

SAMSUNG TECHWIN

4 CHANNEL HD-SDI DVR

User Manual

SRD-480D




4 Channel HD-SDI DVR

User Manual

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- ❖ Design and specifications are subject to change without prior notice.
- ❖ The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit.

Follow all the safety instructions listed below.

Keep these operating instructions handy for future reference.

- 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.



BEFORE START

This user manual provides Information for using the DVR such as brief introduction, part names, functions, connection to other equipment, menu setup, etc.

You have to keep in mind the following notices :

- SAMSUNG retains the copyright on this manual.
- This manual cannot be copied without SAMSUNG's prior written approval.
- We are not liable for any or all losses to the product incurred by your use of non-standard product or violation of instructions mentioned in this manual.
- Prior to opening the case, please consult a qualified technician first. Whenever this is needed power must be removed from the unit.
- Before installing an additional HDD or connecting an external storage device (USB memory or eSATA HDD) to this DVR, check the compatibility. Consult your provider for the compatibility list.

Warning

❖ Battery

It is essential that when changing the battery in the unit, the replacement battery must be of the same type otherwise there may be a possibility of an explosion.

The following are the specifications of the battery you are using now.

- Normal voltage : 3V
- Normal capacity : 170mAh
- Continuous standard load : 0.2mA
- Operating temperature : -20°C ~ +85°C
(-4°F ~ +185°F)

CALIFORNIA USA ONLY

This Perchlorate warning applies only to primary CR (Manganese Dioxide) Lithium coin cells in the product sold or distributed ONLY in California USA.

"Perchlorate Material - special handling may apply,
See www.dtsc.ca.gov/hazardouswaste/perchlorate."

Caution

- Connect the power cord into a grounded outlet.
- The Mains plug is used as a disconnect device and shall stay readily operable at any time.
- Batteries shall not be exposed to excessive heat such as sunshine, fire or the like.
- Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions.

❖ System Shutdown

Turning off the power while the product is in operation, or undertaking improper actions may cause damage or malfunction to the hard drive or the product.

For safety purpose, press the Power button on the front panel of the DVR to shut down the system. Then, unplug the power cable.

You may want to install a UPS system for safe operation in order to prevent damage caused by an unexpected power stoppage. (Any questions concerning UPS, consult your UPS retailer.)

❖ Operating Temperature

The guaranteed operating temperature range of this product is 0°C ~ 40°C (32°F ~ 104°F).

This product may not work properly if you run right after a long period of storage at a temperature below the guaranteed one.

Prior to using a device that has been stored for a long period in low temperatures, allow the product to stand at room temperature for a period.

Especially for the built-in HDD in the product, its guaranteed temperature range is 5°C ~ 55°C (41°F ~ 131°F).

Likewise, the hard drive may not work at a temperature below the guaranteed one.

❖ Ethernet Port

This equipment is in door use and all the communication wirings are limited to inside of the building.

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KEY FEATURES

This DVR is a digital recorder that enables you to save a 4CH high-definition (HD) digital video to the internal HDD and play it for an intended purpose.

You can use the mouse or front buttons to configure your settings and make a desired instruction.

This model is a standalone digital video recorder with high performance and proven stability that is used for security purposes in banks, apartments and public offices. Using the HDD, it can save a high-quality video in a digital file format, which facilitates the material search. Furthermore, it is a digital improvement featuring high-quality video playback, mass storage and user-friendly interface that supports any of the thought-to-be-required operations of record/play/copy, motion detection, PTZ (Pan, Tilt, Zoom) operations, password lock, real-time voice recording, a max of 10,000 event lists and log files, and more.

Monitoring Screen

It can implement a high-quality video from each channel and provide multi-angle monitoring scenes.

- High-quality HD-SDI live video
- Multi-angle Monitoring Screen Modes
Single, 4-split
- Auto Sequence
- Various monitor output signals supported (output resolution: 1920x1080)
HDMI x1, VGA x1
- Pan/Tilt, Digital Zoom

Voice Recording

Real-time voice input and recording

- Simultaneous recording of 4CH sound signals in real time
Input: 4 (rear RCA x4), Output: x1 (rear)
- Recording enabled during playback

Record

It can save a high-quality HD-SDI video in a max of 120 frames per second, and make recording of the event scene for a max of 15 seconds before the event occurred. Featuring the Covert function, it can protect your privacy.

- High-quality HD-SDI video recording
- For 1080p, control the storage space by means of 7-level quality settings
For 720p, control the storage space by means of 5-level quality settings
- Multiple recording of both manual events and scheduled events
- Simultaneous operation of all 4 of record/play/copy/network
- Adjust the recording resolution for each channel and specify the motion detection area
- Record up to 30 frames for 720p
Record up to 15 frames for 1080p
- Video loss detection
- Log of event lists (sensor, video loss, motion detection, text)
- Pre-even record of up to 15 seconds for each channel

overview

Search/Play

It provides various functions to facilitate your search and playback.

- Playback by the time, date or channel
- User-friendly search interface using the mouse
- Forward/backward navigation of frozen video
- Play by the event list (sensor, video loss, motion detection, text)
- Easy search using through the remote control
- Full frame playback

Storage Media

The product is equipped with an internal HDD. You can also save your data to DVD-R, CD-R or USB memory to your preference.

- Provided by default: Internal HDD
- Various copy media: DVD-R, CD-R, USB memory
- HDD extension (external storage device): SVS-5R (sold separately as a dedicated device)

Network

The product supports various network environments including LAN and xDSL where you can use the PC viewer to operate and manage the product in a remote site.

- E-mail transfer using TCP/IP and DHCP when an event occurs.
- Play the live video from a remote site (full screen or 4-split mode selectable)
- Play, save or search on the PC and control the DVR via the network viewer
- Record by the time, search and play from a remote site
- 10/100Mbps Ethernet/xDSL supported
- Connect to multiple DVRs

Others

- User-friendly GUI configuration in association with the mouse
- Easy Software upgrade using USB memory
- Copy of recording video using the USB port
- PTZ control (Speed Dome) & Preset
- Multilingual support (22 languages)
- Control of a max of 16 DVRs using a single remote control

Standards Approvals



- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

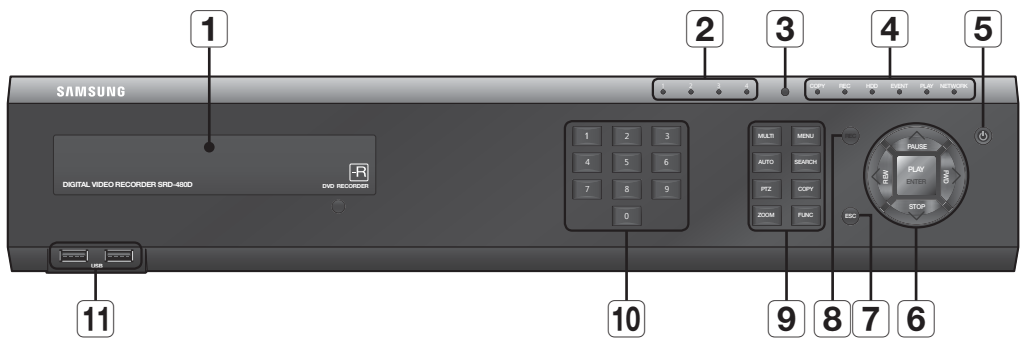
Package Contents

Please unwrap the product, and place the product on a flat place or in the place to be installed.
Check if the main unit and all the following accessories are included in the product package.

DVR	Remte Control	Power Cable	Network Viewer S/W, User Manual CD
User Manual	Quick Guide	SATA Cable <used inside the main unit>	Remote Control Battery (AAAx2)
HDD screws	Bracket screws	Rack-mount Bracket	Mouse

overview

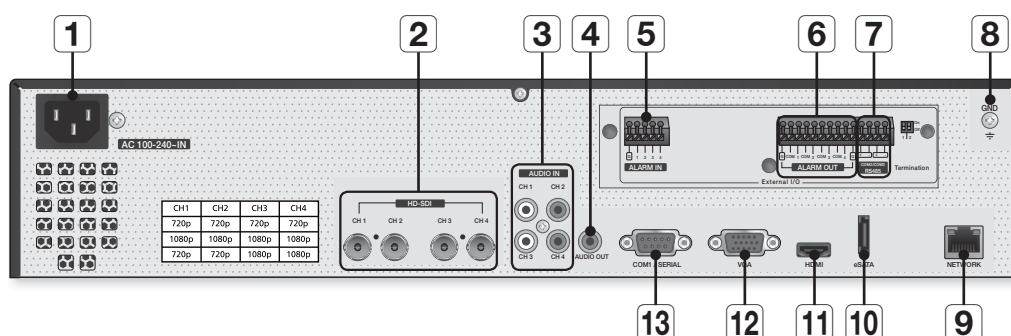
PART NAMES AND FUNCTIONS (FRONT)



Part Names		Functions
1	Copy DVD-Multi Drive	Used to copy recording data in DVD/CD media.
2	Channel Indicator	Show the video input status and event operation status.
3	Remote Reception System	Receive the signal from the remote control.
4	Status Indicator	Show the DVR operation and network connection status.
5	Power	Turn on or off the system power.
6	</REW	Used to navigate or make selection in the menu, or to change the backward play speed in play mode.
	>/FWD	Used to navigate or make selection in the menu, or to change the forward play speed in play mode.
	^/PAUSE	Used to navigate or make selection in the menu, or to stop playing the live video temporarily.
	∇/STOP	Stop playing in play mode.
	PLAY/ENTER	Access the play mode or select a menu item.
7	ESC	Used to exit the menu or close the popup.

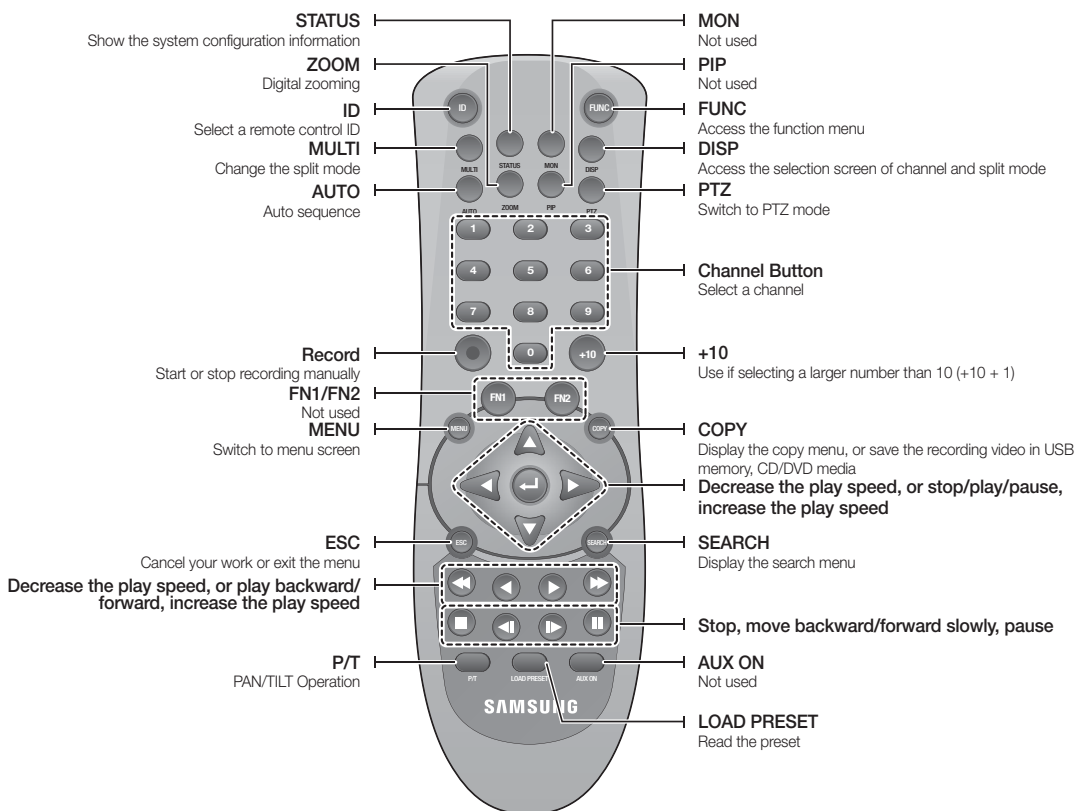
	Part Names	Functions
8	REC	Start or stop manual recording.
	MULTI	Switch the split mode in Live or play mode.
	MENU	Access the main menu.
	AUTO	Activate or deactivate the user sequence.
9	SEARCH	Access the search mode.
	PTZ	Start or end the PTZ operations.
	COPY	Access the copy mode.
	ZOOM	Enter the digital zoom mode from the single screen mode.
	FUNC	Access the function mode.
10	Channel	Select a channel in Live video or play screen.
11	USB1, USB2	Communication ports for external devices (mouse, USB memory)

PART NAMES AND FUNCTIONS (REAR)



Part Names		Functions
1	Power Input	Socket for power source between AC100V and AC240V.
2	CH1~4	BNC input port for HD-SDI source.
3	AUDIO IN (RCA)	RCA port for audio input.
4	AUDIO OUT	Speaker output port.
5	ALARM IN	Alarm input terminal.
6	ALARM OUT	Alarm output terminal.
7	RS-485	Extension port for external RS-485 devices such as PTZ camera or remote keyboard.
8	GND	Earth-grounding for the DVR unit and external devices.
9	NETWORK	Network connection port. (RJ-45)
10	eSATA	Connection port for an eSATA external HDD.
11	HDMI	HDMI port for monitor output signal.
12	VGA Out	Connection port for VGA monitor.
13	RS-232C	Connection port for the POS device.

REMOTE CONTROL



Using the numeric buttons

CHANNEL 1-9	Press each button between 1 to 9.
CHANNEL 10	Press the [+10] button first, then press the [0] button again within 3 seconds.
CHANNEL 11-16	Press the [+10] button first, then press any number between [1] to [6] within 3 seconds.

Changing the Remote Control ID

1. Check the remote control ID that is specified for the DVR.
The factory default ID of the remote control is 00.
2. Press [ID] on the remote control, and enter the remote control ID number.
3. If the remote control ID matches with the remote control ID, the DVR will sound the buzzer.



- If changing the remote control ID to 08: Press and hold the system [ID] button and press the number [8].
If changing the remote control ID to 12: Press and hold the system [ID] button and press the numbers [+10] and [2] in sequence.
The remote control will be active only if the remote control ID matches with that of the DVR remote device. For details, refer to "Communication > Remote". (page 46)

installation

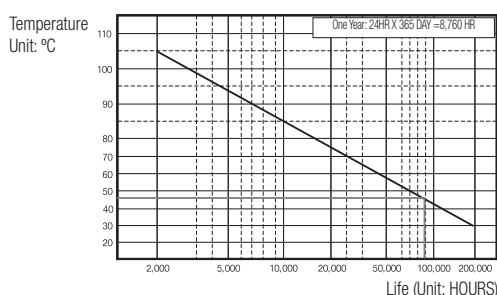
Please take note of the followings before using this product.

- Do not use the product outdoor.
- Do not spill water or liquid in the connection part of the product.
- Do not impose the system to excessive shock or force.
- Do not pull out the power plug forcefully.
- Do not disassemble the product on your own.
- Do not exceed the rated input/output range.
- Use a certified power cord only.
- For the product with an input ground, use a grounded power plug.

CHECKING THE INSTALLATION ENVIRONMENT

Samsung Digital Video Recorder ("DVR" hereinafter) is a state-of-art security device, and contains mass storage hard disk(s) and critical circuits inside.

When the temperature rises inside the product, the product may breakdown and the product life be shortened. Please pay attention to the following recommendations before installation.



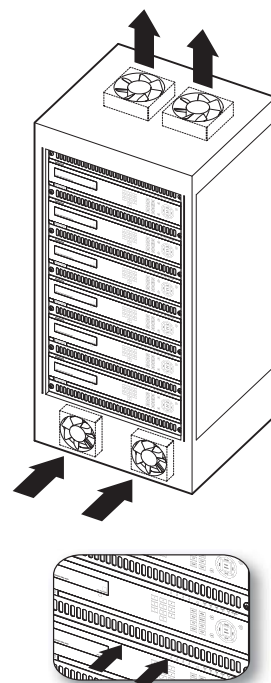
[Figure 1]

The followings are the recommendations when Samsung DVR is installed on a rack.

1. Please ensure that the rack inside is not sealed.
2. Please ensure the air is circulated through the inlet/outlet as shown in the picture.
3. If the DVR or other devices on a rack is to be stacked as in the picture, provide a suitable space or install a ventilating opening for air circulation.
4. For natural air convection, place the inlet at the bottom of the rack and the outlet on top.
5. It is strongly recommended that a fan motor is installed at the inlet and the outlet for air circulation. (Please fit a filter at the inlet to screen dust or foreign substances.)
6. Please maintain the temperature inside the rack or surrounding areas between 0°C ~ 40°C (32°F ~ 104°F) as shown in the figure 1.

Rack Mount Instructions - The following or similar rack-mount instructions are included with the installation instructions :

- A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.
- B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.
- C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.
- D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.
- E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).



[Figure 2]

RACK INSTALLATION

Install the Bracket-Rack as shown in the figure, and then fasten the screws on both sides (2 screws on each side).

- Fix the screws not to be loosened by vibrations.

HDD ADDITION

You can install additional HDDs.

Make sure to unplug the power cord from the wall outlet to prevent possible electric shock, injury or product damage. Please consult your provider for further information on HDD installation since improper installation or settings may damage the product.

- Number of HDDs supported : Up to 4 HDDs installed
- Make sure to unplug the power cord from the wall outlet before proceeding with the installation.



- **Cautions for data loss (HDD care)**

Please pay attention so that the data inside the HDD is not damaged.

Before adding a HDD, please check the compatibility with this DVR product.

HDD is vulnerable to malfunction due to its sensitive nature especially against shock when operating.

Please ensure that the HDD is free from such shock.

We are not liable for any damage to the HDD incurred by user's carelessness or miss use.

- **Cases might cause damage to HDD or recorded data**

To minimize the risk of data loss from a damaged HDD, please copy data as often as possible.

Data may be lost due to external impacts during disassembly or installation of the DVR.

HDD may be damaged if the DVR is suddenly stopped by a power cut or power off during operation.

HDD or files stored inside may be damaged if the main body is moved or impacted during the HDD operation.

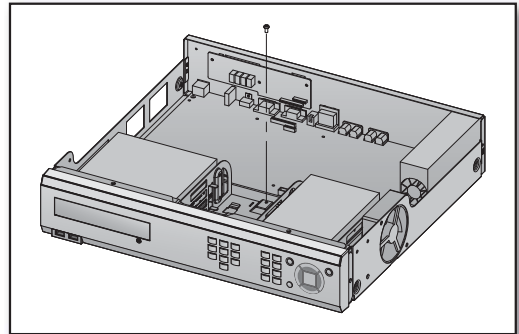
HDD Installation Instructions

1. When adding a HDD, ensure that the cable does not get caught or the insulation does not come off.
2. Pay attention so as not to lose the disassembly screws or accessories.
 - If the screws or accessories are not put together correctly, the product may breakdown or not operate properly.
3. Please check the HDD compatibility before adding a HDD.
 - Please contact your nearest dealer to obtain the list of compatible devices.
4. A HDD that was used for other device (PC or DVR) should have any partition removed before you can use it on the current device.

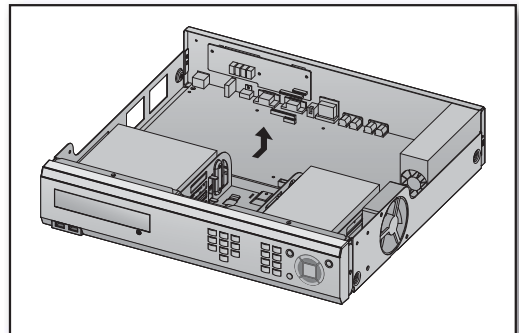
installation

Installing the HDD

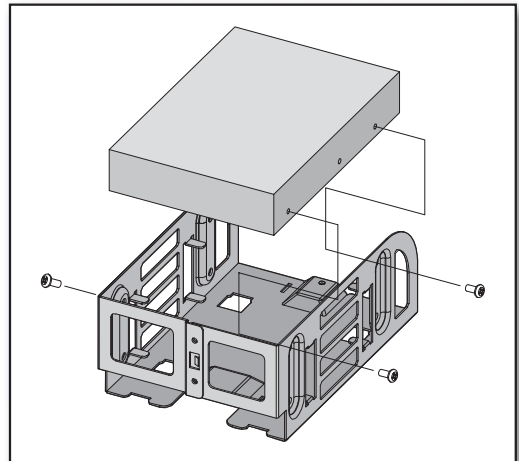
1. Loosen the bracket screws on the main unit.



