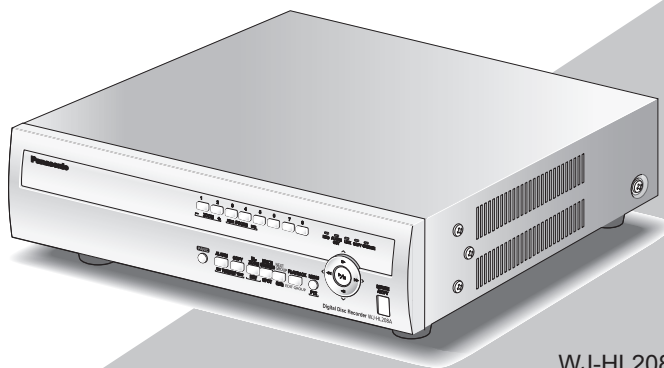


# Panasonic

## Operating Instructions Digital Disk Recorder

Model No. WJ-HL208A/G



WJ-HL208A/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.



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

**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.



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 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.

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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

- 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.**

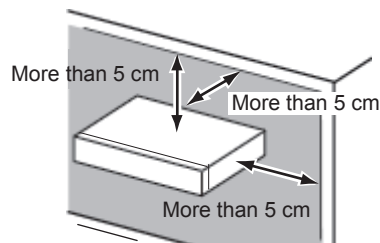
### Avoid the following locations for installation.

- 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.

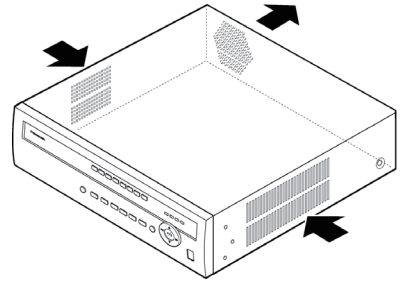
Do not place this product in an upright position. When stacking multiple recorders, clear a space of more than 5 cm from both sides, the top, the bottom and the rear of them.



### 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.

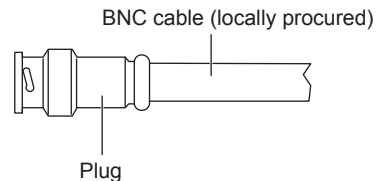
### For BNC cable connection

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.

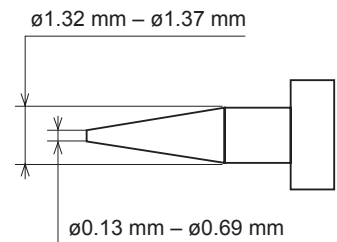
Tip dimensions inside the recommended BNC plug



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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 8 camera inputs. It provides exceptional picture quality in both live and playback modes, and offers the following features:

- 8 Composite Video Input Connectors
- H.264 Codec
- Multiple Monitor Connectors: 1 VGA, 1 Spot
- Multiple Search Engines (Date/Time, Calendar, Record Table, Event)
- Real-time Recording (200 Images per Second with Very High (D1) Resolution)
- Continues Recording while Transmitting to Remote Site and during Playback
- User-friendly Graphical User Interface (GUI) Menu System
- Multiple Recording Modes (Time-lapse, Pre-event, Alarm, Motion and Panic)
- 4-Channel Audio Recording and 1-Channel Audio Playback
- Live or Recorded Video Access via Ethernet
- Self-diagnostics with automatic notification including hard disk drive S.M.A.R.T. protocol

## 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.

Your recorder uses a proprietary encryption scheme making it nearly impossible to alter video.

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

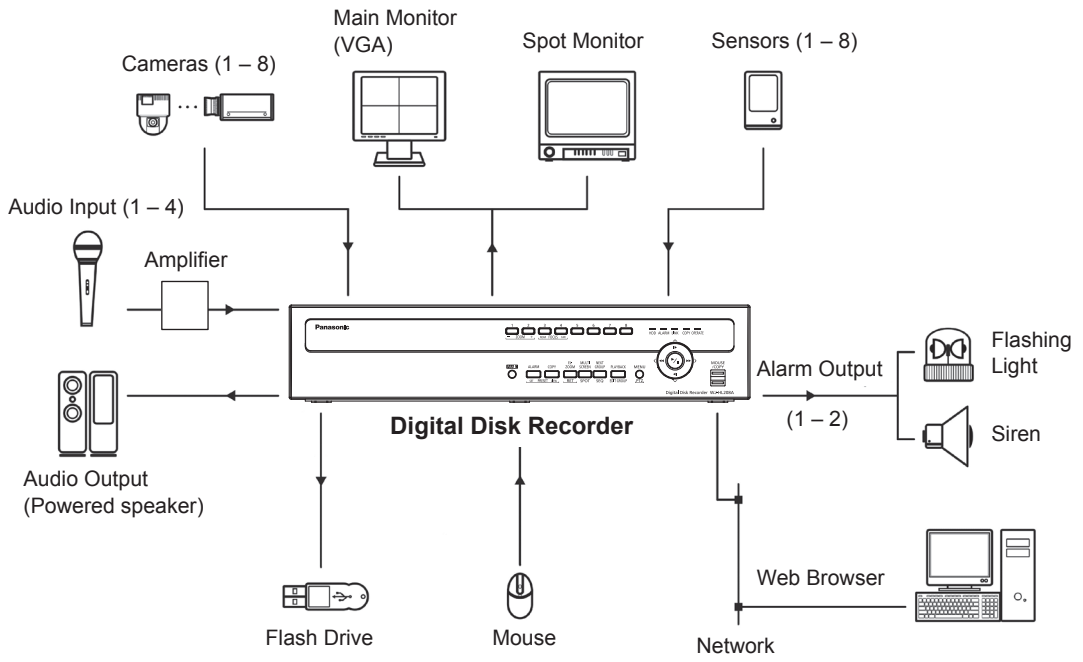


Figure 1: Typical installation

# Chapter 2 — Installation

## Package Contents

The package contains the following:

- Digital Disk Recorder
  - Power Cord × 1
  - Operating Instructions (This Document)
  - Serial ATA Cable × 2
  - HDD Fixing Screw × 8
  - CD-ROM × 1
- The CD-ROM contains the license documents.

## 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.

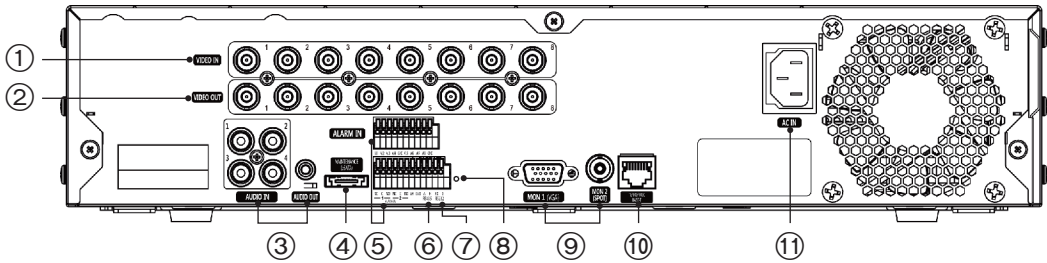
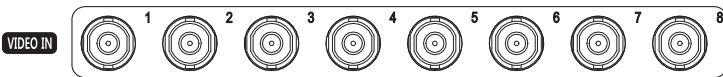


Figure 2: Recorder rear panel

- |                            |                               |                                |
|----------------------------|-------------------------------|--------------------------------|
| ① Video Input Connector    | ② Video Output Connector      | ③ Audio Input/Output Connector |
| ④ Maintenance (eSATA) Port | ⑤ Alarm Input/Output Terminal | ⑥ RS485 Terminal               |
| ⑦ RS232 Terminal           | ⑧ Factory Reset Switch        | ⑨ Monitor Output Connector     |
| ⑩ Network Port             | ⑪ Power Inlet                 |                                |

Your recorder can be used with PAL equipment.

### ① Video Input Connector



Connect the coaxial cables from the video sources to the BNC Video Input connectors.

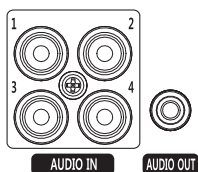
## ② Video Output Connector



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

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

## ③ Audio Input/Output Connector



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

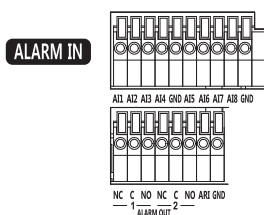
**Note:** It is the user's responsibility to determine if local laws and regulations permit recording audio.

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.

## ④ Maintenance (eSATA) Port

Use this port to perform maintenance operations. Do not use for normal operation.

## ⑤ Alarm Input/Output Terminal



**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.

**[AI1] to [AI8] (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 connectors 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 [C] (Common) and [NC] (Normally Closed) or [C] and [NO] (Normally Open) terminals. [NC]/[NO] is a relay output which sinks 2A@125VAC and 1A@30VDC. 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.

Connector Pin Outs:

AI (1 to 8)	Alarm Inputs 1 to 8
GND	Chassis Ground
NC	Relay Alarm Out (Normally Closed)
C	Relay Common
NO	Relay Alarm Out (Normally Open)
ARI	Alarm Reset In

## ⑥ RS485 Terminal



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 cameras manual for configuring the RS485 connection.

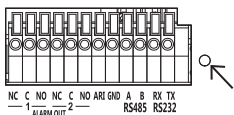
Connector Pin Outs:

Master Unit		Slaver Unit	
A	→ To	→ TX+/RX+	
B	→ To	→ TX-/RX-	

## ⑦ RS232 Terminal

Connect the text-in device.

## ⑧ Factory Reset Switch



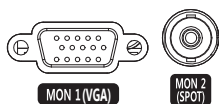
The recorder has a Factory Reset Switch to the right of the RS232 terminal on the rear panel. This switch will only be used on the rare occasions that you want to return all the settings to the original factory settings.

**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.
3. While the recorder is initializing, the front panel indicators will blink. When the front panel indicators blink, poke the straightened paperclip into the unlabeled hole to the right of the RS232 terminal.
4. Hold the reset switch until the recorder’s internal buzzer sounds twice.
5. Release the reset switch. All of the recorder’s settings are now at the original settings it had when it left the factory.

## 9 Monitor Output Connector

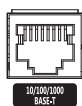


A VGA connector is provided so that you can use a standard, multi-sync computer monitor as your main monitor. Use the cable supplied with your monitor to connect it to the recorder.

Connect the spot monitor to the [SPOT] connector as needed.

**Note:** Connect the monitor before the recorder boots so that video can be displayed on the monitor with the resolution you have set during system setup.

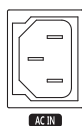
## 10 Network Port



The recorder can be networked using the 10/100/1000 Mbps 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, configuration and software upgrades. See “Chapter 3 – Configuration” for configuring the Ethernet connections.

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

## 11 Power Inlet



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

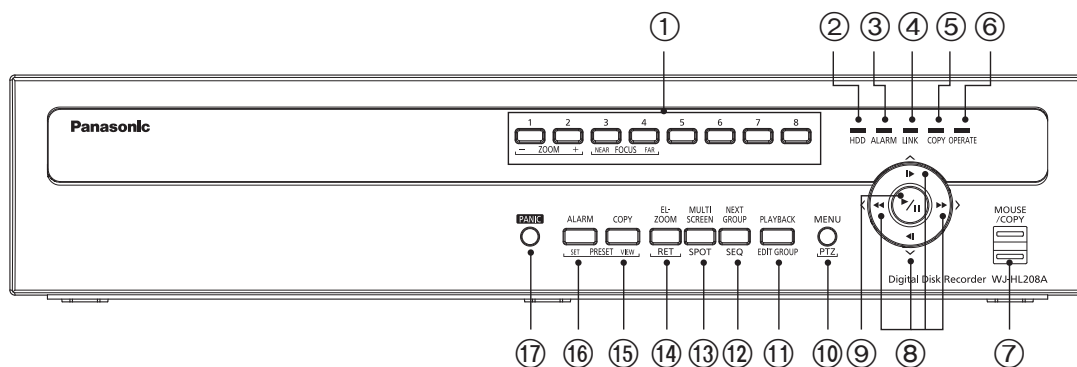


Figure 3: Recorder front panel

- |                              |                           |                              |                  |
|------------------------------|---------------------------|------------------------------|------------------|
| 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]

Pressing the individual camera buttons will cause the selected camera to display full screen. Buttons [1] to [8] are also used to enter passwords.

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

### ② HDD Indicator

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

### ③ Alarm Indicator

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

## ④ Link Indicator

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

## ⑤ Copy Indicator

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

## ⑥ Operate Indicator

The Operate Indicator is lit when the unit is On.

## ⑦ Mouse/Copy Port

The [MOUSE/COPY] ports on the front panel are provided to connect external 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.

## ⑧ Arrow 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.

## ⑨ Play/Pause Button

In the live monitoring mode, pressing the ⏸ (Play/Pause) button freezes the current screen and the screen displays ❄ icon. When in the playback mode, pressing the ⏸ (Play/Pause) button plays back images at regular speed or pauses playing video.


Pressing the ⏸ (Play/Pause) button selects a highlighted item or completes an entry that you have made during system setup.

## ⑩ Menu/PTZ Button


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

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 “II” 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


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

## ⑬ Multiscreen/Spot Button

Pressing the [MULTISCREEN] button toggles between different display formats. The available formats are: PIP, 2x2, 1+5, 1+7 and 3x3 (2x2, 1+5, 1+7 and 3x3 on a Spot Monitor).

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

Pressing the [EL-ZOOM] button zooms 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

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

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 monitoring mode unless there is an active alarm. This operation can be user password protected.

The [PRESET SET] button is used to save in the PTZ mode.

## ⑰ Panic Button






Pressing the [PANIC] button starts panic recording 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 unit takes approximately 50 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. After you are finished with any setup screen, you can highlight “Save” and press the “” button to save the changes and exit the screen. If you do not wish to save the changes, highlight “Cancel” and press the “” button to exit the screen.

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

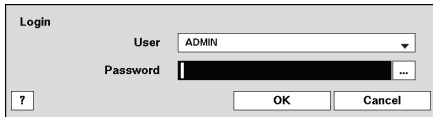






Figure 4: Login screen

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. If you do not know the password, click the “” button for guidance.

**Note:** To assure the secure management of the system, setting up a password 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 on the right edge 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.

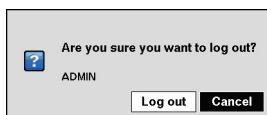



Figure 5: Logout screen

# Setup Screen



- ① System
- ② Record
- ③ Event
- ④ Camera
- ⑤ Device
- ⑥ Network
- ⑦ Notification
- ⑧ Display






Figure 6: Setup screen

Press the [MENU] button or move the mouse pointer on the right edge 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 7: 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. Pressing “” toggles between different keyboard layouts. You can use up to 31 characters including spaces in your title.

