STD3K DVR
OS & HW User Manual

Ver. 2023-02

Chapter 1. DVR / NVR Operation Setup

1 - 1 Power ON.

① connect the power

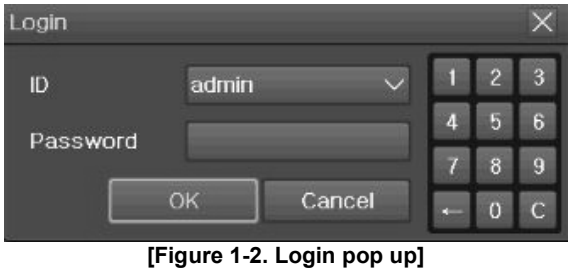
② Once Power cable is connected (found in Rear Side), booting will be enabled. .

③ After booting is finished, the live screen and channel indication / clock are shown.

④ Menu window pops up by clicking the right button of the mouse or pressing [MENU] button in the remote control as shown below.

[Figure 1-1. Menu]

⑤ Login window pops up by clicking the login button. Login is available after inputting the password.

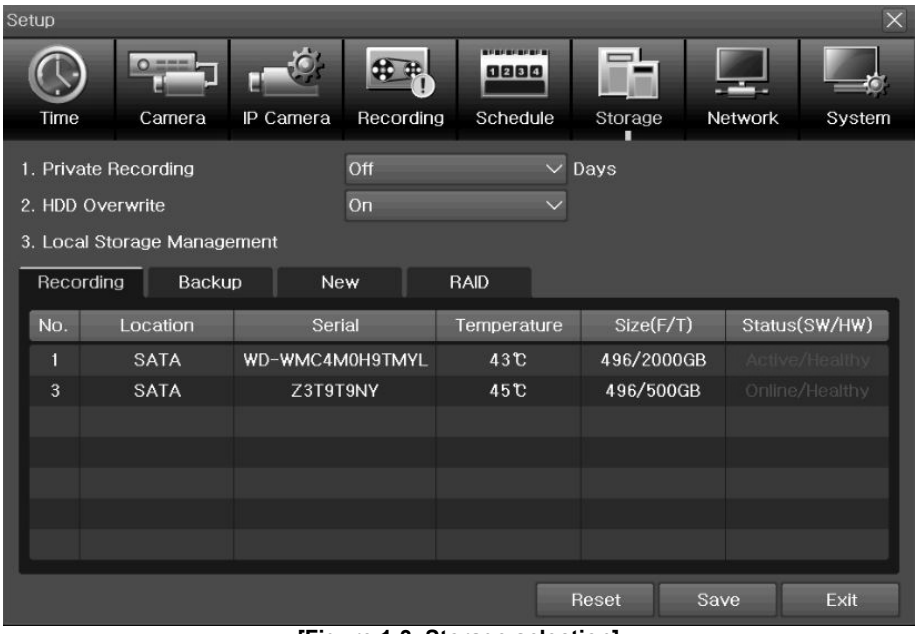


[Figure 1-2. Login pop up]

※ Password is available to change at {Menu} -> {Setup} -> {System} -> {Modify}.

1 - 2 Storage Setup

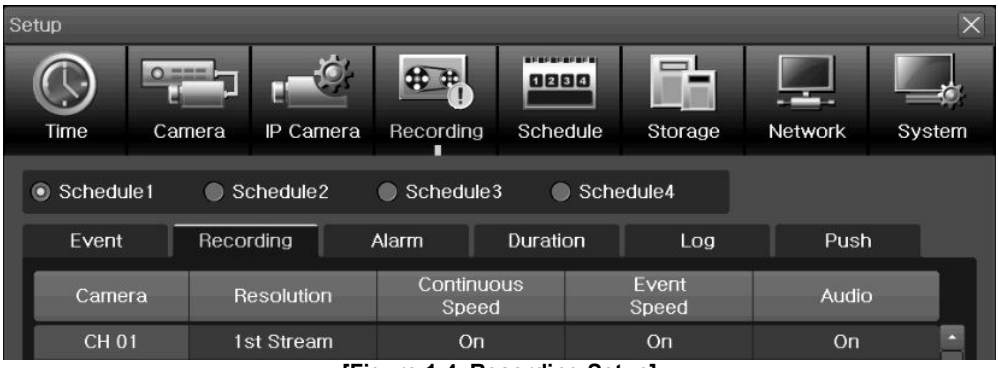
Select {Menu} -> {Setup} -> {Storage} and configure HDD.



[Figure 1-3. Storage selection]

1 - 3 Recording Setup

Select {Menu} -> {Setup} -> {Recording} -> {Recording}



[Figure 1-4. Recording Setup]

Setup [Recording Resolution]/[Continuous Speed]/[Event Speed]/[Audio].

1 - 4 Date/Time Setup

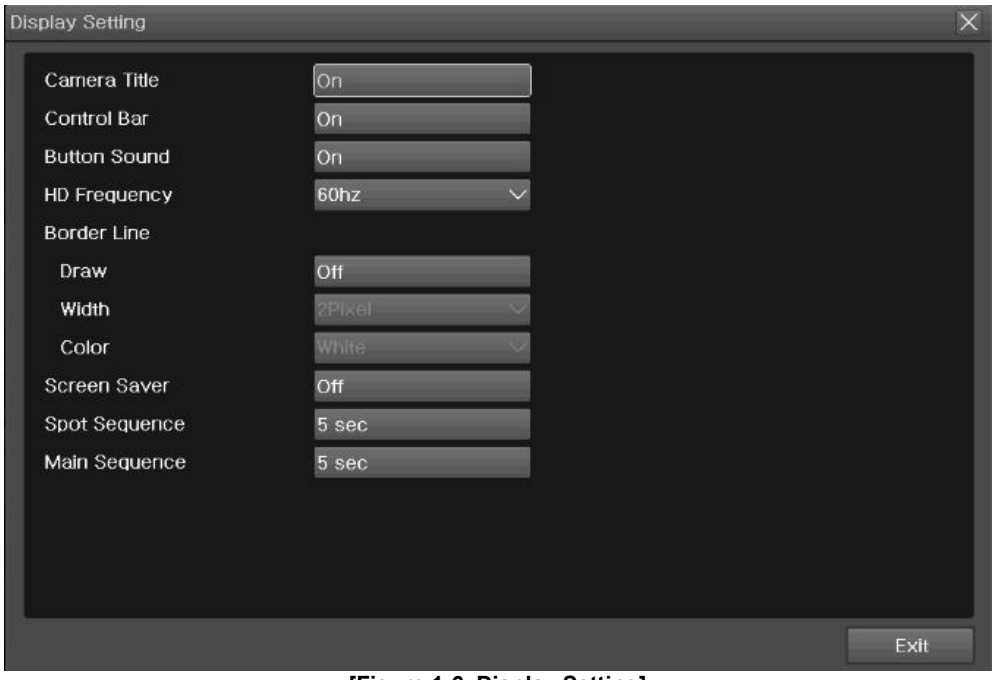
① Select {Menu} -> {Setup} -> {Time}.

② Configure [Time Sever]/[Date and Time]/[Standard Time Zone]/[Auto Reboot].

[Figure 1-5. Date/Time Setup]

1 - 5 Display Setting and Other Setup

Select and set up {Menu} -> {Miscellaneous} -> {Display Setting}.



[Figure 1-6. Display Setting]

1 - 6 Search

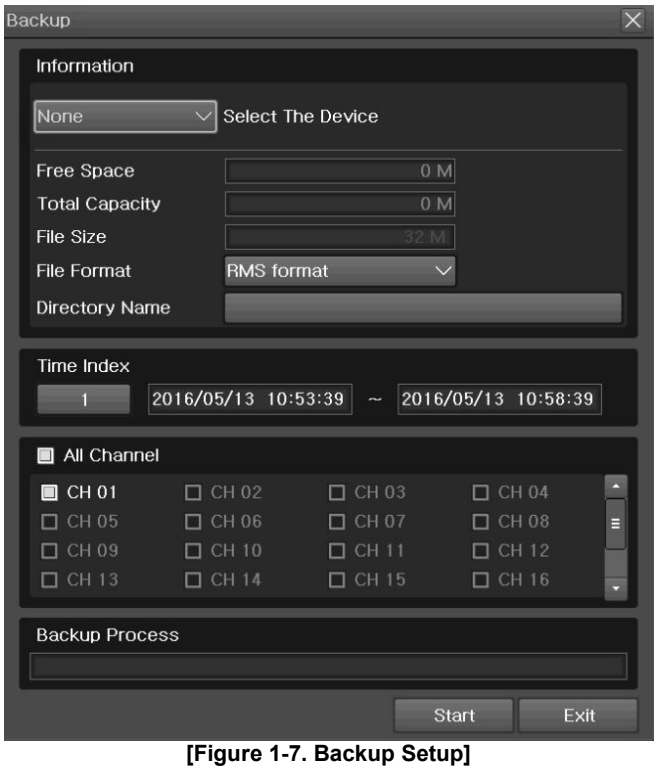
① Search the video records depending on Time list/Event/Multi mode/Channel.

② For more information, check [2-6 Search], [2-7 Playback], [2-8 Log viewer].

1 - 7 Backup

① Backup is available in Monitoring, Search, Log and Playback Mode.

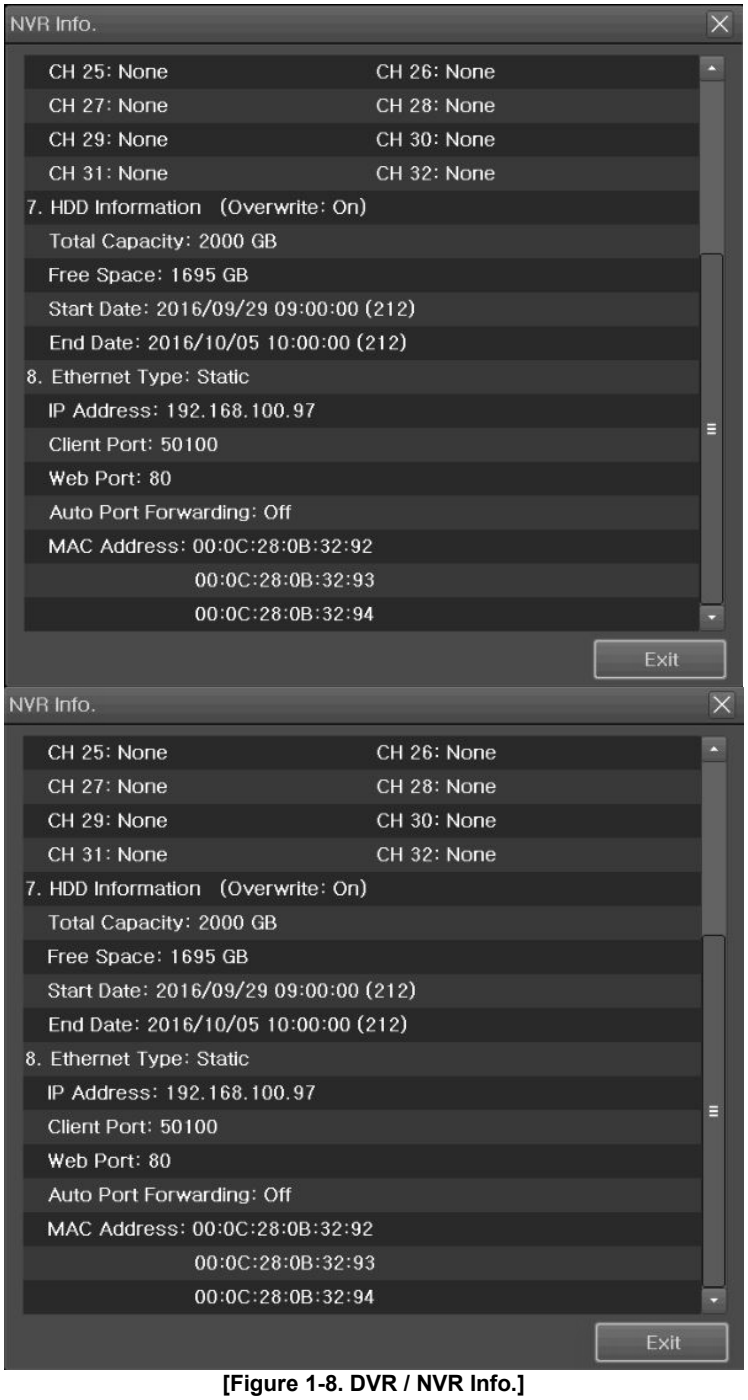
② For more information, check [2-10-5 Backup].



[Figure 1-7. Backup Setup]

1 - 8 DVR / NVR Info.

Move to {Menu} -> {Miscellaneous} -> {DVR/NVR Info}.



[Figure 1-8. DVR / NVR Info.]

Chapter 2 . System Operation

2 - 1 Real Time Monitoring Mode and Icon

After booting is finished, Recording Status/Channel Title/Connection Status/Time/HDD Status are displayed as shown below.

[Figure 2-1. Recording Status]

※ Recording Event / Recording Mode Icon ※		
Recording Event	M	Motion Detection Recording
	A	Audio Recording
	S	Sensor Recording
Recording Mode	V	Video Recording
	A	Audio Recording

※ Recording Event Icons are still displayed despite of the recording stop. Recording Mode Icon distinguish recording status.

※ 1HDD BAY model do not support Sensor function.

※ IPCAM do not support Audio Detection function.

※ Live Screen Icon ※	
	Video is not connected.
No Signal	Camera has been disconnected.

※ Control Bar ※	
	
①	Remote ID
②	Full / 4ch mode / 9ch mode / 16ch mode / 25ch mode / 36ch mode
③	Auto Sequence Mode
④	Digital zoom
⑤	Date / Time
⑥	HDD status
⑦	Playback

2 - 2 System Login

2 - 2 - 1 User Account and Authorization

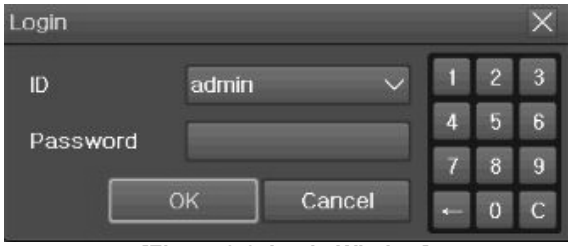
System users are divided into local administrators and general users and the local administrator can use all functions.

admin	The local administrator can use all functions: System Power On/Off, Setup, Monitoring, and Playback
user	Up to 15 users are allowed. Each user can access the functions depending on the given authorities. For Authorization Setup, Move to {Menu} {Setup} {System} {4. User Registration}.

※ Functions available for Authorization Setup ※	
ID/PW	Administrator ID/PW setup (admin account ID can't be changed)
Network live	Network live
Playback	Playback & Network playback
Backup	Backup control
Setup	Setup menu control
PTZ control	PTZ control
Network Upgrade	Network Upgrade control
PW	Using PW or not (Login available without PW by unchecking)
Use of channel (user)	Authorization By each channel

2 - 2 - 2 Login

For security purpose, user must log in first to use **{Monitoring Menu}.**



[Figure 2-2. Login Window]

① On the real-time monitoring window, select {Menu} -> {Login}
② Enter the password or select cancel.

2 - 2 - 3 Log out

After logging out, the user cannot use {Menu}.

2 - 3 Monitoring

Powerful monitoring functions as shown below

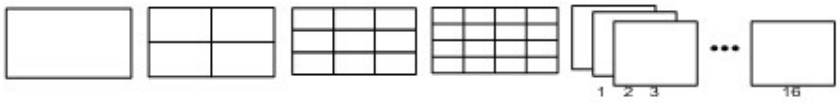
- **1 / 4 / 9 / 16 Division Mode and Auto Sequence Mode**
- **Channel Grouping**
- **1/4/9/16 Multi spot**
- **TV mode**
- **Menu Controlling in Monitoring Mode**
- **Zoom**
- **Live Event Indication**
- **Screen Control by using PTZ.**

※ **Division mode & Multi spot is depending on Max. Ch**

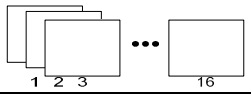
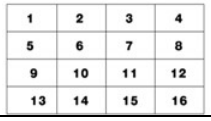
2 - 3 - 1 Screen Division and Auto Sequence

Our products provide the auto sequence mode as follows.

1/16 – basic mode
Auto sequence mode –special mode



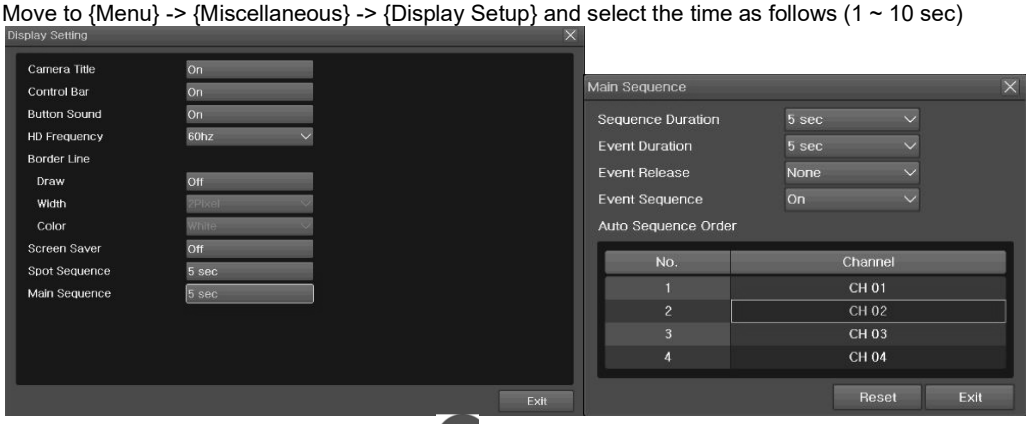
[Feature 2-3. 16ch mode]

※ In Basic Mode; 1/4/9/16, pressing the same mode button leads to screens as shown below.	
1 Channel Division Mode (16 Group)	
16 Channel Division Mode (1 Group)	
※ The user can view an image on full screen by double-clicking a desired channel in the 1/16 mode. Double-click any part of the screen to return to the previous mode. ※ Max. 16ch Division mode is available	

※ Auto Sequence

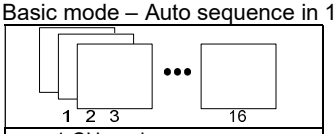
Auto Sequence is to rotate images at an interval of the certain time in Basic & Special Division mode. Auto Sequence is not available in the Basic 16 Division mode.

① Move to {Menu} -> {Miscellaneous} -> {Display Setup} and select the time as follows (1 ~ 10 sec)



② Pressing Remote Controller {SEQUENCE} Button or Mouse Arrow Button initiate the Auto Sequence mode.

