

# Network Video Recorder User Manual





Welcome, and thank you for purchasing your GW Security product.

This user manual is a reference tool for installing and operating your NVR. Please read this manual before installation and operation to ensure an optimal experience with your NVR.

# Contents

<b>1. Features and Safety</b>	<b>4</b>
1.1 Features	4
1.2 Safeguards and Warnings	4
1.2.1 Packing List	4
<b>2. Product Appearance</b>	<b>5</b>
<b>3. Device Installation</b>	<b>5</b>
3.1 NVR Connections Diagram	5
3.2 Installing a HDD	6
<b>4. Basic Operation</b>	<b>7</b>
4.1 Powering On and Shutting Down the NVR	7
4.2 Start-up Wizard	7
4.3 Mouse Operation	8
4.4 Virtual Keyboard	8
4.5 Navigation Bar	8
<b>5. The Main Menu</b>	<b>9</b>
5.1 Main Menu Flowchart	10
5.2 Data Inquiry	11
5.2.1 Time Inquiry	11
5.2.1.1 Intel Play	11
5.2.2 Data Manager	13
5.3 Backup	14
5.3.1 Quick Backup and Manual Backup	14
5.3.2 Schedule Backup	15
5.4 Record	15
5.4.1 Recording Parameters	15
5.4.2 Manual Recording	17
5.4.3 Scheduled Recording	17
5.4.4 Screenshot Parameters	18
5.4.5 Manual Snapshot	18
5.4.6 Schedule Snapshot	19
5.5 Alarm Settings	19
5.5.1 Motion Detection	20
5.5.2 Sensor	21
5.5.3 Alarm Output	21
5.5.4 Other Alarms	22



5.5.5 Manual Alarm	23
5.6 IPC Management	23
5.6.1 Adding IP Cameras	24
5.6.1.1 Adding via Manual Add	24
5.6.1.2 Adding via the “Plus” Icon	24
5.6.1.3 Adding via Smart Access	24
5.6.2 Removing IP Cameras	24
5.6.3 Other Options	25
5.7 Settings Management	25
5.7.1 General Settings	26
5.7.2 Time Settings	27
5.7.2.1 Daylight Saving Time (DST)	27
5.7.2.2 NTP Settings (Internet Time)	27
5.7.3 Output	28
5.7.3.1 Channel Settings	28
5.7.3.2 Display Sequence	29
5.7.3.3 Output Mode	30
5.7.4 COM	30
5.7.5 PTZ Setting	31
5.7.6 Network Sub-menu	31
5.7.6.1 Network Settings	32
5.7.4.2 DDNS Settings	32
5.7.4.3 PPPOE Settings	33
5.7.4.4 Email Settings	34
5.7.4.5 Platform Server	34
5.7.4.6 Advanced Settings: UPnP	35
5.7.4.7 Advanced Settings: FTP Upload	35
5.7.4.8 Cloud Service	36
5.7.4.9 Network Bridge	37
5.8 HDD Manager	38
5.8.1 Basic Information	38
5.8.2 HDD Group	38
5.8.3 Storage Settings	39
5.8.4 SMART	39
5.9 System Information	40
5.9.1 Device Information	40
5.9.2 Channel Status	40
5.9.3 POE Status	40
5.9.4 Alarm Status	40
5.9.5 Online Status	40
5.9.6 Log Inquiry	40
5.10 System Maintenance	41
5.10.1 Quick Settings	41
5.10.2 Account Maintenance	41
5.10.3 Reset to Default	41
5.10.4 Upgrade	41
5.10.4.1 Upgrade via FTP	41
5.10.4.2 Upgrade via USB	41



5.10.4.3 Upgrade via Web Browser	42
5.10.5 Import Export	42
5.10.6 Schedule Restart	42
5.10.7 System Shutdown	42
<b>6. Right-click Quick Menu</b>	<b>42</b>
6.1 Data Inquiry	43
6.2 Single Snapshot	43
6.3 PTZ Control	43
6.4 Digital Zoom	43
6.5 Video Adjust	43
6.6 Output Mode	43
6.7 Preview Effect	43
6.8 Shutdown	43
6.9 Open Poll	44
6.10 Main Menu	44
<b>7. NVR Remote Access</b>	<b>44</b>
7.1 Remote Access via LAN	44
7.2 Remote Access via WAN	44
<b>8. Specifications</b>	<b>45</b>



# 1. Features and Safety

## 1.1 Features

The GW SMART Series NVR is a high performance network video recorder. The NVR supports local preview, multi-window display, local recording storage, mouse shortcut menu operations, remote management and control functions.

## 1.2 Safeguards and Warnings

### 1. Electrical Safety

Installation and operation should conform to your local electrical safety codes.

The product must be grounded to reduce the risk of electric shock.

We assume no liability or responsibility for any fires or electric shock caused by improper handling or installation.

### 2. Handling

Avoid heavy stress, violent vibrations, and moisture during transportation, storage, or installation.

### 3. Warnings

Keep upright and handle with care.

Do not apply power to the NVR before completing the installation.

Do not place objects on the NVR.

Do not use near water; do not use the device with wet hands.

Do not remove any cable connectors while the device is powered on.

Do not open the NVR's case while the power is on.

### 4. Qualified Technician

All examination and repair work should be done by qualified service technicians.

We are not liable for any problems caused by unauthorized modifications or attempted repairs.

### 5. Operating Environment

The NVR should be installed in a cool, dry place away from direct sunlight, flammable materials, explosive substances, etc.

Required temperature: 50°F ~ 122°F

Required humidity: 15% ~ 85%

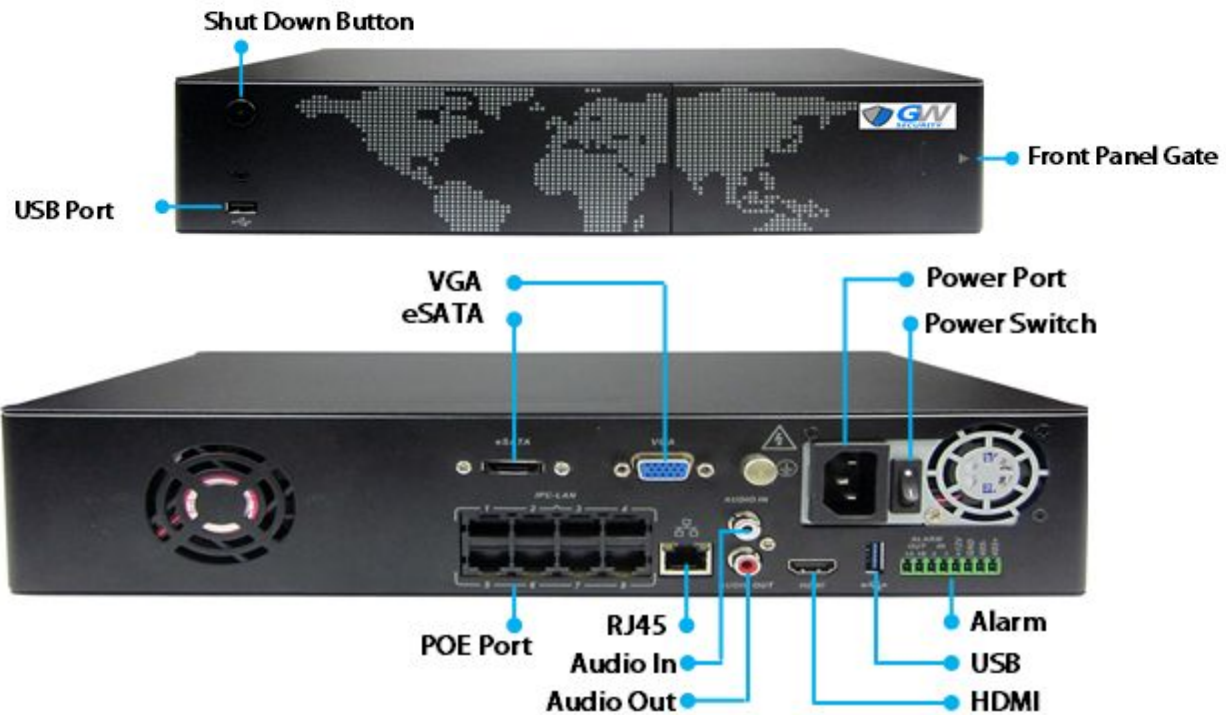
### 6. Accessories

Before installing, check the package to ensure all the accessories are included. Contact our office immediately if something is broken or missing from your package. Be sure to only use accessories recommended by the manufacturer.

### 1.2.1 Packing List

Item	Quantity
DVR/NVR	1x
Power Adapter	1x
NVR Quick Guide	1x
NVR Manual	1x
Software CD	1x
USB Mouse	1x
IR Remote Control (Optional)	1x

## 2. Product Appearance

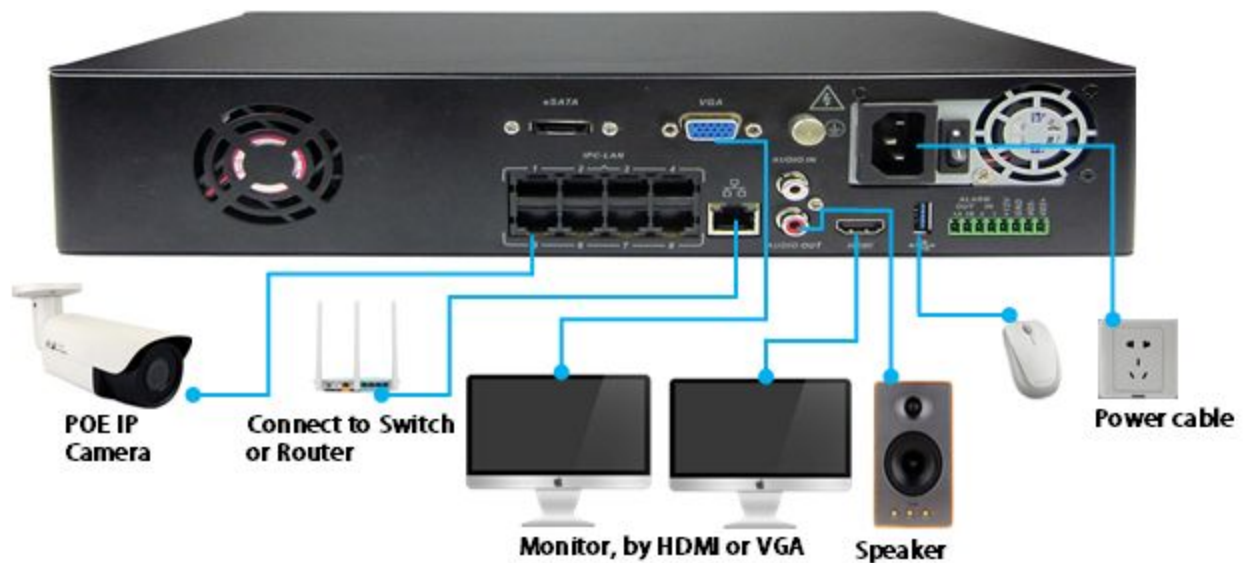


(GW2208E-P shown)

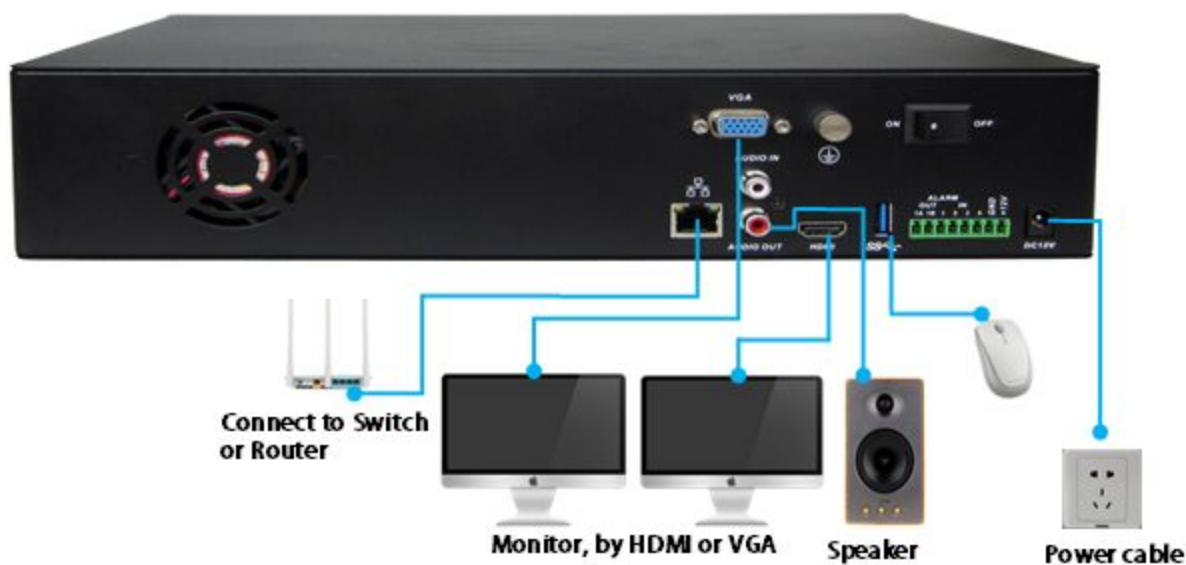
## 3. Device Installation

### 3.1 NVR Connections Diagram

Follow the pictures below when connecting cables and components.



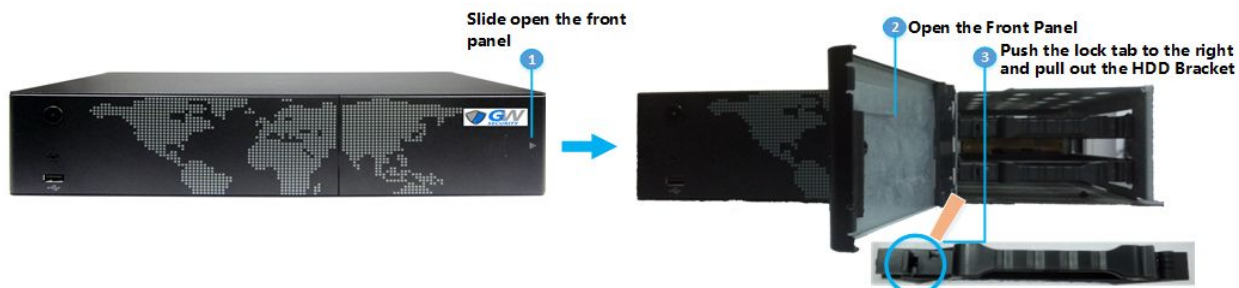
(GW2208E-P shown)



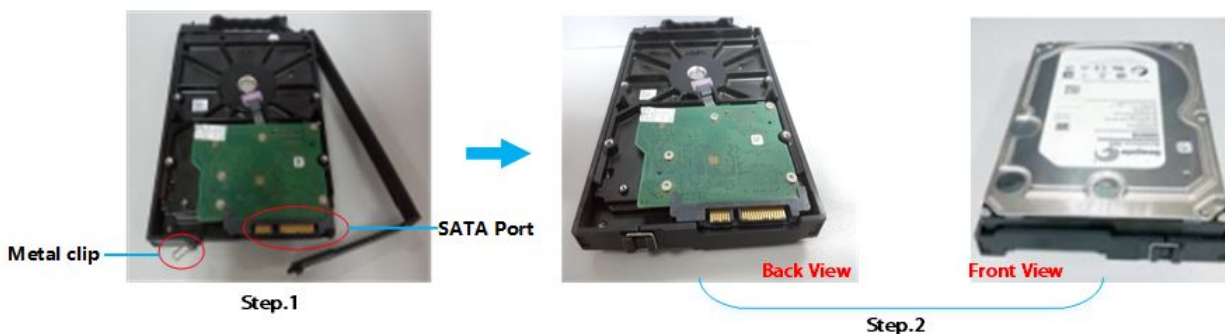
(GW3208E shown)

### 3.2 Installing a HDD

Open the front panel as pictured.