Special characters can be created using ^ and a capital letter; e.g., ^J for NL (New Line), ^M for CR (Carriage Return). Special characters are commonly used by text input devices and will be useful when performing Text-In Searches.

# System Setup

## General

Figure 8: System – General setup screen

Highlight the “Site” box and press the  $\text{F}_9$  button. A virtual keyboard appears that you can use to enter a Site Name. Once you have entered your title, highlight “OK” and press the  $\text{F}_9$  button.

Highlight the box beside “System ID” and press the  $\text{F}_9$  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  $\text{F}_9$  button. A drop-down menu displays the available languages. Highlight the desired language and press the  $\text{F}_9$  button.

The box beside “Version” displays the software version of the recorder. To upgrade the software, connect a USB device containing the upgrade package file to the recorder. Highlight “Upgrade...” and press the  $\text{F}_9$  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 and “.ofi” indicates that the file is for optical drive firmware upgrades.

Figure 9: Upgrade screen


Select the desired file and press the  $\text{F}_9$  button. Highlighting the “Install” button and pressing the  $\text{F}_9$  button will install the selected software package. Highlighting the “Cancel” button and pressing the  $\text{F}_9$  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 device must be FAT16 or FAT32 format.**

You can import saved recorder settings or export the current recorder settings. To import saved recorder settings, connect the USB device containing the setup file (.dat) to the recorder. Highlight “Setup” – “Import...” and press the  $\text{F}_9$  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.

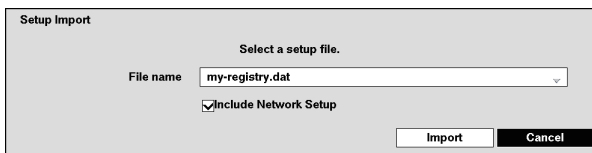


Figure 10: Setup Import screen




To export the current recorder settings, connect the USB device to the recorder. Highlight “Setup” – “Export...” and press the  button. Highlight the box beside “File name” and press the  button. A virtual keyboard allows you to enter the file name. Selecting “Export” will save the current settings in .dat file format on the USB device.



Figure 11: Setup Export screen

**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 device must be FAT16 or FAT32 format.**

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

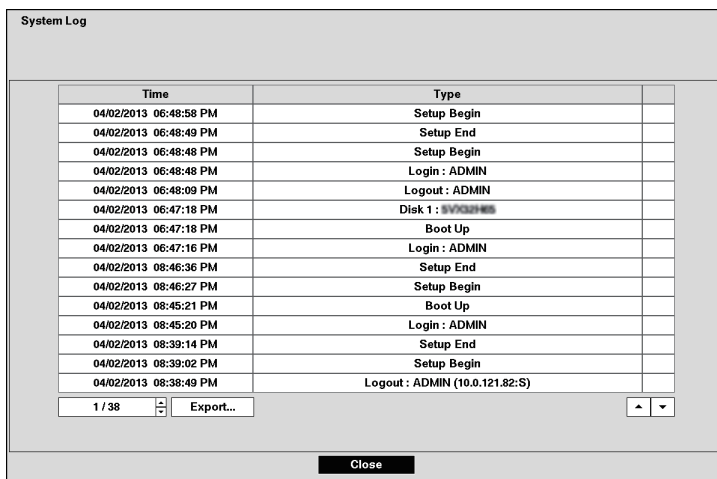




Figure 12: System Log screen

The “System Log” screen lists system activities (up to 5,000 from the latest) that have occurred along with the time and date. The  icon will be displayed in the last column for system activities of the remote site. 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. Highlight “Close” and press the  button to exit the screen.

To export the system log information, connect the USB device to the recorder. Highlight “Export...” and press the  $\odot$  button. Highlight the box beside “File name” and press the  $\odot$  button. A virtual keyboard allows you to enter the file name. Selecting “Export” will save the log information in .txt file format on the USB device.

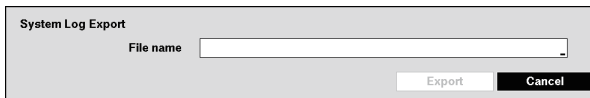


Figure 13: System Log Export screen

**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.**

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.

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



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

Figure 14: Shutdown screen

## Date/Time

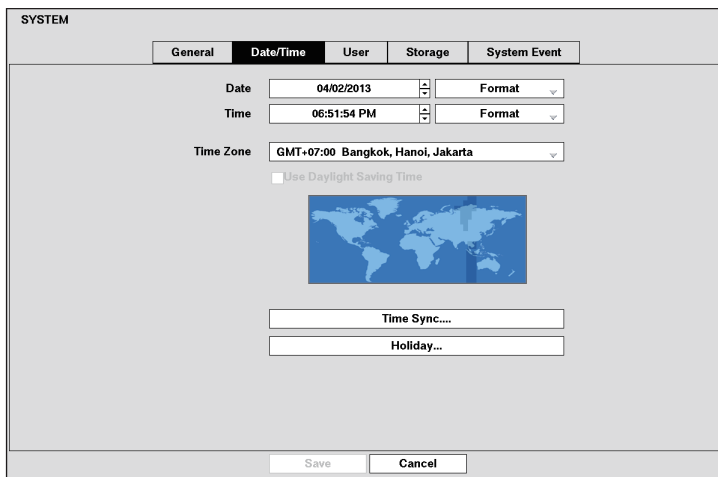


Figure 15: System – Date/Time setup screen



Highlight the first box beside “Date” and press the  $\odot$  button. The individual sections of the date will highlight. Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between month, date and year. Once you have the correct date, press the  $\odot$  button.

Highlight the Format box beside “Date” and press the  $\odot$  button. Select from the three available date formats and press the  $\odot$  button to save your selected format.

Highlight the first box beside “Time” and press the  $\odot$  button. The individual sections of the time will highlight. Use the Up and Down arrow buttons to change the number. Use the Left and Right arrow buttons to move between hour, minutes and seconds. Once you have the correct time, press the  $\odot$  button.


Highlight the Format box beside “Time” and press the  $\odot$  button. Select from the three available time formats and press the  $\odot$  button to save your selected format.

**Note: The clock will not start running until you have highlighted “Save” and pressed the  button.**

Highlight the box beside “Time Zone” and press the  button. Select your time zone from the list and press the  button.

**Note: The Time Zone can also be selected on the map below by pressing the Left and Right buttons or scrolling the mouse wheel up and down.**

Highlight “Use Daylight Saving Time” and press the  button. Pressing the  button toggles between On and Off.

Highlighting “Time Sync...” and pressing the  button displays the Time Sync. screen. You can set up time synchronization between the recorder and standard time servers that are available in most time zones and countries, or between the recorder and another recorder.

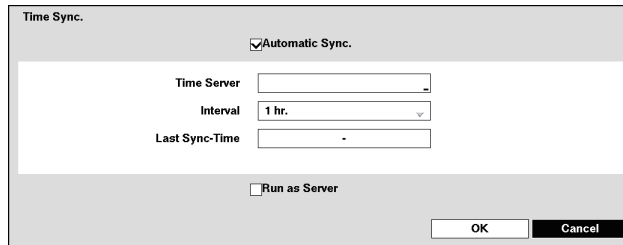



Figure 16: Date/Time – Time Sync. screen



Highlight the box beside “Automatic Sync.” and press the  button. This toggles between On and Off.

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

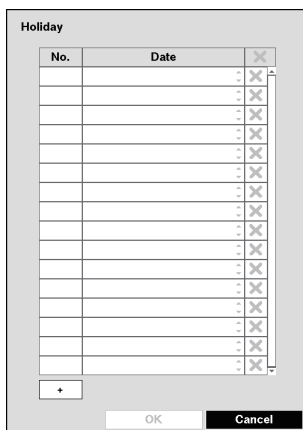
**Note: You can use the domain name instead of IP address if you already set up the DNS Server when setting up the LAN.**


Highlight the box beside “Interval” and press the  button. Set the time interval for synchronization from 30 minutes to 1 day at various time intervals.



“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.

Highlighting “Holiday...” and pressing the  button displays the Holiday screen.



You can set up holidays by highlighting “+” and pressing the  button. The current date appears.

Highlight the month and day and change them by using the Up and Down arrow buttons. Press the  button to add the date. Dates can be deleted by highlighting the “X” beside the date and pressing the  button.

**Note: Holidays that do not fall on the same date each year should be updated once the current year’s holiday has passed.**

Figure 17: Date/Time – Holiday screen

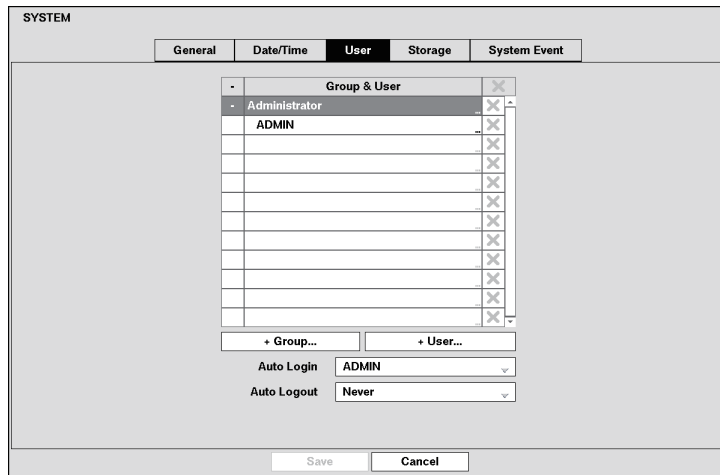






Figure 18: System – User setup screen


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.

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

**Important: Write down the new password and save it in a secure place. 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 “X” column can be used to delete a User Name or an entire Group. If the “X” is grayed out, that Group or User cannot be deleted. Highlight the “X” 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 a PC running RAS, log the user out of the system first and then delete the user.

To add a Group, highlight the “+ Group...” box 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.

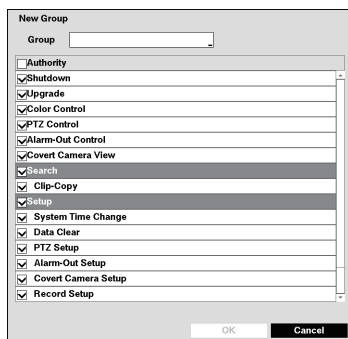




Figure 19: New Group screen

Highlighting the “Authority” box 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.
- **PTZ Control:** The user can control the PTZ camera on a local system.
- **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.

- **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.
- **Search:** The user can access the Search mode on a local system.
- **Clip-Copy:** The user can copy video clips on a local system.
- **Setup:** The user without Setup authority cannot establish any system settings excluding system shutdown, upgrade 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 Setup:** The user can establish all PTZ settings on a local system.
- **Alarm-Out Setup:** The user can establish all Alarm-Out settings on a local system.
- **Covert Camera Setup:** The user can establish all Covert Camera settings on a local system.
- **Record Setup:** The user can establish all Record settings on a local system.
- **Setup Import:** The user can import saved recorder settings from a local system.
- **Setup Export:** The user can export the current recorder settings to a local system.

Figure 20: New User (User Information) screen

To add a User, highlight the “+ User...” box and press the button. A virtual keyboard appears allowing you to enter the User Name. You can use up to 15 characters including spaces in the user name. Enter the name and assign the User to a Group and password. You can use camera buttons 1 to 9 on the front panel to assign the password. The password can be up to 8 digits. You will be asked to confirm the password.

**Note:** In addition to using the front panel buttons or the infrared remote control, you can use the virtual keyboard to assign the password. To display the virtual keyboard click the “” button using the 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.”

## Storage

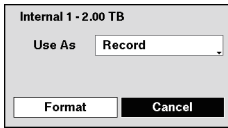
Type	Capacity	Format	Information
Internal 1	2.00 TB	Record	In Use

Figure 21: System – Storage setup 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.



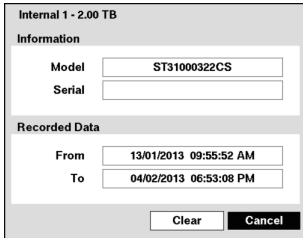
Highlight the box in the “Format” column for the desired storage device and press the button. You will be able to format the device for recording. When selecting “Not Using” from “Use As” and highlighting the “Format” button, the device will not be used for recording.

Figure 22: Internal 1 (Storage Format) screen

**Note: The recorder does NOT support USB hard disk drives.**

The “Information” column displays whether the device is being used or not. “Other” indicates the device has been used for another recorder.

Highlight the box in the “Information” column for the desired storage device and press the button.



You will be able to check the model name, serial number and the time information about recorded data of the selected storage device.

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 23: Internal 1 (Storage Information) screen

**Important: Do NOT disconnect the USB cable or the power from the device while copying video clips. If the USB cable is disconnected while copying video clips, archived data might be lost.**

## System Event

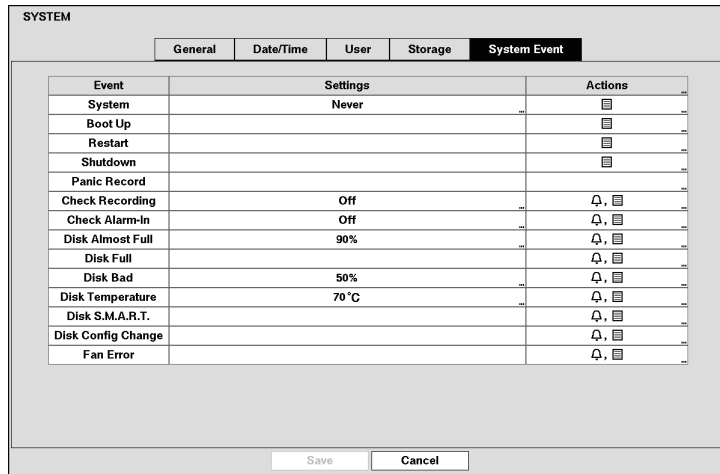


Figure 24: System – System Event setup screen

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


Highlight the “Settings” box beside the desired event (“System”, “Check Recording”, “Check Alarm-In”, “Disk Almost Full”, “Disk Bad”, or “Disk Temperature”), and press the button.

Highlight the “Settings” box beside “System” and press the button. You can select the interval that you want the recorder to run self-diagnostics on the system. You can select from “1 hr.” to “30 days” or “Never”.


Highlight the “Settings” box beside “Check Recording” and press the button. The “Check Recording” screen appears.





Figure 25: Check Recording screen


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”.


Highlight the “+” and press the  button to add a schedule item. The “X” box allows you to delete a check recording schedule.

Highlight the “Settings” box beside “Check Alarm-In” and press the  button. You can select the interval that you want the recorder to run self-diagnostics on Alarm Inputs. You can select from “1 hr.” to “30 days” or “Never”.

Highlight the “Settings” box beside “Disk Almost Full”, 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 “Settings” box beside “Disk Bad”, 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 “Settings” box beside “Disk Temperature”, and press the  button. Select the temperature of hard disk drive at which you want the recorder to trigger an alert if the temperature exceeds the defined threshold. Refer to the hard disk drive manufacturer’s documentation for the correct temperature setting.