③ Basic mode – Auto sequence in 1 CH mode



1 CH mode sequence

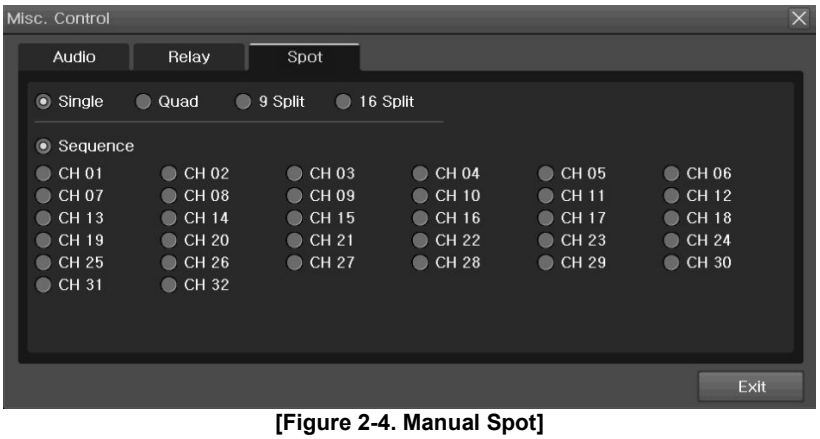
(*Unavailable by connecting only one camera)

2-3-2 Spot

Spot is to output a channel that is set with a certain function and Spot has an independent monitor and output. The priority for Spot is Manual Spot > Event Spot > Sequence Spot.

① Manual Spot

The user can designate a spot channel manually.



[Figure 2-4. Manual Spot]

Move to **{Menu} → {Miscellaneous} → {Misc. Control} → {Spot}** and configure on the 1/4/9/16 mode.

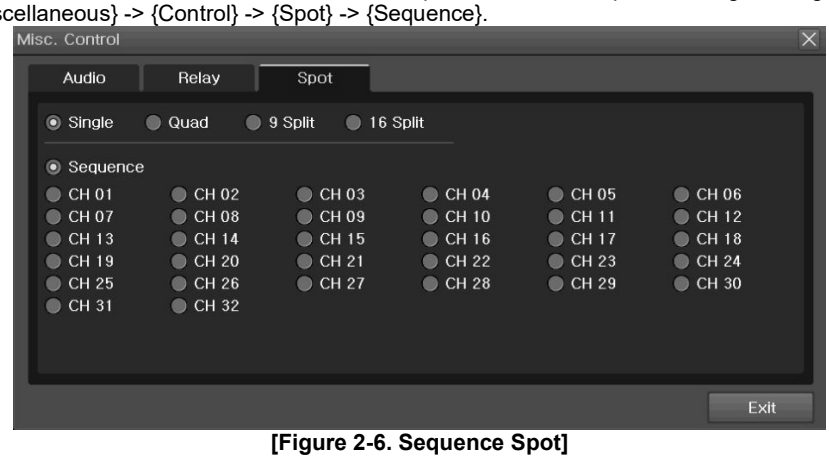
② Event Spot

Event Spot is to show a channel quickly that is set with the event function in case events (Sensor, Motion and Audio) occur. The event check interval is one second. If events are detected in many channels, it shows a channel with the last event. Move to {Menu} -> {Setup} -> {Recording} -> {Alarm} -> {Spot}.

[Figure 2-5. Event spot]

③ **Sequence Spot**

The user can select more than one channel in Manual Spot and have a sequential image through Spot. Move to {Menu} -> {Miscellaneous} -> {Control} -> {Spot} -> {Sequence}.



[Figure 2-6. Sequence Spot]

2 - 3 - 3 Menu in Monitoring Mode

The user can control all functions available in Monitoring Mode in {Menu}.

① Press the Menu or right-click mouse button. The {Menu} will then appear.

② Select the desired item by using the arrow keys or mouse.

③ Press the ESC button or right-click mouse button to end the menu.

2 - 3 - 4 Zoom

Zoom is to zoom in or out the 1 channel division image in the real time monitoring mode.

[Figure 2-7. Control Bar]

① Move to {Menu} -> {Zoom} or press the zoom icon from the control bar in the real time monitoring mode.

② After selecting a channel, it becomes the 1 channel mode and the zoom control screen shows at bottom-right.

[Figure 2-8. Zoom control screen]

③ In case of the mouse, move the pointer to an area to be zoomed in the zoom control screen and double-click on it.

④ Then, it zooms in 3 levels; Normal, x4, x16. Those 3 levels can be controlled by the wheel of the mouse. The user also can left-click and drag the yellow box to move the focused image in higher than the x4 mode.

⑤ In case of the remote controller and front panel, it is available to move to 3 levels by using [SEQUENCE] button in the remote controller. The yellow box can be moved by the arrow keys

2 - 3 - 5 Screen Control by using PTZ

This enables the user the real-time monitoring by using PTZ camera.
The PTZ camera must be connected to the system.
Select {Menu} -> {Setup} -> {Camera} -> {PTZ}.

① Configure Protocol / ID / Baud Rate / Duration / Tour.

[Figure 2-9. PTZ Setup]

※ Baud rate can be selected at 2400/4800/9600/19200/38400.

※ Duration can be selected at 5/10/15/20/5-60(User setting) seconds.

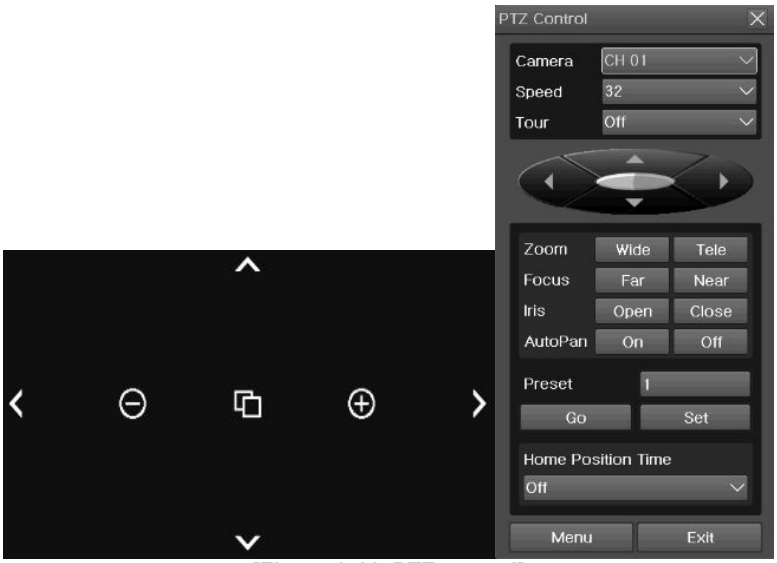
※ Tour consists of Tour 1/ Tour 2 and each tour can be set with 8 Preset.

※ **PTZ supporting IPCAM sets the protocol as IP camera automatically.**

※ For supported protocols, refer to APPENDIX.

② To control PTZ camera, select {PTZ Control} in Menu or press {PTZ} in the remote controller.

[Figure 2-10. PTZ control]



[Figure 2-11. PTZ control]

⚠	In the PTZ mode, there are two function (Full and Mini). Speed can be different depending on the camera manufacturers. Tour has [Tour1] and [Tour2]. Home Position Time is 1/5/10/User setting (1-60)minutes.

🕮	Preset? Using horizontal/vertical/Zoom/Focus/Iris movement of PTZ Camera, zoom or focus or Iris a certain spot of the image by designating the coordinates and move to the designated coordinates quickly.
🕮	Home Position Time? If there are no controlling signals to PTZ camera after a certain time, it goes automatically to the Preset No.1 position as Preset No. 1 is designated as Home Position

2 - 4 System Information and Screen Setup Change

2 - 4 - 1 System information

[Menu] → [Miscellaneous] → [DVR/NVR info]

※ Check the Figure [1-8] DVR / NVR info

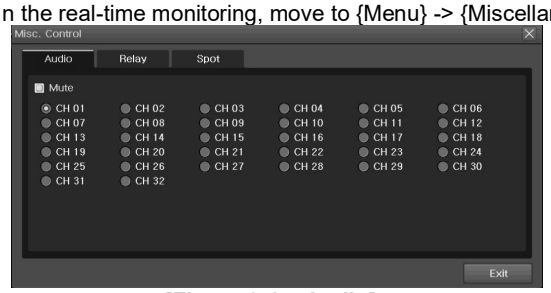
2 - 4 - 2 Display setting

Camera Title On/Off, Control Bar On/Off, Button Sound On/Off, Border Line Draw/Width/Color, Sequence Duration 1-10seconds. After selecting Display Setting, it becomes the 1 channel mode and a menu pops up as shown below.

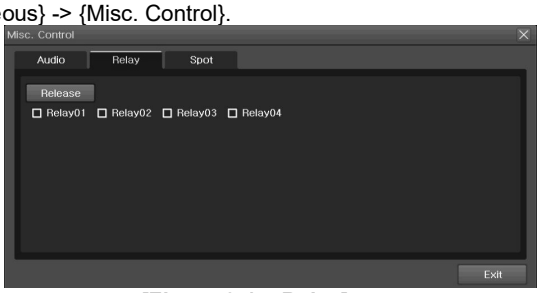
[Figure 2-12. Display Setting Window]

2 - 5 Control

In the real-time monitoring, move to {Menu} -> {Miscellaneous} -> {Misc. Control}.



[Figure 2-14. Audio]



[Figure 2-15. Relay]

① Move to the Audio tab and select the channel to be activated or Mute.

② Move to the Relay tab and select.

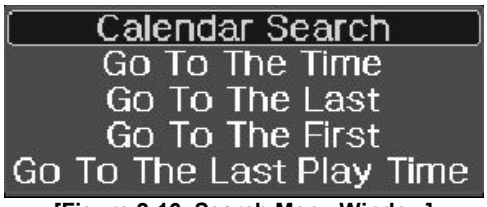
③ Spot function [2-3-2 spot]

2 - 6 Search

2 - 6 - 1 Search mode

Move to {Menu} -> {Search} in the real-time monitoring mode.

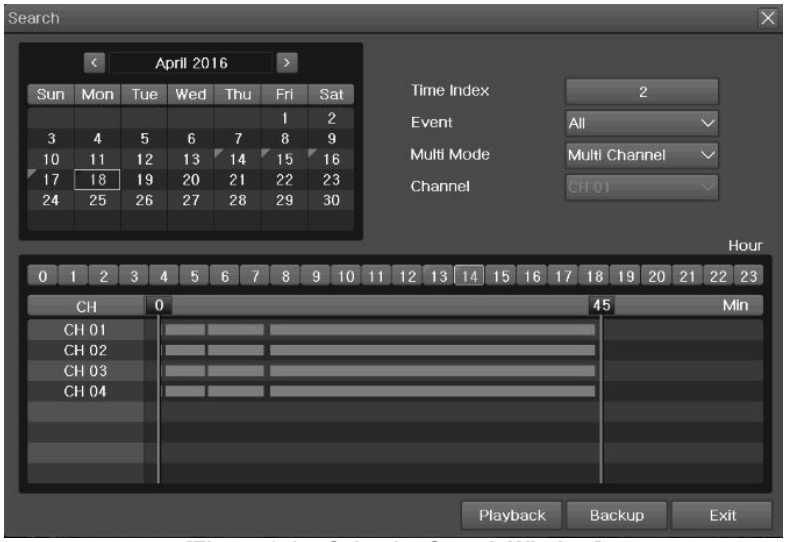
2 - 6 - 2 Calendar search



[Figure 2-16. Search Menu Window]

① Select [Menu] → [Search] → [Calendar Search]

② Calendar Search allows the users search and playback by [Time]/[Multi-Channel]/[Event].



[Figure 2-17. Calendar Search Window]

(1) Time Index

Every time when the user changes the time, a new folder (Index) is created and files saved in the folder before the time change can be found at {Menu} -> {Calendar Search} -> {Time Index}. Selecting a file at {Menu} -> {Calendar Search} -> {Time Index} leads to a selection window popup and the user can select a file in different folders (before time change).

	※ Searching by using the file lists is only available on multi-channel mode.
Current time	The recorded file by time of the current system
Old time	The recorded file before time change

(2) Event

Event is to search the data by the events. Select [All/Motion/Sensor/Audio].

(3) Multi mode

Multi-Channel: The user can playback the video contents of the certain channels recorded in specific time simultaneously.

Multi-Time : The user can playback the video contents of the certain channels recorded in different time zone simultaneously. Entering into the search mode during the Multi-Time playback leads to the Multi-Time Search.

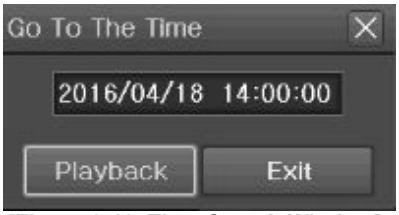
Multi-Date : The user can playback the video contents of the certain channels recorded in different dates simultaneously. Entering into the search mode during the Multi-Time playback leads to the Multi-Time Search.

(4) Channel

User can select the specific channel when selecting Multi-Time/Multi-date in Multi-mode.

2 - 6 - 3 Time Search

User can search the specific date and time records.



[Figure 2-18. Time Search Window]

2 - 6 - 4 Go To The Last

The user can search and playback the last (ahead of 5 minutes) recorded data by Multi-Channel Mode.

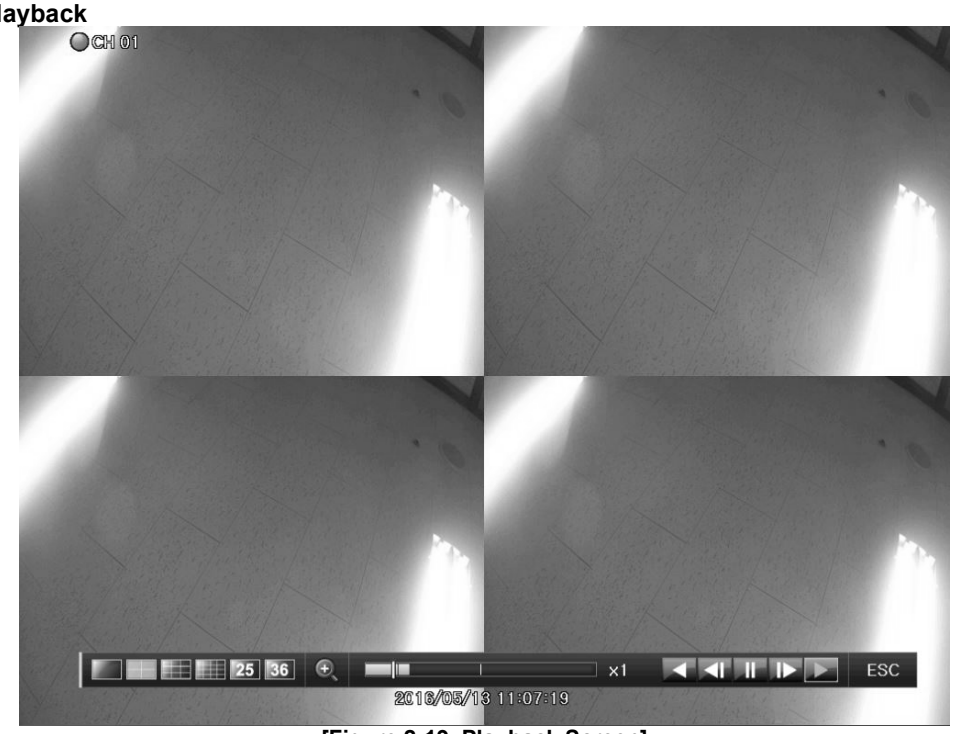
2 - 6 - 5 Go To The First

The user can search and playback the first recorded data in HDD by Multi-Channel Mode.

2 - 6 - 6 Go to The Last Played Time

The user can playback from the last played time.

2 - 7 Playback



[Figure 2-19. Playback Screen]

※ There are five routes to play the recorded image.

- Playback in the Calendar Search
  Select **{Playback} in {Menu} → {Search} → {Calendar Search} → {Search}**.
- Playback in the Go To The Last
  Select **{Menu} → {Search} → {Go to The Last}**.
- Playback in the Go To The First
  Select **{Menu} → {Search} → {Go To the First}**.
- Playback in the Last Played Time
  Select **{Menu} → {Search} → {The Last Played Time}**.
- Playback in the Log View
  After selecting **{Menu} → {Miscellaneous} → {Log Viewer},** select or double-click the time line listed to play.

※ Our products provide a variety of the playback as follows.

- **Calendar Search**
- **Multi-Time**
- **Multi-Day**
- **Panorama Play**
- **Event Play**
- **Zoom Play**

2 - 7 - 1 Playback and Playback Speed Control

① In the Playback mode, the user can playback video contents by using buttons as shown below.

② After the data is played to the end, the data of the next time zone will be automatically searched and played (this function is possible only in the Multi-channel Playback mode; both backward playback and forward playback are possible).

③ Pessing  buttons, the user can adjust the playback speed by(x 1) / (x 2) / (x 4) / (x 8) / (x 16) / (x 32) / (x 300).

[Figure 2-20. Playback Status and Control Window]

Description of the Search Buttons		
Button	Name	Features
	Channel Mode Change	Switch the channel mode.
	Zoom Mode	Switch to the Zoom mode.
	Forward Play / Fast Forward	Press one time - Playback forward (x 1) Press two times - Fast forward (x 2) Press three times - Fast forward (x 4) Press four times - Fast forward (x 8) Press five times - Fast forward (x 16) Press six times - Fast forward (x 32) Press seven times - Fast forward (x 300) Pressing one more time in x300 leads to x1 back.
	Forward Frame by Frame	Playback frame-by-frame Pause
	Pause	Pause
	Reverse Frame by Frame	Reverse playback frame by frame Pause
	Reverse Play / Fast Reverse	Press one time - Playback reverse (x 1) Press two times - Fast reverse (x 2) Press three times - Fast reverse (x 4) Press four times - Fast reverse (x 8) Press five times - Fast reverse (x 16) Press six times - Fast reverse (x 32) Press seven times - Fast reverse (x 300) Pressing one more time in x300 leads to x1 back.
	Live button	Exit out of Playback Mode.
		Status bar indicating information of the hourly recorded image data and the speed

Selecting the right-mouse button or menu button in the Playback Mode pops up the {Playback Menu} as shown below.