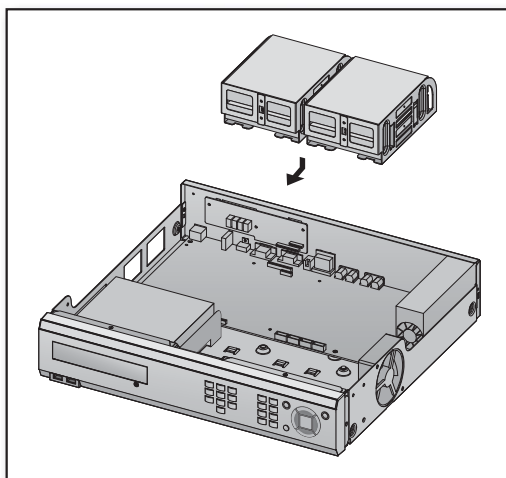
2. Pull out the main unit slightly backward to remove the bracket.



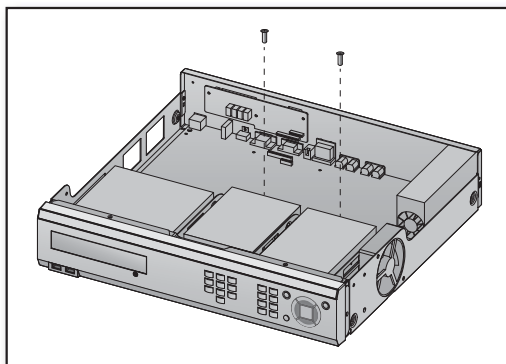
3. Insert and mount the HDD bracket and tighten the left and right HDD screws.



4. Insert the bracket where the HDD is fixed in the main unit.



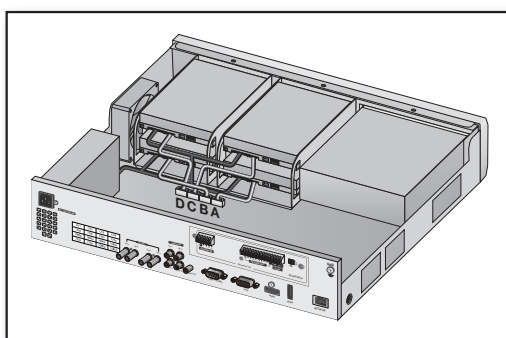
5. Tighten the bracket screws to fix the HDD-installed bracket to the main unit.



6. Connect both SATA cable and power cable.
For HDD position, the bottom right is IntA; the bottom left is IntB; the top right is IntC; and the top left is IntD.

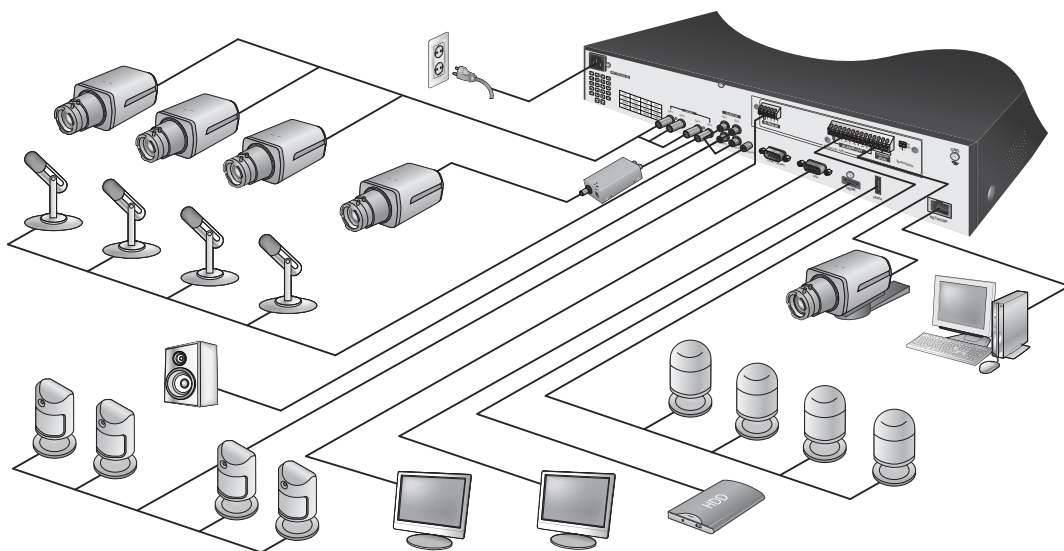


- The SATA cable is already connected inside by default.



connecting with other device

WIRING DIAGRAM FOR EXTERNAL DEVICES



CONNECTING THE CAMERA, MONITOR AND AUDIO

Connecting to the monitor

The resolution of the monitor can affect the video output. Check the resolutions that the monitor supports before connecting to the monitor.

- Using the HDMI port: 1920x1080p (HDMI V1.2 standard)
- Using the VGA port: 1920x1080p RB (VESA standard)



- Note that the HDMI monitor and VGA monitor cannot be used simultaneously for video output.
- However, some of Samsung or LG manufactured monitors can be used simultaneously for video output if either monitor supports both resolutions of 1080p and 1920x1080p RB.

Power Connection

- When the DVR is connected to the power source, it will be applied with power and start booting automatically.
- With DVR turned on, press and hold the Power button for 3 seconds to display the dialog. Click <YES> to turn off the power.
- If you want to turn it back on, simply press the Power button.

Connecting the camera

Use the coaxial cable to connect between DVR and HD-SDI camera as shown.

- Auto setting of the 75Ω terminal resistor
The 75Ω terminal resistor is set by default. If the resistor is connected to the video output port under the video input port, it will be disconnected and switch to the Hi-z condition.
- The video type entered will be recognized automatically when the DVR gets started.
Starting with camera 1, the DVR will recognize the cameras for all channels available. The priority will be determined depending on the signal type of the camera searched first.



- There is no limit on the number of channels available if they send camera videos in the same resolution. However, if different videos in 1080p and 720p are received simultaneously, channel 1, 2 should receive the video in 720p while channel 3, 4 should receive the video in 1080p. Otherwise, the video will not be played properly.

Recommended Cables

- 5C-FB(T), 5C-HFB(T), L-5CFB
- L-4.5CHD, L-6CHD : HD-SDI specific cable
- Belden : 543945 RG59U, RG-59/U 1505A, RG-6/U 1694A



- The transfer distance of a cable may differ depending on the damping rate of 750MHz. (An attenuation rate of dB/100m < 25dB is recommended.)
- It is recommended to use foaming or high-density foaming insulation.
- The dual- or triple-shield cable is recommended.
- For recommended cable specifications, refer to KSC-3617, domestic standard (5C-FBT) and RG-6/U.
- DC LOOP resistance of 31.3Ω/km or lower is recommended.
- When extending coaxial cable and attaching connector, make sure to use parts of 75Ω impedance.
- Pay attention to cables when working, to avoid cable deformation by pressure.
- When cabling, do not apply excessive force with pulling.
- When cabling I/O cables on rear side of the rack, take care not to bind the tie too tightly. Otherwise, cable's internal/external insulations may be deformed when the cable is twisted after binding. Allow a cable-thick gap when binding ties. Be careful not to bend the cable over its curvature radius.
- The maximum transmission distance of HD-SDI may be affected by the cable manufacturer and installation conditions.

CONNECTING TO AN EXTERNAL STORAGE DEVICE

The USB port is designed to use the USB storage device for simple copying (less than one hour in data size). If you want to use an USB device, the specifications of the USB device should not exceed the following specifications.

eSATA Port

The DVR introduces eSATA as an interface with the external storage device, which provides one eSATA port on the rear panel.

By taking advantage of the internal HDD and eSATA port, you can install up to 12TB storage device.



- The eSATA port supports only Samsung Techwin-manufactured external HDD (SVS-5R).

connecting with other device

Connecting to an eSATA device

If using a SVS-5R external HDD, you can use one rear port of the DVR. However, the DVR does not supply a separate power source so you should use an external power source for operating the HDD.



- The DVR can recognize an additional external HDD normally during the operation, but you may encounter a recognition failure depending on the model.

Follow the steps below for the connection.

1. Turn off the power.
2. Connect the eSATA interface cable to the external storage device.
3. Turn on the external storage device.
4. Turn on the DVR.

HDD compatibility

For information on compatible HDD, contact the retailer.

Registering an formatting the HDD

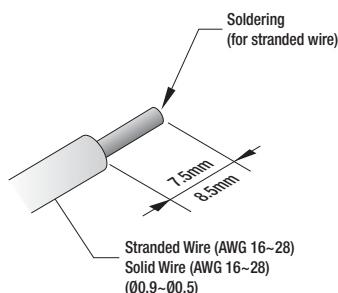
When the HDD is installed completely, turn on the DVR to start booting. The <Disk Manager> will get started automatically on the monitor screen. (Page 50)

If the <Disk Manager> does not get started, check if you have made the connection correctly.

USING THE I/O PORTS

How to handle the wiring cables

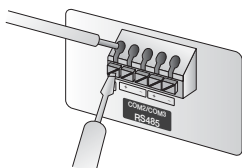
The wires used on the terminal block should be handled as follows. Note that the thickness of the solid wire differs from that of the stranded wire. Be careful when using both solid and stranded wires.



- Stranded Wire : Peel off the coating as specified (7.5~8.5mm) and solder the core wire. The stranded wire available is between AWG 16 and 28.
- Solid Wire : Peel off the coating as specified (7.5~8.5mm). The solid wire available is between AWG 16 and 28.

Inserting/Removing the wire

If you want to insert or remove the wire in or from the terminal block, push the lever as shown.



Alarm Connection and Setting

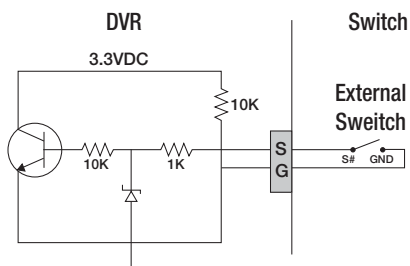
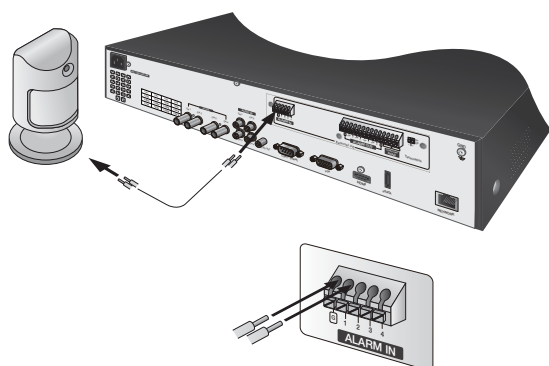
Specifications

The alarm input signal shall meet the following specifications and operating conditions.

Specification	No. of input circuits	4 transistor inputs
	Input type	N.C, N.O
	Alarms available	Dry Contact Alarm
	Connection system	Connected to the terminal block with the coating peeled off
Electrical Performance	Effective width of input pulse	Min. 200ms
	Output current	Typical DC 12mA

If using the alarm input port

See the picture below for connecting the alarm inputs [ALARM IN 1~4]. The picture below provides an example of the connection of alarms featuring dry contacts. For inserting or removing the wire, refer to "How to handle the wiring cables". (page 20)



connecting with other device

Relay Connection and Setting

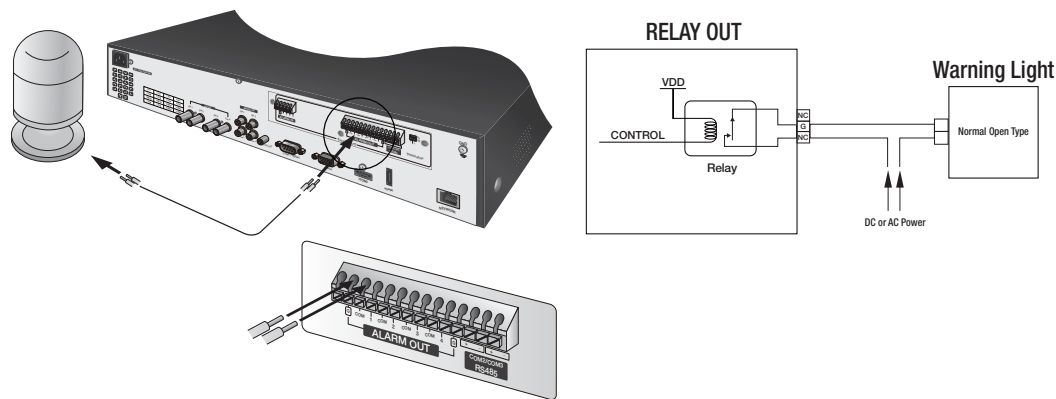
Specifications

The alarm output signal shall meet the following specifications and operating conditions.

Specification	No. of output circuits	4 relay outputs
	Output type	Dry Contact
	Connection system	Connected to the terminal block with the coating peeled off
Rated Power	DC	30V 1A
	AC	125V 0.5A

Relay Connection

For the outputs between R1 ~ R4, refer to the figure below. This is an example of connecting the warning light. For inserting or removing the wire, refer to "How to handle the wiring cables". (page 20)



Connection and setting of the serial communication port

Connecting the serial communication port for Pan/Tilt/Zoom

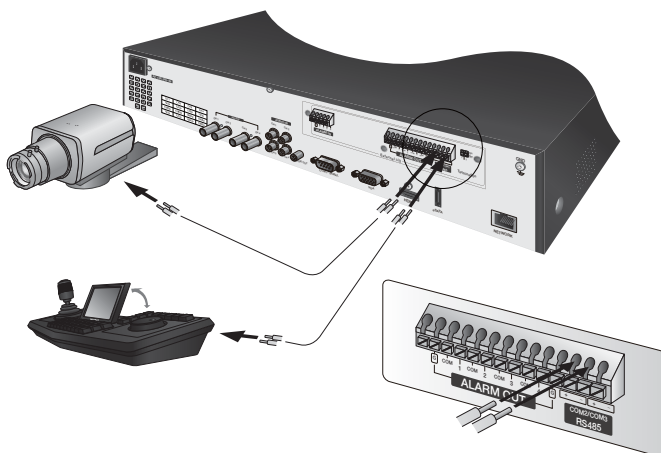
You can control the PTZ device via the COM port if it is compliant with the DVR.

For the compatibility, refer to "**Compatible PTZ devices and keyboards**". (page 24)

The figure below provides an example of connecting the PTZ-featuring camera to the RS-485 (COM2/COM3) communication port.

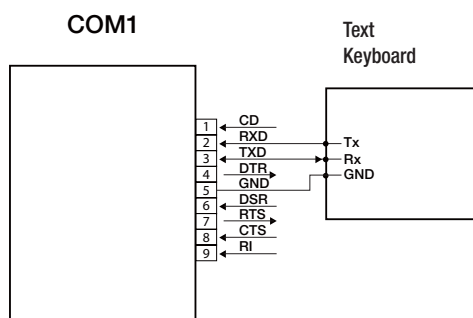
For other serial ports, refer to both the figure below and the wiring diagram.

For inserting or removing the wire, refer to "**How to handle the wiring cables**". (page 20)

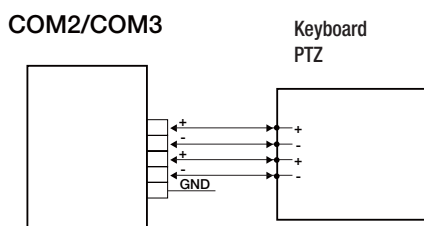


Wiring diagram for serial communications

Wiring diagram for COM1 (RS-232)



Wiring diagram for COM2/COM3 (RS-485)



connecting with other device

❖ Compatible PTZ devices and keyboards

Device	Protocol/Model Name	Manufacturer
PTZ Camera	SAMSUNG-T	Samsung Techwin
	SAMSUNG-E	Samsung Techwin
	PELCO-P	Pelco
	PELCO-D	Pelco
System Keyboard	SPC-6000	Samsung Techwin



- If you want to select a protocol for the keyboard, make sure that you choose <SVR/SRD-480D>.

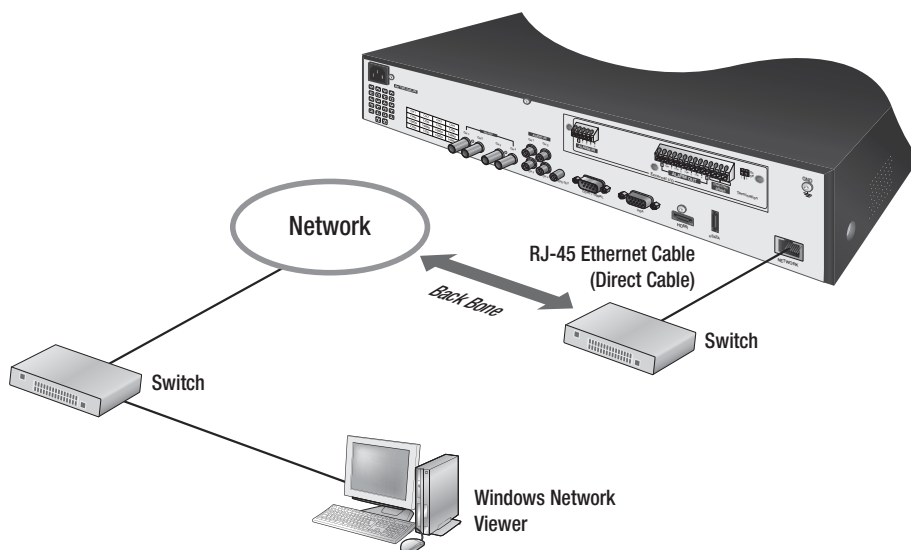
NETWORK CONNECTION

Connect to a remote PC via the Internet/Intranet. Then, you can control the DVR and make monitoring using the PC as if you were in the scene.

Network connection via Ethernet (10/100BaseT)

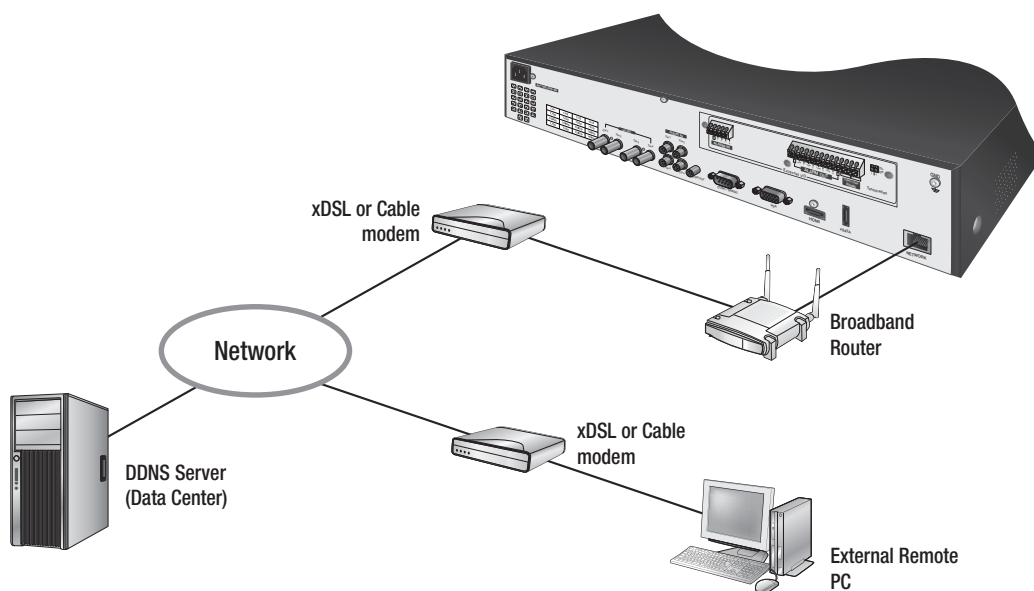
Set the type to <Ethernet> and enter the IP, Net Mask, Gateway and DNS.