The recorder can be set to react to system events. Highlight the “Actions” box beside the desired event and press the  button. System events can be associated with an Alarm-Out connector, sound the recorder’s internal buzzer, and/or notify a number of different devices.

**Note: “Alarm-Out” action cannot be set to “System”, “Boot Up”, “Restart”, “Shutdown” and “Panic Record” events. “Mail” notify is the only option available for the “System Event”. “Alert Window” notify cannot be set to “System”, “Boot Up”, “Restart” and “Shutdown” events.**

# Recording Setup

## General

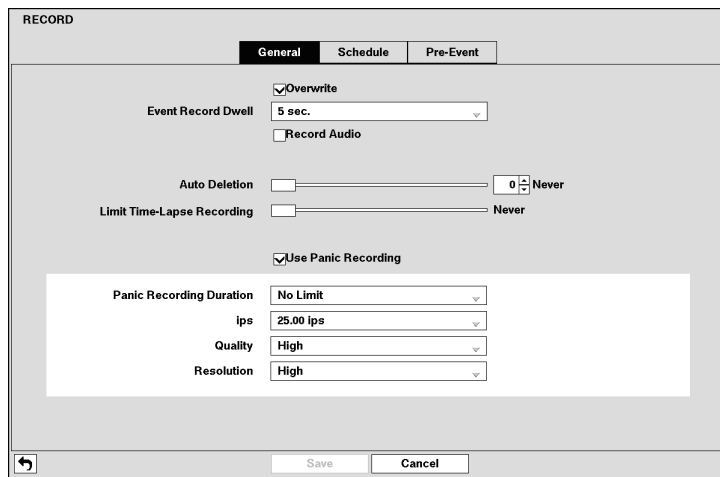


Figure 26: Record – General setup screen

Highlighting “Overwrite” and pressing the  $\text{O/A}$  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. Refer to “Event Actions” screen in this chapter for information regarding event recording.

The recorder can record up to four audio inputs. Highlighting “Record Audio” and pressing the  $\text{O/A}$  button toggles between On and Off.

Highlight the slide bar beside “Auto Deletion”, and use the Left and Right arrow buttons or Up and Down 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.



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 “Panic Recording” – “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 “Panic Recording” – “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 “Panic Recording” – “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).

## Schedule

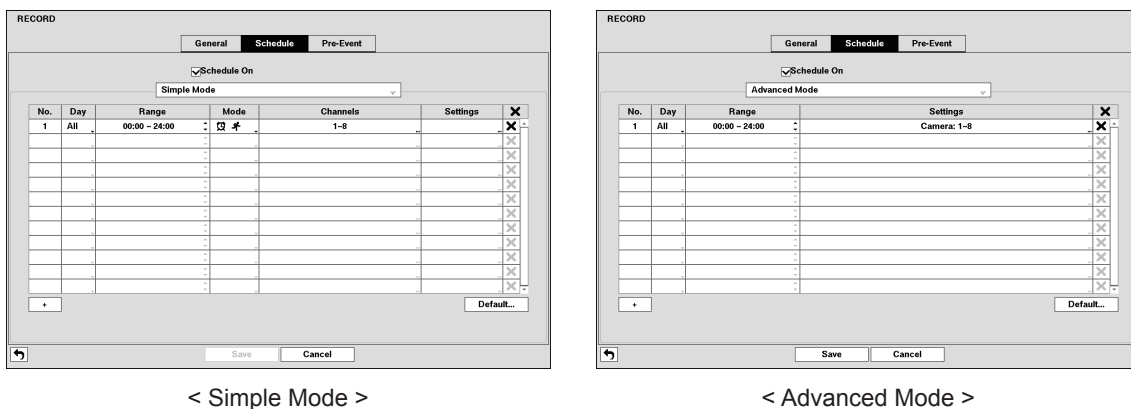


Figure 27: Record – Schedule setup screen

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” recoding mode, the yellow  icon displays when there is no event, and the recorder is not recording. When the recorder is in the “Pre-Event” mode, the red  and  display when any event occurs and the recorder starts recoding.

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)

Highlight the box under the “Settings” heading and press the  button to define the recording settings.

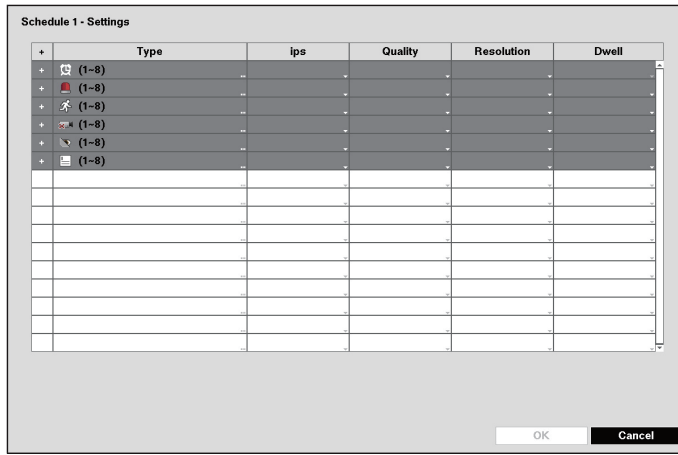


Figure 28: Record – Settings (Advanced Mode) setup screen

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
-  Text-In

**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.

Default				
Mode	ips	Quality	Resolution	Dwell
Time	25.00 ips	Standard	Standard	
Event	25.00 ips	High	High	5 sec.

Figure 29: 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. (Advanced Mode Only)

## Pre-Event

RECORD				
General   Schedule   <b>Pre-Event</b>				
✓No.	ips	Quality	Resolution	Dwell
✓1	25.00 ips	Standard	Standard	00 min. 05 sec.
✓2	25.00 ips	Standard	Standard	00 min. 05 sec.
✓3	25.00 ips	Standard	Standard	00 min. 05 sec.
✓4	25.00 ips	Standard	Standard	00 min. 05 sec.
✓5	25.00 ips	Standard	Standard	00 min. 05 sec.
✓6	25.00 ips	Standard	Standard	00 min. 05 sec.
✓7	25.00 ips	Standard	Standard	00 min. 05 sec.
✓8	25.00 ips	Standard	Standard	00 min. 05 sec.

Figure 30: Record – Pre-Event setup screen

When the recorder is in the Event Record mode it is possible to have it record images before the event occurs. The “Pre-Event” screen allows you to define how to handle pre-event recording. If you do not have Event set up in the Record Schedule, a message will display alerting you to this fact.

You can turn individual cameras On or Off for pre-event recording. The image speed can be set from “1.00 ips” to “25.00 ips”, image quality can be selectable from “Very High”, “High”, “Standard” and “Basic”, and image resolution can be selectable from “Very High” (D1), “High” (Half D1) and “Standard” (CIF).

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.**

# Event Setup

## Motion

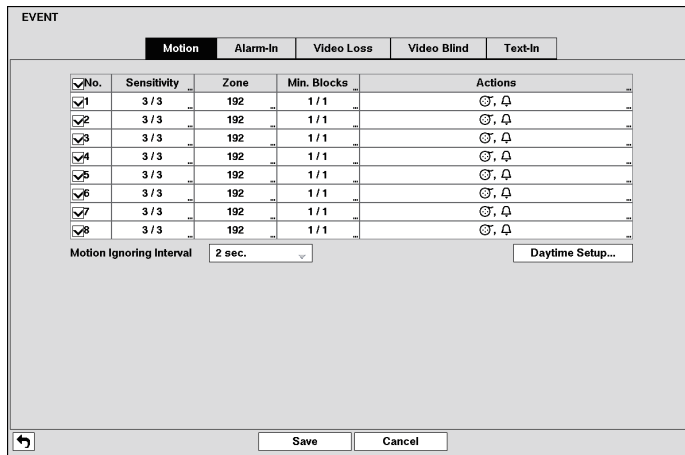
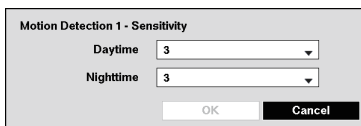


Figure 31: Event – Motion setup screen

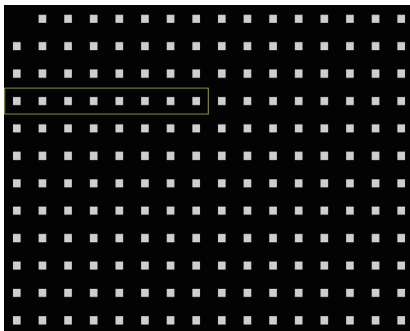
Your recorder has built-in video motion detection. Video motion detection can be turned On or Off for each camera.



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 32: Motion Detection Sensitivity screen

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 Zone screen displays.

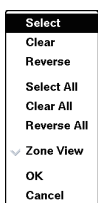


The Motion Zone screen is laid over the video for the selected camera. You can set up motion zones by selecting or clearing blocks.

**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 33: 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.
- Zone View:** Displays any detected motion within the zone in red.
- OK:** Accepts changes and closes Zone setup.
- Cancel:** Exits Zone setup without saving changes.

Figure 34: Motion Detection Zone menu

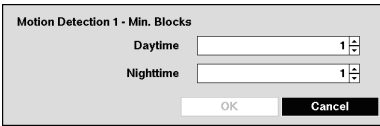


Figure 35: Motion Detection Min. Blocks screen

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  $\odot$  button allows 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.

Highlight the box under the “Actions” and press the  $\odot$  button. The recorder can be set to react to motion differently for each camera. Each camera can be associated with another camera, trigger an Alarm-Out connector, 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.

You can control excessive event logging and remote notification of motions detected after the motion dwell time by adjusting the motion ignoring dwell intervals. Highlight the box beside “Motion Ignoring Interval” and press the  $\odot$  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  $\odot$  button allows you to set up the Daytime range.

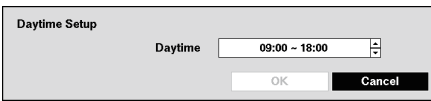


Figure 36: Daytime Setup screen

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

## Alarm-In

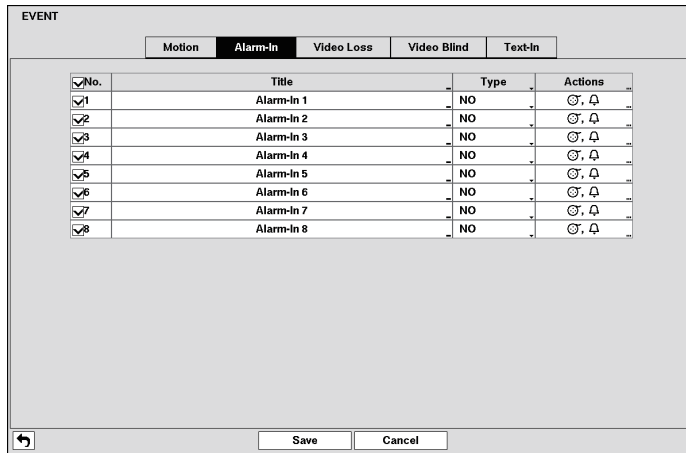


Figure 37: Event – Alarm-In setup screen

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).

Highlight the box under the “Actions” and press the  $\odot$  button. You can set the actions the recorder will take whenever it senses an input on one of its alarm input connectors. Alarm input can be associated with cameras, trigger an Alarm-Out connector, 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.

## Video Loss

EVENT

Motion Alarm-In **Video Loss** Video Blind Text-In

No.	Video Loss Interval	Actions
1	0.1 sec.	🔔
2	0.1 sec.	🔔
3	0.1 sec.	🔔
4	0.1 sec.	🔔
5	0.1 sec.	🔔
6	0.1 sec.	🔔
7	0.1 sec.	🔔
8	0.1 sec.	🔔

Use Ignoring Time    Time Setup...

Save    Cancel

Figure 38: Event – Video Loss setup screen

Highlighting the box under the “Video Loss Interval” heading allows 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 the box under the “Actions” and press the  $\odot$  button. 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-Out connector, 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 “Use Ignoring Time” and press the  $\odot$  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  $\odot$  button allows you to set up event ignoring time.

## Video Blind

EVENT

Motion Alarm-In Video Loss **Video Blind** Text-In

No.	Sensitivity	Activation Time	Actions
✓1	1/1	5 sec.	🔔
✓2	1/1	5 sec.	🔔
✓3	1/1	5 sec.	🔔
✓4	1/1	5 sec.	🔔
✓5	1/1	5 sec.	🔔
✓6	1/1	5 sec.	🔔
✓7	1/1	5 sec.	🔔
✓8	1/1	5 sec.	🔔

Use Ignoring Time    Time Setup...

Save    Cancel


Figure 39: Event – Video Blind setup screen



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

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) and “1” (least sensitive) to “15” (most sensitive).

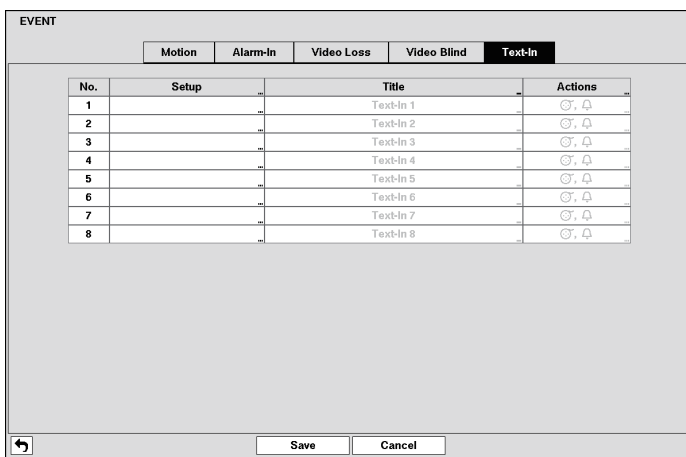
**Note: Video blind might NOT be detected for a camera with a very noisy image especially when set for low sensitivity values.**

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 the box under the “Actions” and press the  button. 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-Out connector, 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 “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.


## Text-In



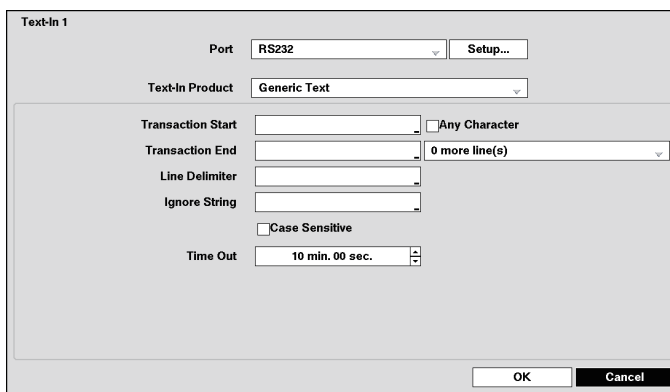
No.	Setup	Title	Actions
1		Text-In 1	
2		Text-In 2	
3		Text-In 3	
4		Text-In 4	
5		Text-In 5	
6		Text-In 6	
7		Text-In 7	
8		Text-In 8	

Figure 40: Event – Text-In setup screen

The recorder can be set to react to text input from devices. This screen allows you to configure the recorder for each text-in device.

