the Record Schedule setup screen.**

Highlight the desired box under the “Alarm-Out” heading, and press the  button. A list of Alarm Outputs and Beep appear. Select the Alarm Output Terminals that you would like to activate whenever the recorder detects an input on the associated alarm input. You can also set the recorder’s internal buzzer to sound.

**Note: For the Alarm-Out action, the alarm output and beep you select should be set to the Event mode in the Alarm-Out Schedule setup screen.**

Highlight the desired box under the “Notify” heading, and press the  button. The Alarm-In Notify screen appears.



You can toggle the entire list On and Off by highlighting “Notification” and pressing the  button. You can toggle the individual items On and Off by highlighting that item and pressing the  button. Highlight “OK” and press the  button to accept your changes.

**Note: For the Notify action, the notify item you select should be enabled in the Notification setup screen.**

Figure 60 : Alarm-In Notify screen

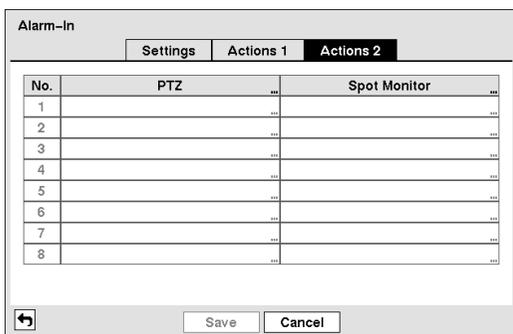


Figure 61 : Alarm-In - Actions 2 screen

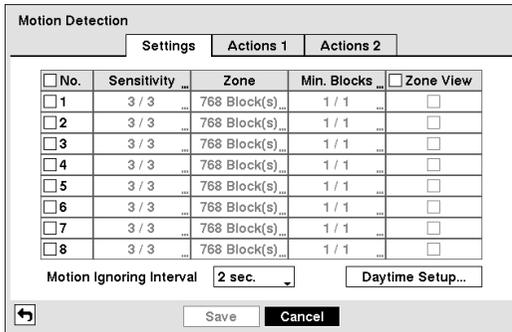
Highlight the desired box under the “PTZ” heading, and press the  button. A list of PTZ presets appear. Select the preset position for each PTZ camera, where you want PTZ cameras to move to whenever the recorder detects an input on the associated alarm input.

Highlight the desired box under the “Spot Monitor” heading, and press the  button. A list of Spot monitors and cameras appears. Each Spot monitor can be associated with a camera. The recorder will display the associated camera on the Spot monitor whenever it detects an input on the associated alarm input.

You can save your Alarm-In changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

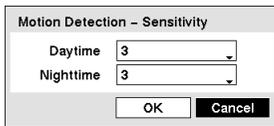
## Motion Detection

Highlight “Motion Detection” in the Event menu and press the  button. The “Motion Detection” setup screen appears.



Your recorder has built-in video motion detection. Video motion detection can be turned On or Off for each camera.

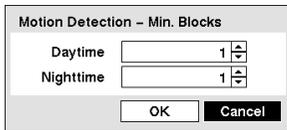
Figure 62 : Motion Detection - Settings screen



Highlighting the box under the “Sensitivity” heading and pressing the  button allows you to adjust the recorder’s sensitivity to motion for “Daytime” and “Nighttime” independently. There are five settings with 1 being the least sensitive and 5 being the most sensitive.

Figure 63 : Motion Detection Sensitivity screen

**Note:** In case cameras are installed in low light environment, it is recommended to use cameras with higher sensitivity, to have more precise detection result.

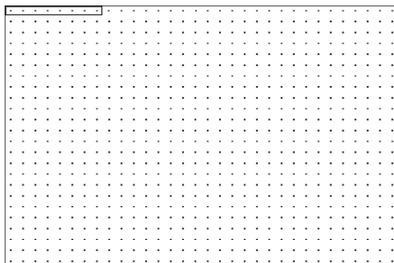


You can adjust the minimum number of detection blocks that must be activated to trigger a motion alarm. Highlighting the box under the “Min. Blocks” heading and pressing the  button allow you to adjust the minimum number of detection blocks for “Daytime” and “Nighttime” independently. Smaller numbers provide greater sensitivity because fewer detection blocks must be activated.

Figure 64 : Motion Detection Min. Blocks screen

Turning “Zone View” On will allow you to observe how the recorder is reacting to motion. When in the motion viewing mode, the detection zone of video will be displayed. Any detected motion within the zone will be displayed in red.

You can define the area of the image where you want to detect motion; e.g., a doorway. Highlight the box under the “Zone” heading, and press the  button. The Motion Detection Zone screen displays.



The Motion Detection Zone screen is laid over the video for the selected camera. You can set up motion detection zones by selecting or clearing blocks.

**Note:** You can set up motion zones one block at a time in groups of 8 individual block groups. A block group is positioned within the image area using the Up and Down arrow buttons, and individual blocks within the block groups are selected or cleared using the camera buttons.

Figure 65 : Motion Detection Zone screen

Press the  button to display the menu screen. The menu on the setup screen has the following functions:



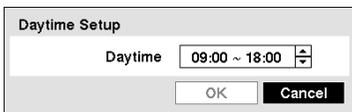
- Select** : Activates highlighted blocks to detect motion.
- Clear** : Deactivates highlighted blocks so that they will not detect motion.
- Reverse** : Activates inactive highlighted blocks and deactivates active highlighted blocks.
- Select All** : Activates all blocks to detect motion.
- Clear All** : Deactivates all blocks so that they will not detect motion.
- Reverse All** : Activates inactive blocks and deactivates active blocks.
- OK** : Accepts changes and closes Zone setup.
- Cancel** : Exits Zone setup without saving changes.

Figure 66 : Motion Detection Zone menu

You can control excessive event logging and e-mail sending by adjusting the motion ignoring dwell intervals. Highlight the box beside "Motion Ignoring Interval" and press the button. A list of intervals ranging from 1 to 10 seconds or "Never" appears. The recorder will not log and notify motion events occurred during the preset interval range.

**Note:** The record action for motion events will not be affected by the Motion Ignoring function.

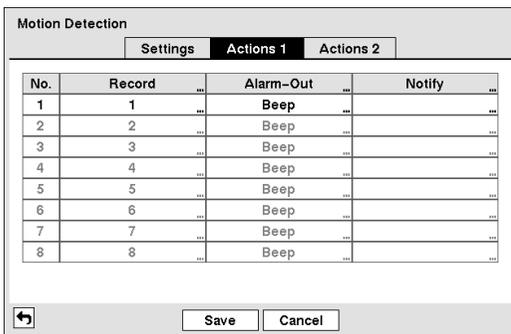
Highlighting "Daytime Setup" and pressing the button allow you to set up the Daytime range.



Highlight the box beside "Daytime" and press the button. Use the Up and Down arrow buttons to set the Daytime range. The recorder will consider the remaining time range as the Nighttime.

Figure 67 : Daytime Setup screen

Highlight the "Actions 1" and "Actions 2" tabs and the Motion Detection Actions 1 and Actions 2 screens display.



The recorder can be set to react to motion detection differently for each camera. Each camera can be associated with another camera, trigger an Alarm Output Terminal, sound the recorder's internal buzzer, notify a number of different devices, move PTZ cameras to preset positions, and/or display a camera on a Spot monitor.

**Note:** You can associate multiple cameras with a camera that detects motion.

Figure 68 : Motion Detection - Actions 1 screen

Highlight the box under the "Record" heading and press the button. A list of cameras appears. You can associate as many cameras with that camera as you wish. If the recorder detects motion on the selected camera, it starts recording video from all the associated cameras.

**Note:** For the Record action, the camera you select should be set to the Event or Time & Event recording mode in the Record Schedule setup screen.

Highlight the box under the "Alarm-Out" heading and press the button. A list of Alarm Outputs appears. You can associate as many Alarm-Outs with that camera as you wish. When the recorder detects motion on the selected camera's input, it triggers output signals on all the associated Alarm-Out connectors. You can also have the recorder's internal buzzer sound if motion is detected on the selected camera.

**Note:** For the Alarm-Out action, the alarm output and beep you select should be set to the Event mode in the Alarm-Out Schedule setup screen.

Highlight the box under the "Notify" heading and press the button. You can toggle the entire list On and Off by highlighting "Notification" and pressing the button. You can toggle the individual items On and Off

by highlighting that item and pressing the  button. Highlight “OK” and press the  button to accept your changes.

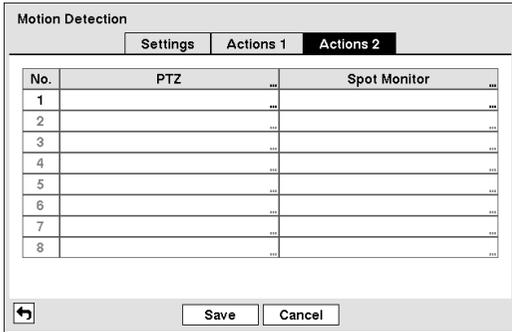


Figure 69 : Motion Detection - Actions 2 screen

Highlight the desired box under the “PTZ” heading, and press the  button. A list of PTZ presets appear. Select the preset position for each PTZ camera, where you want PTZ cameras to move to whenever the recorder detects motion on the selected camera’s input.

Highlight the desired box under the “Spot Monitor” heading, and press the  button. A list of Spot monitors and cameras appears. Each Spot monitor can be associated with a camera. The recorder will display the associated camera on the Spot monitor whenever it detects motions on the selected camera.

You can save your Motion Detection changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## Video Loss

Highlight “Video Loss” in the Event menu and press the  button. The Video Loss setup screen appears.

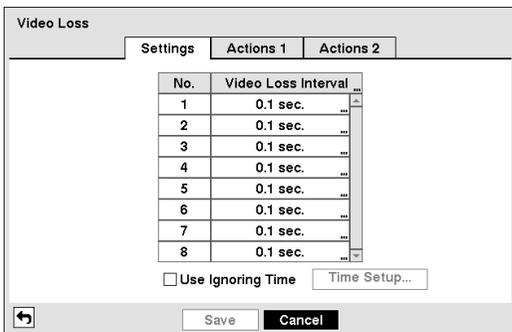


Figure 70 : Video Loss - Settings screen

Highlighting the box under the “Video Loss Interval” heading allow you to set the duration of a signal loss before the recorder will report a Video Loss. The recorder will not consider any signal loss from a camera to be a Video Loss if the detected signal loss is shorter than the interval set on this screen.

Highlight “Use Ignoring Time” and press the  button to toggle between On and Off. When set to On, the recorder will ignore video loss events occurring during the preset period. Highlighting “Time Setup...” and pressing the  button allows you to set up event ignoring time.

**Note:** The record action for motion events will not be affected by the Video Loss ignoring function.

Highlight the “Actions 1” and “Actions 2” tabs and the Video Loss Actions 1 and Actions 2 screens display.

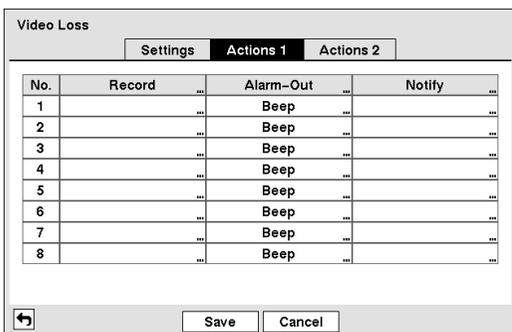


Figure 71 : Video Loss - Actions 1 screen

The recorder can be set to react to video loss differently for each camera. Each camera can be associated with another camera, trigger an Alarm Output Terminal, sound the recorder’s internal buzzer, notify a number of different devices, move PTZ cameras to preset positions, and/or display a camera on a Spot monitor.

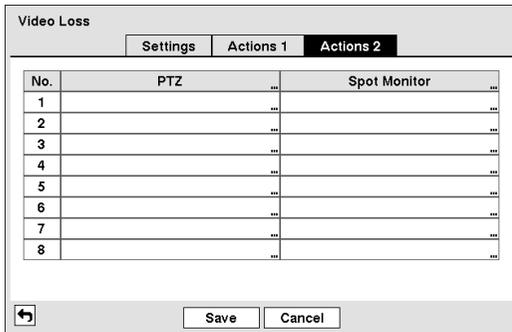
Highlight the box under the “Record” heading and press the  button. A list of cameras appears. You can associate as many cameras with that camera as you wish. If the recorder detects video loss on the selected camera, it starts recording video from all the associated cameras.

**Note:** For the Record action, the camera you select should be set to the Event or Time & Event recording mode in the Schedule screen.

Highlight the box under the “Alarm-Out” heading and press the  button. A list of Alarm Outputs appears. You can associate as many Alarm-Outs with that camera as you wish. When the recorder detects video loss on the selected camera, it will trigger output signals on all the associated Alarm Output Terminals. You can also have the recorder’s internal buzzer sound if video is lost on the selected camera.

**Note:** For the Alarm-Out action, the alarm output and beep you select should be set to the Event mode in the Alarm-Out Schedule setup screen.

