

MOBILE VIDEO RECORDER

User Manual

SRM-872

MOBILE VIDEO RECORDER

User Manual

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Disclaimer

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Use of this document and the subsequent results shall be entirely on the user's own responsibility. Hanwha Techwin reserves the right to change the contents of this document without prior notice.

- Design and specifications are subject to change without prior notice.

- The initial administrator ID is "admin" and the password should be set when logging in for the first time. Set password for your wireless network if you use the product with a wireless router. Being not protected with password or using the default wireless router password may expose your video data to potential threat.

Please change your password every three months to safely protect personal information and to prevent the damage of the information theft.

Please, take note that it's a user's responsibility for the security and any other problems caused by mismanaging a password.

Overview

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.



STANDARD APPROVALS



This equipment has been tested and found to comply with 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.

BEFORE START

This manual provides operational information necessary for using the product and contains a description about each component part, its function as well as menu and network settings.

Keep in mind the following notifications:

- Hanwha Techwin retains the copyright on this manual.
- This manual cannot be copied without Hanwha Techwin's prior written approval.
- We are not liable for all or any losses to the product incurred by your use of non-standard products or violation of instructions mentioned in this manual.
- Prior to opening the case, please first consult a qualified technician and always remove the power from the unit.
- Before adding a hard disk drive or external storage (USB memory, USB HDD, etc.), check if it is compliant with this product. For the compatibility list, please contact the retailer.
- Use industrial use 'Micro SD' (not included). It saves data on SD in a lower temperature and changes to HDD when HDD reaches operational temperature.
- Place the GPS antenna evenly out of vehicle pointing toward the sky. If antenna installation is incorrect, it may receive unstable data. Normal GPS error distances are 16m when stopped, 30m while moving.

WARNING

Caution

- Power off before the installation of an extended power cord, use AWG (American Wire Gauge) 18 or thicker.
- When installing a GPS antenna, attach it to a flat place outside the vehicle. The GPS antenna must point towards the sky. Incorrect installation may cause unstable data to be received. Normal GPS error distances are 16m when stopped, 30m while moving. When installing a GPS antenna to the vehicle, purchase and use an 'Active Antenna (2.85V)'.
- Always vehicle use batteries. The fuse may be broken when connecting to an 'always on' power supply.
- The battery lifecycle may be shortened if the battery status is poor.
- There may be a risk of explosion if the battery is replaced by an incorrect type. Dispose of used batteries according to local environmental laws.

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.

To cut off the power in case of system failure, unplug the power cable.

You may want to install a UPS system in order to prevent damage caused by any unexpected power outages. (Any questions concerning UPS, consult our UPS retailer.)

Operating Temperature

The guaranteed operating temperature range of this product is -25°C ~ 50°C (-13°F ~ 122°F).

This product may not work properly if you use it immediately after a long period of storage below the guaranteed temperature.

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 0°C ~ 60°C (32°F ~ 140°F).

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

Ethernet Port

This equipment is for indoor use and all the communication wirings are limited to indoor use.

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Security Precautions

The initial administrator ID is "admin" and the password should be set when logging in for the first time. Set a wireless router password different from this product. Not protecting with a password or using the default wireless router password may expose your video data to potential threats. Please change your password every three months to protect personal information and to prevent damage due to information theft.

Please, take note that it is a user's responsibility for the security and any other problems caused by the mismanagement of passwords.

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Product Features

- Provide Ultimate reliability with an embedded linux System
- Dedicated Database structure for more stability
- CMS(Central Monitoring System) support
- Use same UI on NVR, CMS and web viewer
- Web monitoring, Searching and setup available
- Built in Media Player for backup playback
- USB support for Mouse and external storage
- HDD/SSD and Micro SD support
- Mobile device support (IPhone and Android)
- Digital zoom
- Compact size for vehicle installation
- Backup storage support such as USB memory stick
- Supports the GPS/Glonass satellite navigation system
- Industrial standard in Enduring Temperature limit
- Built in power support (PoE)
- Apply military product level test in vibration and shock test.
- I/O Box (Sensor, Alarm, G-Sensor, Status LED)
- Event detection through G-sensor in I/O Box
- Control Box (IR input, Emergency Button, Status LED, Audio-Out)
- Supported Cameras: SNV-6012M, SNV-5010, SNF-7010, SNF-8010

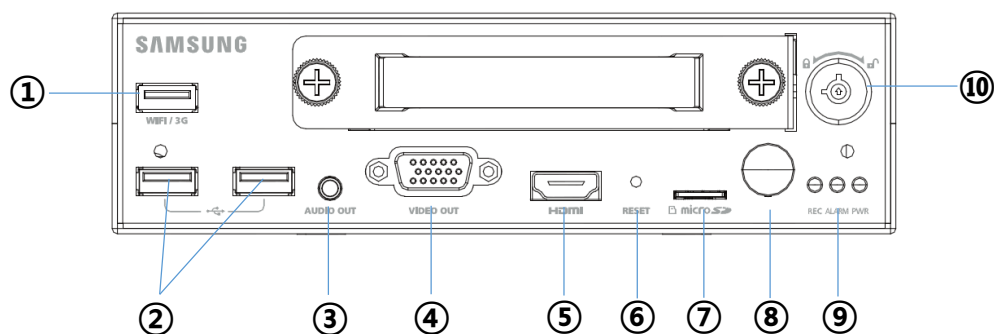
Package Contents

The following components are included in product box

		
NVR Main unit	IO BOX	Control Box
		
Power cable(1ea)	RS232 connect cable(2ea)	RJ45 UTP cable (2ea)
		
GPS Antenna	Remote Control & Battery	CD (User manual, Digital Signage Maker)
		
Quick Guide	Set fix screw and Key	Rear cover

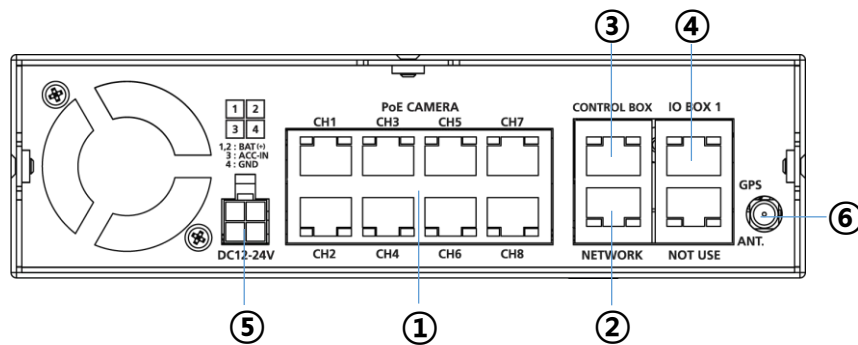
Front & rear view and details

Front



Name		Description
1	WiFi / 3G USB	Connect USB module when use WiFi or 3G communication(optional)
2	USB port	Use for mouse connection or external storage.
3	Audio output	Sound output as line output
4	Video output	Connect VGA monitor to view display
5	HDMI output	Connect HDMI monitor
6	RESET switch	Use when restart system
7	Micro SD Slot	Insert Micro SD for recording
8	IR sensor	Receives signals from remote controller
9	LED	Display NVR status
10	Lock Key	Lock HDD device. This must be locked to start system.

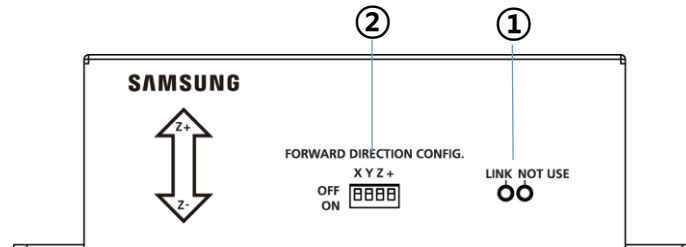
Rear



Name		Description
1	Poe Camera	Connect IP cameras. System supports power over Ethernet when use PoE IP camera
2	NETWORK	Connect network cable for CMS and Web view
3	CONTROL BOX	Connect to control box
4	IO BOX 1	Connect to IO box
5	PWR	Connect power supply from vehicle
6	GPS	Connect GPS Antenna (SMA type)

IO Box

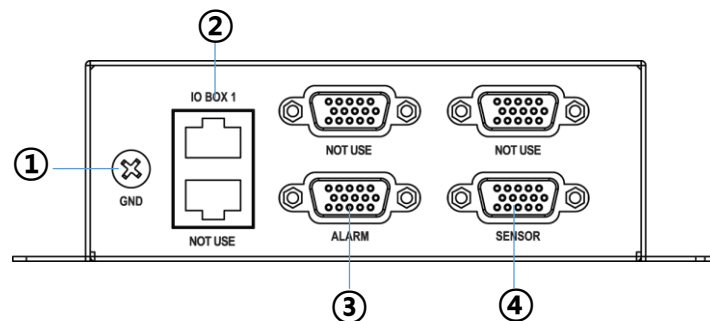
Front



name		Description
1	LED Display	Display following status. -Link : Shows connection status of IO BOX
2	Dip Switch	Set moving direction of vehicle.

*For more details, see page 60 'IO BOX Installation'.

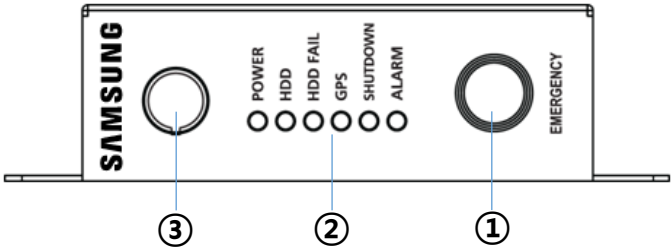
Rear



name		Description
1	GND	Ground connection. Connect to vehicle body
2	IO BOX 1	Connect to main unit's port.
3	ALARM	Connect Alarm output to External devices. Additional power required. (Open-collector type).
4	SENSOR	Connect to external devices with accessory cable. Event signal can be sent to NVR.

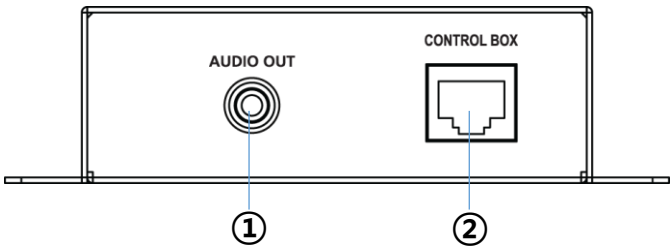
Control Box

Front



name			Description
1	Emergency		Start Emergency Recording with this button.
2	LED lights	POWER	Display power on status of control box
		HDD	Light on when storage(HDD, SD) storage is available
		HDD FAIL	Light on when storage (HDD, SD) is not available.
		GPS	Light on GPS position fixed after receiving data
		SHUTDOWN	Light on when ‘Shutdown delay’ is processing.
		ALARM	Light on when alarm output is working
3	IR receiving ports		Receives IR signals from remote controller

Rear

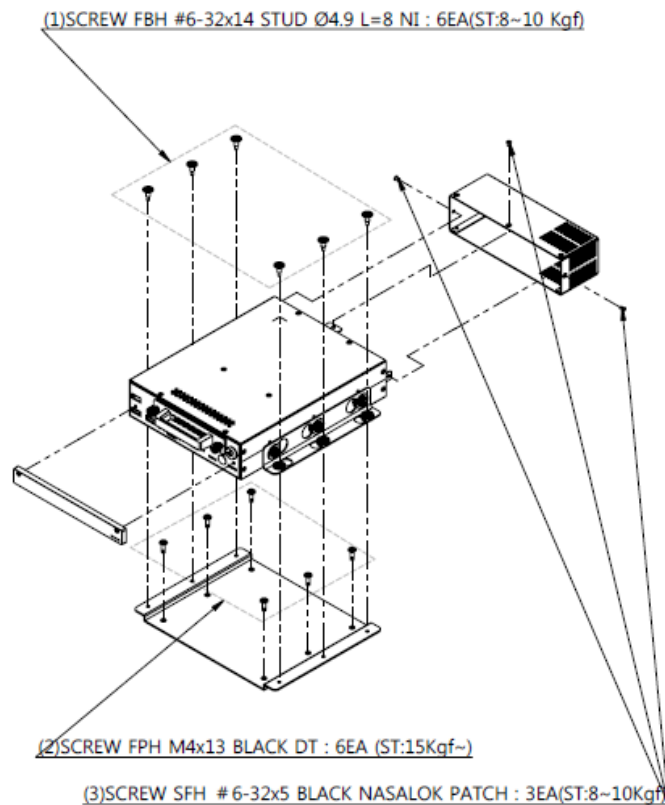
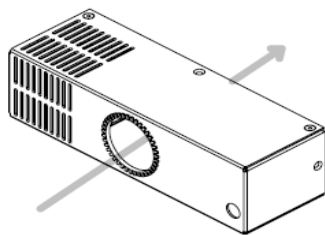


name		Description
1	Audio out	Audio Line out
2	Control box	Connect to main unit's control port

Installation

Disassemble Brackets

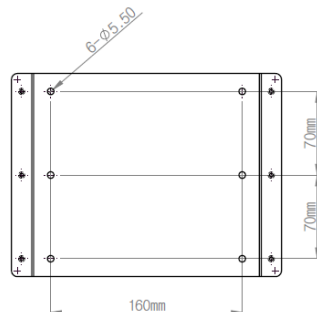
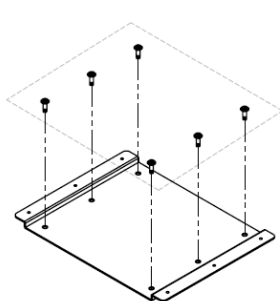
1. Open the box and take out product. Then separate bottom bracket with screw (1) in picture.
2. Place 'bottom bracket' on even place and assemble main unit and bracket with screw (2) in picture.
3. Assemble rear cover and main unit with screw (3) in picture. The cables must be passed through rear cover hole as following picture.
4. Tied up installed cables firmly.