Select a desired position and use the front [▲▼] button or use the mouse wheel to set the position.



1. Turn off the power.
2. Connect the Ethernet cable to both DVR and hub.
3. Turn back on the power.

Network connection via the router

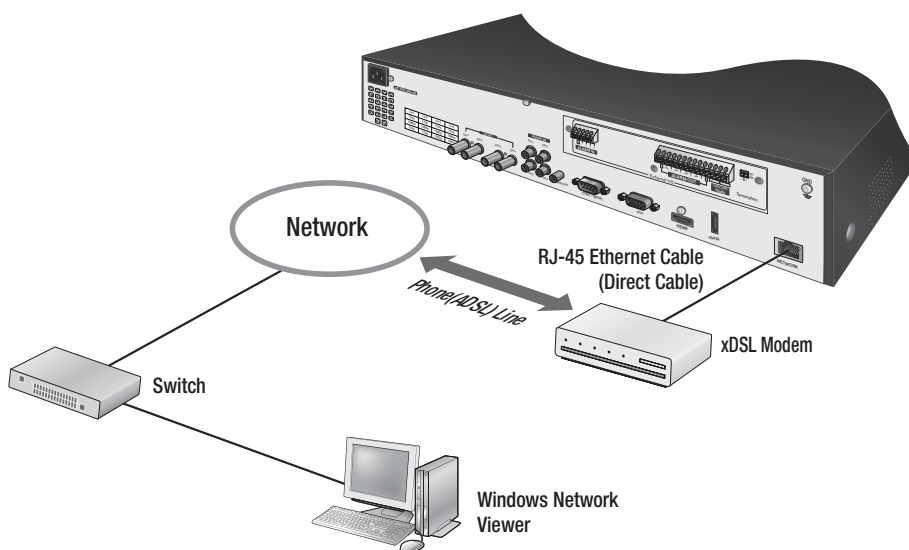


Network connection via xDSL

Change the type to <xDSL> before moving to the xDSL menu.

First of all, change the port for the Ethernet line. (You should remember the port number.)

Enter the user ID and password that were provided in the xDSL menu when you subscribed to PPPoE service.



connecting with other device

Connection using DDNS

Change the interval to more than 1 minute and enter the DDNS server IP and the user ID that you registered.

- To prevent damage to the DVR, you must connect the Ethernet cable before applying power.
- Insert the Ethernet cable to the end for secure connection.
- Turn on the DVR and check if you have made connection correctly.



■ Refer to "DDNS Setting". (Page 44)

GETTING STARTED

Starting the system

1. Connect the power cable to the rear Power port of the DVR.
2. Every indicator blinks once.
The booting process will take a minute with the booting logo on the screen.



3. The Live screen appears.
 - If you ever specified the password, enter the password in the password dialog.



System Shutdown

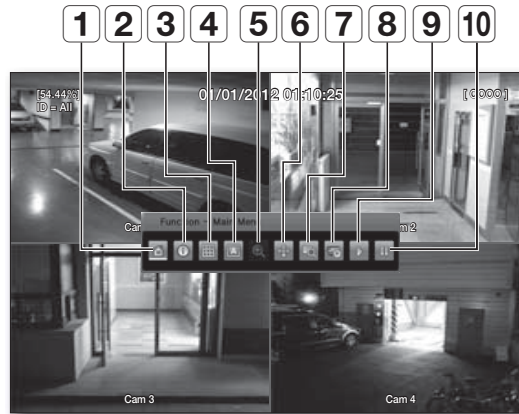
You can shut down the system only if you are logged in to the DVR.
Other user accounts than admin can shut down the system only if granted the **<Power Off>** permission.

1. Press the Power button on the front panel for more than 3 seconds.
2. If you are prompted to confirm the shutdown, select **<YES>**.



Live function menu

Besides the front button or the remote control button, you can right-click any area on the Live screen to display the Function menu bar. Select a desired item in the Function menu bar.



Menu Item		Description
1	Main Menu	Access the main menu. This is the same as the [MENU] button on the remote control.
2	System Information	Display the system information. This is the same as the [STATUS] button on the remote control.
3	Display	You can select the single screen or a multi-split mode. These are the same as the [DISP] buttons on the remote control.
4	Sequence	Perform the sequence in the order specified in " Sequence ". This is the same as the [AUTO] button on the remote control.
5	D-Zoom	Display the digital zoom menu. This is the same as the [ZOOM] button on the remote control.
6	PTZ	Display the PTZ control menu on the screen. This is the same as the [PTZ] button on the remote control.
7	Search	Move to the search menu screen. This is the same as the [SEARCH] button on the remote control.
8	Copy	Display the copy menu. This is the same as the [COPY] button on the remote control.
9	Play	Access the play mode. This is the same as the [▶] button on the remote control.
10	Freeze	Stop playing the live video temporarily. This is the same as the [■] button on the remote control.

USING THE LIVE MENU

Select a split mode

Press the **[MULTI]** button on the remote control or select the display menu in the Function menu window to display the screen mode menu where you can select a desired screen mode.

Single Screen

Press each channel button in Live mode, or place the cursor on a desired channel and just left click it. Press the **[MULTI]** button again or click the channel screen again to switch back to the split screen.

Split Mode

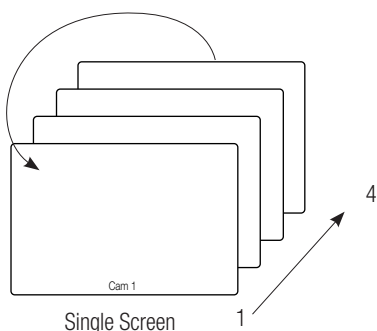
In single screen mode, press the **[MULTI]** button or select **<4A>** in the display menu.

Auto Sequence

You can view 4 Live videos in sequence at a specified interval.

Press the front **[AUTO]** button or click the **<A>** button in the Function menu bar.

Press the button again or select the Auto Sequence item in the Function bar to stop the sequencing.



- The dwell time will be displayed according to the channel and time specified in "**Display Setup > Monitor**". (page 34)

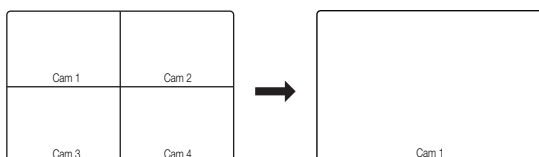
Switching to the single screen mode

Move the cursor to a desired channel in the split mode and double-click it to switch to the single screen for that channel.



Press the number button on the front or remote control for a desired channel. The screen will switch to the single mode for that channel.

Refer to "**Remote control > Using the numeric buttons**". (page 13)

- Ex) If you click number 3 channel or press the number 3 on the front panel or remote control



Digital Zoom

1. In single full screen mode, press **[FUNC]** and select  button and **[+]** button. Then, press **[ENTER]** or left-click it to enlarge the screen.
2. If selecting the  button, the center of the screen will be enlarged by default. In the enlarged screen, you can move the enlarged screen by 48 levels horizontally, and by 27 steps vertically.
3. You can use the direction buttons to navigate through the screen.
4. Select the **[–]** button and press **[ENTER]** or just right-click it to return to the previous screen mode.

Freeze

You can freeze the live screen as if you did so in play mode.

Press the **[PAUSE]** button on the front panel to freeze the live screen; press it again to return to the live screen.

PTZ control

Connect the PTZ controller to the DVR and specify the protocol in the "Serial" menu. Then, you can control the PTZ operations while watching the video in real time.

Press the **[PTZ]** button on the front panel or press **[FUNC]** to select a desired PTZ operation.

If you want to control the PTZ operations, select a channel before using the function. The selected channel will be boxed in blue.

PTZ control in a split mode


In a split mode, press the **[PTZ]** button in the front panel or click  from the Function menu to enter the PTZ control mode.

Select a channel and press the **<P/T>** button. You will see the symbol **+** in the center of the selected channel.

Note that if you control the Pan/Tilt operations for channel 2, you are doing that in the entire 4-split mode screen, not in the channel 2 screen.

Therefore, you should control the actual operations based on the center of 4-split screens.

Pan – Left/Right, Tilt – Up/Down, Zoom – Left/Right, Focus – Up/Down

1. Press the button for the channel that you want to control.
2. Press the front **[PTZ]** button or click  in the Function menu bar.
3. The PTZ menu bar (Pan/Tilt, Zoom/Focus, Menu, Load Preset, Save Preset) will appear.
4. Select a desired item and press **[ENTER]** button or just click it.



- If you want to control the PTZ operations in a split mode, the position of the PTZ menu bar will differ depending on the channel.
- If selecting an even-number channel using the **[▲▼]** button on the remote control or front panel or mouse wheel, the menu bar will appear to the left; if selecting an odd-number channel, the menu bar will appear to the right.

Pan/Tilt

Used to control the pan and tilt operations in real-time monitoring mode.

1. Select "Pan/Tilt" in PTZ mode.
2. Use the [◀▶] buttons on the front panel or click a left or right area on the screen to control the pan operation;
Use the [▲▼] buttons on the front panel or click an upper or lower area on the screen to control the tilt operation.

Zoom/Focus

Used to control the Zoom and Focus functions in real-time monitoring mode.

1. Select "Zoom/Focus" in PTZ mode.
2. Use the [▲▼◀▶] buttons on the front panel or use the mouse to control the zoom and focus functions.

Load Preset

Used to move to a preset point in real-time monitoring mode.

1. Use the [▲▼] buttons on the front panel or remote control, or use the mouse wheel to select a preset number.
2. When the preset is determined, select a <Load> and press [ENTER] or just click it.

Save Preset

Used to specify a new preset point in real-time monitoring mode.

1. Use the 'Pan/Tilt' and 'Zoom/Focus' menus to adjust the camera position.
2. Use the [▲▼] buttons on the front panel or remote control, or use the mouse wheel to select a preset number.
3. When the preset is determined, select <Save> and press [ENTER] or just click it.

Menu

Used to access the console menu of the connected PTZ device. You can use the [▲▼◀▶] on the front panel or [ENTER] button to select a console menu. When done, press [ESC] or [PTZ] on the front panel to exit the console menu.

EVENT MONITORING

You can set to display the popup video if an event occurs.

- You can select an event for the popup video in the event source. The event source contains three options: sensor, motion detection and text.
- If events occur in multiple channels simultaneously, the screen will be split in as many as the channel count. For instance, if events occur in 3 channels, the screen will be split in 4 to display the individual event. To return to the previous screen mode, simply press the button of any one channel that is displayed on the screen.
- To return to the previous screen, press [ESC].



- If you set the event screen to <Off>, the event popup will be deactivated.
- If you set the event screen to Keep, the popup video will be played until you press any button. To return to the previous screen mode, simply press the button of any channel on the screen.

menu setup

QUICK SETUP

The Quick Setup menu is a collection of only key functions of the DVR for you to access with ease.

MENU - ENTER - ▼ - ▼ - ENTER



Record Mode

It sets recording method.

- For more information, refer to "**Record Settings**". (page 34)

Event Detection

Select an event application option from: <**Always**>, <**Off**> and <**Schedule**>.

Application details can differ depending on the option.

- For more information about event recording, refer to "**Event Setting**". (page 38)

Language

Select a preferred OSD language.

- For more information, refer to "**System Setting**". (page 48)

Time

It sets the time applied to the system.

- If you change the time during recording, you may have redundant data.
For time settings, refer to "**To specify the time**". (page 49)

Audio Recording

Specify the use of audio recording.

- For more information about audio recording, refer to "**To configure the audio settings**". (Page 37)

DISPLAY SETUP

Display settings

You can specify the title for each channel available and also specify the use of the channels.

MENU - ► - ENTER - ENTER



- Channel Number : Select a channel that you want to apply your settings to.
- Title : Use the virtual keyboard to enter the title that will be displayed on the screen.
- Status : Specify the use of the channel.



- If you don't intend to make recoding or (network) monitoring, set it to <Off>.

Using the virtual keyboard



1. If you want to change the camera title, DVR name or user ID/password, use the virtual keyboard.
2. Use the front direction buttons to select a character and press [ENTER]. Or, you can simply click a desired character one by one.
3. When done, use the front direction buttons to move to the <Enter> button and press [ENTER]. Or simply click <Enter>.
 - In English mode, you can press [CapsLock] or [Shift] to enter a special character
 - Press [Tab] to skip 3 characters.
 - Press [BackSpace] to delete a character one at a time.

menu setup

Monitor settings

If you want to display a video on the monitor, you must configure the related settings first.

MENU - ► - ENTER - ► - ENTER



- Sequence : Change the auto sequence settings to your preference.
You can specify up to 16 sequence modes, and the dwell time shall be specified between 1 and 60 seconds.
- On Screen Display : Select which item(s) you want to display on the live or play screen.
For a live video, you can select to display the time, channel name, event or recording status, HDD, remote control ID and text. For a recording video, you can select to display the time, command, channel name, event or text.

RECORD SETUP

Record Settings

MENU - ► - ► - ENTER - ENTER



- Record Mode : Select record mode.
 - Manual & Event : Select this if you want to make manual recording.
 - Schedule & Event : Select this if you want to make recording schedule in advance.



- The manual recording will be enabled only if you set the record mode to **<Manual & Event>**. Select a channel program and press [REC] on the front panel (only by a user with the applicable permission) to start recording.
- If you set **<Schedule & Event>**, the menu bar on the bottom will change to **<Schedule>** or **<Program>** according to the selected mode. Then, the DVR starts recording accordingly.

- Event Duration : Specify the pre- and post-event recording time.
 - Your setting for <Pre Event Duration> and <Post Event Duration> apply to the entire channels.
 - Overwrite : Specify the use of overwrite if the HDD's space is full.
 - Warning Level : It checks the usage of all the disks attached or connected to the DVR and warns you if the usage reaches the specified level.
 - Auto Delete : If you specify the auto deletion period, the recording data before the period will be deleted automatically.
- ! ▪ When completing your settings, please be sure to backup the exiting data before saving your settings because they will be lost.
- Audio : Audio settings include, audio channel, audio recording, audio gain, sync video channel and audio mix.
 - For more information about audio settings, refer to "To configure the audio settings". (page 37)

To make scheduled recoding

The DVR will start recoding as scheduled and programmed.



1. Set <Record Mode> to <Schedule & Event>, and press [ENTER].
2. Use the arrow button [▼] to move to <Schedule>, and press [ENTER].
You will see the schedule setup screen.
Specify a program for each day or timeline as you want.
3. Use [▲▼◀▶] buttons to specify each item of the schedule menu and press [ENTER].
 - Index : Schedule unit between 1 and 50
 - Day : Specify the day
 - Program : Specify the program to record (A~I)
 - Time : Specify the time
 - Delete : Delete by the index unit
4. If you specify the Index, Day, Program and Time, your settings will be displayed in the table.
If you use the mouse to select the start and end times of recording, details will be displayed in each of Index, Day, Program and Time.

menu setup

To delete an existing schedule

Select an index and press <Delete>.

If you press <Delete> without selecting an index, the previous index will be deleted at first. Then, deletion will progress in the descending order from the largest number of index.

To change an existing schedule

Select an index and change the date, program and time manually.

If all indexes up to 50 are already specified, click a timeline from the table and select a time to change.

Then, the existing content will be deleted and changed to your new settings.

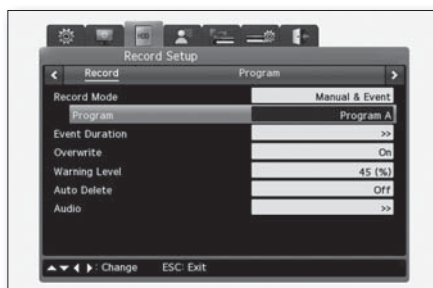
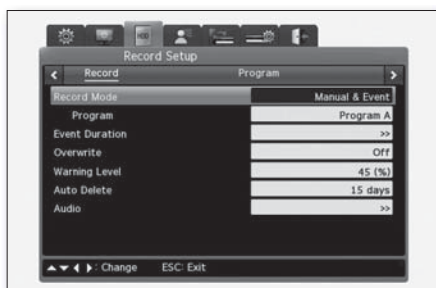


- If you make a duplicate setting in the same time, the duplicate items will be marked '!' in the table.
If you configure the time line settings, the existing ones cannot be included.

To make event recoding

You can set to make recoding of an event if it occurs.

To make event recording, specify the resolution, frame rate and quality to include in the program.



1. Set <Record Mode> to <Manual & Event>, and press [ENTER].
2. Use the arrow button [▼] to move to <Program>, and press [ENTER].
3. Select a program to apply for the event recording.
 - The resolution for each program can be specified in "Record Setup > Program". (Page 37)



- If you want to make the event recording only, set the normal frame rate to 0fps in program setup, and specify the frame rate only for the event.

To configure the audio settings



- Audio Channel : Select a channel for audio setting.
- Auto Recording : Specify the saving of the existing audio settings. If you set it to <Off>, only the live video will output the audio signal; if setting it to <On>, the recording video as well will output the audio signal.
- Audio Gain : Use the +/- buttons to adjust the volume.
- Sync Video Channel : Select a channel to sync with the input audio signal. If you set to synchronize the video of channel 1 with channel 4, the audio input to channel 1 will be output if you select channel 4. By default, channel 1 audio will output in channel 1 video.
- Audio Mix : Select an audio signal to use in live video. If you set <Mix On>, all incoming audio signals will be mixed before being output. So if you select a specific audio, it will be output regardless of the channel that you selected.

Program Setting

You can adjust the frame rate and the video quality for a recording program that will be used for Manual & Event and Schedule & Event. Select a program according to the frame rate, quality of your choice, or make settings manually. For event recording, you can specify up to the maximum frame rates for each channel; if events occur from more than one channel, the recoding frame rate can be adjusted accordingly.

MENU - ► - ► - ENTER - ► - ENTER



- Program : You can select a total of 9 programs from A to I, and specify the normal/event resolution for each program.
- Ch : Display the channel number.

menu setup

- Input Res : Display the input resolution.
- Rec. Res : Display the recording resolution.
- F(FPS) : FPS stands for frames per second. You can specify FPS between 0 and 30fps. The maximum frame rate can differ depending on your setting.

When mixed with 720p and 1080p setups, 1 frame of 1080p is estimated as 2 frames of 720p. (In DVR menu, frame allocation should satisfy this limit and cannot set to a value that exceeds the maximum performance.) For example, if two channels are set to 720p at 30 frames, rest of the channels can be allocated with 1080p at 30 frames or 720p at 60 frames.

- Q(Quality) : For 1080p, you can select a recording quality between Q1 and Q7. For 720p, you can select a recording quality between Q1 and Q5. It is recommended to select Q3 or more for event recording.
 - The higher the quality is, the shorter the recording time becomes. So set it to Q1 if you want to reduce the recording size.



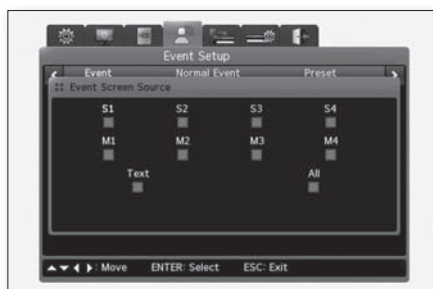
- If you set the frame rate to 0fps in program setup, the remaining 30fps cannot be used for other channels. This is because even if you set the frame rate to 0fps, at least 2~3fps will be reserved for a reason such as network transfer. Therefore, if you want to use the remaining 30fps for other channel, you must set the channel to <Disable> in the channel setup.

EVENT SETUP

Event Setting

Specify the event application time and dwell time.

MENU - ► - ► - ► - ENTER - ENTER



- Event Detection : Specify the application method for event recording.
 - Always : The DVR always recognizes the event while in operation.
 - Schedule : Recognize and respond to an event that occurs at a specific time. The <Schedule> item will be created on the bottom. Select that to display the setup window.
 - Off : This will disable the event recording.
- Event Screen/Dwell time : Specify the duration to display the channel where an event took place.
- Event Source : Select an event source to use for the popup window. The event source contains three options : sensor, motion detection and text.
- Event Action : Select one from relay 1~4, buzzer, e-mail and FTP.