[Figure 2-21. Playback Menu]

2 - 7 - 2 Calendar Search
Move to {Menu} -> {Search} -> {Calendar Search} and then a searching window pops up.
Check [Figure 2-21. Playback menu]

2 - 7 - 3 Multi Time
The user can playback the video recorded image of the certain channel recorded in different time zones simultaneously. The arrangement of the searching result is the past to recent format.
Check [Figure 2-21. Playback Menu]

2 - 7 - 4 Multi Day
The user can playback the video recorded image of the certain channel recorded in different dates simultaneously. The arrangement of the searching result is the past to recent format.
Check [Figure 2-21. Playback menu]

2 - 7 - 5 Audio
Audio is to select the use of mute function in the recorded data.
Check [Figure 2-21. Playback menu]

2 - 7 - 6 Event
Event is to search and play events [All/Motion/Sensor/Audio].
Check [Figure 2-21. Playback menu]

2 - 7 - 7 Backup
The user can save the backup image data and capture the image into [USB/External Device].

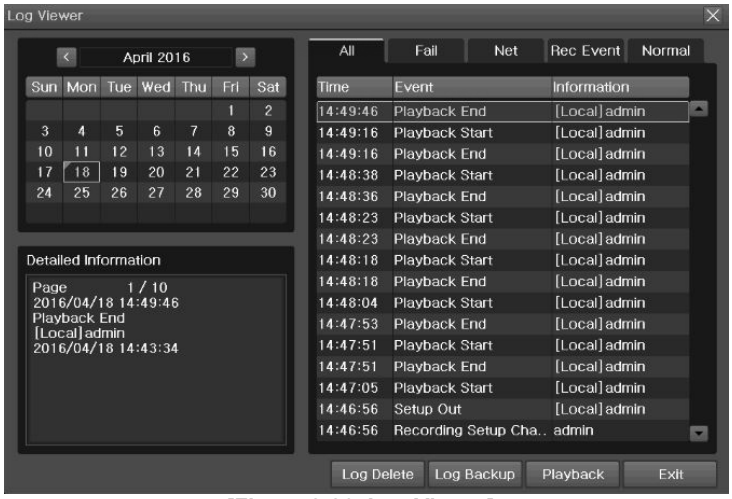
Backup	Save the recorded data into [External Device].
Snapshot	Capture and save the current displaying screen.

Check [Figure 2-21. Playback menu]

2 - 7 - 8 Screen Mode
Screen division is available in the Playback mode as same in the Monitoring Mode.
Select the screen division mode by using the mouse or arrow keys in the front panel and remote controller.

[Figure 2-25. Control bar]

2 - 8 Log Viewer
DVR/NVR records all Log information over the system operation including Power on/off, System Setup and Network Access. Move to {Menu} -> {Miscellaneous} -> {Log Viewer} to see the logs.



[Figure 2-26. Log Viewer]

2 - 8 - 1 Log Type

General	Logs related to power ON/OFF, file copy/backup failure, setup start/end, playback, and other basic system operations
Recording Event	Logs related to the recording including motion detection and sensor detection, Audio detection
Network	Logs related to network operations including network login, network logout, and network live
Fail	Logs related to system operation failures including signal loss and network connection failure
All	Logs related to all system operations

2 - 8 - 2 System Log Viewer

① In the real-time monitoring mode, {Menu} {Miscellaneous} {Log Viewer}, then, Log List Window pops up.

② On the activated calendar window, select the desired date (year/month/day) by using the arrow keys and the Select button.

③ The user can check the time and the log type by using the arrow keys in the log list.

④ Use the Up/Down button to check the logs by time and type on each page.

⑤ The user can shift the focus to a certain time zone to play the certain time (playback will start from the time point when logs are saved)

⑥ Click the right-mouse button or select {Menu} button in the remote controller and select {Hour} to move the desired log time zone.

	**Time Changed Log Data View** The stored data folder is created each time the user changes the time. A blue triangular icon is displayed at a date in the calendar window that time changes are made. Otherwise, a red triangular icon is displayed at an unchanged date. To view the log details, select the desired date with a red icon. Selecting a date with the blue icon causes the changed date list window to appear.

2 - 9 Recording

2 - 9 - 1 Recording Type

It supports various recording types as shown below.

Recording Type	Description
Continuous	The Continuous recording will be initiated based on the general frame rate.
Motion	When motion is detected, the recording will be initiated based on the event frame value.
Sensor	When input signal from an external sensor is generated, the recording will be initiated based on the event frame value.
Audio	When audio is detected, the recording will be initiated based on the event frame value.

2 - 9 - 2 Recording Setup

Move to {Menu} -> {Setup} -> {Recording} -> {Recording}.

2 - 9 - 3 Recording Status View

1) Recording Status by Color

※ Recording Event / Recording Mode Icon ※		
Recording Event		Motion Detection Recording
		Audio Recording
		Sensor Recording
Recording Mode		Video Recording
		Audio Recording

2-10 Backup.

In order to backup the data, make sure to check that external storage devices (CD, DVD or HDD) supports USB 2.0 interface is connected. The user can back up data in the real-time monitoring, search, log, or the playback mode.

※ In case of using USB with NTFS file system, 'Hardware safety removal' is necessary from Windows. If not, USB memory can be damaged.

After the backup, USB can be removed from DVR/NVR.

[Figure 2-27. Backup Menu]

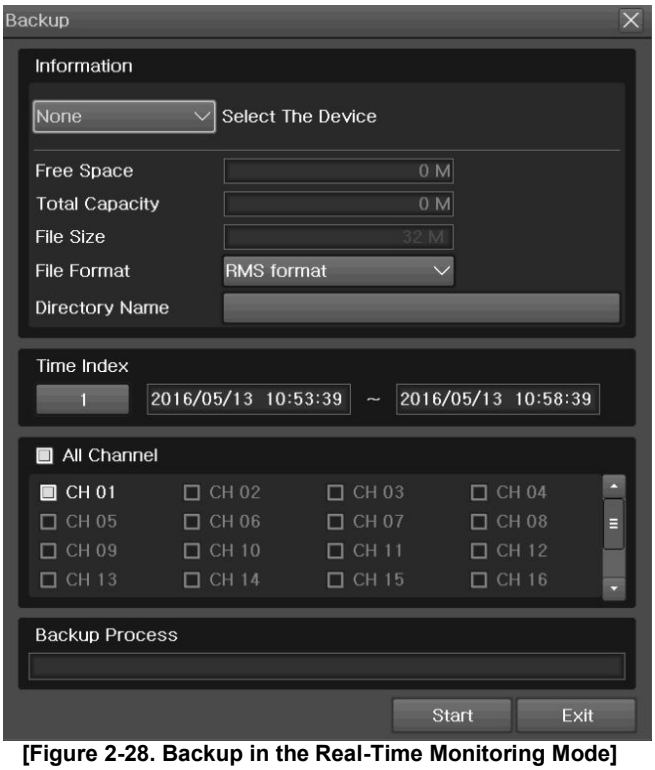
2-10-1 Backup in the Real-Time Monitoring Mode

① In the real-time monitoring mode, select {Menu} -> {Backup} -> {Backup}. The backup menus will then appear.

② The automatic backup time is set to 5 minutes before the Copy (Backup) button is pressed, and the end time, to the time the Copy (Backup) button is pressed.

③ All channels containing data at the time of backup are backed up automatically. Depending on the divided screen mode, however, only those channels that can be viewed may be selected.

④ For the remaining backup procedures, see [2-10-5 Common Backup Procedure].



[Figure 2-28. Backup in the Real-Time Monitoring Mode]

2 - 1 0 - 2 Backup in Search Mode

[Figure 2-29. Backup in Search Mode]

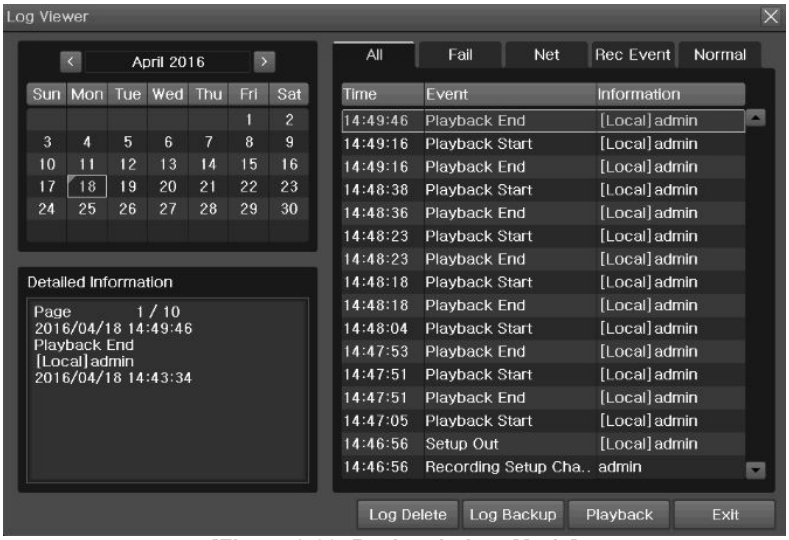
① Select {Menu} -> {Search} -> {Calendar Search}.

② The automatic backup start time is set to the year/month/date/hour/minute set in the search mode, and the end time, to the last minute/second of the data existing at the selected time.

③ All channels with existing data at the time of backup are backed up automatically.

④ For the remaining backup procedures, see [2-10-5 Common Backup Procedure].

2-10-3 Backup in Log Mode



[Figure 2-30. Backup in Log Mode]

① Select a date in {Menu} -> {Miscellaneous} -> {Log Viewer} and select a log related to the data to be backed up.

② Click the right-mouse button or select {MENU} button in the front panel.

③ The automatic backup time is set to 5 minutes before the selected log is generated, and the end time, to the time the selected log is generated.

④ All channels with existing data at the time of backup are backed up automatically. If a log has been generated for a specific channel, however, then only that channel is selected.

⑤ For the remaining backup procedures, see [3-10-5 Common Backup Procedure].

2-10-4 Backup in Playback Mode

[Figure 2-31. Backup in Playback Mode]

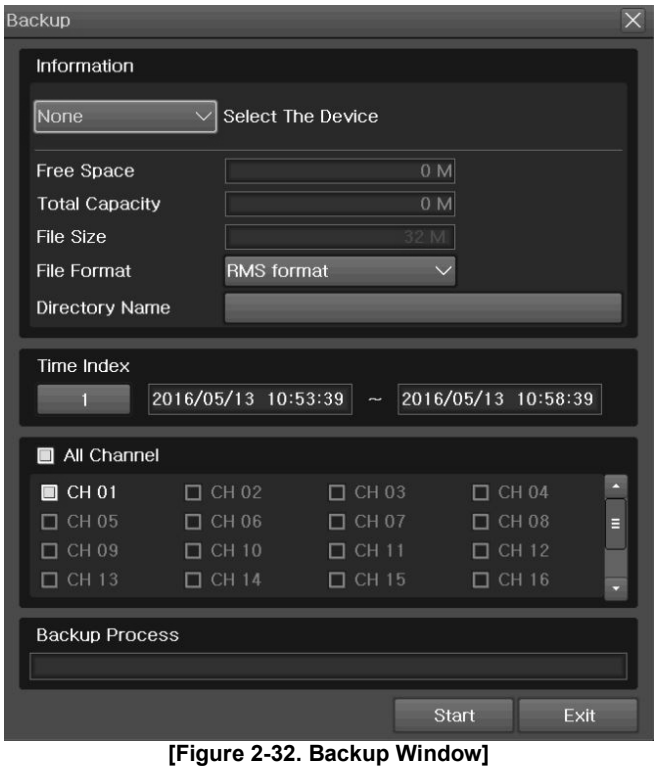
① In the Playback mode, select {Menu} -> {Backup}. Any playback in progress at this time will stop.

② The automatic backup time is set to 5 minutes before the Copy (Backup) button is pressed, and the end time, to the time the Copy (Backup) button is pressed.

③ All channels containing data at the time of backup are backed up automatically. Depending on the divided screen mode, however, only those channels that can be viewed may be selected.

④ For the remaining backup procedures, see [2-10-5 Common Backup Procedure].

2-10-5 Common Backup Procedure



[Figure 2-32. Backup Window]

① [Figure 2-33] shows the initial backup window menus.

② A list of the devices that can be selected is outputted with simple information of the currently selected devices

③ Selecting a device by pressing the Select button causes the free space and total capacity for the selected device to be displayed.

④ Selecting a device causes the directory name based on the initial values for the time and channel to be displayed and the size of the file to be backed up to be calculated.

⑤ The directory is named as same with the backup time. The first 12 digits are determined by the year/month/day/hour/minute/second for From, and the 12 digits in the middle, by the year/month/day/hour/minute/second for To. The last 2 digits are determined by the number of folders in the selected device.

⑥ Selecting a device enables selecting the backup time as well.

⑦ To change the start and end time, press the Select button after choosing the start and end time. Change year/month/day/hour/minute/second by using arrow keys.

⑧ Changing the backup time causes the name of the directory to be backed up to be changed as well.

⑨ Select [Yes/No/Cancel] after pressing Start button.

※ In case of AVI file, select [Yes] to back up the data or [No] to stop the backup. Otherwise, press the [Cancel] button to return to the device selection mode on the backup window.

2-11 Setup Backup

The Setup Backup is to back all setup values of the current menu up. This function enables the user to copy the setups and apply them into other devices.

[Figure 2-33. Setup backup]

① For the Setup Backup, a device for backup must be connected.

② Move to {Menu} -> {Backup} -> {Setup Backup} and a window shown below appears. The setup is copied by the name shown below.

[Figure 2-34. Setup Upgrade]

Saved as the name below..

H6E04_V1.3.003_20160414_172843.bin

① Model / ② Version / ③ Date / ④ Time

③ Move to {Menu} -> {Setup} -> {System} -> {Upgrade} -> {Setup} after insert the backup device.

④ With this way, the user can upgrade a new device with the current setup values in easy way.

2-12 Log Backup

This is to back logs up including General/ Recording Event / Network / Fail.
Move to {Menu} -> {Backup} -> {Log backup} and start the backup process after selection of the events.

[Figure 2-35. Log Backup]

Log files are created at a folder shown below.
20100303_20100303_02_LOG
565645348945_20100303.log
Log file is the text file.

2-13 Capture

The Capture function lets the user create a JPG file in the real-time monitoring, playback, search, or log mode and back up the image data.

[Figure 2-36. Capture]

To back up the currently displayed image, select {Menu} -> {Backup} -> {Capture} in real-time monitoring, Playback and Log mode.

2 - 1 4 QR Code(Network information)

QR Code is the function to connect the DVR /NVR scanning the QR code image. The user can connect the devices through the application named ‘CCTV SMART VIEWER’.

[Figure 2-37. QR Code]

Chapter 3 . Setup

3 - 1 Time

※ Function Description

1. Time Synchronization

1) Synchronization with the NTP server

The time is synchronized once every hour with the NTP Server.

A. Automatic Setup

The nearest server from the user's zone will be selected for connection. If the connection fails, the next nearest server will be chosen.

B. User Setting

The user sets the URL or IP for the NTP server. If connection is not established, a message will be sent to the user, and the related log, saved.

If synchronization with the NTP server fails, synchronization with RTC will be established.

2. Daylight Saving Time (DST) Setup

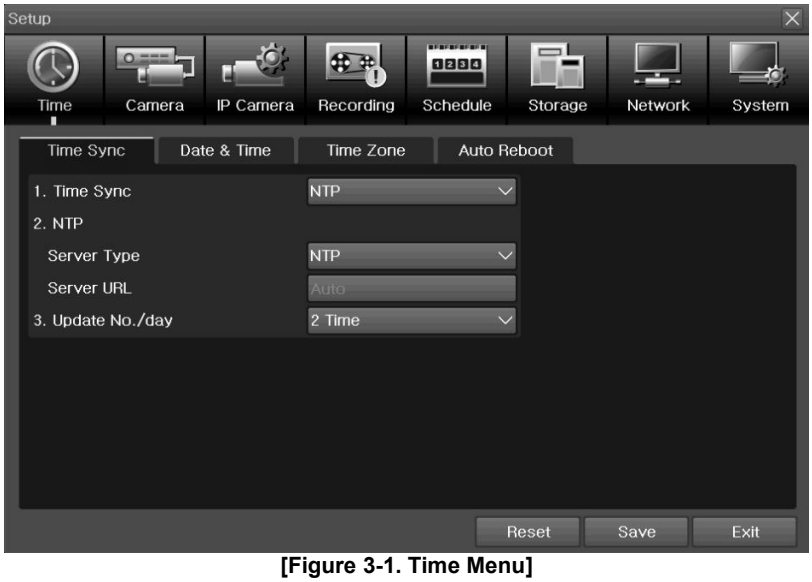
Regardless of whether NTP server or DST server is referred to, DST is automatically processed according to the time.

3. Time Setup by User

The user can set the time directly.

For the NTP client setup, the user can read the time but not change it.

※ Move to {Menu} -> {Setup} -> {Time} to set up time functions.



[Figure 3-1. Time Menu]

3 - 1 - 1 Time Sync

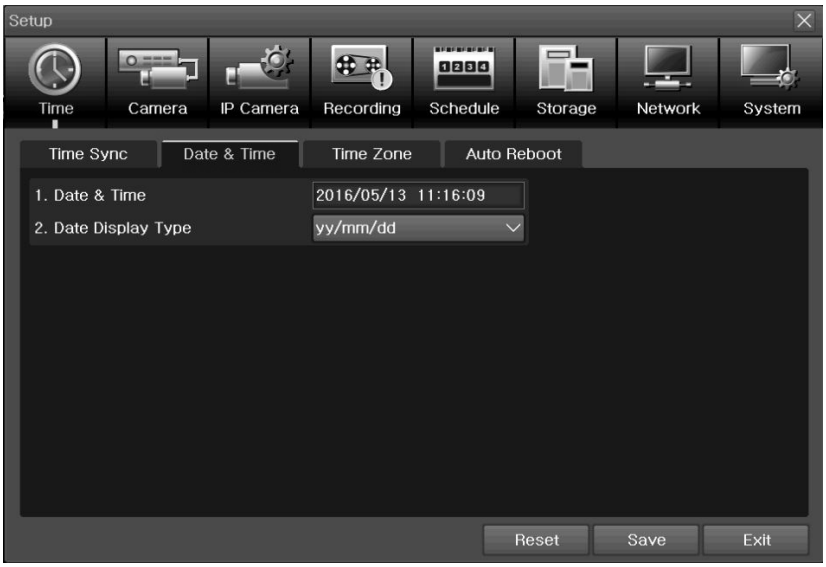
Select Time Sever / Sever Type / Sever URL.

Off	The time server is not used.
NTP	NTP is used to set the time for the time DVR/NVR

{NTP} setup is available when {Time Sync} is set as NTP.
Server URL is [Auto] when the server type is [NTP]. The user can enter the IP, URL when the server type is [PC]

3 - 1 - 2 Date and Time

(1)Date and Time



[Figure 3-2. Date and Time]

> ⚠ Only available when Time Server is off.

The system date and time format is Year/Month/Day/Hour/Minute/Second.