Install the HDD into the HDD placement bracket.



Step 1: Open the HDD bracket by unlatching the metal clip on back of the bracket. Place the bracket around the HDD and ensure the SATA port connectors are aligned with the opening in the bracket and not covered.

Step 2: Close the metal clip to secure the HDD in the bracket.

Step3: Insert the HDD into the NVR and close the front panel as shown below.

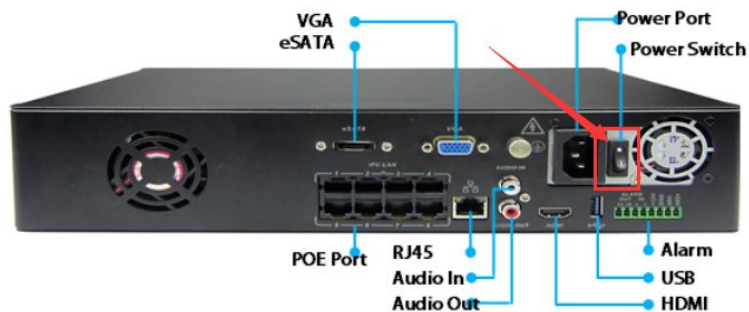




## 4. Basic Operation

### 4.1 Powering On and Shutting Down the NVR

To power on the NVR, flip the power switch located on the rear of the unit after connecting the power cable, monitor, mouse, and installing the HDD.



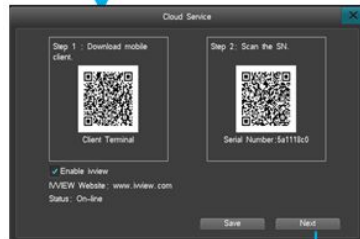
(GW2208E-P shown)

To shut down the NVR, press the Shutdown button on the front of the unit, or by right clicking and selecting Shutdown from the menu in the NVR interface. After the NVR has shut down, the unit can be safely disconnected from the power supply.

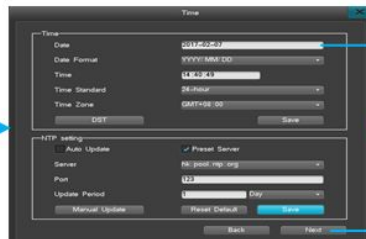
### 4.2 Start-up Wizard



Click "Yes" to enter the initial start wizard.



Step 1: Scan the QR code to install the mobile app on your smart phone or tablet.



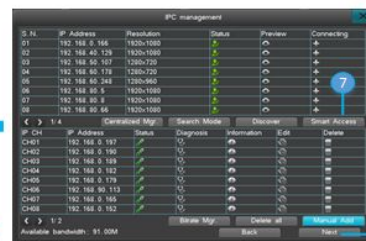
Step 2: Set your Date & Time and Save your settings.  
Step 3: Click "Next" if NTP settings are not required.



Step 4: Assign an IP address to your NVR or check "DHCP" for auto assign.



Step 9: Configure each IP Cameras "Bitrate" or click "Smart Config" for Auto Configuration.  
Step 10: Click "Finish" to close the initial start wizard.



Step 7: Click "Smart Access" to add the detected IP Cameras to the NVR channels.  
Step 8: Click "Next" After the IP Cameras are added.



Step 5: Format the Hard Drive before the initial use.  
Step 6: Click "Next" after the format is completed.



## 4.3 Mouse Operation

The NVR interface is operated by a mouse after connecting one to the unit's USB port.

Mouse Part	Action	Command
Left Mouse Button	Single Click	In Preview: Select current screen and display context menu. In Menu: Select/Confirm
	Double Click	In Preview or Playback: Switch between single and multi-screen display. In Data Inquiry or Backup: Play a selected segment of video. Display calendar when inputting date.
	Click and Drag	Select motion sensitive areas. Adjust brightness, contrast, and saturation. Select the digital zoom range.
Right Mouse Button	Single Click	In Preview: Show the pop-up menu. In Menu: Exit the current menu, go back to the previous menu layer.
Scroll Wheel	Scroll Up	In Selection Box: Scroll up through options. In Scrollbar: Scroll up the page.
	Scroll Down	In Selection Box: Scroll down through options. In Scrollbar: Scroll down the page.

## 4.4 Virtual Keyboard

Whenever text needs to be input into a field in the NVR interface a virtual keyboard will be displayed. The virtual keyboard can be utilized through the mouse.



## 4.5 Navigation Bar

The Navigation Bar is displayed at the bottom of the screen in the NVR interface. It allows for access to the Main Menu and quick access to other common functions. It also displays used HDD space and the current time.



Left click to access the Main Menu



Left click to Log in and out of the administrator account.

- Default username: admin
- Default password: 888888
- After three failed login attempts the interface will automatically lockout for 20 seconds.
- It is highly recommended that you change the default password after initial login.



Left click for quick access to the alarm status interface.



Left click for quick access to network diagnosis and repair.



Left click to adjust the live view screen.



& Left click to adjust the channel layout.



Left click to show or hide the Navigation Bar.




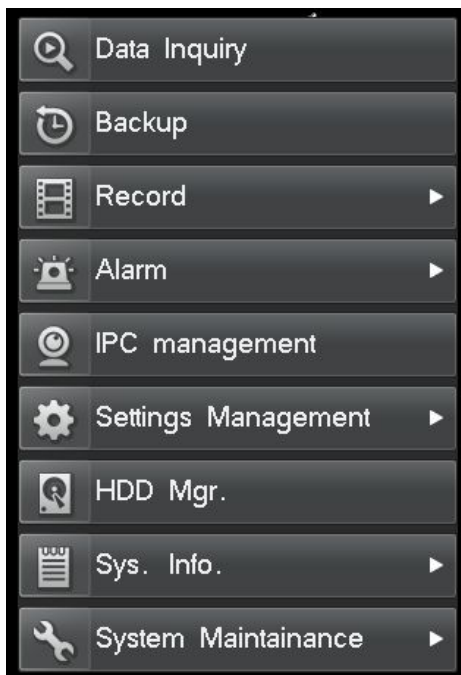
Left click for playback of the last five minutes.



Left click for quick access to the cloud services interface.

## 5. The Main Menu

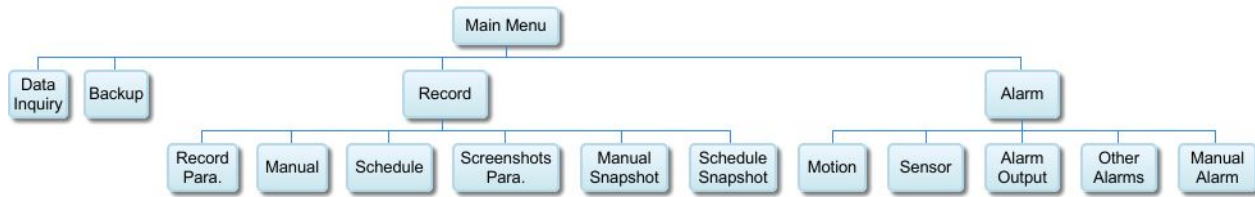
After logging in, the Main Menu can be access either by left clicking the  icon on the Navigation Bar, or right clicking the live view and selecting Main Menu from the pop-up menu. The Main Menu will appear as below.



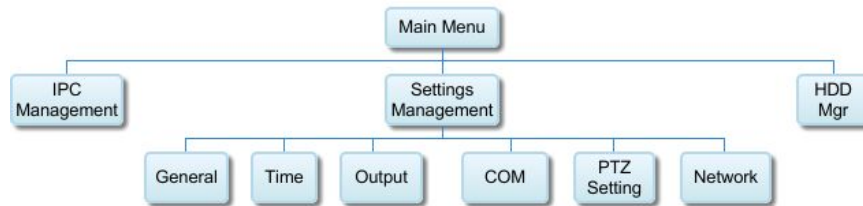


## 5.1 Main Menu Flowchart

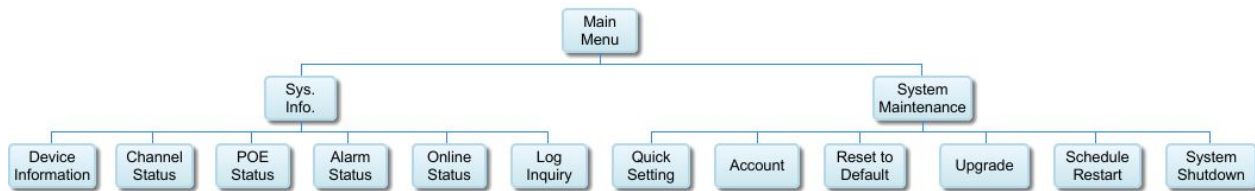
Flowchart Part 1:



Flowchart Part 2:



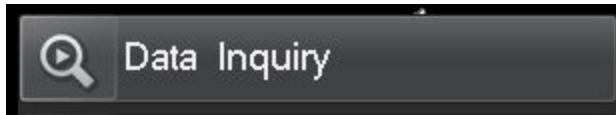
Flowchart Part 3:



(Note: Different models may have slightly different menu options. This chart is from the 22XX series.)

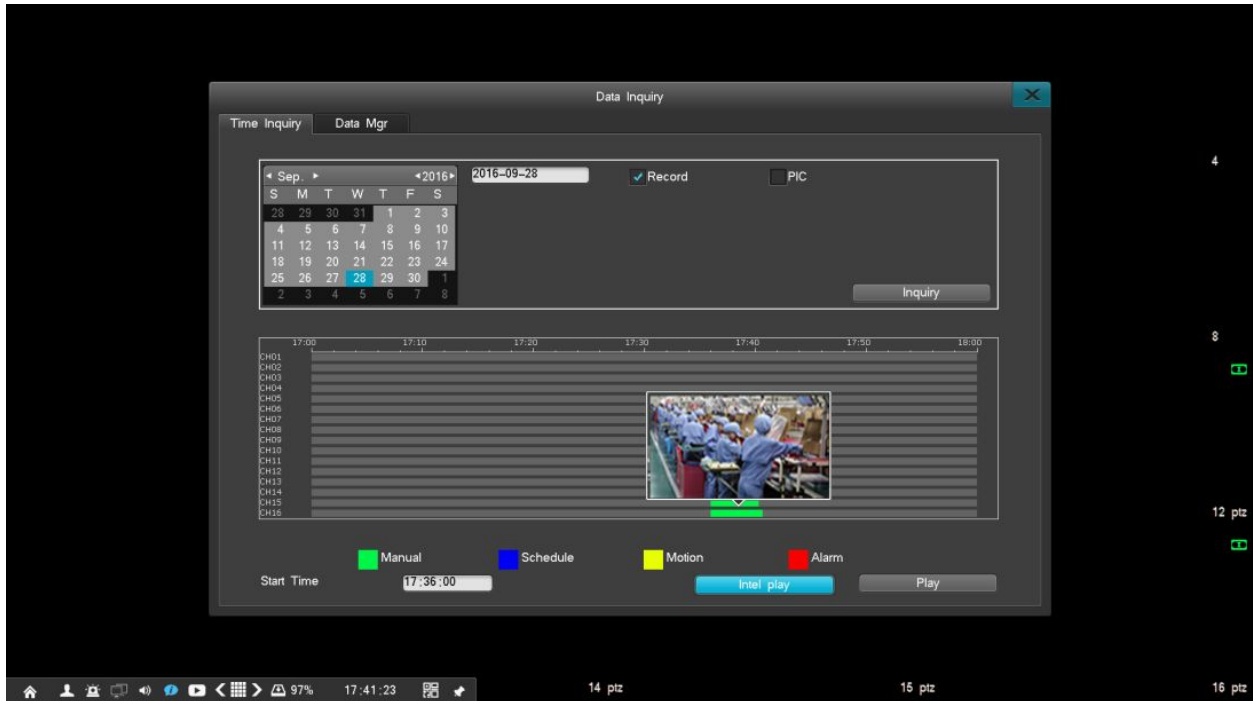
## 5.2 Data Inquiry

Go to [Main Menu] → [Data Inquiry]



### 5.2.1 Time Inquiry

In the Data Inquiry interface, left click on the Time Inquiry tab. By moving the mouse cursor onto any point of a channel timeline that has data you can preview a recording of that particular time.



Note: 2224E & 2424E do not currently support this function.

Left click on the graphical interface, enter a specific starting time in the Starting Time box, then click Play to start playing the video. Alternatively, double left click the graphical interface to start playing the video. The white vertical line marks the start point.

To enlarge the video when playing, simply move the cursor onto the timeline, and then left click on the enlarge icon once to enlarge the video display. To restore normal view, move the cursor to the timeline and left click the minimize icon.

A dark gray square on the calendar means that there are video files on that date. A light gray square indicates that there are no video files of that date. The light blue square indicates the selected date on the calendar.

A green square indicates a manual recording, a blue square indicates a scheduled recording, a yellow square indicates a motion-detection recording, and a red square indicates an alarm recording.