- If events occur in multiple channels simultaneously, the screen will be split in as many as the channel count. For instance, if events occur in 3 channels, the screen will be split in 4 to display the individual event. To return to the previous screen, press [ESC].

Event Action Setting

Specify the operation according to the incoming event.

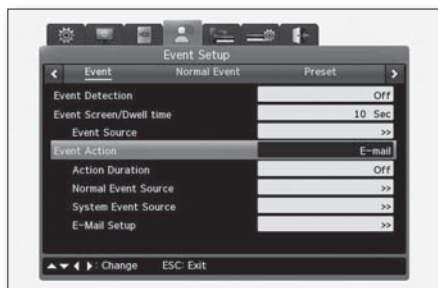
MENU - ► - ► - ► - ENTER - ENTER - ▼ - ▼ - ▼ - ▼ - ENTER



- Action Duration : This is used for relay and buzzer settings. This will keep the operation as long as the specified time.
 - The e-mail will be transferred at a specified interval; FTP will transfer the image each time an event is activated.
- Normal Event Source : You can set the normal event source to one of 4 sensors, 4 MDs, 4 video losses and text.
- System Event Source : As system event source, you can set some or whole of: HDD Fail, HDD Almost Full, Fan Fail, Password Fail, DDNS Reg. Fail, and Abnormal Recording Stop.

To synchronize the event via email

There are three ways to transfer via email: non-authentication, SMTP authentication, and TLS authentication.



1. Select <E-mail> for event synchronization.
2. Specify the duration.
The email will be transferred at a specified interval.
3. Select <Normal Event Source> or <System Event Source>.
4. Select <E-Mail Setup> and provide each item.
 - E-Mail Address : Provide the email address at which you want to receive messages.
 - Sender Address : Provide a valid (currently used or existing) email address.

menu setup

- Including Picture : If you set it to <On>, the email to send if an event occurs will include the event image at the event occurrence time.
If you set it <Off>, the email will be sent if an event occurs but with no image attached.
- SMTP Server : Provide the SMTP server address for the sender email address.
 - If the server adopts the authentication system, the <User ID> and <Password> items will be created.
- SMTP Port : Select a port to use in SMTP server.
- Authentication : Authentication will be performed using the protocol of TLS (Transport Layer Security), or email address and account for SMTP authentication. Use an email account in compliant with TLS or SMTP-AUTH.
- Send Test-Mail : This is to check if you specify the sender, receiver of the email and other necessary settings properly.

To synchronize the event via FTP

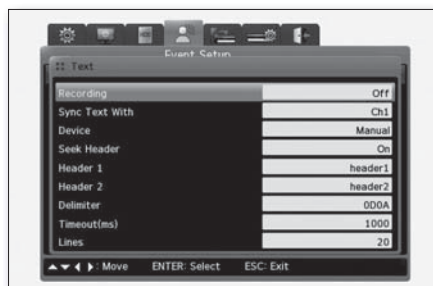
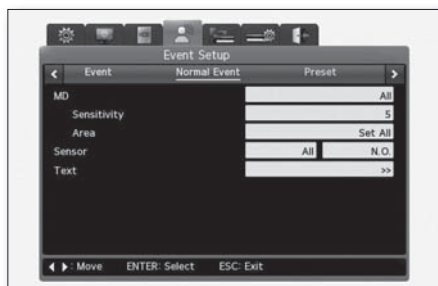


1. Select <FTP> for event synchronization.
2. Specify whether to upload via FTP. The image will be sent every moment the event is active.
3. Select <FTP Setup> and provide each item.
 - Server URL : Provide the FTP server address.
 - User ID : Provide the ID for connecting to the FTP server.
 - Password : Provide the password for connecting to the FTP server.
 - FTP Directory : Specify the saving path for the images that will be transferred to the FTP server.
If you leave it blank, the images will be transferred to the server-specified folder; if you provide a wrong path, the images will be sent to the specified folder by the FTP server.
 - Ex) If you provide "Download", you must have created the "Download" folder in a sub directory of the server. If an event occurs, the images will be transferred to the "Download" folder.

Normal event setting

You can specify the motion detection area, sensor and text.

MENU - ► - ► - ► - ENTER - ► - ENTER



Motion Detection Setting

The Motion Detection item will be used to detect every single channel and notice the user of a motion if it occurs.

- MD : Select a channel that you want to perform the motion detection for.
- Sensitivity : Select a sensitivity level for each channel from Off, lowest, 1~10, and highest.
- Area : Specify the area for which you want to perform the motion detection.
If you set it to All, you have two options: Set All or Clear All. If you set it for each channel, you will have three options: Set All, Clear All and Select Area.
- Sensor : You can use 4 sensors. If set it to <All>, all channels will be set to N.O and N.C in the same manner; Alternately, you can select a channel and set it to: N.O., N.C., or Off.
- Text : Provide the message. You must specify the text setting in "**Event Setup**" of the OSD menu.
 - Sync Text With : Select a channel to synchronize with the text.
 - Seek Header : If the information (Manual, VSI Pro, VSI Pro Hydra) from external devices contains other than the protocol, this option will check how and what each item of the information consists of.
The header is a start item of each distinctive piece of information that will be inserted for your reference.
Set <Seek Header> to <On> and provide text to be recognized as header.
 - You can specify two headers for each because a single device can transfer data to multiple external devices.
 - Delimiter : The delimiter may differ depending on the host device. So refer to the user manual or contact your retailer for the exact delimiter.
 - Timeout(ms) : Even if you provide less information than specified in <Lines>, the last line you provided will be set as the final line after a specific time.
 - Lines : Define how many lines a piece of information consists of.



- Some external devices may not be recognized depending on the model. You must contact the retailer for compatibility before installation.

menu setup

To specify a motion area



1. Select a motion detection channel.
Only if you select a single channel, you can specify the motion detection area.
2. Move to <Area> and select <Select Area>.
3. Select <Custom Area>.
4. When the custom area setup window appears, use the direction buttons to move to a desired area and press [ENTER].
The specified motion area will be boxed in grey.
5. When done, press [ESC] or right-click to return to the previous menu.

Preset Setting

You can control the preset specified in the PTZ function to react according to the event input.

MENU - ► - ► - ► - ENTER - ► - ► - ENTER



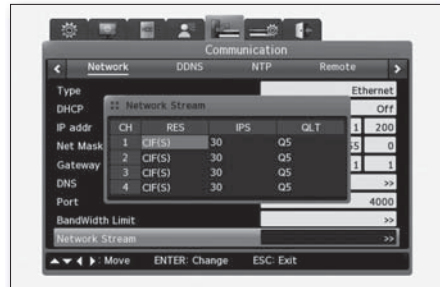
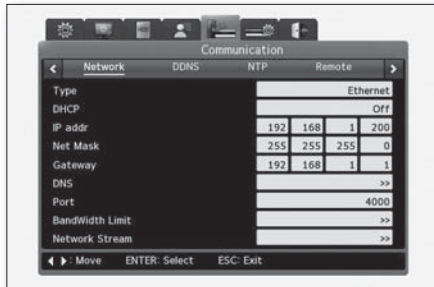
1. Specify a preset to use as a PTZ operation for each channel.
2. From the preset menu, select a channel and specify the event to trigger the preset.
You can select for the event: sensor, motion detection and text. You can specify up to 16 presets.

NETWORK

Network setting via Ethernet

This is a menu where you can configure the network settings for connecting to the network via the Ethernet.

MENU - ► - ► - ► - ► - ENTER - ENTER



- Type : Set the type of network line (connected to the DVR) to **<Ethernet>**.
This is suitable if the DVR is connected to the DVR-dedicated line, cable modem or LAN.
- DHCP : The use of DHCP depends on how to share the IP addresses of the network. DHCP server assigns public IPs to the DVR so set this option to **<On>** in a LAN environment using the DHCP server.
- IP addr : Used to communicate between DVR and Smart Viewer, or try to access DVR the web viewer.
If you set **<DHCP>** to **<Off>**, this item will be active. Enter the static IP.
- Net Mask : Specify the IP range. Any IP within the range is valid in mutual communications.
- Gateway : This is a required field for communications.
- DNS : You must enter the DNS if you want to register DVR with DDNS.



■ For information about Net Mask, gateway and DNS1, contact the network administrator.

- Port : Enter the port number that you use to register the DVR with DDNS, or try to access Smart Viewer or Web Viewer.



■ The default port number is 4000. You should be careful when entering the port number if using PPPoE modem and Broadband router.

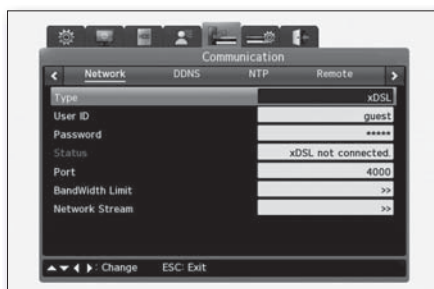
- BandWidth Limit : Specify the maximum transfer rate that the DVR can produce. You don't need to specify the limit manually because this is specified by the network admin.
- Network Stream : Specify the quality of video that is transferred from the DVR via the network.
In the following cases, the video may be played at a lower frame rate than requested:
 - Insufficient bandwidth, below the PC recommended specifications, 3 or more concurrent users, or the server is in operating for playback/backup

menu setup

Network Setup via xDSL

If the DVR is connected to xDSL line that uses PPPoE, change the type to xDSL and provide the user ID and password. Use the user ID and password that were assigned when you registered with xDSL service.

MENU - ► - ► - ► - ► - ENTER - ENTER



- Type : If using PPPoE, set it to <xDSL>.
- User ID/Password : Provide the ID and password for xDSL service.
- Port : Enter the port number that you use to register with DDNS, or try to access Smart Viewer or web viewer.



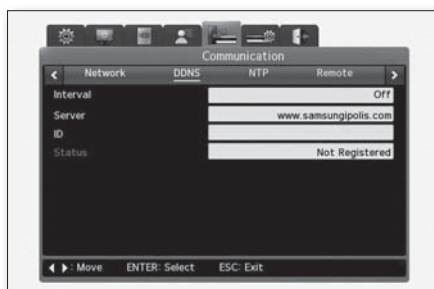
- The default port number is 4000. You should be careful when entering the port number if using PPPoE modem and Broadband router.

- BandWidth Limit : Specify the maximum transfer rate that the DVR can produce. You don't need to specify the limit manually because this is specified by the network admin.
- Network Stream : Specify the quality of video that is transferred from the DVR via the network.

DDNS Setting

Select the DDNS server and specify the transfer interval.

MENU - ► - ► - ► - ► - ENTER - ► - ENTER



- Interval : Specify the registration frequency for continuous registration. The dynamic IP information will be updated with DDNS server at a specified interval.
If you set it to <Off> or the DVR does not transfer any data for two consecutive days, the DDNS server will delete the interval setting.
- Server : Provide the address of the server that you want to register. The DDNS address is www.samsungipolis.com.
- ID : Provide the domain information that you entered when registering the product with the DDNS server.
- Status : Show the status of the DVR registration.

What is DDNS?

If the DVR is connected to the cable or xDSL modem, the IP address will change each time the DVR tries to access ISP. If this is the case, you will not be informed of the IP address changed by DDNS. Once you register a dynamic IP-based DVR with the DDNS server, you can easily check the changed IP when you try to access the DVR.

To use the DDNS feature, subscribe to the DDNS server and register the DVR.

Log in to the DDNS server and click Register Device to provide the domain information that you entered.

To register with Samsung DDNS

1. Register yourself at iPOLiS homepage (www.samsungipolis.com).



2. From the top menu bar, select <DDNS SERVICE> - <MY DDNS>.



3. Click [PRODUCT REGISTRATION].

4. Enter the product ID.

- You must perform the duplicate check for the ID that you entered.



5. Select a <CLASSIFICATION> and specify the <MODEL NUMBER>.

6. Specify the product location with a description if necessary.

7. Click [REGISTRATION].

The product will be added to the product list that you can check.

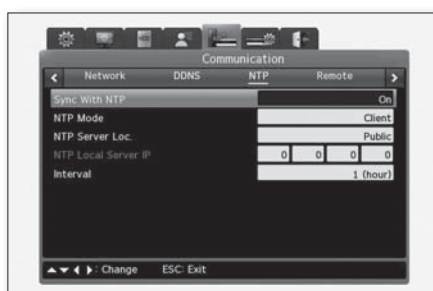
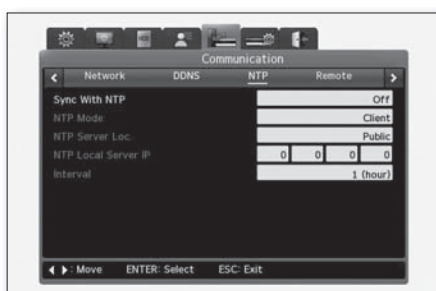


menu setup

NTP Setting

NTP (Network Time Protocol) is used to synchronize the time between network devices. It consists of the server providing the standard time in the network and the client that is connected to the server for receiving the sync time.

MENU - ► - ► - ► - ► - ► - ENTER - ► - ► - ► - ENTER



- Sync With NTP : Specify the use of NTP.
- NTP Mode : Set the NTP mode to Client, Server or Both.
- NTP Server Loc. : This will be active if the NTP mode is set to Client. Specify if the NTP server is located in the local network or the Internet (public).
- NTP Local Server IP : If you set the NTP local server to Local, this item will be active. Specify the server IP. Provide the IP of the DVR whose IP or NTP mode of the NTP server in the local network is set to Server.
- Interval : Specify the interval for time synchronization.

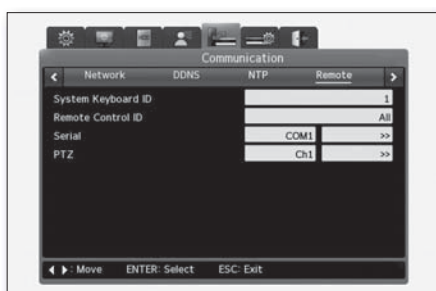


- If the NTP mode is set to Client, NTP application should be set to <On>.
- However, if NTP application is set to <On>, you cannot set the <Time>. (page 48)
- If you set to enable NTP, the time of all recording data will be changed according to the application time of NTP.

Remote Setting

Configure the RS-485 communication settings to sync the DVR with PTZ camera and system keyboard.

MENU - ► - ► - ► - ► - ► - ENTER - ► - ► - ► - ENTER



- System Keyboard ID : If you want to use the controller buttons to control all functions of the DVR, specify the ID of the keyboard. If you use a single keyboard to control multiple DVRs, there can occur a conflict against channels. If this is the case, specify a different ID for the keyboard.

- Remote Control ID : Provide the ID of the remote control in sync with the DVR. You can specify up to 16 remote control IDs. Each remote control can control up to 16 DVRs.
 - For registering the remote control ID, refer to "**Changing the Remote Control ID**". (page 13)
- Serial : Configure the settings of the devices connected to each serial port, and the transfer-related menus.
- PTZ : Select this if you use the serial port to control the PTZ operations.

To set the serial port

You can use a total of 3 serial ports for your settings. One for RS-232C (COM1), and two for RS-232C (COM2, 3).



- Text : Since only COM1 port (RS-232) supports text, select COM1 in the serial port menu.
 - Interface : Fixed to RS-232.
 - Baud Rate/Parity Bit/Stop Bit/Data Bit : Configure the same settings with those of each device.



- For the input text, no keyword search is available.

- Keyboard : If you want to use the keyboard, set the device to Keyboard and select a keyboard to use.
 - Interface : Select COM2 or COM3.
 - Baud Rate/Parity Bit/Stop Bit/Data Bit : Configure the same settings with those of the keyboard.
- PTZ : If you use the serial port to control the PTZ operations, select PTZ.

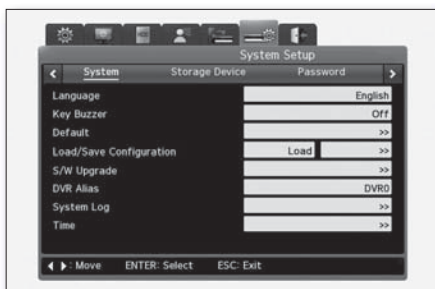
menu setup

SYSTEM SETUP

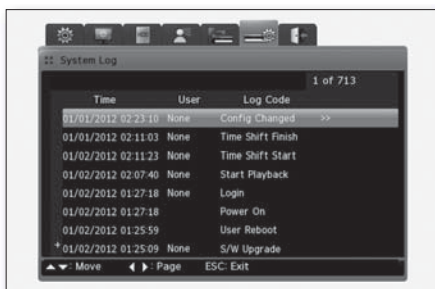
System Setting

You can configure the system-related settings and upgrade the software.

MENU - ► - ► - ► - ► - ► - ► - ENTER - ENTER



- Language : The OSD menu is provided in multiple languages. Select a preferred language.
- Key Buzzer : Specify the use of the key tone if the front button is pressed.
- Default : Used to restore the factory settings.
- Load/Save Configuration : Used to transfer DVR settings saved in the USB memory to the DVR, or save the current settings of DVR in the USB memory.



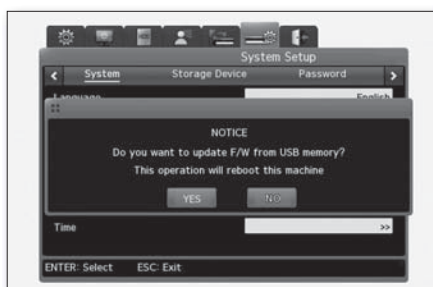
- S/W Upgrade : Perform the software upgrade using the upgradable files in the USB memory.
- DVR Alias : Use the virtual keyboard to enter the DVR alias.
- System Log : If you change the menu settings for each user, power on/off, change the time settings with time, use the system event or HDD, or make a copy, all of them will be listed in the system log.
- Time : Specify the time and date that will be applied to your system.
To protect recording data, it is recommended to set the time according to the local area.



- Do not change the time during the recording.
- If you change the time, the time of all recording data will be changed according to the changed time.

To update the software

The USB updatable files is formatted in "*.dat".

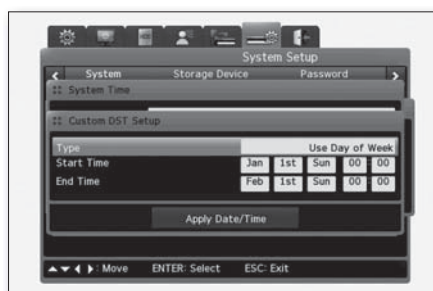
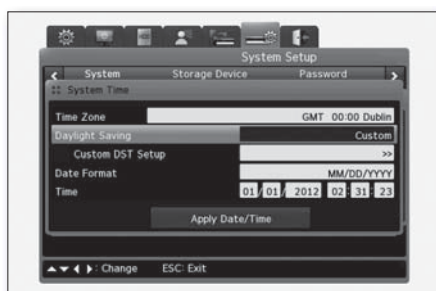


1. Download the USB updatable files to the USB device before connecting to the DVR.
2. Select the Software Update item in the system menu, and press [ENTER].
3. If you are prompted to confirm the update, click <YES> and press [ENTER].
The system will reboot in a moment with a buzzer.

To specify the time



- If you change the time in the recording process, the time of an existing recording video will be changed accordingly so it is recommended to copy important video data before changing the time.