Highlight the box under the “Notify” heading and press the  button. You can toggle the entire list On and Off by highlighting “Notification” and pressing the  button. You can toggle the individual items On and Off by highlighting that item and pressing the  button. Highlight “OK” and press the  button to accept your changes.



Highlight the desired box under the “PTZ” heading, and press the  button. A list of PTZ presets appear. Select the preset position for each PTZ camera, where you want PTZ cameras to move to when the recorder detects video loss on the selected camera’s input.

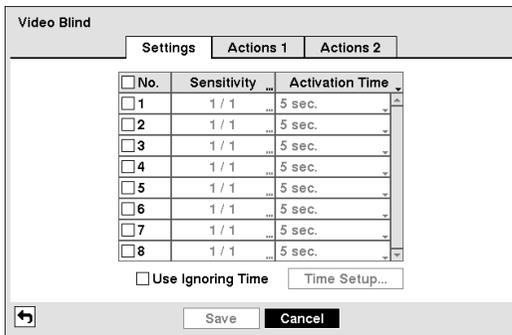
Highlight the box under the “Spot Monitor” heading and press the  button. A list of Spot monitors and cameras appears. Each Spot monitor can be associated with a camera. The recorder will display the associated camera on the Spot monitor whenever it detects video loss on the selected camera.

Figure 72 : Video Loss - Actions 2 screen

You can save your Video Loss changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

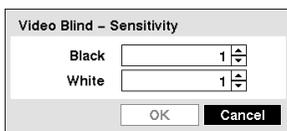
## Video Blind

Highlight “Video Blind” in the Event menu and press the  button. The “Video Blind” setup screen appears.



The recorder checks to see if anything is blinding the camera.

Figure 73 : Video Blind - Settings screen



Highlighting the box under the “Sensitivity” heading allows you to adjust the recorder’s sensitivity to video blind for Black and White independently from 0 (Never) to 15 (most sensitive).

**Note:** Video blind might NOT be detected for a camera with a very noisy image especially when set for low sensitivity values.

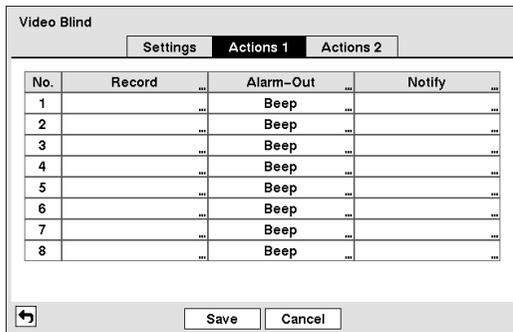
Figure 74 : Video Blind - Sensitivity screen

Highlighting the box under the “Activation Time” heading allows you to set the duration before the recorder will report a Video Blind. The recorder will not consider any blinded camera to be a Video Blind if the detected blindness is less than the Activation Time set on this screen.

Highlight “Use Ignoring Time” and press the  button to toggle between On and Off. When set to On, the recorder will ignore video blind events occurred during the preset period. Highlighting “Time Setup...” and press the  button allows you to set up event ignoring time.

**Note:** The record action for motion events will not be affected by the Video Blind ignoring function.

Highlight the “Actions 1” and “Actions 2” tabs and the Video Blind Actions 1 and Actions 2 screens display.



The recorder can be set to react to video blind differently for each camera. Each camera can be associated with another camera, trigger an Alarm Output Terminal, sound the recorder’s internal buzzer, notify a number of different devices, move PTZ cameras to preset positions, and/or display a camera on a Spot monitor.

Highlight the box under the “Record” heading and press the  button. A list of cameras appears. You can associate as many cameras with that camera as you wish. If the recorder detects video blind on the selected camera, it starts recording video from all the associated cameras.

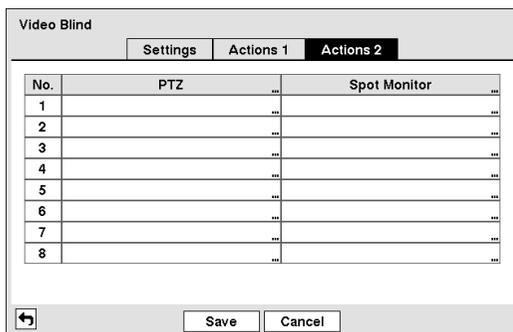
Figure 75 : Video Blind - Actions 1 screen

**Note:** For the Record action, the camera you select should be set to the Event or Time & Event recording mode in the Schedule screen.

Highlight the box under the “Alarm-Out” heading and press the  button. A list of Alarm Outputs appears. You can associate as many Alarm-Outs with that camera as you wish. When the recorder detects video blind on the selected camera, it will trigger output signals on all the associated Alarm Output Terminals. You can also have the recorder’s internal buzzer sound if video is lost on the selected camera.

**Note:** For the Alarm-Out action, the alarm output and beep you select should be set to the Event mode in the Alarm-Out Schedule setup screen..

Highlight the box under the “Notify” heading and press the  button. You can toggle the entire list On and Off by highlighting “Notification” and pressing the  button. You can toggle the individual items On and Off by highlighting that item and pressing the  button. Highlight “OK” and press the  button to accept your changes.



Highlight the desired box under the “PTZ” heading, and press the  button. A list of PTZ presets appears. Select the preset position for each PTZ camera, where you want PTZ cameras to move to when the recorder detects video blind on the selected camera’s input.

Highlight the box under the “Spot Monitor” heading and press the  button. A list of Spot monitors and cameras appears. Each Spot monitor can be associated with a camera. The recorder will display the associated camera on the Spot monitor whenever it detects video blind on the selected camera.

Figure 76 : Video Blind - Actions 2 screen

You can save your Video Blind changes by highlighting “Save” and pressing the  button. Selecting “Cancel” exits the screen without saving the changes.

## System Event

Highlight “System Event” in the Event menu and press the  button. The System Event setup screen appears.

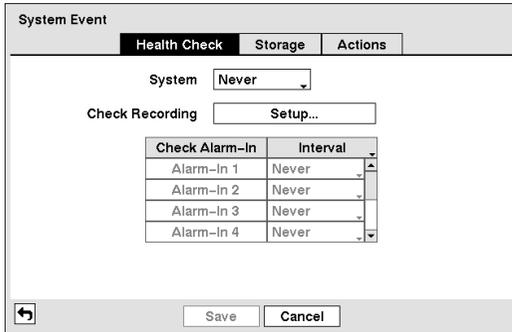


Figure 77 : System Event - Health Check screen

The recorder can be configured to run self-diagnostics and report the results.

Highlighting the box beside “System” and pressing the  button allows you to select the interval that you want the recorder to run self-diagnostics on the system. You can select from “1 hr.”(1 hour) to “30 days” or “Never”.

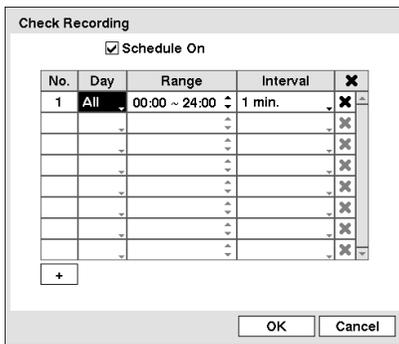


Figure 78 : Check Recording screen

Highlight the “Setup...” beside “Check Recording” and press the  button. The “Check Recording” screen appears. Highlighting “Schedule On” and pressing the  button toggles On and Off. When set to On, you can select the day, time range and interval that you want the recorder to run self-diagnostics on the recorder. The “Interval” can be selectable from “1 min.” to “7 days” or “Never”. The  box allows you to delete a check recording schedule.

Highlighting the box under the “Interval” heading beside each Alarm-In and pressing the  button allows you to change the interval that you want the recorder to run self-diagnostics on Alarm Inputs. You can select from “1 hr.”(1 hour) to “30 days” or “Never”.

Highlight the “Storage” tab and the Storage screen displays.

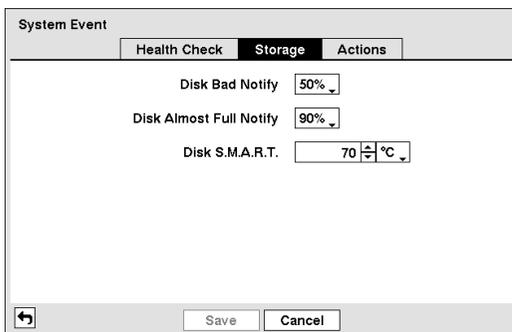


Figure 79 : System Event - Storage screen

Highlight the box beside “Disk Bad Notify”, and press the  button. Select percentage level of bad disk sectors at which you want the recorder to trigger an alert. Percentage levels range from 10% to 90%.

Highlight the box beside “Disk Almost Full Notify”, and press the  button. Select the percentage level of disk usage at which you want the recorder to trigger an alert. Percentage levels range from 80% to 99%.

Highlight the first box beside “Disk S.M.A.R.T.”, and press the  button. Use the Up and Down arrow buttons to scroll through the numbers.

Refer to the hard disk drive manufacturer’s documentation for the correct temperature setting. If the temperature of hard disk drive exceeds the defined threshold, the system triggers an alert.

Highlight the second box beside “Disk S.M.A.R.T.”, and press the  button. Select either “°C” (Celsius) or “°F” (Fahrenheit), and press the  button.

Highlight the “Actions” tab and the System Event Actions screen displays.

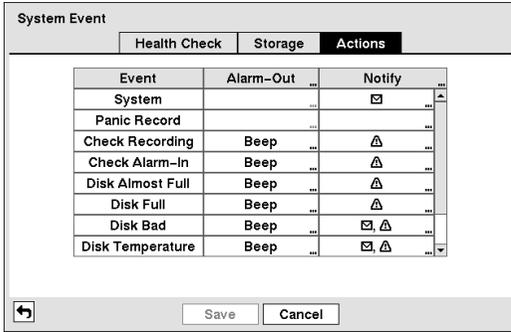


Figure 80 : System Event - Actions screen

You can also have the recorder's internal buzzer sound if an event is detected.

**Note: "Alarm-Out" action cannot be set to "System" and "Panic Record" events.**

Highlight the "Notify" box beside the desired event ("System", "Panic Record", "Check Recording", "Check Alarm-In", "Disk Almost Full", "Disk Full", "Disk Bad", "Disk Temperature", "Disk S.M.A.R.T." or "Fan Error"), and press the button. You can toggle the entire list On and Off by highlighting "Notification" and pressing the button. You can toggle the individual items On and Off by highlighting that item and pressing the button. Highlight "OK" and press the button to accept your changes.

You can save your System Event changes by highlighting "Save" and pressing the button. Selecting "Cancel" exits the screen without saving the changes.

## Event Status

Highlight "Event Status" in the Event menu and press the button. The Event Status screen appears.

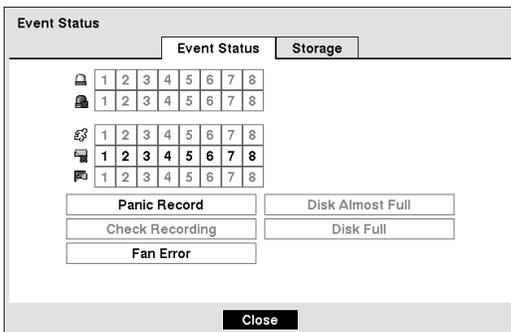


Figure 81 : Event Status - Event Status screen

(Check Alarm-In) and "Check Recording" will be highlighted when each event is detected based on the settings you made in the System Event setup screen on the Event menu.

"Panic Record" will be highlighted while the recorder is in the panic recording mode.

"Disk Almost Full" will be highlighted when the recorder is not in the Overwrite mode and the level of disk usage reaches the "Disk Almost Full" percentage you made in the System Event setup screen on the Event menu. "Disk Full" will be highlighted when the recorder is not in the Overwrite mode and all available storage space has been used.

"Fan Error" will be highlighted when the cooling fan to the left (4-channel model : right) of the power cord on the rear panel is not working for more than four seconds.

Highlighting the "Storage" tab will display the hard disk drive status. Refer to the System Event - Storage screen section for details.

The recorder can be set to react to system events. System events can be associated with an Alarm Output Terminal, sound the recorder's internal buzzer, and/or notify a number of different devices.

Highlight the "Alarm-Out" box beside the desired event ("Check Recording", "Check Alarm-In", "Disk Almost Full", "Disk Full", "Disk Bad", "Disk Temperature", "Disk S.M.A.R.T." or "Fan Error"), and press the button. A list of Alarm Outputs appears. You can associate as many Alarm-Outs with the Event as you wish. If the recorder detects that event, it triggers output signals on all the associated Alarm Output Terminals.

The Event Status screen displays the status of the recorder's systems and inputs. Events will be highlighted, and related channels or events will flicker for five seconds when detected.

(Alarm-In), (Motion), (Video Loss) and (Video Blind) will be highlighted when each event is detected based on the settings you made in the Alarm-In, Motion Detection, Video Loss and Video Blind setup screen on the Event menu.

## Chapter 4 -- Operation

**Note:** This chapter assumes your recorder has been installed and configured. If it has not, please refer to Chapters 2 and 3.