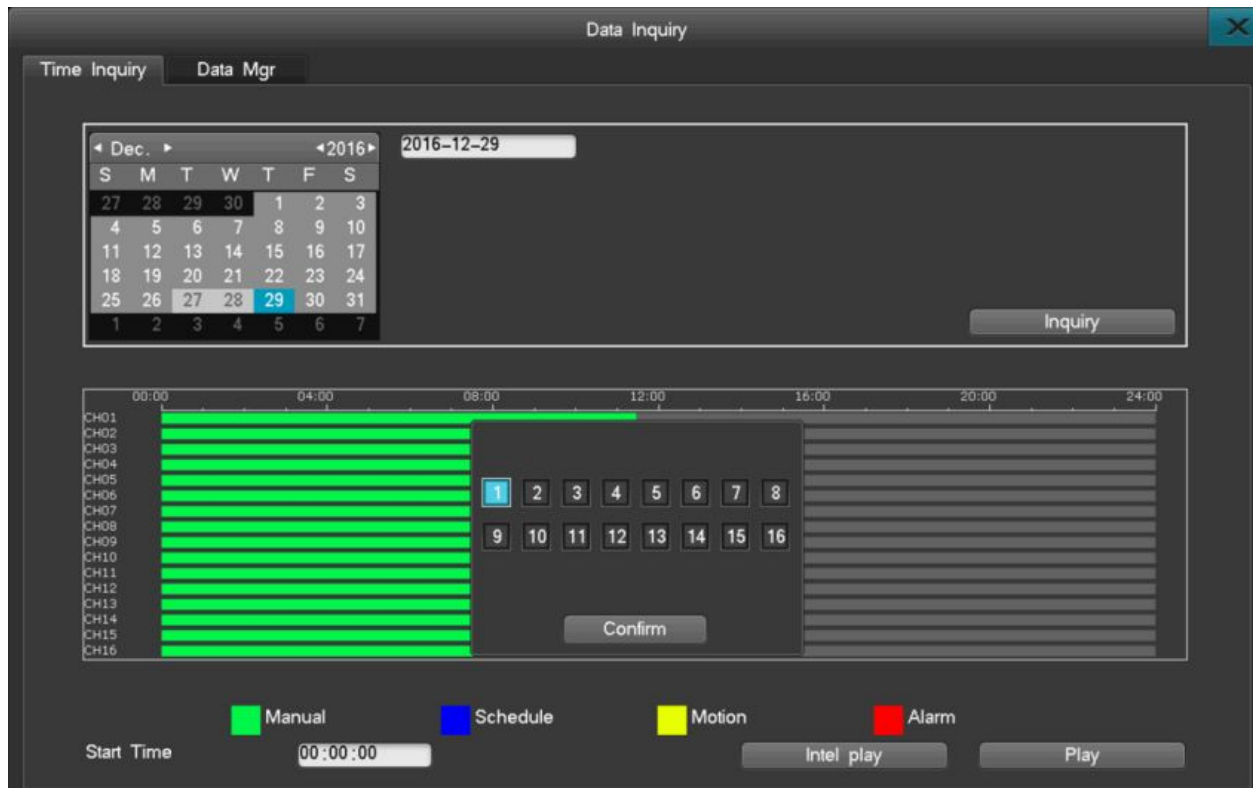
The graphical interface will display video storage information for up to 16 channels. To view information for additional channels left click on the icon for the last page or the next page to check the status of the video files of other channels.


#### 5.2.1.1 Intel Play

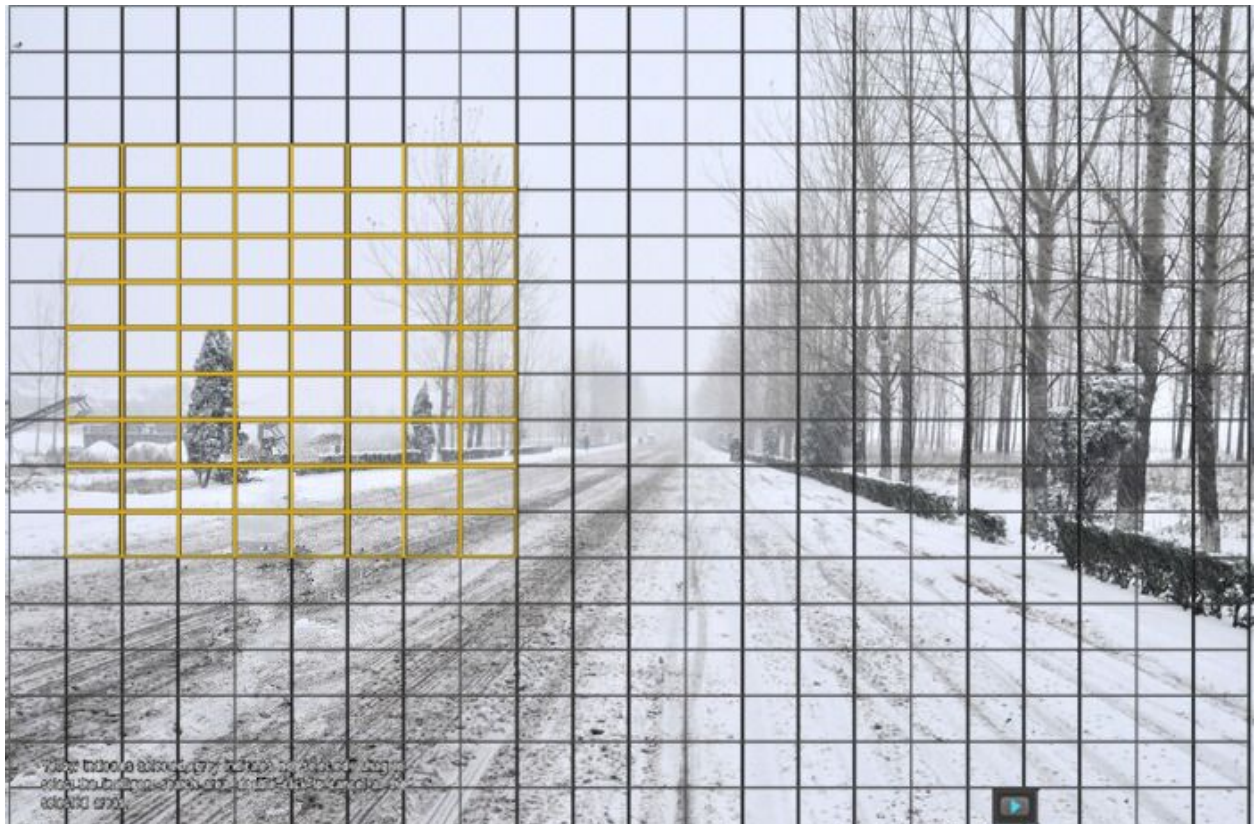
Note: GW22XXE/EP Series does not support this function.

With Intelligent Playback you can select a zone of a channel's display for playback. It will then search that zone for all motion that was detected and quickly play it back.

Left click Intel Play, choose a channel, and confirm.



Left click and drag to select a zone for playback and then left click the  icon.









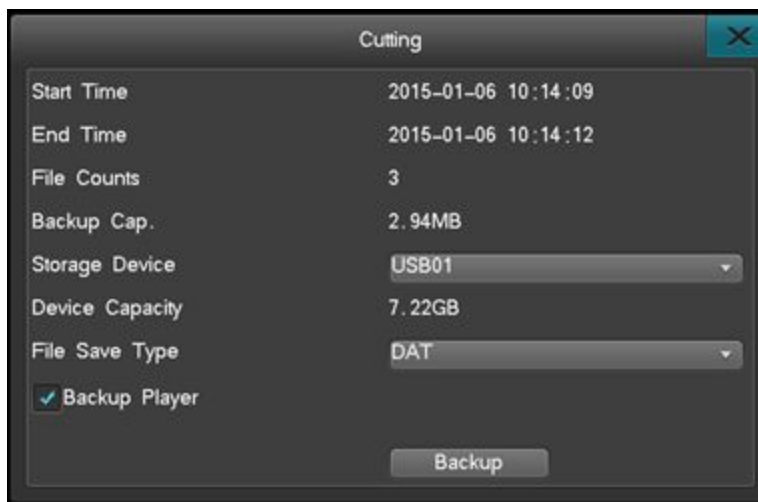


To initiate playback and manage channel data follow these steps:

- Select a desired channel.
- Select the video type of the channel on the drop down menu.
- Double left click the file segment to start playback.
- Left click on the next/last page icons to view additional pages.
- Lock or unlock data of a selected channel.
- Delete the data of a selected channel.

Playback supports the following features.

- Playback control bar: Right click to display or hide the control bar.
- Multi-channel playback: Select multiple channels for playback.
- Area zooming: During playback, left click Enlarge and select the zones you wish to zoom. Right click to deselect.
- Segment backup: During playback, left click  to set the start point, and  again to set the endpoint. The Cutting window will pop up and the storage device, file type, and backup player can be selected.



## 5.3 Backup

Go to [Main Menu] → [Backup]



The NVR can backup channel data to either a local HDD or to a remote HDD.

In order to backup data follow these steps:

- Backup channel: Choose the channel(s) to back up.
- Query time: Enter a start and end time of the file to backup. The maximum time period is one month.
- Backup device type: Choose the device type to query; local HDD or stored files on other listed devices.
- File status: Choose to backup locked, unlocked, or all data.
- File type: Choose the file type of the video to be backed up. Video can be stored as either DAT or AVI. **NOTE:** The NVR can only playback DAT file type.
- Backup device: Choose the storage device for the backup files.

### 5.3.1 Quick Backup and Manual Backup

To initiate Quick Backup or Manual Backup, in the Backup interface select the channels and file status, check the box for recording, and left click Quick Backup or Manual Backup. To complete the process, select Yes at the Confirm to Start Backup menu pop-up.



### 5.3.2 Schedule Backup

In the Backup interface, left click on Schedule Backup to enter the scheduling interface.

To schedule automatic backups, select the channel(s) to be backed up. Set the record mode, the day and time to initiate backup, the destination device, the overwrite parameters, and the file type. Finally, left click save.



## 5.4 Record

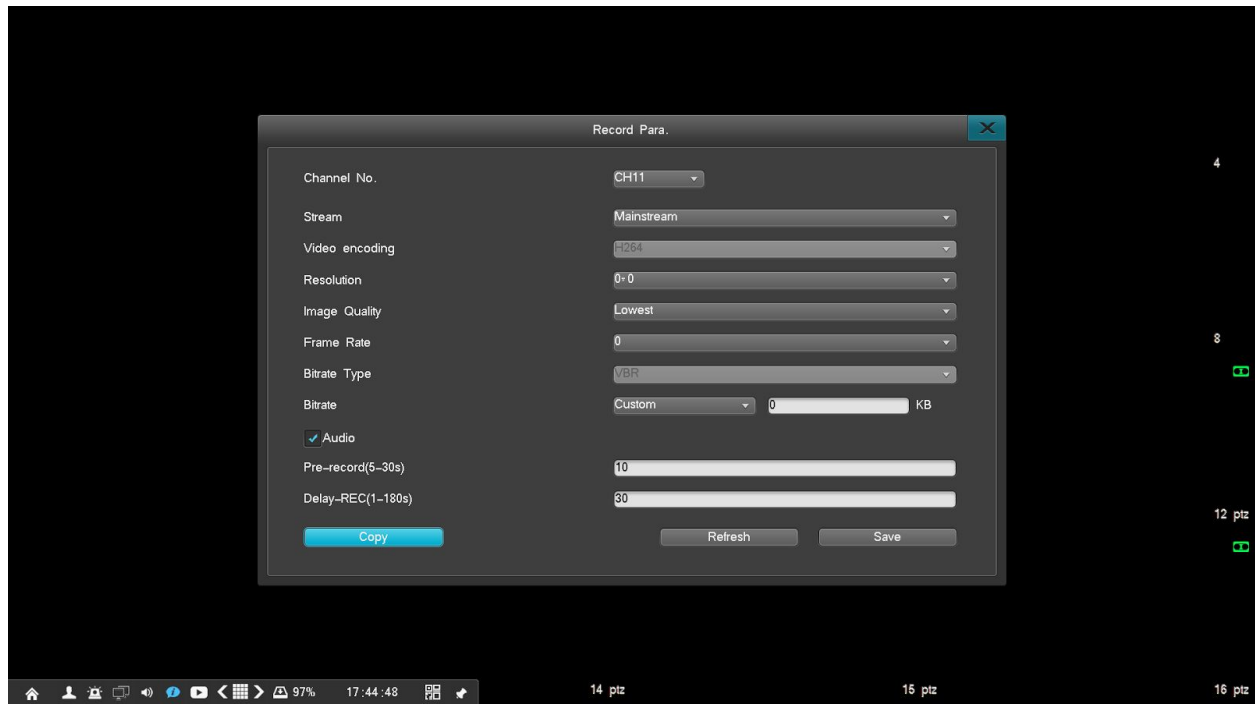
Go to [Main Menu] → [Record]



### 5.4.1 Recording Parameters

Go to [Main Menu] → [Record] → [Record Para.] to enter the Recording Parameters interface.

When using the NVR to record it is important to set up the recording parameters beforehand. These parameters will affect playback and HDD space consumption.



The following parameters must be set:

- Channel number: Select a channel from the drop down menu.
- Stream: Select the bit stream type; mainstream or sub-stream.
- Resolution: The resolution range is determined by the connected IP camera. Not all model cameras will have the same resolution options.
- Image Quality: Select the quality; Highest, Higher, High, Medium, Lower, Lowest
- Frame Rate: Set the frames per second from 1 to 30.
- Bitrate: The default bitrate is based on the connected IPC. A customized bitrate should be within the supported bitrate range of the IPC.
- Pre-record: The NVR will record video before the event occurs. The value ranges from 5 to 30 seconds depending on the bitrate stream.
- Delay-REC: The NVR will continue to record after the event has ended. The value ranges from 1 to 180 seconds.
- Copy (Optional): Left click in order to copy parameters from one channel to another.

The minimum recording time is dependent upon the selected bitrate of the video stream.

Bitrate	8M	6M	4M	3M	2M	1M	512K
Min. Rec. Time	4s	5.3s	8s	10.7s	16s	30s	30s



### 5.4.2 Manual Recording

Go to [Main Menu] → [Record] → [Manual] to enter the manual recording interface.

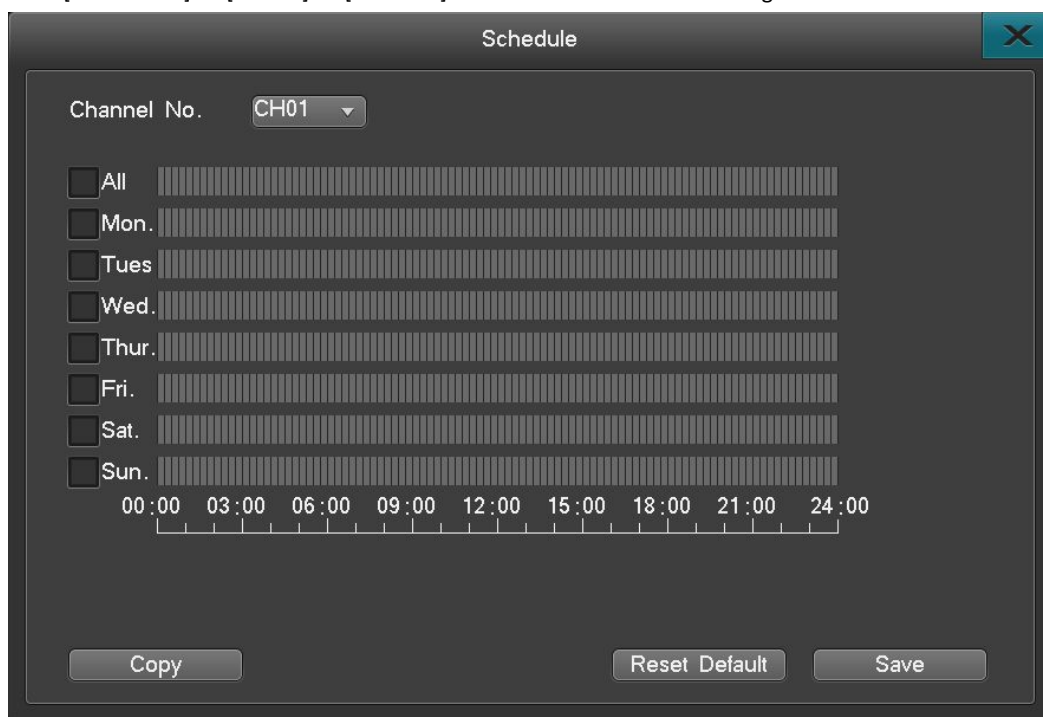


To enable manual recording select the channel(s) you wish to record (recording channels are displayed in blue and channels not recording/selected are displayed in gray), then left click Save.