1. Press the [MENU] button on the front panel or select <4> in the Function menu.
2. Move to the <System> menu and select <Time>. Then, press [ENTER].
3. If you move to a sub menu item, use the direction buttons or the mouse to select it, and press [ENTER] or simply click it.
 - Time Zone : Use the front [◀▶] or mouse wheel to select a time zone. Each time you press the arrow button, the time zone will switch. (To return to the previous menu, press the front [ESC] button or simply right-click it. This method is the same in all OSD menus.)
 - Daylight Saving : This will be in sync with your time zone setting. Namely, If you select an area where DST is applied in the Time Zone menu, DST will be automatically set to <On>. Otherwise, it will be set to <Off>. Select <Custom> if you want to configure your own DST settings regardless of the standard time zone and DST. If you select <Custom>, the Custom DST menu will be displayed.
 - Custom DST contains two options <Use Day of Week> and <Use Day of Month>.
 - In <Use Day of Week>, specify the month, week, day of the week and time for the start and end times of DST.
 - <Use Day of Month> requires you to specify the month, day and time for the start and end times of DST.

menu setup

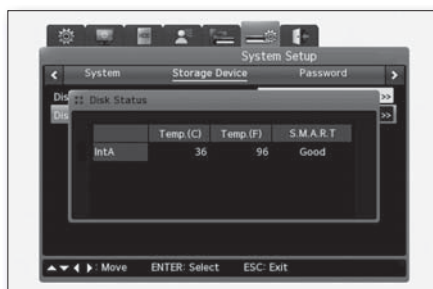


- For the overlapped time when DST expires, play data with the DST time and then, play data after the DST time.
 - For more information about NTP, refer to "NTP" in the network setup.
 - However, if NTP is set to <On>, you cannot specify the time.
 - Date Format : Specify the date format. Use the left/right buttons or the mouse wheel to select one from <MM/DD/YYYY>, <YYYY/MM/DD> and <DD/MM/YYYY>.
 - Time : Use the [◀▶] button to move to Year, Month, Day and Hour in order. For time settings, use the [▲▼] buttons or the mouse wheel.
 - Apply Date/Time : To apply the time settings, you must press the <Apply Date/Time> button. If you press this button, the warning message will be displayed.
- ! ▪ Other than the "Time/Date" settings will be saved automatically when you exit the menu. However, the "Time/Date" setting may affect HDD recoding file system so it are not saved automatically. To apply your changes, you must press the <Apply Date/Time> button.

Disk Check

This will check the internal and external HDDs, and enable you to add, remove or format one as you want.

MENU - ▶ - ▶ - ▶ - ▶ - ▶ - ▶ - ENTER - ▶ - ENTER



- DISK MANAGER : You can use the disk manager to manage both internal/external HDDs and external storage devices. You can specify the HDD status, error block, size and use of HDD.
 - Type : Display the disk location and type.
IntA (internal HDD A), IntB (internal HDD B), eSATA (external storage), Ext (external storage)
 - Model : Show the HDD model name.
 - Bad Blk : Show the HDD containing an error block. It is displayed "0" if there is no error. The error block will not be displayed for an unused HDD.
 - Size(MB) : Display the HDD size in MB.
 - Enabled : Enable or disable the HDD.

If you change HDD to Yes

- Enabled : With this set to <No>, if you press [ENTER] or turn the mouse wheel, you will see a warning message as below:
"NOTICE: This disk can be added without format. Nevertheless, do you want to format this disk?"
- If selecting <NO>, the existing data in the HDD will be intact and the HDD will be enabled.
- If selecting <YES>, the existing data in the HDD will be removed and the HDD will be enabled.

If you change HDD to No

- Enabled : With this set to <Yes>, if you press [ENTER] or turn the mouse wheel, you will see a notice as below:

"NOTICE: Disk will be removed."

- If selecting <YES>, you will see a message of "Recording disk removed." and this option will switch to <No>.

The HDD will not be enabled.

- If selecting <NO>, the HDD will be intact.

- Disk Status : You can check the temperature and status of the HDD installed in the system.



- A HDD that was used for other device (PC or DVR) should have any partition removed before you can use it on the current device.

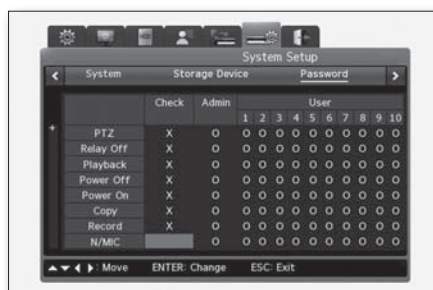
Security

Security setting

The DVR accounts are classified in two: user and admin. The admin account can access all features of the DVR without restriction.

You can add up to 10 users, each of whom can use or access the DVR only within the permissions granted.

MENU - ► - ► - ► - ► - ► - ► - ENTER - ► - ► - ENTER



- Check : From the Authority Settings menu, If you set all items in the Check option to <X>, all users can access the DVR without restriction.
On the contrary, if you set them all to <O>, each user can access the DVR within their respective permission.
- Channel : Only the video from the channels selected by the user will be played; unselected channels will be set to COVERT.

To change the password



menu setup

1. Select Change P/W.
2. When a new password dialog appears, provide a new password.
 - You can enter a max of 12-digit password.
3. Press the <Change> button.
4. If you are prompted to confirm the change, click <YES>.

EXIT

Exit

You can return to the Live screen with saving or without saving the settings in other menus.

MENU - ► - ► - ► - ► - ► - ► - ► - ENTER



- Save : Select this if you want to save the settings in other menus.
If prompted to confirm your selection, click <YES>.
- Do not save : Select this if you don't want to save the settings in other menus.

search & play

PLAY MODE

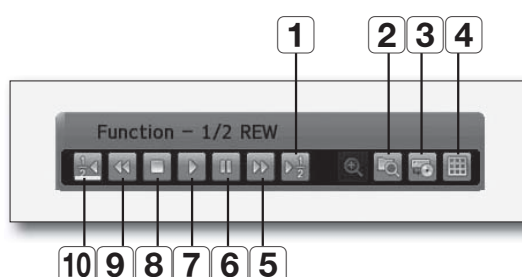
Play in default mode (4-split screen)

- In Live mode, press the [▶] button or click <▶> in the Function menu bar.
- If you press the Play or Change Speed button, the video will be played in the default speed of x1.
- If you press the Change Speed button, the video will be played backward in the default speed of x1.



- If you press Play in a split mode, the screen will be split in 4 and display the video for each of 4 channels.

Playback control



Item		Description
1	1/2 FWD	If you press <▶½> in the Function menu bar, the DVR will play the video forward at 1/2 speed.
2	Search	Move to the search menu screen.
3	Copy	Move to the Copy Setup screen.
4	Display	The single screen mode or 4-split mode button will be displayed on the screen.
5	FWD	Each time you press this button, the play speed will switch to: (x1, x2, x4, x8, x16, x32, x64, x1/2, x1, x2, x4 in this order) If you press <▶▶> in Live mode, the video one minute before now Live-mode time will be played. You can press <▶▶> in the Function menu bar to change the speed.
6	Pause	Stop playing the video temporarily. If using the mouse, click <⏸> in the Function menu bar..
7	Play	Play the video at x1 speed. If using the mouse, click <▶> in the Function menu bar. If you press [▶] in Live mode, this will always play multiple videos. If you press <▶> to play the recording data, the DVR will play the video starting with the last run video.
8	Stop	Stop playing the video. If using the mouse, click <■> in the Function menu bar.
9	REW	Each time you press this button, the backward play speed will switch to: (x1, x2, x4, x8, x16, x32, x64, x1/2, x1, x2, x4 in this order) If you press <◀◀> in Live mode, the video 10 seconds before the last recording section will be played reversely. You can press <◀◀> in the Function menu bar to change the speed.
10	1/2 REW	If you press <◀½> in the Function menu bar, the DVR will play the video backward at 1/2 speed.

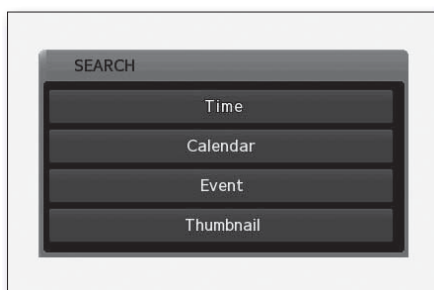
search & play

SEARCH MODE

In this mode, you can search for a specific time or log for playing a desired video.

Search mode includes time, calendar, event and thumbnail.

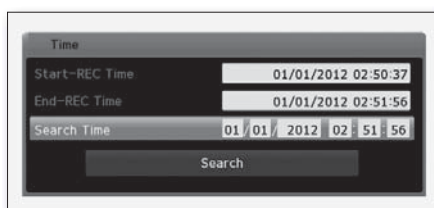
To enter the search mode, press **[SEARCH]** on the front panel or remote control, or click  in the Function menu bar.



- If you right-click during the search, you will return to the previous menu like the operation of the **[ESC]** button, instead of opening the Function menu bar. To use the Function menu bar, press **[FUNC]** on the front panel or exit the Search menu and simply right-click any area.

Time Search

Specify the time and date for your search and press Search, and you will move to the video on that specific date and time.

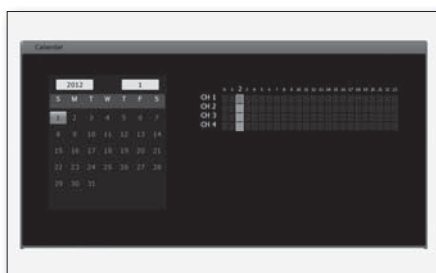


- Start-REC Time : Display the time and date of the first recording.
- End-REC Time : Display the last recorded time and date.
- Search Time : Select a time and date for your search between first recording time and current time.
- Search : Search for the video at the specified time.

Calendar Search

You can use the calendar to search for a desired date/time.

The below picture shows an example of time settings containing: year, month, date and time.



If you click a hour-based time line, you will see the recording details by the minute.

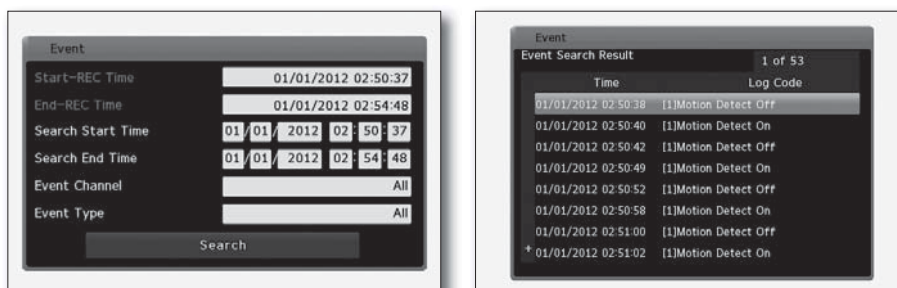
Select a specific minute in the time line and press **[ENTER]**.

- Year : Select a year for your search. You can use the mouse wheel to change the year.
- Month : Select a month for your search. You can use the mouse wheel to change the month.
- Date : Move to a specific date in the calendar and press **[ENTER]**. You can use the mouse to select a date and use the mouse wheel to search by the hour.
- Hour : Select a desired timeline and press **[ENTER]**. You can search for recording data by the minute.
- Minute : The recording data will be listed by the minute. Select a desired timeline and press **[ENTER]** to play the video. If using the mouse, select a video listed by the minute. Use the wheel to play the video.

Event Search

You can select a specific range for your search by sorting by: all channels, some channels, entire events, motion detection and sensor.

Use the **[▲▼]** buttons on the front panel to change the time and date; if using the mouse, select an item to change and turn the wheel to set your setting.



- Start-REC Time : Display the time and date of the first recording.
- End-REC Time : Display the last recorded time and date.
- Search Start Time : Specify the start time and date for your search. Use the arrow buttons to move to a desired item and press **[ENTER]**. While holding the button, use the **[▲▼]** button to change the setting. If using the mouse, simply click an item to change and use the wheel to change the setting.
- Search End Time : Specify the end time and date for your search. Use the arrow buttons to move to a desired item and press **[ENTER]**. While holding the button, use the **[▲▼]** button to change the setting. If using the mouse, simply click an item to change and use the wheel to change the setting.
- Event Channel : Select a channel for your search.
- Event Type : Select a type of event that you want to search for.
You can select from: All, MD, Sensor, V-Loss, Text and Relay.



- The event occurrence status can be checked only in **<Event Search Result>**.

To check the search result

1. Press the **<Search>** button.
2. From the result list, move to a desired event and press **[ENTER]** or turn the mouse wheel.
The DVR will play the recording data at the specific time and date.

search & play

Thumbnail

Use the [▲▼] button or the mouse wheel to select a specific time at which interval you will search. The search result will be listed in thumbnails. Select a thumbnail. The DVR will play the recording data at the specific time and date.



- Channel : Select a channel for your search. You can use the [▲▼] button or mouse wheel to change the setting.
- Start Time : Specify the start time and date for your search. Use the [◀▶] button to move to an item to change and press [ENTER]. Then, use the [▲▼] button or the mouse wheel to change the setting.
- Interval : Your search will be separated at a certain interval. The search result will be displayed. Use the [▲▼] button or mouse wheel to change the setting.
- View Video : Press <Search> to display up to 16 recording videos from the start time. To return to the search window, press the [FUNC] button or use the mouse wheel.
- Select Video : Click a thumbnail video item to start playing the videos from the selected timeline. Press [ENTER] or click the item to play the video.

COPY

You can copy a recording video. Options available include: CD/DVD, EXE and AVI.

Only the users with applicable permission granted in the security setup can copy the video.

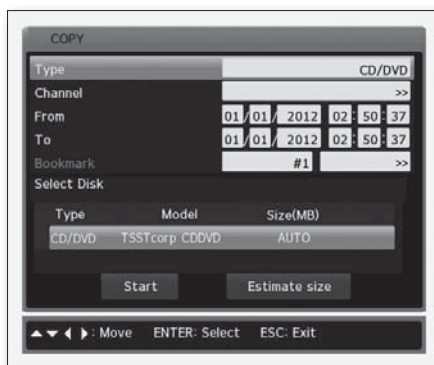
To make a copy, press the [COPY] button on the front panel or remote control, or click <☞> in the Function menu bar.



- Files copied in the format of <EXE> or <CD/DVD> can be played only with the mini-player, which will be automatically copied together with the files.

CD/DVD

You can use CD/DVD to make a copy, which will be recognized automatically by the DVR.



- Type : Select CD/DVD. Use the front [▲▼] buttons or mouse wheel to select CD/DVD. Press and hold [ENTER], and use the [▲▼] button or mouse wheel to change the setting.
- Channel : You can select some or the entire channels from 4 channels. Select a channel position and press [ENTER]. You can also use the mouse wheel for the same purpose.
- From : Specify the start time and date for the copying. You can use the [▲▼] buttons on the front panel or remote control, or mouse wheel for this purpose.
- To : Specify the end time and date for the copying. You can use the [▲▼] buttons on the front panel or remote control, or you can use the mouse wheel for this purpose.
- Select Disk : Select a medium to use for the copying.
- Start : Start copying. Press [ENTER] as <Start> button or simply click the selected medium to start copying.
- Estimate size : This function approximates the size of the data to be copied. It calculates the size by unit of 1MB for footages of less than 1 hour long, and uses unit of 256MB for longer than 1 hour.

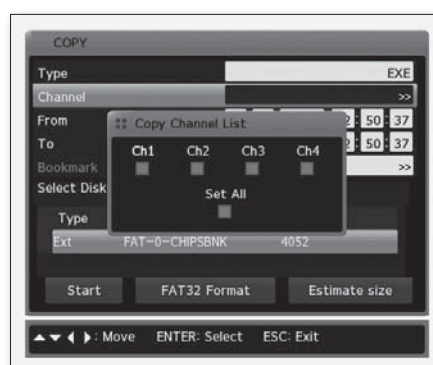
EXE

You can use the USB memory for copy.

You can use the mini-player to play the file. Select a channel position and press [ENTER], or use the mouse wheel to select it.



- The USB type of HDD is not supported.



- Type : Select EXE. Select this using the [▲▼] button or the mouse wheel.
- Channel : To display the channel selection dialog, move to a channel and press [ENTER] or use the mouse wheel to open the dialog.
- Copy Channel List : You can select some or the entire channels. Select a channel position from the channel list and press [ENTER]. You can also use the mouse wheel for the same purpose.
- From : Specify the start time and date for the copying. Select an item to change and use the [▲▼] button or mouse wheel to change the setting.
- To : Specify the end time and date for the copying. This is the same as specifying the start time.

search & play

- Select Disk : Select a medium to use for the copying. Move to a desired disk and press **[ENTER]** or simply click it.
- Start : Start copying. Press **[ENTER]** or just click it.
- FAT32 Format : Format the USB memory or eSATA HDD if not formatted in FAT32 before proceeding. Press **[ENTER]** or simply click it to start formatting.



▪ A copy file that is not completed by 100% cannot be played properly on the PC.

- Estimate Size : This function approximates the size of the data to be copied. It calculates the size by unit of 1MB for footages of less than 1 hour long, and uses unit of 256MB for longer than 1 hour.

MiniPlayer

The mini player is a dedicated tool that will be copied along with the CD, DVD or EXE copy.

You can change the split mode of Miniplayer to your preference in Windows mode. Double-click a split screen to switch to Single mode.

The Filter function includes adjusting the display settings. You can adjust the brightness and contrast of the screen image. Besides, there are play-related buttons in the bottom of the player.



Controlling the MiniPlayer



Item		Description
REW Step		Move backward by one step
REW		Play reversely at x1 speed
Pause		Stop playing temporarily
Play		Play at x1 speed
FWD Step		Move forward by one step
Image Save		Save the image
Image Print		Print out the image
File Open		Open a selected file
Audio On/Off		Listen to/stop playing audio
Show Previous Group		Move to the previous split mode or single mode
Show Next Group		Move to the next split mode or single mode
Audio Volume		Control the audio volume
Copy Time		Display the copy time

search & play

AVI

This enables you to copy some of the selected channel in the USB memory.

- ! ■ The USB type of HDD is not supported.



- Type : Select AVI. Select this using the [▲▼] button or the mouse wheel.
- Channel : Select a channel to copy. Select this using the [▲▼] button or the mouse wheel.
- From : Specify the start time and date for the copying. Use the [◀▶] button to move to the time or year item. Use the [▲▼] button to change the time/date. If using the mouse, click a point to change and use the wheel to change the setting.
- Duration : Specify the copy duration. Copy from the start time to as specified. Use the [▲▼] button or the mouse wheel to change the setting.
- Select Disk : Select a medium to use for the copying. Move to a desired disk and press [ENTER] or simply click it.
- Start : Start copying. Press [ENTER] or just click it to start copying.
- FAT32 Format : Format the USB memory or eSATA HDD if not formatted in FAT32 before proceeding. Press [ENTER] or simply click it to start formatting.
- Estimate size : This function approximates the size of the data to be copied. It calculates the size by unit of 1MB for footages of less than 1 hour long, and uses unit of 256MB for longer than 1 hour.

- ! ■ If your PC fails to play a copied file, you must install the integrated codec on your PC.

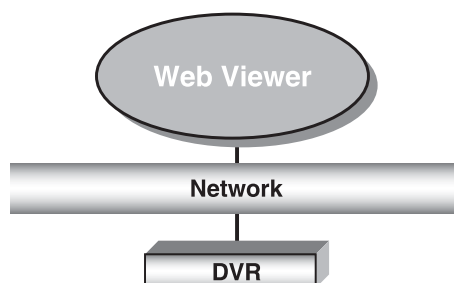
OVERVIEW OF WEB VIEWER

What is the Web Viewer?

Mobile Viewer is management software that enables you to connect to DVR (Digital Video Recorder) remotely and control the video playback and PTZ operations (if configured) in real time.

Key Features

- Remote access via the default browser
- 1~4 channels supported (up to 4 cameras)
- Save in the format of JPEG or BMP for the purposes of printout or storage. (Play mode)
- AVI format recording in compliance with commercial media players (integrated coded required)



System Requirements

The minimum requirements to run the web viewer are as follows.

Operating System	Windows XP Professional Windows Vista Home Basic / Premium Windows 7 DirectX 9.0 or later
Web Browser	Internet Explorer 6.0 or higher
CPU	Core 2Duo 2.66GHz
RAM	2GB or higher
VGA Memory	512MB
HDD	200GB or more



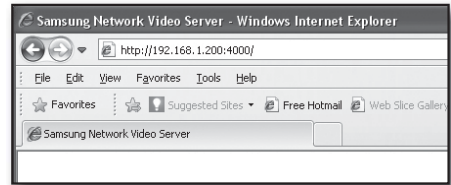
In the following cases, you will see a message of **"Insufficient resource"**. Then, you can view the monitoring video only in a lower frame rate until the web viewer is connected back again.