Highlight the box under the “Setup” heading, and press the  button. Selecting the “Setup” heading changes all the parameters excluding Port settings of all the text input channels.

**Note: The system performance might be affected when a large quantity of text inputs are detected from several channels at the same time.**



Text-In 1

Port:

Text-In Product:

Transaction Start:   Any Character

Transaction End:


Line Delimiter:

Ignore String:

Case Sensitive

Time Out:


Figure 41: Text-In – Port setup screen

Highlight the box beside “Port”, and press the  button. Select from “None”, “RS232”, “RS485”, “USB-Serial” (1 – 8) and “LAN” (1 – 16).

**Note: If you have set the “Port” as “None”, you will not be able to make any changes to the screen.**


**When using the USB to serial text-in device, do NOT remove the USB cable from the port while the system is running.**


**Text-in data might be lost when the text-in buffer is filled by simultaneous text-in transactions from all 16 LAN channels.**

Highlight “Setup...”, and press the  button. Use serial device settings when configuring the RS232, RS485, USB-Serial or LAN ports.


Highlight the box beside “Text-In Product”, and press the  button. Select your device from the list.


**Note: The following description is for a Generic Text Device. The screen changes for different types of text input devices, and there will be different parameter boxes for you to enter information.**


Highlight the box beside “Transaction Start”, and press the  button. Use the virtual keyboard to enter the Transaction Start string. Refer to the device manufacturer’s documentation for the text string that the device first sends when a transaction starts.


If you want the recorder to react to any character sent from the text input device, you will want to turn On “Any Character”. Highlight “Any Character”, and press the  button to toggle between On and Off.


**Note: If “Any Character” is turned On, you will not be able to enter any text in the “Transaction Start” box.**


Highlight the box beside “Transaction End”, and press the  button. Use the virtual keyboard to enter the Transaction End string. Refer to the device manufacturer’s documentation for the text string that the device sends when a transaction ends.

Highlight the “more line(s)” box, and press the  button. Select the number of additional lines of text that you want the recorder to record. You can choose from 0 to 10.


Highlight the box beside “Line Delimiter”, and press the  button. Use the virtual keyboard to enter the character(s) that the device uses to indicate the end of a line. Special characters can be created using ^ and a capital letter; e.g., ^J for NL (New Line), ^M for CR (Carriage Return). Refer to the device manufacturer’s documentation for Line Delimiter character(s).

Highlight the box beside “Ignore String”, and press the  button. Use the virtual keyboard to enter any strings of text that you want the recorder to ignore. Refer to the device manufacturer’s documentation for text strings that the device sends during transactions, so you will know which ones you do not want recorded.

Highlight the “Case Sensitive” box, and press the  button to toggle between On and Off. Refer to the device manufacturer’s documentation to determine if the text strings are Case Sensitive. If the device distinguishes between upper and lower case letters, make certain the “Case Sensitive” box is turned On.

Highlight the box beside “Time Out”, and press the  button. Set the length of time to wait for the new text string. The recorder will consider a transaction complete if no new text strings are entered between the last text input and the dwell time out. You can adjust the Time Out dwell from 5 seconds to 15 minutes.

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

Highlight the box under the “Actions” and press the  button. The recorder can be set to react to text input. Text input can be associated with cameras, trigger an Alarm-Out connector, 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.



# Camera Setup

## General

No.	Title	Mode
<input checked="" type="checkbox"/> 1	CAM1	Normal
<input checked="" type="checkbox"/> 2	CAM2	Normal
<input checked="" type="checkbox"/> 3	CAM3	Normal
<input checked="" type="checkbox"/> 4	CAM4	Normal
<input checked="" type="checkbox"/> 5	CAM5	Normal
<input checked="" type="checkbox"/> 6	CAM6	Normal
<input checked="" type="checkbox"/> 7	CAM7	Normal
<input checked="" type="checkbox"/> 8	CAM8	Normal

Figure 42: Camera – General setup screen

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.

**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.

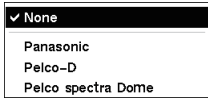
## PTZ

No.	Product	ID
1	None	1
2	None	1
3	None	1
4	None	1
5	None	1
6	None	1
7	None	1
8	None	1

Port: RS485 Setup...

Figure 43: Camera – PTZ setup screen

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

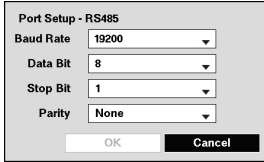


Highlight the box in the “Product” column for the PTZ camera you wish to configure and press the  $\odot$  button. A list of PTZ devices appears. Select your camera from the list and press the  $\odot$  button. You will need to connect the camera to the RS485 connector on the back of the recorder following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

Figure 44: 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...” box and press the  $\odot$  button. The Port Setup window appears.



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

Figure 45: Port Setup screen

## Device Setup

### Audio

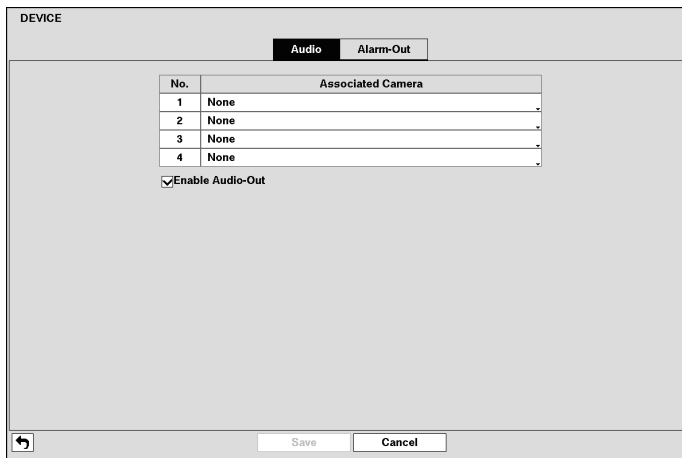


Figure 46: Device – Audio setup screen

The recorder can record up to four audio inputs. Highlight the box beside the input 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.



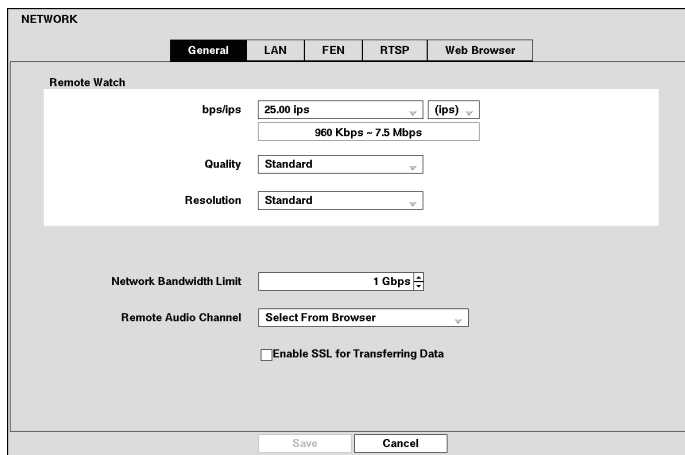







Figure 48: Network – General setup screen

Highlight the first box beside “Remote Watch” – “bps/ips”. You can select the Transfer Speed from 50 Kbps to 1 Gbps.

Highlight the second box beside “Remote Watch” – “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 “Remote Watch” – “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 “Remote Watch” – “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.**

You can limit the network bandwidth settings so that system does not consume too much network bandwidth. Highlight the box beside “Network Bandwidth Limit” and press the Up and Down arrow buttons to set the desired maximum bandwidth from “100 Kbps” to “1 Gbps”.

**Note: When limiting the network bandwidth, the remote watch image on the PC running Web Browser might not be displayed properly.**

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.**

Highlight “Enable SSL for Transferring Data” and press the  button to toggle between On and Off. When it is On, the security of data except video and audio transmitted for remote monitoring or remote recording can be enhanced by using the SSL (Secure Sockets Layer) authentication. When using the SSL function, the recorder cannot be connected with a remote program which does not support the SSL function.

**Important: The remote connection will be disconnected temporarily after changing the SSL settings.**

**Note: While the SSL function is enabled, the network transfer speed you selected may not be achieved.**

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).

Figure 49: Network – LAN setup screen

Highlight the box beside “Type” and press the  $\odot$  button. You can select the type of network configuration from: “Manual” and “DHCP”. Select the desired type and press the  $\odot$  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
- Gateway: 192.168.0.1
- Subnet Mask: 255.255.255.0

**Note: You will need to get the appropriate IP Address, 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  $\odot$  button. The “Port Number Setup” screen appears.

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

Figure 50: Port Number Setup screen

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:

- Remote Status: 8200
- Remote Callback: 8201
- Remote Watch: 8016
- Remote Search: 10019

**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.**

Highlight “Use UPnP” and press the  $\odot$  button to toggle between On and Off. When it is On, port forwarding from the NAT (Network Address Translation) device to the recorder will be enabled automatically via UPnP (Universal Plug and Play) service. This function will be especially useful when accessing a port on a private IP address.

**Note: For the UPnP service to work, the NAT device should support the UPnP Port Forwarding function and the function should be set to enabled.**

**You cannot change the port settings when “Use UPnP” is On.**

Highlight the “Status” box and press the  button to display the port numbers forwarded from the NAT device via UPnP service.

Highlight the “Test” box and press the  button to test the current LAN settings you made.

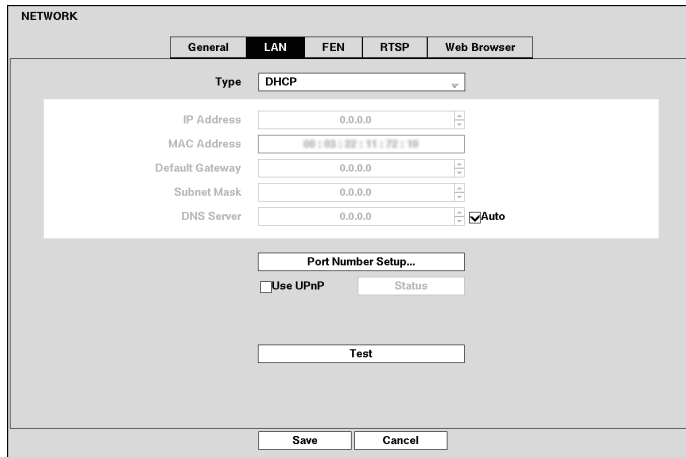



Figure 51: Network – LAN (DHCP) screen

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.

Highlight “Auto” (Default) and press the  button to toggle between On and Off. When it is On, the recorder will obtain the IP address of the DNS server automatically.

**Note: Selecting “Auto” will only be enabled when the recorder is configured for DHCP.**

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

## FEN

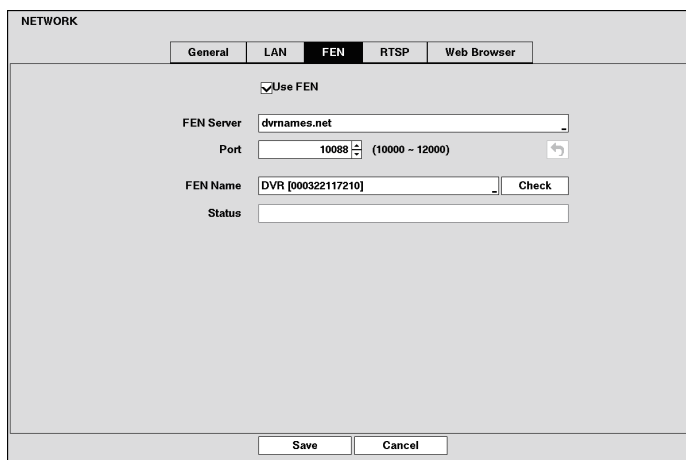


Figure 52: Network – FEN setup screen


Highlight “Use FEN” and press the  button to toggle between On and Off.

**Note: FEN (For Every Network) is the technology that automatically sets up your recorder to work seamlessly for remote viewing via your network internet connection. For FEN to work, naming your recorder will be required.**


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

**Note: You will need to get the IP Address or domain name of the FEN 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. Set the port number of the FEN server using the Up and Down arrow buttons to increase or decrease the numbers.

Highlight the box beside “FEN Name” and press the  button. A virtual keyboard appears allowing you to enter the recorder name to be registered on the DVRNS server.

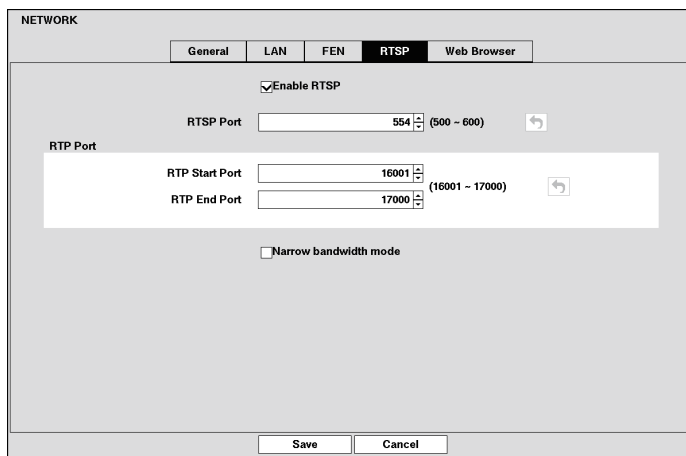
Highlight the “Check” box and press the  button to check whether or not the name you entered can be used.

**Note: The FEN Name you entered should be checked by selecting Check, otherwise the FEN changes will not be saved.**

**When entering no name or a name already registered on the DVRNS server, an error message displays.**

The box beside “Status” displays the current information of the Rendezvous server and NAT (Network Address Translation) device.

## RTSP



The screenshot shows the 'NETWORK' configuration page with the 'RTSP' tab selected. The 'Enable RTSP' checkbox is checked. The 'RTSP Port' is set to 554, with a range of 500 to 600. The 'RTP Port' section is highlighted, showing 'RTP Start Port' at 16001 (range 16001-17000) and 'RTP End Port' at 17000. The 'Narrow bandwidth mode' checkbox is unchecked. 'Save' and 'Cancel' buttons are at the bottom.

Figure 53: Network – RTSP setup screen

Highlight “Enable RTSP” (Real-Time Streaming Protocol) and press the  button to toggle between On and Off. You will be able to change the settings if Enable RTSP is enabled.

Highlight the box beside “RTSP Port” and press the  button. Set the port number of the RTSP server obtained from your system administrator.

Highlight the box beside “RTP Start Port” and press the  button. Set the start port number of the RTP server obtained from your system administrator.

Highlight the box beside “RTP End Port” and press the  button. Set the end port number of the RTP server obtained from your system administrator.

