



*Smart HVR*  
*Smart NVR*  
*Smart PVoC*



The Smart HVR/NVR/PVoC are specially designed for the security area and are an exceptional digital surveillance product.

It incorporates the integrated operating system of LINUX, which is more stable. Introduces the standard H.265+ compressed video format and G.711A compressed audio format, which ensures high image quality and low coding error. Solid network services significantly improve the network's data transmission capacity and remote control capabilities.

## **PART ONE: BASIC OPERATION**

### Basic Installation

#### Hard Disk Installation

To use for the first time, please install the hard drive.

Note: Smart HVR/NVR/PVoC can operate and monitor normally without a hard disk, but you will not be able to record or play back.

#### Mouse connection

The digital video recorder has two USB on the back panel; Both can be used for mouse, pendrive, 3G and WIFI module, mobile HDD and USB HVR-RW.

#### On

Plug in the power cord and turn on the power switch. When the indicator light comes on, the video recorder is turned on.

By default the system will display a multi-window display.

Note: After an incorrect disconnection of the equipment, the HVR/NVR/PVoC will resume the state prior to disconnection.

Off

There are two ways to disconnect the HVR/NVR/PVoC:

A) (Soft switch) entering [Main Menu] - [Logout] - [Clear]

B) (Hard switch) by pressing the power switch, located on the back of the HVR/NVR/PVoC (some models don't have power switch).

Note: Before changing the battery, the settings must be saved; Otherwise, the information will be lost.

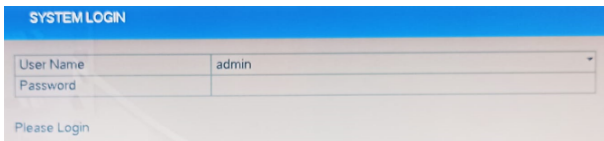
### Access

When starting the HVR/NVR/PVoC, the user must log in and the system will provide the corresponding functions with the user privilege.

The password for the user "admin" is "siera".

The user "admin" has all control privileges.

Password protection: If the wrong password is entered three times, the alarm will be triggered. If the wrong password is entered five times, the account will be locked. (By restarting or after half an hour the account will be automatically unlocked).



The screenshot shows a web-based login interface titled "SYSTEM LOGIN" in a blue header. Below the header, there are two input fields: "User Name" and "Password". The "User Name" field contains the text "admin". Below these fields, the text "Please Login" is displayed. The interface has a light gray background with a subtle grid pattern.

Figure 1 - Login

User: **"admin"** Password: **"siera"**

For system security, modify your password after logging in for the first time.

## 1 Viewing

Enter normally and from the menu choose the display mode.

The date, time and channel name are displayed in all windows (full screen), as well as video and alarm status.





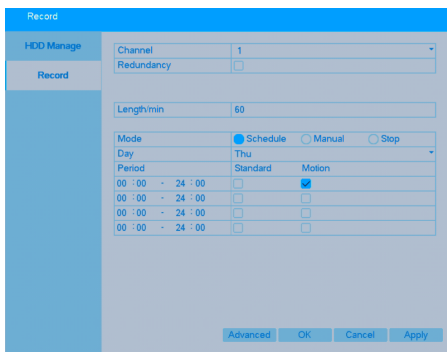
1		Recording	3		Loss video
2		Motion Detect	4		Video Lock

Table 1 - Preview icons

## Recording settings

Set the recording mode for each channel. To do so, enter the [Main Menu] - [Rec.] - [Rec.]. By default the system will record for 24 for "Motion Detection".

Note: There must be at least one hard disk in read-write mode for the HVR/NVR/PVoC to record normally.



The screenshot shows the 'Record' settings window. On the left is a sidebar with 'HDD Manage' and 'Record' (selected). The main area contains the following settings:

- Channel:** A dropdown menu set to '1'.
- Redundancy:** A checkbox that is currently unchecked.
- Length/min:** A text input field set to '60'.
- Mode:** Three radio buttons: 'Schedule' (selected), 'Manual', and 'Stop'.
- Day:** A dropdown menu set to 'Thu'.
- Period:** A table with two columns: 'Standard' and 'Motion'.

Period	Standard	Motion
00 : 00 - 24 : 00	<input type="checkbox"/>	<input checked="" type="checkbox"/>
00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>
00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>
00 : 00 - 24 : 00	<input type="checkbox"/>	<input type="checkbox"/>

At the bottom right are four buttons: 'Advanced', 'OK', 'Cancel', and 'Apply'.