The recorder's controls are similar to a VCR. As with a VCR, the main functions are recording and playing back video. However, you have much greater control over recording and playing back video. You can establish recording schedules based on time of day and day of the week. The recorder allows you to search through the recorded video using much more sophisticated tools than those available with VCRs.

The front panel controls are described in "Chapter 3 -- Configuration".

### Turning on the Power

Once you have installed the recorder following the instructions in "Chapter 2 -- Installation", it is ready to record. Confirm the Operate Indicator on the front panel lights.

### Live Monitoring

As soon as the recorder completes its initialization process, it will begin showing live video on the attached monitor and playing live audio through the attached speaker. The default mode is to display all cameras at once. Pressing any camera button will cause that camera to display full screen. It displays live video and plays live audio until the user enters another mode.

While in the live monitoring mode, press the [Menu] button displays the following Live Monitoring menu at the top of the screen. Pressing the [Menu] button again hides the menu. You can navigate through menus and items by pressing the arrow buttons.

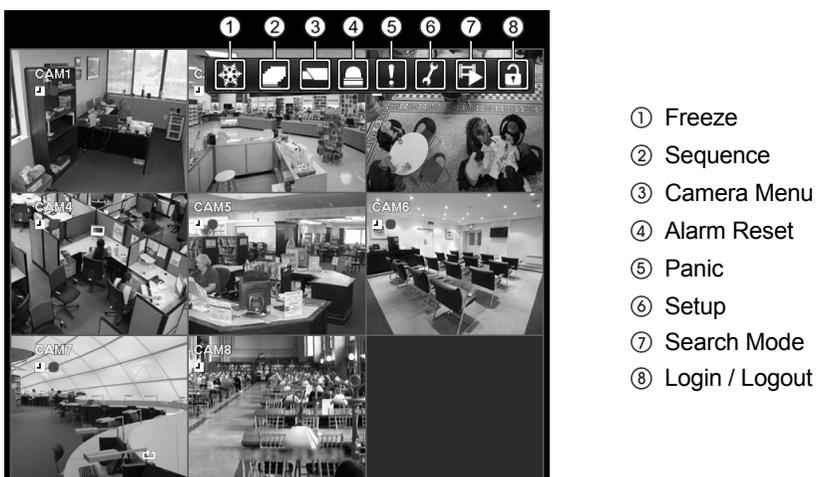


Figure 82 : Live Monitoring menu

**Note:** The Live Monitoring menu also can be displayed by moving the mouse pointer to the top of the screen.

## Live Monitoring Menu

### ① Freeze

Selecting “” (Freeze) in the Live Monitoring menu will freeze the current image on the screen until you select “” again. It is the same as pressing the  (Play/Pause) button on the front panel. While in the Freeze mode, the icon  displays in bottom-left corner if “Freeze” is selected in the Display setup screen (OSD tab).

### ② Sequence

Selecting “” (Sequence) in the Live Monitoring menu causes the cameras to display sequentially. It is the same as pressing and holding the [SEQ] button on the front panel for three seconds or longer. When in one of the multi-view formats, pressing this button will cause the recorder to go through predefined screen layouts (Full Sequence). Or, the bottom, right screen will display live cameras sequentially (Partial Sequence). For example, if you press the [SEQ] button in the 2x2 format, the recorder changes pages as follows:

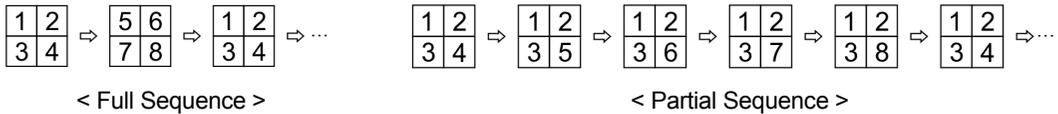


Figure 83 : Sequence pattern

Selecting “” again in the Live Monitoring menu exits the Sequence mode. While in the Sequence mode, the  icon displays in bottom-left corner if Sequence is selected in the Display setup screen (“OSD” tab). If all the cameras in a page are Off, or have lost video or are set to Covert (unless the user has authority to view covert cameras), that page will be excluded from the sequence.

**Note:** The “Full Sequence” for the full sequence monitoring and the “Partial Sequence” for the partial sequence monitoring should be selected in the Display setup screen (“Main Monitor” tab).

The video on the Live Monitor might be distorted during a moment after sequencing.

### ③ Camera Menu

Selecting “” (Camera Menu) in the Live Monitoring menu displays the following Camera Menu.



**PTZ** : Selecting “PTZ” and choosing the camera number allows you to control the selected camera as long as it has Pan, Tilt and Zoom capabilities. It is the same as pressing the [PTZ] button on the front panel. Refer to the following “PTZ Mode” section for details.

**EL-Zoom** : Selecting “EL-Zoom” and choosing the camera number zooms the current image of the selected camera on the screen. It is the same as pressing the [EL-Zoom] button on the front panel. Selecting “EL-Zoom” again in the Camera Menu again exits the EL-Zoom mode. Refer to the following “EL-Zoom Mode” section for details.

Figure 84 : Camera menu

**Audio** : Selecting “Audio” toggles audio output On and Off.

**Color Control** : Selecting “Color Control” and choosing the camera number allows you to control “Brightness”, “Contrast”, “Hue” and “Saturation” for each camera for the selected camera if a user who has “Color Control” authority logs into the system. It is the same as pressing and holding a camera button for a few seconds.

**Note:** It is important that cameras and monitors are correctly installed and adjusted prior to making any image adjustments using the recorder’s controls.

Any image adjustments you make will be applied to both the live video on the monitors and the recorded video.

**Spot Monitor** : Selecting “Spot Monitor” allows you to select the camera you want to display on a Spot monitor. Refer to the following “Spot Monitoring” section for details.

**Note:** The “Camera Menu” also can be displayed by clicking the right mouse button on the screen while in the live monitoring mode.

#### ④ Alarm Reset

Selecting “” (Alarm) in the Live Monitoring menu resets the recorder’s outputs including the internal buzzer during an alarm. It is the same as pressing the [ALARM] button on the front panel.

#### ⑤ Panic

Selecting “” (Panic) in the Live Monitoring menu starts panic recording of all cameras, and selecting “” again stops panic recording. It is the same as pressing the [PANIC] button on the front panel.

#### ⑥ Setup

Selecting “” (Setup) in the Live Monitoring menu enters the Setup screen. Refer to “Chapter 3 -- Configuration” for detailed descriptions of system setup.

#### ⑦ Search Mode

Selecting “” (Search) in the Live Monitoring menu exits the live monitoring mode and enters the search mode. It is the same as pressing the [PLAYBACK] button on the front panel.

#### ⑧ Login/Logout

Selecting “” (Login) in the Live Monitoring menu accesses the Login screen, and you will be asked to select a User and enter the password to log into the system. Selecting “” (Logout) in the Live Monitoring menu displays the Logout screen asking you to confirm whether or not you want to log out the current user.

### Edit Group Mode

You can enter the Edit Group mode by pressing and holding the [EDIT GROUP] button for three seconds or longer in any multi-view format. The yellow outline surrounding the video indicates the active screen, and pressing the arrow buttons moves the active screen. Pressing the  (Play/Pause) button exits the Edit Group mode. Selecting “Exit Edit Group” in the Edit Group menu displayed when pressing the [EDIT GROUP] button also exits the Edit Group mode. The Edit Group mode will remain in effect for 15 seconds if there is no further operation.

In Edit Group mode, press the button for the camera you want to display in the active screen. After setting the camera number to active screen, the recorder moves the active screen to the next channel. When the camera number exists on the current screen, the active screen is changed with the existing camera number. When the camera number does not exist on the current screen, the active screen is replaced by the camera number. You can change the screen layout in this way.

**Note:** The recorder will not display video if you edit group bottom-right area on 3x3 (only 8-channel model) format.

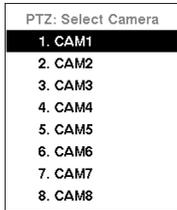
### EL-Zoom Mode

You can enlarge an area of the video by pressing the [EL-ZOOM] button. For a few seconds after pressing the [EL-ZOOM] button, a rectangle displays on the screen. A rectangle shows the area that will be enlarged. You can move the rectangle around using the arrow buttons. Pressing the  (Play/Pause) button in the EL-Zoom mode enlarges the area in rectangle. Exit the EL-Zoom mode by pressing the [EL-ZOOM] button. While in the EL-Zoom mode, the icon  displays if “EL-Zoom” is selected in the Display setup screen (OSD tab).

### PTZ Mode

If a user who has “PTZ Control” authority logs into the system, the user can control PTZ cameras. The recorder will control cameras with Pan, Tilt and Zoom capabilities. Press and hold the [PTZ] button for three seconds or longer to display the PTZ camera menu and enter the PTZ mode. To exit the PTZ mode, highlight “” and press the  button.

Select the PTZ camera you wish to control by selecting it from the menu. The icon  displays on the PTZ camera screen.

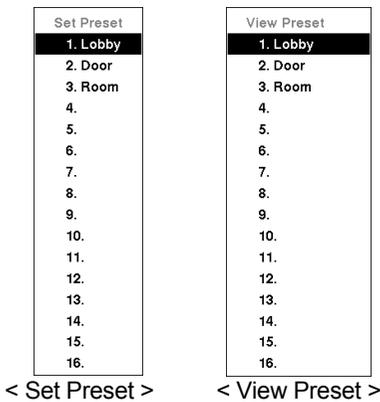


To use the front panel buttons, press the Left and Right arrow buttons to pan left and right. Press the Up and Down arrow buttons to tilt the camera up and down. Press the [ZOOM +] button to zoom in, and press the [ZOOM -] button to zoom out. You can use the [FOCUS NEAR] button and the [FOCUS FAR] button to focus the image.

You can establish preset positions for PTZ cameras. Press the [PRESET SET] button to establish Presets.

You can quickly move PTZ cameras to Preset positions. Press the [PRESET VIEW] button to view an established camera Preset position.

Figure 85 : PTZ Select Camera menu



You can save camera position settings as “presets” so that you can go directly to desired views. Once you have the camera at the desired settings, press the [PRESET SET] button, and the “Set Preset” dialog box will appear. Select the number you want to assign to the preset and press the ⏸ (Play/Pause) button. Use the virtual keyboard to enter the preset name. Press the [PRESET VIEW] button to load the PTZ preset and the “View Preset” dialog box will appear. Select the desired preset and press the ⏸ button to load the preset.

The “View Preset” menu also can be displayed by clicking the right mouse button on the screen while in the PTZ mode.

Figure 86 : PTZ Preset menu



While in the PTZ mode, pressing the [PTZ] button or selecting “Ⓞ” (Advanced PTZ) in the menu displaying at the top of the screen displays the Advanced PTZ menu. Set the feature you wish to control by selecting it from the menu. Refer to the camera manufacturer’s instructions for the proper settings. Depending on the camera specifications, some features may not be supported.

Figure 87 : Advanced PTZ menu

You can change the camera settings by using the “Device Menu” of the Advanced PTZ menu. Refer to the Appendix - “Display Setup Menu of Camera” for further information on operating the camera setup menu.

You can use a mouse for convenient PTZ control. Position the mouse pointer at the bottom of the screen, and the following PTZ toolbar will display.



Clicking “✕” on the left side exits the toolbar. If you want to display the toolbar again, position the mouse pointer at the bottom of the screen. Change the toolbar location by clicking the empty space on the left side of the toolbar and drag it to where you want it located on the screen. Use the arrow buttons on the toolbar to pan or tilt the camera in the direction you want. The other controls on the toolbar perform as described below:

Figure 88 : PTZ panel



**Note:** During controlling camera from the Web Browser, you cannot control any camera.

## Event Monitoring

When an event occurs, the recorder will display the camera associated with the event if “Event Monitoring On” is selected in the Display setup screen (“OSD” tab).

How the cameras are displayed depends on the number of cameras associated with the event. If one camera is associated with the event, the recorder will display the camera full screen. If two to four cameras are associated with the event, the recorder will display the cameras on a 2x2 screen. If five to nine cameras are associated with the event, the recorder will display the cameras on a 3x3 screen.

Event monitoring lasts for the dwell time set for event recording. After the dwell time has elapsed, the monitor returns to the previous screen unless another event has occurred. If you want to return to the live monitoring mode before the dwell time has elapsed, press the [MULTISCREEN] button or one of the camera buttons.

## Covert Camera

If a camera is set up as “Covert 1” in the Camera setup screen (“Settings” tab), that camera will not be displayed unless a user with “Covert Camera View” authority logs into the system. However the camera title and status icons will be displayed on the monitor.

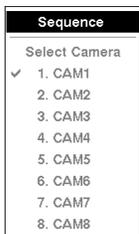
If a camera is set up as “Covert 2” in the Camera setup screen (“Settings” tab), that camera appears to be Off unless a user with “Covert Camera View” authority logs into the system. The camera title will be grayed out and status icons will not be displayed on the monitor.

**Note: When a camera is set up as “Covert 1”, the recorder displays the camera title and status icons on the covert video. When set up as “Covert 2”, the recorder displays only the camera title on the covert video.**

If a user who has “Covert Camera View” authority logs into the system, the user can view video from cameras set to “Covert 1” or “Covert 2” including the camera titles and status icons.