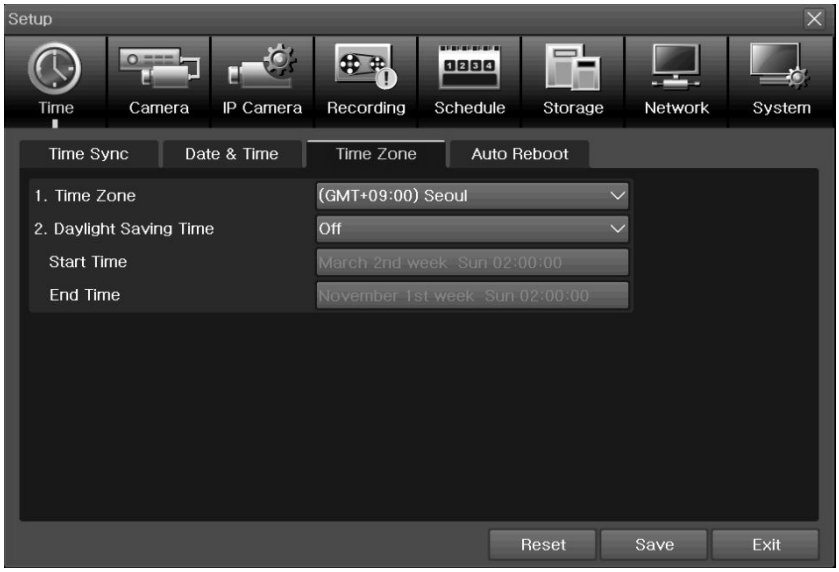
① By using the arrow keys and the Select button, move the focus onto the desired field; Year/Month/Day/Hour/Minute/Second and press the Select button.

② Select a field you want to change by using the arrow buttons and press the Select button.

(2)Time Display Format

Select Time Display Format among [Day/Month/Year] / [Month/Day/Year] / [Year/Month/Day].

3 - 1 - 3 Standard Time Zone



[Figure 3-3. Standard Time Zone]

(3)Standard Time Zone

① Select {Standard Time Zone}.

② On the selection window, select the standard time zone you want to set.

(4)DST

① By using the arrow keys and the Select button, select {Summer Time}.

② On the selection window, select On/Off by using the arrow keys and the Select button.

(5)Start Time

① By using the arrow keys and the Select button, select {Start Time}.

② On the selection window, set up Start Time by using the arrow keys and the Select button.

(6)End Time

① By using the arrow keys and the Select button, select {End Time}.

② On the selection window, set up End Time by using the arrow keys and the Select button.

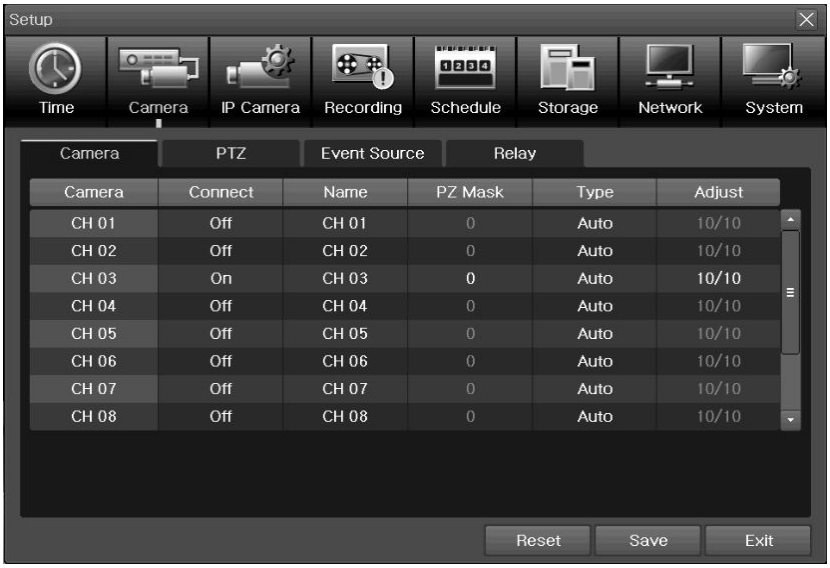
	※ For a weekly setting in the {Start Time} and {End Time} fields, set Day to [week]. ※ After the Daylight Saving Time is selected, the existing data will be displayed as “OLD_” in the search and log list.

3 - 1 - 4 Auto Reboot

Auto Reboot is for system stability, rebooting itself regularly.

[Figure 3-4. Auto Reboot Menu]

3 - 2 Camera



[Figure 3-5. Camera Menu]

※ The channels which are connected with IPCAM in DVR/NVR are not available with the following features. [PZ Mask, Type, Adjust]

3 - 2 - 1 Camera

① Connection

Used to set whether to connect or disconnect each camera channel.

※ When the camera channel is set to disconnected, the video contents will not be displayed even if the camera is actually connected.

② Title

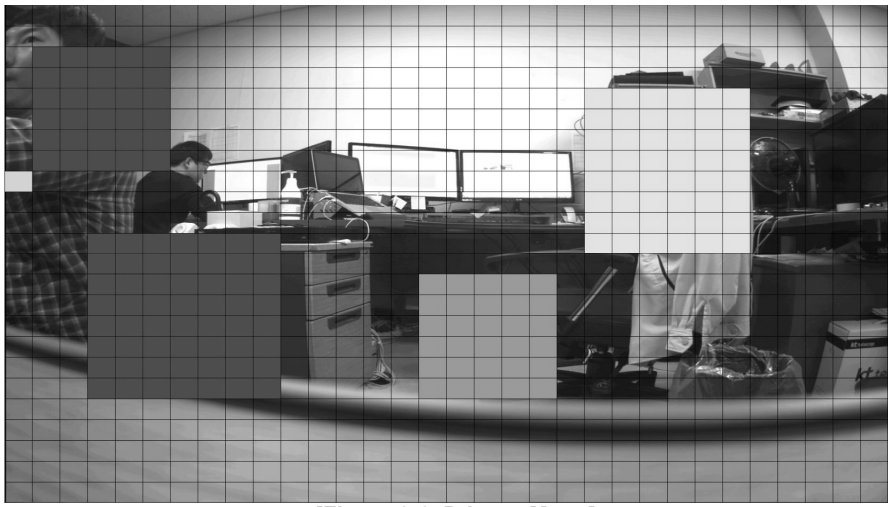
Name each camera. Max. 10 letters, 20 numbers are available.

③ Privacy

The feature that the monitors can't see the specific parts of the real-time monitoring channel.
Privacy setting available once selecting the privacy tab of each channel. And the screen is converted to 1ch mode accordingly.

Max.4 privacy parts are available.

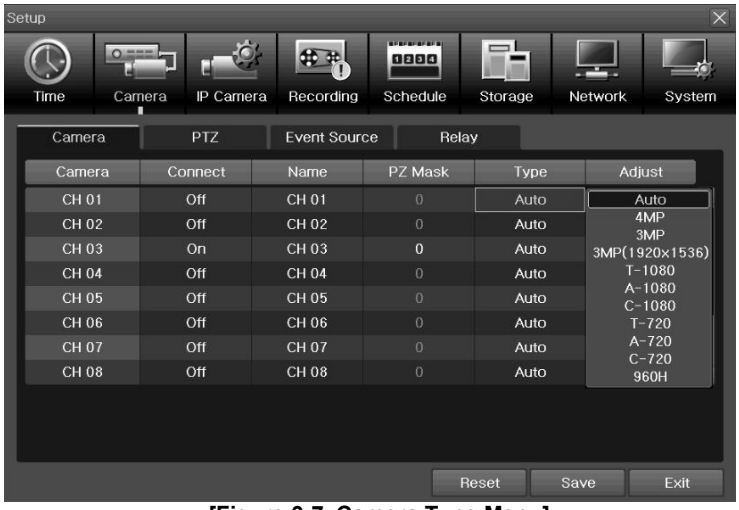
※ The channels which are connected with IPCAM in DVR/NVR are not available with this feature.



[Figure 3-6. Privacy Menu]

④ Type

Set the camera type. There are different camera types depending on the models.
Please note that IPCAM & EX-SDI 1HDD Bay models do not support the camera type setting.

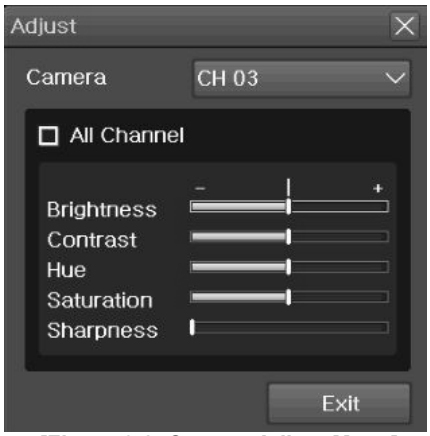


[Figure 3-7. Camera Type Menu]

※ The channels which are connected with IPCAM in DVR/NVR and EX-SDI 1HDD Bay models are not available with this feature.

⑤ Adjust (IPCAM)

Adjust Brightness/Contrast/Color/Saturation/Sharpen/Camera.

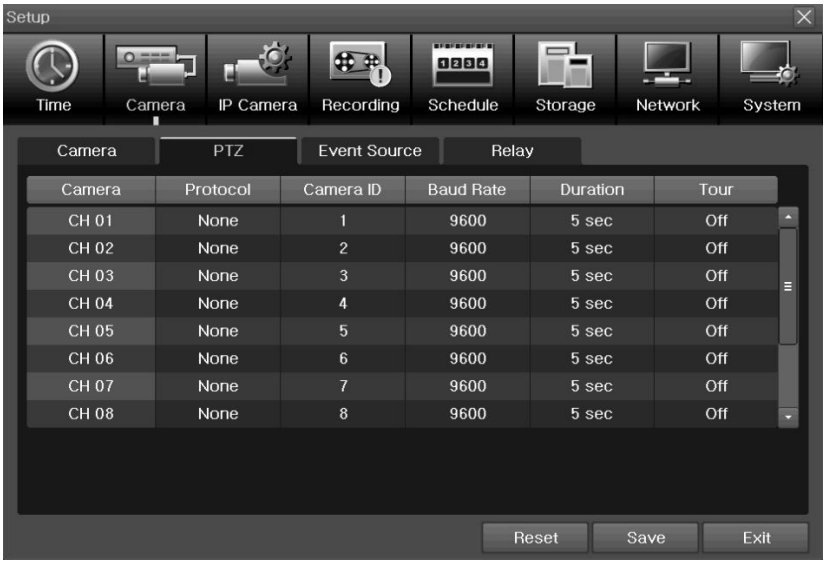


[Figure 3-8. Camera Adjust Menu]

※ The channels which are connected with IPCAM in DVR/NVR are not available with this feature.

3 - 2 - 2 PTZ

Setup the protocol and baud rate of the PTZ Camera.

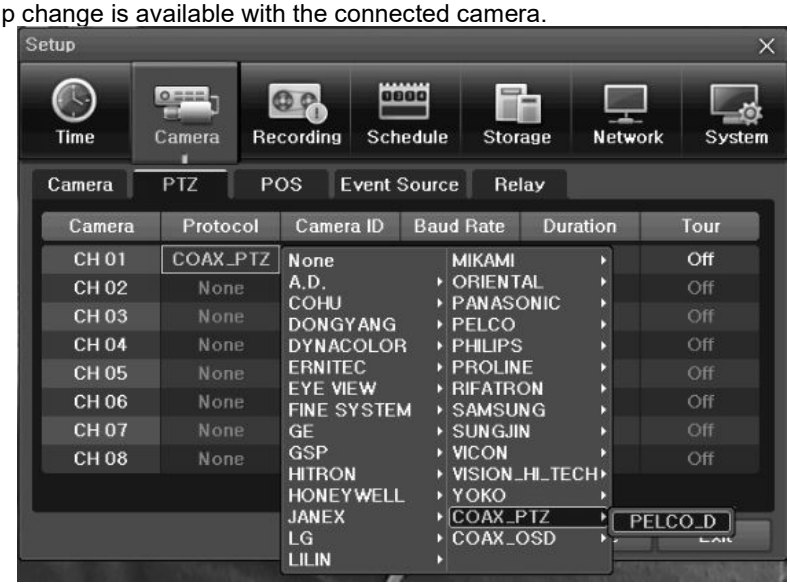


[Figure 3-9. PTZ Menu]

※ IPCAM supporting PTZ is set to Protocol as IP Camera automatically.

3 - 2 - 3 PTZ Coax(UTC) Control

OSD setup change is available with the connected camera.



[Figure 3-10. COAX_PTZ Setup]

[Figure 3-11 OSD OPEN]

Select **[Menu]** → **[Setup]** → **[Camera]** → **[PTZ].**
Change the Protocol **[COAX_PTZ]** → **[PELCO_D]** and select **[Menu]** → **[PTZ control]**
OSD menu setup is available with PTZ control menu.

※ **IPCAM do not support this feature.**

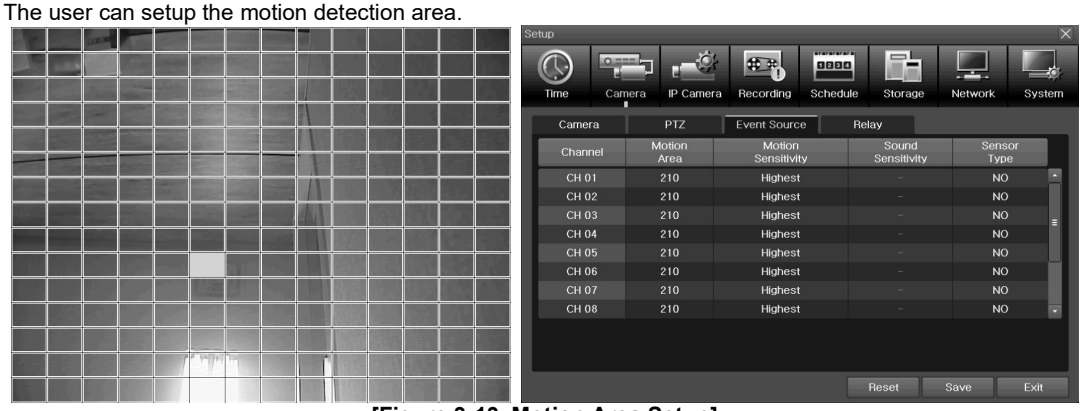
3 - 2 - 4 Event Source

Select **{Menu}** → **{Setup}** → **{Camera}** → **{Event Source}**.

[Figure 3-12. Event Source Menu]

(1) Motion Area

The user can setup the motion detection area.



[Figure 3-13. Motion Area Setup]

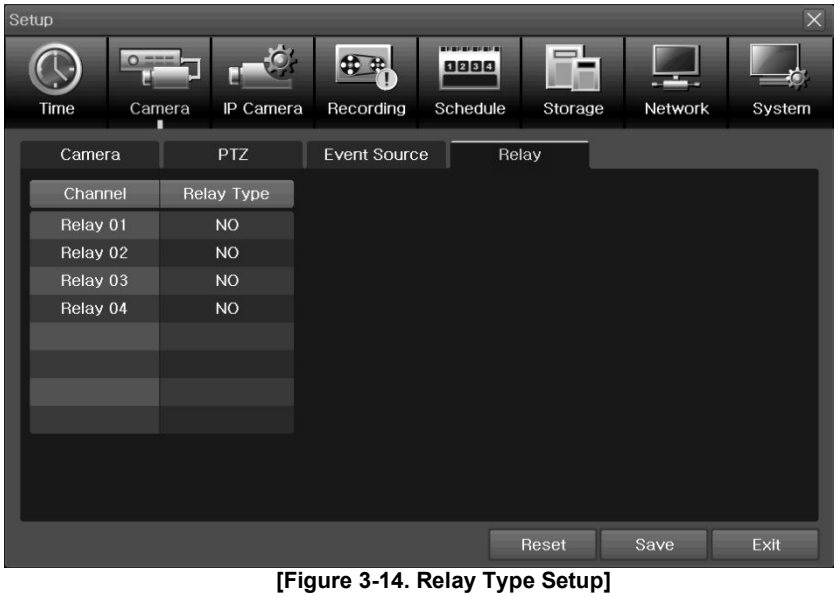
① Select Motion Area of each channel.

② It becomes the 1 channel division mode and rectangular boxes appear where motions occur. Drag the yellow pixel cursor by using the mouse or the front button/remote controller and select pixels where motion detection doesn't applied. The selected area turns black.

③ Click the right button of the mouse to finish.

(2) Motion Sensitivity: Lowest/Low/Middle/High/Highest.
(3) Sound Sensitivity: Lowest/Low/Middle/High/Highest
(4) Sensor Type: Select the sensor type. (NO/NC)

3 - 2 - 5 Relay



[Figure 3-14. Relay Type Setup]

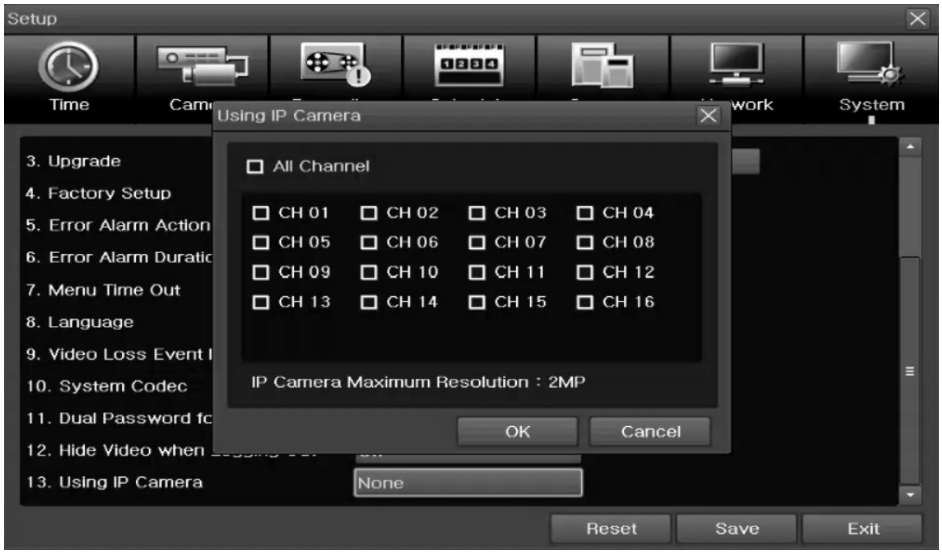
Select the relay type. (NO/NC)

3 - 3 IP Camera

3 - 3 - 1 IP Camera Setup1

With NOVATEK DVR, IP Camera channels can be switched to BNC channels. For using IP camera, it needs to be set in the Setup menu as below.

