

Quick Start Guide

Hybrid DVR

DS-9016HFI-ST, DS-9016HWI-ST

NVR

DS-96xxNI-ST/RT

Plug 'n Play NVR

DS-77xxNI-SP

Note: For more information refer to the complete User Manual located on the CD-ROM

OVERVIEW

1. Overview
2. Main Menu Layout
3. Formatting the HDD
4. Setting up Time/Date
5. Setting up The Network
6. Adding IP Cameras (Non-POE Models)
7. Setting up Recording
8. Configuring the Mobile APP
9. Playing Back Recorded Video
10. Making a Backup

Please connect a monitor and a USB mouse (supplied) to the DVR/NVR for configuration purposes

1. OVERVIEW

WHAT'S IN THE BOX

THE BOX CONTAINS:



DVR/NVR/Hybrid



USB Mouse



IR Remote
(Batteries not included)



Power Cord



Hard Drive Mounting
screws and brackets



Hard Drive
(Preinstalled)



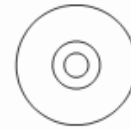
Hard Drive Cables



Rack Mount Ears



Quick Start Guide



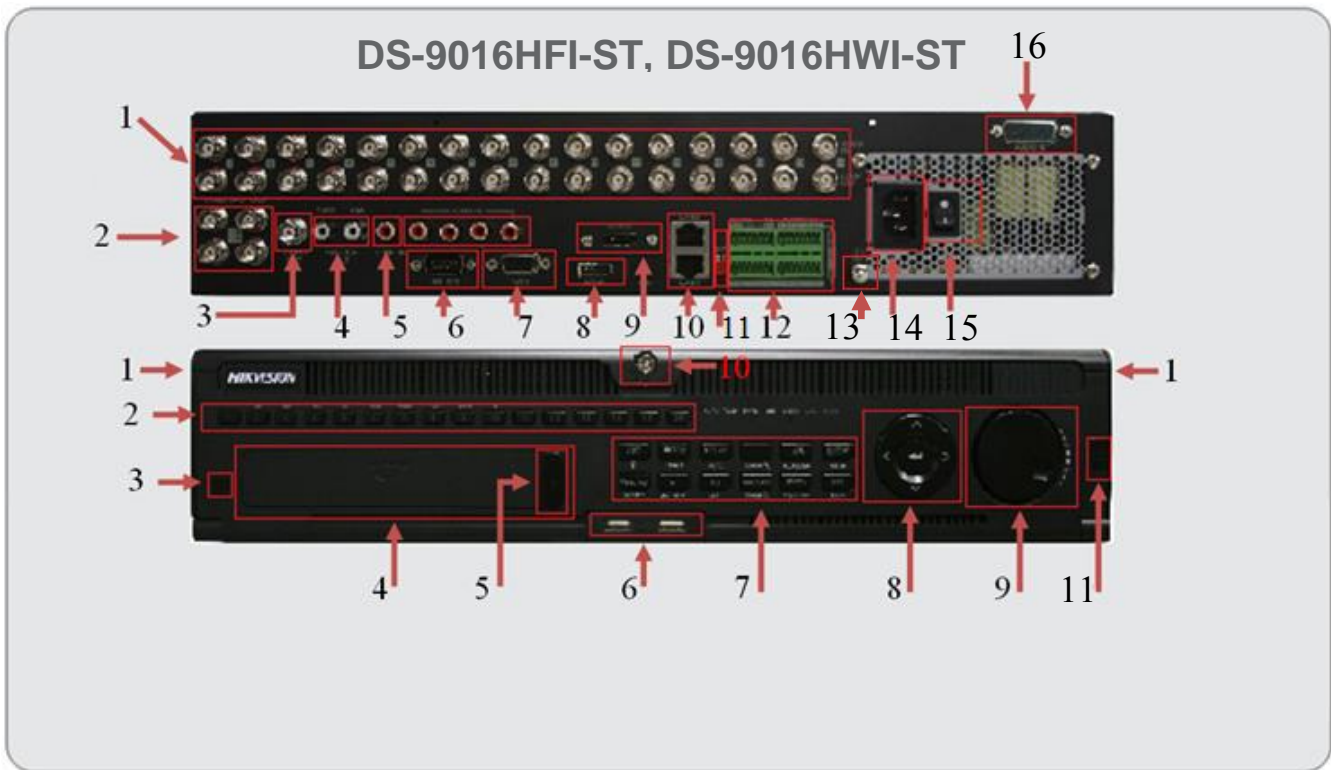
Manual/Software CD

Please note, that the Quick Start Guide is compiled for the latest firmware versions. Please upgrade the firmware of the DVR/NVR to the latest version before proceeding. Also note, that the CD may contain outdated manuals and software.

For latest firmware, manual and software downloads please visit:

www.hikvision.com/en/us/download.asp

FRONT AND REAR VIEW

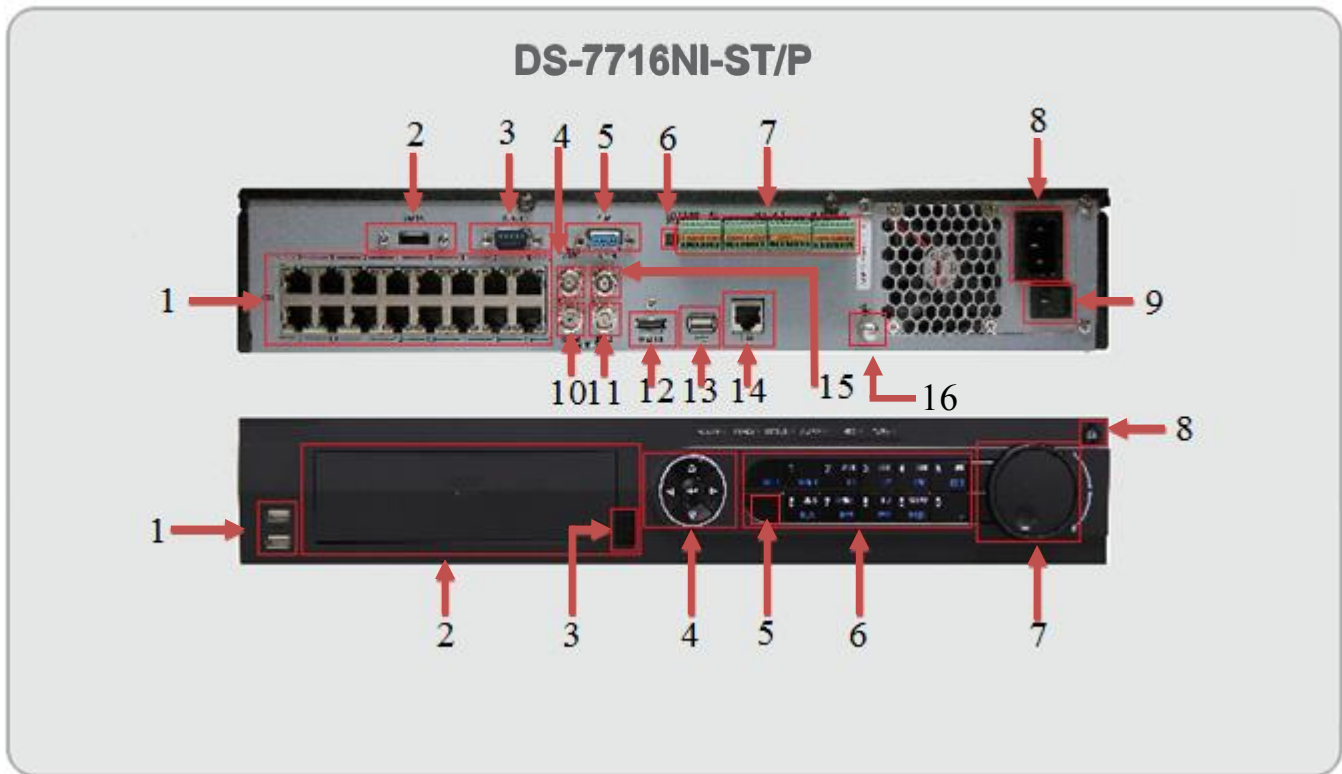


REAR VIEW

FRONT VIEW

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Analog Camera Inputs 2. Spot Monitor Outputs (x4) 3. BNC Monitor Output (x1) 4. Audio Out for BNC and VGA 5. Line Input (for 2 way audio) 6. RS-232 7. VGA Monitor Output (x1) 8. HDMI Monitor Output (x1) 9. e-SATA Port 10. RJ-45 Network Ports (x2) 11. "RESERVED" 12. Alarm In/Out, RS-485 Pins 13. Grounding Post 14. Power Plug 15. Power Switch 16. Additional Audio Inputs for channels 5-16 | <ol style="list-style-type: none"> 1. Front Panel Release (to expose HDDs) 2. Alpha-Numerical Buttons (1-16) 3. IR Receiver 4. DVD-RW Drive (Optional) 5. DVD-RW Eject Button 6. USB Ports (x2) 7. Control Buttons 8. Directional and Enter Buttons 9. Jog Control 10. Front Panel Lock 11. Power Button |
|--|---|