Highlight “Narrow Bandwidth Mode” and press the  button to toggle between On and Off. When set to on, you can access a remote recorder through the narrow bandwidth network.

**Note:** Selecting “Narrow Bandwidth Mode” sets the Web Browser service to be enabled automatically regardless of your Web Browser settings.

When using NAT (Network Address Translation) or firewall services, opening all UDP ports allows you to access a recorder.

You can access a remote recorder and monitor live video images using media players, supporting RTSP service. Start the media player on your local PC and enter “rtsp://ID:Password@IP address:RTSP port number/trackID=‘channel number’”, or start Internet Explorer on your Blackberry or other mobile devices and enter “http://IP address:Web Browser port number/”.

Some media players might play video properly depending on network conditions.

RTSP service might not be supported, depending on the type of media player.

## Web Browser

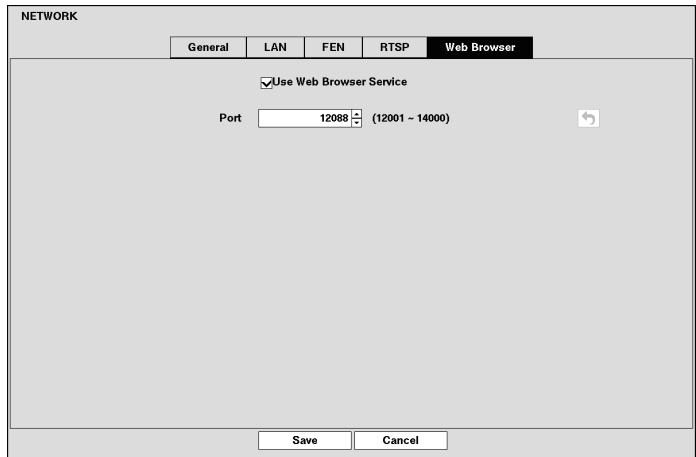



Figure 54: Network – Web Browser setup screen

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

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.



# Notification Setup

## Maintenance

NOTIFICATION

Maintenance Mail Schedule

<input type="checkbox"/> No.	IP Address
<input type="checkbox"/> 1	0.0.0.0
<input type="checkbox"/> 2	0.0.0.0
<input type="checkbox"/> 3	0.0.0.0
<input type="checkbox"/> 4	0.0.0.0
<input type="checkbox"/> 5	0.0.0.0

Retry 5

Save Cancel

Figure 55: Notification – Maintenance setup screen

The recorder can be set up to contact a computer when an event occurs. Highlight the box under the “No.” heading and press the  button to toggle between On and Off. You will only be able to change the IP addresses if “No.” is enabled.

Highlight the “IP Address” box that you want to change and press the  button. Use the arrow buttons to enter the IP address of the computer you want contacted during an event. You can enter up to five IP addresses.

Highlight the box beside “Retry” and enter the number of times you would like the recorder to try contacting the computer. You can select from 1 to 10 retries.

## Mail

NOTIFICATION

Maintenance Mail Schedule


<input type="checkbox"/>	Group & Recipient	Attach Type
<input type="checkbox"/>	default group	None
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		
<input type="checkbox"/>		


+ Group + Mail SMTP Setup


Save Cancel

Figure 56: Notification – Mail setup screen

The recorder can be set up to send an email when an event occurs. The Mail Group and Recipient can be turned On or Off by highlighting the boxes beside the individual mail group and recipient accounts and pressing the  button. Highlighting the box beside “Group & Recipient” and pressing the  button will toggle between all mail accounts being turned On and Off.

The “+” / “-” column is used to collapse and expand recipient 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 Recipient 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 Recipient 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.

The “X” column can be used to delete a Recipient Name or an entire Group. If the “X” is grayed out, that Group or Recipient cannot be deleted. Highlight the “X” and press the  button. You will be asked to confirm that you want to delete the Recipient or Group.

Highlight the “+ Group” and press the  button to add a recipient Group and select the image file format attached to an email.

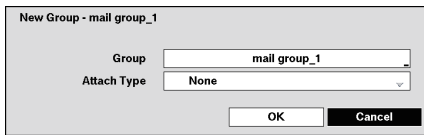





Figure 57: New Group screen

Highlight the box beside “Group” and press the  button. A virtual keyboard appears allowing you to enter the Group name.

Highlight the box beside “Attach Type” and press the  button. You can select between “CCF” and “JPG”. When selecting “CCF”, the recorder will attach an event detected video clip to an email. When selecting “JPG”, the recorder will attach the event detected image file (JPEG format) to an email.

Highlight the “+ Mail” and press the  button to add a mail Recipient.

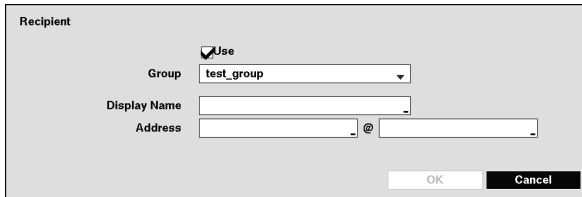




Figure 58: Recipient screen

Highlight “Use” and press the  button to toggle between On and Off. Assign the Recipient to a Group and enter the Recipient’s Display Name.

Highlight the box beside “Address” and enter the recipient’s e-mail address and mail server provider.

Highlight the box under the “Attach Type” heading and press the  button to change the image file format attached to an email.

**Note: Attaching a image file to an email will not be available for the Text-In event.**

Highlight “SMTP Setup...” and press the  button. The SMTP Setup screen appears.

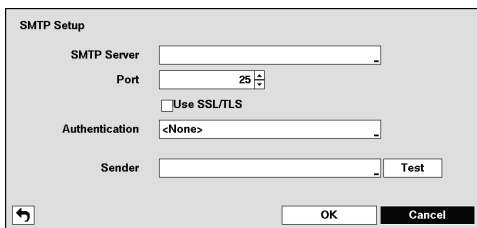





Figure 59: SMTP Setup screen

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 “Use SSL/TLS” and press the  button to toggle between On and Off. When it is On, the recorder can send an email via an SMTP server requiring SSL (Secure Sockets Layer) authentication.

**Note: This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>).**

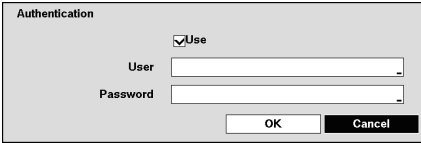


Figure 60: Authentication screen

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

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

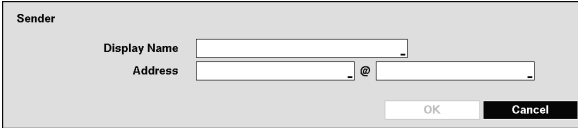


Figure 61: Sender screen

Highlight the box beside “Display Name” and enter the Sender’s Display Name. Highlight the box beside “Address” and enter the sender’s e-mail address and mail server provider.

Highlight the “Test” box and press the  $\text{⌘}$  button to test emailing with the current settings you made.

## Schedule

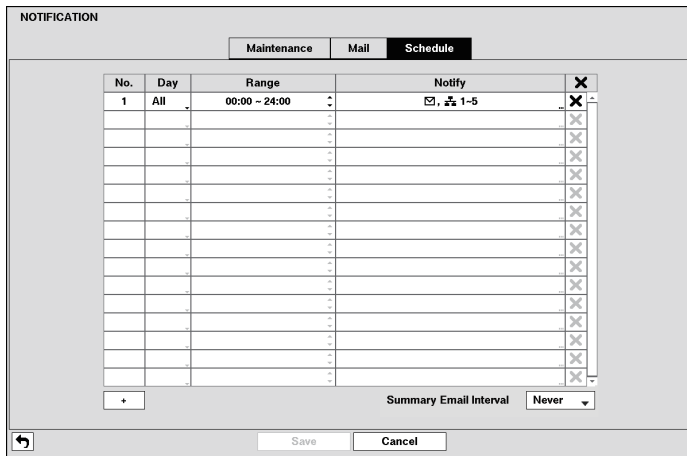


Figure 62: Notification – Schedule setup screen

You can add and edit notification schedules on this screen. Highlight the “+” and press the  $\text{⌘}$  button to add a schedule. Highlighting the boxes under the “Column” heading and pressing the  $\text{⌘}$  button allows you to edit the information in those boxes.

The “Day” box allows you to select the days that the notification 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 notification schedule will be active in 15-minute increments from 00:00 to 24:00.

Highlight the desired box under the “Notify” heading, and press the  $\text{⌘}$  button. The “Schedule Notify” menu appears.

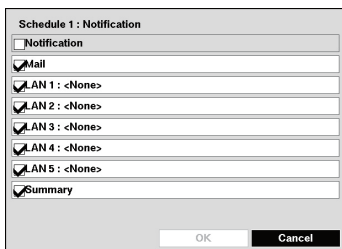


Figure 63: Schedule Notify screen

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

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

**The Notify action for system events you made in the System Event setup screen on the System menu will not be affected by your Notification Schedule settings.**

Highlight the box beside “Summary Email Interval” and select the interval that you want the recorder to send a summary email. The recorder will send an email containing a summary of events detected during the preset interval.

# Display Setup

## OSD

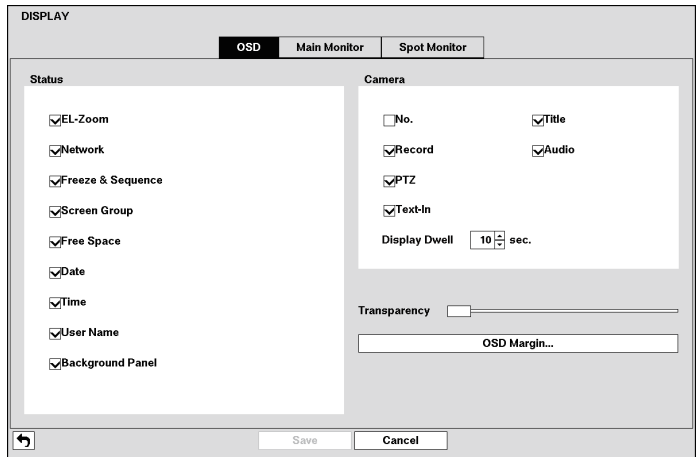
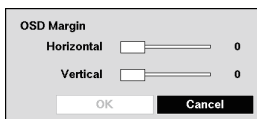


Figure 64: Display – OSD screen

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 mode of the 8-channel recorder.
- **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.
- **Background Panel:** The background panel at the bottom of the screen displays in black.
- **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.
- **PTZ:** The icon displays on each PTZ camera screen.
- **Text-In:** The text input strings display on the screen. You can adjust the Display Dwell time (sec.) for the text input strings displayed on the screen.

You can adjust the transparency of the setup screens by highlighting “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 65: OSD Margin screen

## Main Monitor



Figure 66: Display – Main Monitor setup screen

Highlight the box beside “Mode” and press the  $\odot$  button. You can select between “Full Sequence” and “Partial Sequence”.

Pressing the [SEQUENCE] button causes the recorder to sequence cameras, and the recorder can sequence cameras in two modes: “Full” and “Partial”. In the Full mode, the recorder sequences through the cameras and displays them full screen.

In the Partial mode, the bottom right window in a multi-screen format sequences through the cameras.

**Note: 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 Partial sequence.**

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 mode of the 8-channel recorder.**

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

Highlight “Event Monitoring On” and press the  $\odot$  button. Pressing the  $\odot$  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 box beside “Resolution” and press the  $\odot$  button. You can select from 1280×1024, 1440×900 and 1920×1080 (@ 60 Hz or 50 Hz).

# Spot Monitor



Figure 67: Display – Spot Monitor setup screen

Highlight the box in the “Channels” column and press the  $\odot$  button.

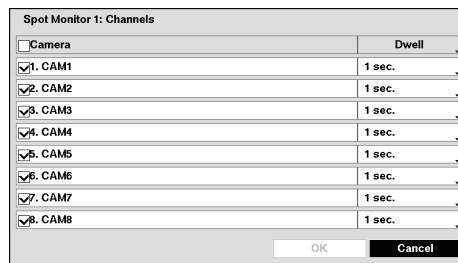


Figure 68: Spot Monitor screen

You can define which cameras display sequentially on the Spot Monitor when in the single-screen display format. Highlighting the box under the “Camera” and pressing the  $\odot$  button toggles between On and Off.

You can adjust the display dwell time by highlighting the box under the “Dwell” and pressing the  $\odot$  button. You can select dwell intervals ranging from 1 to 20 seconds.

# 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. Additional recorder features that are not available with VCRs are remote control and viewing, and recording video at the same time you are watching previously recorded video.

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.

## 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, pressing the [MENU] button displays the following Live Monitoring menu on the right edge of the screen. Pressing the [MENU] button again hides the menu. You can navigate through menus and items by pressing the arrow buttons.





- ① Login/Logout
- ② Monitor
- ③ Multi Screen
- ④ Previous Group
- ⑤ Next Group
- ⑥ Freeze
- ⑦ Alarm
- ⑧ Panic
- ⑨ Sequence
- ⑩ Camera Menu
- ⑪ Search
- ⑫ Setup
- ⑬ Status

Figure 69: Live Monitoring menu


**Note:** The Live Monitoring menu also can be displayed by moving the mouse pointer on the right edge of the screen.

## Live Monitoring Menu









### ① 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.

### ② Monitor

Selecting “” (Monitor) in the Live Monitoring menu will allow you to select the monitor from “Main Monitor” and “Spot Monitor”. Selecting “Spot Monitor” displays a Spot Monitor menu on the right edge of the screen and allows you to control a Spot Monitor. Refer to the following “Spot Monitoring” section for details.

### ③ Multi Screen

- **Full Screen:** Selecting “” (Display) → “” (Full Screen) 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 multiview formats (i.e., 2x2, 1+5, 1+7 or 3x3).  
Clicking the left mouse button on the screen again returns to the previous display mode.
- **PIP, 2x2, 1+5, 1+7, 3x3:** Selecting “” (Display) → “”, “”, “”, “” or “” (PIP, 2x2, 1+5, 1+7 or 3x3) displays the cameras in the selected multiview screen mode (PIP, 2x2, 1+5, 1+7 or 3x3). Selecting each display mode is the same as pressing the [MULTI SCREEN] button or scrolling the mouse wheel up and down when in one of the multiview formats (i.e., 2x2, 1+5, 1+7 or 3x3).

**Note:** In the 1+5 or 1+7 display mode, the main channel indicates the channel displayed on the large screen which is displayed in the top-left. You can select the camera you want to display on the main channel screen. Select a channel on the screen and click the right mouse button to display the Camera Menu.



Selecting “Go To Main” swaps the selected channel with the main channel. This function is supported only in the 1+5 and 1+7 display modes and can be activated from any of channel screens except the main channel screen.



- **Camera OSD, Status OSD:** Selecting “” (Display) → “Camera OSD” or “Status OSD” toggles Camera OSD or Status OSD On and Off.