Once the manual recording feature is activated, it will keep recording until turned off. If there is an unexpected loss of power to the unit recording will stop, but will restart automatically once the power restored.

### 5.4.3 Scheduled Recording

Go to [Main Menu] → [Record] → [Schedule] to enter the scheduled recording interface.




To schedule recording times for a channel follow these steps:

- Channel No.: Select the channel to record.
- Day and Time: Select which day to record. Left click and drag to highlight the specific times to record. A maximum of six segments can be recorded per day. Time intervals are in 15 minute segments.
- Save: Left click to save the scheduled recording times.
- Copy (Optional): Left click in order to copy a schedule from one channel to another.

#### 5.4.4 Screenshot Parameters

Go to [Main Menu] → [Record] → [Screenshots Para.] to enter the screenshot parameters interface.

A screenshot of the "Screenshots Para." interface. It is a dark-themed window with a title bar that says "Screenshots Para." and a close button. Inside, there are four dropdown menus: "Channel No." set to "CH01", "Type" set to "Manual", "Definition" set to "FD1", and "PIC Quality" set to "High". At the bottom, there are three buttons: "Copy" (highlighted in blue), "Default", and "Save".

The following screenshot parameters can be set in this interface:

- Channel No.: Select the channel to set screenshot parameters for.
- Type: Select whether this channel will take manual or scheduled screenshots.
- Definition: Select what definition format the screenshot will be saved as, either FD1 or CIF.
- PIC Quality: Select the quality level of the screenshots.
- Copy (Optional): Left click in order to copy a schedule from one channel to another.

#### 5.4.5 Manual Snapshot

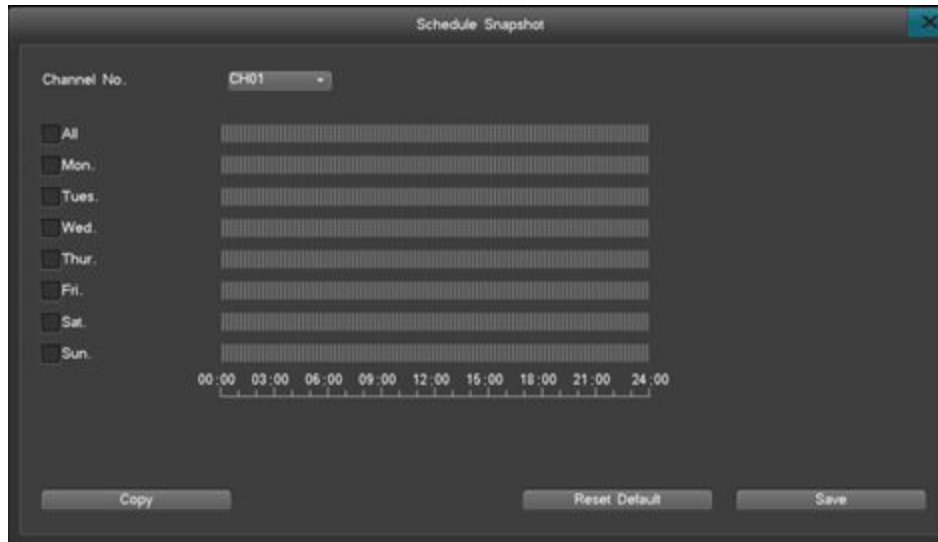
Go to [Main Menu] → [Record] → [Manual Snapshot] to enter the manual screenshot interface.

A screenshot of the "Manual Snapshot" interface. It is a dark-themed window with a title bar that says "Manual Snapshot" and a close button. Inside, there is a checkbox labeled "All" and a grid of 16 numbered buttons (1-16) arranged in two rows of eight. At the bottom, there is a "Save" button.

This interface allows a screenshot to be taken of all of the selected channels when save is left clicked.

### 5.4.6 Schedule Snapshot

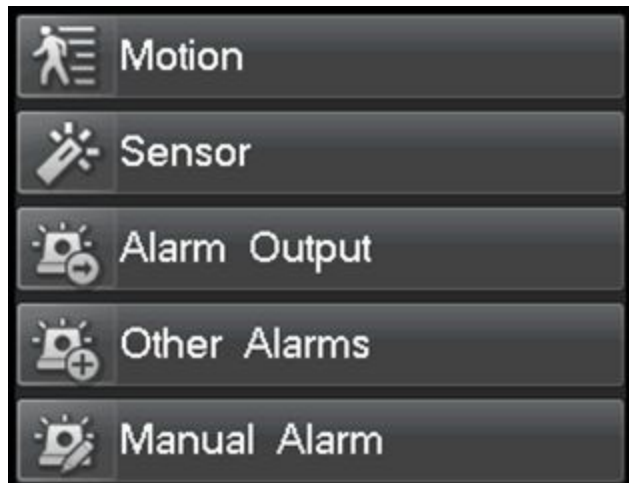
Go to [Main Menu] → [Record] → [Schedule Snapshot] to enter the scheduled screenshot interface.



The screenshot scheduling interface functions exactly as the scheduled recording (5.4.3) interface only screenshots rather than video is saved.

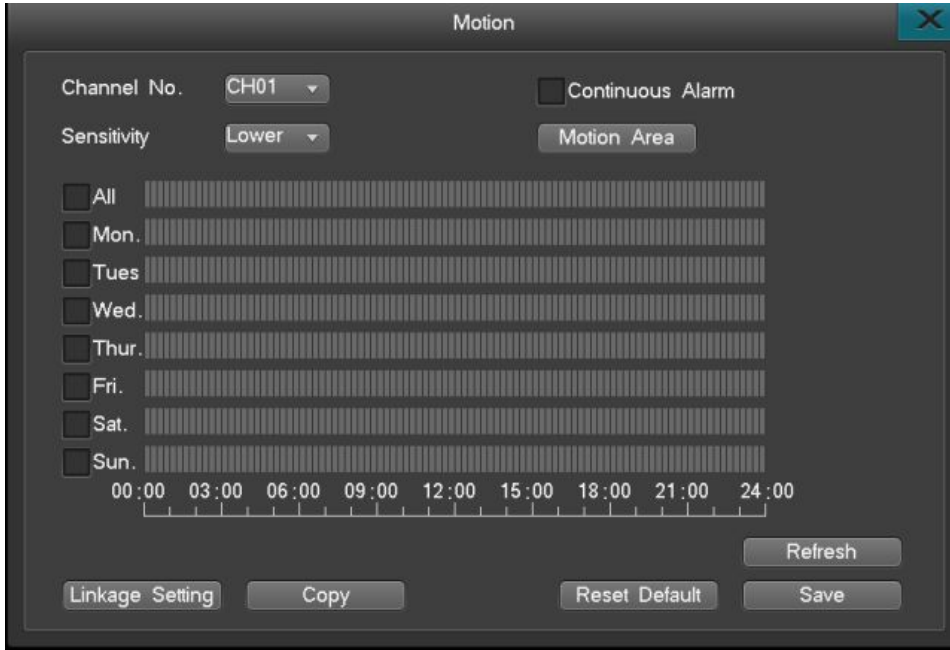
## 5.5 Alarm Settings

Go to [Main Menu] → [Alarm]



### 5.5.1 Motion Detection

Go to [Main Menu] → [Alarm] → [Motion] to enter the motion detection interface.

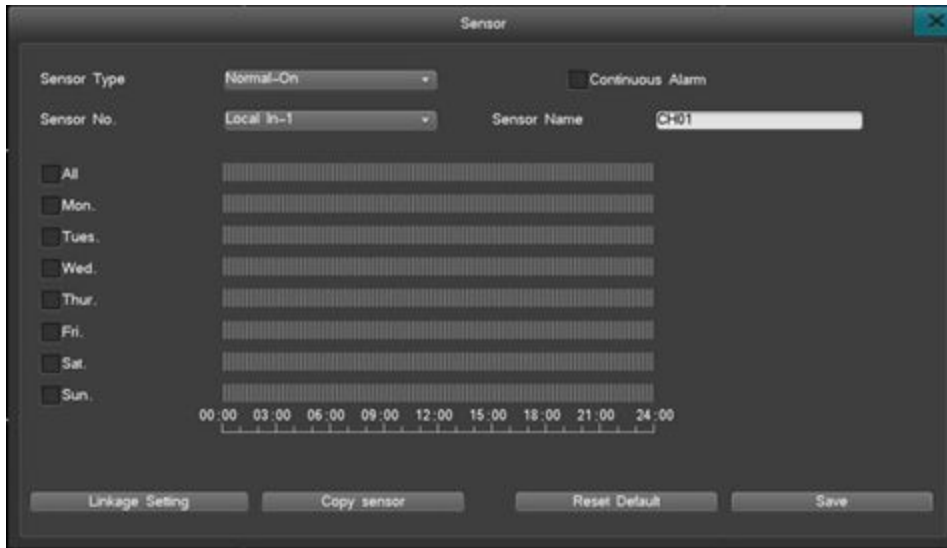


To enable motion detection for a channel follow these steps:

- Before setting up motion detection for a channel, that channel must have its recording parameters already input.
- Channel No.: Select the channel to detect motion.
- Sensitivity: Select the motion detection sensitivity level.
- Motion Area: Left click and drag to select the area of the channel that motion will be detected. Right click to exit the preview and save the area. Double left click to remove the selected area. The selected area is highlighted in yellow.
- Day and Time: Select the days and times the channel will detect motion. Functions as per scheduled recording (5.4.3).
- Linkage Setting: Select the channel(s) that will begin recording or taking screenshots when motion is detected by the channel. Select whether to link email to receive an alarm alert or not.
- Copy (Optional): Left click in order to copy motion detection settings from one channel to another.
- Continuous Alarm (Optional): If selected the alarm will go off continuously while motion is detected. Otherwise, the alarm will only occur once.

### 5.5.2 Sensor

Go to [Main Menu] → [Alarm] → [Sensor] to enter the sensor interface.




This interface allows the parameters of any sensor connected to the NVR to be set.

- Sensor Type: Select the type of sensor, either Normal-On or Normal-Close.
- Continuous Alarm: Select this to enable a continuous alarm if a sensor triggers an alarm.
- Sensor No.: Select a sensor connected to the NVR.
- Sensor Name: Enter a chosen name for the selected sensor.
- Day and Time: Select the days and times the sensor will function. Functions as per scheduled recording (5.4.3).
- Linkage Setting: Select the camera channels that will begin recording when the selected sensor is triggered.
- Copy Sensor: Left click to copy settings from one sensor to another.

### 5.5.3 Alarm Output

Go to [Main Menu] → [Alarm] → [Alarm Output] to enter the alarm output interface.



The following parameters determine how the NVR alarm behaves:





- Alarm Duration: Set the duration an alarm will sound or buzz. The default is 30 seconds.
- Audio & Buzzer: Select if the alarm will use the built in buzzer and/or output an audio signal through the HDMI and/or the audio jack.
- Full Screen: When selected, the channel triggering an alarm will display full screen.
- Alarm Push: When selected, a message will be sent to a smartphone when an alarm occurs. **NOTE:** The RealViewPro app must be installed on the smartphone to utilize this option.
- Days and Times: Select the days and times an alert can sound. Functions as per scheduled recording.

#### 5.5.4 Other Alarms

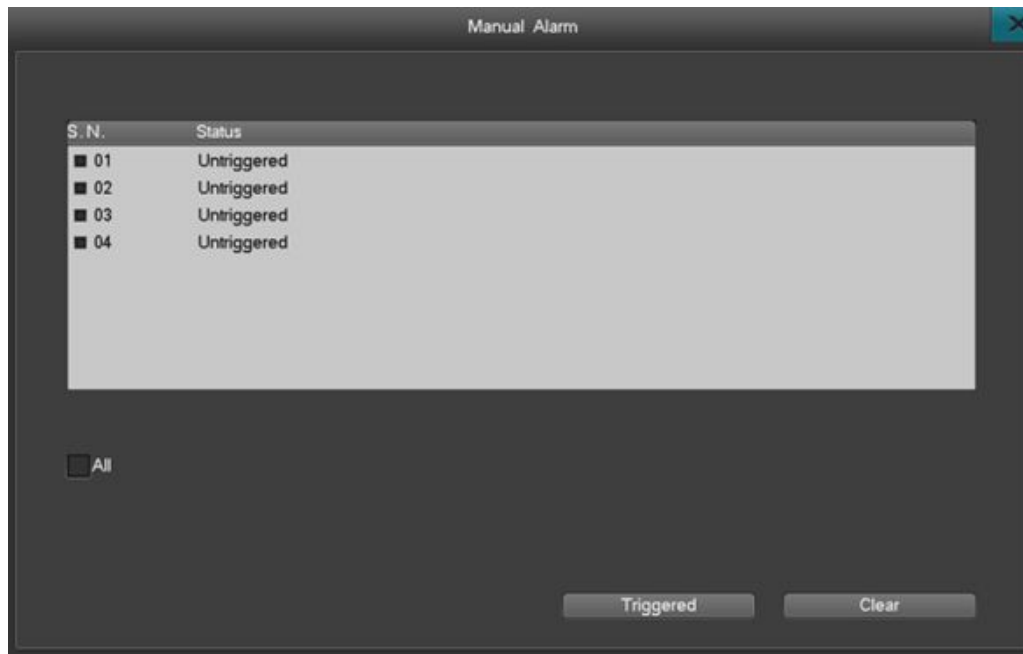
Go to [Main Menu] → [Alarm] → [Other Alarms] to enter the miscellaneous alarms interface.

Use this feature to enable alarm types other than motion for channels.