Figure 2 - Recording Settings

[Channel] Choose the appropriate channel number to set.

If you want to select all channels, select "All" in "Channel".

[Redundancy] If you have another disc in redundant mode, you can select to have the channel recorded on both discs at the same time.

[Duration] Set the duration time of each video file. The default is 60 minutes.

[Pre-recorded] Record between 1 and 30 seconds before the action. (The duration of the file is decided by the code stream).

[Mode] Sets the recording mode:

Schedule: Records depending on schedule and events marked Manual: Records all the time

Close: Stops recording

[Period] Sets the recording time range of the selected mode. Recording will start only within the set range.

[Recording Types]

Schedule: In the selected period the recording will be continuous. The type of file generated in the search is indicated by "R".

Motion: In the selected period the recording will be by "Motion Detection" in the video. Also (if active) involves the events of "Mask" and "Video Loss". The type of file generated in the search is indicated by "M".

Alarm: In the selected period the recording will be by physical "Alarm Input". The type of file generated in the search is indicated by "A".

Video Playback

There are two methods of playing video files:

1. In the shortcut menu of the "Play" desktop,
2. Main Menu> Recording> Play.

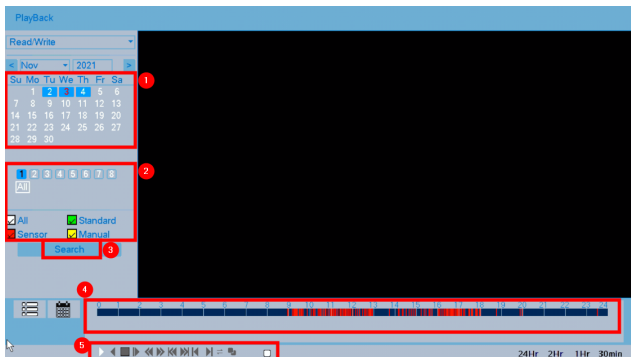












Figure 3 - Video Playback

1. Calendar of Recordings
2. Selection of channel and event
3. Search of Recording
4. Graph of recording
5. Playback control

1. [File Option] Selects the playback / backup file.
2. [File Information] Start Time, End Time, and File Size

Note: File backup requires sufficient storage space.

1. [File Search] Searches the file according to the search parameter
2. [File Backup] Backs up files from the hard drive to another drive
3. [Operation Track] Displays the function of the cursor location.
4. [Playback Control] For more information see the following table.

Button	Function	Button	Function
	Playback/Pause		Backward
	Stop		Slow Play
	Previous Field		Quick Play
	Next Field		Previous File
	Playback Repeat		Next File
	Full Screen		

**Table 2 - Playback control key**

***Note: Frame-by-frame playback is performed only in the playback "pause" state.***

## 1 Special Functions:

**Faithful playback:** enter the time (h / m / s) in the time column and then press play.

**Local Zoom:** When the system is in single window full screen playback mode, you can drag the mouse in the window to select a section and then press the left mouse button to zoom in on that part. To exit, press the right mouse button.

## Network Settings



Network	
Network	Net Card Wire Netcard
	DHCP Enable <input type="checkbox"/>
DDNS	IPVersion IPv4
	IP Address 192 - 168 - 1 - 233
UPNP	Subnet Mask 255 - 255 - 255 - 0
	Gateway 192 - 168 - 1 - 99
EMAIL	Primary DNS 8 - 8 - 8 - 8
Cloud	Secondary DNS 8 - 8 - 4 - 4
	Network Testing
Wi-Fi	TCP Port 3333
	HTTP Port 80
3G/4G	Mobile Port 3334
	MTU 1500
Net Service	HS Download <input type="checkbox"/>
	Transfer Policy Quality Preferred

OK Cancel Apply

Figure 4 - Network Configurations

Making the Network Settings via the Main Menu> System> Network Settings.

[IP] The default IP address is 192.168.1.250.

[Mask] The default is 255.255.255.0.

[Gateway] Default is 192.168.1.1. The IP address of the computer and the router are on the same network segment.

For example, if the IP address of the router is 192.168.1.1. And the subnet mask is 255.255.255.0, according to the default configuration, usually the default access is the IP address of the router; Therefore, enter the IP address 192.168.1.250 in the IE browser to get the computer through the LAN. (For configuration details see "Configuration Details Reference").