FRONT AND REAR VIEW



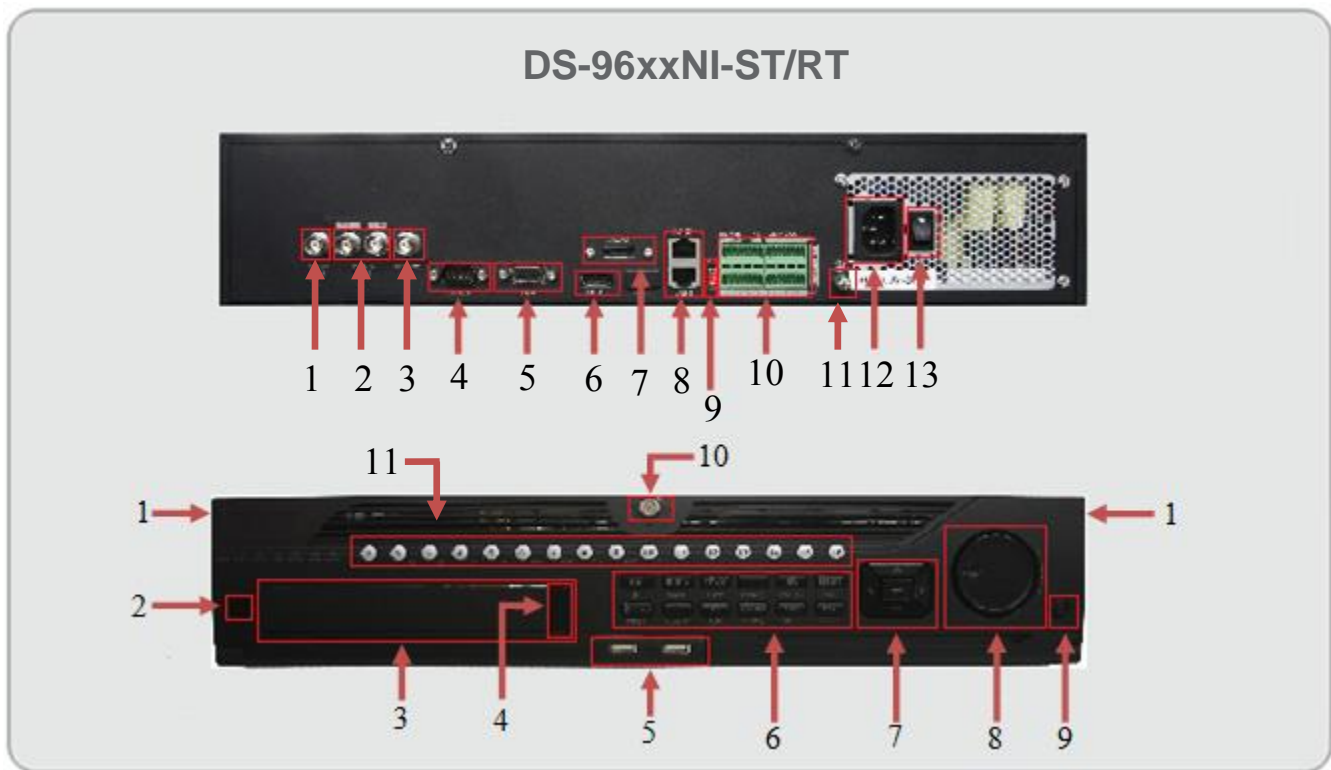
REAR VIEW

FRONT VIEW

1. Built in POE Ports (x16)
2. e-SATA Port
3. RS-232
4. BNC Monitor Output
5. VGA Monitor Output
6. "RESERVED"
7. Alarm In/Out, RS-485 Pins
8. Power Plug
9. Power Switch
10. Audio Out for BNC
11. Audio Out for VGA
12. HDMI Monitor Output
13. USB Port (x1)
14. RJ-45 Network Port
15. Line Input (for 2 way audio)
16. Grounding Post

1. USB Ports (x2)
2. DVD-RW Drive (Optional)
3. DVD-RW Eject Button
4. Directional and Enter Buttons
5. IR Receiver
6. Control Buttons
7. Jog Control
8. Power Button

FRONT AND REAR VIEW



REAR VIEW

FRONT VIEW

1. BNC Monitor Output (x1)
2. BNC and VGA Audio Output (x2)
3. Line Input (for 2 way audio)
4. RS-232
5. VGA Monitor Output (x1)
6. HDMI Monitor Output (x1)
7. e-SATA Port
8. RJ-45 Network Ports (x2)
9. "RESERVED"
10. Alarm In/Out, RS-485 Pins
11. Grounding Post
12. Power Plug
13. Power Switch

1. Front Panel Release (to expose HDDs)
2. IR Receiver
3. DVD-RW Drive (Optional)
4. DVD-RW Eject Button
5. USB Ports (x2)
6. Control Buttons
7. Directional and Enter Buttons
8. Jog Control
9. Power Button
10. Front Panel Lock
11. Control Buttons