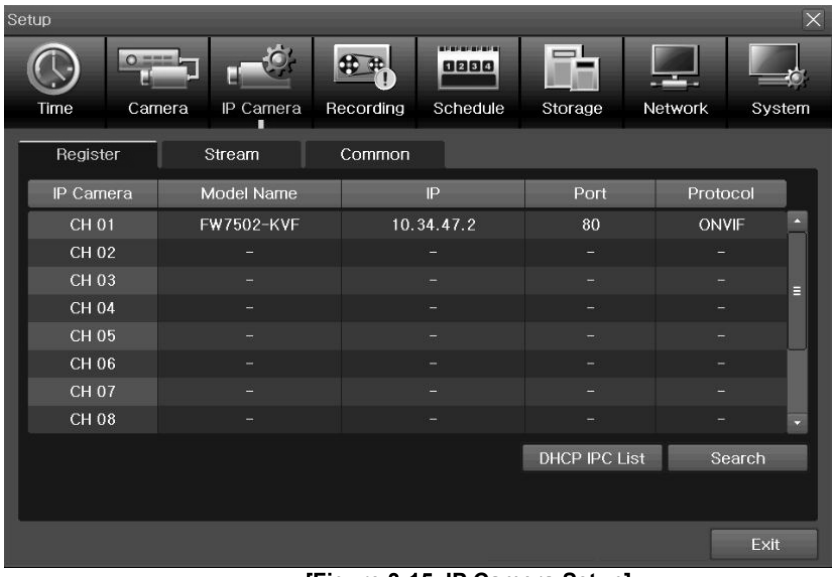
Menu > Setup > System > 13. Using IP Camera



When you click the 'Using IP Camera', there are check box per each channels. Please check the box of channel you want to switch and click OK button.

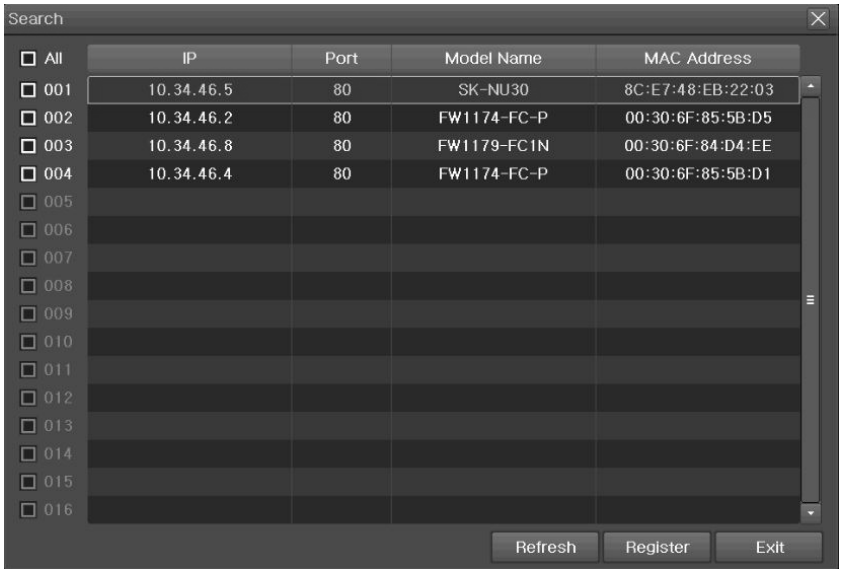
3 - 3 - 2 IP Camera Setup2

IP Camera can be registered to NVR. The user can check the information of IP Camera channel, Model Name, IP, Port and Protocol.



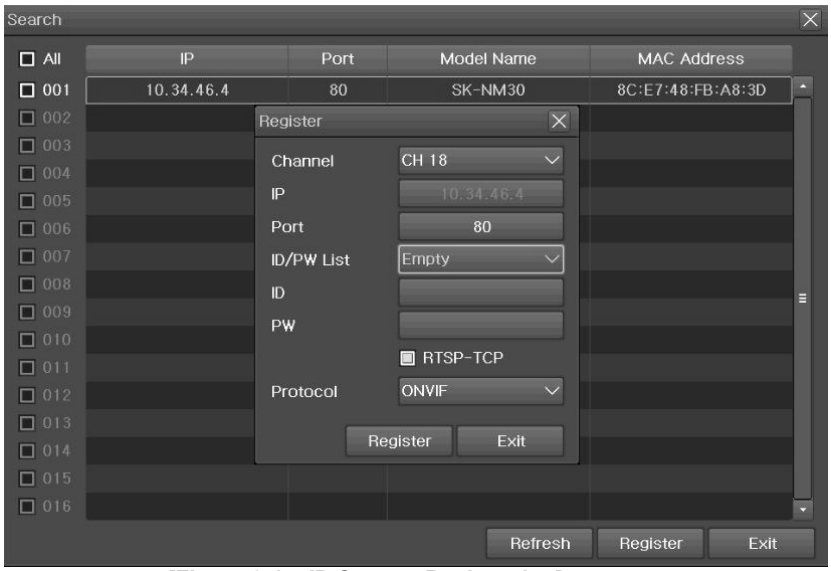
[Figure 3-15. IP Camera Setup]

① Click [Search] button.



[Figure 3-16. IP Camera Search]

② Check the camera search list [Figure 3-16. IP Camera Search]



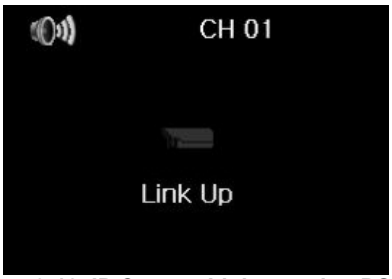
[Figure 3-17. IP Camera Registration]

③ Click [Register] button after selecting the camera among the searched IP cameras.

④ Select ID/PW, Port and Protocol of IP camera and click [Register] then finish the registration

⑤ In case of registration with POE, it'll take about 1-3 minutes after connecting the IP camera.

And [Figure 3-18. IP Camera Link up using POE] is displayed on the screen.

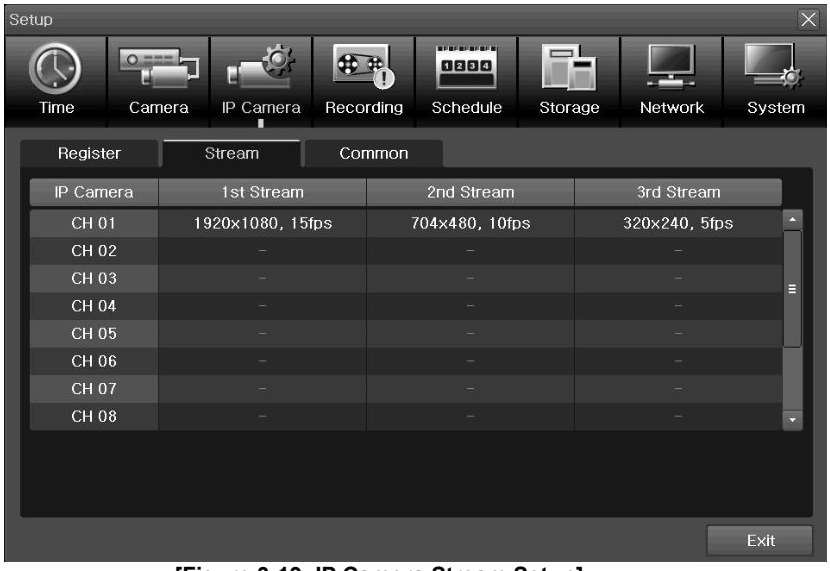


[Figure 3-18. IP Camera Link up using POE]

⑥ After finishing IP Camera Link up, the registration popup appears on the screen.

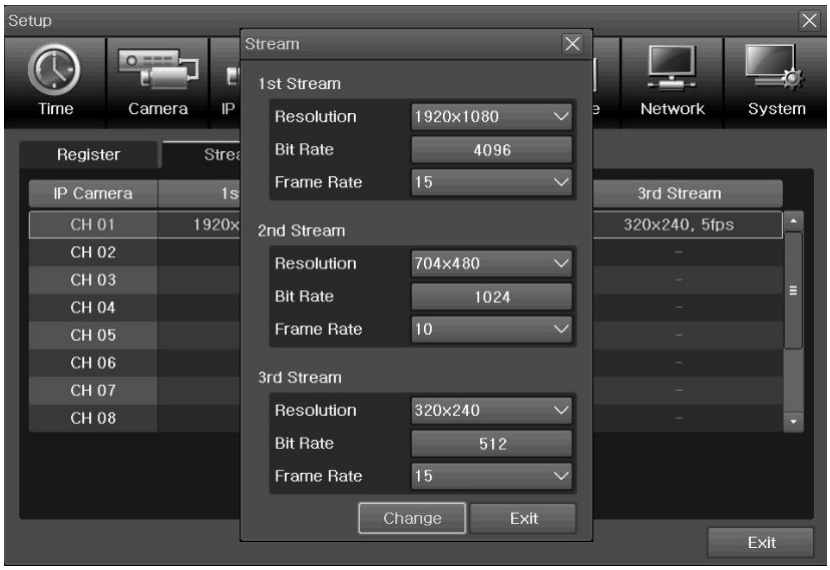
⑦ Finish the IP Camera registration by clicking the registration button after selecting ID/PW, Port and Protocol of IP camera.

3 - 3 - 3 IP Camera Stream Setup



[Figure 3-19. IP Camera Stream Setup]

① Select the stream of the channel



[Figure 3-20. IP Camera Stream Change]

② Click [Change] button after setting [Resolution, Bit Rate, Frame Rate]

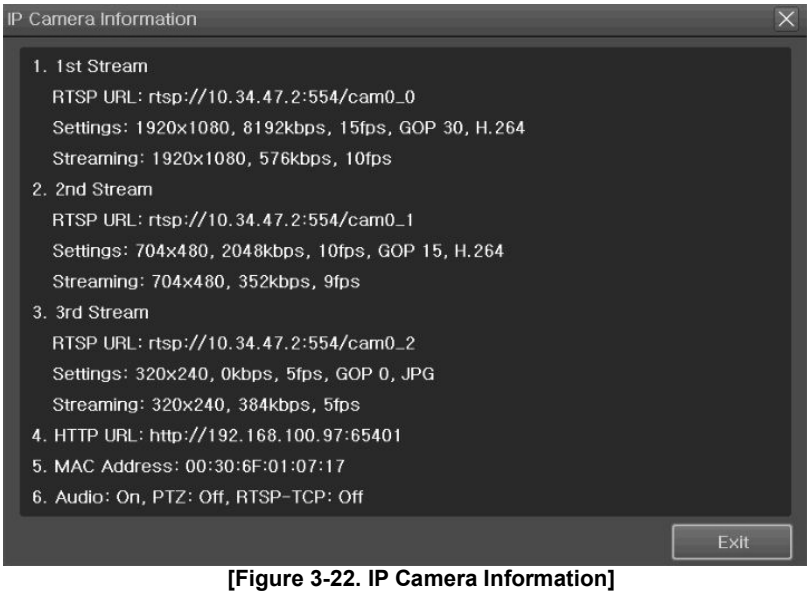
3 - 3 - 4 IP Camera Search Protocol Setup

[Figure 3-21. IP Camera Search Protocol Setup, Plug & Play Setup]

IP Camera Search Protocol Setup, Plug & Play Setup feature.
Plug & Play is only available with POE supporting models.
Input the information of IPC ID/PW/Protocol to NVR. Then POE Camera Plug & Play feature is available.

3 - 3 - 5 IP Camera Information

[Menu] → **[Setup]** → **[IP Camera]** → **[Register]** → Select the camera and camera information.

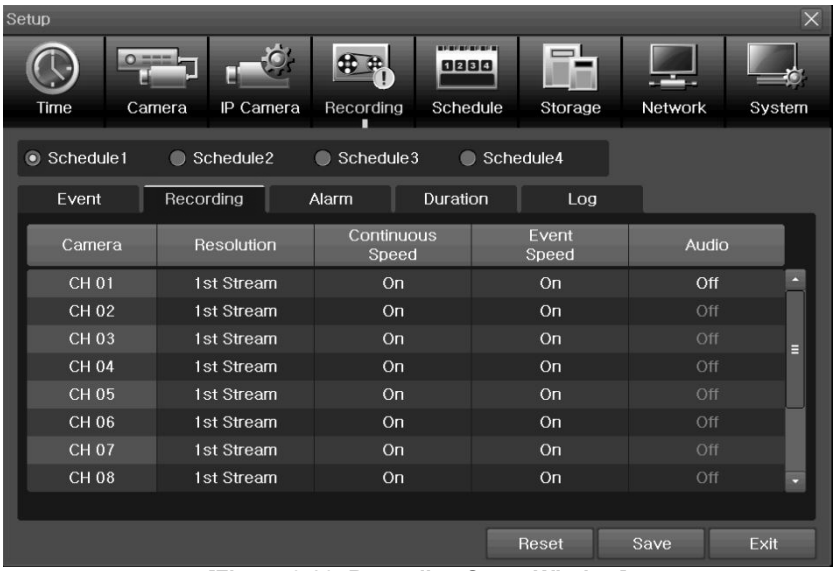


[Figure 3-22. IP Camera Information]

The user can check the IP Camera information connected to NVR.

3 - 4 Recording

The Main setup is to configure the environment of record and system and major functions.
In the real-time monitoring, move to **{Menu}** → **{Setup}** → **{Recording}**



[Figure 3-23. Recording Setup Window]

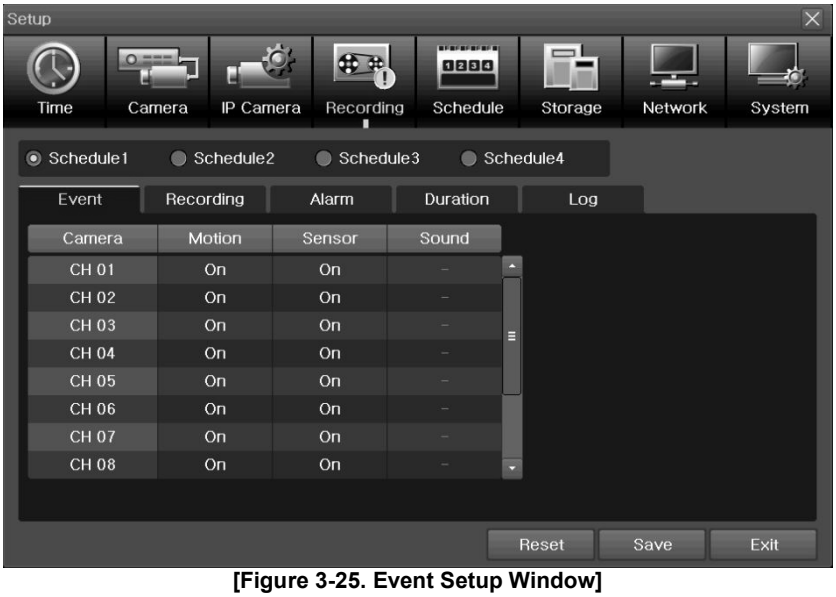
3 - 4 - 1 Schedule Selection (Schedule1 ~ Schedule4)

Each channel can be scheduled in 4 different schedules. This schedule can be set as the recording schedule and each time can be 4 different schedules.

"Event, Recording, Alarm, Duration, Log" setup is available to schedule 1~4 anytime the user want.

[Figure 3-24. Schedule Selection Window]

3 - 4 - 2 Event



[Figure 3-25. Event Setup Window]

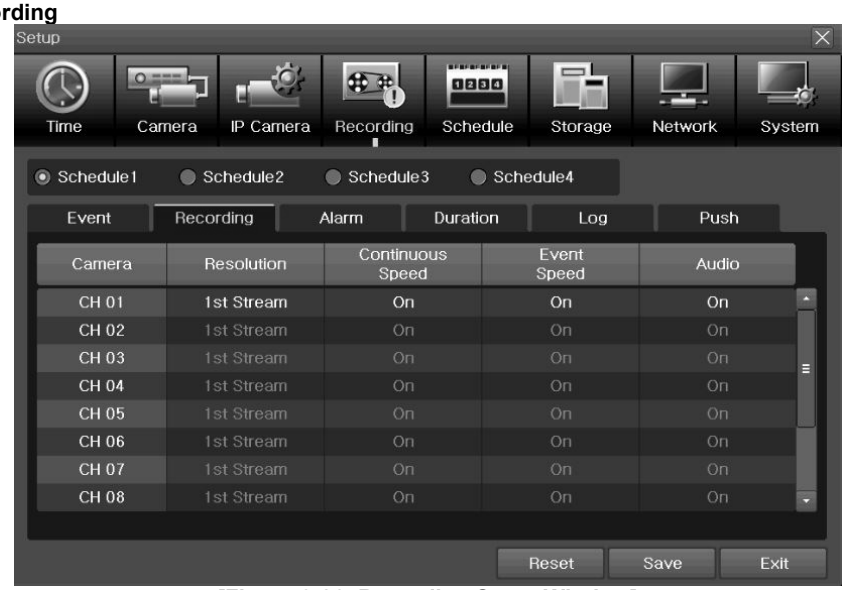
This is to set the events On/Off of Motion / Sensor / Sound.

Recording Type	Description

Motion	When motion is detected, recording will be initiated based on the event frame rate.
Sensor	When input signal from an external sensor is generated, recording will be initiated based on the event frame value.
Sound	When audio is detected, recording will be initiated based on the event frame value.

※ The channels which are connected with IPCAM in DVR/NVR are not available with the sound detection feature.

3 - 4 - 3 Recording



[Figure 3-26. Recording Setup Window]

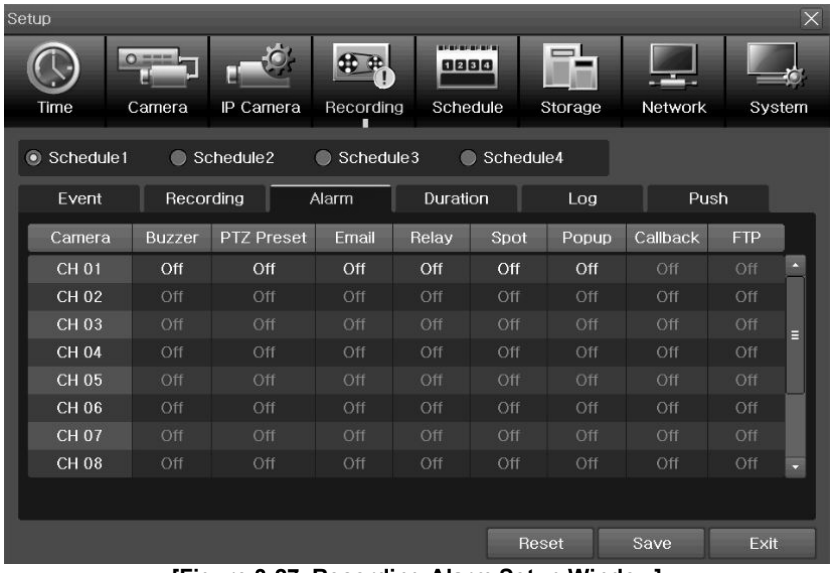
Used to set the resolution of the recorded channel.