Screw Torque = ST (Kgf)

Mount product

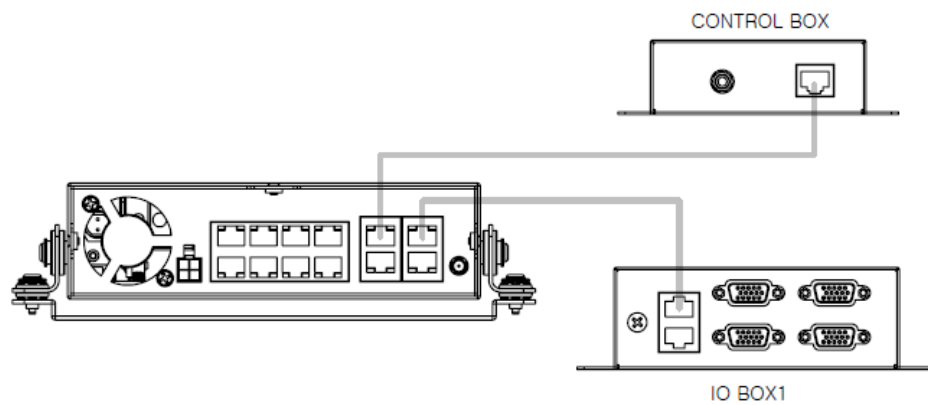
Use 6 screws as shown below and mount brackets onto the installation place.



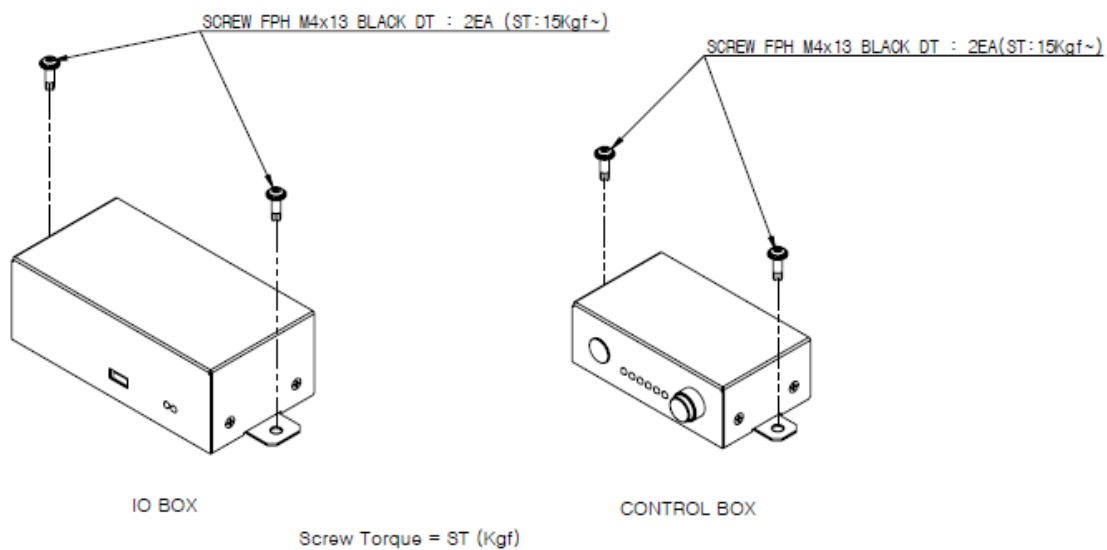
(ST : 15kgf ~)

- ST = screw tightening power
- Tighten screw to the recommended torque

Install IO & Control box



* Connect IO box and Control box with provided cable as pictured above.



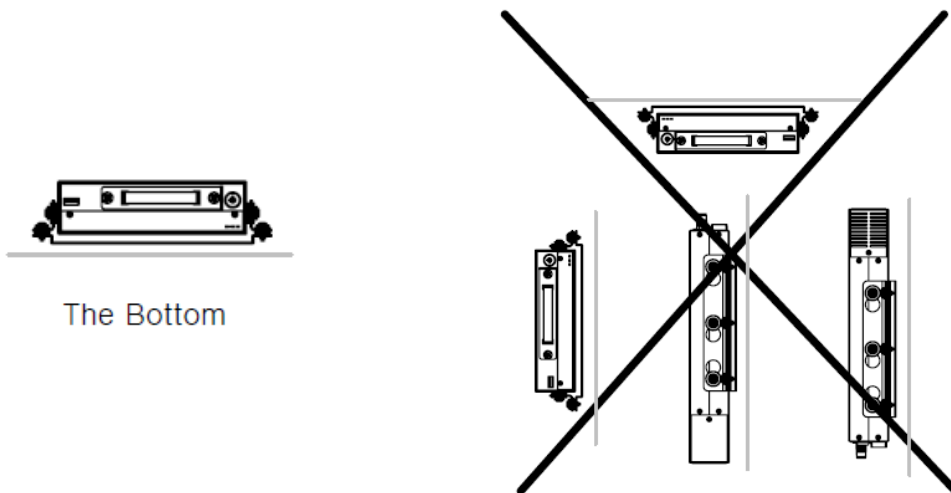
- ST = screw tightening power
- Tighten screw to the recommended torque

Vehicle Installation

When installed on the bottom, fix the bracket of the main unit to the mounting plate that is installed on bottom with 6 screws.

Caution: *When installed on bottom, it may cause HDD shock issues. For the torque of screws, see the pictures on previous page. *ST=torque of screws.*

Each tool has differing torques, you should follow guided torque when installation.



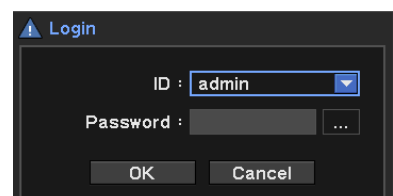
Surveillance

Start / End system

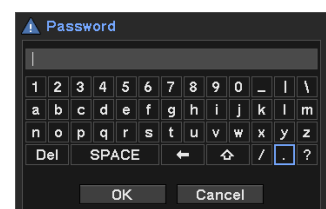
Before installing on the vehicle, the user should first set the system up. Connect a VGA or HDMI monitor. If the monitor doesn't display because of the resolution, press and hold the 'zoom' key on remote controller for 5seconds.(This will adjust the system resolution automatically).

Log in

1. Connect power to the system.
2. System displays initial screen and before initializing.
3. The login screen appears.
4. To log in, select 'admin' and press 'OK'. No password is configured at this time.
*if a password has been configured, click password field and use virtual keyboard.(see picture)
5. System logs in as 'Administrator'.

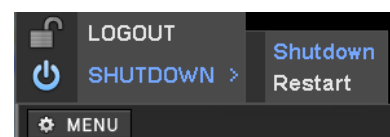


Note: password can be set up to 8 numbers with combination of number 0 to 9. Special character (& # < > ` ~) are not allowed. To enter new password, go to 'Menu->System->User' page.



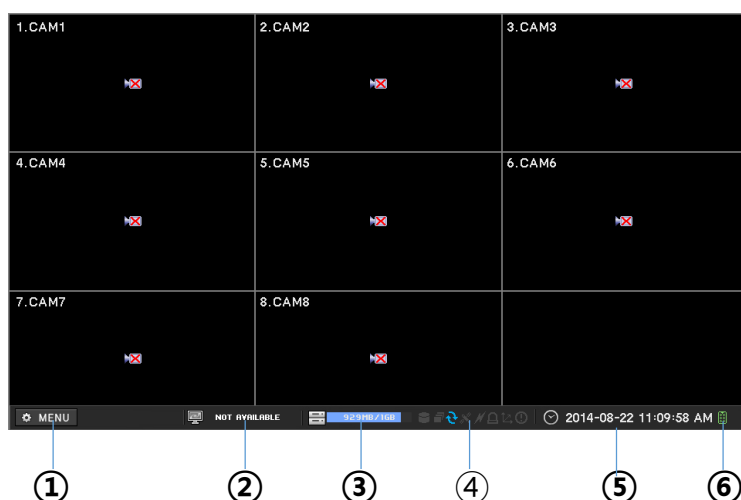
Shutdown system









1. Press 'Menu' and select 'Shutdown' system
- Only authorized users can shut down system.



Live Monitoring screen










Monitoring the system via the VGA or HDMI output on control box once installed on the Vehicle.



Name		Description
1	Menu	Open NVR menu.
2	Digital Signage	Displays the status of digital signage
3	HDD status	Display HDD used status with percentage.
4	Status Icon	 Turn on when archiving data
		 Turn on when sequencing mode works
		 Turned on when HDD is set as overwrite mode
		 Satellite navigation system data
		 Turned on network connected
		 Turned on when alarm is activating
		 Turned on with G-Sensor detects events
		 Turned on Emergency Recording is on.
5	Time & date info.	Display time & date information
6	Remote controller	Turned on when IR remote controller is activated. The remote controller can control system regardless of system's ID if the system ID is set to '0'.

OSD Icons

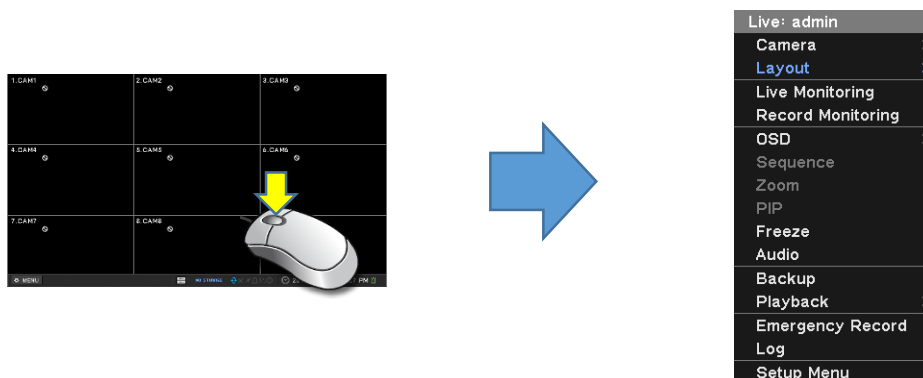
Following status icons may be displayed on each channels.

name	Description	name	Description
	No Recording(greed)		Pre Event Rec.(blue)
	Recording (Red)		Motion Detection
	Emergency Recording		Sensor Detection
	Event Recording (red)		IP Camera event Detection
	High Resolution Playback*		

- Displays when above the following recorded size and it shows 1fps speed. (4 division 1280x720 60fps, 9 division : 1280x720 30fps)

Contextual Menu on Live

Press right mouse button to see Contextual menu. Frequently used features are in this menu box.



Right click mouse button on live screen

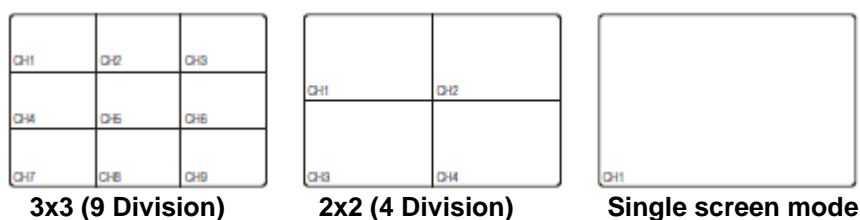
name		Description
1	Digital Signage	Starts digital signage
2	Camera	Select camera and display
3	Layout	Select screen mode.
4	Live Monitoring	Display IP camera images
5	Record Monitoring	Display real time recording status
6	OSD	Select whether the OSD and location information should be displayed on the screen.
7	Sequence	Sequence live channels
8	Zoom	Run Digital zoom. Only available on single channel mode.
9	PIP	Run PIP feature. Only available on single channel mode

10	Freeze	Freeze current screen.
11	Audio	Select audio channel
12	Backup	Playback recorded data
13	Playback	Move to search playback mode.
14	Emergency Rec.	Start emergency recording.
15	Log	Display current system log
16	Setup	Open setup menu

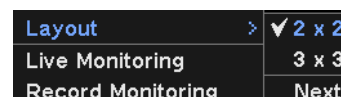
*The Audio sound output in live mode is based on the channel configuration in 'Menu-Audio'. It is not the same as current selected channel.

Live Screen division

Display live screen as 9 division (3x3), 4division (2x2), and single screen mode.



To change layout, click right mouse button on live mode and select camera or 'Lay out' menu.



Single Channel Live view

View a selected channel as single full screen.

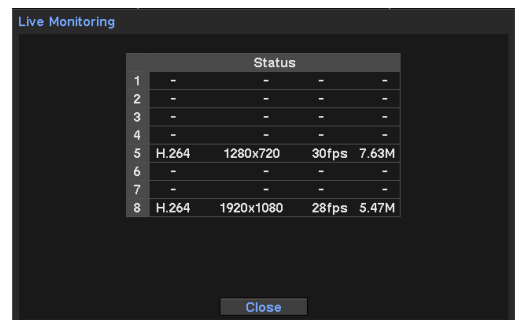
1. Move the mouse to the desired channel and double click the left mouse button and the single selected channel is viewed
2. Press desired channel number on the remote controller and the selected channel is displayed.
3. Click the right mouse button on live view and select 'Camera' then select desired channel.
4. Double click again back to previous mode.