## Spot Monitoring

You can select the camera you want to display on a Spot Monitor. Press and hold the [SPOT] button on the front panel for three seconds or longer displays the Sequence Menu.



Select the camera to be displayed on the Spot Monitor. Selecting “Sequence” from the menu displays more than one camera on a Spot Monitor sequentially. Select “Sequence” again to stop sequencing on the Spot Monitor. Any cameras that are Off, have lost video or are set to “Covert” (unless the user has authority to view covert cameras) will be excluded from the sequence. When the Spot Monitor is in the sequence mode, you can set the camera’s display dwell time. Refer to “Chapter 3 -- Configuration - Display Screen” section for details.

Figure 89 : Spot Monitor menu

**Note: The video on the Spot Monitor might be distorted during a moment after sequencing.**

## Using a Mouse

You can use a mouse instead of the front panel buttons to perform many of the recorder functions. In the Live Monitoring mode or Search mode, moving the mouse pointer to the left edge of the screen displays the following Mouse Display menu.



Figure 90 : Mouse Display menu

### ① Full Screen

Selecting “” (Full Screen) in the Mouse Display menu and choosing the camera number button displays the selected camera full screen. It is the same as pressing the individual camera buttons on the front panel or clicking the left mouse button on a camera image when in one of the multi-view formats (i.e., 2x2 or 3x3). Clicking the left mouse button on the screen again returns to the previous display mode.

### ② PIP, ③ 2x2, ④ 3x3 (only 8-channel model)

Selecting “”, “” or “” (PIP, 2x2 or 3x3) in the Mouse Display menu displays the cameras in the selected multi-view screen mode (PIP, 2x2 or 3x3). Selecting each display mode is the same as pressing the [MULTISCREEN] button on the front panel or scrolling the mouse wheel up and down when in one of the multi-view formats (i.e., 2x2 or 3x3).

**Note:** The PIP display mode will not be supported in the search mode.

### ⑤ Previous Group, ⑥ Next Group

Selecting “” or “” (Previous Group or Next Group) in the Mouse Display menu moves to the previous or next page. It is the same as pressing the [NEXT Group] button on the front panel.

### ⑦ OSD

Selecting “” (OSD) in the Mouse Display menu toggles OSD On and Off.

## Recording Video

Once you have installed the recorder following the instructions in “Chapter 2 -- Installation”, it is ready to record. The recorder will start recording based on the settings you made in the “Record” setup screen. See “Chapter3 -- Configuration”.

“Overwrite On” or “Overwrite Off”. The factory default is “Overwrite On”. It does this by recording over the oldest video once the hard disk is full. Setting the recorder to “Overwrite Off” causes it to stop recording once the hard disk is full.

“Standard” (CIF), “High” (Half D1) or “Very High” (D1). The factory default resolution is “Standard”. When set to “Standard”, the recorder has a maximum recording speed of 200 ips(4-channel model:100 ips). When set to “High”, the recorder has a maximum recording speed of 100 ips(4-channel model:50 ips). When set to “Very High”, the recorder has a maximum recording speed of 50 ips(4-channel model:25 ips).

**Note: The recording speed would be down than the set speed by operating on Web browser while recording.**

Although you will be able to record without changing the unit from its original factory settings, you will want to take advantages of the recorder’s many tools. See “Chapter 3 -- Configuration” for detailed descriptions of the recording mode options.

### Panic Recording

Selecting “” (Panic) in the Live Monitoring menu or pressing the [PANIC] button starts panic recording of all cameras, and selecting “” or pressing the button again stops panic recording. If you set the Panic Recording Duration in the Panic Record setup screen, panic recording will stop automatically according to the preset duration as long as “” is not selected or the [PANIC] button is not pressed.

**Note: When the recorder is not in the Overwrite mode and all available storage space has been used, panic recording will not operate.**

## Recording Audio

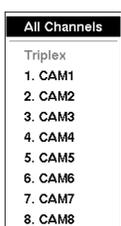
If the recorder was set up to record audio, it will record audio from up to four inputs when video is recording.

**Note: Make certain you comply with all local and federal laws and regulations when recording audio.**

## Playing Recorded Video

If a user who has “Search” authority logs into the system, the user can view recorded image. Once video has been recorded, you can view it by pressing the [PLAYBACK] button.

The recorder supports the Triplex function: monitoring, recording and playing back at the same time. Pressing the [PLAYBACK] button when in one of the multi-view formats enters the Triplex mode and displays the Select Playback Camera menu.



Selecting “All Channels” plays back video of all cameras. The recorder maintains the same display format as it does in the live mode except for the PIP format. You can also change the screen layout in the same way as you do in the live mode.

Selecting the camera number under “Triplex” enters the Triplex mode and plays back video of the selected camera. When in the single-screen display format, the camera currently displayed on the screen will be selected and when in the PIP display format, the camera displayed on the PIP screen will be selected for the search channel. During the Triplex mode, the recorder maintains the same display format as it does in the live mode. A red outline surrounding the video and the camera title indicates the search channel.

Figure 91 : Select Playback Camera menu

While in the Triplex Mode, the recorder continues recording cameras as they were set up in the recording schedule. Also, live monitoring will continue except for the camera that has been selected for playback.

When playing video for the first time, the recorder will display the most recent image. When playing video subsequent times, the recorder will start playing video from the last recalled image. Recorded audio will be played when the recorder displays a camera with recorded audio in full screen mode.

**Note: Only the administrator and users with “Covert Camera View” authority can view video from covert cameras. The covert cameras in the playback mode are determined by the current camera settings.**

Camera Buttons [1] to [8] or [4] : Pressing the individual camera buttons will cause the selected camera to display full screen.

Arrow Buttons : Pressing the  button plays video backward at high speed. Pressing the button again toggles the playback speed from “<<<”, “<<<<” and “<<<<<”. Pressing the  button plays video forward at high speed. Pressing the button again toggles the playback speed from “>>>”, “>>>>” and “>>>>>”. When in the pause mode, pressing the  button moves to the next image and pressing the  button moves to the previous image.

Play/Pause Button : Pressing the  button plays back images at regular speed or pauses playing video.

Playback Button : Pressing the [PLAYBACK] button enters the playback mode, and pressing the button again exits the playback mode. When entering the playback mode, video is paused. Pressing the  (Play/Pause) button plays back video at regular speed. The screen displays “||” when the recorder is in the Pause mode and the screen displays “▶” when the recorder is playing back video.

Edit Group Button : Pressing and holding the button for three seconds or longer enters the Edit Group mode.

EL-Zoom Button : Pressing the [EL-ZOOM] button zooms in the current image on the screen.

Multiscreen Button : Pressing the [MULTISCREEN] button toggles different display formats. The available formats are: 2x2, 3x3(only 8-channel model) or PIP. Pressing and holding the button for three seconds or longer allows you to select which cameras will display on the Spot monitor.

Next Group Button: Pressing the [NEXT GROUP] button changes the screen from the current camera group to the next camera group, and the screen displays page number.

You can use a mouse for convenient playback control. Position the mouse pointer on the playback screen, and the following Record Table Search (Compact View Mode) screen will display. The individual controls on the toolbar perform the following functions as described below:



Figure 92 : Compact View Record Table

- |  |   |  |
|--|---|--|
|  Go to the previous image |  Play              |  Go to the next image |
|  Fast backward play       |  Fast forward play |  |

# Searching Video

While in the search mode, press the [Menu] button displays the following Search menu at the top of the screen. Pressing the [Menu] button again hides the menu. You can navigate through menus and items by pressing the arrow buttons.



- ① Search
- ② Go to
- ③ Export
- ④ Camera Menu
- ⑤ Alarm Reset
- ⑥ Panic
- ⑦ Exit

Figure 93 : Search menu

**Note:** The Search menu also can be displayed by moving the mouse pointer to the top of the screen.

## Search Menu

### ① Search

Selecting “” (Search) in the Search menu displays the following Search menu. See the following “Event Log Search”, “Record Table Search”, “Calendar Search” and “Motion Search” sections for details.



- Event Log Search :** Selecting “Event Log Search” selects video from the event log.
- Record Table Search :** Selecting “Record Table Search” selects using a recording table.
- Calendar Search :** Selecting “Calendar Search” selects using a calendar.
- Motion Search :** Selecting “Motion Search” selects motion events.

Figure 94 : Search menu

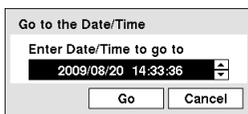
### ② Go to

Selecting “” (Go to) in the Search menu displays the following Go to menu.



- Go to the First :** Selecting “Go to the First” displays the first recorded image.
- Go to the Last :** Selecting “Go to the Last” displays the last recorded image.
- Go to the Date/Time :** Selecting “Go to the Date/Time” displays the Go to the Date/Time screen.

Figure 95 : Go to menu



Move the cursor over the date and time and press the (Play/Pause) button. You can use the Left and Right arrow buttons to highlight the year, month, day, hours, minutes and seconds. Use the Up and Down arrow buttons to change to the date and time you want to search for video.

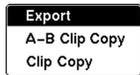
Figure 96 : Go to the Date/Time screen

Once you have set the date and time you want, press the button. Then highlight “Go” and press the button. The selected date and time will display. (If no video was recorded during the selected time, a

message appears alerting you that no image was recorded at that time.) The  button and arrow buttons can now be used to review the surrounding video.

### ③ Export

Selecting  (Export) in the Search menu displays the following Export menu. See the following “Clip Copy” sections for details.



**A-B Clip Copy** : Selecting “A-B Clip Copy” will set the starting point of the video to be clip copied, and the  icon displays at the bottom-left corner of the screen. Selecting “A-B Clip Copy” again will set the ending point of the video to be clip copied and displays the Clip Copy screen.

Figure 97 : Export menu

**Clip Copy** : Select “Clip Copy”, and the Clip Copy screen appears to allow clip copy setup.

### ④ Camera Menu

Selecting  (Camera Menu) in the Search menu displays the following “Camera Menu”.



**EL-Zoom** : Selecting “EL-Zoom” and choosing the camera number zooms the current playback image of the selected camera on the screen. It is the same as pressing the [EL-ZOOM] button on the front panel. Selecting “EL-Zoom” again exits the EL-Zoom mode.

Figure 98 : Camera menu

**Audio** : Selecting “Audio” toggles audio playback On and Off. Recorded audio will be played when the recorder displays a camera with recorded audio in full screen mode.

**Note:** The “Camera Menu” also can be displayed by clicking the right mouse button on the screen while in the search mode.

### ⑤ Alarm Reset

Selecting  (Alarm Reset) in the Search menu resets the recorder’s outputs including the internal buzzer during an alarm. It is the same as pressing the [ALARM] button on the front panel.

### ⑥ Panic

Selecting  (Panic) in the Search menu starts panic recording of all cameras, and selecting  again stops panic recording. It is the same as pressing the [PANIC] button on the front panel.

### ⑦ Exit

Selecting  (Exit) in the Search menu exits the search mode and enters the live monitoring mode.

**Note:**  (Data Source) will appear in the Search Menu when more than 2 hard disk drives are installed. Selecting “Record” searches recorded data on the storage installed in the recorder.

## Event Log Search

Time	Type	Title
2009/09/07 10:17:57	Motion 5	CAM5
2009/09/07 10:17:56	Motion 3	CAM3
2009/09/07 10:17:46	Alarm-In 1	Alarm-In 1
2009/09/07 10:17:45	Alarm-In 3	Alarm-In 3
2009/09/07 10:17:45	Alarm-In 1	Alarm-In 1
2009/09/07 10:17:44	Alarm-In 3	Alarm-In 3
2009/09/07 10:17:42	Motion 4	CAM4
2009/09/07 10:17:41	Motion 2	CAM2
2009/09/07 10:17:27	Alarm-In 1	Alarm-In 1
2009/09/07 10:17:27	Alarm-In 3	Alarm-In 3

Option... ▲ ▼

**Close**

Figure 99 : Event Log Search screen

Pressing the  (Play/Pause) button will extract the event video and display the first image of the event. Pressing the  button will start playing the “event” video segment. Pressing [PLAYBACK] returns to live monitoring.

**Note:** It is possible that no recorded image displays on the current screen. Press the [MULTISCREEN] button and change to multi-screen. You will be able to easily see the camera have recorded video during target time.

You can also narrow your event search by selecting the “Option...” button and setting up the new search condition.

Event Log Search Option	
From	<input checked="" type="checkbox"/> First 2009/08/24 09:03:25
To	<input checked="" type="checkbox"/> Last 2009/08/24 09:03:25
	<input checked="" type="checkbox"/> Check Time Overlap
Alarm-In	1~8 ...
Motion	1~8 ...
Video Loss	1~8 ...
Video Blind	1~8 ...
Record Channels	1~8 ...
	<input type="checkbox"/> System Event <input checked="" type="checkbox"/> Panic Record <input checked="" type="checkbox"/> Check Recording <input checked="" type="checkbox"/> Check Alarm-In <input checked="" type="checkbox"/> Disk Almost Full <input checked="" type="checkbox"/> Disk Bad
<input type="button" value="Search"/> <input type="button" value="Cancel"/>	

Figure 100 : Event Log Search Option screen

Highlight the box beside “Check Time Overlap” and press the  button. It toggles between On and Off. You will only be able to turn the “Check Time Overlap” on or off if a user-defined date and time is set to “From” and “To”. If the recorder’s date and time have been reset, it is possible for the recorder to have more than one overlapping start and stop time. When set to On, you will be asked to select one of the overlapping start and stop time. When set to Off, the recorder will display search results from all start times to all stop times.