(7) Frame Rate

If the user configures Continuous recording and Event recording at the same time, the continuous recording follows Continuous Speed frame rate and the event recording follows Event Speed frame rate.

Continuous Recording	Set the recording frame rate for continuous recording regardless of events.
Event Recording	Set the recording frame rate for events.
Sensor	Set the recording frame rate for events once input signal occurs from the external sensor.

3 - 4 - 4 Alarm

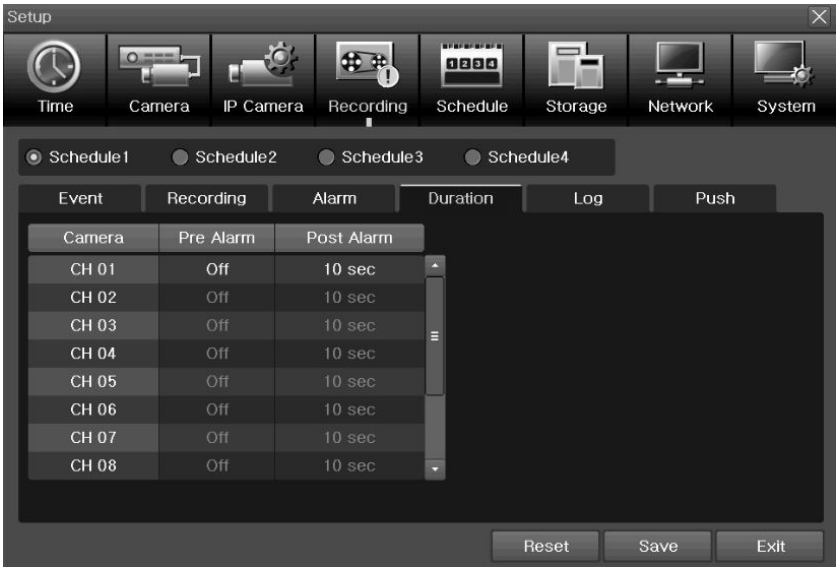


[Figure 3-27. Recording Alarm Setup Window]

※ This function is used to generate alarms through the Buzzer / PTZ Preset / e-mail / Relay / Popup / in case of an event.

※ Popup function is to inform event occurrence to the user through a warning window in the real-time monitoring mode.

3 - 4 - 5 Duration



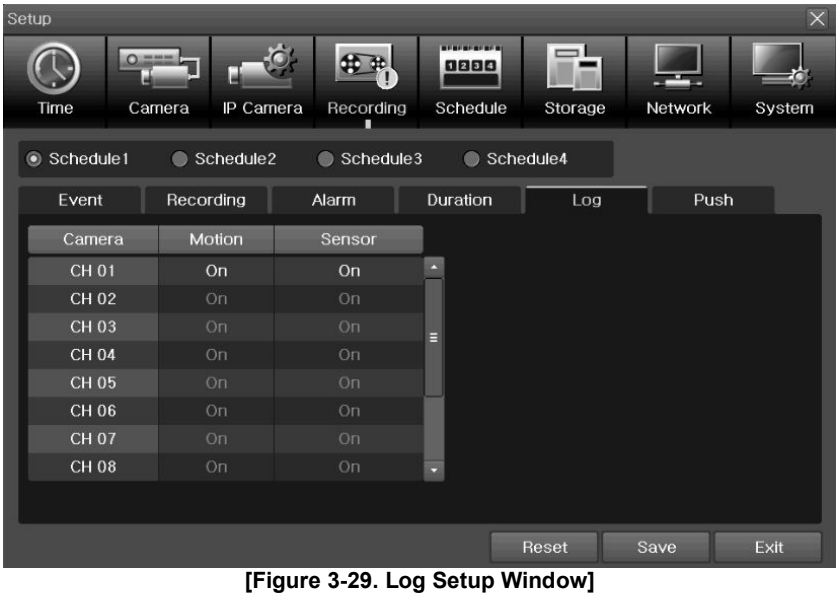
[Figure 3-28. Duration Setup Window]

.

Setup Pre-Recording(On / OFF), Post-Recording(5 / 10 / 15 / 20 / 60 / 150 / 300 seconds).

※in Pre-Recording, images of the last 7 seconds before the event occurrence are recorded.

3 - 4 - 6 Log

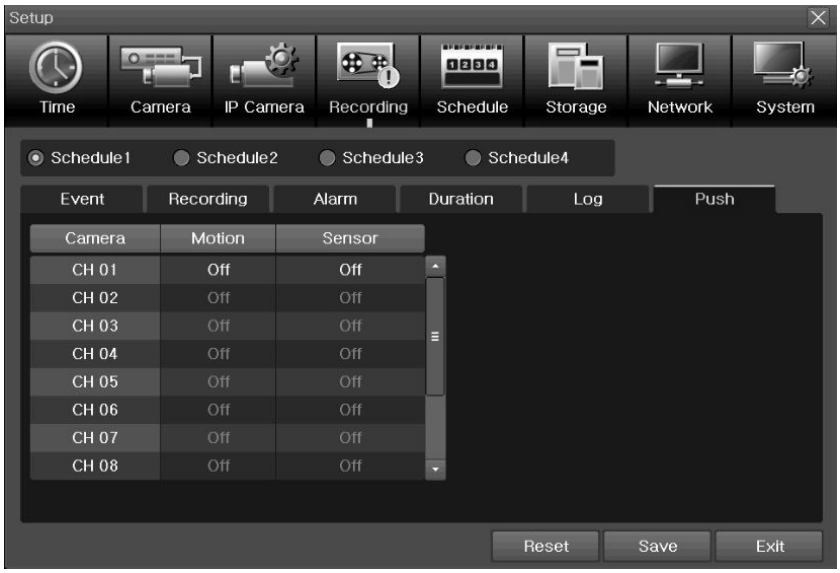


[Figure 3-29. Log Setup Window]

Setup On / Off for Motion / Sensor / Sound.

※ The channels which are connected with IPCAM in DVR/NVR are not available with this feature.

3 - 4 - 7 Push



[Figure 3-30. Push Setup Window]

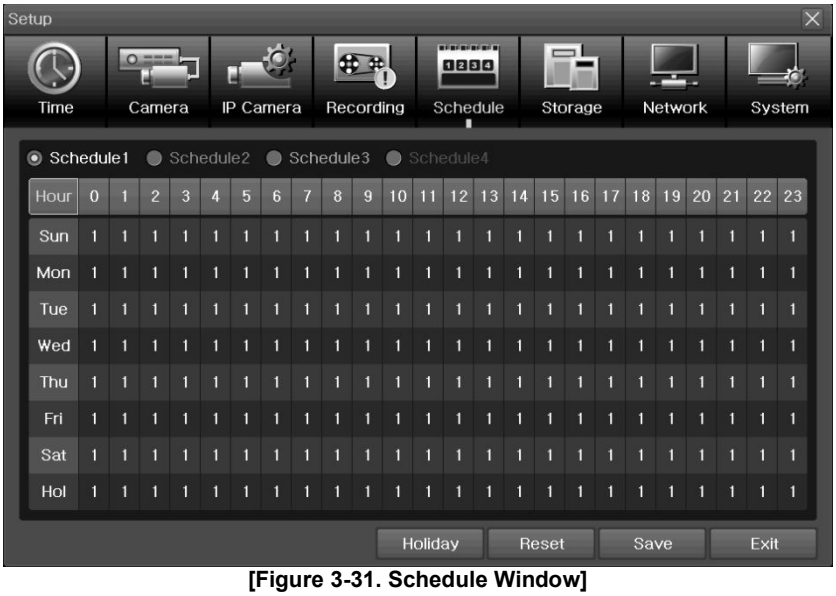
Setup On / Off for Motion / Sensor / Sound.

※ The channels which are connected with IPCAM in DVR/NVR are not available with this feature.

3 - 5 Schedule

Provide 4 different recording mode configurations. Each schedule mode can be set one week/24 hours and

the recording follows the setting automatically.
Select **[Menu]** → **[Setup]** → **[Schedule]** in the real-time monitoring menu.



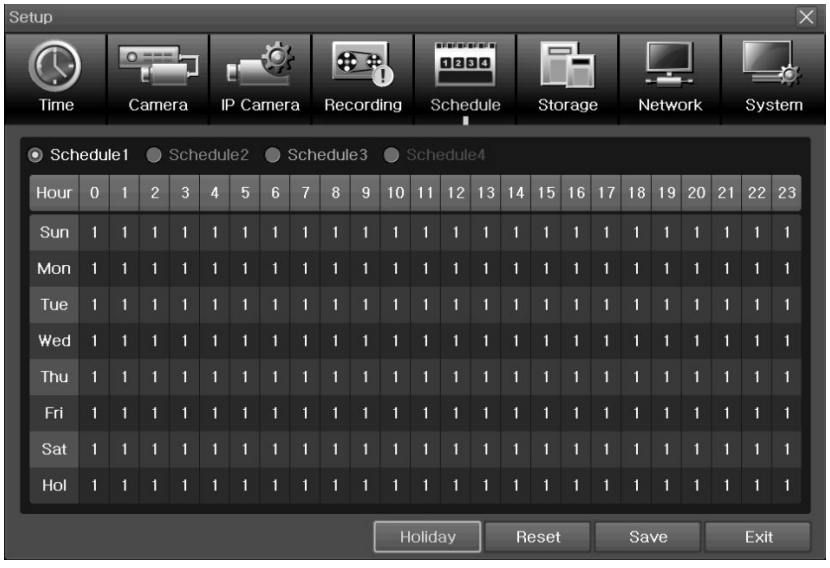
[Figure 3-31. Schedule Window]

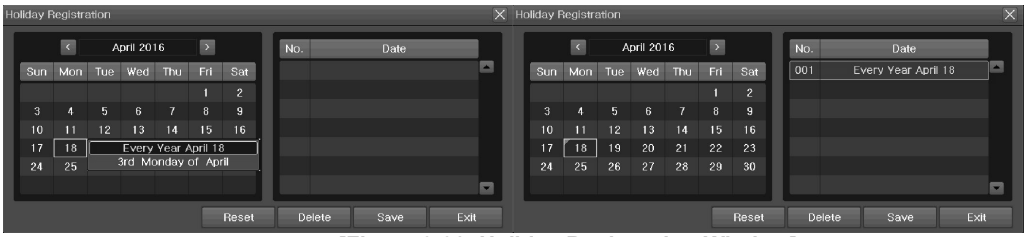
3 - 5 - 1 Schedule Setup
Select one schedule among Schedule1, Schedule2, Schedule3 and Schedule4.

(1) Selection Tip

① Select the day and time to be set by using the arrow keys.
② Select after moving the cursor onto Time(0-23) or Day(Sun. – Holiday) then the user can configure the whole line at once.
③ Using the mouse can be easier.

(2)Holiday Registration





[Figure 3-32. Holiday Registration Window]

This feature is used to enable the user to set the holidays and schedule independently.

① Move to {Schedule} -> {Holiday}.

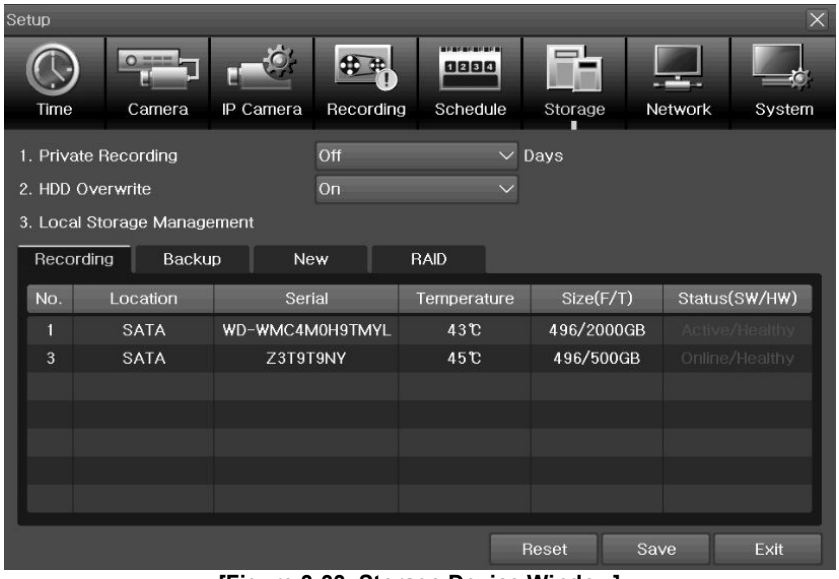
	※ If the date for the holiday and day of the week are the same in the **{Schedule}** menu, the holiday setup will have priority over the date setup. ※ Designated holidays are marked with a green tag.

② On the Holiday Registration Window, select the date by using the arrow keys and the Select button and press the Select button.

③ After setting the holiday, move to {Save} at the bottom of the menu. Afterward, press the Select button.

3 - 6 Storage

Select [Menu]->[Setup]->[Storage] in the real-time monitoring menu.



[Figure 3-33. Storage Device Window]

	In the Storage menu, To apply the new setting, save the new setting after changing the setting. **Reset**: Initialize the menu to the basic setting.

3 - 6 - 3 Max. Recording Days

This is to limit the recording days. None/1day/7days/30days/User setting(1-99) selection is available.

3 - 6 - 4 HDD Overwrite

Select On/Off for HDD Overwrite.

On	If there is no more hard disk space left, the existing files will be overwritten by starting with the oldest.
Off	If there is no more hard disk space left, the further recording will not be executed.

3 - 6 - 5 Local Storage Management

(1)Local Storage Management Function

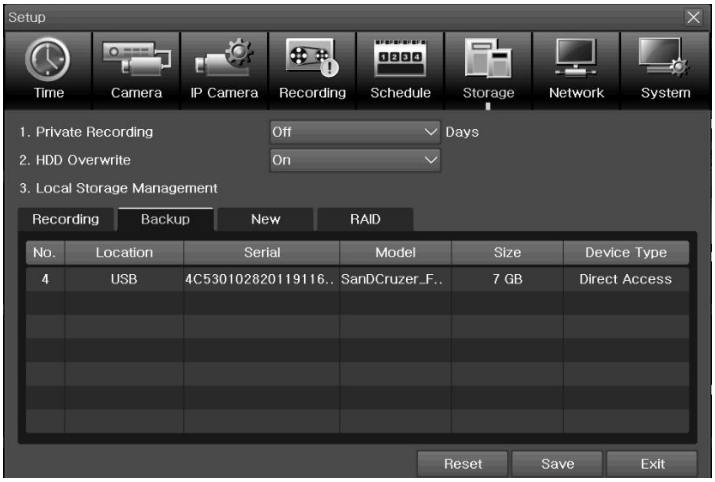
Local Storage refers to the internal hard disk and storages connected to the system via USB. Local Storage is classified and managed as **{Recording}, {Backup}**, **{New}** and functions are described below.

① Recording

The Recording storage is managed in Direct. The Recording storage stores data on the hard disk in the real time. Two commands can be executed. Depending on the SW/HW status, however, some commands cannot be executed.

New	Returns the status of the selected storage device to New; if this command is executed, the selected storage device will be moved to the **{New}** storage device manager.
	※ Physical states supporting the execution of the commands above includes Healthy and Warning. In fault state, however, no command can be executed.

② Backup

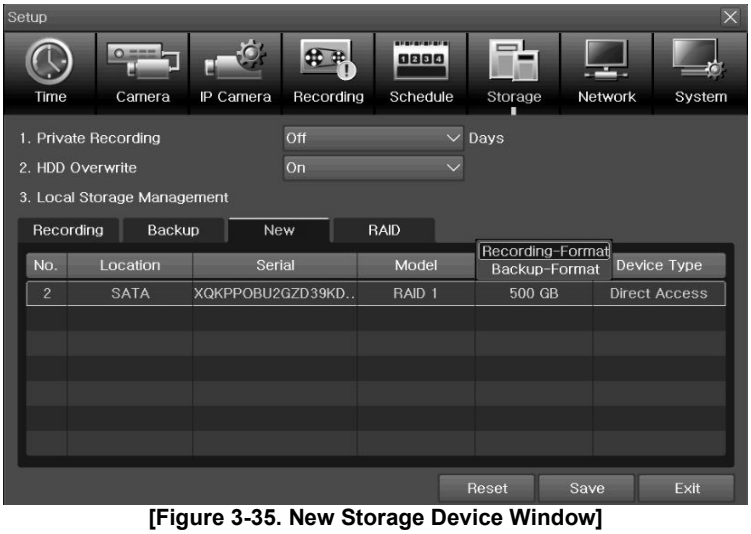


[Figure 3-34. Backup Storage Device Window]

The backup storage is managed in Backup. Backup storages are only used to back up the data.

Depending on the storage type, the storage is used only for (Recording) or (Backup) purposes.

③ New



[Figure 3-35. New Storage Device Window]

All storages, initially detected are managed in {New}. All initially detected storages are displayed as New and can be changed into Recording storage or Backup Storage.

Recording-Format	Changes the selected storage into a dedicated recording storage.
Backup-Format	Changes the selected storage into a backup storage.

Caution

In **{New}**, At least, one storage shall be selected as a dedicated storage. Otherwise, the data cannot be stored in the real time.

④ RAID : User can use RAID thru the e-sata storage only.

(1)Composition of the local storage device

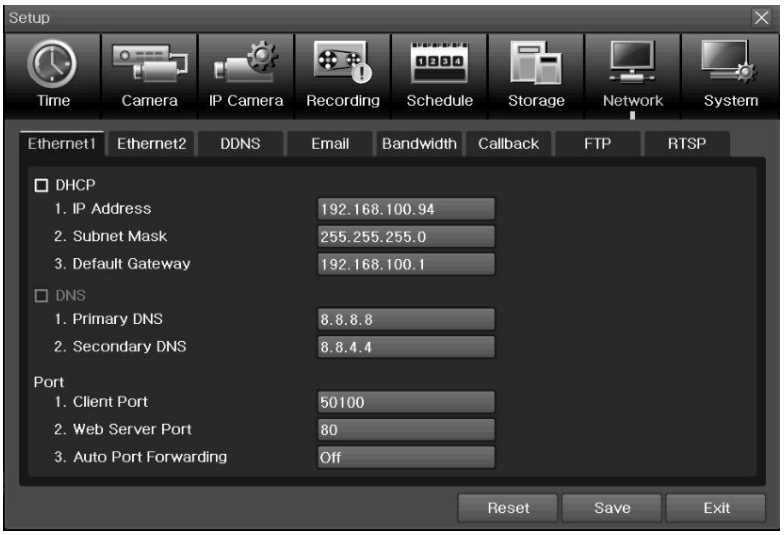
	※ There are three software status types.
Active	Connected to storage or backup device; currently saving the data.
Online	Only connected to storage or backup device.
Offline	Not connected to storage or backup device.