Select the alarm type and channel and left click Enable Alarm. Multiple alarm types can be selected for the same channel. An email can be linked to the alarm as per motion detection alarms. Copy can be used to copy alarm settings from one channel to another. Left click Save for each alarm that is created.

### 5.5.5 Manual Alarm

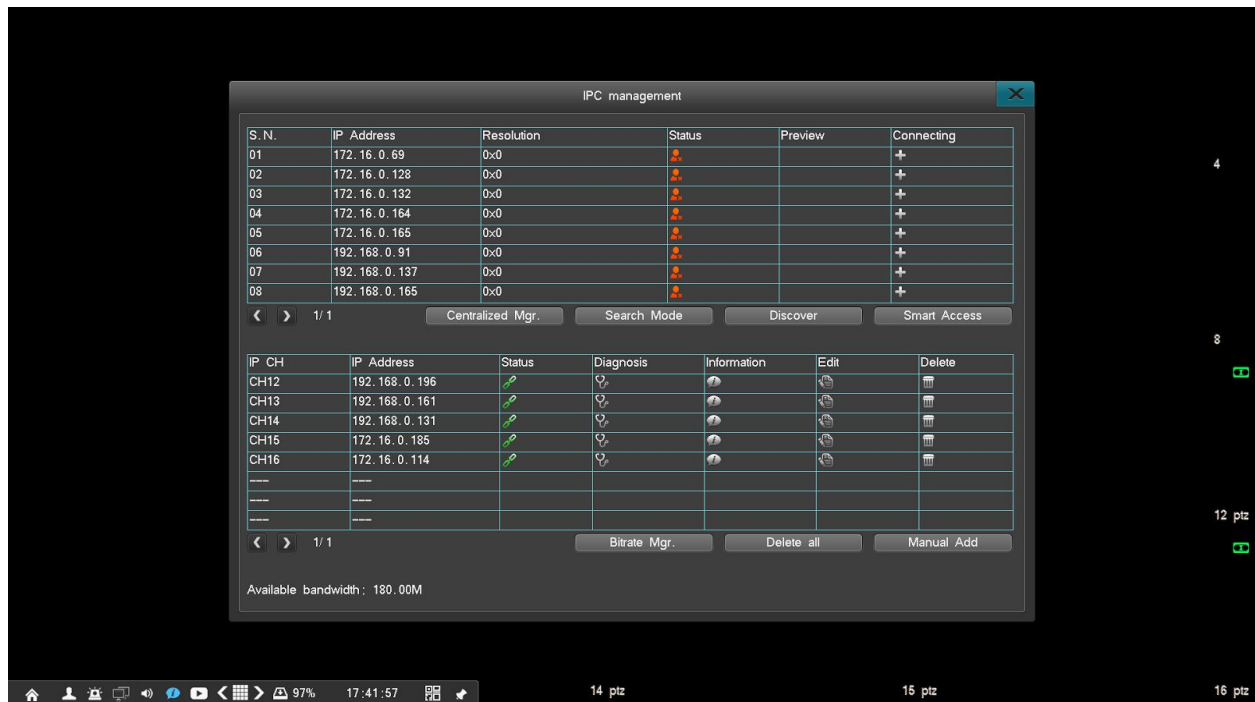
Go to [Main Menu] → [Alarm] → [Manual Alarm] to enter the manual alarm interface.



This interface allows alarms to be triggered or shut off manually.

## 5.6 IPC Management


Go to [Main Menu] → [IPC Management]



After entering the IPC Management interface, the system will automatically search all IP Camera's that are within the same network and display them in a list. Available cameras are shown on the upper half of the interface and cameras already paired are shown in the bottom half.

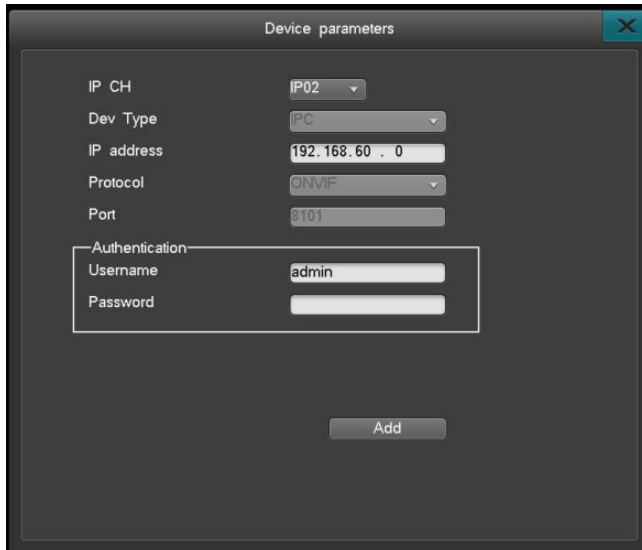
### 5.6.1 Adding IP Cameras

IP cameras can be added to the system in one of three ways:

- Manually adding a camera via Manual Add.
- Manually adding a camera by left clicking the  icon of an available camera.
- Automatically adding all available cameras via Smart Access.

#### 5.6.1.1 Adding via Manual Add




Left click Manual Add to enter the manual addition interface.



To manually add a camera follow these steps:

- IP CH: Select the channel number to assign to the camera.
- Dev Type: Device type should automatically default and not be selectable under normal conditions.
- IP address: Input the IP address of the camera.
- Protocol (if multiple options): Select the desired protocol type.
- Port: Input the desired port. The default is 80.
- Username & Password (if required): enter the username and password of the camera.
- Add: Left click Add to finish and add the camera.

#### 5.6.1.2 Adding via the “Plus” Icon

Left click the  icon of an available camera to add it to the system. If the camera has a  icon in the status box it requires input of the camera’s username and password in order to complete the addition. If the camera has a  icon in the status box it does not require a username and password.


#### 5.6.1.3 Adding via Smart Access

Left click Smart Access and the system will automatically add all IP Cameras to the system in the same order shown in the available cameras section. The order of available cameras can be changed before adding them by left clicking any of the list parameters (IP Address, Resolution, etc.).

### 5.6.2 Removing IP Cameras






Only paired cameras can be removed. All removed paired cameras will be moved to the available camera list. Cameras can be removed one by one or all at once.



- Left click the  icon of a paired camera and select Yes to remove it.
- Left click Delete All and select Yes to remove all paired cameras.

### 5.6.3 Other Options

IPC Management also includes the following features and options.

- Preview: Hover the mouse over the  icon to pop-up a preview window of the available camera. (This function is only available on cameras that support snapshots.)
- Refresh: Left click Refresh to refresh the list of available cameras.
- Page Flip: If there are multiple pages of cameras, left click the  &  icons to navigate to other pages.
- Status: The status of a paired camera is displayed. Red indicates abnormal operation, Orange indicates abnormal operation but video is still displaying, Green indicates normal operation.
- Diagnosis: Left click the “stethoscope” icon of a paired camera to enter the IPC diagnosis interface to diagnose video streams.
- Information: Left click the  icon of a paired camera to display information about that camera.
- Edit: Left click the  icon of a paired camera to change the camera’s IP address, port, and/or username & password.

## 5.7 Settings Management

Go to [Main Menu] → [Settings Management]





### 5.7.1 General Settings

Go to [Main Menu] → [Settings Management] → [General] to enter the general settings interface.

General

Host Name: eecv

Resolution: 1440x900

Language: English

Auto Lock: 3 Min

Audio Device: MIC

☒ Open adaptive optimal resolution    ☒ Display Power On Wizard

☒ Saving and enable beep

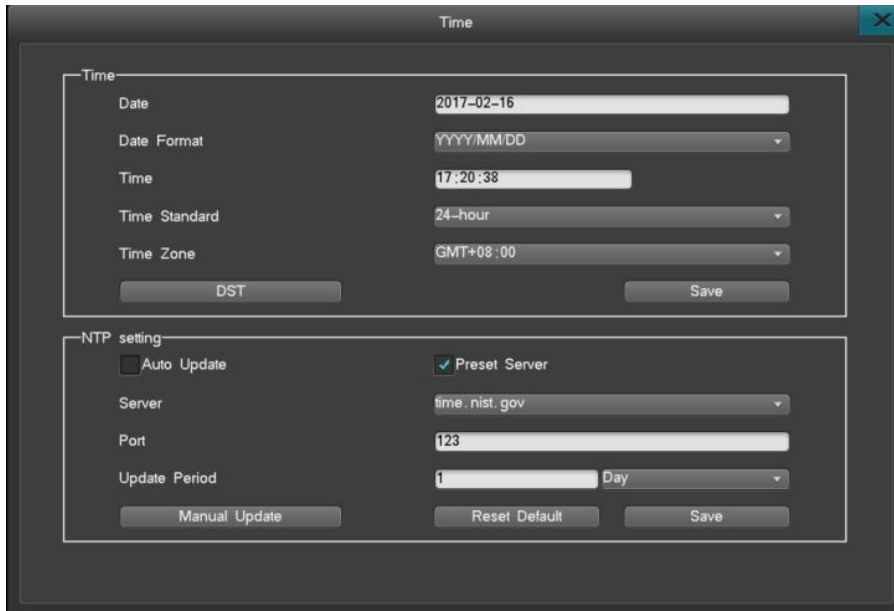
Reset Default    Save

The following general parameters can be set or changed:

- Host Name: Input a host name for the NVR.
- Resolution: Set the display resolution (1024x768, 1280x1024, 1440x900, 1280x720, 1920x1080).
- Language: The NVR only supports the English language.
- Auto Lock: Set how long until the system locks out the interface because of inactivity. Three minutes is the default.
- Audio Device: Select the device for audio output.
- Open adaptive optimal resolution: If selected the system will choose the best display resolution base on the monitor connected.
- Display Power on Wizard: If selected the Start-up Wizard will run whenever the system is turned on.
- Saving and enable beep: Select to turn on or off the system beep sound.
- Save: Left click to save the settings.

## 5.7.2 Time Settings

Go to [Main Menu] → [Settings Management] → [Time] to enter the time settings interface.

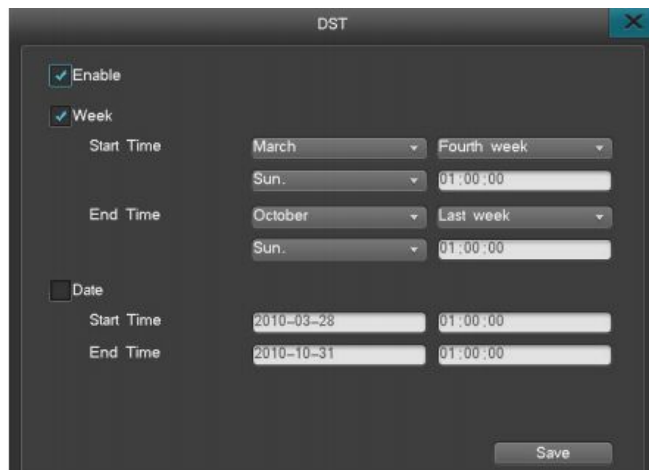


The following time parameters can be set or changed:

- Date: Input the date manually or via the calendar by double left clicking.
- Date Format: Select the format to display the date.
- Time: Input the time and select AM/PM if a 12 hour clock is being used.
- Time Standard: Select whether to display a 12 or 24 hour clock.
- Time Zone: Select the time zone.
- Save: Left click to save the settings.

### 5.7.2.1 Daylight Saving Time (DST)

Left click on DST to enter the daylight saving time interface.



DST can be enabled by either week or specific date. In either case, select the times and dates that correspond to when DST begins and ends for your location.

### 5.7.2.2 NTP Settings (Internet Time)

This feature requires the NVR to have internet access to function.

The following NTP parameters can be set or changed:

Official Website: [www.gwsecurityusa.com](http://www.gwsecurityusa.com)

Email: [support@gwsecurityusa.com](mailto:support@gwsecurityusa.com)

Business Hours: Mon-Fri 9am to 5:30pm PST/PDT

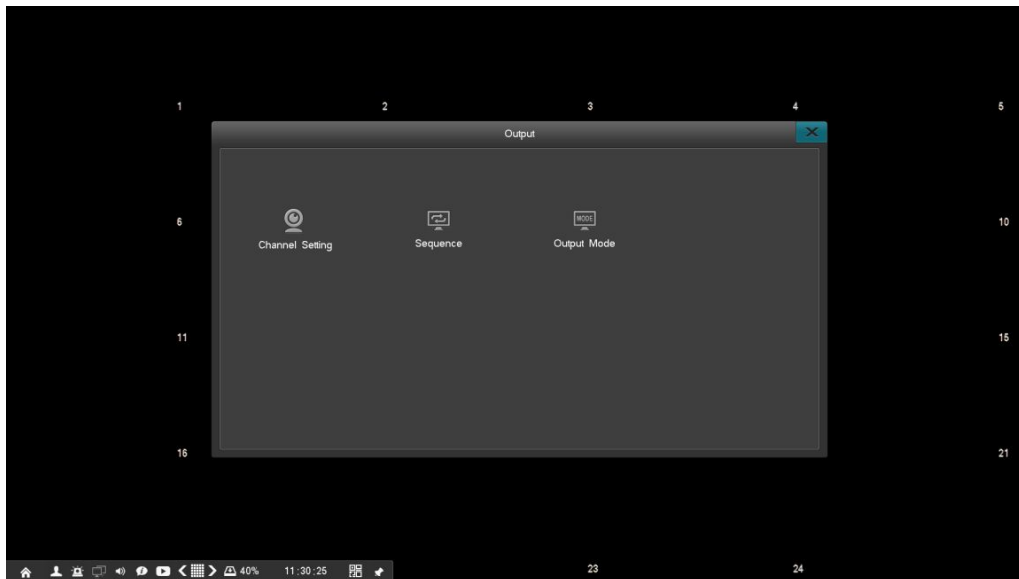
Tel: 626-350-0555



- Auto Update: If selected the system will automatically synchronize its time.
- Preset Server: If selected, only the preset servers may be selected when selecting a server. Otherwise, the server to synchronize time must be manual input. It is recommended this setting is selected.
- Server: The time synchronization server can be selected or manually input.
- Port: Input the desired port. The default is 123.
- Update Period: Input/select how often the system will update NTP if auto update is selected.
- Manual Update: Left click to have the system update its time.
- Save: Left click to save the settings.