Highlight the box beside “Alarm-In” and press the  button. You can select the alarm inputs that you want to include in your search.

Highlight the box beside “Motion” and press the  button. You can select the cameras for which you want any reports of motion detection.

Highlight the box beside “Video Loss” and press the  button. You can select the cameras for which you want any reports of lost video.

Highlight the box beside “Video Blind” and press the  button. You can select the cameras for which you want any reports of blind video.

Highlight the box beside “Record Channels” and press the  button. You can select the cameras that you want to search for any reports of event recorded data. The recorder will display the events (not the camera channels) that occurred and that also are recorded on the camera channel that you selected. If you do not

The recorder maintains a log of each time the Alarm Input Terminal is activated. The “Event Log Search” screen displays this list. Use the arrow buttons to highlight the event for which you would like to see video.

The “Event Log Search” screen can also be accessed by pressing the [ALARM] button unless there is an alarm. There is no determined user authority to display the “Event Log Search” screen, however, the event video will not be played unless a user with Search authority logs into the system.

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

Highlight the box beside “From” and press the  button to toggle between On and Off. When set to Off, you can enter a specific Date and Time. When set to On, the search will be from the first recorded image.

Highlight the box beside “To” and press the  button to toggle between On and Off. When set to Off, you can enter a specific Date and Time. When set to On, the search will be from the last recorded image.

select a camera channel in this field, the recorder will search events that are not associated with cameras.

You can also toggle On and Off self-diagnostic events as part of your search. The choices are: “System Event”, “Panic Record”, “Check Recording”, “Check Alarm-In”, “Disk Almost Full”, “Disk Bad”, “Disk Temperature”, “Disk S.M.A.R.T.” and “Fan Error”

Once you set your desired search conditions, highlight “Search” and press the  button to display the search results in the “Event Log Search Option” screen. Selecting “Cancel” exits the screen without saving the changes.

**Note:** It might take long time for the “Event Log Search” according to the selecting conditions.

## Record Table Search

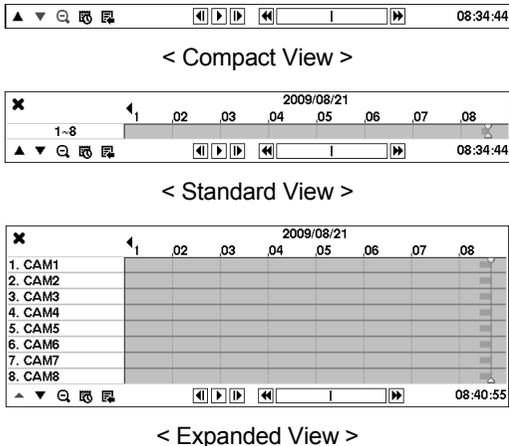


Figure 101 : Record Table Search screen

Recording information about video images currently displayed on the screen displays on the recording status bar. A gray vertical line indicates the current search position. To search specific video, move the vertical line by using the Left or Right arrow buttons on the front panel or by clicking the mouse on the desired segment.

If the recorder’s time and date have been reset to a time that is earlier than some recorded video, it is possible for the recorder to have more than one video stream in the same time range. In this case, the overlapping time range in the record table will be separated by a yellow vertical line.

**Note:** The recorded data in the time range located after the yellow vertical line is the latest.

There are three view modes. “Standard view”, “Expanded view” and “Compact view”. Standard view (default) displays combined recording information of all camera channels currently displayed on the screen. In the Standard view mode, selecting “▲” located at the bottom switches to the Expanded view mode. The Expanded view displays the recording information of each camera channel currently displayed on the screen. Selecting “▼” in the Standard view mode switches to the Compact view mode which displays only the toolbar. Selecting “▲” in the Compact view mode switches to the Standard view mode, and selecting “▼” in the Expanded view mode switches to the Standard view mode.

Selecting “⊕” or “⊗” located at the bottom zooms the record table. Selecting “⊕” displays eight hours (1-minute based), and selecting “⊗” displays 24 hours (3-minute based) at once. To move to earlier or later times that are not shown in the current record table screen, select the arrows located at the end of the times by using the arrow buttons on the front panel.

**Note:** If the recorder has images recorded in more than one recording mode in the same time range, the recording status bar displays recording information in the following priority order: Panic → Pre-Event → Event → Time. The color of the bar indicates different recording modes: Red for Panic, Yellow for Pre-Event, Purple for Event, and Blue for Time.

Selecting “📅” located at the bottom displays the “Calendar Search” screen. See the following “Calendar Search” section for details.

Selecting “☰” located at the bottom displays the Search menu.



**Go to :** Displays the first or last recorded image, or searches by date and time (see the previous “Searching Video – Go to” section of this chapter for more details).

**Clip Copy :** Clips a video segment and saves it (see the following “Clip Copy” section for more details).

Figure 102 : Search menu

**EL-Zoom :** Zooms the current playback image.

**Slow Play :** Plays video at low speed (x1/2, x1/3, x1/4, x1/6 and x1/8).

**Note:** Actual play-back speed might varies from desired Play-back speed setting in slow play mode, in case play-back video clip was recorded at 1 ips through 3 ips.

The individual playback controls at the bottom perform the following functions as described below:

-  Go to the previous image
-  Play
-  Go to the next image
-  Fast backward play
-  Fast forward play

Selecting  in the top-left corner exits the Record Table Search screen.

## Calendar Search

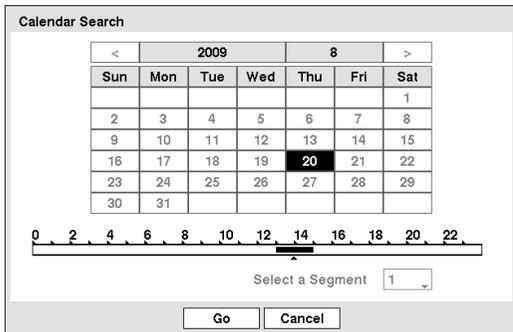


Figure 103 : Calendar Search screen

Days with recorded video display on the calendar with white numbers. You can highlight the days with recorded video by using the arrow buttons. Once you have highlighted a day, press the  (Play/Pause) button to select it.

A time bar displays at the bottom of the calendar. Hours in which video was recorded will be highlighted with blue. You can use the Up and Down arrow buttons to highlight the time bar. Once the time bar is highlighted, you can select the time by using the Left and Right arrow buttons.

**Note:** The time bar is in one-hour segments. If a segment is highlighted, it means that some video was recorded during that hour. However, it does NOT mean video was recorded for the entire hour.

If the recorder's time and date have been reset to a time that is earlier than some recorded video, it is possible for the recorder to have more than one video stream in the same time range. Move to "Select a Segment", and select the video stream you want to search. Refer to the "Appendix D – Time Overlap" for further information on searching time-overlapped video streams.

**Note:** The lower number of the Segment indicates the latest recorded video.

Once you have set the date and time you want to search, highlight "Go" and press the  button. The selected date and time will display.

**Note:** It is possible that no recorded image displays on the current screen. Press the [MULTISCREEN] button and change to multi-screen. You will be able to easily see the camera have recorded video during target time.

## Motion Search

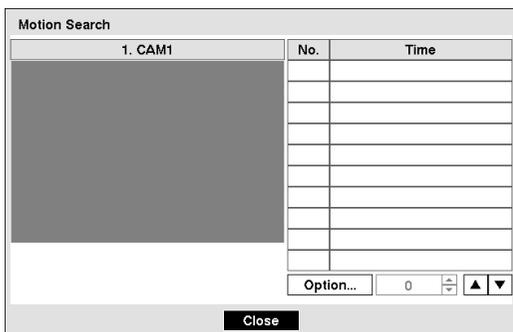


Figure 104 : Motion Search screen

The "Motion Search" can be selected from the Search menu while the recorder displays the camera full screen. The "Motion Search" screen displays a list of motion events. Use the arrow buttons to highlight the event for which you would like to see video and press the  (Play/Pause) button to display the video associated with the selected event on the small search screen.

Highlighting "Close" and pressing the  button will extract the video associated with the Motion event and display the first image of the event. Pressing the  button will start playing the "event" video segment. Pressing [PLAYBACK] returns to live monitoring.

You can also narrow your event search by selecting the “Option...” and setting up the new search condition.

Figure 105 : Motion Search Option screen

You can search video from the first to last recorded images, or you can set the start and stop times and dates.

Highlight the box beside “From” and press the button to toggle between On and Off. When set to Off, you can enter a specific Date and Time. When set to On, the search will be from the first recorded image.

Highlight the box beside “To” and press the button to toggle between On and Off. When set to Off, you can enter a specific Date and Time. When set to On, the search will be from the last recorded image.

Highlight the box beside “Type” and press the button. You can select between “Motion Search” and “Museum Search”. “Motion Search” detects motion in the defined area. “Museum Search” detects if a defined object has moved.

Highlight the box beside “Zone” and press the button. An image from the video appears with a grid overlaid. You can turn sensor blocks On and Off to define the area of the picture in which you want to search for motion.

**Note: Defining the area of the image in which you want to search for motion is nearly identical to setting up the recorder for “Motion Detection”. Please refer to “Motion Detection” in “Chapter 3 — Configuration” for more detailed instructions on setting up the detection blocks.**

**When setting the “Museum Search Zone”, the zone should be placed inside of the border line of the target object. If the selected block is placed on the border line, the sensitivity of the “Museum Search” may decrease.**

The zone should be placed or focused on the centre or, at least, within the outline of targeted object.

Highlight the box beside “Sensitivity” and press the button. You will be able to select from 1 (low sensitivity) to 255 (high sensitivity).

Highlight the box beside “Min. Blocks” and press the button. You will be able to set the number of sensor blocks that must be activated.

Once you set your desired search conditions, highlight “Search” and press the button to display the search results in the Motion Search Option screen. Selecting “Cancel” exits the screen without saving the changes.

When you search for motion events of another camera, you will be asked whether or not you want to delete the previous search results from the list.

## Clip Copy

Video clips can be copied on an external USB flash drive. The copied video clips can be viewed on computers. Connect the USB flash drive to the Mouse / Copy Port of the recorder before starting following operations.

Selecting A-B Clip Copy in the Search - Export menu or pressing the [COPY] button during the playback will set the starting point of the video to be clip copied, and the icon displays at the bottom-left corner of the screen. Selecting A-B Clip Copy in the Search - Export menu or pressing the [COPY] button again will set the ending point of the video to be clip copied by displaying the Clip Copy screen.

Pressing and holding the [COPY] button for more than three seconds while in the Search mode or Live Monitoring mode initiates the One-Touch Clip Copy function. The last recorded image will be the ending point of video to be clip copied, and the system will automatically begin to calculate the possible video data size that the selected storage media can handle.

Select Clip Copy in the Search - Export menu or press the [COPY] button while in the Search mode or Live Monitoring mode, and the “Clip Copy” screen appears to allow clip copy setup.

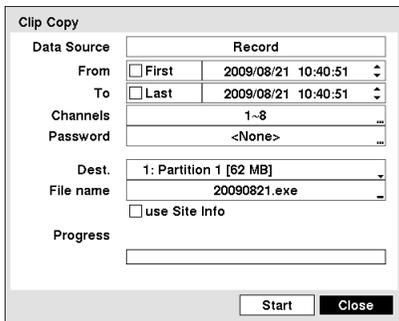


Figure 106 : Clip Copy screen

Highlight the box beside “Channels” and press the button. You can select the cameras that you would like to include in your video clip.

Highlight the box beside “Password” and press the button. A virtual keyboard appears allowing you to enter the password for reviewing the video clips.

Highlight the box beside “Dest.” and press the button. You can select the storage device on which you would like to record the video clip.

**Important: The USB flash drive for clip copy must be FAT 16 or FAT32 format. The recommended flash drive is USB 2.0 type.**

**Note: The flash drive protected with password is not supported.**

**Please be aware that when copying video clip, it may consume extremely long time in calculating for copy process. It depends on the video clip size required for copy.**

The recorder automatically assigns a file name to the video clip. However, you can give the video clip file a different name. Highlight the box beside “File Name” and press the button. A virtual keyboard appears. Enter a file name for the video you are backing up and select “Close”. The recorder will automatically add the camera number (for example “01”) and “.exe” to the file name.

**Note: When naming a file, you cannot use the following characters:**

\, ; , ' , / , ' , ! , \$ , % , \* , | , : , " , < , > , ? .

Highlight “Use Site Info” and press the button. This will toggle between On and Off. When this feature is On, you can add the site name to the file name for the video you are backing up.

**Note: When the site name is added to the file name, some special characters ( \ , / , : , \* , ? , " , < , > , | ) in the site name will be converted to “ \_ ”.**

Once you have given the video clip a file name, highlight the “Start” button and press the button. The confirmation screen displaying data size will appear. When the storage device does not have enough space, the recorder will ask if you want to copy as much of the video clip as possible in the available space. Highlight the “Continue” button and press the button to continue clip copy.