Backup

1. Click 'backup' button on the remote controller
2. Click the right mouse button and open the contextual menu.
3. Select 'Backup' on the menu and set the storage and duration which to archive
4. Press 'start' to backup.

Live Monitoring

Select the 'Live Monitoring' on live view. It displays Live status of connected camera and transmitting status.

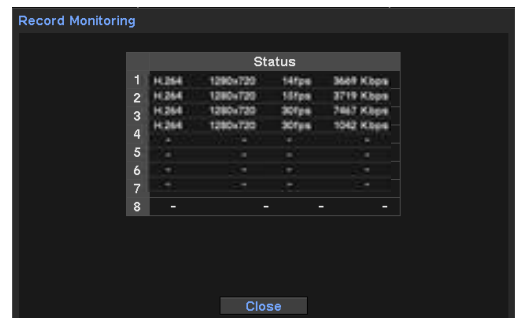


The screenshot shows a window titled 'Live Monitoring' with a table of camera status. The table has 8 rows and 4 columns. The first four rows (1-4) show dashes in all columns. The fifth row (5) shows 'H.264', '1280x720', '30fps', and '7.63M'. The sixth row (6) shows dashes in all columns. The seventh row (7) shows dashes in all columns. The eighth row (8) shows 'H.264', '1920x1080', '28fps', and '5.47M'. A 'Close' button is at the bottom right.

	Status			
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	H.264	1280x720	30fps	7.63M
6	-	-	-	-
7	-	-	-	-
8	H.264	1920x1080	28fps	5.47M

Recording Status

Select 'Record Monitoring' in the live view. It displays the recording status of connected cameras and transmitting status.



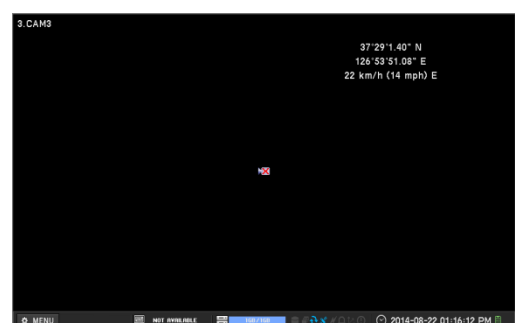
The screenshot shows a window titled 'Record Monitoring' with a table of recording status. The table has 8 rows and 4 columns. The first four rows (1-4) show 'H.264', '1280x720', '30fps', and '3648 Kbps'. The fifth row (5) shows dashes in all columns. The sixth row (6) shows dashes in all columns. The seventh row (7) shows dashes in all columns. The eighth row (8) shows dashes in all columns. A 'Close' button is at the bottom right.

	Status			
1	H.264	1280x720	30fps	3648 Kbps
2	H.264	1280x720	30fps	3719 Kbps
3	H.264	1280x720	30fps	3647 Kbps
4	H.264	1280x720	30fps	3642 Kbps
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

Displaying the location information

In the live menu screen, select 'OSD' and then 'GPS information'.. After that, the received location information is in the upper right corner of the live screen.

** If the information is not received, it will not be displayed.*



Emergency Recording

To Record immediately in live mode

1. Press 'Emergency Rec' button on control box. It will turn red.
2. Press 'E.REC' button on remote controller.
3. Or use contextual menu (click right mouse button) and select 'Emergency Rec'.

Move to Search mode

1. Click the Right mouse button in live mode and open contextual menu.
2. Select 'Playback' mode.

Enter Setup Menu

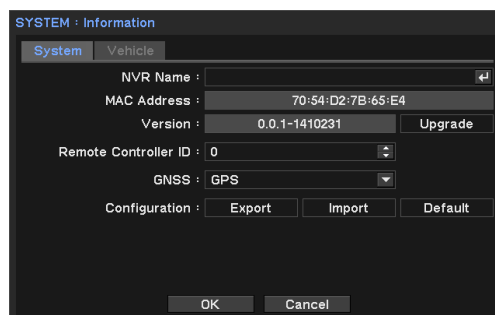
1. Click 'Menu' button on remote controller.
2. Click 'Menu' button and enter setup mode
3. Or use contextual menu and select 'Setup Menu'.

System Setup

System information

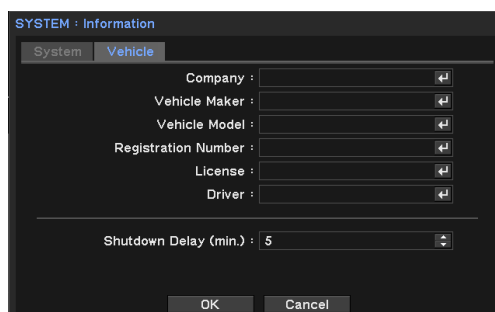
General information setup

1. Press menu and move to SYSTEM->Information.
2. Enter NVR name. *(Easy to recognize in multiple device access)*
3. Set ID on 'Remote Controller'. The user can control multi NVRs with single remote controller with changing IDs.
4. You can select a satellite navigation system to use when receiving the location information.
* Supports GPS(global positioning system) and Glonass.
5. User can Export / Import and set default system setup. *(To export/import, USB memory is required.)*
6. Back to default with 'Default' button
*Date & Time, User info. Display Resolution, Language, Network Setup(IP address, DDNS) will not be initialized.
7. Press 'OK' to save changes.



Enter Vehicle information

1. Press Menu and move to 'SYSTEM->Information'.
2. Enter necessary information.
3. Shutdown delay: After ignition off, system waits for a configured time and safely shuts down system.
4. Press 'OK' to save changes.

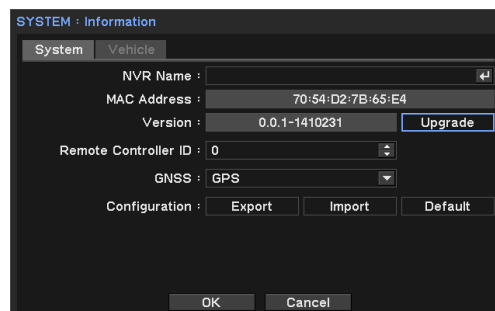


System Upgrade

Upgrade system firmware.

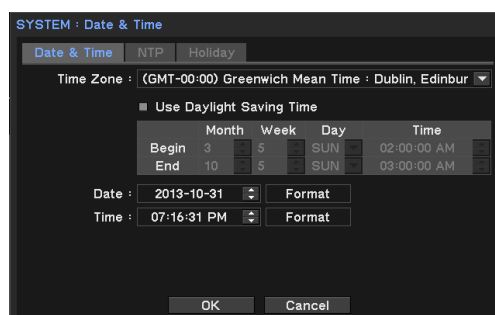
1. Press Menu and move to 'SYSTEM->Information' system page.
2. Insert USB memory that contains the updated file.
3. Press 'Update' button and select file.
4. Start upgrade with selected file.
5. System restarts automatically when update completed.

Note: Do not remove USB or power while updating.




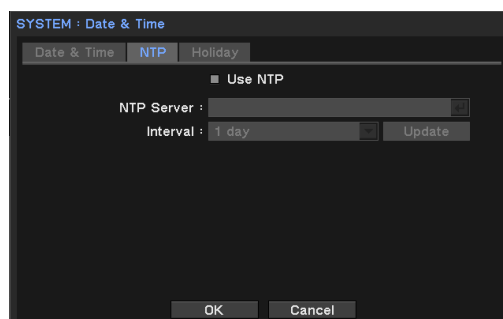
Set Date and time

1. Press menu move to 'System-> Date & time'.
2. Set time zone and choose option 'Daylight saving time'.
** Configure Beginning and End day.*
3. Set date and time with display format selection.
4. Press 'OK' to save changes.




NTP setting

1. Select 'NTP' tab menu on Date & Time setup menu.
 2. Tick 'Use NTP' option
 3. Press  to enter time server.
 4. Enter timeserver name with virtual keyboard.
 5. Set update interval and press update button.
**It should be connected to Internet.*
- Note: NTP is not essential for NVR operation. Time Sync. May not be completed due to heavy traffic or delays from time sync. server.*

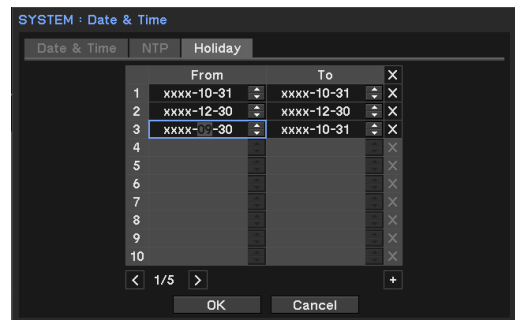


Holiday Setup


Set specific day or days as holiday and apply different recording schedule.

1. Move to Holiday tab menu on Date & time setup.
2. Press  button and set date.
3. Press 'OK' to apply setup.

Note: Holiday may not same date every year. User may have to update every year.



	From	To	X
1	xxxx-10-31	xxxx-10-31	X
2	xxxx-12-30	xxxx-12-30	X
3	xxxx-10-30	xxxx-10-31	X
4			X
5			X
6			X
7			X
8			X
9			X
10			X


< 1/5 > 

OK Cancel

User Setup

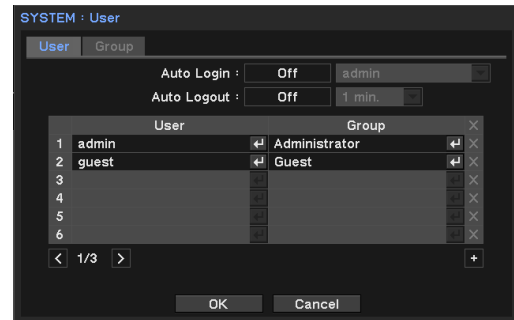
User can define new user and group permissions.

Add new User

1. Press menu and move to 'SYSTEM-User'.
2. Press  button and add new user.
3. Enter user name with virtual keyboard and select user group.
4. Set password for new user.


**Auto Login: Log in automatically with selected user.*

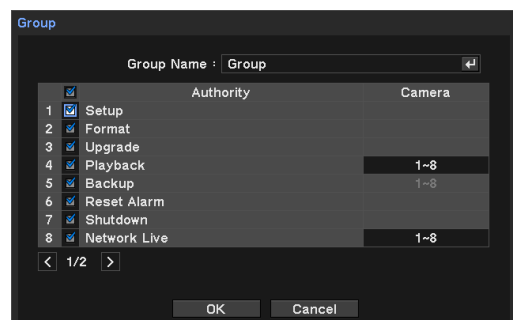
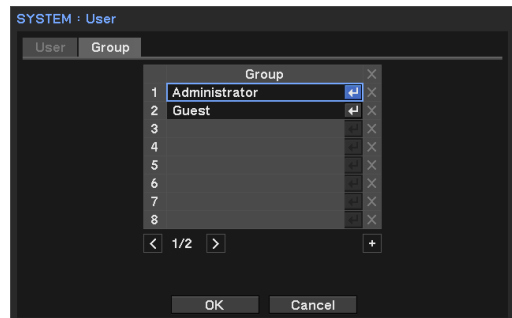
**Auto Logout: Log out when there is no action during configured time.*



Add new group and set permission.



Administrator can define authority on each group. (not per user)

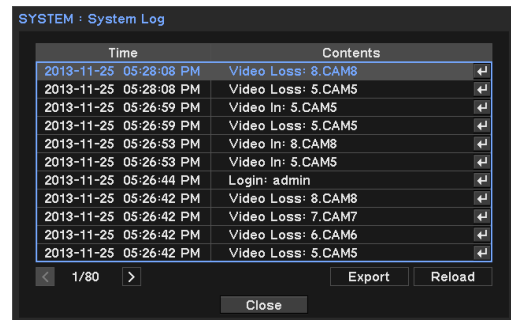
1. Go to 'System-User' menu and select 'Group'.
2. Press  button.
3. Enter new group name.
4. Set permission on new group. Set camera channels on each authority (if necessary)
5. Click 'OK' and save changes.



System Log

All system logs can be searched in this page.

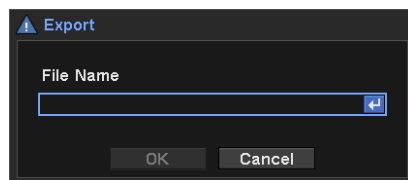
1. Press Menu and move to SYSTEM->SYSTEM Log.
2. To view latest log, press 'Reload' button and update logs. Use   button to move next pages.



Time	Contents
2013-11-25 05:28:08 PM	Video Loss: 8.CAM8
2013-11-25 05:28:08 PM	Video Loss: 5.CAM5
2013-11-25 05:26:59 PM	Video In: 5.CAM5
2013-11-25 05:26:59 PM	Video Loss: 5.CAM5
2013-11-25 05:26:53 PM	Video In: 8.CAM8
2013-11-25 05:26:53 PM	Video In: 5.CAM5
2013-11-25 05:26:44 PM	Login: admin
2013-11-25 05:26:42 PM	Video Loss: 8.CAM8
2013-11-25 05:26:42 PM	Video Loss: 7.CAM7
2013-11-25 05:26:42 PM	Video Loss: 6.CAM6
2013-11-25 05:26:42 PM	Video Loss: 5.CAM5

To Export Log file.