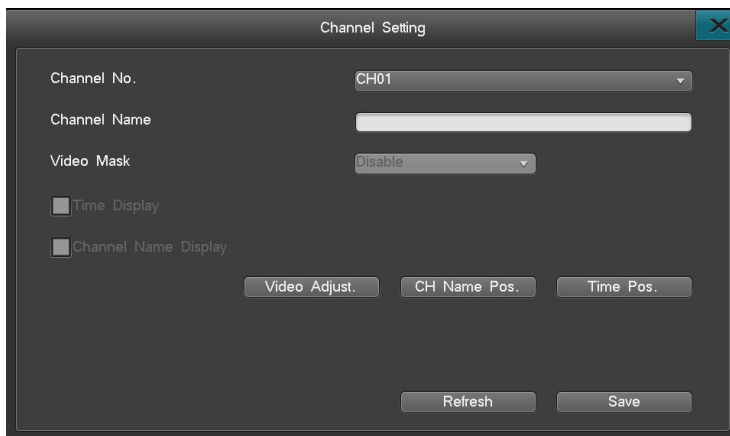
### 5.7.3 Output

Go to [Main Menu] → [Settings Management] → [Output]



#### 5.7.3.1 Channel Settings

Go to [Main Menu] → [Settings Management] → [Output] → [Channel Setting] to enter the channel settings interface.



The following channel parameters can be set or changed:

- Channel No.: Select the channel that will be edited.
- Channel Name: Input a name for the channel.
- Video Mask: Select to enable or disable this feature. If enabled, up to four areas can be selected not to be displayed in the channel video, recording, or both. The selection interface functions the same as setting a motion alarm area. Not all models support this function.

Official Website: [www.gwsecurityusa.com](http://www.gwsecurityusa.com)

Email: [support@gwsecurityusa.com](mailto:support@gwsecurityusa.com)

Business Hours: Mon-Fri 9am to 5:30pm PST/PDT

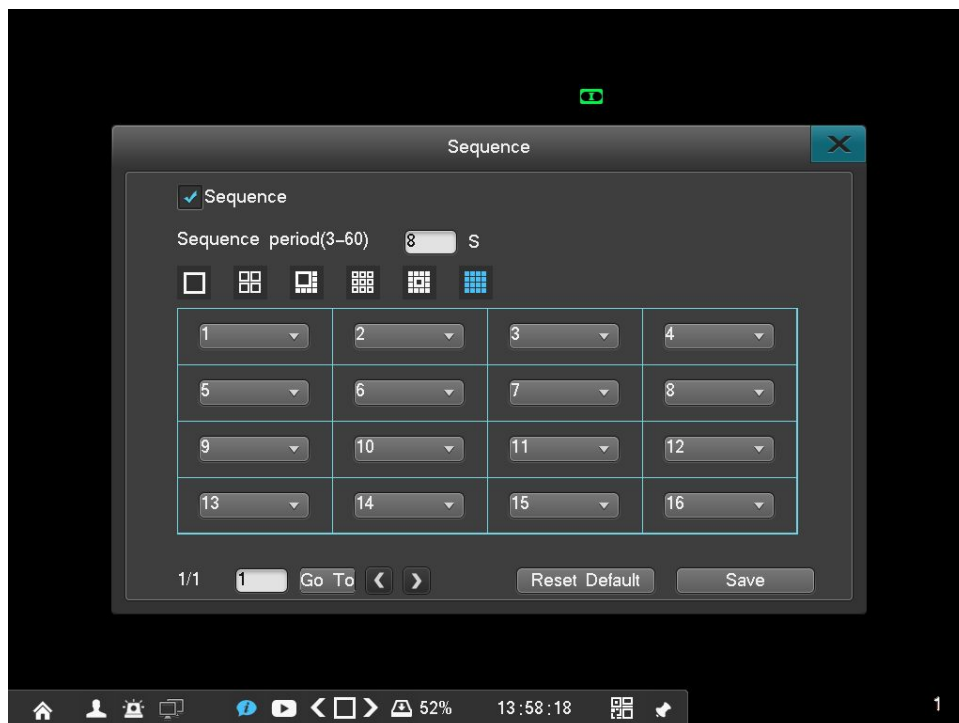
Tel: 626-350-0555



- Time & Channel Name Display: Select to display the time and name in the channel video.
- Video Adjust: Left click Video Adjust to open the video adjustment interface. Either left click the arrows or left click and drag the slider to adjust the brightness, contrast, and saturation of the channel.
- CH Name Pos. & Time Pos.: Left click to enter the position adjustment interface, and select a desired position from the drop-down menu. Some models do not have a separate menu for adjusting the position.
- Save: Left click to save the settings.

### 5.7.3.2 Display Sequence

Go to [Main Menu] → [Settings Management] → [Output] → [Sequence] to enter the video sequence interface.



This interface may look slightly different on differing models but its functionality remains the same.

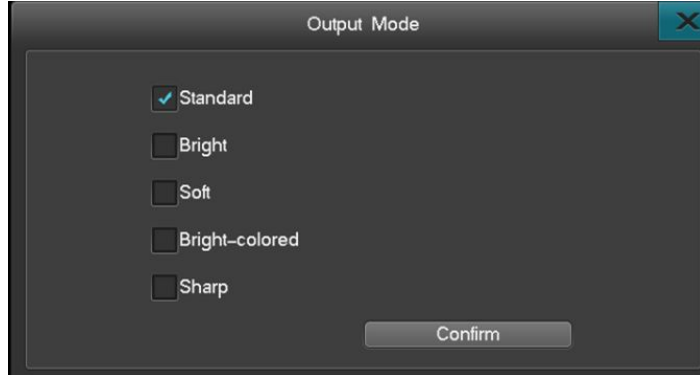
Video sequencing will only occur when the system is locked down.

To enable video sequencing follow these steps:

- Sequence: Select to enable or disable the feature.
- Channels: Select which channels to video sequence. Not all models have this option.
- Sequence period: Input the time in seconds between each sequence change. The time can be between 3 and 60 seconds.
- Layout: Select the desired display layout and where channels are displayed in the layout.
- Save: Left click to save the settings.

### 5.7.3.3 Output Mode

Go to [Main Menu] → [Settings Management] → [Output] → [Output Mode] to enter the output mode interface.



This interface allows the output video to be set in one of five preset modes that adjust brightness, color, and sharpness.

### 5.7.4 COM

Go to [Main Menu] → [Settings Management] → [COM] to enter the COM settings interface.

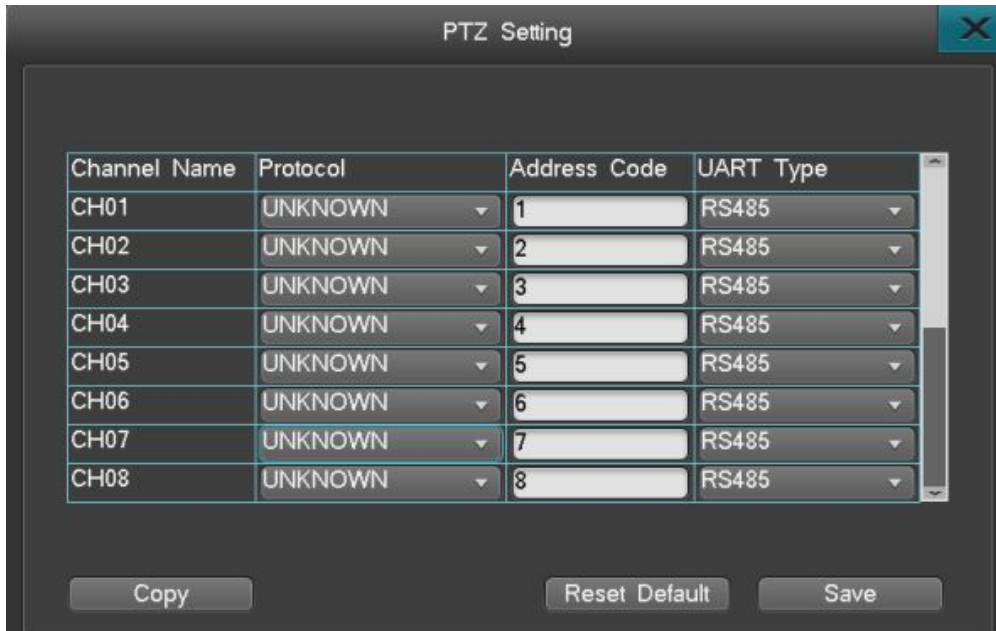


This interface allows the configuration of the COM serial port which is predominantly used for connecting a PTZ controller or other peripherals.

- UART Type, ATM Protocol, & Interface Type: These settings only have one default selection.
- Serial Device: Select the type of device connected to the serial port.
- Baudrate: Select the baudrate of the serial port. This number should match the connected device's baudrate.
- Data Bit, Stop Bit, Parity Bit: These settings should be set to match the same settings as the connected device.
- Bitrate Control: Select whether to enable bitrate control or not.

### 5.7.5 PTZ Setting

Go to [Main Menu] → [Settings Management] → [PTZ Setting] to enter the PTZ settings interface.



The PTZ Setting interface displays a table for configuring PTZ settings for 8 channels. Each row represents a channel (CH01 to CH08) with columns for Channel Name, Protocol, Address Code, and UART Type. The Protocol and UART Type are dropdown menus, and the Address Code is a text input field. Below the table are buttons for Copy, Reset Default, and Save.

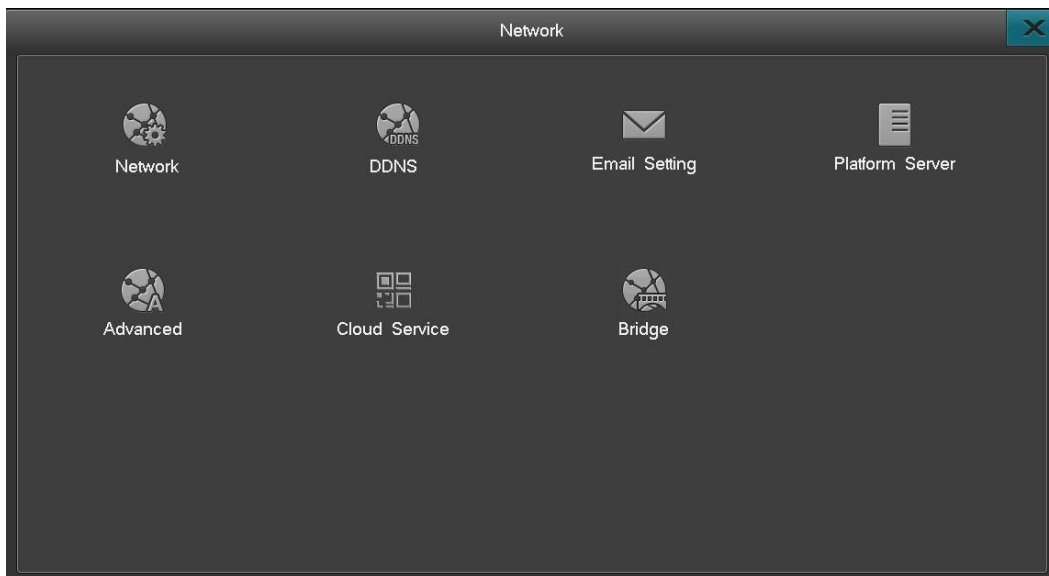
Channel Name	Protocol	Address Code	UART Type
CH01	UNKNOWN	1	RS485
CH02	UNKNOWN	2	RS485
CH03	UNKNOWN	3	RS485
CH04	UNKNOWN	4	RS485
CH05	UNKNOWN	5	RS485
CH06	UNKNOWN	6	RS485
CH07	UNKNOWN	7	RS485
CH08	UNKNOWN	8	RS485

Buttons: Copy, Reset Default, Save

This interface allows for the PTZ configuration of specific channels in the NVR after COM settings have been input. The individual channel protocol and UART type should match the PTZ. The Address Code number should be the same as the channel number.

### 5.7.6 Network Sub-menu

Go to [Main Menu] → [Settings Management] → [Network]



The Network sub-menu interface displays a grid of icons for various network settings. The icons are arranged in two rows of four. The first row includes Network, DDNS, Email Setting, and Platform Server. The second row includes Advanced, Cloud Service, and Bridge. The last icon in the second row is partially obscured.

Icons: Network, DDNS, Email Setting, Platform Server, Advanced, Cloud Service, Bridge

This sub-menu may have different features for differing models.

### 5.7.6.1 Network Settings

Go to [Main Menu] → [Settings Management] → [Network] → [Network] to enter the network settings interface.



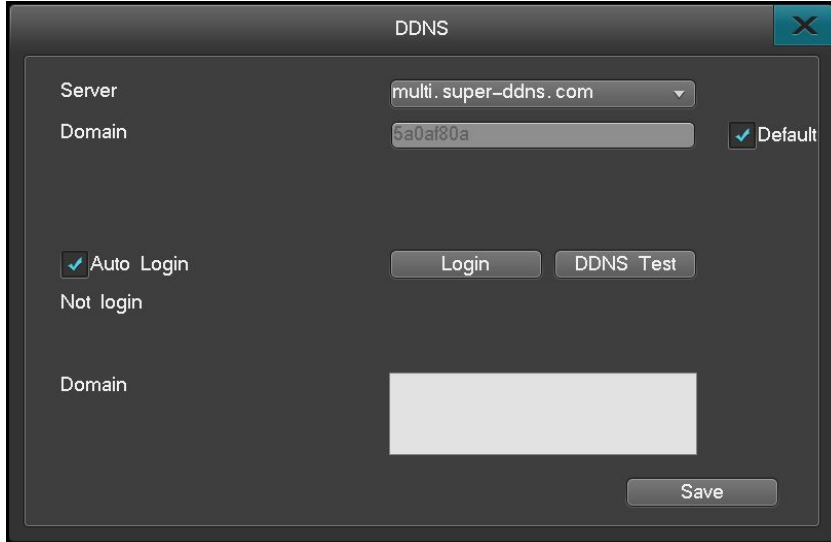
The IP network setting interface is a dark-themed window titled "IP network setting". It contains the following fields and controls:

- Operating Mode:** A dropdown menu set to "Dual-network isolation".
- NIC Mode:** A dropdown menu set to "10M/100M/1000M adaptive".
- DHCP:** An unchecked checkbox.
- IP:** A text field containing "192.168.40.224".
- Subnet Mask:** A text field containing "255.255.255.0".
- Default Gateway:** A text field containing "192.168.40.254".
- Primary DNS:** A text field containing "202.96.134.133".
- Backup DNS:** A text field containing "202.96.128.86".
- Buttons:** At the bottom, there are six buttons: "Backup IP", "Port Set", "Multi-cast Setting", "Network Diagnosis", "Reset Default", and "Save".

This interface allows for the manual modification of network addresses and ports. In most cases these parameters should be left as is unless a complex NVR system is being set up. It is highly recommended that only a professional network technician or other qualified technician alter these parameters.

### 5.7.4.2 DDNS Settings

Go to [Main Menu] → [Settings Management] → [Network] → [DDNS] to enter the network settings interface.



The DDNS settings interface is a dark-themed window titled "DDNS". It contains the following fields and controls:

- Server:** A dropdown menu set to "multi.super-ddns.com".
- Domain:** A text field containing "5a0af80a". To its right is a checked checkbox labeled "Default".
- Auto Login:** A checked checkbox.
- Not login:** An unchecked checkbox.
- Login:** A button.
- DDNS Test:** A button.
- Domain display box:** A large empty rectangular box.
- Save:** A button at the bottom right.