Once the clip copy starts, you can cancel it by selecting “Cancel” or hide the screen by selecting “Close”. When selecting “Close”, Clip Copy continues and a confirmation screen will display when complete.

**Note: The file size for clip copy is limited to 30 GB. When copying video clips larger than 2 GB, the video clips will be save in units of 2 GB. For example, 3 individual 2 GB files will be created when saving a 6 GB video clip. However, the file size for the One-Touch Clip Copy is limited to 2 GB.**

You can use other functions on the recorder while video is being backed up. To do this, highlight the “Close” button and press the button. You can return to the “Clip Copy” screen at any time to check the progress.

You do not need to install any special software on your personal computer to review the video clips. Refer to Appendix “Clip Player” for instructions on how to review video clips you have copied.

**Note:** During Clip Copy, you cannot shut the system down, clear data on the storage device, or format the storage device.

Copying video clips might start from a point of several seconds before the start time that you have designated.

The time of the copied file will be set not in the time zone of the recorder but in GMT(Greenwich Mean Time).

**Important:** Do NOT disconnect the USB flash drive while copying video clips. If the USB flash drive is disconnected while copying video clips, THE RECORDER SYSTEM MAY NOT WORK NORMALLY OR THE EXTERNAL DRIVE COULD BE DAMAGED, and you will get an error message the next time you try to copy video clips. You will need to power down the recorder and restart it to get rid of the error message. Once the file system of the USB flash drive has been corrupted, this error message cannot be dismissed. Even after restarting the recorder it may automatically restart while preparing to clip copy. You must recover the file system using the recovery program, or you must reformat the flash drive.

# Appendix

## Display Setup Menu of Camera

You can operate the camera setup menu by calling up it from the recorder.

While in the PTZ mode, select the “Device Menu” from the Advanced PTZ menu, and select “On” from the On or Off menu. The camera setup menu displays on the PTZ camera screen.

You can operate the camera setup menu by using the following buttons.

To move the cursor	Arrow Buttons ( Up / Down )
To change the selected parameter	Arrow Buttons ( Left / Right )
To determine the selected parameter	Play/Pause Button ( ⏮ button )
To display the submenu	
To return to the previous menu	[RET] button

**Note:** To display the special menu of the camera setup menu, press and hold the ⏮ button for three seconds or longer after moving the cursor to “SPECIAL” on the camera setup menu. To reset the settings of the camera setup menu to the default settings, press and hold the ⏮ button for 10 seconds or longer after moving the cursor to “CAMERA RESET” on special menu of the camera setup menu.

## System requirements for a PC

It is recommended to operate the recorder using a PC that meets the following requirements.

OS:	Microsoft® Windows Vista® Business SP1 (32-bit) Microsoft® Windows® XP Professional SP3 Microsoft® Windows® XP Home Edition SP3
OS language:	English, French, Spanish, German, Italian, Russian
CPU:	Intel® Core™2 Duo 2.66 GHz or faster
Memory:	1 GB or more (512 MB or more when using Windows XP)
Monitor:	1024 x 768 pixels or more, 24-bit True color or better
Network interface:	10/100 Mbps Network interface card must be installed
Web browser:	Windows® Internet Explorer® 7.0* Microsoft® Internet Explorer® 6.0 SP3
Audio:	Sound card (When using the audio function)
Other:	DirectX® 9.0c or later

\* When using Windows Vista

**Important:** If using a PC that does not meet the above system requirements, it may cause problems such as slow imaging or the browser becomes inoperable. Audio will not be heard if a sound card is not installed on a PC. Microsoft Windows XP Professional x64 Edition is not supported.

## Clip Player

**Note:** You will be asked to enter the password to initiate the Clip Player program if you select Save Password option when saving recorded video.



**Note:** Proper image display depends on the display settings of your PC. If you are experiencing display problems, click the right mouse button on the background screen and select “Properties” >>“Settings” then set the “Color quality” to “32 bit”. Then select “Advanced” >> “Troubleshoot”, and then set the “Hardware Acceleration” to “Full”. Please make sure that DirectX version 9.0 or higher has been installed if the display problem continues. To check the version of DirectX, click “Start” >>“RUN” and type “dxdiag” then hit the enter key which will display “DirectX Diagnostic Tool” dialog box. Then move to the Display tab and make sure “DirectDraw Acceleration” is set to “Enabled”. Test DirectDraw by selecting the DirectDraw Test button. Please check the driver version of the video card and update it to the latest version available. If you still have display problems after changing all display settings as described above, try replacing the video card. Video cards with an ATI chipset are recommended.

- ① Clicking “X” exits the Player program.
- ② Click “⏪” to go to the beginning of the video clip.
- ③ Click “⏮” to play the video clip in fast reverse.
- ④ Click “⏴” to go back one frame of the video clip.
- ⑤ Click “▶” to play the video clip.
- ⑥ Click “⏩” to go forward one frame of the video clip.
- ⑦ Click “⏭” to play the video clip in fast forward.
- ⑧ Click “▶” to go to the end of the video clip.
- ⑨ Click “⏪” to show the previous page.
- ⑩ Click “⏴” to cycle through the screen layouts. It cycles through 2x2, 3x3 and 1+7 (only 8-channel model).
- ⑪ Click “⏩” to show the next page.

⑫ Click the  icon to set up the Clip Player properties.

Print
Frame Info
Image Processing
Play Speed Control
Drawing Mode ▶
Screen Size ▶
Aspect Ratio ▶
OSD Setup...
✓ Enable Audio
✓ Anti-Aliasing Screen

**Print** : Prints the current image.

**Frame Info.** : Displays Channel, Title, Time, Type, Size and Resolution information about the image.

**Image Processing** : Controls brightness, blur and sharpness of playback images. (Single-Screen Layout Mode Only)

**Play Speed Control** : Changes the playback speed (Play) or fast forward/backward playback speed (FF/RW).

**Drawing Mode** : Selects the draw mode level. If you are not sure about the best draw mode level for your system, try each level until the image displays properly.

**Screen Size** : Changes the Clip Player screen size.

**Aspect Ratio** : Changes the image aspect ratio displayed on each camera screen.

**OSD Setup...** : Selects options to display on the screen.

**Enable Audio** : Plays audio while playing back recorded video that has recorded audio. (Single-Screen Layout Only)

**Anti-Aliasing Screen** : Enhances image display quality on the screen by smoothing stair-stepping(aliasing) effects in the enlarged image. If video plays slow because of your CPU's slow speed, releasing the Anti-Aliasing Screen option might improve playback speed.

⑬ Click the  icon to save clip images.

Save as Image
Save as Image (Actual Size)
Save as Clip-Copy
Save as Video
Clip-Copy Log

**Save as Image** : Saves the current image as a bitmap or JPEG file.

**Save as Image (Actual Size)** : Saves the current video frame as a bitmap or JPEG file in its actual size. (Single-Screen Layout Only)

**Save as Clip-Copy** : Saves video of desired time range as an executable file.

**Save as Video** : Saves video of desired time range as an AVI file.

**Clip-Copy Log** : Saves the clip copy log information as a text file. The user information about "Save as Clip-Copy" will be logged as "Internal-Copy".

⑭ Click the  icon to select from Normal and Double screen views. You can move the enlarged image by clicking the left mouse button and dragging.

⑮ Click the  icon to display the image full screen.

Encryption icons display in the bottom-right corner. "🔒" displays when the clip file has not been tampered with, and "🔓" displays and playback stops when the system has detected tampering.

**Note:** If the VGA card or monitor does not support 800x600 video resolution, Full Screen might not display properly. If this happens, press the ESC key on your PC keyboard to return to the normal screen mode.

⑯ Click the slider bar and move it left or right to move through the video clip.

Placing the mouse cursor on an image and clicking will cause that image to display full frame

**Note:** Some options may not be available, depending on the specifications and version of the remote recorder.

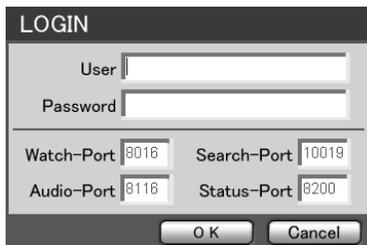
## Web Browser

Using Web Browser allows you to access a remote recorder, monitor live video images and search recorded video anytime from virtually anywhere.

Start Internet Explorer on your local PC. You can run the Web Browser by entering the following information in the address field.

"http://IP address :port number" (The recorder's IP address and the Web Browser port number (default: 12088) set in the Network setup screen (Web Browser tab))

**Note:** You will need to get the appropriate IP address for the recorder you want to connect to and the Web Browser port number from your network administrator.



Enter the "User", "Password" and the appropriate port numbers of the program. And then click "OK".

You will need to enter the recorder's IP address in the ADDRESS field when running the Web Browser.

**Note:** The port numbers for "Watch", "Search", "Audio" and "Status" should be the same port numbers used for set on the Port Number Setup screen. (Refer to "Chapter 3 -- Configuration - Network setup").

**Note:** The maximum number of accessible users to the recorder simultaneously is the following :

- Watch : 4 users (including 1 Audio user)
- Search : 2 users
- Status : 2 users

When running the updated Web Browser program for the first time, Internet Explorer might occasionally load the information of the previous version. In this case, delete the temporary internet files by selecting Tools → Internet Options → General tab, and then run Web Browser program again.

There might be a problem that the bottom of web browser page is cropped due to the address or status bars in Microsoft Internet Explorer. In this situation, it is recommended that websites open windows without address or status bars by changing the internet setting. (Go to the Tools → Internet Options → Security tab → Click the "Custom level..." button → Select "Enable" for the "Allow websites to open windows without address or status bars" option)

When running web browser in the Microsoft Windows Vista operating system, it is recommended to start Internet Explorer with elevated administrator permissions. Click the right mouse button on the Internet Explorer icon and select the "Run as administrator" option from the context menu. Otherwise, some functions of the Web Browser program might be limited to use.

There might be a problem with screen display or screen update due to low image transmission speed when using the Microsoft Windows Vista operating system. In this situation, it is recommended that you disable the Auto Tuning capability of your computer.

Run the "Command Prompt" with elevated administrator permissions (Go to the Start Menu → Accessories → Command Prompt → Click the right mouse button and select the "Run as administrator" option). Then enter "netsh int tcp set global autotuninglevel=disable" and hit the enter key. Restart your computer to apply the changes.

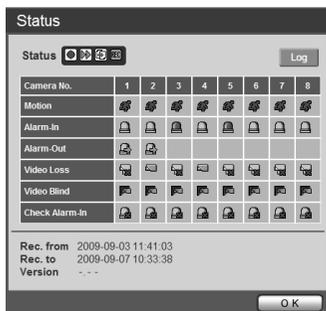
If you want to enable the Auto Tuning capability again, enter "netsh int tcp set global autotuninglevel=normal" after running the Command Prompt with elevated administrator permissions. Restart your computer to apply the changes.

# Watch Mode

Watch mode allows you to monitor live video transmitted in real-time from the remote recorder.



- ① Position the mouse pointer on the title logo to see the version of the Web Browser program.
- ② Click "Search" to access to the Search mode.
- ③ Click "ei" to log out the Web Browser program.
- ④ Click "f" to display the following menu – "Login Info", "Drawing Mode" and "OSD Setup". Selecting "Login Info", you can confirm the login information of Web Browser program. Selecting "Drawing Mode", you can adjust the display speed by changing the image drawing mode. And select "OSD Setup" information to be displayed on the screen.
- ⑤ Click "s" to save the current image as a bitmap or JPEG file format.
- ⑥ Click "i" to display the event, alarm out, system check, and recording status information of the recorder. There is the icon which is not displayed by setting.



**Status** : Displays the recording, playback, and copy status.

Record Schedule setting :  On  Off(Gray)  
 Playback and Copy Function :  Use  Not Use(Gray)  
 Check Recording :  Recording  Not Recording(Gray)

**Motion / Alarm-In** : Displays events detected by the internal motion detector or by an external sensor. The status display of event detection will continue during the preset dwell time of the event-driven recording.

Event Detection  No Event Detection(Gray)

**Alarm-Out** : Displays status of the alarm out signals.

Alarm-Out  No Alarm-Out(Gray)

**Video Loss** : Displays the status of video loss.

No Video Loss  Video Loss(Gray)

**Video Blind** : Displays the status of video blind.

Video Blind  No Video Blind(Gray)

**Check Alarm-In** : Displays the function status of the alarm, and recording.

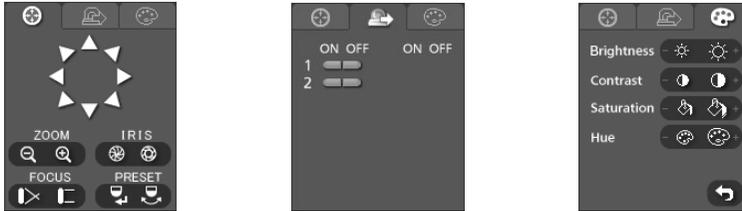
Normal  Error (Gray)

**Rec. from / to** : Displays the record period.

**Version** : Displays the system version information.

Clicking “Log” to save event log information currently displayed in the list as a text file.