- If the web viewer is not guaranteed to operate properly due to insufficient specification of the PC that is running the web viewer
- If other running program deteriorates the performance of the web viewer
- Or if the DVR is not connected stably to the network
- The network performance is not guaranteed due to a restricted bandwidth of the DVR
- If the PC specification is below Core 2 Duo 2.66GHz (minimum requirement), the PC cannot meet the normal play speed.

web viewer

CONNECTING TO THE WEB VIEWER

1. Open the web browser and enter the IP address and port number (that are specified in the DVR) in the address bar. The address is in such a format of "http://192.168.1.200:4000." If you change the default port number (4000), enter the new port number in the port input box. (page 43)



2. For the admin account, provide the admin ID and password for the DVR.
A registered user shall provide the user ID and password for the DVR.



- The web viewer allows a max of 10 concurrent users including the administrator.
- The default password of the admin account is "4321".
- The respective passwords for the admin and registered users can be changed in the <Security> menu of the DVR.
- The DVR settings will take priority over all other settings.



- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.
Note that the security and other related issues caused by the unchanged password shall be responsible for the user.

3. Download the <zip file> in the bottom of the login dialog. Unzip it.
4. Select a suitable one to your PC from the unzipped files of <vcredist_IA64.EXE>, <vcredist_x64.EXE>, <vcredist_x86.EXE>.
 - vcredist_IA64.EXE : For a PC featuring Intel Itanium 64bit CPU.
 - vcredist_x64.EXE : For a PC featuring Xeon 64bit CPU.
 - vcredist_x86.EXE : For ordinary PCs featuring 32bit CPU.
5. Click <Install ActiveX control(C)>.
Downloading Active-X control may take several minutes according to the security settings on your PC.



6. Click <Install (I)>.
7. The installation is completed.
You will see the main screen of the Live Viewer.



USING THE LIVE VIEWER

Provide the user ID and password in the login page. If the information is authenticated, you will move to the monitoring page. In the monitoring page, you can view the camera video in real time and control the PTZ camera, relays, listening to audio and microphone, which are connected according to your permission level.

Live Viewer at a Glance

If you open the web viewer, the Live Viewer will be displayed in the start screen.
If you want to open a different viewer, click <LIVE> in the top right corner.



Item	Description
1 Connection Information	The model name of the DVR that is connected through the IP address will be displayed.
2 Select Viewer	Select one viewer from <LIVE>, <SEARCH>, and <ABOUT>.
3 Screen Mode	Switch to a split mode or full screen.
4 Connection Status	The IP address and model name of the connected DVR will be displayed.
5 CHANNEL	Display the video input channel.

web viewer

Item	Description
6 SENSOR IN	Display the sensor input channel.
7 SENSOR OUT	Display the sensor output channel.
8 MIC	Specify the use of the microphone.
9 Log	Display the event log.
10 Display Pane	Display the video from the camera that is connected to the DVR.

OSD Information

Place the cursor on the channel screen and right-click any area to display the context menu where you can select to display or hide the information on the OSD screen.



Item	Description
1 Channel #	Display the channel number.
2 Channel Name	Display the channel name.
3 Show All	Display all OSD information.
4 Hide All	Hide all OSD information.
5 Speed	Display the transfer rate of network streaming.
6 Time	Display the system time of the DVR.
7 Event	Display the icon applicable to the event that occurred.

Split Mode

Click a desired numeric icon to switch the split mode.

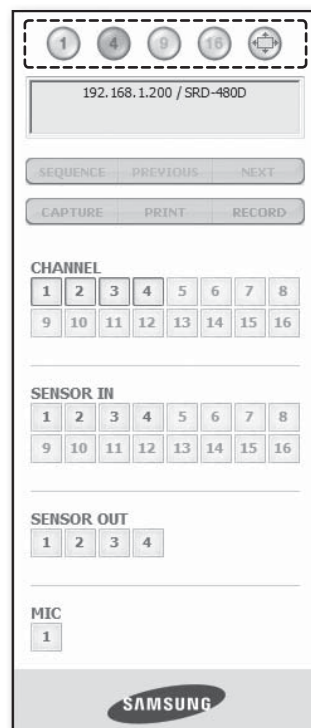


1-split Mode



4-split Mode

- Click <1>.
The "**1-split mode**" will display the video from the camera connected to the DVR.
- Click <Show in Original Size> appears in case of full screen mode, and selecting it displays the stream in its original resolution on the screen.
If the stream's resolution is bigger than that of the monitor, it fits to the screen resolution of full screen mode.
- Click <4>.
The "**4-split mode**" will display the videos from the cameras connected to the DVR.
- Click <Full Screen>.
The video from the camera connected to the DVR will be displayed in "**Full Screen**" mode.



Full Screen

To return to the previous mode, right-click to select <Restore Window> in the context menu.



Connected DVR

Display the IP address and operation status of the connected DVR.

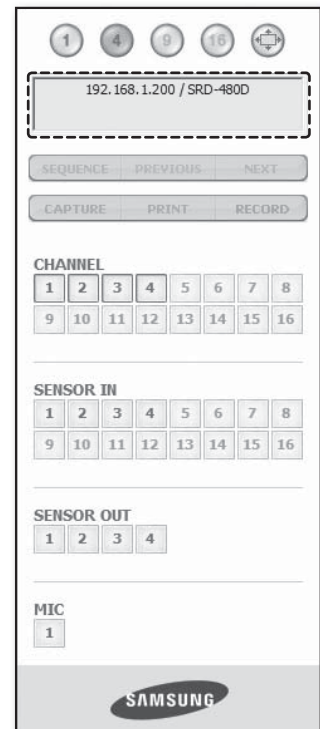


- Connection failure message

No response : Displayed if the DVR makes no response

Connection not allowed : If the number of concurrent users exceeds the limit

- The maximum number of concurrent users is 10.



Channel Connection

You can turn on or off the channel connection.

Channels available will be marked in blue. If selecting one, the border of the channel button will turn blue and the video from the channel will be played.



- If you click the button of a connected channel, the current video will be disconnected and the screen will turn black.

Sensor Input

This icon will be displayed if a sensor event occurs from the DVR.

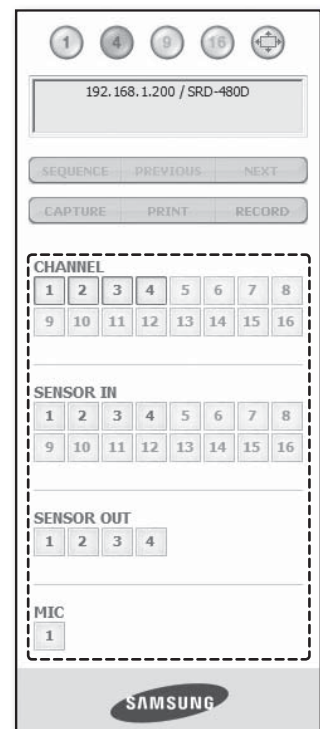
If a sensor event occurs, the sensor icon will turn red and the sensor number will be displayed on the screen. If no sensor event occurs, the icon stays in blue.

Sensor Output

You can turn on or off the relay. Click the number button of a relay that you want to activate. The relay turns ON and the button turns blue. Inactive sensor output buttons indicate that they are not supported by the DVR.

To activate the relay, you must have that permission.

For more information, refer to the relay user permission. (page 51)



Microphone

You can turn on or off the microphone. It is defaulted to OFF. If you click the button, it will turn blue, indicating that it is ready for use.

The audio signal incoming to the microphone will output to the audio output port of the DVR.

Event Information

Display the real-time information of an event that occurred in the bottom of the monitoring screen.

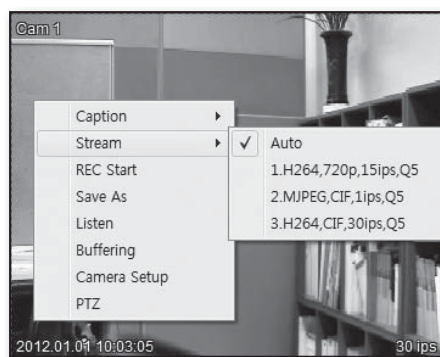
Time	Event	Message
2012.01.01 09:10:57	3 On	CH3 - Motion Detected
2012.01.01 09:10:57	1 On	CH1 - Motion Detected
2012.01.01 09:10:57	2 On	CH2 - Motion Detected
2012.01.01 09:10:57	4 On	CH4 - Motion Detected
2012.01.01 09:10:54	3 On	CH3 - Motion Detected
2012.01.01 09:10:54	1 On	CH1 - Motion Detected

To select a stream

1. On the current monitoring screen, select a channel to record.
2. Right-click to display the context menu, and select **<Stream>**.
3. Select a desired video stream.

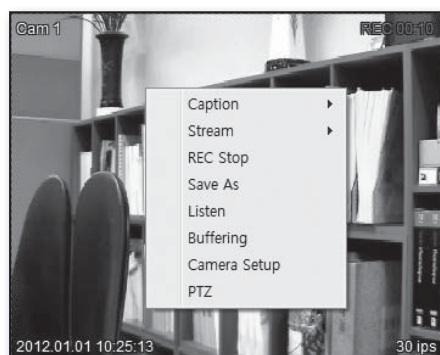


- In the following cases, the video may be played at a lower frame rate than requested:
 - Insufficient bandwidth, low-performance computer, 3 or more concurrent users, or the server is in operating for playback/backup



To make recording

1. On the current monitoring screen, select a channel to record and right-click it.
2. In the context menu, select **<REC Start>**.
You can make recording for a max of 10 minutes. For quick recording, the recording time will be displayed on the screen.
 - Recording will be ended automatically in 10 minutes after the start.



3. During the recording, right-click to display the context menu, and select **<REC Stop>** again.
The recording will be ended. And you will be prompted to save the recording file. You can rename the recording file and save it in a directory of your choice.



- The file will be recorded in **"*.avi"** format.

web viewer

To save the video

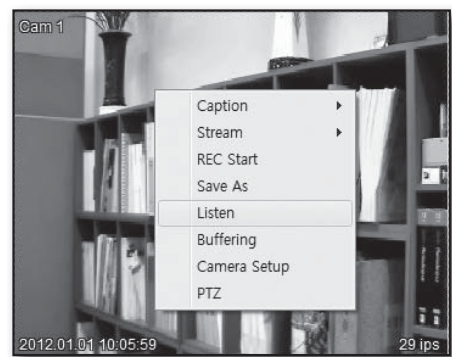
The video image can be saved in two formats of jpg and bmp, which is, namely, a video clip of the current monitoring screen that is saved in 1 frame.

1. If you want to save the video, select a channel to save the video from and right-click it.
2. From the context menu, select <**Save As**>, specify the saving path and click <**Save(S)**>.
3. To check the video, open the saving directory and double-click a video clip to play it.

To listen to the sound

You can listen to the audio signal from the channel if the audio signal is in sync with the channel.

1. To play the audio, select a channel and right-click it.
2. From the context menu, select <**Listen**>.



Buffering

Selecting the Buffering function will smooth the video as it displays the video at the same frame rate as the original.

Buffering will smooth the video and minimize the video delay.

However, if the frame rate is below 15, it does not make much difference in smoothness.

Also, buffering will increase the video delay by about 1 second.

Camera Setup

1. To change camera setup, select a channel and click right mouse button.
2. From the popup menu, select <**Camera Setup**>.
3. Click the menu navigation button displayed on screen to move to a desired menu item.



- Camera menu setup will be available only when the serial communication is established between the camera and DVR. (page 23)

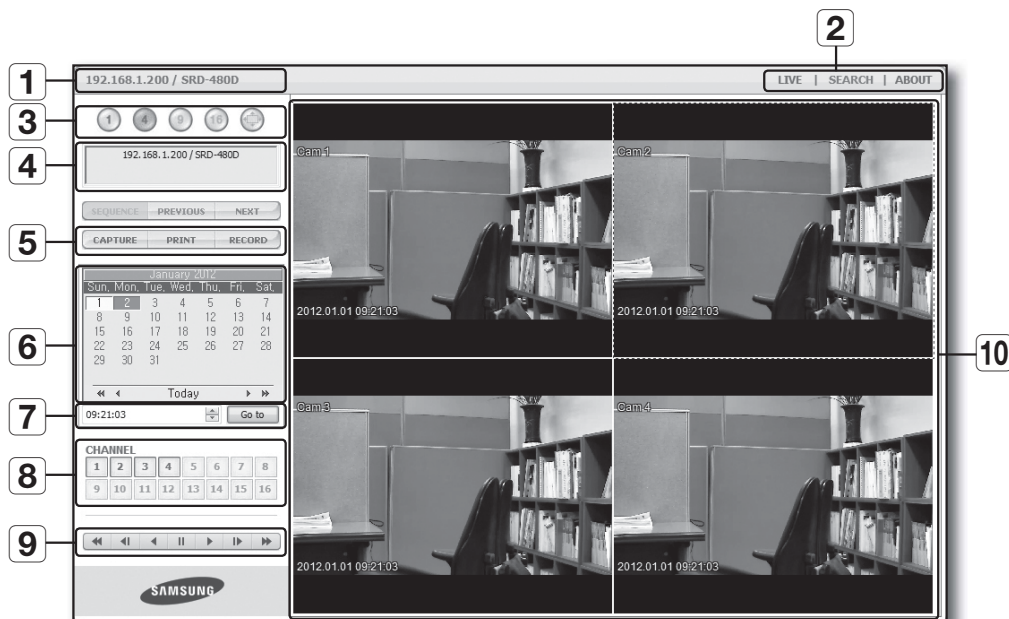


USING THE SEARCH VIEWER

With the search viewer, you can play the recording video. However, you must have the admin account or have the 'HDD' permission granted to your account.

Search Viewer at a Glance

To move to the search viewer, click <SEARCH> on the top right corner of the viewer screen.



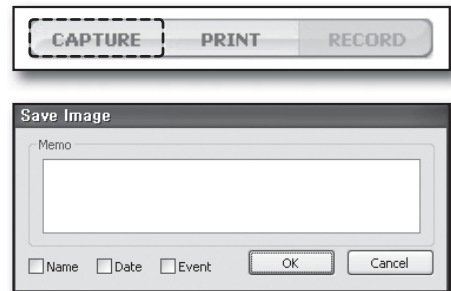
Item	Description
1 Connection Information	The model name of the DVR that is connected through the IP address will be displayed.
2 Select Viewer	Select one viewer from <LIVE>, <SEARCH>, and <ABOUT>.
3 Screen Mode	Switch to a split mode or full screen.
4 Connection Status	The IP address and model name of the connected DVR will be displayed.
5 Save Image	Capture or print out the current video.
6 Calendar	Search for a date, which can be marked if it contains any recording data.
7 Time	Specify the time for your search and move to the applicable timeline.
8 Channel	Display the video input channel.
9 Playback Adjustment	Adjust the settings of the current video.
10 Display Pane	Play the video found by your search.

web viewer

Capture


You can capture the current video in .bmp format.

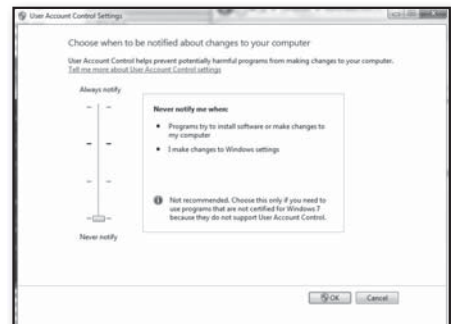
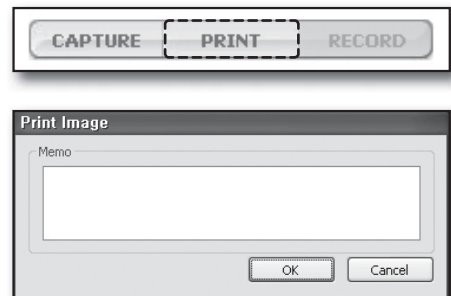
1. Select a channel to capture.
2. Click <CAPTURE>.
The "Save Image" dialog appears.
3. Enter a memo or provide the channel name, date and event information.
4. Click <OK> and specify the saving path.



Print

You can print out the current video image using the printer connected to the PC.

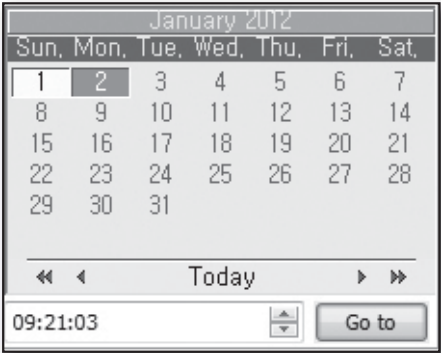
1. Select a channel to print.
 2. Click <PRINT>.
The "Print Image" dialog appears.
 3. Enter a memo if necessary and click <OK>.
The video image will be printed out containing the printing date, channel name, recording date, event and memo.
-  ■ If the User Access Control (UAC) is turned on, Web Viewer cannot access the printer. If UAC is turned on and attempted to print captured scene by pressing the <PRINT> button, a message of "User Access Control is detected. To use the print function, you should set the UAC low." Press OK to close the message, and it doesn't print. To use print function, UAC needs to be turned off or start the Internet Explorer as an administrator.



To move to the search time and date

The date containing recording data will be active in black. You can select a date containing recording data and play the video.

1. Using the calendar, select a date for your search.
2. Specify the time.
3. Click <Go to>.
Play the video on that specific time and date.



Watermark

- Not Tampered : This indicates that the video is original.
- Tampered : This indicates that the original video is tampered with by someone.

Using the play button bar



Item	Description
1 Fast Backward	Play the video backward.
2 Move one frame back	Play reversely one frame by one.
3 Reverse	Play the video reversely.
4 Freeze	Stop playing the current video temporarily.
5 Play	Play the video at normal speed.
6 Move one frame up	Play forward one frame by one.
7 Fast Forward	Play the video forward.

SmartViewer

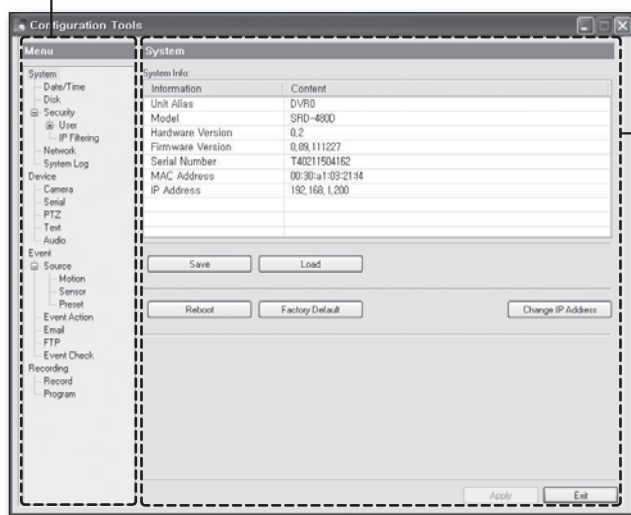
SETUP VIEWER

Open the Smart Viewer and click [] button in the top right corner.

Open the Smart Viewer and move to <Device Menu Setup> where you can configure the DVR settings remotely.

Using the Setup Viewer

This will display the DVR menu items. If you click a menu item, you will move to the setup page of the item.



If you change the setting in the setup page, the <Apply> button on the bottom will be active. Press the button to apply your changes.

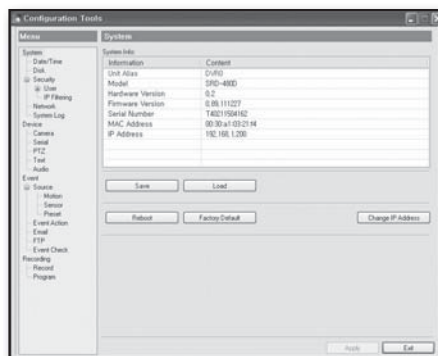
Once you made changes in any of the setup pages, you must press <Apply> before your changes can be applied.

SYSTEM SETUP

System

System Information

Display the system information of the DVR. For the items in blue, you can double-click one to change the settings. When done, click <Apply> to apply your changes.



Import & Export

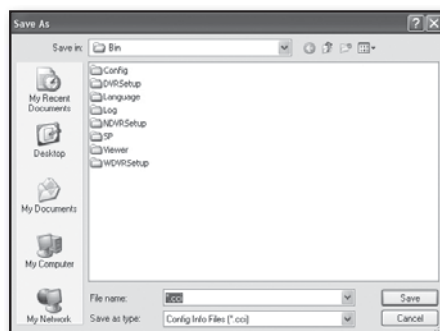
- **Save** : You can save the configuration information of the selected DVR as a file.
- **Load** : You can use a recorded file to configure the same settings for other DVR.
This is useful if you want to apply the same settings to multiple DVRs.
However, this is possible only for those DVRs with the same software version and model type.