Setting up a DDNS allows for a remote connection to the NVR by a computer or smartphone via the internet.

To set up a DDNS follow these steps:

- **Server:** Select the desired server. The default selection is multi.super-ddns.com.
- **Domain:** The domain is the last eight digits of the NVR's MAC address. Default should be enabled in this option.
- **Login:** Left click Login to input the username and password of the domain.
- **DDNS Test:** Left click to check if the domain is available.
- **Auto Login:** Select to enable automatic login to the DDNS.
- **Domain display box:** The domain address will be updated and displayed in this box.
- **Save:** Left click to save the settings.



For ORAY, Meibu, FreeDNS, no-ip, Dyndns domain names: Sign up for a domain name on the service's official website, enter the correct required information in the NVR, and left click Save. Set up the username and password you registered on any of those sites, save the setting, and then the system will be able to update the domain name.

#### 5.7.4.3 PPPOE Settings

Only the GW22XX series supports this feature.

Go to [Main Menu] → [Settings Management] → [Network] → [PPPOE] to enter the PPPOE settings interface.

PPPOE

Username: 075507567486@163.com

Password: \*\*\*\*\*

☐ Auto-redial ☒ 3G Dial-up

Network Standard: WCDMA

APN:

Dial Number:

Not Nonected! Connecting

Save

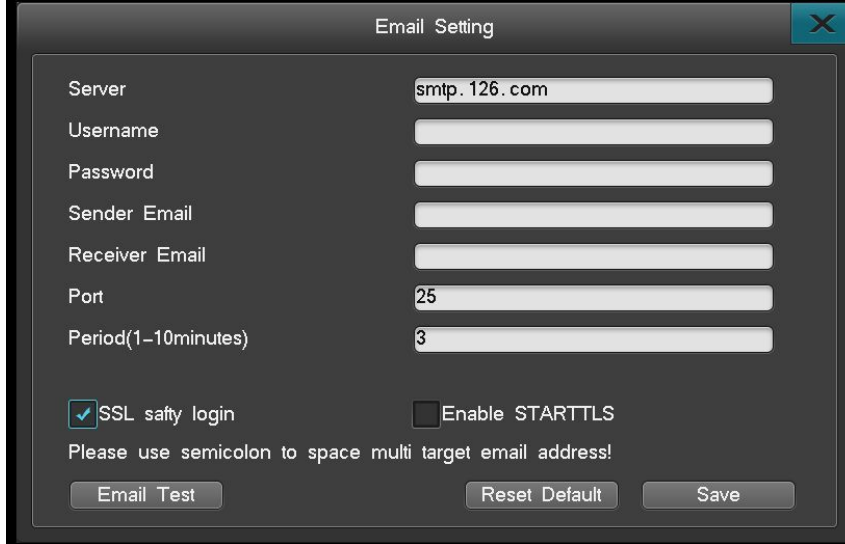
PPPOE settings are only used for direct dial-up/ADSL internet connections. If the NVR is connected to the internet via a router which is connected to a modem then these settings are not necessary.

The following PPPOE parameters can be set or changed:

- Username & Password: Enter the username and password of the ADSL account. These can only be obtained from your Internet Service Provider (ISP).
- Auto-redial: Select to enable the system to automatically redial if disconnected from the internet.
- 3G Dial-up: Select this option if a 3G wireless adapter is being used to connect to an ADSL service. Selecting this will open the Network Standard, APN, and Dial Number options.
- Network Standard: Select the network standard of the 3G wireless connection from the drop-down menu.
- APN: Enter the APN as provided by you ISP.
- Dial Number: Enter the number to dial as provided by your ISP.
- Save: Left click to save the settings.

#### 5.7.4.4 Email Settings

Go to [Main Menu] → [Settings Management] → [Network] → [Email Setting] to enter the email settings interface.



The screenshot shows the 'Email Setting' window with the following fields and options:

- Server: smtp.126.com
- Username: (empty)
- Password: (empty)
- Sender Email: (empty)
- Receiver Email: (empty)
- Port: 25
- Period(1-10minutes): 3
- ☒ SSL safety login
- ☐ Enable STARTTLS
- Please use semicolon to space multi target email address!
- Buttons: Email Test, Reset Default, Save

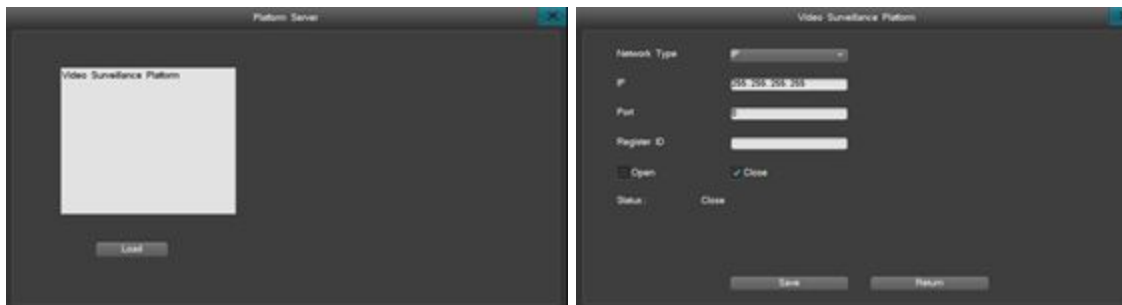
In order to send and receive alerts and notifications via email, email parameters must be entered into the system.

The following email parameters can be set or changed:

- Server: Enter the server of the email service being used for the sender email account. (e.g. gmail.com)
- Username & Password: Enter the username and password of the sender email account.
- Sender Email: Enter the email address that will send the alerts.
- Receiver Email: Enter the email address(es) they will receive the alerts. Multiple emails must be separated by a “;” and a maximum of 256 characters can be input.(e.g. example1@email.com; example2@email.com)
- Port: Enter the email port number. The default number is 25. Confirm with the email provider the correct port number.
- Period: Enter the period in minutes between email notifications. If there are multiple alerts within the time period only one email for the first alert will be sent. The time period range can be between one and ten minutes.
- SSL safety login: Enable this option if it is required by the email service provider.
- Email Test: Left click to send out a test email notification.
- Save: Left click to save the settings.

#### 5.7.4.5 Platform Server

Go to [Main Menu] → [Settings Management] → [Network] → [Platform Server] → [Video Surveillance Platform] to enter the platform service interface.



The screenshots show two interfaces:

- Platform Server:** A window with a 'Video Surveillance Platform' label and a 'Load' button.
- Video Surveillance Platform:** A window with the following fields and options:
  - Network Type: (dropdown menu)
  - IP: 192.168.255.255
  - Port: (empty)
  - Register ID: (empty)
  - ☐ Open, ☒ Close
  - Status: Close
  - Buttons: Load, Return

This interface allows the NVR to connect to a CMS (Central Monitoring Server).

- IP: Enter the IP address of the CMS.
- Port: Enter the port used by the CMS. The default port is 8000
- Register ID: Enter the registration code/ID of the CMS.

#### 5.7.4.6 Advanced Settings: UPnP

Go to [Main Menu] → [Settings Management] → [Network] → [Advanced] → [UPnP] to enter the Universal Plug and Play settings interface.



The UPnP feature is able to automatically open ports to allow easy WAN access to the NVR. Ensure that the NVR's IP address is on the same network segment as the router. Also enabling DHCP is recommended when using UPnP.

- Enable UPnP: Select this to turn on UPnP.
- Add: Left click to add a UPnP service. The appropriate protocol, NVR port, and router port need to be selected.
- Edit: Left click to alter the selected UPnP service.
- Delete: Left click to remove the selected UPnP service.
- Save: Left click to save the current settings.

#### 5.7.4.7 Advanced Settings: FTP Upload

Go to [Main Menu] → [Settings Management] → [Network] → [Advanced] → [FTP Upload] to enter the FTP upload interface.



This feature allows the NVR to upload recorded data to a server over the internet. Follow the steps below to enable FTP uploads:

- Enable FTP: Select to enable the FTP feature.
- Username & Password: Enter the username and password of the FTP server.
- Anonymous: Select this to make the NVR connection anonymous if desired.
- Server Address & Port: Enter the IP address and port number of the FTP server.
- File Path: Enter the file path that data will be saved to on the server.
- CH: Select the channel whose data will be uploaded to the server.
- Week: Select the particular week that data from the selected channel will be uploaded.





- Alarm, Motion, & Schedule: Enable the desired recording types from the channel and the specific recorded time segments to be uploaded.
- Copy: Left click to copy FTP settings from one channel to another.
- Save: Left click to save the current settings.

#### 5.7.4.8 Cloud Service

Go to [Main Menu] → [Settings Management] → [Network] → [Cloud Service] to enter the cloud service interface.



To enable cloud service follow these steps:

- Select Enable iview and left click Save. The status displayed should will change from offline to online.
- Scan the first QR code with a smartphone to download the client app and install it.
- Scan the second QR code with the same smartphone to add the NVR device to the app.



#### 5.7.4.9 Network Bridge

Only the GW3216E-16P & GW3232E-8S support this feature.

Go to [Main Menu] → [Settings Management] → [Network] → [Bridge] to enter the network bridge interface.

A network bridge is a computer networking device that creates a single aggregate network from multiple communication networks or network segments. There are two different network segments on the NVR models with built-in POE switches or SDA ports. The network bridge will bind the network segments together, allowing users to access cameras directly from a computer on the network. Left click Enable to turn on this feature.

Important notes about the network bridge:

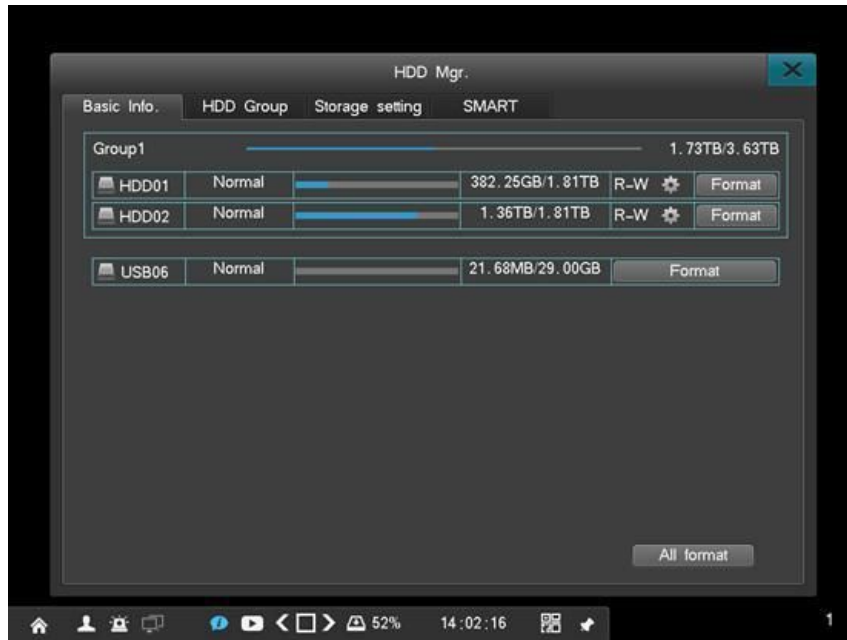
- The interface will lock after enabling the bridge function and unlock after you disable it.
- While enabled, all cameras will be offline and stop recording.
- Only one NVR's bridge mode can be activated at once.
- Do not connect the LAN port, the PoE port, or the SDA port on the same network.
- While enabled, cameras found are those connected to either the built-in PoE switch or those connected to the SDA port.
- The computer needs to be on the same network segment as the cameras.

## 5.8 HDD Manager

Go to [Main Menu] → [HDD Mgr.] to enter the hard disk drive manager interface.

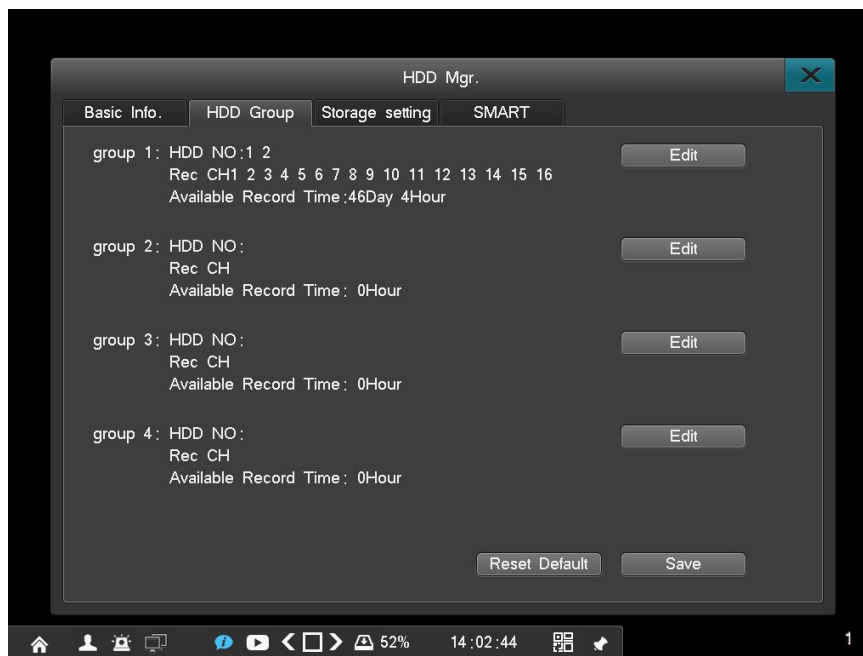
### 5.8.1 Basic Information

The Basic Info. tab displays information about each HDD and USB data storage device connected to the NVR. This tab can also be used to format storage devices and to change HDDs from read/write status to read-only and back.



### 5.8.2 HDD Group

The HDD Group tab allows channels to be recorded to specific storage devices. The channels recording to individual storage devices can be set by left clicking the corresponding Edit button and selecting which channels to record.





### 5.8.3 Storage Settings

The Storage Setting tab allows data overwrite parameters to be set for the system.

HDD Mgr.

Basic Info. HDD Group **Storage Setting** SMART

Overwrite: Auto

Triggering Time: 0 AM

Channel No.: 1

☐ Enable

Record Saving Days: 0

Photo Saving Days: 0

Copy

Default Save

The following data overwrite parameters can be set or changed:

- **Overwrite:** Select either Auto or Manual from the drop-down menu. The default selection is Auto. If manual is selected, the system will need permission each time data needs to be overwritten.
- **Triggering Time:** Select a time from the drop-down menu. The system will check the HDD storage every day at the specified time.
- **Channel No.:** Select a channel to set its data overwrite parameters.
- **Enable:** Select to turn on and off the data overwrite parameters for the selected channel.
- **Record/Photo Saving Days:** Set the number of days recorded data will be stored. Data after the set number of days will be overwritten.