- ⑦ The date and time are displayed.
- ⑧ Click the camera button (1 to 8 or 4) to select the camera to be viewed.
- ⑨ Click the screen format to select the desired display mode. When changing the screen format, the selected camera on the current screen will be located in the first cell of the new layout.
- ⑩ Click “+” to control pan, tilt, zoom, iris, focus, and preset of the camera from a web browser.
- ⑪ Click “🔊” to control alarm out devices at the web browser.
- ⑫ Click “🎨” to adjust the brightness, contrast, saturation and hue of monitoring image.



**Note:** During controlling camera from the recorder, you cannot control any camera.

- ⑬ The event status window at the bottom displays a list of events that are detected from the recorder.
- ⑭ Selecting a camera on the screen and clicking the right mouse button displays the context menu.



**Change Camera Title :** Changes the camera name.

**Enable Audio :** Enables audio communication with the web browser. When the audio control panel displays, click the 🗣️ button to send audio to the connected web browser and click the button again to stop sending audio. Click the 🎧 button to monitor live audio from the connected web browser through the attached speaker and click the button again stop monitoring live audio. Clicking both 🗣️ and 🎧 buttons allows two-way communication. Clicking the ✖️ button disables audio communication.

**Aspect Ratio :** Changes the image aspect ratio.

**Deinterlacing :** Using a deinterlace filter for interlaced video enhances image display quality by eliminating horizontal scan lines and noise in areas with motion. It is effective only when the Network-Resolution is "Very High"(D1).

**Anti-Aliasing Screen :** Enhances image display quality by eliminating stair stepping (aliasing) effects in the enlarged image.

**Note:** A Camera Title change in the Watch mode does not affect the camera name on the recorder. Leaving the Camera Title blank causes the camera name set up in the Camera – Settings screen to display.

## Search Mode

Search mode allows you to search recorded video on the remote recorder.

**Note:** The web browser connection in the Search mode will automatically be disconnected if there is no activity for 30 minutes.



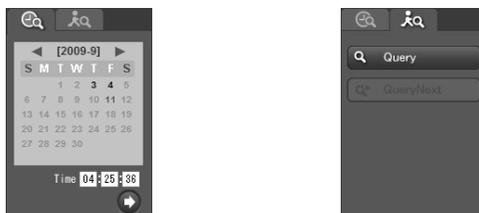
- ① Position the mouse pointer on the title logo to see the version of the Web Browser program.
- ② Click “Watch” to access to the Watch Mode.
- ③ Click “Logout” to log out the Web Browser program.
- ④ Click “Menu” to display the following menu – “Login Info”, “Drawing Mode” and “OSD Setup”. Selecting “Login Info”, you can confirm the login information of Web Browser program. Selecting “Drawing Mode”, you can adjust the display speed by changing the image drawing mode. And select “OSD Setup” information to be displayed on the screen.
- ⑤ Click “Save” to save any video clip of recorded data as an executable file, or click the “Print” to save the current image in a bitmap or JPEG file format. Click the “Print” to print the current image on a printer connected to your computer.
- ⑥ Click “Refresh” to reload the recording data.
- ⑦ Click “Event Log” to display the event, alarm out, system check, and recording status information of the recorder. Refer to “Watch Mode” in this paragraph.
- ⑧ The date and time are displayed.
- ⑨ Click the screen format to select the desired display mode.
- ⑩ Click “Zoom In/Out” to zoom out or zoom in the recorded image. Click “Brightness” to adjust the brightness of the recorded images. Click “Blur/Sharpen/Equalize/Interpolate” to blur, sharpen, equalize and interpolate playback images.

**Note:** Image processing works only in the pause mode.

- ⑪ Click “Calendar” to enter the Calendar search mode which allows you to search for recorded data by time and then play back images found within the time parameters. The Timetable window located at the bottom displays the time information for the image of the date selected on the calendar. If more than one video

stream in the same time range, you can select the video stream you want to search. Clicking a specific time displays the image recorded at that time on the screen. Clicking “📷” allows you to display an image from a specific time.

- ⑫Click “🔍” to enter the event search mode which allows you to search for event log entries using specific conditions and play back the images associated with those event entries.



**Note:** It might take long time for searching the event logs according to the selecting conditions.

- ⑬The playback function buttons include fast backward, pause, play, fast forward, go to the first image, go to the previous image, go to the next image, and go to the last image.

**Note:** Web browser will disconnect from recorder if current playback video was over written.

- ⑭The Timetable displays recorded data of the selected camera by time (in hour segments).
- ⑮Selecting a camera on the screen and clicking the right mouse button displays the context menu screen.

Change Camera Title	
Enable Audio	
Aspect Ratio	▶
Deinterlacing	▶
Anti-Aliasing Screen	

**Change Camera Title :** Changes the camera name.

**Enable Audio :** Plays audio while playing back recorded video that has recorded audio. (Single-Screen Layout Only)

**Aspect Ratio :** Changes the image aspect ratio.

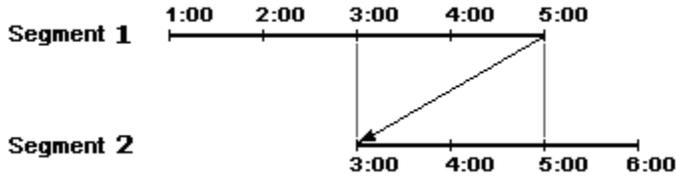
**Deinterlacing :** Using a deinterlace filter for interlaced video enhances image display quality by eliminating horizontal scan lines and noise in areas with motion. It is effective only when the Network-Resolution is "Very High"(D1).

**Anti-Aliasing Screen :** Enhances image display quality by eliminating stair stepping (aliasing) effects in the enlarged image.

**Note:** A Camera Title change in the Search mode does not affect the camera name on the recorder. Leaving the Camera Title blank causes the camera name set up in the Camera – Settings screen to display.

# Time Overlap

If the recorder's time and date have been reset to a time that is earlier than the existing recorded video, it is possible for the recorder to have more than one video stream in the same time range. In this case, you can search overlapping video streams individually by selecting a specific segment. For example, when the recorder has recorded video from one to five o'clock and the user changes the time backward from five to three o'clock and then continues recording until six o'clock, there will be two video streams and segments from three to five o'clock.



You can search overlapping video streams by selecting a specific time or time range. If you want to search recorded video at four o'clock during the overlapping time range using a search menu such as "Go to the Date/Time", select the segment you want to search.

Select a Segment
<b>1: Segment 2</b>
2: Segment 1

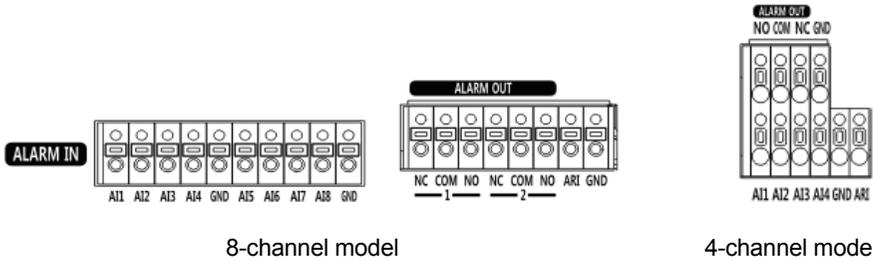
If you want to search recorded video from four to five o'clock during the overlapping time range using a search menu such as "Event Log Search" or "Motion Search", it is possible for the recorder to have two overlapping start and stop times. You will be asked to select one of the overlapping start and stop times from the search time ranges as follows:

- From four o'clock of the first segment to five o'clock of the first segment
- From four o'clock of the first segment to five o'clock of the second segment
- From four o'clock of the second segment to five o'clock of the second segment

Select a Range
<b>1: Scope 1 ~ 1</b>
2: Scope 1 ~ 2
3: Scope 2 ~ 2

# Pin Outs

## Alarm Input / Output

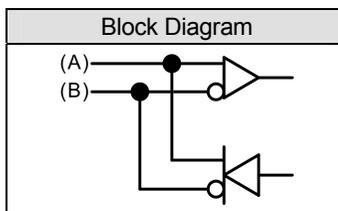
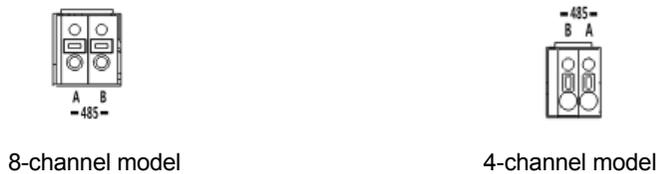


AI1 to AI8 or AI4	Alarm Inputs 1 to 8 or 4
GND	Chassis Ground (3 or 2 connectors)
NC	Relay Alarm Output (Normally Closed)
COM	Relay Common
NO	Relay Alarm Output (Normally Open)
ARI	Alarm Reset In

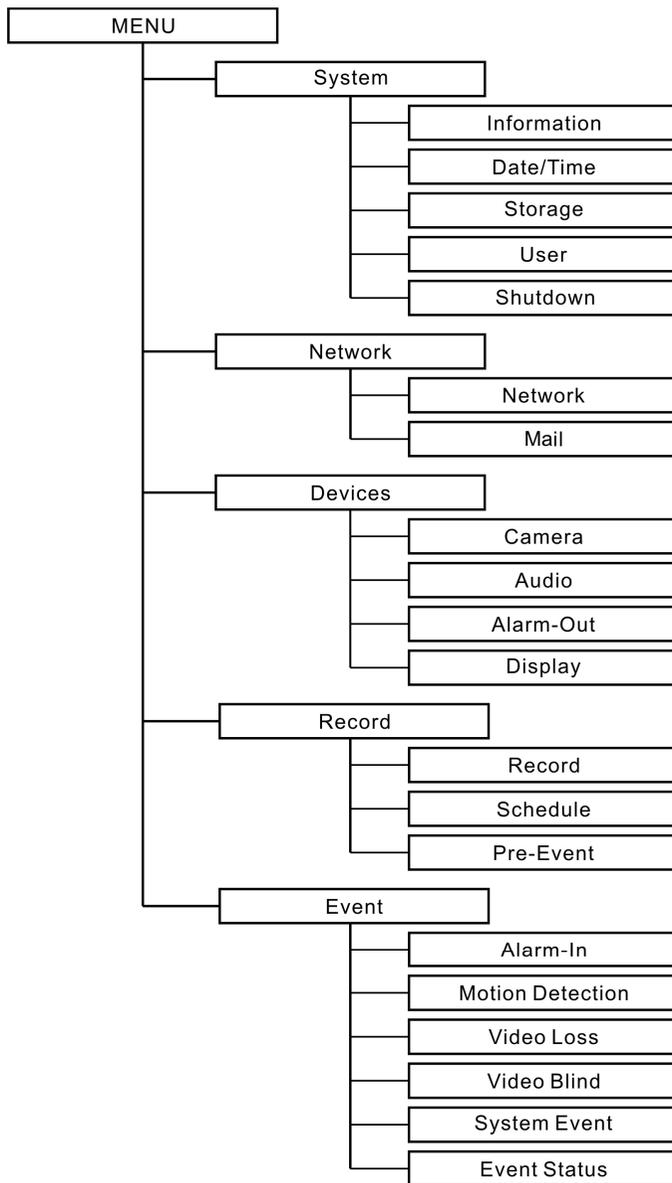
### <About Alarm Output Settings and Status>

Type Settings	Terminal	Alarm Output Status		(Recorder is off)
		OFF	ON	
NC	NC	Open	Close	Close
	NO	Close	Open	Open
NO (Default)	NC	Close	Open	Close
	NO	Open	Close	Open

## RS485



# Map of Screens



## Recording Duration (for reference purpose only)

The possible recording durations are under the following conditions, and they varies depending on images to be recorded. Please confirm the duration of your recorder.