3 - 7 Network

Select **[Menu]** → **[Setup]** → **[Network]**

3 - 7 - 1 Ethernet 1 (Client Port)

This is for the feature to do monitoring thru VMS, Web, Smartphone app.
It sets DHCP as default. DHCP can make the DVR/NVR to have the IP address from the router automatically.
DHCP setting is recommended.
If user wants to use the IP address by manually, then unchecked DHCP and input the IP address user want.



[Figure 3-37. Ethernet 1]

① **[Menu] → [Setup] → [Network] → [Ethernet1]**

② Set the details then save. [IP address, Subnet Mask, Default Gateway, Primary DNS, Secondary DNS, Client Port, Web Server Port, Auto Port Forwarding]

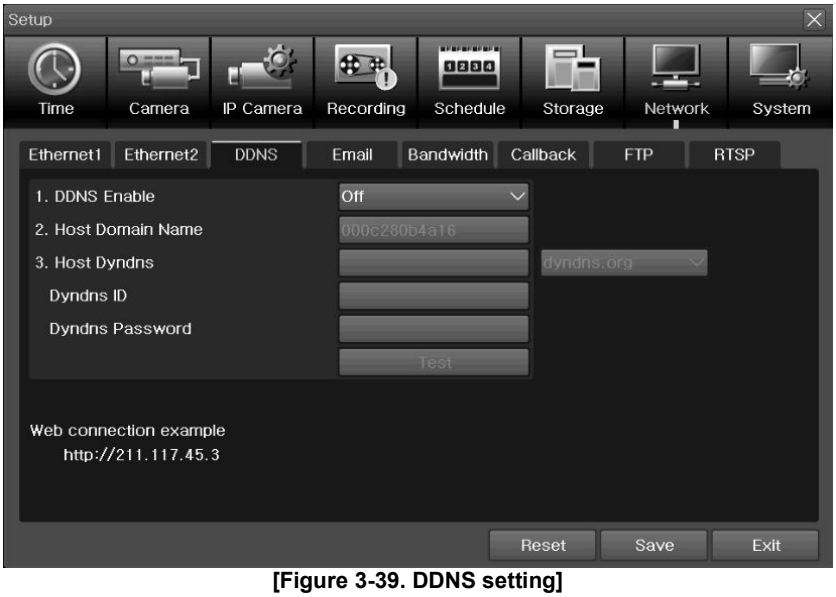
③ Client port is for user's connection and it sets '50100' as default. It can be changed by user's situation like firewall or network status.

④ Web port is for user's web monitoring of DVR/NVR. It sets '80' as default.

⑤ We recommend to use the Client port and Web ports with '50100' and '80'.

⑥ 'Auto Port Forwarding': If user set it as 'On', it is no necessary to do Port forwarding at router. If the router is not supporting Port forwarding feature, user should connect to the router menu then do Port forwarding with Client and Web port.

3 - 7 - 2 DDNS



[Figure 3-39. DDNS setting]

DDNS(Dynamic Domain Name System): the Dynamic Domain Name System (DDNS) service updates IP addresses of the host name in the real time and allocates fixed domain names to systems linked to dynamic IP addresses to allow users to use the same DNS name regardless of the change of in the IP address. It provides dynamic DNS to ensure URL access in the dynamic IP environment. User can monitor the remote place thru

internet with web server functions which is equipped in DVR.
DDNS helps the user who doesn't know the IP address to connect DVR/NVR by using Domain Name.

① Select On/Off of DDNS or a domain name to use by using arrow keys and the selection button.
② In case of DDNS On, enter the host name and save it then, the registration procedure of the host name proceeds automatically. You can enter the host name with 2-20 letters.
③ The host name to enter must not be pre-registered in DDNS sever. Otherwise it won't work.
④ The basic host name is the MAC address of appertaining DVR.
⑤ In case the host name have entered starts with "000c28", none of MAC address will work excepting for appertaining DVR's.
⑥ In case of DynDNS On, enter the host name, user name registered in DynDNS and password then, save them.

	※ Access to DynDDNS sever(http://www.dyndns.org) and apply for the user account then, register the domain name to use and enter URL. ※ For more information, please access to the site.

3 - 7 - 3 E-mail

[Figure 3-40. E-mail]

This is to set automatic E-mail transmission service when an event occurs.

① **[Menu] → [Setup] → [Network]** → **[E-Mail]**
② To use the e-mail function, **{E-mail}** in **{Menu} → {Setup} → {System} → {9. Alarm}** or **{E-mail}** in **{Menu} → {Setup} → {Action} → {Alarm}** need to be configured.

③ Relay SMTP is set on 'Gmail' as default, but when 'Default' (in menu tab) is selected

④ Receiver Email can be set up to 5 users (emails).

⑤ Email Interval settings are as follows [5 sec / 1 min / 3 min / 5 min /10 min].

3 - 7 - 4 Bandwidth

[Figure 3-41. Bandwidth]

① **[Menu] → [Setup] → [Network] → [Bandwidth]**

② This sets up the limit of the bandwidth to be used when bringing the live image, adjust resolution/quality and transmitting the data by using the network.

※ In case of smartphone app monitoring, you can control the network resolution here to save the data cost.

Picture Resolution	CIF/2CIF/D1/960H/720P/1080P
Picture Quality	Adjust quality of the image, as the value increases, the compression rate gets higher and image quality gets low. However the transmission rate gets higher.
Bandwidth Limitation	Set the network bandwidth between 56 Kbps ~ 8 Mbps. The network transmission speed gets faster when value gets higher. Select Off if you don't want to limit the network bandwidth.
Transmission Code	JPEG / H.264
IPC Stream Bypass	NVR/DVR pass the stream of IPCAM to the network without filtering.

※ For 8/16 CH DVR/NVR, recording resolution for the DVR/NVR is same with the max network image resolution. Example) if user sets 720p as recording resolution, network image resolution will be 720p even if you sent 1080p for Picture Resolution on Bandwidth.

※ IPC Stream bypass features is available with the channel connected to IPCAM.

3 - 7 - 5 RTSP

[그림 3-44. RTSP 설정창]

Tick RTSP Service Enable then set RTSP port.
Please refer to the example shown on the menu. This RTSP address makes user to see the camera.

3 - 8 System

[Menu] → [Setup] → [System]

[Figure 3-45. System]

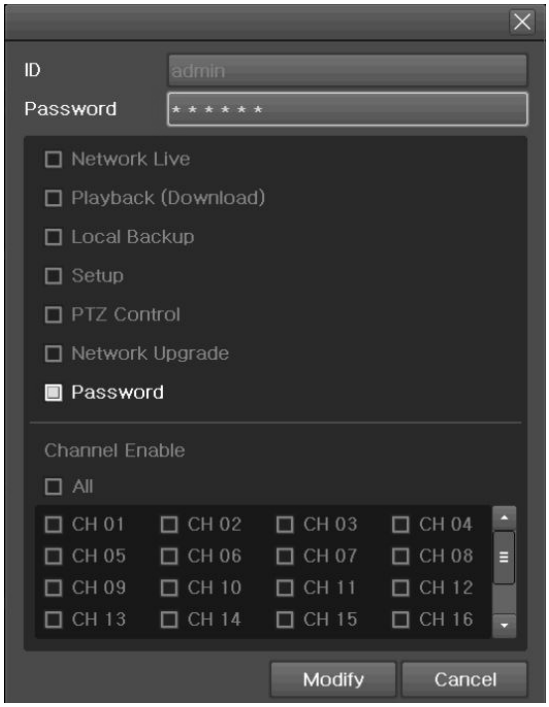
ID for remote controller	ID to be controlled by Remote controller
Users	Users authorities, modification, add and delete
Upgrade	Upgrade, setup change, Logo change

Factory Setup	Go back to default setting except Network setting
Error Alarm Action	Alarm setting for many types of system failure
Error Alarm Duration	Set for Alarm duration
Menu Time Out	Time setting from menu to live display
Language	System OSD Language setting
Video Loss Event Delay Time	It keeps 'Video Loos' during the setting period, then Video Loss event comes out
BNC out type	HD, SD resolution selection

3 - 8 - 1 Users

※ User's Authorization ※	
ID/PW	Admin can change the User's ID/PW ID/PW support max 31 letters and numbers
Network Live	Network Live
Playback (Download)	Local Playback Network playback/download
Local Backup	Local backup
Setup	Changing settings
PTZ Control	PTZ Control
Network Upgrade	Network upgrade control
Password	Password enable/disable
Channel Enable(user)	Authorization for each channels

Up to 14 users can be registered.



[Figure 3-46. Users → Modify]

3 - 8 - 2 Upgrade

To upgrade by external storage devices supports USB2.0.

※ Firmware which will be upgraded should be located to the highest(root) location from the external devices supports USB 2.0

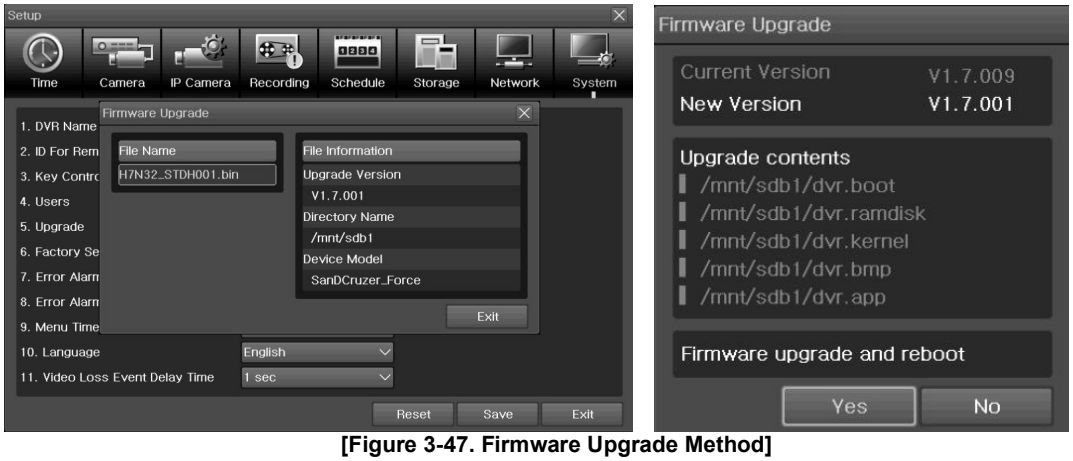
	1) After copying the upgrade file, be advised to get rid of the USB device with safety removal mode from PC. 2) If the USB device is disconnected from the USB port while the upgrade file is being copied, the DVR system may not automatically detect the file.

Caution	Removing USB during the upgrade in progress may cause damage on the system. The system starts over when the upgrade is completed.

(1) Firmware Upgrade method

① Insert (input) USB 2.0 device into the DVR/NVR then select **[Menu]→[Setup]→[System]→[Upgrade-> firmware]** then you will see the menu below.

② Find the correct firmware then do double click to upgrade



[Figure 3-47. Firmware Upgrade Method]

	※ After 3 ~15 Seconds, you can see the Firmware upgrade process menu.

③ Read the information and select {Yes} to start the upgrade gradually. Select {No} to return to the **{System}** mode

④ After the upgrade is completed, the system reboots.

⑤ Move to **{Menu} →{Miscellaneous}→ {DVR Information} → {3. Software Version}** to check the version.

(2) Setup Upgrade

① Select **[Setup]** and the upgrade file list stored in the selected device and simple version info of the selected file are then displayed.

② Select a file and then the upgrade starts immediately.

Caution	Select a file and then the upgrade starts immediately. All setting values of the current menu will be changed to the upgrade setting values.

(3) Logo Upgrade

※ This to be changed to booting logo.

※ Image format: JPG format, booting logo image size

3 - 8 - 3 Factory Setup

[Menu] → [Setup] → [System] → [Factory Setup]

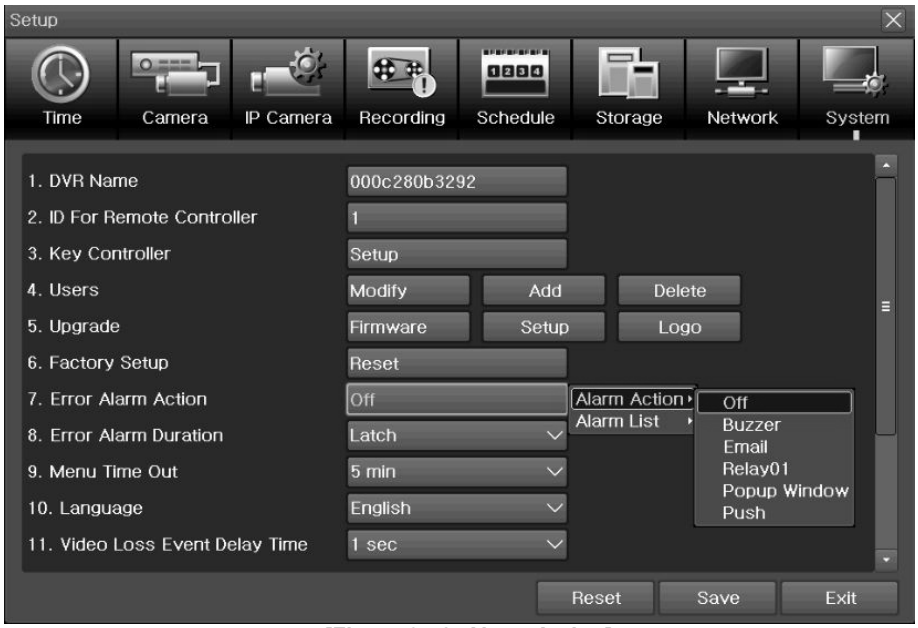
Select Yes or No

Caution	Take a note that all settings will be to default except network setting.

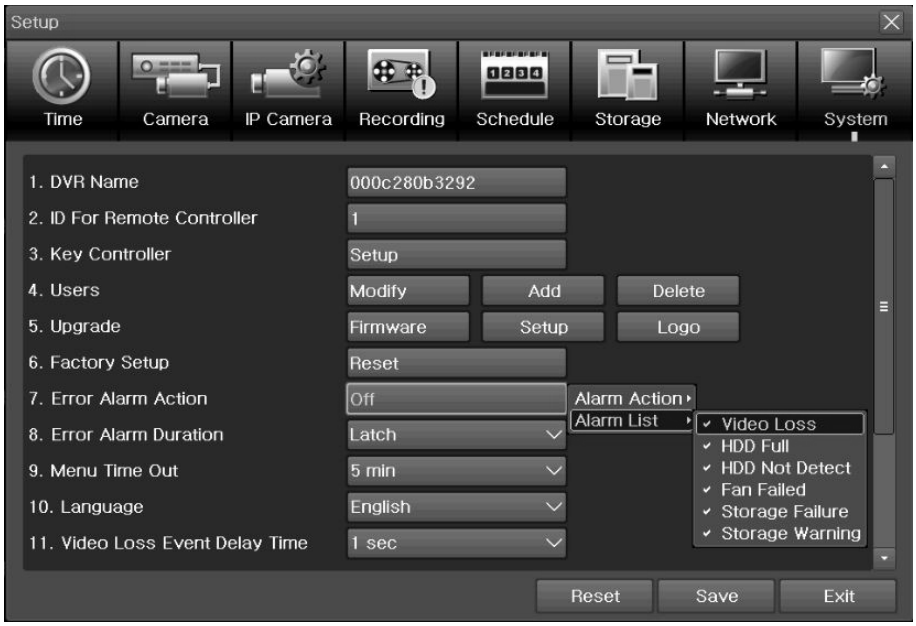
3 - 8 - 4 Error Alarm Action

① **[Menu] → [Setup] → [System] → [Error Alarm Action]**

② This is to set the alarm which is serious for system operation



[Figure 3-48. Alarm Action]



[Figure 3-49. Alarm List]

※ Pop up Window from Alarm Action
Warning massage comes out when alarm detected.

3-8-5 Error Alarm Duration

This is to set duration not only for alarm but also, recording.

3-8-6 Menu Time Out

If no input is made in the System Setup menu from the front buttons, remote controller and mouse, the system automatically shifts to the real-time monitoring mode.

3-8-7 Language

System OSD (On Screen Display) selection.

3-8-8 Video Loss Event Delay Time

This is to set the time for 'Video Loss' when the camera is disconnected.

Chapter 4. DVR / NVR Web Service

[DVR/NVR Web Service] through the Ethernet/Port setup and web server composition. The main purpose of DVR/NVR WEB SERVICE is for easy setup for users to control DVR/NVR setup and live view by WEB easily.

4-1 DVR / NVR Web Service

4-1-1 Web service connection

If the user is using the firmware 15.x.xxx, it means that DVR WEB SERVICE is available.
Check the URL and Web port that DVR/NVR IP or DDNS is set.
Input the confirmed 'IP or URL:Port' on the web browser then enter the page.

[Figure 4-1. Browser Address Input]

Then, user can see the log-in menu as follows.
Input ID/PW for the DVR/NVR. Click the [Login] button.

[Figure 4-2. Login Window]

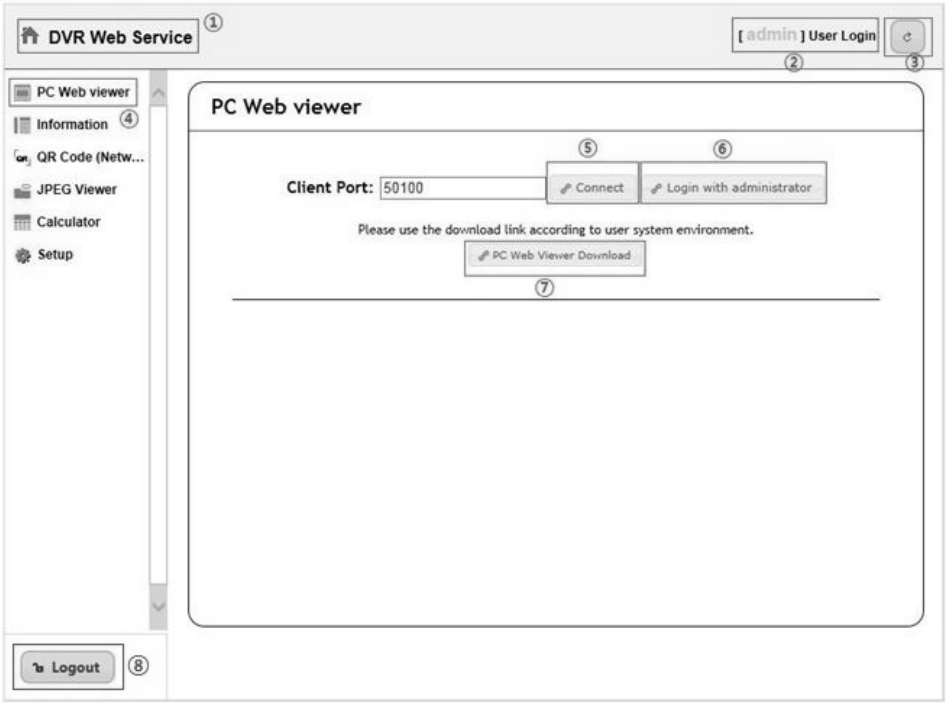
⚠	**※ This web service has been developed only for the Internet Explorer and Chrome. We can't guarantee the other web browser.** **Recommended web browser:** **More than Internet Explorer 10** **More than Chrome 42.0** **More than Safari 5.1.7**

	If the web browser is lower version, some features are not able to be controlled. In case of [PC Web Viewer Connection], it can be available with Internet Explorer.