1. Prepare USB memory.
2. Insert & connect USB on system and move to 'System Log' page.
3. Press 'Export' button.
4. Set file name and press 'OK' button.



Export

File Name


OK Cancel

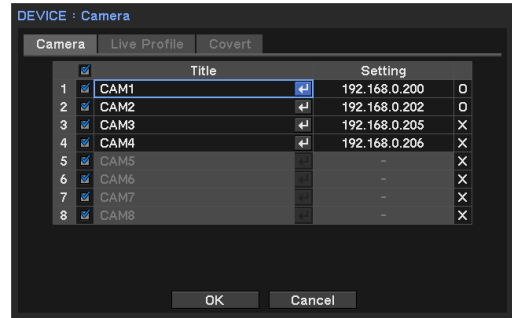
Note: log file exports as csv file format.

Device

In this menu, Set camera, audio and alarm configuration.

Change Camera Title

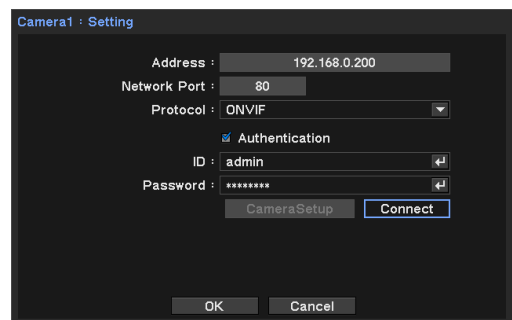
1. Press Menu and move to 'DEVICE->Camera' page.
2. Select camera and press  to change title.
3. Use virtual key and set new camera name.



IP Camera Setup

Enter the camera's IP information and click authentication it to check its working status.

1. Press 'IP Address' on camera menu.
2. Select "ONVIF" or "SUNAPI" for the desired protocol type.
* SUNAPI (Samsung Unified Network API):
Provides a complete single interface to control and set up a variety of products that make up the network connected to the video security system with the dedicated protocols of Samsung.
3. Enter IP, ports and ID/Password of desired IP camera.
4. Check 'Authentication' and press 'Connect' to check IP camera connection status.
5. Once 'Log in' success message means it connects normally.If it fails, check information again.
6. Press 'OK' to save information.



Camera Features Settings

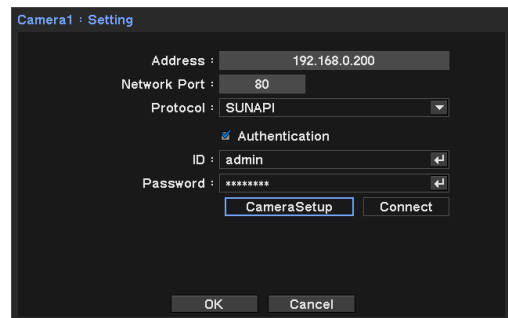
Press the 'Camera Setup' button to set your camera while watching the live video of the selected camera.

* You can set the camera features only connected to SUNAPI protocol.

* For more details on camera settings, refer to the camera user manual.

* Settings and operational spec vary depending on each camera.

* This function is not supported in some models.



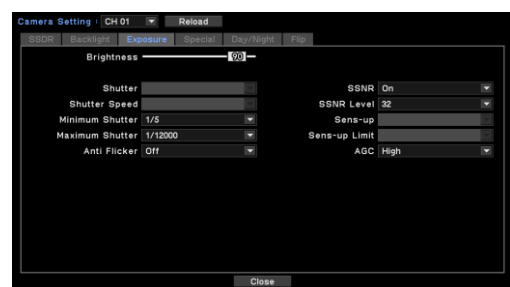
1. SSDR: If there is a significant difference between the dark and the bright areas, increase the brightness of the dark areas to maintain the level of brightness of the entire area. Mode, level, D-Range can be set.



2. Backlight: You can view both bright and dark areas. Mode, WDR level, HLC level, Mask Tone, and BLC level can be set.



3. Exposure: You can adjust the exposure of your camera. Brightness control, Shutter, Anti Flicker, SSNR, Sens-up, and gains can be set.



4. Special: Sharpness, Gamma, Color, Defog, and DIS (shaking compensation) can be set.



5. Day/Night: You can change the mode to adjust the color and contrast. Mode, switching time, alarm time, alarm input/output, and activation time can be set.



6. Flip: Mirror and flip modes can be set.



After finishing with setting camera, click on the 'Close' button to move back to the previous screen.

Live Profile

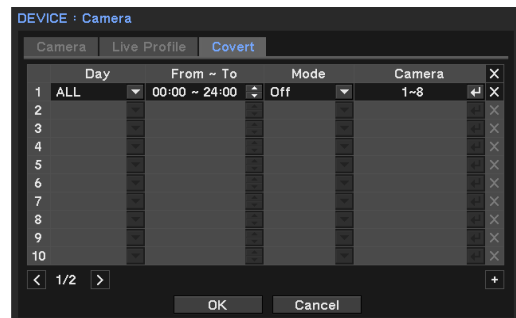
1. Move to 'Device->Camera->Live profile' page.
2. This displays the profiles of connected cameras. User can select profiles on each camera and adjust codec & resolutions of available cameras.
 - Profile: Shows available profile on connected cameras. (See details for profile in page 32.)
 - Codec: type of Image compressing algorithm.
 - Resolution: image size for live monitoring.
 - Fps: number of frames for live monitoring.
 - Kbps: image data size for live monitoring.
3. Press 'Edit' button to edit profiles.
4. Press 'OK' to save changes.



Covert (Hidden) camera

Covert (Hide) cameras on live view according to the user log in.

1. Press Menu and move to 'DEVICE->Camera' page.
2. Move to 'Covert' tab menu.
3. Set schedule on 'From~To' field.
4. Select covert mode.
 - Low mode: No display but OSD.
 - High mode: No display at all.
5. Press 'OK' to save changes.



Note: Not effect on recording data. This applies on monitoring only.

Note: Previous covert channel setting is not applied to Smart Viewer which has already connected. It will be applied to Smart Viewer Which is newly connected.

Profile Setup

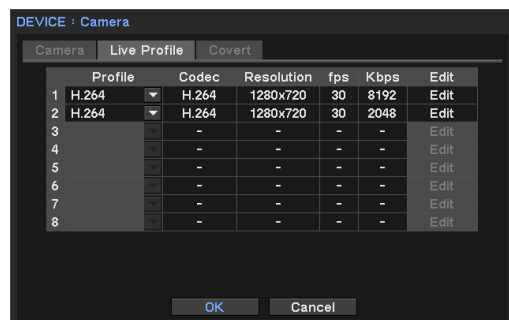
Network cameras generally provide single or multiple profiles and user can select details such as live, recording and network transmission profiles.

System shares added profiles. Once you edit a live, record or Network profile, it will update other profiles.

- Live Profile : 'Menu->Device->Camera->Live profile'
- Record Profile : 'Menu->Recording->Recording->Record profile'
- Network Profile : 'Menu->Network->Transmission->Network profile'

Add profiles

1. Select one of profiles from Live, Recording and Network and move to that menu.



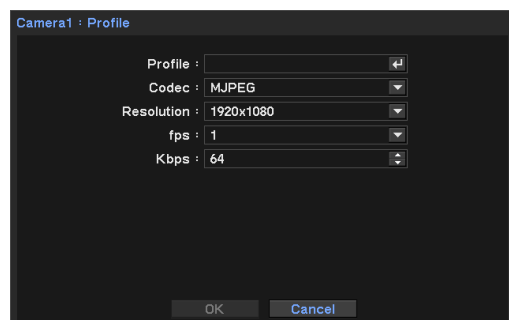
2. Press 'Edit' button on right and it shows current profile details.



3. To add new profile, press '+' button below and set profile name, codec, resolution, fps and Kbps information.

- May differ available profiles by camera

4. Press 'OK' to save changes.



Camera Compression	Recording Configuration	Remark
H.264	When bitrate exceed 4Mbps, frame rate should be 5frames or higher.	In case of 720P or higher resolution
MJPEG	2Mbps or less	

Edit Profile

- 1~2. Same as 'add profile'
3. If you want to edit present profile, press 'edit' button on selected profile. And then, select Profile's name, codec, resolution, fps, Kbps.
4. Press 'confirm' button and save the setting

Delete Profile

- 1~2. Same as 'add profile'
3. If you want to delete present profile, press 'X' button on selected profile.
4. Press 'yes' button on delete check windows and save the setting.

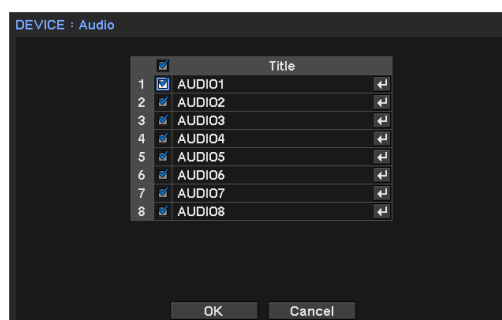
Audio

Audio Connect

NVR records sounds on each channels.

1. Press Menu and move to 'DEVICE->Audio' page.
2. Select audio channel and change title as desired name.
3. Press 'OK' to save changes

Note: Audio input is only available with connected cameras. .

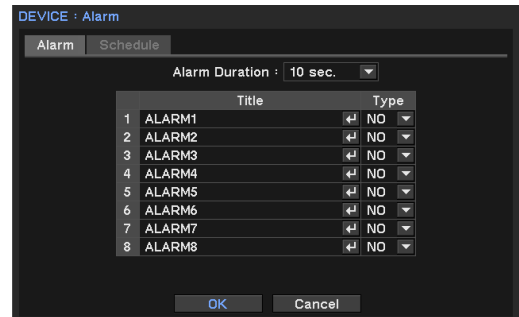


Alarm

Set alarm type and schedule.

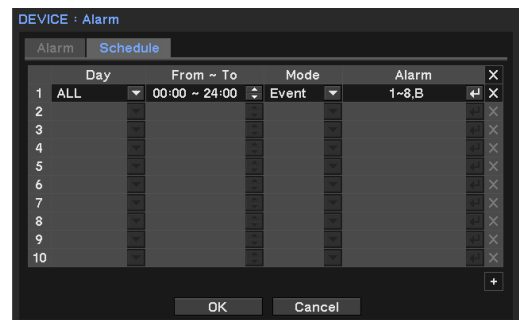
Set Alarm type and duration

1. Press Menu and move to 'Device-Alarm' page.
2. Set duration of alarm activation.(5sec to 10min)
3. Select alarm channel and change title as desired name.
4. Choose type of alarm
-NO: Normal Open.
-NC: Normal Close
5. Press 'OK' to save changes



Set Alarm Schedule

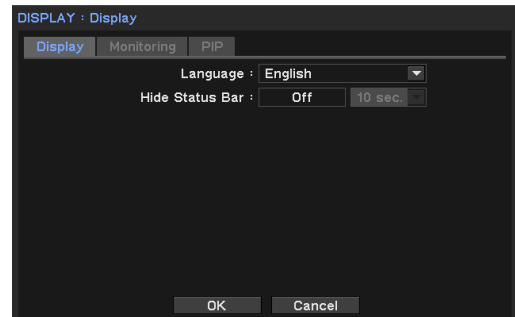
1. Move to Schedule tab.
2. Select Day and time for alarm activation.
3. Select mode. (Event, On, Off)
4. Select alarm output number and buzzer options.
5. Press 'OK' to save changes
**If schedule is overlapped, the latest one will have priority.*



Display

Set monitor display and display language

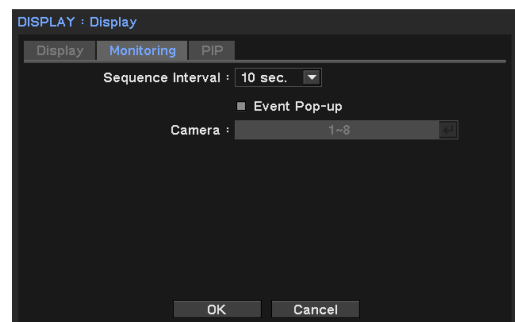
1. Press Menu and move to the Display page.
2. Set your language and other display options.
3. To change display resolution, select 'Resolution' menu and select desired one.
4. Press 'OK' to save changes



Channel popup by Event

Display (popup) event triggered channel for a configured time.

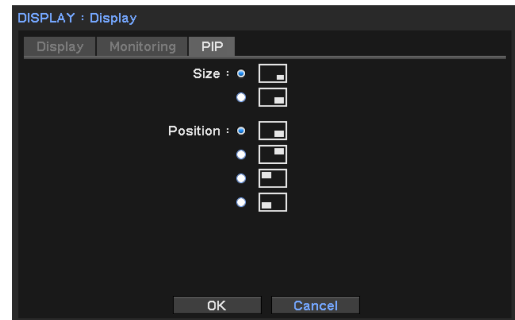
1. Press Menu and move to the 'Display-Monitoring' page.
2. Set 'Sequence interval' time
3. Check 'Event popup' option.
4. Select the camera number to be displayed when events occur.
5. Press 'OK' to save changes



PIP (Picture In Picture) Setup

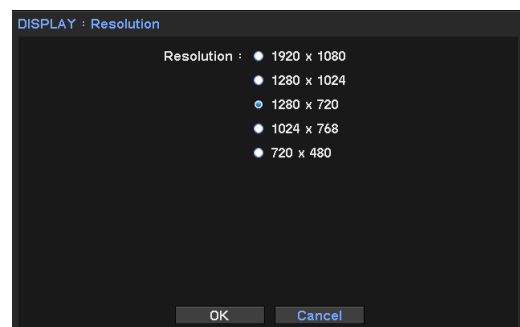
1. Press Menu and move to 'Display-PIP' page.
2. Set 'Size' and 'Position'.
3. Press 'OK' to save changes.