### Configuration of Detection

Sensor	
Motion Detect	Channel: 1
	Enable: <input checked="" type="checkbox"/>
Video Blind	Sensitivity: Highest
Video Loss	Region: Set
	Period: Set
Abnormality	Interval/Sec: 1
	Record delay/Sec: 10
	Record Channel: 1 2 3 4 5 6 7 8
	Tour: 1 2 3 4 5 6 7 8
	PTZ Activation: Set
Other Setting	<input type="checkbox"/> Show Message <input checked="" type="checkbox"/> Send Email <input type="checkbox"/> Buzzer <input type="checkbox"/> FTP upload

Advanced OK Cancel Apply

Figure 5 - Motion Detection

**Note:** You can link the PTZ functions to the HVR/NVR/PVoC, so that when the HVR/NVR/PVoC detects motion the PTZ executes a function, ex Preset.

To do this go to: Alarm, Config, and PTZ, select the function for the dome and press "OK".

#### Configuration:

Step 1. [Main Menu] - [Alarm] - [Config Detect], then enter the setup screen.

Step 2. Choose a channel and adjust the sensitivity level; Then set the "Time" recording time. Set the detection area: press the "set" button, choose the areas you want. "Defect" means choosing all areas; Then right click on "set".

Step 3: When in the alarm state, the HVR/NVR/PVoC can measure the shots. Alarm signal, recording, tour, PTZ camera activation, picture, message display, send email and buzzer.

Step 4. Set the alarm parameters for other channels by following steps 2 and 3.

Note: Video lock, video loss and alarm input configuration method are similar to motion detection.

#### PTZ Camera Control

The PTZ camera can be easily operated by the following steps:

Step 1. Configure basic parameters such as channel and protocol [Main Menu] - [System] - [PTZ Setup]

Step 2. In the display, enter the menu and select "PTZ Control".

Step 3. One of the methods is with the right mouse button choose "PTZ Control" and perform the general operation. The other method is with the right mouse button choose "PTZ". Press the left button and move it to directly control the direction of the PTZ camera. Use the mouse wheel to zoom in or out.

## **SECOND PART: REMOTE CONTROL**

#### Network Connection

Step 1. Before starting to operate the equipment, connect it correctly to the internet.

Step 2. Configure the Local Area Network (LAN) as described in section 9 Network Settings in the first part of this manual.

Step 3. Once the LAN is connected, the port mapping must be configured for public access to the internet.

Step 4. Applying DDNS (Dynamic Domain Name System) You can request the DDNS at <http://www.sieraddns.com>

Step 5. DDNS Configuration. Make sure you enter the correct information in the Main Menu-> System-> Network Services-> DDNS.

Note: The computer must be on the same network as the computer. If the connection is not successful, verify that the IP of the computer is working well through the Ping command on a DOS console.

Remote Monitoring - After connecting to the network, remote monitoring can be done in two ways: through the client software and / or through a browser. Client software (VMS Siera) is a professional software used in the monitoring of several computers. It is safe, convenient and stable. For being the best, is the one we recommend to use. The recommended search engine for Web visualization is IE.

#### Client Software

The VMS Siera is used on one computer and can operate multiple HVRs at the same time. (For more information see the VMS manual) Step 1. Download the VMS software from Siera Download Center <http://software.siera.tv>

Step 2. After installing this software on the local computer, open the "VMS Siera", add computers as follows: [Devices] - [Add] enter the information of the HVR/NVR/PVoC that you want to manipulate following the indications. This way you can handle any equipment you specify. And the method is the same as the network management. Step 3. Repeating this operation, you can add several HVR/NVR/PVoC to monitor.

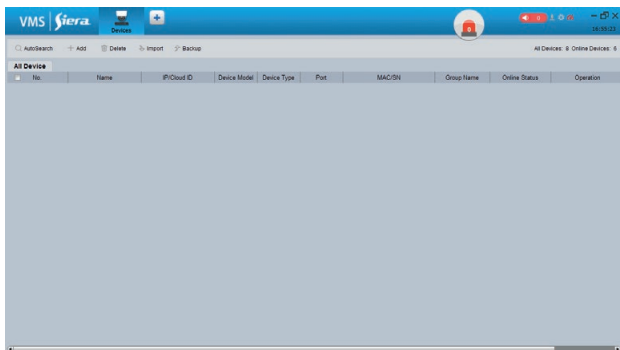


Figure 6 - VMS Siera

## Web

After the HVR/NVR/PVoC turns on it is possible to access it through a web browser like IE.

## Process:

Open IE, in the address bar enter the IP address of the HVR/NVR/PVoC. For example, if the computer's IP address is 192.168.1.250, you must enter <http://192.168.1.250> in the address bar to connect.