### ④ Previous Group, ⑤ Next Group

Selecting “” or “” (Previous Group or Next Group) in the Live Monitoring menu moves to the previous or next page. It is the same as pressing the [NEXT GROUP] button.

### ⑥ 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. Pressing any button except for the [MENU], [ALARM] and [PANIC] buttons while in the Freeze mode can also exit the Freeze mode. While in the Freeze mode, the icon  displays in bottom-left corner if “Freeze” is selected in the Display setup screen (“OSD” tab).

### ⑦ Alarm




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.

### ⑧ 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.



## ⑨ Sequence

Selecting “” (Sequence) in the Live Monitoring menu causes the cameras to display sequentially. It is the same as pressing and holding the [SEQUENCE] button for three seconds or longer. When in one of the multi-view formats, selecting “” 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 select “” in the 2x2 format, the recorder changes pages as follows:

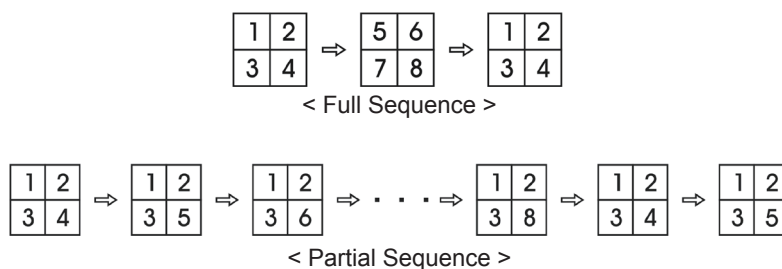









Figure 70: Sequence pattern

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).**

## ⑩ Camera Menu



- **PTZ:** Selecting “” (Camera Menu) → “PTZ” and choosing the camera number allows you to control the selected camera as long as it has Pan, Tilt and EL-Zoom capabilities. It is the same as pressing the [PTZ] button. Refer to the following “PTZ Mode” section for details.
- **EL-Zoom:** Selecting “” (Camera Menu) → “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. Selecting “EL-Zoom” again in the Camera Menu again exits the EL-Zoom mode. Refer to the following “EL-Zoom Mode” section for details.
- **Audio:** Selecting “” (Camera Menu) → “Audio” toggles audio output On and Off.
- **Color Control:** Selecting “” (Camera Menu) → “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.
- **Edit Group:** Selecting “” (Camera Menu) → “Edit Group” enters to the Edit Group mode. It is the same as pressing and holding the [EDIT GROUP] button for three seconds or longer in any multiview formats. Refer to the following “Live Monitoring – Edit Group Mode” section for details.

**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.**

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


## ⑪ Search

- **All Channels:** Selecting “” (Search) → “All Channels” exits the live monitoring mode and enters the search mode. It is the same as pressing the [PLAYBACK] button.
- **Triplex:** Selecting “” (Search) → “Triplex” enters the Triplex mode. Selecting the camera number plays back video of the selected camera.

## 12 Setup


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

## 13 Status

Selecting “” (Status) in the Live Monitoring menu allows you to check the status of the recorder’s system, inputs and storage. Refer to the following “Live Monitoring – Event Status” section for details.

**Note:** Selecting “Status” will only be enabled for a user who has “System Check” authority.



## Edit Group Mode

You can enter the Edit Group mode by selecting “Edit Group” from the Live Monitoring – Camera menu or 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 channel, and pressing the arrow buttons moves the active channel. Pressing the  (Play/Pause) button exits the Edit Group mode. Selecting “Exit Group Edit” 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 format.

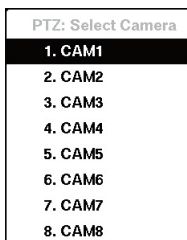
## EL-Zoom Mode

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 EL-Zoom capabilities. Press and hold the [PTZ] button for three seconds or longer to display the PTZ camera menu and enter the PTZ mode, and press the button again to exit the PTZ mode.

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

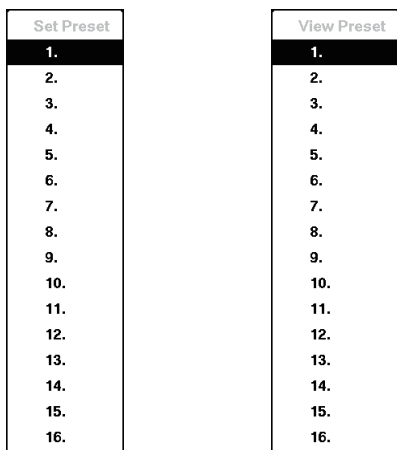


To use the front panel buttons, press the Left and Right arrow buttons to pan left and right. Press the Up and Down arrow buttons to tilt the camera up and down. Press the “ZOOM +” button to zoom in, and press the “ZOOM –” button to zoom out. You can use the “FOCUS NEAR” and “FOCUS FAR” buttons to focus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

You can establish preset positions for PTZ cameras. Press the “PRESET SET” to establish Presets.

You can quickly move PTZ cameras to Preset positions. Press the “PRESET VIEW” to view an established camera Preset position.

Figure 71: PTZ Select Camera menu



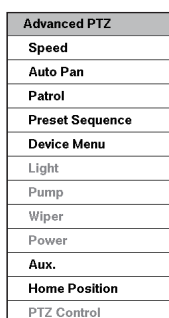
< Set Preset >                      < View Preset >


Figure 72: PTZ Preset 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.



While in the PTZ mode, pressing the [MENU] button and 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.

**Note: The Pan/Tilt speed can be controlled by using the mouse. While in the PTZ mode, clicking the left mouse button on the image and dragging the mouse in the pan/tilt direction you want to move and then select the speed.**

Figure 73: Advanced PTZ menu

You can use a mouse for convenient PTZ control. Click the left mouse button on the image and move that image in the direction you want to by dragging the mouse. Use the mouse wheel to zoom in and out. Position the mouse pointer at the bottom of the screen, and the following PTZ toolbar will display.

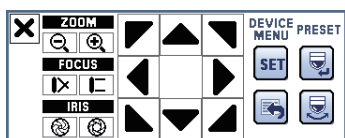








Figure 74: PTZ panel

Clicking “X” 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:

-   Zoom Out/In
-   Focus Near/Far
-   Iris Close/Open
-   Set/View Preset
-   Device Menu Set/Return

## Event Monitoring

When an event occurs, the recorder will display the camera associated with the event and the icon  displays on screen if “Event Monitoring On” is selected in the Display setup screen (“Main Monitor” 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 1+5, 1+7 or 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 [MULTI SCREEN] button or one of the camera buttons.

## Covert Camera

If a camera is set up as “Covert 1” in the Camera setup screen (“General” 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.

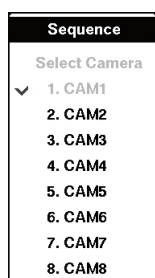
If a camera is set up as “Covert 2” in the Camera setup screen (“General” tab), that camera appears to be Off unless a user with “Covert Camera View” authority logs into the system. The camera title will be grayed out and status icons will not be displayed on the monitor.

**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. Pressing and holding the [SPOT] button 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 75: Sequence menu

Selecting “Spot Monitor” after selecting  (Monitor) in the Live Monitoring menu displays the Spot Monitor menu and allows you to control a Spot Monitor.

### Spot Monitor Menu

- **Multi Screen:** Selecting  (Display) → , ,  or  (2x2, 1+5, 1+7 or 3x3) displays the cameras in the selected multiview screen mode, and selecting  (Display) →  (OSD) toggles OSD On and Off.
- **Previous Group, Next Group:** Selecting  or  (Previous Group or Next Group) moves to the previous or next page.
- **Alarm:** Selecting  (Alarm) resets the recorder’s outputs including the internal buzzer during an alarm.
- **Panic:** Selecting  (Panic) starts panic recording of all cameras, and selecting  again stops panic recording.
- **Sequence:** Selecting  (Sequence) causes the cameras to display sequentially, and selecting  again stops sequencing.
- **Camera Menu:** Selecting  (Camera Menu) → “Spot Monitor” allows you to select the camera you want to display on a Spot monitor, and selecting  (Camera Menu) → “Edit Group” enters to the Edit Group mode.
- **Exit:** Selecting  (Exit) exits the Spot Monitor mode and enters the Main Monitor mode.

## Status Monitoring








Selecting  (Status) in the Live Monitoring menu or Search menu displays the Event Status screen.



Figure 76: Event Status – Event Status screen

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

 (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 System 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 System menu. "Disk Full" will be highlighted when the recorder is not in the Overwrite mode and all available storage space has been used. "Disk Config Change" will be highlighted when the recorder reboots after the hard disk drive has been replaced.

"Fan Error" will be highlighted when the cooling fan to the left 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.

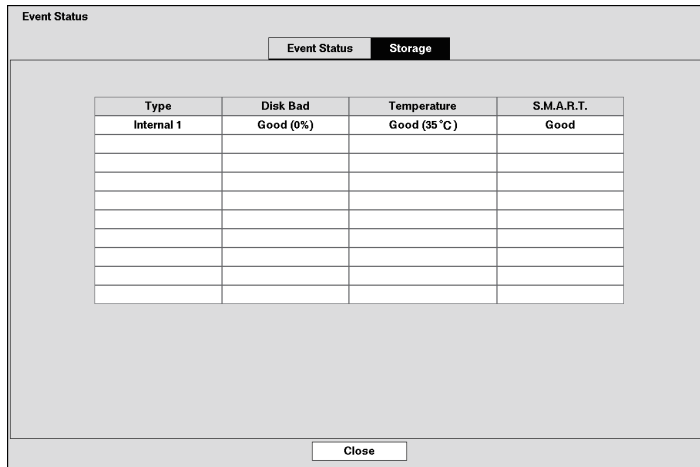


Figure 77: Event Status – Storage screen

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.

- **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, replacing the hard disk drive is recommended, usually within 24 hours.

“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.

## 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 “Chapter 3 — 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.

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 “**P**” (Panic) in the Live Monitoring menu or pressing the [PANIC] button starts panic recording of all cameras, and selecting “**S**” 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 “**P**” 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

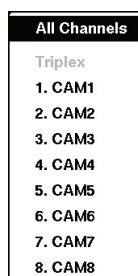
If the recorder was set up to record audio, it will record audio from up to four inputs when video is recording.

**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. 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.

Figure 78: Select Playback Camera menu

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):** 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.

**EDIT GROUP Button:** Pressing and holding the 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.

**Note: 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 Edit Group.**



**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.

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

**DISPLAY/SPOT Button:** Pressing the [DISPLAY/SPOT] button toggles different display formats. The available formats are: 2x2, 1+5, 1+7 or 3x3. Pressing and holding the button for three seconds or longer allows you to select which cameras will display on the Spot monitor.

**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 79: Compact View Record Table

- ⏮ Go to the previous image
- ⏮ Fast backward play
- ⏮ Play/Pause
- ⏮ Fast forward play
- ▶▶ Go to the next image

## Searching Video

While in the search mode, pressing the [MENU] button displays the following Search menu on the right edge 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 Bookmark
- ④ Multi Screen
- ⑤ Previous Group
- ⑥ Next Group
- ⑦ Alarm
- ⑧ Panic
- ⑨ Camera Menu
- ⑩ Export
- ⑪ Status
- ⑫ Data Source
- ⑬ Exit

Figure 80: Search menu

**Note:** The Search menu also can be displayed by moving the mouse pointer on the right edge of the screen.



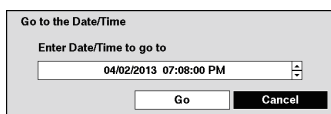
## Search Menu

### ① Search

- **Event Log Search:** Selecting “🔍” (Search) → “Event Log Search” selects video from the event log. See the following “Event Log Search” section for details.
- **Record Table Search:** Selecting “🔍” (Search) → “Record Table Search” selects using a recording table. See the following “Record Table Search” section for details.
- **Motion Search:** Selecting “🔍” (Search) → “Motion Search” selects motion events. See the following “Motion Search” section for details.
- **Text-In Search:** Selecting “🔍” (Search) → “Text-In Search” selects text input strings. See the following “Text-In Search” section for details.

### ② Go To

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



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 81: 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 Bookmark

Selecting “🔍” (Bookmark) in the Search menu adds the current playback point to the bookmark list. See the following “Bookmarks” section for details.

### ④ Multi Screen

- **Full Screen:** Selecting “🖥” (Display) → “🖥” (Full Screen) 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 multiview formats (i.e., 2x2, 1+5, 1+7 or 3x3). Clicking the left mouse button on the screen again returns to the previous display mode.
- **2x2, 1+5, 1+7, 3x3:** Selecting “🖥” (Display) → “🖥”, “🖥”, “🖥” or “🖥” (2x2, 1+5, 1+7 or 3x3) displays the cameras in the selected multiview screen mode (2x2, 1+5, 1+7 or 3x3). Selecting each display mode is the same as pressing the [MULTI SCREEN] button or scrolling the mouse wheel up and down when in one of the multiview formats (i.e., 2x2, 1+5, 1+7 or 3x3).
- **Camera OSD, Status OSD:** Selecting “🖥” (Display) → “Camera OSD” or “Status OSD” toggles Camera OSD or Status OSD On and Off.



### ⑤ Previous Group, ⑥ Next Group

Selecting “🔍” or “🔍” (Previous Group or Next Group) in the Search menu moves to the previous or next page. It is the same as pressing the [NEXT GROUP] button.





### ⑦ Alarm

Selecting “🔍” (Alarm) 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.

## ⑧ 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.

## ⑨ Camera Menu


- **EL-Zoom:** Selecting “” (Camera Menu) → “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. Selecting “EL-Zoom” again exits the EL-Zoom mode.
- **Audio:** Selecting “” (Camera Menu) → “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.
- **Show/Hide Text-In:** Selecting “” (Camera Menu) → “Show Text-In” or “Hide Text-In” shows or hides the text-in data on the screen if the video was recorded with text-in data.
- **Edit Group:** Selecting “” (Camera Menu) → “Edit Group” enters to the Edit Group mode. It is the same as pressing and holding the [EDIT GROUP] button for three seconds or longer in any multiview formats. Refer to the previous “Live Monitoring – Edit Group Mode” section for details.

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


## ⑩ Export

- **A–B Clip-Copy:** Selecting “” (Export) → “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. See the following “Clip-Copy” section for details.
- **Clip-Copy:** Select “” (Export) → “Clip-Copy”, and the “Clip-Copy” screen appears to allow clip copy setup. See the following “Clip-Copy” section for details.


## ⑪ Status

Selecting “” (Status) in the Search menu allows you to check the status of the recorder’s system, inputs and storage. Refer to the previous “Live Monitoring – Event Status” section for details.

## ⑫ Data Source

Selecting “” (Data Source) in the Search menu allows you to select the data source to be searched. Selecting “Record” searches recorded data on primary storage installed in the recorder, and selecting “Other” searches recorded data on storage used for another recorder then installed in this recorder.