Note: PIP is only available on single live display.



Resolution Setup

1. Press Menu and move to 'Display-resolution' page.
2. Set resolution
3. Press 'OK' to save changes.



Digital Signage

Digital Signage Setting

1. In the setting menu, move to the digital signage page of Display > Digital Signage.
2. Set the auto start time for digital signage.
3. Press the Import button to select a file after inserting the USB memory and click OK.
4. Check Enable FTP and enter the FTP server/user/password/file name(directory), and click on OK.
Press the Connect button to check the server connection



* Digital signage files are created by using DSmaker.

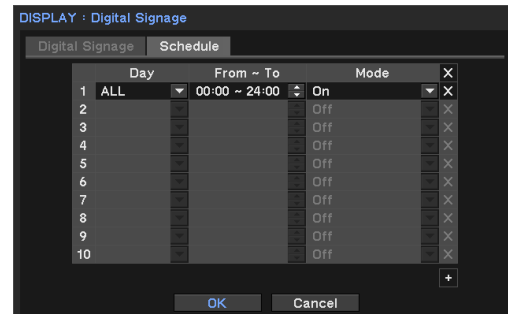
* Enable FTP: If you set this, it will periodically access the FTP server to automatically download the latest version of ads file.

* FTP server should be supported with 'SIZE' command to check the file size.

Digital signage schedule setting

1. In the setting menu, move to the Schedule page of Display > Digital Signage.
2. Select the day option.
3. Set the start/end time.
4. Designate a mode.
5. Click on OK to save.

* If the recording schedules are overlapping with each other, then the latest registered schedule will have a higher priority.

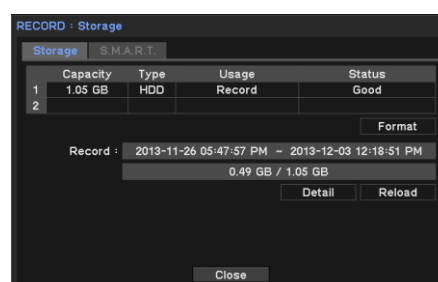


Record Setup

Set storage and recording options.

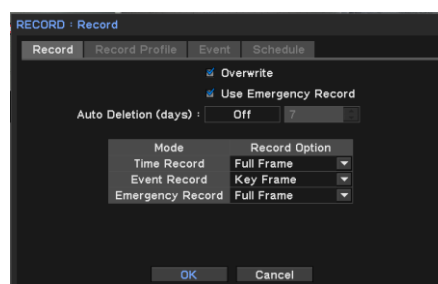
Set Storage

1. Press Menu and move to 'Record->Storage'.
2. System displays the installed HDD.
3. To use the HDD, select it HDD and press 'Format' button below.
4. Press 'close' once format process is end.
Note: 'Record' shows data stored period and HDD usage.



Recording Setup

1. Press Menu and move to 'Record->Record'.
2. Check 'Overwrite' option.
**If not selected, system will only records data until the current HDD is full.*
 - *Time Record is continuous recording*
 - *Event record is record only when event triggered.*
 - *Emergency Record: Activated by Emergency Rec. signal from outside*
3. Choose 'Auto Delection' option.
** Old data is automatically deleted when setup date is passed.*
4. Press 'Ok' to save changes

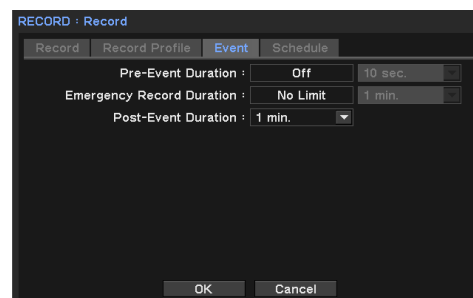


Recording profile

Choose Profile for recording. Refer to Page 32 for details.

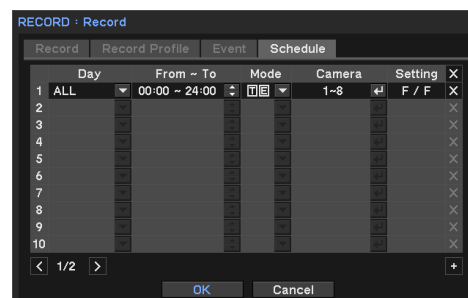
Event recording Setup

1. Move to Event page
2. Set 'Pre-Event' Duration 'On' and set time.
System will record previous data from event triggered.
3. Set time for Emergency Record. 'No Limit' setup record until off Emergency Rec.
4. Event record duration is for general event recording duration.
5. Press 'OK' to save changes.



Set Recording schedule

1. Press Menu and move to 'Record->Record' Schedule tab.
2. Set day option on day field.
**One selected day option on each line.*
3. Set time to record on 'From~To' field.
4. Select recording mode
5. Select cameras to be applied.
 - To delete schedule, press [X] button on right.



Network

Set IP address

1. Press Menu and move to 'Network->Address->WAN' page.
2. Set one of IP address type.
*No IP address setup required in 'DHCP' option.
3. In 'Static IP' option, you need to enter 'IP address, Subnet mask and Gateway'.
4. Press 'OK' to save changes.
*To change communication port, move to 'PORT' page in this menu.

NETWORK : Address

WAN PoE Port RTSP

■ Use WiFi

WiFi Connection

Type : Static IP

IP Address : 192 . 168 . 1 . 200

Subnet Mask : 255 . 255 . 255 . 0

Gateway : 192 . 168 . 1 . 1

■ DNS server address automatically

DNS Server : 8 . 8 . 8 . 8

OK Cancel

WiFi connection

1. Connect the WiFi dongle to the NVR main body.
2. In the setting menu, move to the WAN page of Network > Address.
3. Check 'Use WiFi' and press the 'WiFi Connection' button.
4. In the access point list searched, click the SSID for the AP to connect to.
5. If certification is required, enter the password in the window.

NETWORK : WIFI

	SSID	Signal	Security	Edit
1	[S] Techwin_5G	71	S	Edit
2	[S] WhiteHill	70	S	Edit
3	FanTaSiSta	70	S	Edit
4	iptime_cds	68	-	Edit
5	iptime	68	-	Edit
6	lobby	66	S	Edit
7	iptime5G	62	S	Edit
8	N604R-HONG	62	S	Edit
9	deok	60	-	Edit
10	anygate_RG	60	S	Edit

< 1/2 >

Reload +

Close

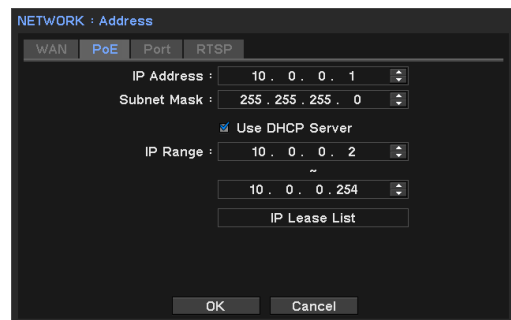
- * Currently connected AP is marked with V.
- * If the AP connection is lost, it will automatically try to connect to the APs connected previously.
- * If an AP was connected before, it will have [S] in front of its SSID.
- * Compatible WiFi Dongle: SEA-W01AC (Samsung)

PoE Setup (Power Over Ethernet)

1. Press Menu and move to 'Network->Address->PoE' page
2. Set IP address and Subnet mask
3. Check 'DHCP server' option. When using this system as DHCP server, must set IP ranges which will assigned to connected IP cameras.

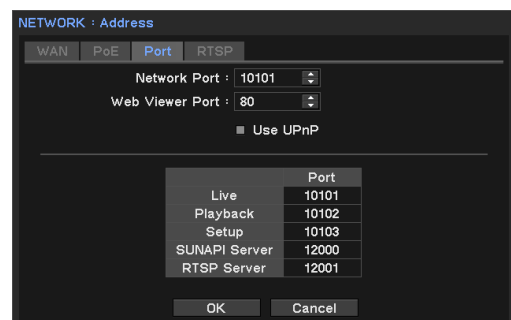
** Connected cameras should be set on DHCP option.*

4. Press 'Ok' to save changes.



Set Port

1. Press Menu and move to 'Network->Address->Port' page.
2. Set port for 'Remote monitoring, Playback and setup. Default is '10101'.
** Set Live port and other port sets automatically.*
3. Set port for Web viewer. Default is '80'.
4. Use UPnP: This feature enables auto port forwarding on router.



RTSP Port

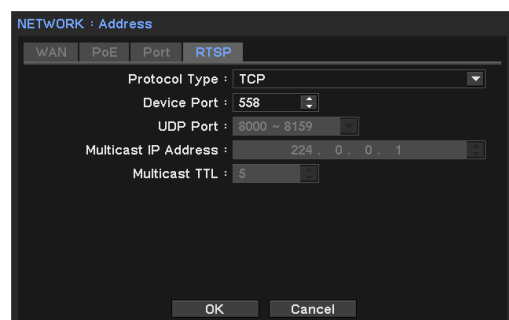
1. Press Menu and move to 'Network->Address->RTSP' page.
2. Protocol Type: Select the protocol type among TCP, UDP - Unicast and UDP - Multicast.
3. Device Port: Enter the connectable port number. Default is '558'.

** TCP: It has better stability and lower speed when compared to UDP, and recommended for internet environments.*

4. UDP Port: Initially, '8000~8159' is set. It increases / decreases by 160.

** UDP: It has less stability and faster speed when compared to TCP, and recommended for local area network (LAN) environments.*

5. Multicast IP Address: User can directly input.
6. Multicast TTL: Select from 0 ~ 255. Default is '5'.



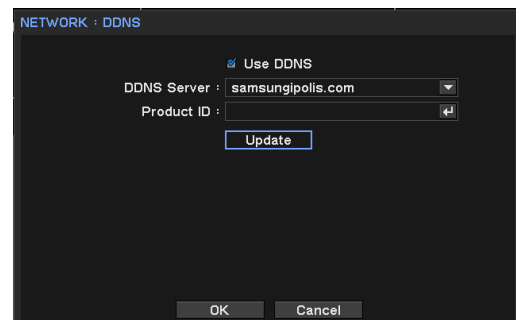
DDNS Setup

For remote access, use DDNS service with DDNS server setup.

1. Press Menu and move to 'Network-DDNS'.
2. Check 'Use DDNS' option.
3. Enter 'Product ID' and press 'Update' to check it access DDNS server normally.
4. Press 'Ok' to save changes.

** To use DDNS, system should be connected to Internet.*

** For more details about DDNS setup, see the manual of your router.*



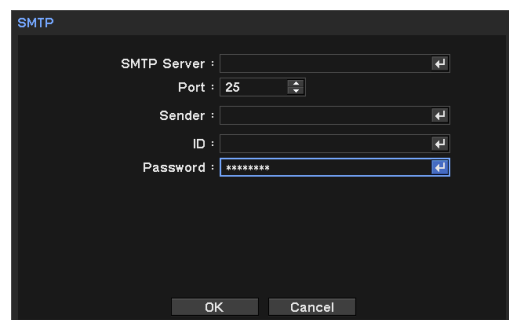
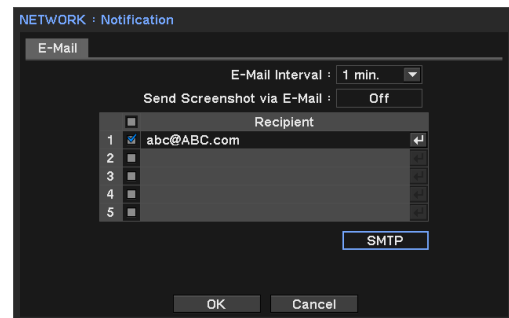
The screenshot shows a web interface titled "NETWORK : DDNS". It features a checkbox labeled "Use DDNS" which is checked. Below this, there are two input fields: "DDNS Server" with a dropdown menu showing "samsungipolis.com" and "Product ID" with a text input field. An "Update" button is positioned below the "Product ID" field. At the bottom of the interface, there are "OK" and "Cancel" buttons.

Notify event through network

Use provided feature to send a message to E-mail.

Email Setup

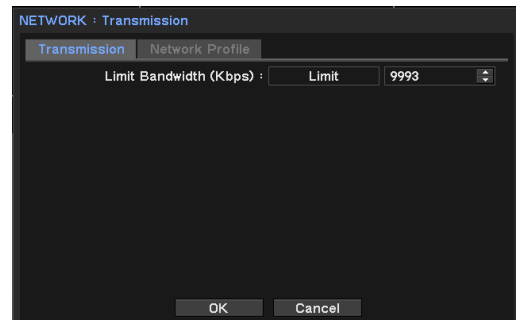
1. Press Menu and move to 'Network->Notification->Email' page.
2. Set E-mail interval.
*Does not send an event between interval time.
3. Check image option to attach on email.
4. Enter e-mail address of receiving side.
5. Press SMTP button and enter information
6. Press 'Ok' to save changes.