- Before you import or export the configuration file, you must register the DVRs with the Smart Viewer.

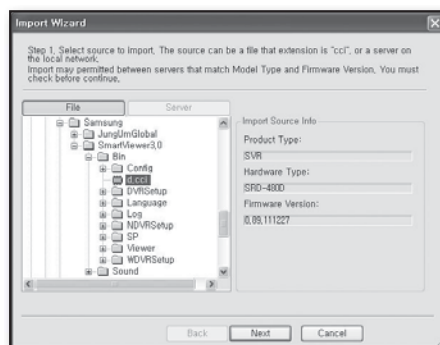
To export the configuration

If you click **<Save>**, you will see a window where you can specify the saving path of the configuration. Name the exported file at your preference.

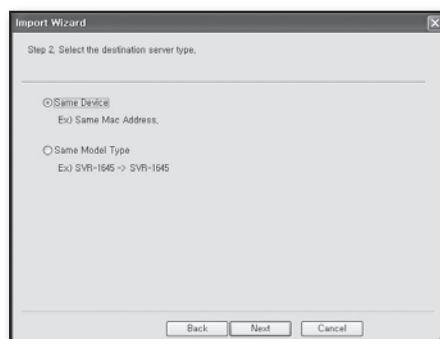


To import the configuration

Click **<Load>** to open the Import Wizard. Select a file in "*.cci" format from the file list. Then, the information of the selected file such as the product type, hardware type and software version will be displayed. Check the information and click **<Next>**.



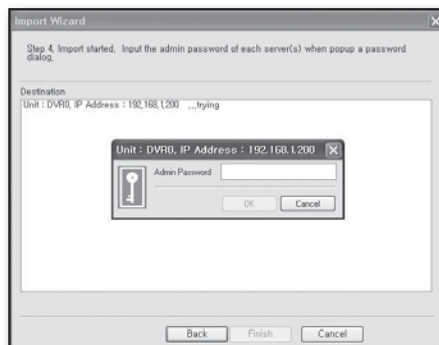
Select whether you want to import or export the configuration from the same device, same model type.



SmartViewer

If it's the same device, the configuration file will be saved immediately.

Provide the admin password and click <OK>. The configuration file will be imported.

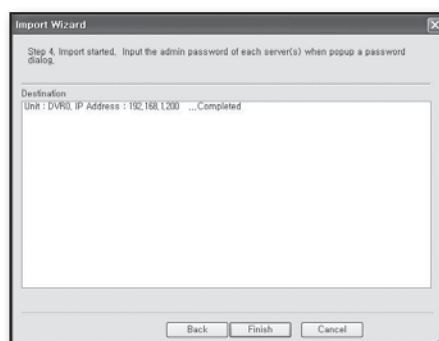


When done, you will see the "**Completed**" message and the <Finish> button will be active.

- Restart : Use to restart the DVR.
- Default : Return to the current settings to the factory default.
- Change IP : Use to change the IP of the DVR.



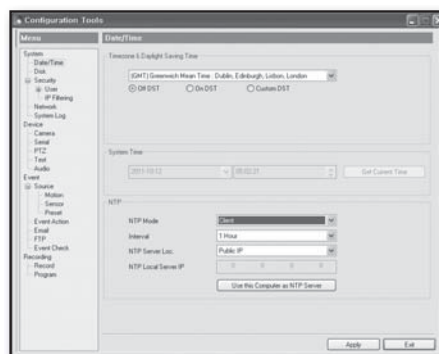
- Even if you reset the DVR, the system time and date and network settings will not be affected.



Date/Time

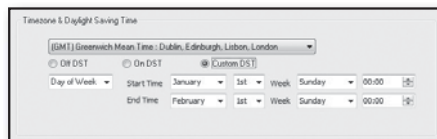
Date & Time

- Timezone & Daylight Saving Time : This menu is in sync with your time zone settings. Namely, If you select an area where DST is applied in the Time Zone menu, DST will be automatically set to On. Otherwise, it will be set to Off. Select <Custom DST> if you want to configure your own DST settings regardless of the standard time zone and DST. If you select <Custom DST>, the Custom DST menu item will be displayed.
- System Time : Display the system time and date of the DVR. The system time can be changed only in the applicable menu of an individual DVR.

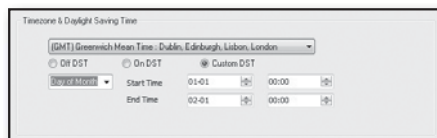


- Custom DST contains two options : "**Day of Week**" and "**Day of Month**".

In "**Day of Week**", specify the month, week, day of the week and time for the start and end times of DST.



- "**Day of Month**" requires you to specify the month, day and hour for the start and end times of DST.



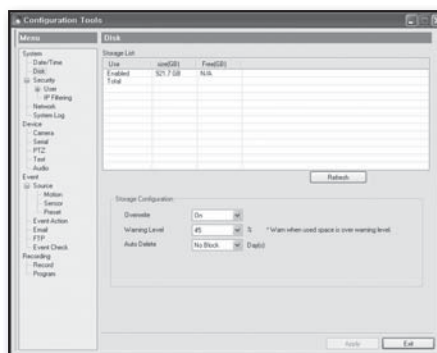
NTP Setting

NTP (Network Time Protocol) is used to synchronize the time between network devices based on the base device.

- **MODE** : Select one from Server/Client/Both. In Server mode, the DVR itself is the basis of providing the time; In Client mode, the time will be propagated from the time server. In Both mode, the DVR plays both of server and client.
- **Interval** : Specify the interval of receiving the time information if the NTP mode is set to Client. (1/3/6/12/24 hr.)
- **IP Type** : Select Public IP if the DVR obtains the time information from a public NTP server on the Internet; Select Local IP if the DVR obtains the time information from your specified NTP server.
- **Local IP** : If the IP type is set to Local IP, provide the IP of the NTP server.

Disk

The DVR shows the storage information of the internal HDD such as total and remaining capacity of the HDD.



SmartViewer

User

Account

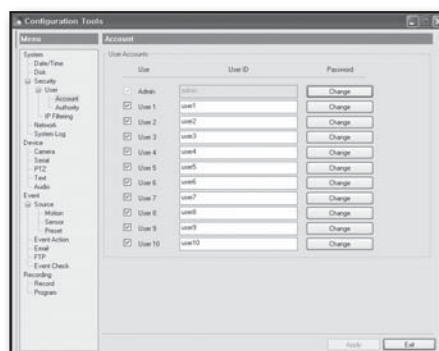
The DVR accounts are classified in two: user and admin. The admin account can access all features of the DVR without restriction. You can add up to 10 users, each of whom can use or access the DVR only within the permissions granted.

- **Admin Password** : The default admin password is "4321" that can be changed. If you want to change the password, provide 12-digit numbers for a new password.
- **User Password** : All of the user passwords are the same as "1111", which can be changed.
- **Change** : Select a user password that you want to change.



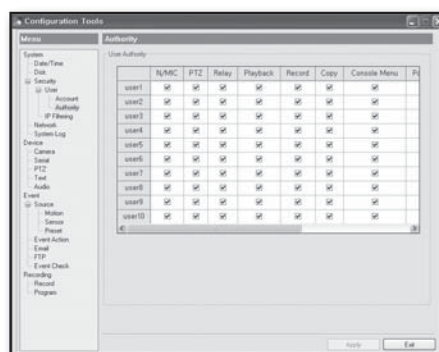
- The default password can be exposed to a hacking thread so it is recommended to change the password after installing the product.

Note that the security and other related issues caused by the unchanged password shall be responsible for the user.



Authority

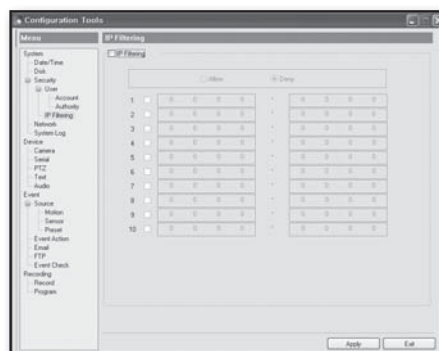
You can set permissions for each user so that the user can use the menus as allowed.



IP Filtering

With the IP Filtering function, you can allow or reject access to a specific IP(s) from the DVR.

Access will be granted only to IPs listed; reject means that access will be granted to any other IPs than listed. You can add a max of 10 IPs to the list, all of which can be set to Allow or Reject.



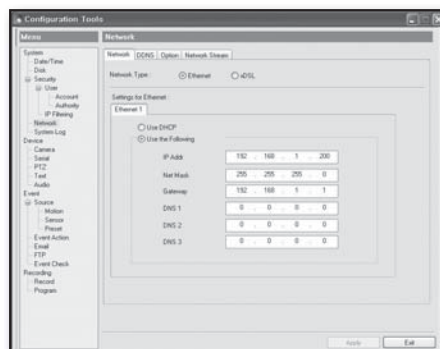
Network

Ethernet network connection

Select <Use DHCP> if using dynamic IP. In a network environment using a static IP, provide the assigned IP, subnet mask, gateway and DNS server address.



- For more information about the static IP settings, consult with the network admin or your IPS service provider.

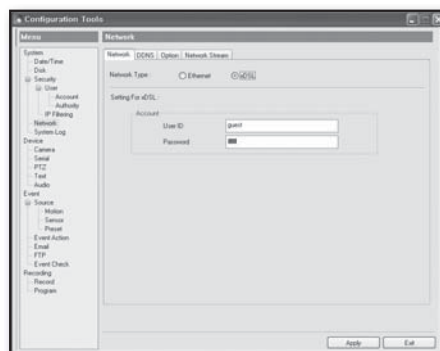


xDSL network connection

If your network environment uses xDSL, select xDSL and provide the user ID and password.



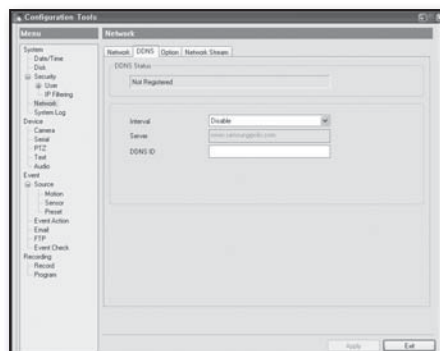
- xDSL is available only with the PPPoE protocol.
- If you configure the network settings in xDSL type, you must specify the WRS. (however, this is not applicable if you are using a static IP)
- Change the network settings according to xDSL type. However, that is not available in Ethernet network environment.
- The user account and password are provided from the xDSL ISP service provider.
- Even if the network line is of xDSL type, you must set the network environment to Ethernet if a modem is used.



DDNS

If the DVR is connected to the network using a dynamic IP, the user cannot find out the IP assigned to the DVR. If this is the case, register the DVR with the DDNS service. The DVR will add the IP assigned at each interval to the DDNS server. You can use the list of dynamic IPs added to the DDNS server to connect to the DVR.

- Interval :** Specify the time interval of updating the DDNS server with dynamic IP.
It is recommended to set it to one minute in a network environment with very frequently changing IPs. (Off/1min/1hr/3hr/6hr/12hr/24hr)
- Server :** The DDNS server run by Samsung Techwin is "www.samsungipolis.com".
- DDNS ID :** Provide the IP that is registered with the DDNS server.



DEVICE SETUP

Camera

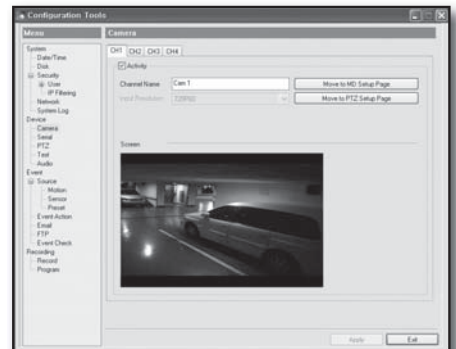
Video Channel Setting

You can specify the basic information, brightness, and contrast for each channel.

The tap number (CH1, CH2, CH3, CH4) indicates the channel number of each video.

Channel Information

- Activity : Specify the use of the channel.
 - Channel Name : Provide the channel name.



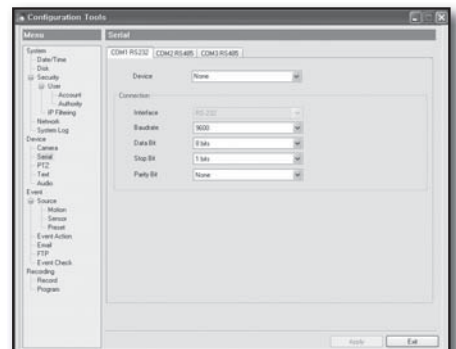
Serial Port

In the COM Port page, configure the communication settings for each COM port and select devices to use. The tabs exist as many as the COM ports where the tab number corresponds to the COM port number.

Selecting a device to connect to the serial port

Device types that can be connected to the serial port include: PTZ, Keyboard and Text.

- PTZ : Select this if you want to connect a PTZ device. Select this option to display the setup details on the bottom. Select an appropriate PTZ device. If you jump to the PTZ setup page, click "Go".
- Keyboard : Select this if you want to connect the keyboard. If you select this, the keyboard setting menu will be displayed on the bottom. Select an appropriate keyboard.
- Text : Select this if you want to connect the text device. If you jump to the text setup page, click <Go>.



SmartViewer

PTZ

The tab number indicates the channel number. According to this number, the PTZ device will be connected to a specific channel.

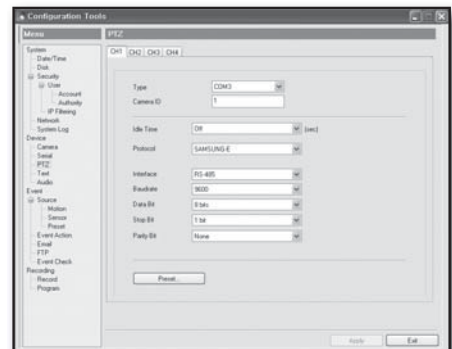
PTZ Setting

You can change the PTZ settings only after you had set to enable PTZ in the COM port page.

- Type : Select a serial port that is connected to the PTZ device.
- Camera ID : Specify the address of the PTZ device. You must refer to the PTZ device settings for the address.
- Idle Time : If no PTZ operation is detected for the idle time, you will move to the preset.
- Interface, Baudrate, Data Bit, Stop Bit, Parity Bit : Configure the same settings with those of each device.



- If a PTZ device is connected, you must first configure the related settings in the "Channel" and "Device" tabs.



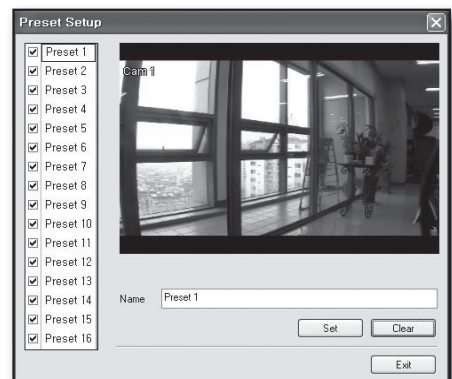
Preset Setting

Press the <Preset> button to open the preset setup window.

- Record/remove Preset : Select a preset to record from the list, and move to a desired point of the video. Provide the preset name and press <Set>.
Select a preset in the list, and press <Clear> button. The preset will be deleted.



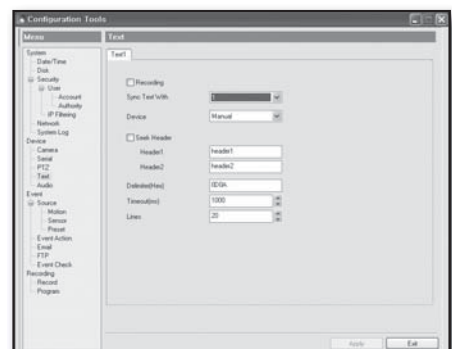
- If you want to control the PTZ operations, open the context menu and select 'PTZ'.
- With the PTZ item active, place the cursor in the video. You will see a cross line on the video. Then, you can control the pan/tilt operations.
- Move the cursor to either side of the video. The Zoom control will be displayed in the left while the Focus control will be displayed in the right.



- Enable Preset : To enable a preset, check the preset checkbox in the list to activate it.

Text

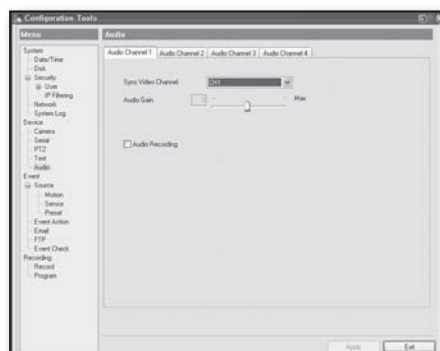
Check the Save checkbox and select a channel to synchronize. If the device to synchronize is "VSI Pro", set that device only. For other devices, set Device to Manual and specify all the sub items.



Audio

The audio signal can be paired with any channel available.

- Sync Audio Channel : Sets to which channel the audio input will be linked. If linked channel 1 audio to the video channel 4, the audio input of channel 1 is produced when the channel 4 is selected.
- Audio Gain : Use +, – to adjust to desired volume.
- Audio Recording : Whether to save the audio settings or not.



EVENT SETUP

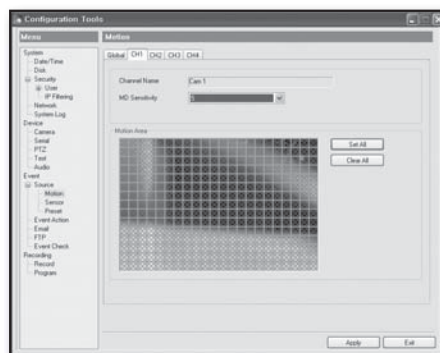
Source

Motion

Select whether to activate the motion detection function for each channel.

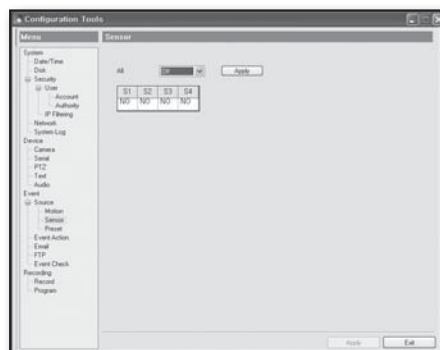
You can select a sensitivity level of motion detection in the MD Sensitivity item.

If you set it to <None>, any motion from that channel will not be detected. The higher the level is, the more sensitive the motion detection becomes.



Sensor

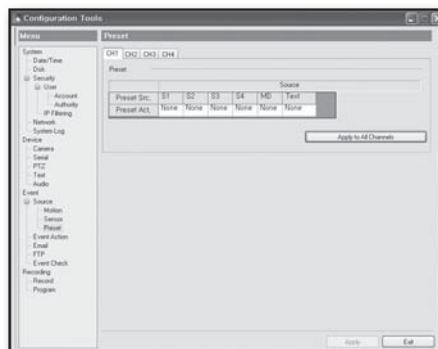
Specify the sensor type. You can add up to 4 sensor types. (NC: Normal Close, NO: Normal Open, Off)



SmartViewer

Preset

You can specify the preset for motion, sensor or text event.
You can set the preset for each channel.

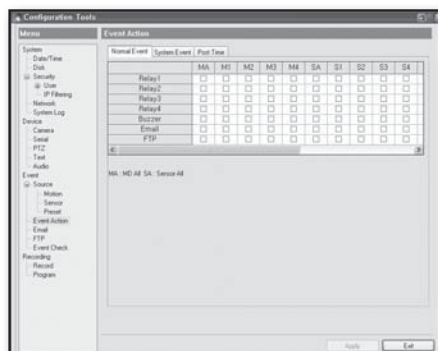


Event Action

In this page, specify the operation according to the incoming event.
The DVR provides 4 relays, buzzer, e-mail and FTP transfer by default. And you can operate the DVR in sync with events such as sensor input or motion detection.