### 5.8.4 SMART

The SMART tab provides in depth information about each HDD connect to the NVR. Information such as the HDD model, serial number, firmware version, current temperature, health status and other SMART attributes are displayed.

HDD Mgr.

Basic Info. HDD Group Storage setting **SMART**

Disk: HDD01

Model: WDC WD20EZR-00D8PB0 Serial Number: WD-WMC4M0045634

Firmware Versi: 80.00A80 Temperature: 40 °C

Health Status: Favorable

Attribute	Thresh	Current	Worst	RAW Value	Status
(01) Raw_Read_Error_Rate	33	c8	c8	18	ok
(03) Spin_Up_Time	15	b1	ab	4141	ok
(04) Start_Stop_Count	0	62	62	2142	ok
(05) Reallocated_Sector_Ct	8c	c8	c8	0	ok
(07) Seek_Error_Rate	0	c8	c8	0	ok
(09) Power_On_Hours	0	5b	5b	7156	ok
(0A) Spin_Retry_Count	0	64	64	0	ok
(0B) Calibration_Retry_Count	0	64	64	0	ok
(0C) Power_Cycle_Count	0	62	62	2035	ok

Official Website: [www.gwsecurityusa.com](http://www.gwsecurityusa.com)

Email: [support@gwsecurityusa.com](mailto:support@gwsecurityusa.com)

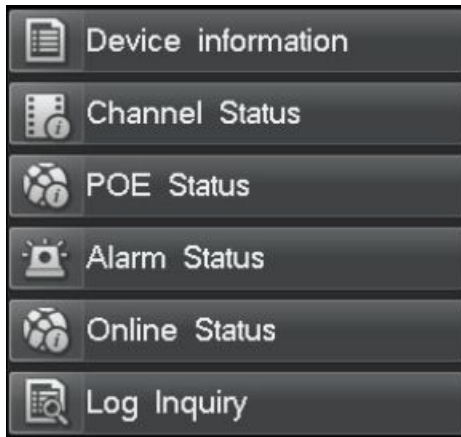
Business Hours: Mon-Fri 9am to 5:30pm PST/PDT

Tel: 626-350-0555



## 5.9 System Information

Go to [Main Menu] → [Sys. Info.]



### 5.9.1 Device Information

This interface displays detailed information about the NVR such as: device model, software version, hardware version, IP address, MAC address, language, etc.

### 5.9.2 Channel Status

This interface displays the current status of all channels and the following information: IP address, protocol, bitrate, and resolution.

### 5.9.3 POE Status

This interface displays the status of the POE channels and the following information: port, power, power supply status, and power-on time.

### 5.9.4 Alarm Status

This interface displays the alarm information for each channel, including motion detection alarms (yellow), and video lost alarms (blue).

### 5.9.5 Online Status

This interface displays all currently logged in user accounts with their IP address, and login time.

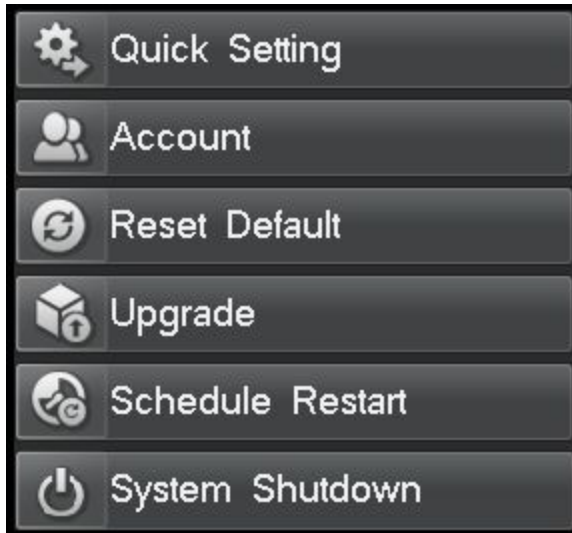
### 5.9.6 Log Inquiry

This interface allows for the inquiry of specified event logs on the selected date.



## 5.10 System Maintenance

Go to [Main Menu] → [System Maintenance]



### 5.10.1 Quick Settings

Go to [Main Menu] → [System Maintenance] → [Quick Setting] to execute the start-up wizard.

The start-up wizard will guide you through the initial basic setup of the NVR system.

### 5.10.2 Account Maintenance

Go to [Main Menu] → [System Maintenance] → [Account] to enter the account maintenance interface.

The default administrator username is “admin” and the default password is 888888. The administrator account has full authority on the device and is able to establish up to 15 additional user accounts. The administrator account determines the access permitted for each additional user account. For security, it is recommended to change the default administrator password.

### 5.10.3 Reset to Default

Go to [Main Menu] → [System Maintenance] → [Reset Default] to enter the default reset interface.

This interface allows for various settings of the NVR to be quickly reset to the default settings. It also allows for a complete factory reset to be initiated.

### 5.10.4 Upgrade

Go to [Main Menu] → [System Maintenance] → [Upgrade] to enter the upgrade interface.

This interface allows the firmware of the NVR to be updated via FTP or USB device. Alternatively, the NVR firmware can be updated via a remotely connected computer. After updating the firmware, the NVR will automatically restart, and the administrator password will reset to the default.

#### 5.10.4.1 Upgrade via FTP

To upgrade via FTP follow these steps:

- Ensure an FTP service is enabled on the remote computer that the NVR will connect to.
- Enter the FTP server information and the file path of the upgrade file into the interface and left click Save.

#### 5.10.4.2 Upgrade via USB

To upgrade via USB follow these steps:

- Copy the upgrade file into the root directory of a USB flash drive.



- Insert the flash drive into a USB port on the NVR.
- Left click USB Upgrade in the upgrade interface and confirm the upgrade.

#### 5.10.4.3 Upgrade via Web Browser

To upgrade via remote web browser follow these steps:

- Enter the NVR IP address into the web browser and login to the system.
- Select Configuration at the top of the screen and then select Maintenance from the list on the left of the screen. Select Browse to locate the upgrade file on the computer. Select the file and then select Upgrade.

#### 5.10.5 Import Export

Go to [Main Menu] → [System Maintenance] → [Import Export] to enter the import and export interface.

This interface allows the settings of one NVR to be copied to another NVR. A USB flash drive is required to use this feature. Only the GW3216E-16P & GW3232E-8S support this feature.

#### 5.10.6 Schedule Restart

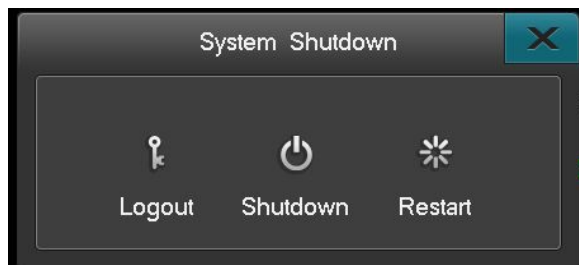
Go to [Main Menu] → [System Maintenance] → [Schedule Restart] to enter the scheduled restart interface.

This interface allows a specific time and day to be set for the system to automatically restart.

#### 5.10.7 System Shutdown

Go to [Main Menu] → [System Maintenance] → [System Shutdown] to enter the system shutdown sub-menu.

This sub-menu allows the current user to logout, for the system to be shutdown, or for the system to be restarted.



## 6. Right-click Quick Menu

To access the Quick Menu, right click anywhere on the live view of the NVR interface.





The Quick Menu allows for rapid access to a number of NVR features. Some of these features can already be found in the main menu.

## 6.1 Data Inquiry

Left click to open the data inquiry menu (see 5.2).

## 6.2 Single Snapshot

Left click to take a single screenshot of the currently selected live view channel. This feature functions exactly like manual snapshots.

## 6.3 PTZ Control

Left click to open the virtual PTZ console. The virtual PTZ console can be used to control any compatible PTZ camera connected to the NVR while in that channel's live view.



## 6.4 Digital Zoom

Left click to enable 2x to 4x digital zoom on the live view of the selected channel.



## 6.5 Video Adjust

Left click to open the video adjust menu (see 5.7.3.1).

## 6.6 Output Mode

Left click to open the output mode menu (see 5.7.3.3)

## 6.7 Preview Effect

Left click to open the live view preview effect menu. Select the desired live view priority.

- Realtime Prior: Small delay in display time of video. Video may display slightly choppy.
- Fluency Prior: Larger delay in display time of video. Video will be smoother.
- Balanced: This option strikes a balance between video delay and smoothness.

## 6.8 Shutdown

Left click to open the system shutdown menu (see 5.10.7).

## 6.9 Open Poll

Left click to manually enable channel sequencing when the live view is not locked out.

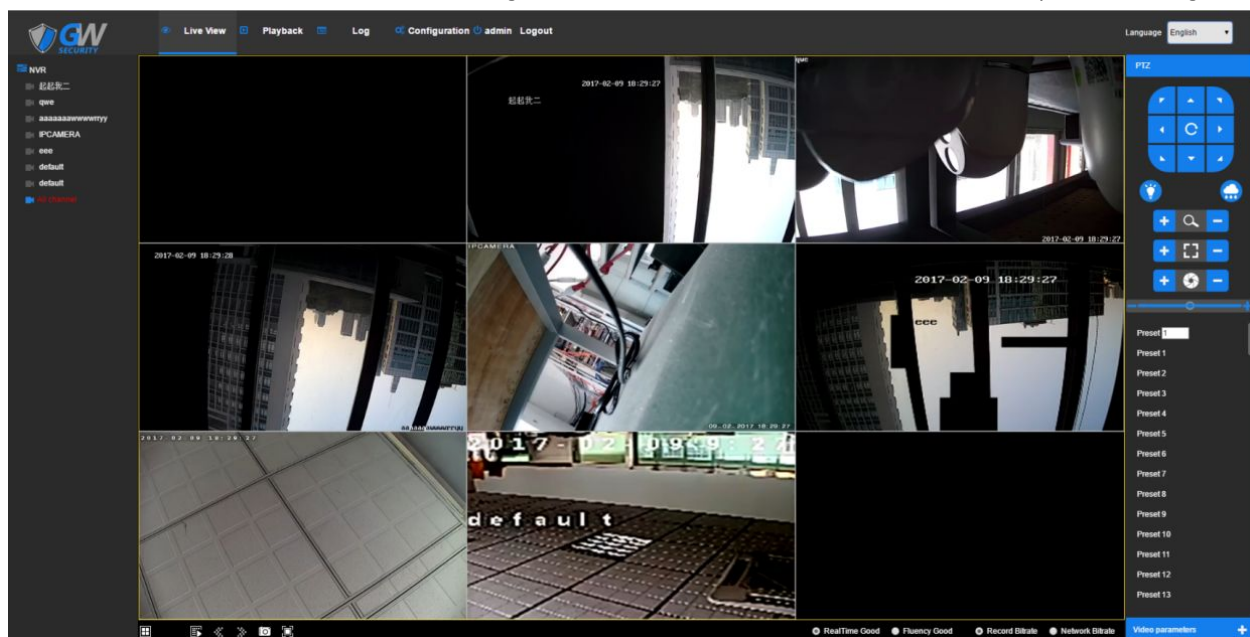
## 6.10 Main Menu

Left click to open the main menu (see 5.).

# 7. NVR Remote Access

The NVR is capable of remote access via a LAN (local area network) or WAN (wide area network).

DirectX 9.0 or higher, Internet Explorer version 6.0 or newer, and Adobe Flash Player is required. Disable or uninstall any browser add-ons if the web interface is not behaving as it should. If connection errors occur then lower any firewall settings.





## 7.1 Remote Access via LAN

To access the NVR over LAN follow these steps:

- Ensure the computer is connected to the same network as the NVR.
- Open a web browser program and enter the NVR's IP address into the navigation bar. The IP address of the NVR can be located in Device Information (see 5.9.1).

## 7.2 Remote Access via WAN

The NVR can be accessed via a WAN by three different methods.

**Method 1:** If there is a static WAN IP address available, the user can assign the static IP to the NVR and access the NVR directly using the static IP address from a browser, smartphone app, or client software. However, this is not recommended because the NVR does not have a firewall and direct Internet access opens the NVR to attacks.

**Method 2:** If there is PPPOE connection available, go to [Main Menu] → [Settings Management] → [Network] → [PPPOE] to enter the interface (see 5.7.4.3). Once all the information is entered, use the IP address provided by your PPPOE provider to access the device using a browser, smartphone app, or client software.

**Method 3:** Port forward the device on a router, then connect through the WAN IP address using a browser, smartphone app, or client software.



## 8. Specifications

Model		GW-NVR3208E/NVR2208E-8P	GW-NVR3216E/NVR3216E-16P	GW-NVR3232E-8S
Video/Audio input	IP video input	8 Ch.	16 ch.	32 Ch.
		Up to 12 MP for the first 2 Ch., up to 8MP for the rest		
	IP audio input	8 Ch.	16 Ch.	32 Ch.
	Two-way audio	1x RCA (2.0 Vp-p, 1 k $\Omega$ )		
Network	Incoming	ONVIF, RTSP		
		160Mbps		320Mbps
	Outgoing	CGI, RTSP, RTMP(Only for H.264)		
		160Mbps		320Mbps
Video/Audio output	Recording resolution	Up to 12 MP for the first 2 Ch., up to 8MP on other channels.		
	HDMI output	4K (3840x2160)/60Hz, 1080p (1920x1080)/60Hz, 720p (1280x720)/60Hz, UXGA (1600x1200)/60Hz, 1280x1024/60Hz		
	VGA output	1080p (1920x1080)/60Hz, 720p (1280x720)/60Hz, UXGA (1600x1200)/60Hz, 1280x1024/60Hz		
	Audio output	1x RCA (Linear, 1 k $\Omega$ )		
Decoding	Decoding standard	H.265 / H.264		
	Live view/Playback resolution	Up to 12 MP for the first 2 Ch., up to 8MP on other channels.		
	Synchronous playback	All Ch. Synchronous playback		
HDD	SATA	2x SATA interfaces for 2 HDDs		
	Capacity	Up to 8TB capacity for each HDD		
External interface	Network	1x 10/100Mbps self-adaptive RJ45 interface		
	USB	Front panel: 1x USB2.0, Rear panel: 1x USB3.0		
	Alarm	4 in / 1 out		
	RS-485	N/A		
PoE	Interface	PoE Option (8xPoE RJ45 IEEE802.3af/at)	PoE Option (16xPoE RJ45 IEEE802.3af/at)	SDA Port: 8x 10/100Mbps RJ45 interfaces. Up to 32 Ch., up to 8 Ch. for each SDA interface



	Max. Power	120W	240W	N/A
General	Power supply	12V 40W		
	Operating conditions	Temperature: -10°C to 55°C (14°F to 131°F) Humidity: 10 to 90%		
	Dimensions (WxLxH)	340 x 217.6 x 77mm (13.8" x 8.5" x 3")		