Network Transmission

Adjust network data streaming option and optimize it.

1. Press Menu and move to 'Network->Transmission->Transmission' page.
2. Set the network bandwidth according to your network speed.
3. Press 'Ok' to save changes.



Network profile

Select profile for live monitoring. See details for profile in page 32.

Event

Set the event related options such as Sensor, Motion, Video Loss, System, G-sensor and IP camera.

Event activation to activate Recording, Alarm and Notification

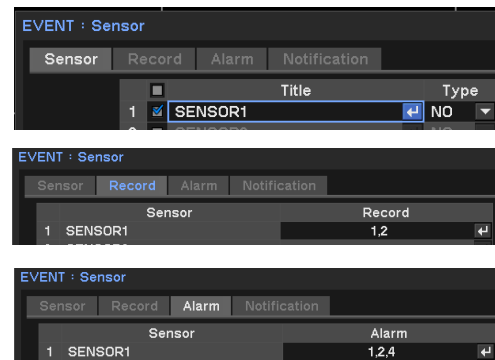
Each triggered event can be activated by the following actions.

1. Record: start recording on selected multiple channels.
2. Alarm: start alarming or activate the buzzer on selected multiple channels.
3. Notification: Send the 'E-mail' notification to a remote location.

Example1) Sensor Setup

Once sensor 1 is triggered, record channel 1 &2, alarming 1, 2, 4 and send Notification

1. Press Menu and move to 'Event->Sensor' page
2. Tick 'Sensor1' and set type (NO or NC)
3. Click 'Record' tab and click sensor1 'Record' field and select channel 1, 2.
4. Click 'Alarm' tab and click sensor1 'Alarm' field and select channel 1, 2, 4.



* To register your e-mail address - set to go to "Network> Notification" page.

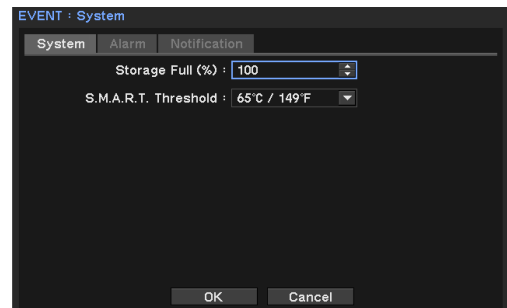
* Setup of Motion Detection, Video Loss and IP Camera event is same as setup of Sensor event.

* Sensor name can be changed by selecting Sensor Name in the list.

System Notification

Notify the system status through alarm and Callback.

1. Set Storage full %. A system notification occurs when storage reaches this level.
2. Set the temperature S.M.A.R.T threshold level to receive a notification.
3. Set alarm and Notification.(see examples above)



EVENT : System

System Alarm Notification

Storage Full (%) : 100

S.M.A.R.T. Threshold : 65°C / 149°F

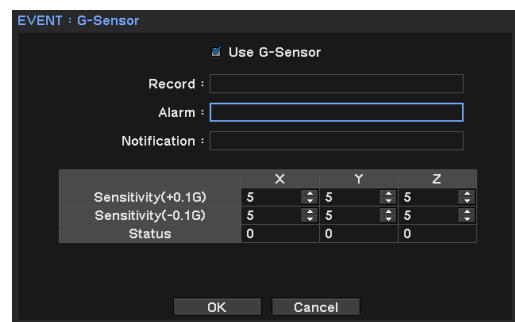
OK Cancel

G-Sensor Notification

Detect movements such as sudden acceleration, stopping and suspected accidents.

1. Press Menu and move to 'Event->G-Sensor' page.
2. Check 'Use G-sensor'.
3. Press 'Record' field and select the channels to be recorded when an event is triggered.
4. Press 'Alarm' field and select the channels for alarm activation.
5. Select the e-mail address in case you want to announce an event from the 'Notification' column.
6. Set sensitivity of each x, y, and z axis.

**If the included G-sensor IO box DIP switch configuration is wrong, it would generate unnecessary alarms. Please check DIP switch configuration when installation.*



EVENT : G-Sensor

☒ Use G-Sensor

Record :

Alarm :

Notification :

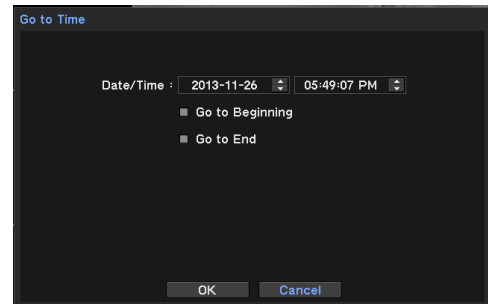
	X	Y	Z
Sensitivity(+0.1G)	5	5	5
Sensitivity(-0.1G)	5	5	5
Status	0	0	0

OK Cancel

Playback(Search)

Time search (Go to Time)

1. Click the right mouse button in the live mode and select 'Playback'
2. Select the storage that has the recorded data.
3. System enters 'Playback(Search)' mode
4. Click the right mouse button again and select 'Go to'.
5. Select 'Go to time' of options.
6. Set date and time and press 'OK' to playback.



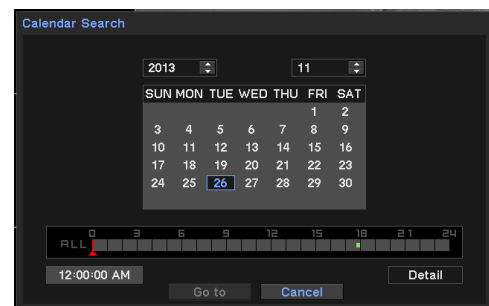
About Search options

- Go to time: set time and move to the specific time.
- Go to Beginning: move to the first recorded data.
- Go to End: move to the end of data.
- Go to **sec: move to previous recorded data. (** data before)

**When displaying the playback data a single channel image which is close to search condition is displayed.*

Calendar Search

- 1~3. Same as 'Time Search'.
4. Click the right mouse button again and select 'Calendar'
5. Select date and time and press 'Go To'.
6. Displays selected data on screen. Use the playback control button below.



7. To exit playback mode, click the right mouse button and select 'Exit Playback'.

Event Search

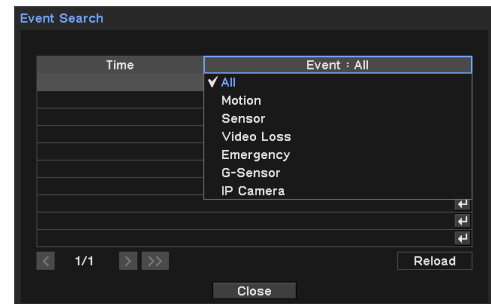
Provides an easy search from a recorded event list

- 1~3. Same as 'Time Search'.
4. Click the right mouse button again and select 'Event Search'
5. Select the date and type of event to find specific data.

**Each event list displays 1,000 events, press>> button to see next 1,000 events.*

**You can search on an event in 'Log' menu event page.*

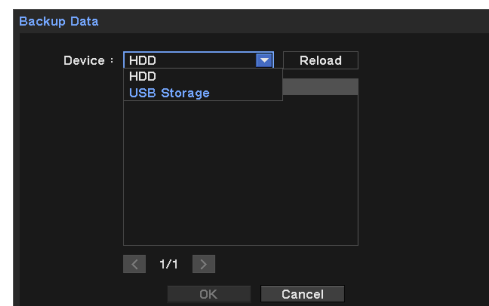
**When you search with SmartViewer, for confirmation of event recording ranges, you must choose "All" in "Advanced Search" menu.*



Backup data playback

1. Click the right mouse button in the live mode.
2. Select 'Backup data'
3. Select Device and files
4. The system displays the playback screen. Use the playback control button below.

**Backup playback is only available if there are backup file.*



Playback control

R.Play: Reverse Playback (1x->2x->..64x -> 1x)

Step Backward: Go to the previous image

Pause: Freeze or Stop current image

Step Forward: Go to the next image

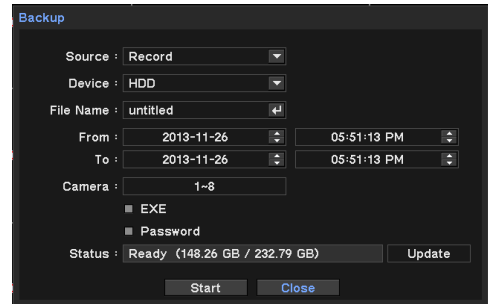
Play: Play the data at normal speed (1x->2x->..64x -> 1x)



Backup

Backup Recorded Data

1. Click the right mouse button in live mode
2. Select Backup and choose the type.(backup or AVI maker or SEC)
3. Insert the USB memory in the system USB slot.
4. Select the Device for backup(generally a USB memory is used)
5. Set the backup data period and camera.
6. Select 'EXE' option and 'Password Option'.
7. Press 'Start' button.



**'strg' can play multi-channel video, using 'Back up data playing' function. 'exe' can play multi-channel video using exclusive media player in PC.*

**'SEC' is saved as exclusive format(sec) and it can be played multi-channel playback using built-in media player during backup.*

**'AVI' is supported by Backup viewer or general media player for one channel.*

** Channel information (Camera name, Time) is saved with subtitle file (smi) during 'AVI' backup.*

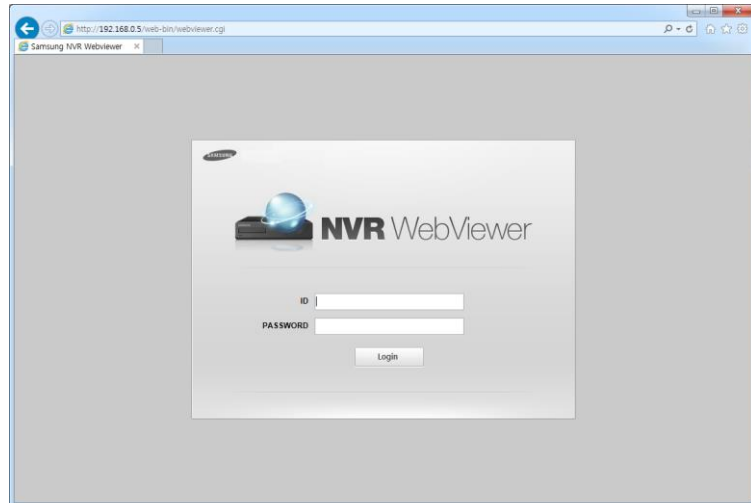
** Do not remove storage device while the data backup is being processed.*

Web Client Access

Access the System using web browser.

Start WebViewer (Java should be installed on your PC)

1. Run the web browser and enter the IP address of NVR or DDNS address.
2. Enter the ID and Password on the login page.



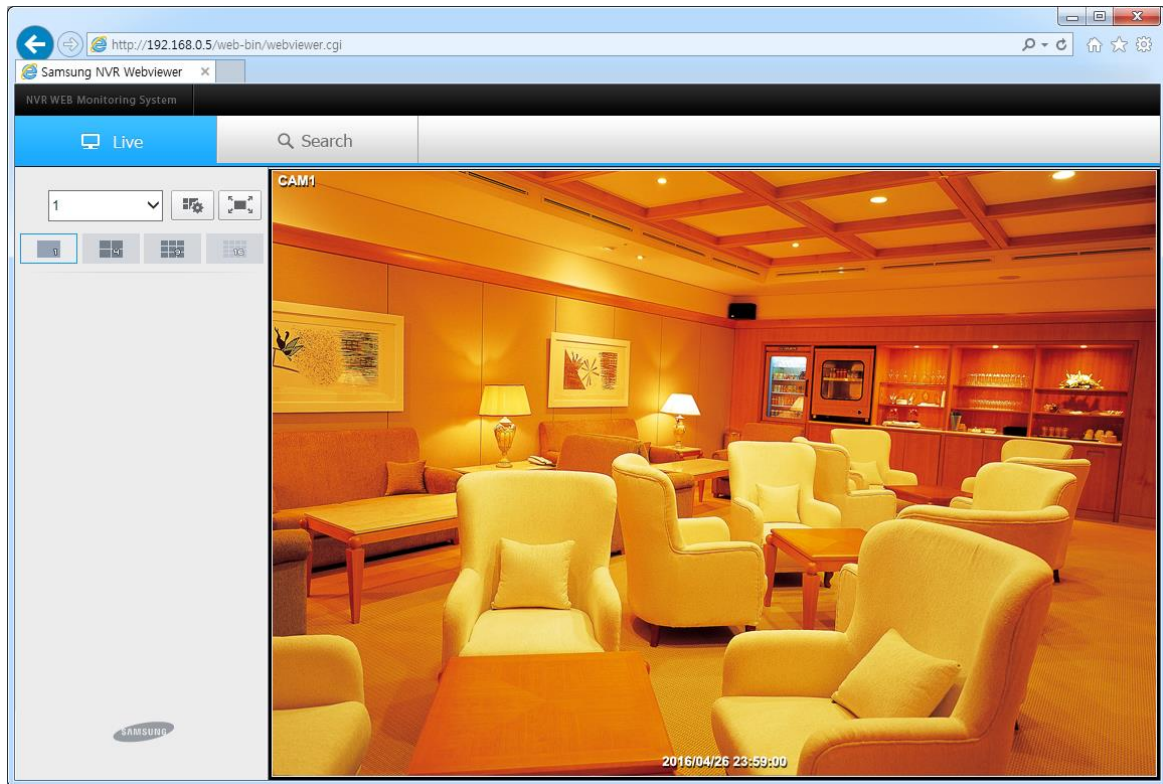
* *Windows Recommended Requirements: Windows 7 (32bit)*