Conditions : 250 GB HDD x 1 (built-in), No audio

### <8-channel model>

Unit : Day

Picture Quality	ips	Standard (CIF)				High (Half D1)				Very High (D1)			
		Number of camera input											
		1	2	4	8	1	2	4	8	1	2	4	8
Very High	25	11.7	5.8	2.9	1.5	5.8	2.9	1.5		2.9	1.5		
	15	19.5	9.7	4.9	2.4	9.7	4.9	2.4		4.9	2.4		
	10	29.2	14.6	7.3	3.7	14.6	7.3	3.7	1.8	7.3	3.7	1.8	
	5	57.9	29.0	14.5	7.2	29.0	14.5	7.2	3.6	14.5	7.2	3.6	1.8
	2	144.8	72.4	36.2	18.1	72.4	36.2	18.1	9.1	36.2	18.1	9.1	4.5
High	1	278.0	139.0	69.5	34.8	139.0	69.5	34.8	17.4	69.5	34.8	17.4	8.7
	25	15.6	7.8	3.9	1.9	7.8	3.9	1.9		3.9	1.9		
	15	26.0	13.0	6.5	3.2	13.0	6.5	3.2		6.5	3.2		
	10	38.9	19.5	9.7	4.9	19.5	9.7	4.9	2.4	9.7	4.9	2.4	
	5	77.2	38.6	19.3	9.7	38.6	19.3	9.7	4.8	19.3	9.7	4.8	2.4
Standard	2	193.1	96.5	48.3	24.1	96.5	48.3	24.1	12.1	48.3	24.1	12.1	6.0
	1	370.7	185.4	92.7	46.3	185.4	92.7	46.3	23.2	92.7	46.3	23.2	11.6
	25	23.4	11.7	5.8	2.9	11.7	5.8	2.9		5.8	2.9		
	15	38.9	19.5	9.7	4.9	19.5	9.7	4.9		9.7	4.9		
	10	58.4	29.2	14.6	7.3	29.2	14.6	7.3	3.7	14.6	7.3	3.7	
Basic	5	115.9	57.9	29.0	14.5	57.9	29.0	14.5	7.2	29.0	14.5	7.2	3.6
	2	289.6	144.8	72.4	36.2	144.8	72.4	36.2	18.1	72.4	36.2	18.1	9.1
	1	556.1	278.0	139.0	69.5	278.0	139.0	69.5	34.8	139.0	69.5	34.8	17.4
	25	46.7	23.4	11.7	5.8	23.4	11.7	5.8		11.7	5.8		
	15	77.9	38.9	19.5	9.7	38.9	19.5	9.7		19.5	9.7		

### <4-channel model>

Unit : Day

Picture Quality	ips	Standard (CIF)				High (Half D1)				Very High (D1)			
		Number of camera input											
		1	2	3	4	1	2	3	4	1	2	3	4
Very High	25	11.7	5.8	3.9	2.9	5.8	2.9			2.9			
	15	19.5	9.7	6.5	4.9	9.7	4.9	3.2		4.9			
	10	29.2	14.6	9.7	7.3	14.6	7.3	4.9	3.7	7.3	3.7		
	5	57.9	29.0	19.3	14.5	29.0	14.5	9.7	7.2	14.5	7.2	4.8	3.6
	2	144.8	72.4	48.3	36.2	72.4	36.2	24.1	18.1	36.2	18.1	12.1	9.1
High	1	278.0	139.0	92.7	69.5	139.0	69.5	46.3	34.8	69.5	34.8	23.2	17.4
	25	15.6	7.8	5.2	3.9	7.8	3.9			3.9			
	15	26.0	13.0	8.7	6.5	13.0	6.5	4.3		6.5			
	10	38.9	19.5	13.0	9.7	19.5	9.7	6.5	4.9	9.7	4.9		
	5	77.2	38.6	25.7	19.3	38.6	19.3	12.9	9.7	19.3	9.7	6.4	4.8
Standard	2	193.1	96.5	64.4	48.3	96.5	48.3	32.2	24.1	48.3	24.1	16.1	12.1
	1	370.7	185.4	123.6	92.7	185.4	92.7	61.8	46.3	92.7	46.3	30.9	23.2
	25	23.4	11.7	7.8	5.8	11.7	5.8			5.8			
	15	38.9	19.5	13.0	9.7	19.5	9.7	6.5		9.7			
	10	58.4	29.2	19.5	14.6	29.2	14.6	9.7	7.3	14.6	7.3		
Basic	5	115.9	57.9	38.6	29.0	57.9	29.0	19.3	14.5	29.0	14.5	9.7	7.2
	2	289.6	144.8	96.5	72.4	144.8	72.4	48.3	36.2	72.4	36.2	24.1	18.1
	1	556.1	278.0	185.4	139.0	278.0	139.0	92.7	69.5	139.0	69.5	46.3	34.8
	25	46.7	23.4	15.6	11.7	23.4	11.7			11.7			
	15	77.9	38.9	26.0	19.5	38.9	19.5	13.0		19.5			

## System Log Notices

Boot Up	Schedule On
Shutdown	Schedule Off
Restart	Panic On
Upgrade	Panic Off
Upgrade Failure	Clear All Data
Time Change	Clear Disk
Time Zone Change	Format Disk
Time Sync.	Disk Full
Time Sync. Failed	Auto Deletion
Disk Bad	Search Begin
Login :	Search End
Logout :	Clip Copy Begin
Setup Begin	Clip Copy End
Setup End	Clip Copy Cancel
Setup Imported	Clip Copy Failure
Setup Import Failure	Clip Copy User :
Setup Exported	Clip Copy From :
Setup Export Failure	Clip Copy To :
Setup Export Canceled	Clip Copy Duration of Video :
Mail Send Failure :	Clip Copy Camera :

## Error Code Notices

System Upgrade Related		Clip Copy Related	
No.	Description	No.	Description
0	Unknown error.	0	Unknown error.
1	File version error.	1	Device error.
2	Operating system version error.	2	Mounting failed.
3	Software version error.	3	No media.
4	Kernel version error.	4	Invalid media.
100	Upgrade device mounting failed.	5	File already existed.
101	Package is not found.	6	Not enough space.
102	Extracting package failed.	7	Creating temporary file failed.
103	LILO failed.	8	Opening disk failed.
104	Rebooting failed.	9	Formatting disk failed.
105	Invalid package.	10	Database has been changed.
300	Remote connection failed.	11	Appending failed.
301	Remote network error.	12	Bad sector.
400	USB device mounting failed.	13	No executable file.
401	Reading upgrade package on the USB device failed.	14	Opening executable file failed.
402	Copying upgrade package on the USB device failed.	15	Writing executable file failed.
403	USB device is not connected.	16	Creating image failed.
404	USB device is being used.	17	Burning failed.
405	Unsupported file system.	18	Burning is out of time.
500	System is busy clip copying.	19	Connecting device failed.
		20	Device is busy.
		21	Unsupported file system.
		22	Verify failed.

## Troubleshooting

Check the following before requesting repair.

Contact a dealer if a problem cannot be solved even after checking and trying the solution or if a problem is not described below, or when having a problem with installations.

Problem	Possible Solution	Ref. Page
Power is not turned on.	<ul style="list-style-type: none"> <li>Is the power plug connected to the AC outlet firmly? Confirm the cable is firmly connected.</li> <li>Is the power cord (provided with this product) connected to the power inlet of the recorder firmly? Check if it is connected to the limit.</li> </ul>	15
No camera image is displayed.	<ul style="list-style-type: none"> <li>Check camera video cable and connections.</li> <li>Check monitor video cable and connections.</li> <li>Confirm that the camera has power.</li> <li>Check camera lens settings.</li> </ul>	15
Live video is very bright.	<ul style="list-style-type: none"> <li>Check if the cameras are connected to the Video Input Connectors correctly.</li> <li>Check if the cameras are connected to the Video Input Connectors correctly.</li> </ul>	15
The camera image is dim.	Check if dust may be sticking to the camera lens.	—
Displayed image does not fit in the screen.	This is not a malfunction. Images may not fit in the screen of some monitor models because of their resolutions.	—
The recorder cannot start recording	<ul style="list-style-type: none"> <li>Check if the Overwrite mode of the Record settings is checked.</li> <li>Check the Schedule settings.</li> </ul>	37, 39
The recorder has stopped recording	<ul style="list-style-type: none"> <li>If hard disk drive is full, you will either need to delete video or set the recorder to the Overwrite Mode.</li> <li>You can check the free space of HDD, if free space tab of Display-OSD settings is checked.</li> </ul>	27, 35, 37
The icon  displays, however, the recorder is not recording.	When the recorder is in the Pre-Event recording mode, the yellow  and  display when there is no event, and the recorder is not recording. The red  and  display when any event occurs and the recorder starts recording.	41
The recorder cannot playback images.	Check if images have been recorded on the hard disk drive.	61
The recorder cannot control cameras.	<ul style="list-style-type: none"> <li>Check the connection(RS485 Terminal) of the camera you are going to control.</li> <li>Check if the camera you are going to control is a PTZ camera.</li> </ul>	15, 16
Alarm operations are not activated.	<ul style="list-style-type: none"> <li>Check if alarm input signals are properly input to the Alarm Input Terminal at the rear panel.</li> <li>Check the Alarm-In settings.</li> </ul>	15, 41
The clock does not keep correct time.	Check if the built-in backup battery has been worn out. The battery life is approx. 5 years. (The battery lifetime may differ depending on the condition of the environment.)	—
Cannot establish a connection via the network.	Check the network settings of the unit and PC.	15, 29

Problem	Possible Solution	Ref.Page
Cannot video clip copy to the USB flash drive.	Check if it is possible to write in the USB flash drive by using PC.	—
The USB flash drive is not recognized.	Check if the port is not dusty. Clean the port properly when gathering dust in the port.	18
The Clip Player icon  is not displayed correctly.	When the data size is large, the icon might not be correctly displayed by limiting OS of PC that you are using.	—
A correct model number is not displayed in Web Browser.	Your PC might not be connected to the recorder. <ul style="list-style-type: none"> <li>Is the Ethernet cable firmly connected to the Network Port? Confirm the cable is firmly connected.</li> <li>Are you inputting correct Port Number on the Login screen? Check the settings of the Port Numbers.</li> </ul>	15, 30, 69
When accessing the Web Browser, the following message is displayed on the information bar. “Pop-up blocked. To see this pop-up or additional options, click here...”	Add the IP address of camera to “Trusted sites”, and perform the security setting. (1) Start up the web browser, and click "Internet Options" on the Tools menu. (2) Click the [Security] tab. Then, select the “Trusted sites”. (3) Select “Low” for “Security Level for this zone”. If the lower setting is selected, the security level of PC goes down. (4) Click the [Sites] button to open the “Trusted sites” window. (5) Enter the IP address in the textbox “Add this website to the zone:”, and click the [Add] button. <b>Note: Make sure “Require server verification (https:) for all sites in this zone” is unchecked.</b> (6) After adding all IP addresses, click the [Close] button to close the “Trusted Sites” window.	—
Audio becomes unavailable.		
H.264 images are not displayed in real time. (When “Internet mode (over HTTP)” is set to “ON” for network camera settings)		

Inspect the power cord, power plug and connectors periodically.

Problem	Possible Solution	Ref.Page
The power cord insulation is damaged.		
The power cord, plug and connectors get hot during use.	The power cord, plug and connectors are worn out. This may result in electric shock or a fire. Unplug the power plug from the AC outlet immediately, and refer to qualified service personnel.	15
The power cord gets hot when bent or stretched.		

## Specifications

VIDEO		
Model	WJ-HL208/G	WJ-HL204/G
Signal Format	PAL	
Video Resolution	Composite: 720x576 (PAL) VGA: 800x600, 1024x768, 1280x1024 at 60 Hz	
Total Record Speed (images per second)	200 ips (CIF) 100 ips (Half D1) 50 ips (D1)	100 ips (CIF) 50 ips (Half D1) 25 ips (D1)

INPUTS / OUTPUTS		
Model	WJ-HL208/G	WJ-HL204/G
Video Input	x8 (1ch to 8ch) (BNC) 1 V [p-p] / 75 Ω	x4 (1ch to 4ch) (BNC)
Video Output	x8 (1ch to 8ch) (BNC) 1 V [p-p] / 75 Ω	x4 (1ch to 4ch) (BNC)
Monitor Outputs	1 V [p-p] / 75 Ω, x2 (BNC) VGA, x1 (15-pin D-sub)	
Audio Input	-10 dBv, 10 kΩ, unbalanced, x4 (RCA pin)	
Audio Output	-10 dBv, 33 Ω, unbalanced, x1 (RCA pin)	
Alarm Input	8 terminal	4 terminal
	Selectable NC or NO, 2.4 V (NC) or 0.3 V (NO) threshold, 5 V DC	
Alarm Output	2 relay output	1 relay output
	Maximum 1 A 30 V <sub>peak</sub>	
Alarm Reset Input	TTL, 1 terminal	
Network Port	10Base-T(full duplex) / 100 Base-TX(full / half duplex), x1 (RJ-45) *Only Automatic Negotiation	
RS485 Terminal	RS485, x1 (Terminal blocks)	
Serial Port	x1 (9-pin D-sub), Reserved	
Mouse/Copy Port	Equivalency USB 2.0, x2 (Type A)	

HDD (Locally procured – Contact your dealer about purchasing hard disk drives.)	
Hard disk drive	3.5" SATA hard disk drive, x1 (up to 3)
Capacity	250 GB

GENERAL	
Dimensions (excluding rubber feet and projection)	430 mm (W) x 88 mm (H) x 403 mm (D)
Weight	When 1 hard disk drive is installed: 6.2 kg
Finish	Front cover: Solid metallic coating Top cover: Solid metallic coating Rear panel: Galvanized steel
Operating Temperature	+5 °C to +40 °C
Operating Humidity	5 % to 90 % (non condensing)
Maximum operating altitude	2 000 m or less
Power Voltage	100 V AC to 240 V AC, 50 Hz/ 60 Hz
Power Current	1.2 A to 0.6 A

## Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC.

By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling.

For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



### For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.



### [Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

Cd

### Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

Panasonic Corporation

<http://panasonic.net>

Importer's name and address to follow EU rules:

Panasonic Testing Centre

Panasonic Marketing Europe GmbH

Winsbergring 15, 22525 Hamburg F.R.Germany