4 - 1 - 2 Web Service Feature

After log-in, [PC Web Viewer/Information/QR Code/JPEG Viewer/Calculator/Setup] features are available.

** The main screen composition is as follows.

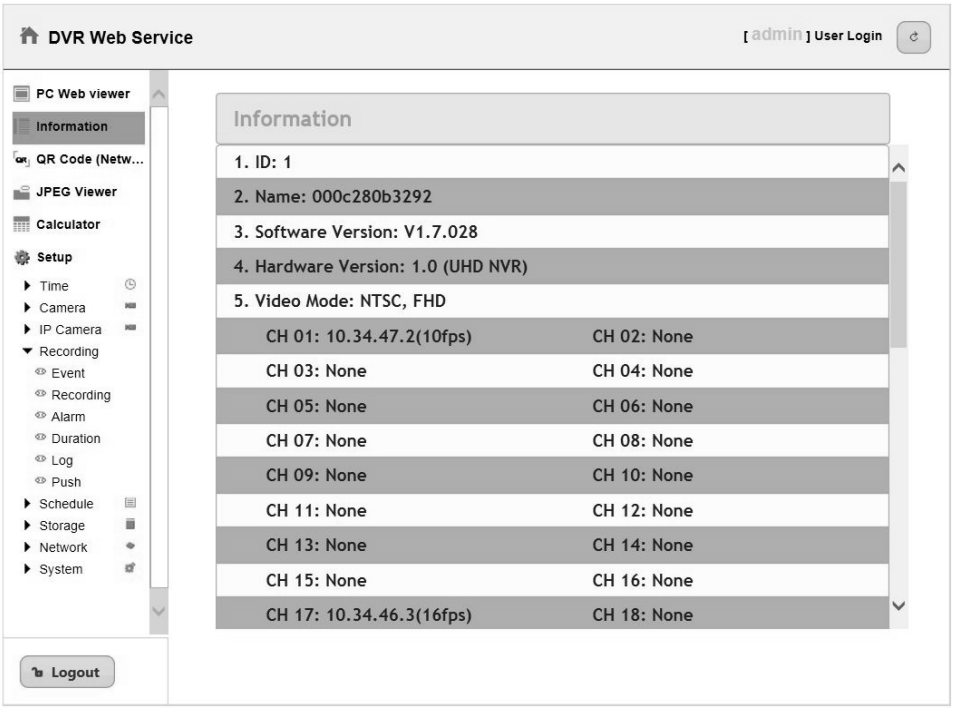


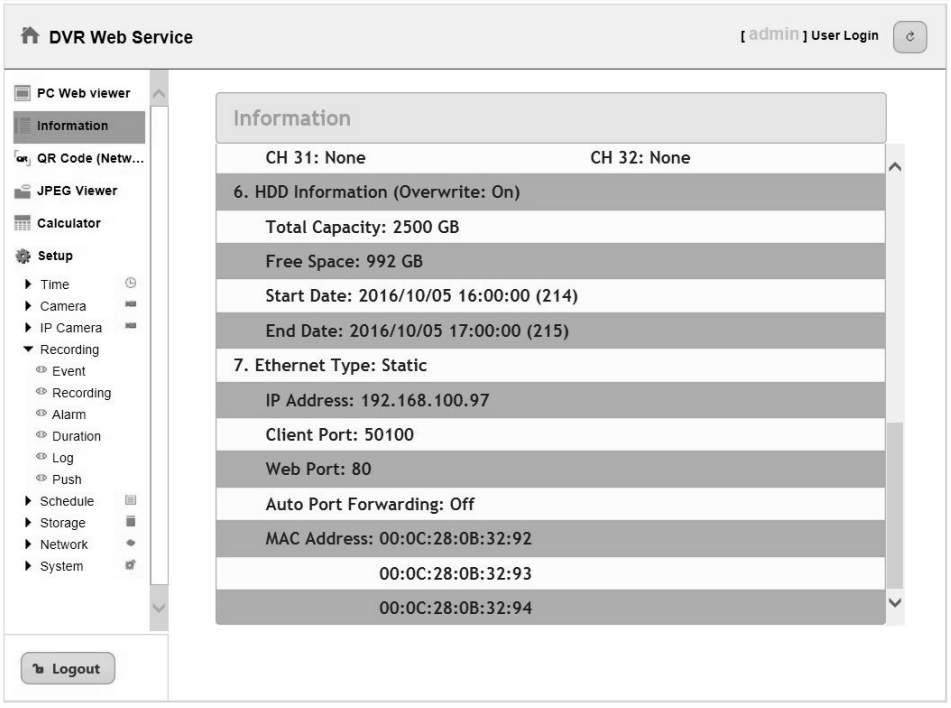
[Figure 4-3. Web Service Main Window]

① Go to main menu
② ID for the user log-in
③ Refreshing
④ Setup/Information/QR code/JPEG viewer/Calculator selection
⑤ PC web viewer connection (Real-Time monitoring and playback)
⑥ Login with administrator

⑦ PC web viewer download.
⑧ Log out

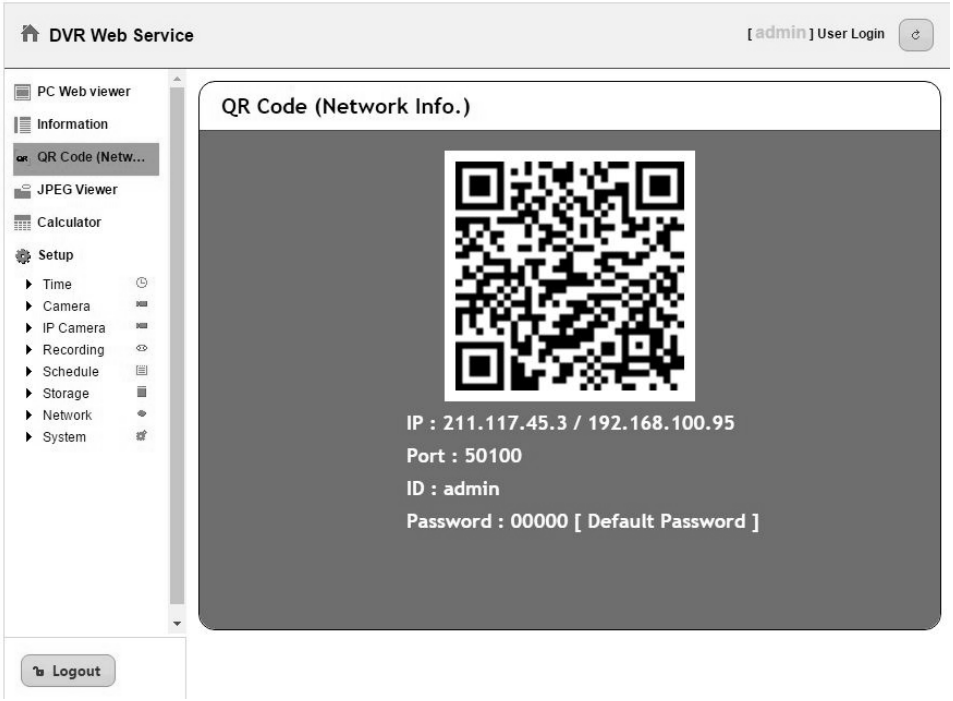
** Currently connected DVR / NVR information check is available.





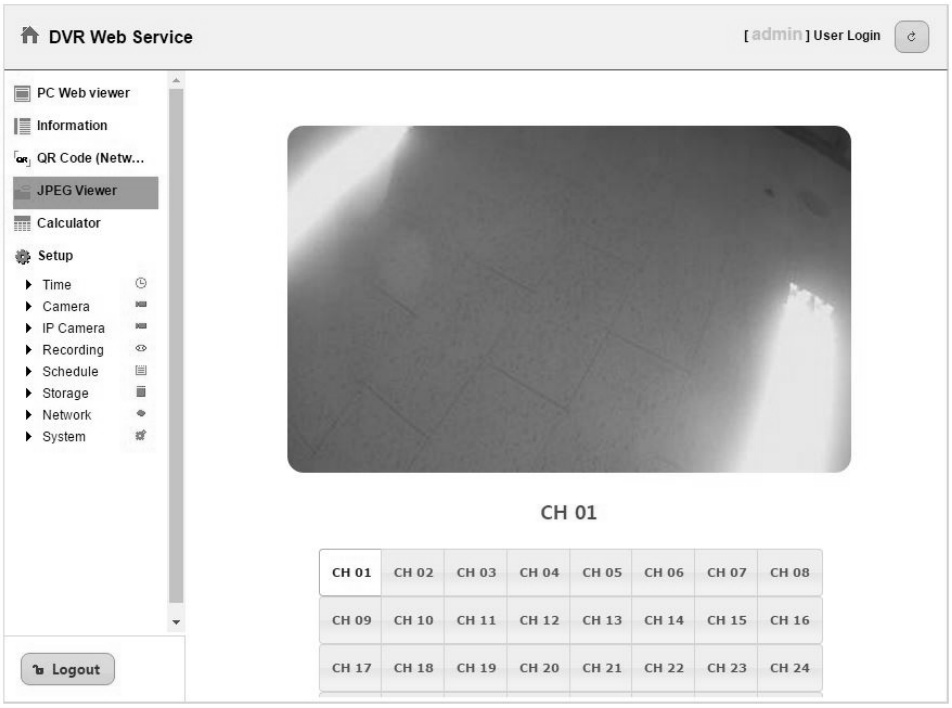
[Figure 4-4. DVR / NVR Information Window]

** Connection available through the mobile app using the QR code.



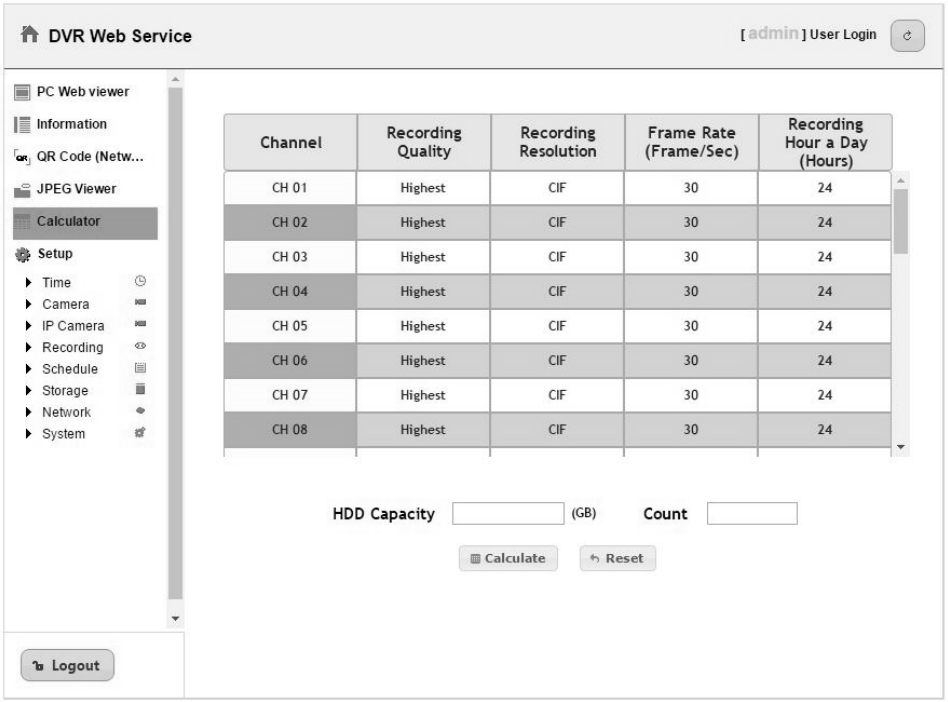
[Figure 4-5. QR Code Information Window]

** Real time video can be shown in seconds via JPEG image.



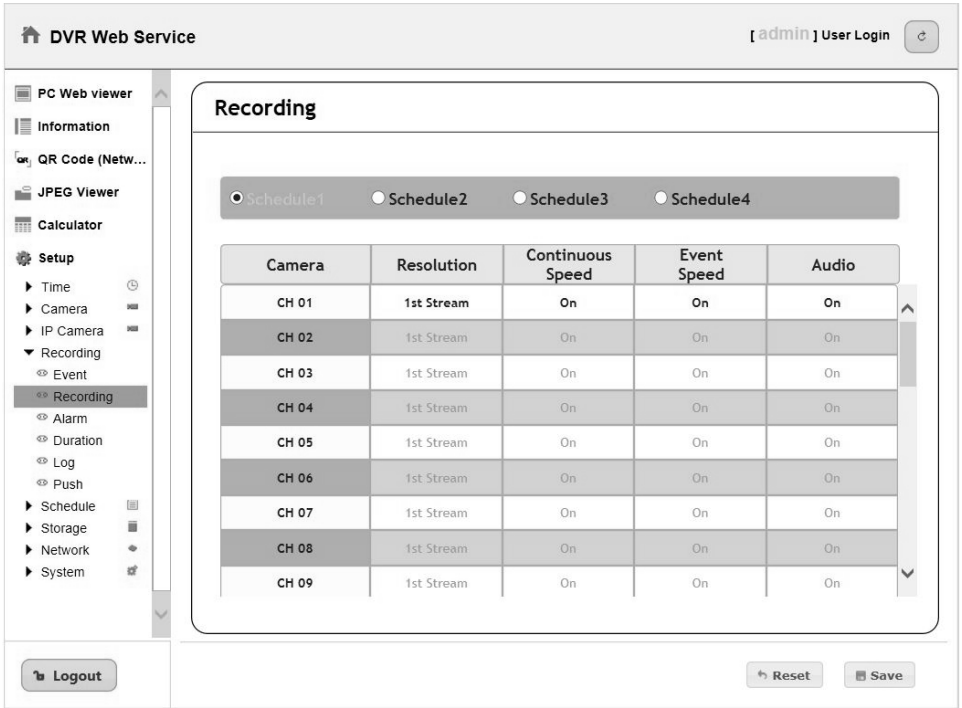
[Figure 4-6. JPEG Viewer]

** Depending on the recording setup, storable date and time can be calculated compared to disk capacity.



[Figure 4-7. Calculator]

** Recording setup is available by each channel.



[Figure 4-8. Setup Recording Page]

A/P/P/E/N/D/I/X

Recommended PTZ Camera Protocol

NO	Vendor	Model	Protocol
1	HONEYWELL	SCANDOME2	HSDN-251
2	LG	LG	LG_MULTIX,
			LG_OLD
3	PANASONIC	WVCS854	WVCS854
4	PELCO	PELCO	PELCO – D
			PELCO - P
5	SAMSUNG TECHWIN	SAMSUNG	SPD-1600
			SCC641
6	HITRON	FASTRAX2	FASTRAX2
7	COAX	COAX_OSD	UTP/Coaxitron OSD
		COAX_PTZ	UTP/Coaxitron PTZ

Chapter 5. Summary

5-1 STD3K 4.0 series main features

[Image 5-1-1. HX20-504KRS4]

[Image 5-1-2. NX20-508KRS4/NX22-516KRS4]

Model Name		NX22-516KRS4	NX20-508KRS4	HX20-504KRS4
Front image				
Rear image				
Video	Input	16 BNC	8 BNC	4 BNC
	Input Resolution	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	
	Output	1 HDMI, 1 VGA, 1 BNC	1 HDMI, 1 VGA, 1 BNC	
	Output Resolution	UHD, QHD, FHD, SXGA, XGA		
Recording	Speed	2MP : 30fps/ch 3MP, 4MP : 15fps/ch 5MP : 10fps/ch 4K(8MP) : 8fps/ch	2MP : 30fps/ch 3MP, 4MP : 15fps/ch 5MP : 10fps/ch 4K(8MP) : 8fps/ch	
	Compression	H.265, H.264		
	Resolution	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	

Playback	Speed	2MP : 208 fps 3MP : 146 fps 4MP : 117 fps 5MP : 86 fps 4K : 52 fps	2MP : 208 fps 3MP : 146 fps 4MP : 117 fps 5MP : 86 fps 4K : 52 fps	2MP : 104 fps 3MP : 73 fps 4MP : 58 fps 5MP : 43 fps 4K : 26 fps
	Resolution	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	4K(8MP), 5MP, 4MP, 3MP, 2MP, 960H	
Audio	Input	4 RCA + 12 D-SUB	8 RCA	4 RCA
	Output	1 HDMI, 1 RCA		
Interface	Sensor In / Out	16 / 1 - NC / NO	8 / 1 - NC / NO	4 / 1 - NC / NO
	USB	1 USB 2.0, 1 USB 3.0(Rear)	2 x USB 2.0	
	PTZ / Keyboard	RS485 - Terminal Block		
	ATM / POS	Ethernet POS		
Network	Interface	Ethernet 10/100/1G		Ethernet 10/100
	Compression	H.264, H.265		
	Speed	8fps (4K), 10fps (5MP), 30fps (2MP)	8fps (4K), 10fps (5MP), 30fps (2MP)	
	Resolution	Normal 2MP, REC Video Bypass Max. 4K	Normal 2MP, REC Video Bypass Max. 4K	
System	OS	Embedded Linux (Built-in Flash Memory)		
	Pre / Post-Alarm	5sec / 5sec~5min		
	Recording Mode	Continuous, Event, Schedule		
	Data Search	Calendar, Multi Day / Time, Event, Go to Time		
	Backup Interface	USB, Network		
	Backup Type	Video(RMS, AVI), Capture(JPEG), Log List, Setup Data		
	Alarm Action	Buzzer, PTZ Preset, E-mail , SPOT, Relay, Event Popup, Push		
	User	15 Users (Admin, User1 ~ User14)		
	Netwrok Viewer	NETUS-Pro(CMS), Web Viewer, Mac Viewer, NETUS-Eyes(iOS, Android)		