## ⑬ Exit

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

## Event Log Search

Time	Type	Title
04/02/2013 08:45:21 PM	Motion 8	CAM8
04/02/2013 08:45:21 PM	Motion 7	CAM7
04/02/2013 08:45:21 PM	Motion 6	CAM6
04/02/2013 08:45:21 PM	Motion 5	CAM5
04/02/2013 08:45:21 PM	Motion 4	CAM4
04/02/2013 08:45:21 PM	Motion 3	CAM3
04/02/2013 08:45:21 PM	Motion 2	CAM2
04/02/2013 08:45:21 PM	Motion 1	CAM1
04/02/2013 08:38:58 PM	Motion 8	CAM8
04/02/2013 08:38:58 PM	Motion 7	CAM7
04/02/2013 08:38:58 PM	Motion 6	CAM6
04/02/2013 08:38:58 PM	Motion 5	CAM5
04/02/2013 08:38:58 PM	Motion 4	CAM4
04/02/2013 08:38:58 PM	Motion 3	CAM3
04/02/2013 08:38:58 PM	Motion 2	CAM2



Option... [Up Arrow] [Down Arrow]

Close

Figure 82: Event Log Search screen

The recorder maintains a log of each time the Alarm Input port 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.

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 [MULTI SCREEN] button and change the screen mode to 3x3. 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 04/02/2013 07:09:25 PM [Star]
To	<input checked="" type="checkbox"/> Last 04/02/2013 07:09:25 PM [Star]
<input type="checkbox"/> Check Time Overlap	
Alarm-In	1-8 .. <input type="checkbox"/> System Event
Motion	1-8 .. <input checked="" type="checkbox"/> Panic Record
Video Loss	1-8 .. <input checked="" type="checkbox"/> Check Recording
Video Blind	1-8 .. <input checked="" type="checkbox"/> Check Alarm-In
Text-In	1-8 .. <input checked="" type="checkbox"/> Disk Almost Full
Record Channels	1-8 .. <input checked="" type="checkbox"/> Disk Bad
	<input checked="" type="checkbox"/> Disk Temperature
	<input checked="" type="checkbox"/> Disk S.M.A.R.T.
	<input checked="" type="checkbox"/> Disk Config Change
	<input checked="" type="checkbox"/> Fan Error
Search Cancel	

Figure 83: Event Log 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. When highlighting “[Star]” and pressing the  button the bookmark list displays and the bookmark point you selected will be the starting date and time.

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. When highlighting “[Star]” and pressing the  button the bookmark list displays and the bookmark point you selected will be the ending date and time.

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.

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 “Text-In” and press the  button. You can select the text-in devices which you want any reports of text input.

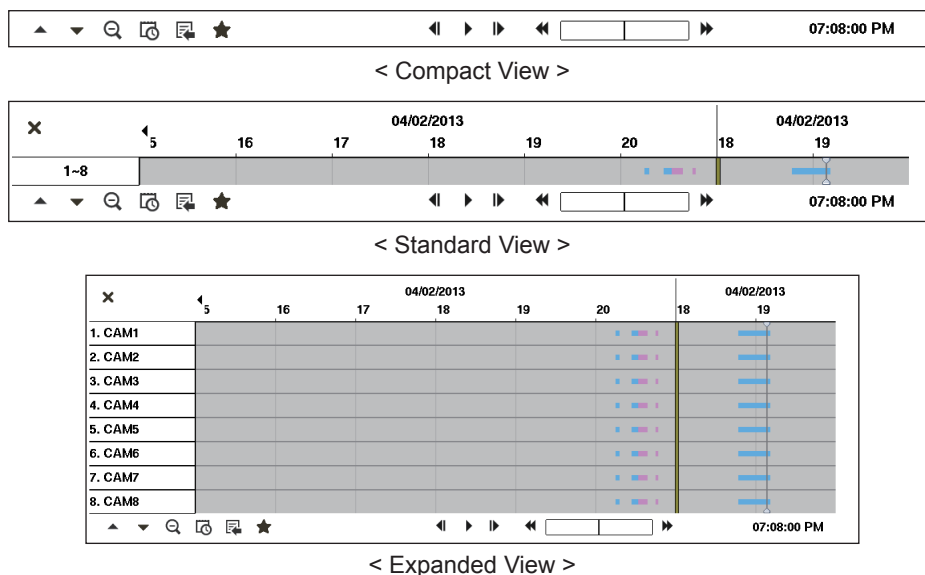
Highlight the box beside “Record Channels” and press the  button. You can select the cameras that you want to search for any reports of event recorded data. The recorder will display the events (not the camera channels) that occurred and that also are recorded on the camera channel that you selected.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

- Panic Record
- Check Recording
- Check Alarm-In
- Disk Almost Full
- Disk Bad
- Disk Temperature
- Disk S.M.A.R.T.
- Fan Error
- Disk Config Change

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

## Record Table Search



The screenshot displays the Record Table Search interface in three stages:

- Compact View:** Shows a search bar at the top with navigation icons and a time selection of 07:08:00 PM. Below it is a timeline for 04/02/2013 with days 1-8, 16, 17, 18, 19, 20, 18, and 19. A search bar is present below the timeline.
- Standard View:** Shows the same timeline but with a search bar below it.
- Expanded View:** Shows a table with 8 rows labeled 1. CAM1 through 8. CAM8. The table has columns for the days of the month. A search bar is at the bottom.

Figure 84: Record Table Search screen

Recording information about video images currently displayed on the screen displays on the recording status bar. A grey 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.

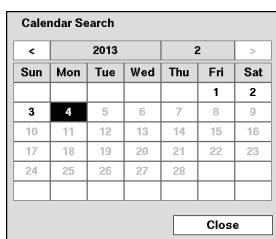
**Note: The recorded data in the time range located after the yellow vertical line is the latest.**

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 the ▲ icon 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 the ▼ icon in the Standard view mode switches to the Compact view mode which displays only the toolbar. Selecting the ▲ icon in the Compact view mode switches to the Standard view mode, and selecting the ▼ icon 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 (12 hours with 1920x1080 resolution) (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.**

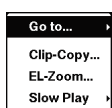
Selecting "📅" located at the bottom displays the "Calendar Search" screen.



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. The first recorded image of the selected date will pause on the screen. Once you have selected the date you want to search, review the surrounding video by using the playback controls located at the bottom of the Record Table Search screen.

Figure 85: Calendar Search screen

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).
- **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).

Figure 86: Search menu

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

- ◀ Go to the previous image      ▶ Play/Pause      ▶ Go to the next image
- ◀◀ Fast backward play      ▶▶ Fast forward play

Selecting "★" located at the bottom displays the Bookmarks screen. See the following "Bookmarks" section for details.

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

# Motion Search

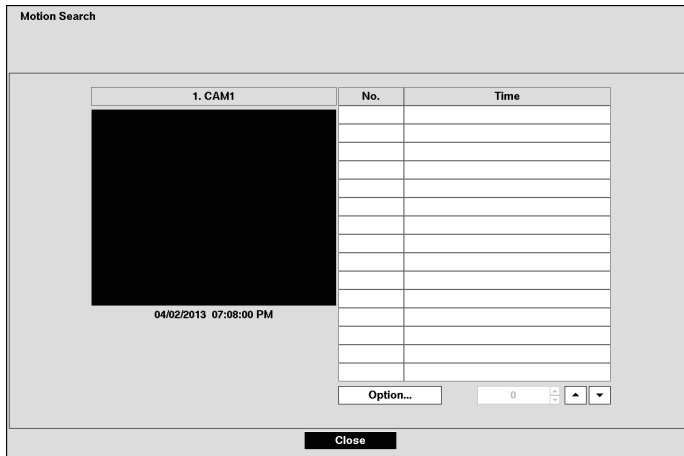


Figure 87: Motion Search screen

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..." button and setting up the new search condition.

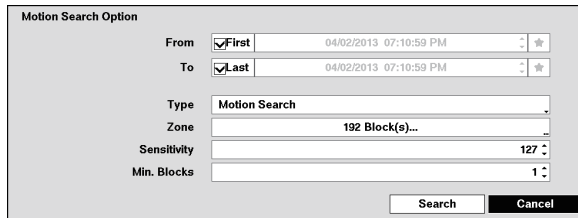










Figure 88: Motion Search Option screen

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. When highlighting  and pressing the  button the bookmark list displays and the bookmark point you selected will be the starting date and time.

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. When highlighting  and pressing the  button the bookmark list displays and the bookmark point you selected will be the ending date and time.

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”. Please refer to “Motion Screen” 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” 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.

## Text-In Search

Time		Transaction			
		Item	Unit price	Qty	amount
31/01/2013 11:48:38 PM					
31/01/2013 11:48:33 PM		Item	Unit price	Qty	amount
31/01/2013 11:48:28 PM		Item	Unit price	Qty	amount
31/01/2013 11:48:17 PM		Item	Unit price	Qty	amount
31/01/2013 11:48:12 PM		Item	Unit price	Qty	amount
31/01/2013 11:48:07 PM		Item	Unit price	Qty	amount
31/01/2013 11:48:02 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:57 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:52 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:47 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:42 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:37 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:26 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:21 PM		Item	Unit price	Qty	amount
31/01/2013 11:47:11 PM		Item	Unit price	Qty	amount

Option... 

Close

Figure 89: Text-In Search screen

The recorder maintains a log of each time there is Text Input. The “Text-In Search” screen displays this list. Use the arrow buttons to highlight the event for which you would like to see video.

Pressing the ⏮ (Play/Pause) button will extract the video associated with the Text Input 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 [MULTI SCREEN] button and change the screen mode to 3x3. You will be able to easily see the camera have recorded video during target time.**

**Text Input information will be overlaid on the image while the recorded video is played at regular speed.**

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

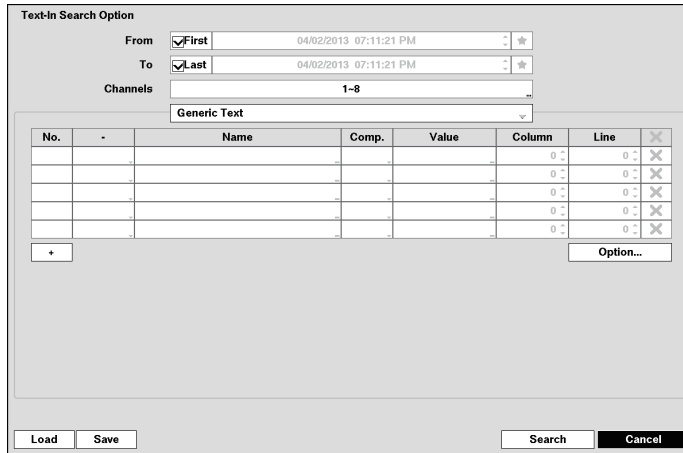


Figure 90: Text-In Search Option screen

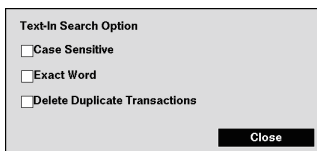
You can search video from the first to last recorded images, or you can set the start and stop times and dates.

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. When highlighting “★” and pressing the ⏮ button the bookmark list displays and the bookmark point you selected will be the starting date and time.

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. When highlighting “★” and pressing the ⏮ button the bookmark list displays and the bookmark point you selected will be the ending date and time.

Highlight the “Channel” and press the ⏮ button. Select the text-in devices that you want to search for text input.

Highlighting the “+” and pressing the ⏮ button allows you to add a new set of search parameter. Set up the desired search parameter. The “X” column can be used to delete a set of search parameter or entire sets of search parameters.



Highlighting the “Option...” box and pressing the ⏮ button allows you to select whether or not the search will find only text strings in which the case matches, find only exact words that match with the word you entered during text-in setup, or delete transactions duplicated within text input strings.

Figure 91: Search Option screen

Highlight “Load” and press the ⏮ button to load saved search option settings. Select the desired search option settings.

Highlight “Save” and press the ⏮ button to save the current search option settings. A virtual keyboard appears that you can use to enter the search option name.

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



## Bookmarks

The “Bookmarks” screen can also be accessed by selecting “Bookmark” in the Search – Go To menu when in playback mode.

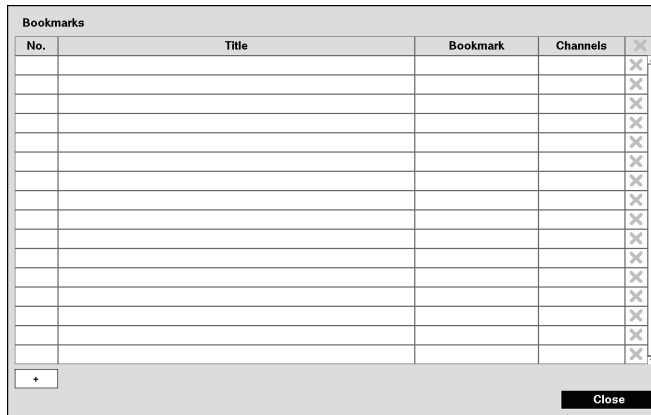


Figure 92: Bookmarks screen

Highlight “+” and press the ⏸ (Play/Pause) button to add the current playback point to the bookmark list. Highlight the “Title” box and enter the name of the registered bookmark. Use the virtual keyboard to enter the bookmark name.

**Note: Up to 64 bookmarks can be registered.**

Use the arrow buttons to highlight the bookmark point for which you would like to see video. The selected bookmark will display on the screen by pressing the ⏸ button.

## Clip-Copy

Video clips can be copied on flash drive. The copied video clips can be viewed on computers running Microsoft Windows XP, Windows Vista or Windows 7.

Selecting “A–B Clip-Copy” in the Search – Export menu or pressing the [CLIP COPY] button during 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 [CLIP 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 [CLIP 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 [CLIP COPY] button while in the Search mode or Live Monitoring mode, and the “Clip-Copy” screen appears to allow clip copy setup.

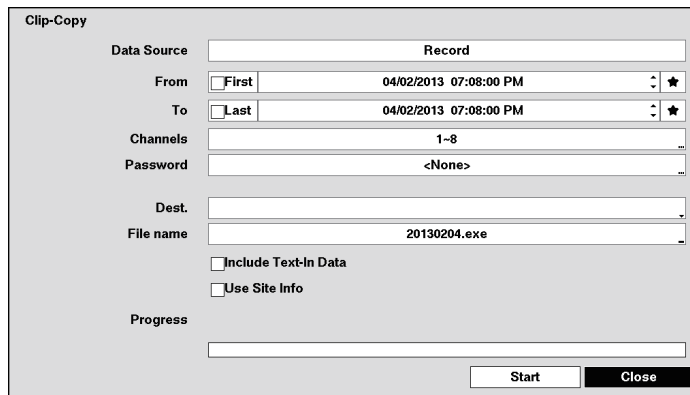


Figure 93: Clip-Copy screen

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 (Play/Pause) 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. When highlighting “” and pressing the button the bookmark list displays and the bookmark point you selected will be the starting date and time.