When the connection is reached the following screen appears in the image 8.

Note: When you log in for the first time, you will see the following screen:

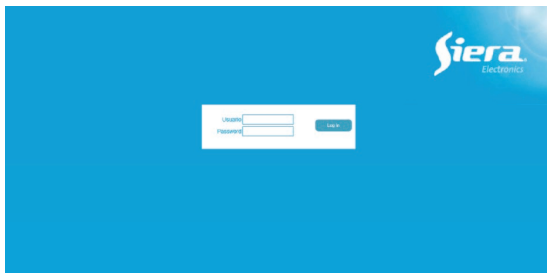


Figure 7 - Web Login Screen

Login - Enter username and password. The user name that appears by default is "admin", and the password is "siera". It is advisable that the user change the password after entering (if you choose "LAN", the stream used by default for the display will be the main stream (High Quality)).

If you choose "WAN", the stream used by default for the display will be the stream Secondary (Low Quality).

Once you enter the system you will see the following screen:

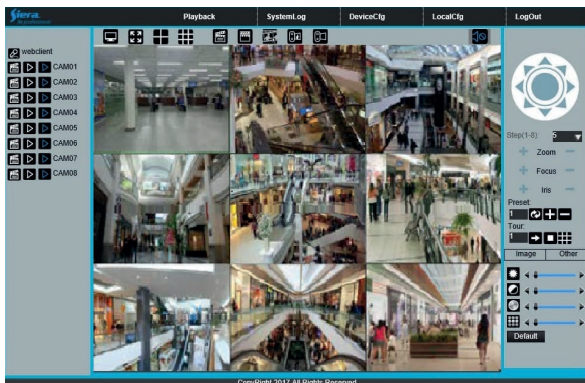


Figure 8 - Web operation screen

## Basic Operation

Functions of the Web interface.

- 1) Screen Division - Selects the display mode
- 2) Playback - Allows simultaneous playback of multi channel recording
- 3) Log - Displays event log information
- 4) Local Configuration - Alarm and System Configuration

### Channel Operation - Channel Display

With the left mouse button choose a central display mosaic window, then choose the channel you want to display located on the left bar. The icon > will open the video in its entirety (Main Stream). The icon > will open the video in its lowest quality (Extra Stream).

Use the same method to open other channels. The user can adjust the picture mode on the open video channels.

Closing the channel. Press the right mouse button on the channels you want to close. Or choose to close all windows to close the open video channels.

## **PART THREE: SPECIAL FUNCTION**

Smart HVR/NVR/PVoC has a more personalized design and better operation of visualization, image enlargement in live visualization or in recording, configurable image adjustment by time of start and end, upload to FTP, modules 3G and WIFI.

Encoding Settings - the HVR/NVR/PVoC achieves high-quality playback and remote monitoring by configuring encoding parameters.



Figure 9 - Encoding Configuration

Encoding settings for each channel

Step 1. Local Operation: [Main Menu] - [System] - [Encoding]

Step 2. Choose a channel 1, set the resolution to 1080P (27fps, High Quality)

Step 3. Choose channel 2, set the resolution as D1 (3fps, Low Quality). Copy the configuration.

Step 4. Choose channel 3, choose the location "Advanced"; Then choose "Paste." Channel 4 is operated in the same way as channel 3

Step 5. Click "OK", then exit

Note: Standard parameters between resolution and kb / s.

Resolution	Kb/S
D1	512~2560
HD1	384~2048kbps
CIF	64~1024kbps
QCIF	64~512kbps

Extra Stream Configuration - The "Extra Stream" is used for the monitoring of user and mobile monitoring.

Step 1 Enable "Extra Stream"

Step 2 Set frame and bit rate; The mode of operation is the same as that of the main stream

Simultaneous multi-channel playback

This HVR/NVR/PVoC introduces the latest combined coding technique that allows you to display all channels simultaneously

A four-channel HVR/NVR/PVoC allows simultaneous playback of four channels; An eight-channel HVR/NVR/PVoC allows simultaneous playback of eight channels. And the possibility of choosing the channel number to be played