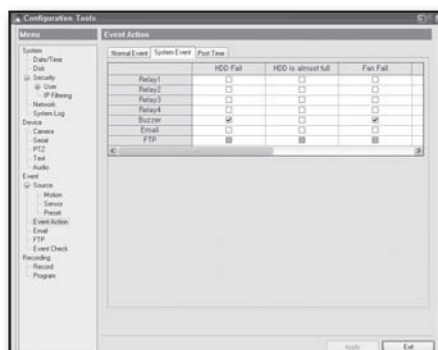
Normal Event

You can set the normal event source to one of 4 sensors, 4 MDs, 4 video losses and text.



System Event

As system event source, you can set some or whole of: disk error, HDD full, fan error, authentication failed, and DDNS registration failed.



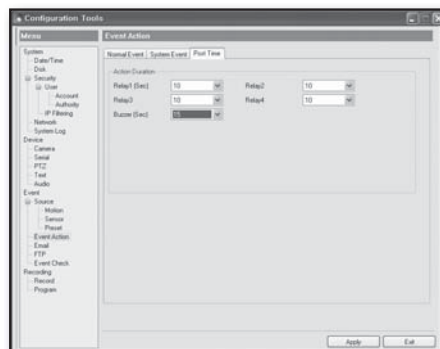
Post Time

4 relays are supported that can be activated manually or if a normal or system event occurs.

Select an event source and specify the duration.

To activate the relay manually, press the relay button that will be active if you access the Smart Viewer or Web Viewer.

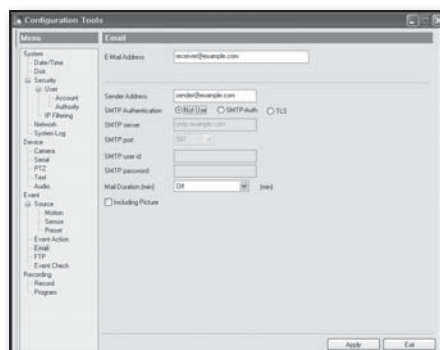
- Buzzer (Sec) : The buzzer will sound if a normal or system event occurs so that you can check the event.
Select an event source and specify the duration.



Email

Non-authentication emailing

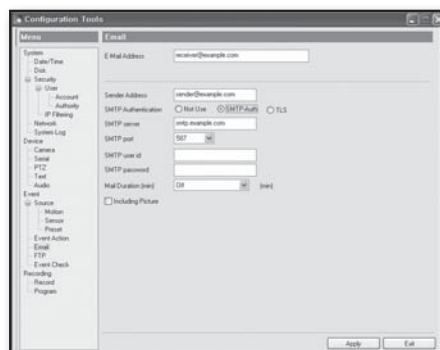
- E-Mail Address : Provide the email address at which you want to receive messages.
- Sender Address : Provide a valid (currently used or existing) email address.
- Including Picture : If you check this option, the email to send if an event occurs will include the event image at the event occurrence time.
If you uncheck this option, the email will be sent if an event occurs but with no image attached.



SMTP-Auth / TLS

SMTP authentication uses the SMTP-based email address or account to authenticate the email transfer.

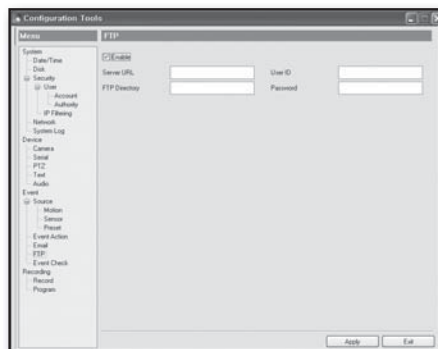
- E-Mail Address : Provide the email address at which you want to receive messages.
- Sender Address : Provide a valid (currently used or existing) email address.
- Including Picture : If you check this option, the email to send if an event occurs will include the event image at the event occurrence time.
If you uncheck this option, the email will be sent if an event occurs but with no image attached.
- SMTP server : Provide the SMTP server address for the sender email address.
- SMTP port : Select a port to use in SMTP server.
Select one from 25 and 587.
- SMTP user id : Provide the SMTP account (ID) of the sender.



SmartViewer

FTP

- **Enable** : Check this option if you want to use the FTP transfer. Otherwise, deselect it.
- **Server URL** : Enter the address for a FTP server to which you will upload event images when an event occurs.
- **User ID** : Provide the user ID that you have specified for the FTP server.
- **Password** : Enter the password that you have specified for the FTP server.
- **FTP Directory** : Check this option if you want to create a sub directory under the directory that you have specified in the server, in which you will save the transferred images. Use characters or numeric figures for the directory name.



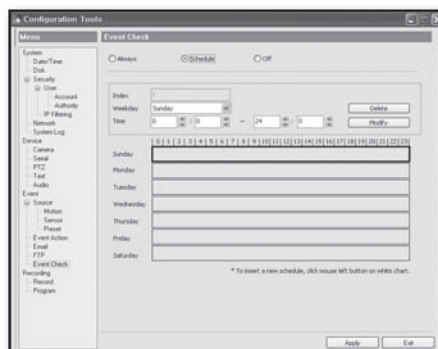
Event Application

Specify the time to apply the event recording. Three options are available: Always, Off, Schedule.

<**Always**> recognizes incoming events all the time,

<**Schedule**> will recognize the event only at a specified time.

If selecting Schedule, you can specify the event checking time for a specific time or day of the week like you make schedule.



RECORD

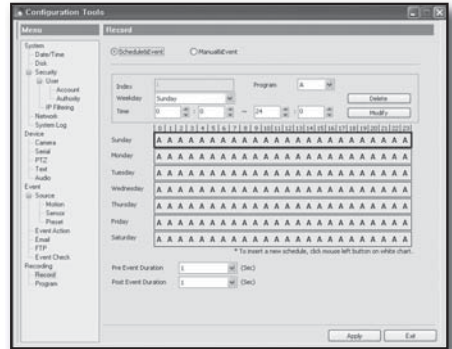
Record

Schedule & Event

Schedule & Event allows you to make recording according to a specific schedule and event.

Specify the date or time, and select a program before specifying the schedule. You can select A through I.

The event recording can be triggered by the 'sensor', by the 'motion detection', by the 'text' and by the 'digital input'.

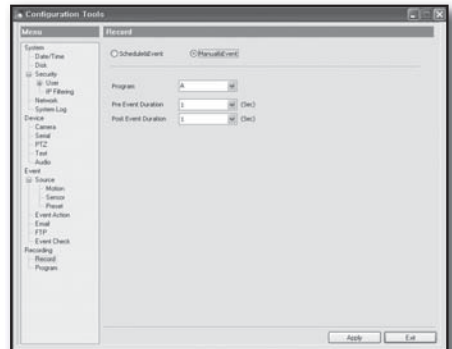


Manual & Event

In Manual & Event, you can specify the recording conditions and triggering event. Recording will start by your pressing the [REC] button on the front panel.

You can specify program A through I together with the Pre Event Duration and Post Event Duration settings.

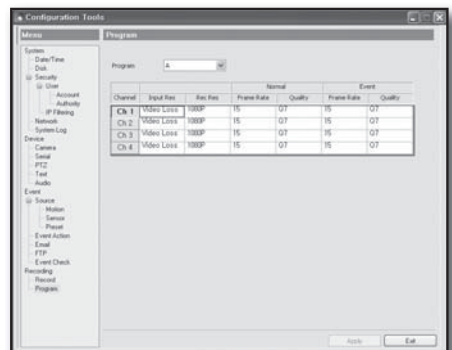
- Pre Event Duration : You can assign up to 15 seconds.
- Post Event Duration : You can assign up to 60 seconds.



Program

In this page, you can apply the resolution, frame rate and quality for each channel to program A ~ I.

- Input Res : Show the input resolution as well as the recording resolution.
- Frame Rate : Indicate frames per second. Select one between 0fps and 30fps.
- Quality : For 1080p, you can select one between Q1 and Q7. For 720p, select one between Q1 and Q5.



appendix

PRODUCT SPECIFICATION

Item		Details
Video	Inputs	4CH (HD-SDI SMPTE292M)
	Resolution	720p 30fps / 720p 60fps / 1080p 30fps
Live	Frame rate	120fps
	Resolution	1920x1080p
	Multi Screen display	1/4/SEQUENCE
Performance		
OS	Embedded	Linux
Recording	Compression	H.264
	Record Rate	1280x720p : 120fps
	Mode	1920x1080p : 60fps
		Manual & Event or Schedule & Event
	Overwrite modes	Continuous
	Pre-alarm	Up to 15 sec (1/2/3/4/5/10/15 Sec)
Search & Playback	Post-Alarm	Up to 60 sec (1/2/3/4/5/6/7/8/9/10/15/20/25/30/35/40/45/50/55/60 Sec)
	Search mode	Date/Time, Calendar, Event Search, Thumbnail Search
	Playback function	Forward (x2, x4, x8, x16, x32, x64) ※ I frame only Forward (x1, x1/2) ※ All frame Backward (x1/2, x1, x2, x4, x8, x16, x32, x64) ※ I frame only Step Forwad/Backward Play at single channel (I+P frame) ※ All frame

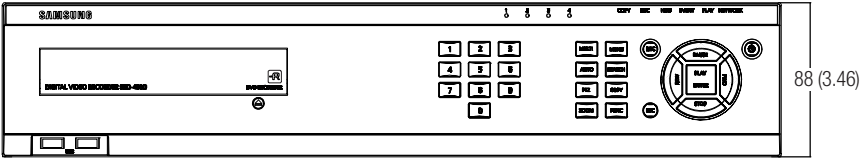
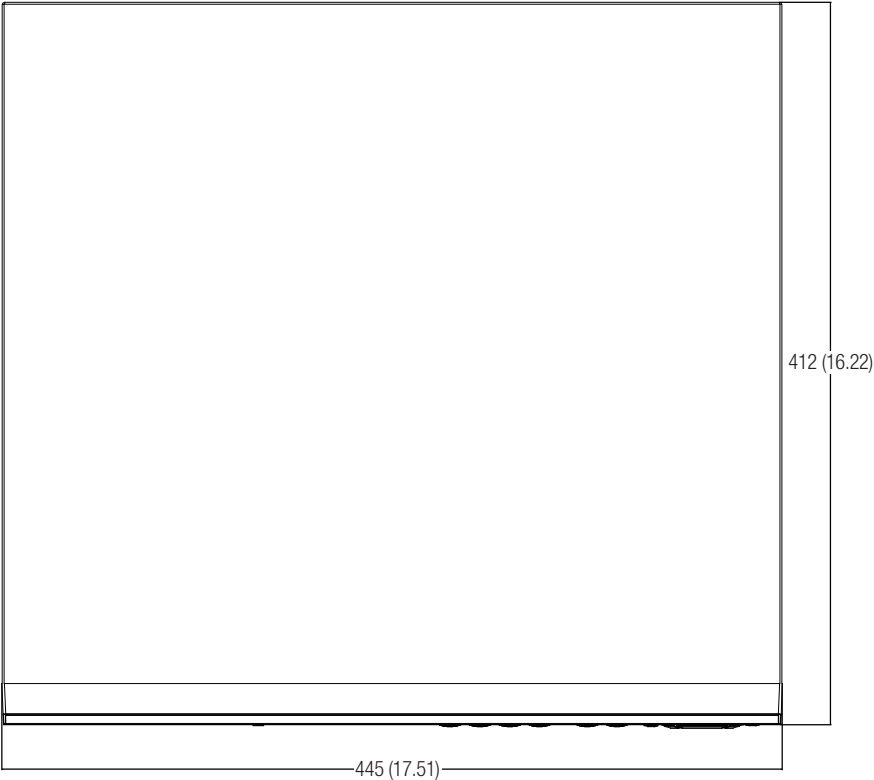
Item		Details
Network	Transmission speed	Dual codec (CIF120fps/2CIF120fps/4CIF120fps) Single codec (720p, 1080p)
	Bandwidth	Up to (15)Mbps, 15M~256kbps
	Bandwidth control	Selectable
	Stream	720p, 1080p (Record Encoding), 4CIF/2CIF/CIF (Dual codec) Selectable
	Remote users	10 users (two users for searching are included)
	Protocol support	TCP/IP/DHCP/HTTP, PPPoE/DDNS(iPoliS only)/NTP/SMTP/TLS
	Monitoring	NET-i Viewer, Smart viewer, Webviewer
Storage	Internal HDD	Up to 4 SATA (Basic 1TB, Up to 2TB x 4EA)
	External HDD	SVS-5R (Only Storage Support), Total 12TB (internal + external)
	DVD Writer (Copy)	YES (DVD-R, CD-R Support)
	USB (Copy)	USB 2.0 (Max. 32GB)
	File Format (Copy)	AVI, EXE (Include Player), VFS4 (CD/DVD copy)
Security	Password Protection	1 admin, 10 user, user can be assigned authority for function
	Data Authentication	Watermark
Interface		
Monitors	VGA	1920x1080p resolution
	HDMI	1920x1080p resolution
	Main Composite	-
	Spot Composite	-
	Loop Outputs	-
Audio	Inputs / Output	4CH line in/1CH line out
	Compression	ADPCM
	Sampling rate	16KHz
Alarm	Inputs / Outputs	Terminal 4 inputs (NO/NC), Terminal 4 relay outputs (NO/NC)
	Remote notification	Notification via e-mail

appendix

Item		Details
Connections	Ethernet	10/100 Mbps Ethernet
	Serial interface	RS-485 for PTZ, System Keyboard (SPC-6000)
	USB	USB 2.0, Front 2 ports
	e-SATA	1 External SATA ports
	Application Suport	Mouse, Remote Controller, Samsung System Keyboard (SPC-6000)
	PTZ Protocol support	SAMSUNG-E / SAMSUNG-T / PELCO-D / PELCO-P
General		
Electrical	Input Voltage /Current	100 to 240 VAC \pm 10%; 50/60 Hz, Autoranging
	Power consumption	Max 85W
Environmental	Operating Temperature / Humidity	+0°C to +40°C (+32°F to +104°F)/20%RH to 85%RH
Mechanical	Dimension (W x H x D) H (leg not included)	W445 X H88 X D412 mm (W17.51" X H3.46" X D16.22")
	Weight (With hard disks)	Approx. 7.3 kg
	Rack mount kit	2 EA
Lauguage		Korean, Japanese, Chinese, English, French, German, Spanish, Italian, Russian, Polish, Czech, Turkish, Netherlands, Portuguese,Swedish,Danish, Thailandais, Rumania, Serbia, Croatia, Hungary, Greek (22 Language)

PRODUCT OVERVIEW

unit : mm (inches)



appendix

TROUBLESHOOTING

Symptom	Countermeasures
The system does not turn on and the indicator on the front panel does not work at all.	<ul style="list-style-type: none">• Check if the power supply system is properly connected.• Check the system for the input voltage from the power source.• If the problem persists even after you have taken the above actions, check the power supplier and replace it with a new one if necessary.
Some channels display just a black screen even if they receive video sources.	<ul style="list-style-type: none">• Check if the camera connected to the system properly displays the image. Sometimes, this problem may occur on a camera that is not properly connected to the video source.• Check if the camera is properly supplied with power.• Sometimes, this problem may occur on a channel with weak video signal from a video distributor that is connected to multiple systems. In this case, input the video source of the camera directly into the DVR. This may find the cause and solve the problem.
If nothing is displayed on the screen.	<ul style="list-style-type: none">• Check if the DVR is properly cable-connected to the camera.• If the camera is connected to the HD-SDI BNC input port of DVR: Check if the camera supports HD-SDI output.• If the HD-SDI BNC cable of the camera is connected directly to the BNC port of the monitor: Check if the monitor supports the HD-SDI input source.• If the HD-SDI video is converted to the DVI or VGA format using the video converter: Check if the converted format (by the converter) of the HD-SDI input video is compliant with the output format of the DVR.
If I press the [REC] button on the front panel, the REC indicator does not flash, nor the player start recording.	<ul style="list-style-type: none">• Check if there is a free space on the HDD for the recording.• Check if the record mode is set to ON in the record mode setting.
The screen displays the logo image repeatedly.	<ul style="list-style-type: none">• This may occur from a problem with the main board, or the related software is corrupt. Contact the nearest service center for more information.
The Channel button does not work on the Live screen.	<ul style="list-style-type: none">• The Channel button does not work if the current screen is in the event monitoring mode. In the event monitoring screen, press the [ESC] button to exit the screen and select a channel.
The cursor will not move to the Start button when I start the calendar search.	<ul style="list-style-type: none">• Check if the channel and the date that you want to play are marked with the V symbol. Both channel and date should be checked before you can start playing with the Start button.
When the alarm sounds, I press the [ESC] button on the front panel to release the alarm but it does not work.	<ul style="list-style-type: none">• Press the [MENU] button on the front panel to release the alarm in the following way:<ol style="list-style-type: none">1) To release the event monitoring mode : Monitoring Mode - set the duration of the event monitoring to Off.2) To release the alarm sound : Event Record Mode - Alarm (Motion Detection/Video Loss) – deactivate the alarm sound.3) To release the event : Event Record Mode - Alarm (Motion Detection/Video Loss) – set the mode to Off.

Symptom	Countermeasures
No response is made even if I press the [PTZ] button on the Live screen.	<ul style="list-style-type: none"> Menu → Network → Remote Device Check if the current protocols and other settings in the PTZ device are properly configured according to the PTZ camera.
I've found that the DVR does not recognize as many disks as installed when I have connected multiple external HDDs to the DVR.	<ul style="list-style-type: none"> It takes time for the DVR to recognize multiple external HDDs. Try again in a moment and if the problem (of failure to recognize as many HDDs as connected) persists, it may occur due to a mechanical error of the HDD installed. Try again with a different HDD.
A message of "Need to reset date/time." Is displayed on the screen.	<ul style="list-style-type: none"> This message is displayed if there occurs a problem with the time setting of the internal clock or an error in the clock itself. Contact the retailer or the service center for more information.
The "NONE" icon and an error message are displayed.	<ul style="list-style-type: none"> Check the HDD for connection. If the problem persists in a normal condition, contact the nearest service center to have the HDD checked by the service personnel.
I have installed an additional HDD on the DVR but it does not recognize the HDD.	<ul style="list-style-type: none"> See the compatibility list to check if the additional HDD is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.
I have connected an external storage device (USB memory, eSATA HDD) to the DVR but the DVR seems not to recognize it.	<ul style="list-style-type: none"> See the compatibility list of external storage devices to check if the connected device is supported by the DVR. For the compatibility list, contact the retailer where you purchased the DVR.
I found it difficult to configure the network settings if using the default search, copy and router settings.	<ul style="list-style-type: none"> For more information, refer to the user manual. If you use the router for network connection, refer to the "Connecting to the Internet using the router" section in this manual.
I forgot the password.	<ul style="list-style-type: none"> Contact the DVR administrator for help.
Copy data is just not played by the PC or DVR.	<ul style="list-style-type: none"> During copying, do not eject the media or turn the DVR off. Copied files using VFS4(For CD/DVD media only) and exe can be played only by the dedicated MiniPlayer. A file copied in the format of .avi can be played only on a PC that has installed the integrated codec.
My player does not switch to Live mode while in playback.	<ul style="list-style-type: none"> To return to the Live screen directly, press [■] or [ESC] button on the DVR front panel or the remote control.

appendix

Symptom	Countermeasures
Recording does not work.	<ul style="list-style-type: none">• Make sure the channel to be recorded is fed with video from the camera.• Check the recording mode settings.• Check whether the HDD is available for recording.• If set to Continuous or Event Recording, check whether the recording schedule includes the current time.• For manual recordings, press the [REC] button to start recording.• If event recording fails to record, check the detection settings.
The image quality of the recording data is not good.	<ul style="list-style-type: none">• For 720p recordings, replace the camera with one that supports 1080p.• If the video quality of a channel is set to a lower one, change it to Q7 for a 1080p camera-connected channel, or change it to Q5 for a 720p camera-connected channel.• Changing to a higher image resolution and quality results in bigger data size, which causes faster hard disk occupation. For overwriting data recording, it results shorter interval of overwriting existing recordings.

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SAMSUNG TECHWIN AMERICA Inc.

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Toll Free : +1-877-213-1222 Direct : +1-201-325-6920
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