Mac OS Recommended: OS X Yosemite (10.10.5)

* *Unsafe Mode operation can be run in Safari (Recommended: Safari 8.0.8 10600.8.9)*

Live View

1. If you succeed in logging on, you can see the Live View like below.



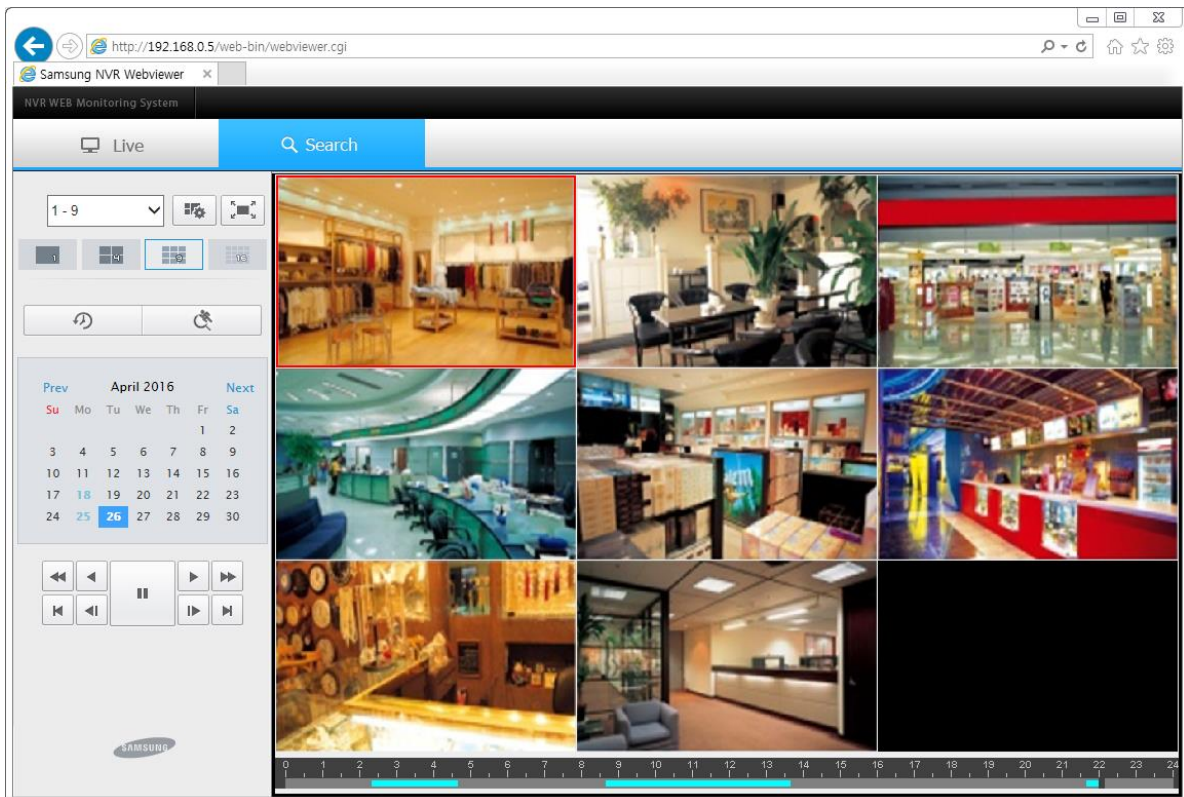
2. Use following buttons to control the live video.

Button	Description	Button	Description
<input type="text" value="1"/>	Selecting camera		Remote setup
	Entire screen	<input type="text" value="Search"/>	Move to Search
	Changing layout (double click specific video if you want to see it large screen)		












* Enable to audio function during 1 channel layout.

Search View

- Press Search tab icon  to move to Search View.




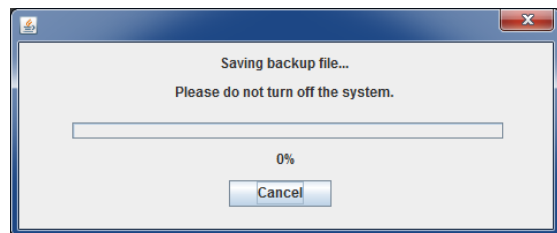
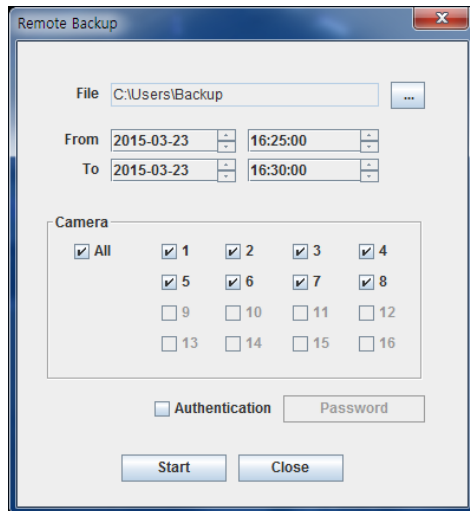
- Use following buttons to control the live video.

Button	Description	Button	Description
	Selecting camera		Remote backup
	Event search		Remote setup
	FW/Rev playback		Entire screen
	2~64x playback		Changing layout
	Move 1 frame		Move to first/last
	Pause		

* Enable to audio function during 1 channel layout.

Remote Backup

1. In Search View, press Remote Backup icon  to display Remote Backup dialog.
2. Press Start button after inputting storing location, date and time, camera number, password.



3. After completing backup, backup data file, backup viewer file and library file will be saved.
- * *WebView supports 'sec' backup.*

Event Search

1. Select the date, event type, camera number and then press Search button.
2. Each event list displays 15 events, press Next button to see next 15 events.
3. Select one of the events to see that video frame on Search View.

The screenshot shows a software window titled "Event Search". It contains three main sections for filtering: "Date", "Event Type", and "Camera".

- Date:** A dropdown menu showing "2015-03-13".
- Event Type:** A grid of checkboxes with the following options:
 - ☒ Motion
 - ☒ Sensor
 - ☒ Video Loss
 - ☒ Emergency
 - ☒ G-Sensor
 - ☒ IP Camera
- Camera:** A grid of checkboxes for cameras 1 through 16, plus an "All" option.
 - ☒ All
 - ☒ 1, ☒ 2, ☒ 3, ☒ 4
 - ☒ 5, ☒ 6, ☒ 7, ☒ 8
 - ☐ 9, ☐ 10, ☐ 11, ☐ 12
 - ☐ 13, ☐ 14, ☐ 15, ☐ 16

At the bottom of the window are three buttons: "Search", "Prev", and "Next".

On the right side of the window, there is a list box titled "EVENT" containing 15 entries. Each entry is formatted as "[Event Type] [Camera Number] [Date] [Time]". The events shown are:

- [M] 8 2015-03-13 23:13:23
- [M] 8 2015-03-13 23:10:13
- [M] 8 2015-03-13 23:08:44
- [M] 8 2015-03-13 23:07:43
- [M] 8 2015-03-13 23:01:21
- [M] 8 2015-03-13 23:00:21
- [M] 8 2015-03-13 22:59:07
- [M] 8 2015-03-13 22:50:54
- [M] 8 2015-03-13 22:32:29
- [M] 8 2015-03-13 22:22:00
- [M] 8 2015-03-13 22:11:39
- [M] 8 2015-03-13 21:52:13
- [M] 8 2015-03-13 21:42:47
- [M] 8 2015-03-13 21:35:13
- [M] 8 2015-03-13 21:31:09

- Information will be displayed in the order of "Event Type" "Camera Number" "Date" "Time", they are divided by leaving spaces.
- The types of event have Motion(M), Sensor(S), Video Loss(V), Emergency(E), G-Sensor(G), IP Camera(I).

Digital Signage Maker

You can create ads files used for digital signage.

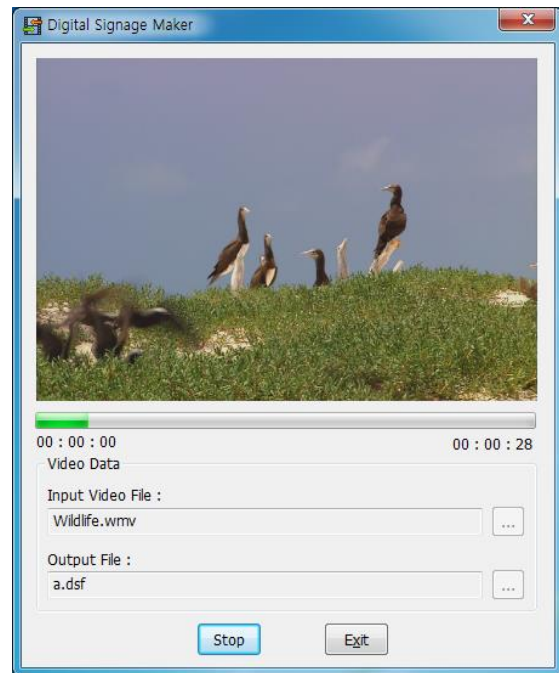
Creating a video ad

1. Select a video file to convert.
2. Select the driver/folder to save the converted ads file and enter the filename.
3. Press the Start button to start conversions. Below the progress bar, the start/end time will be displayed to show the progress.
4. Press the Stop button to convert up to the current progress.
5. Copy the converted file into the top folder of the USB memory and insert it into NVR and press Import in the digital signage menu.

** avi, mp4, mov, and wmv files can be converted into ads files.*

** Ads file size is max 1GB.*

** If the file is not saved in the top folder of the USB. NVR will not detect it.*



Appendix

System Specification

Video		SRM-872
N/W Camera	Inputs	Up to 8CH
	Resolution	CIF, VGA, 4CIF, 1.3M, 2M, 3M, 5M
	Protocols	ONVIF, SUNAPI
Installation	Camera Setup	Resolution, Frame rate, bit rate setup.
	Viewer	Built-in Webviewer
	Multi Screen Monitor display	1/4/9
Performance		
OS		Embedded Linux
Recording	Compression	H.264, MJPEG
	Rec. bit rate	64Mbps
	Record Rate	Up to 240fps @ 1280 x 720 (1.3M)
	Record Mode	Emergency, Schedule (Time/Event)
	Overwrite modes	Continuous, Auto Deletion w/ Retention duration
	Pre-alarm	Up to 30 sec.
	Post-Alarm	Up to 6 hour.
Event	Source	Sensor, MD, V-Loss, G-Sensor, IP camera event
Network	Ethernet	Gigabit Ethernet x 1, FE x8 w/PSE
	Transmission speed	Up to 1Gbps.
	Max. Remote users	Live (10)/ Search(3)/ Setup (1)
	Protocol support	TCP/IP, DHCP, SMTP, NTP, HTTP, DDNS, RTP, RTSP,UDP
	Monitoring	CMS, Webviewer, Smart-phone Viewer.
	Connection Mode	Static/DHCP
Storage	Internal HDD	1 HDD(2.5") or 1 SSD
	Removable	Micro SD - Max 32GB - Class 6 Over (Write 10MB/s Over)
Backup	USB	2 USB Ports (use 2 ports below)
	File Format	STRG(NVR Player), EXE(Include Player), AVI, SEC
	Function	8ch Search/Playback, GPS information, G-Sensor
Interface		
Video	Inputs	8 RJ-45 (PoE Support)
	Output	1 HDMI, 1 VGA, Up to 1080p
Audio	Inputs	Network Camera audio input, up to 8CH
	Compression	G.711, G.726
	Ext. Audio Output	1 Phone Jack (main unit), 1 RCA Connector(Control BOX)
Alarm	Inputs	Terminal 8 inputs, NO/NC
	Outputs	Terminal 8 outputs, NO/NC
Others	Ethernet	1 RJ45 (10/100/1000 Base-T Ethernet)
	USB	3 USB(2.0 High Speed)
	GPS	1 SMA

Functions		
Power Management	Shutdown Delay	1 Min. ~ 30 Min. (User selectable)
General		
Electrical	Input Voltage	12V ~ 24V DC
	Power consumption	Max. 30 W
	Camera Power Output	Max. 8 W per channel, Total 64W(PoE, IEEE 802.3af)
Environmental	Operating Temp./Humidity	-25°C to +50°C (-13°F to +122°F) / 20% to 85% RH
Mechanical	Dimension (W x H x D)	<ul style="list-style-type: none"> • SYSTEM: 225.5(W)x 59(H) x 312.2(D) mm • I/O Box: 155(W) X 44(H) X 70(D) mm • Control Box: 121(W) X 32(H) X 75(D) mm
	Weight (With Out HDD)	<ul style="list-style-type: none"> • SYSTEM: 2.17 Kg • I/O Box: 0.35Kg • Control Box: 0.18Kg
Approvals	EMC/Safety	CE, FCC, cUL, e-Mark, KC, EN50155
	Shock, Vibration	MIL STD-810F method 514.5, EN61373