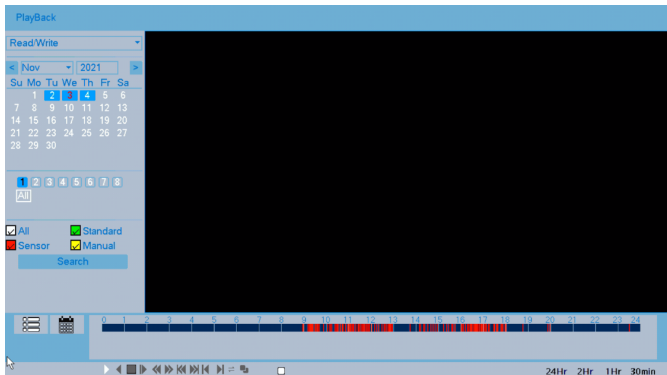


Figure 10 - Video Playback

Step 1. Set the encoding parameter of each channel as follows: [Main Menu] - [System] - [Encoding]

Step 2. Enter the video playback screen, press the Search button

Step 3. Choose the file type and time period, then press OK on the Search Condition screen

Step 4. Choose the recording file, then press Play or double-click the file to play on the playback screen

1 Real-time multi-channel remote monitoring - Introduces extra stream techniques for simultaneous multi-channel remote monitoring in low bandwidth conditions (low network speed)

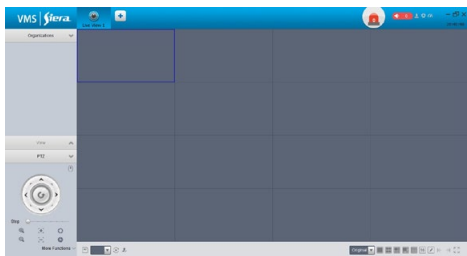


Figure 11 - VMS screen

Step 1. Enable the extra stream (Main Menu -> System -> Encoding Step 2. Open VMS, and then log in

Step 3. After adding computers, right click on the computer name to select "View all Main Stream"

1 Mobile monitoring - Introduces extra stream techniques during mobile monitoring

Step 1. HVR/NVR/PVoC setup, go to Main Menu-> System-> Encoding-> Extra Stream, enable

Step 2. Configure the mobile monitoring: Main Menu-> System-> Network Service-> Mobile Setup, "Enable"

Note: first map the mobile monitoring port on the router, then you can enter the mobile.

Step 3. Install the mobile monitoring program which you can download from "Google Play" or "App Store". Search for the "iSMS 6.0" application.

Step 4. After the program is installed, run it.

Step 5. Go to "Devices" and press "+" located in the upper right corner. A new "Add Device" window will open, enter the data:

Name: Name you want to give to the HVR/NVR/PVoC

Address: IP address or DDNS that has configured the HVR/NVR/PVoC

(Note: Keep in mind that you have to have the mobile port open on the router)

Port: Mobile data port (Default 3334)

User: HVR/NVR/PVoC User (Default "admin")

Password: User password of the previous step (default "siera")

Channel Number: Selection of channels quantity of the HVR/NVR/PVoC.

To end press "Done"

Note: The HVR/NVR/PVoC must be connected to the public network during mobile monitoring.

2 Flexible File Storage and Backup - The HVR/NVR/PVoC features various storage and backup techniques for multiple storage and backup modes  
Real-time storage

Redundant storage. The HVR/NVR/PVoC presents the technique of storage RAD 1 to obtain the simultaneous storage in two hard disks and the mutual support USB HDD and mobile hard disk. The HVR/NVR/PVoC introduces the storage technique with support of video files that are stored in real time storage devices.

DVD-RW. The HVR/NVR/PVoC introduces the latest real-time storage technique, with support for video files that are recorded on the CD in real time Remote real-time storage. The HVR/NVR/PVoC allows real-time storage on remote user's computing devices (Disk C / D / E / F).

File Download

Using a USB stick and / or USB hard drive on the local device, the HVR/NVR/PVoC allows the selected file to be backed up at high speed on storage devices DVD-RW discs. The HVR/NVR/PVoC allows the chosen video file to be

recorded and stored on the CD / DVD

The HVR/NVR/PVoC allows the high speed download of the file chosen in the remote user.

## Appendix. Mouse Operation

\* Take the right hand as an example

Operation	Function
Double click on left button	Double click on an item in the file list to play the video Double-click the video you are playing To zoom in or out
	Double click on the channel to show full screen in preview. Double-click again to resume multi-channel viewing.
Left Button	Choose the corresponding option from the menu
Right Button	The shortcut will be displayed in the preview state.
Wheel button	
	Exchanging the elements of the combination box
	Move up or down the list
Move the mouse	Choose the widget or move the item in the Widget
Drag the mouse	Set the motion detection area
	Set the coverage area