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. When highlighting “” and pressing the button the bookmark list displays and the bookmark point you selected will be the ending date and time.

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 device for clip copy must be FAT16 or FAT32 format.**

**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: \, /, :, \*, ?, “, <, >, |, !, \$, %, ;, ‘, (space).**

Highlight “Include Text-In Data” and press the button. This will toggle between On and Off. When this feature is On, you can include text-in data when copying video if the video was recorded with text-in data.


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 information to the file name for the video you are backing up.

**Note: When the site information is added to the file name, some special characters (\, /, :, \*, ?, “, <, >, |, !, \$, %, ;, ‘, (space)) in the site information 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.

**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 cable or the power from the external drive while copying video clips. If the external drive is shut down or the USB cable 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 hard disk 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 hard disk 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 / To display the submenu:** Play/Pause Button (⏮ button)
- **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.

## Web Browser

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

Computer system requirements for using the Web Browser are:

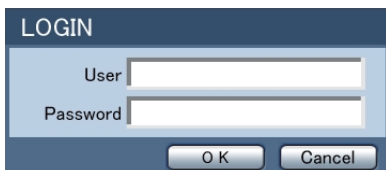
- OS: Microsoft® Windows® XP x86 (32-bit) (Service Pack 3), Microsoft® Windows® Vista x86 (32-bit) (Service Pack 1), Microsoft® Windows® 7 x86 (32-bit)
- CPU: Intel Pentium III (Celeron) 600 MHz or faster
- Memory: 128 MB or higher
- Monitor: 1024 × 768 pixels or more, 24-bit True color or better
- Web browser: Windows® Internet Explorer® 7.0 or later

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 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.

**Web Browser only works with Microsoft Internet Explorer and will NOT work with other browsers.**



Entering “User” and “Password” and clicking the [OK] button logs in using the selected mode.

**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

**Note:** Do NOT close the LOGIN window during the Web Browser operation, otherwise, it will cause a script error when switching between Web monitoring and Web search modes, and you will need to restart the Web Browser program.

When running the updated Web Browser 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 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 7.0. 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 or higher 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 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 or higher 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.

## Web Monitoring Mode

Web Monitoring Mode is a remote web monitoring program that 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 “**Q Search**” to access to the Search mode.

- ③ Click “” to log out the Web Browser program.
- ④ Click “” 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 “” to save the current image as a bitmap or JPEG file format.
- ⑥ Click “” 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.

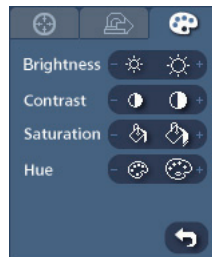
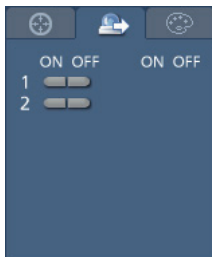
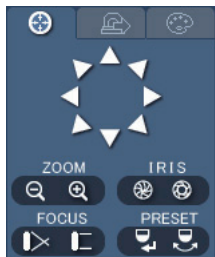
 Normal  Error (Gray)

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

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

Clicking “” 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	
Enable Audio	
Aspect Ratio	▶
Anti-Aliasing Screen	

**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.

**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.**














## Web Search Mode

Web Search Mode is a remote web search program that 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.**

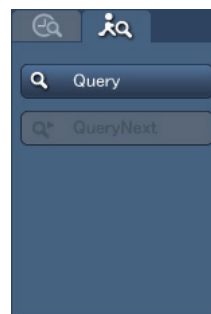


- ① Position the mouse pointer on the title logo to see the version of the Web Browser program.
- ② Click “Watch” to access to the Watch mode.
- ③ Click “Login Info” to log out the Web Browser program.
- ④ Click “Drawing Mode” to display the following menu – “Login Info”, “Drawing Mode” and “OSD Setup”. 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 “” to save any video clip of recorded data as an executable file, or click the “” to save the current image in a bitmap or JPEG file format. Click the “” to print the current image on a printer connected to your computer.
- ⑥ Click “” to reload the recording data.
- ⑦ Click “” 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 “ ” to zoom out or zoom in the recorded image. Click “ ” to adjust the brightness of the recorded images. Click “   ” to blur, sharpen, equalize and interpolate playback images.

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

- ⑪ Click “” 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.
- ⑫ Click “” 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.

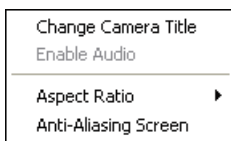


**Note: It might take long time for searching the event logs according to the selecting conditions.**

- ⑬ The 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.**

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

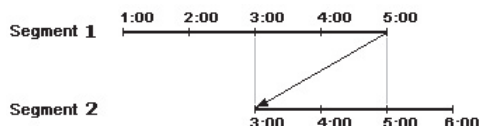
**Anti-Aliasing Screen:** Enhances image display quality by eliminating stair stepping (aliasing) effects in the enlarged image.

**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.**

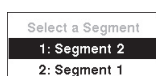


## Time Overlap

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.

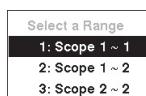


You can search overlapping video streams by selecting a specific time or time range. If you want to search recorded video at four o'clock during the overlapping time range using a search menu such as “Go to the Date/Time”, select the segment you want to search.



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”, “Text-In 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



## Error Code Notices

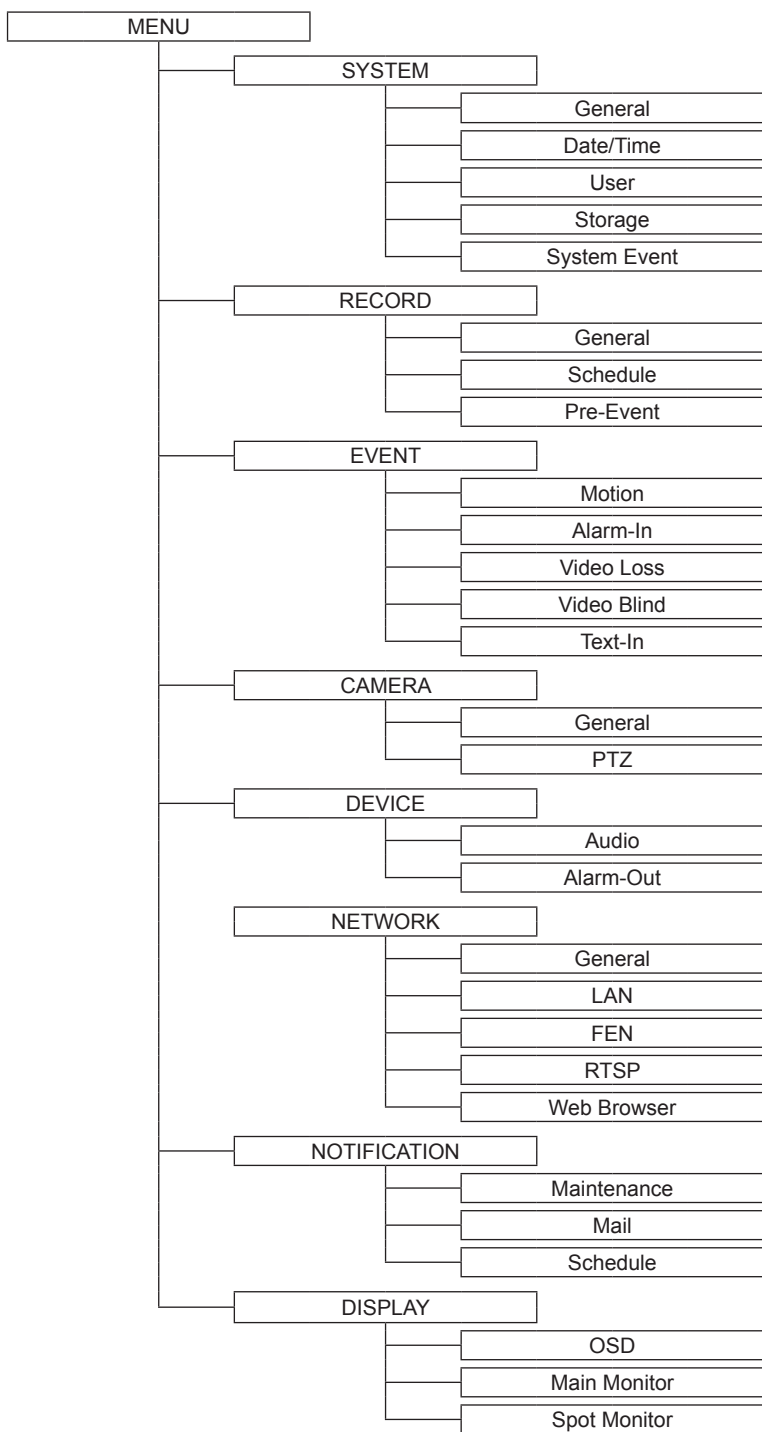
System Upgrade Related		Clip Copy Related	
No.	Description	No.	Description
0	Unknown error.	0	Unknown error.
1	File version error.	1	Device error.
2	Operating system version error.	2	Mounting failed.
3	Software version error.	3	No media.
4	Kernel version error.	4	Invalid media.
100	Upgrade device mounting 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.
106	ODD firmware upgrade failed.	11	Appending failed.

System Upgrade Related		Clip Copy Related	
No.	Description	No.	Description
300	Remote connection failed.	12	Bad sector.
301	Remote network error.	13	No executable file.
302	Remote upgrade is not authorized.	14	Opening executable file failed.
303	Saving remote package failed.	15	Writing executable file failed.
304	Remote upgrade is cancelled by the user.	16	Creating image failed.
400	USB device mounting failed.	17	Burning failed.
401	Reading upgrade package on the USB device failed.	18	Burning is out of time.
402	Copying upgrade package on the USB device failed.	19	Connecting device failed.
403	USB device is not connected.	20	Device is busy.
404	USB device is being used.	21	Unsupported file system.
405	Unsupported file system.	22	Verify failed.
500	System is busy clip copying.		

## System Log Notices

Boot Up	Clear All Data
Shutdown	Clear Disk
Restart	Format Disk
Upgrade	Disk Full
Upgrade Fail	Disk Config Change
Power Failure	Disk 'No.' : 'serial number'
Time Change	Disk 'No.' : Removed
Time Zone Change	Auto Deletion
Time Sync	Search Begin
Time Sync Fail	Search End
Disk Bad	Clip-Copy Begin
Login	Clip-Copy End
Logout	Clip-Copy Cancel
Setup Begin	Clip-Copy Fail
Setup End	Clip-Copy User:
Remote Setup Change	Clip-Copy From:
Remote Setup Fail	Clip-Copy To:
Setup Imported	Clip-Copy Duration of Video:
Setup Import Failure	Clip-Copy Camera:
Setup Exported	Callback Fail
Setup Export Failure	Print Begin
Setup Export Cancel	Print End
Schedule On	Print Cancel
Schedule Off	Factory Reset
Panic On	
Panic Off	






# Map of Screens




# 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>	18
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, 18
Live video is very bright.	Check if the cameras are connected to the Video Input Connectors correctly.	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.	—
Black bars are displayed on both edges of the screen.	Black bar(s) appear(s) when signals not compliant with the standard in your locality are transmitted.	—
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>	32, 33
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>	29, 32, 52
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.	34, 35
The recorder cannot playback images.	Check if images have been recorded on the hard disk drive.	67
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>	17
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>	16, 37
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.	18, 44
Cannot video clip copy to the USB flash drive.	Check if it is possible to write in the USB flash drive by using PC.	—

<b>Problem</b>	<b>Possible Solution</b>	<b>Ref. Page</b>
The USB flash drive is not recognized.	Check if the port is not dusty. Clean the port properly when gathering dust in the port.	20
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>	18, 45
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...”	Click the information bar and select “Always Allow Pop-ups from This Site”. The dialog window saying “Allow pop-ups from this site?” will be displayed. Click the [Yes] button.	—

Inspect the power cord, power plug and connectors periodically.

<b>Problem</b>	<b>Possible Solution</b>	<b>Ref. Page</b>
The power cord insulation is damaged.	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.	18
The power cord, plug and connectors get hot during use.		
The power cord gets hot when bent or stretched.		

# Specifications

VIDEO	
Signal Format	PAL
Video Input	Composite: 8 looping inputs, 1 V [p-p], auto-terminating, 75 Ω
Monitor Outputs	VGA: 1 SPOT: 1 BNC, 1 V [p-p], 75 Ω
Video Resolution	VGA: 1920×1080 (50 Hz), 1440×900 (60 Hz), 1280×1024 (60 Hz) Composite (SPOT): 720×576 (PAL)
Record Speed (images per second)	Real-time: 200 ips (PAL) @ D1
Playback Speed (images per second)	Full Duplex: 200 ips (PAL) @ CIF/Half D1/D1

INPUTS/OUTPUTS	
Alarm Input	8 terminal, programmable as NC or NO, 2.4 V (NC) or 0.3 V (NO) threshold, 5 V DC
Alarm Output	2 relay output, programmable as NC or NO, 2 A@125 V AC, 1 A@30 V DC
Alarm Reset Input	1 TTL, terminal block
Internal Buzzer	80 dB at 10 cm
Network Connectivity	10/100/1000 Mbps, 1 Gbps Ethernet (RJ-45)
Audio Input	RCA Input: 4, Line In
Audio Output	RCA Output: 1, Line Out

CONNECTORS	
Video Input	Composite: 8 BNC
Video Output	Composite: 8 BNC (Auto Terminating)
Monitor Output	VGA: 1 VGA SPOT (Composite): 1 BNC
Audio In	4 RCA connector
Audio Out	1 RCA connector
Alarm Input/Output	Terminal Blocks
Ethernet Port	RJ-45
Maintenance (eSATA) Port	eSATA Port
RS232 Serial Port	Two-connector terminal block
RS485 Serial Port	Two-connector terminal block
USB Port	2 (USB 2.0)

<b>HDD (Contact your dealer about purchasing hard disk drives.)</b>	
Hard disk drive	3.5 type SATA hard disk drive (up to 3)
Capacity	2 TB

<b>GENERAL</b>	
Dimensions (W × H × D) (excluding rubber feet and projection)	430 mm × 88 mm × 403 mm
Unit Weight	Approx. 4.9 kg
Operating Temperature	5 °C to 40 °C
Operating Humidity	0 % to 90 % (non condensing)
Power Voltage	100 V AC to 240 V AC, 50 Hz/60 Hz
Power Current	1.2 A to 0.6 A

Specifications are subject to change without notice.







## 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>

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## Panasonic Siew Sales (Thailand) Co., Ltd.

75 Seri Thai Road, Kannayao, Kannayao District, Bangkok 10230, Thailand

Importer's name and address to follow EU rules:

Panasonic Testing Centre

Panasonic Marketing Europe GmbH

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