Default Configurations

Classification	Details			Value
System	Information	System	NVR Name	None
			Remote controller ID	0
		Vehicle	Company	None
			Manufacture	None
			Model	None
			Registration No.	None
			License No.	None
			Driver	None
			System shut down Delay	5
	Date & Time	Date & Time	Time zone	GMT
			Daylight saving	OFF
			Date	YY-MM-DD
			Time	12hours
		NTP	Use NTP	OFF
			NTP Server	None
			(NTP) Interval	1day
		Holiday		None
	user	user	Auto Login	OFF
			Auto Logout	OFF
		Group	User	admin, guest
			Group	Administrator, Guest
Device	Camera	Camera	Title	CAM1~CAM8
			Protocol	ONVIF
			ID	admin
			Password	4321
		Covert	Day	All
			From ~ to	00:00~24:00
			Mode	OFF
			Camera	1~8
	Audio		Select Audio	None
			Name	AUDIO1~AUDIO8
	Alarm	Alarm	Alarm Duration	10 sec.
			Title	ALARM1~ALARM8
			Type	NO
		Schedule	Day	All
			From ~ to	00:00~24:00
			Mode	Event
			Alarm	1~8, Buzzer
Display	Displays	Display	Language	English
			Hide Status Bar	Off
		Monitoring	Sequence Interval	10 sec.
			Event popup	OFF
		PIP	Size	Small
			Position	Right bottom
	Resolution		Resolution	1280x720
	Digital signage	Digital signage	Auto starting digital signage	OFF
			FTP use	OFF
		Schedule	Days	All
			Start and end	00:00~24:00
			Mode	ON

Record	Record	Record	Overwrite	ON
			User Emergency Rec.	ON
			Auto deletion	OFF
			Time Record	Full frame
			Event Record	Full frame
			Emergency Record	Full frame
		Event	Pre event duration	OFF
			Emergency Record Duration	No Limite
			Post Event Duration	1 min.
		Schedule	Day	All
			From ~ to	00:00~24:00
			mode	Time & event
			Camera	1~8
Network	Address	WAN	Setting	Full frame
			Type	Static IP
			IP Address	192.168.1.200
			Subnet mask	255.255.255.0
			Gateway	192.168.1.1
			DDNS server address automatically	OFF
		PoE	DNS server	8.8.8.8
			IP Address	10.0.0.1
			Subnet Mask	255.255.255.0
			Use DHCP Server	ON
			IP Range Start	10.0.0.2
			IP Range End	10.0.0.254
		Port	Network port	10101
			Web port	80
			RTSP port	554
			UDP port	8000~8159
			Use UPnP	OFF
	DDNS		Use DDNS	OFF
			DDNS server	http://www.samsungipolis.com
			Product ID	None
	Notification	Email	Email interval	1 min
			Add capture image on email	OFF
	Transmissi on	Transmissi on	Limit bandwidth(Kbps)	OFF
Event	Sensor	Sensor	Select Sensor	None
	Motion	Motion	Select Camera	None
	Video loss	Record	Select record	None
	System	System	Storage full	100 %
			S.M.A.R.T. Threshold	65°C / 149°F
		Alarm	Storage bad	Buzzer, Alarm
			Storage full	Buzzer, Alarm
			S.M.A.R.T.	Buzzer, Alarm
			No Record storage	Buzzer, Alarm
			Emergency recording	None
	G-Sensor		Use G-Sensor	OFF
	IP Camera		Select IP Camera	None

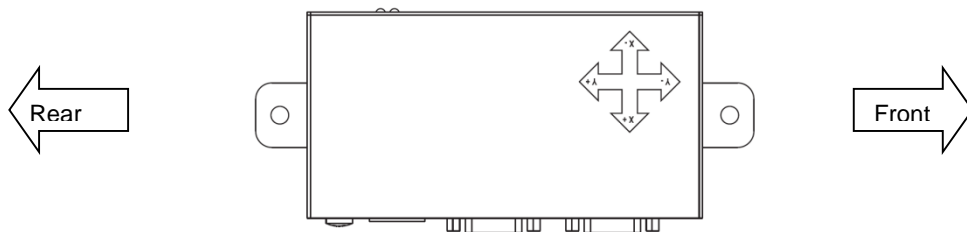
IO Box Installation

1. Cautions on Installation

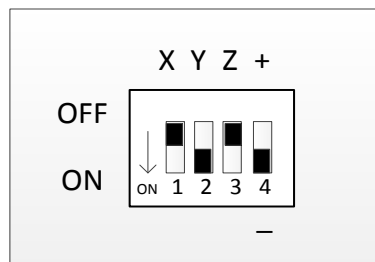
Inside IO Box G-Sensor included. Mind following installation guide when install.

- No matter where you install, ensure it is kept level with your vehicle.
- Install parallel with the vehicle direction and X, Y, Z axis to the products case.
- Check the direction of movement and the axis and set DIP switch on front properly.

Ex) If installed following picture



Set DIP switch as 'Y-' as following picture.



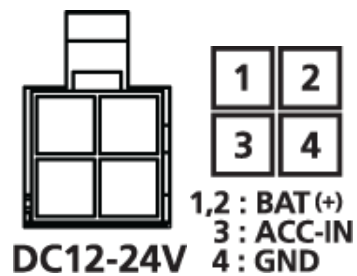
2. Cautions

Keep Level and the Dip switch setup should be done before power input is added to the device because IO box calibrates G-sensor when system initialized. If the level is not maintained level or wrong dip switch setup, system may fail to G-Sensor calibration. If the unit fails to calibrate, the G-Sensor output value will not be adjusted again and it will send sensor output data from IO box to main unit.

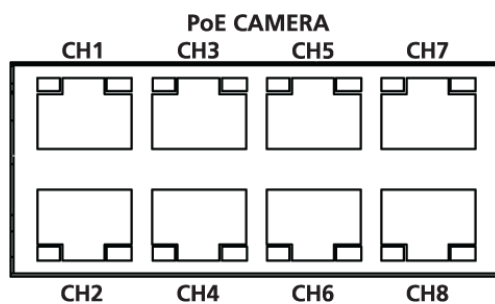
Connector Pin Map

1. Power connector

- VCC/ACC input range is 12Vdc ~ 24Vdc.
- VCC power pin should be connected to battery on vehicle and connect the ACC power pin to the accessory power on vehicle.
- ACC. Power means the power on when the is turned in 'ACC' mode..



2. IP camera input connection pin map



No.	PoE Power out / Data in
1	TX+, DC+
2	TX-, DC+
3	RX+, DC-
4	Not use
5	Not use
6	RX- DC-
7	Not use
8	Not use

- When connect to an IP camera, it is recommended to use 'FTP' or a higher level of cable to minimize any external noise.

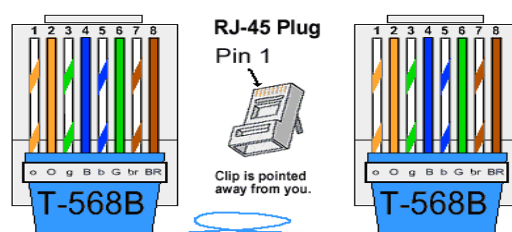
3. UTP Cable Pin Map (IO Box 1/2, Ctrl Box)

- RJ-45 Connector Pin map

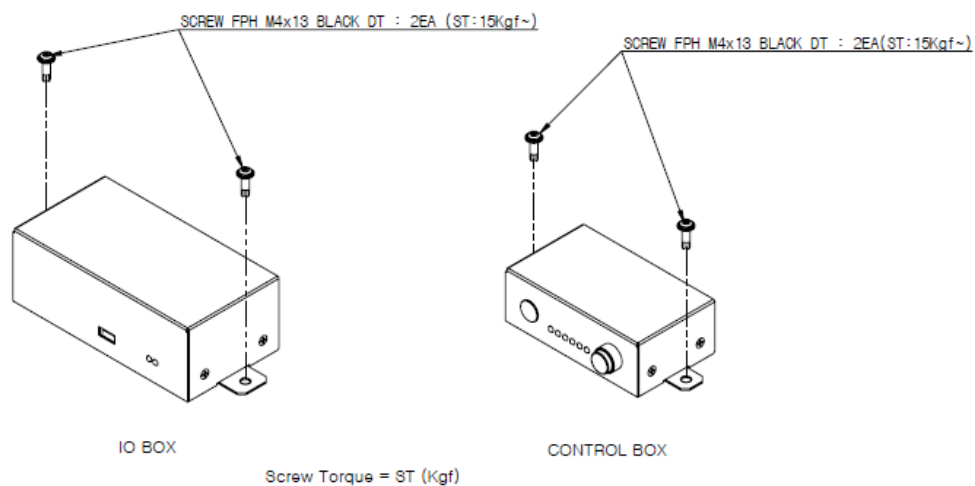
No.	IO Box1	IO Box2	Ctrl Box
1	Not use	Not use	Not use
2	Not use	Not use	GND
3	IO Box TXD	Not use	Analog Audio
4	VCC 12V	Not use	VCC 12V
5	VCC 12V	Not use	Ctrl Box TXD
6	IO Box RXD	Not use	GND
7	GND	Not use	Ctrl Box RXD
8	Detect Pin	Not use	Detect Pin

- UTP Cable

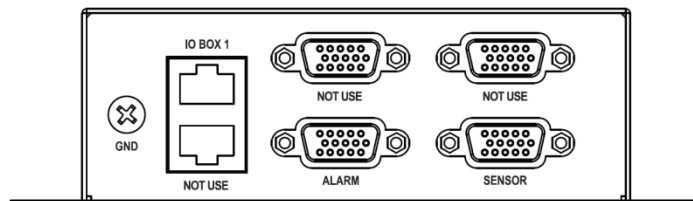
Use Straight type UTP Cable.



4. Installation (IO Box, Control Box)



5. IO Box D-SUB15 Pin Map



No.	Alarm / Sensor	No	Alarm/Sensor
1	Signal 1	9	Signal 5
2	GND	10	GND
3	Signal 2	11	Signal 6
4	GND	12	GND
5	Signal 3	13	Signal 7
6	GND	14	GND
7	Signal 4	15	Signal 8
8	GND		

- **Sensor input connection**
Connect one of sensor signal line to 'Signal' port and the other to 'GND port.
- **Alarm output connection**
It may causes a malfunction of the system when an alarm devices with excessive voltage or electric current with 'Open Collector' type is used. Contact installer before use this type.

FAQ

Problem	Action
The system does not turn on and the LED 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.
Video input is connected, but some channels do not display corresponding videos	<ul style="list-style-type: none"> • Check the video output connecting the camera's web viewer. • Check if the network port is properly connected and the network setting is set correctly • Go to 'Menu>Device>Camera>Setup' and enter ID/PW for camera again.
Only display logo continuously.	<ul style="list-style-type: none"> • Mainboard or software may defected. Call your service provider.
No screen displays on monitor even it is connected.	<ul style="list-style-type: none"> • Press 'zoom' button on remote controller for 5 seconds. It adjusts display resolution automatically.
Can't release triggered alarm	<ul style="list-style-type: none"> • Change the 'hour' option on 'menu>device>alarm>Schedule' as 'off' or 'Event' mode.
Can't access from PC to system	<ul style="list-style-type: none"> • Check network cable is connected. • Check IP address configuration on PC. • Do network Ping Test. • Check if there's another device which uses same IP address on network.
System displays 'NO HDD' icon and error message popup.	<ul style="list-style-type: none"> • Check HDD connection status. If there's no problem in connection status, call your service provider and ask them to check HDD..
System doesn't do recording.	<ul style="list-style-type: none"> • Check live image first. If there's no image on live, it won't record. • Check recording configuration is correct. If not configured correctly, it won't record.
Recorded image quality is not good.	<ul style="list-style-type: none"> • Change 'resolution' and 'bit rate' option on 'Menu>record>Record profile'.
Recording frame rate is different to configured frame on Camera	<ul style="list-style-type: none"> • If a camera connect and use multi profiles, it would services less frames than configured frame rate. Set camera as same profile with single stream as much as you can. In other words, make them same as 'Record, live and network profile'.
Can't receive GPS signal.	<ul style="list-style-type: none"> • Check GPS antenna connection status. • Place GPS Antenna evenly out of vehicle toward sky. If antenna installation is wrong, it receives unstable data with magnetic bottom pad
G-Sensor event triggered on Stop status.	<ul style="list-style-type: none"> • Remove the cable on IO Box and set dip switch properly according to the vehicle's moving direction and connect cable again.
Beep sound when power on system.	<ul style="list-style-type: none"> • Beep sound would be generated by event configuration setup. See event setup. • When don't use 'Micro SD', it would make beep sound until the HDD is 'ready to use' status. In case using Micro SD, data will be stored on it until system temperature reaches to HDD writable point and it switched to HDD when it reached to that temperature.
System still 'on' status after ignition off.	<ul style="list-style-type: none"> • Check 'Shutdown Delay' option on 'Menu->System Information'. System hold power on status during configured time.

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The software included in this product contains copyrighted software that is licensed under the GPL/LGPL. You may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product by sending email to help.cctv@hanwha.com

Also, We used ffmpeg as a static link for video decoding in the iOS Mobile Viewer iPOLiS Auto.

We can provide object code associated with video decoding in the iOS Mobile Viewer iPOLiS Auto.

- GPL Software : linux kernel, u-boot, busy box, parted, ntfs-3g
- LGPL Software : glibc, ffmpeg
- OpenSSL License : OpenSSL
- Apache License : mDNSResponder

/-----/

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Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Correct disposal of batteries in this product

(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/6. If batteries are not properly disposed of, these substances can cause harm to human health or the environment. To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through our local, free battery return system.

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