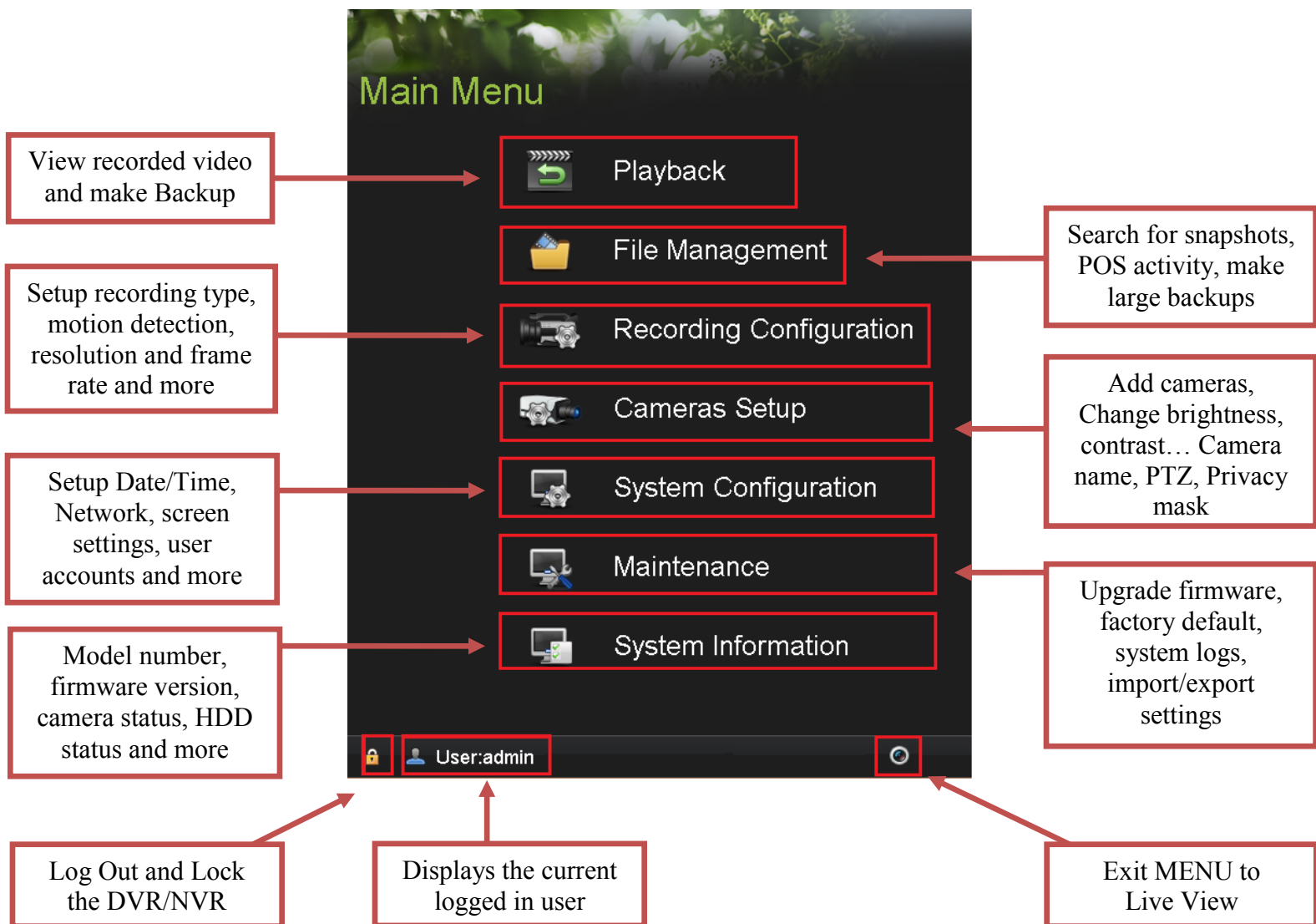
2. MAIN MENU LAYOUT

MAIN MENU LAYOUT

DEFAULT USERNAME: **admin** DEFAULT PASSWORD: **12345**

(Please note, that the username and password are case sensitive)

IT IS STRONGLY RECOMMENDED TO CHANGE THE DEFAULT PASSWORD



3. FORMATTING THE HARD DRIVE

FORMATTING THE HARD DRIVE

If the Hard Drive(s) (HDD) is not formatted (initialized), the DVR/NVR will begin to beep. The beeping will continue until the HDD is formatted. To format the HDD, go to:

“MENU” > “SYSTEM CONFIGURATION” > “HDD”

Select the HDDs that need to be formatted, and press “INIT”

The screenshot shows the 'System Configuration' interface with the 'HDD' tab selected. The table below shows the following data:

Label	Capacity	Status	Property	Type	Free Space	Group	Edit	Delete
5	465.76GB	Sleeping	R/W	Local	0MB	1	/	-
6	465.76GB	Sleeping	R/W	Local	0MB	1	/	-
7	465.76GB	Normal	R/W	Local	15.7GB	1	/	-
8	465.76GB	Sleeping	Redundancy	Local	465GB	1	/	-

Below the table, the 'Total Capacity' is 1,863GB and 'Free Space' is 622GB. The 'Init' button is highlighted in red.

List of HDDs

Total HDD Space

Free Space

Please Note:

**Units purchased with HDDs,
already come with formatted
HDDs**

**Formatting the HDDs also erases
the recorded video from the HDDs
(this does not affect the settings).**

4. SETING UP DATE/TIME

DATE AND TIME SETUP

To setup the Time and Date on a DVR/NVR, please go to:

“MENU” > “SYSTEM CONFIGURATION” > “GENERAL”

The screenshot displays the 'System Configuration' interface with the 'General' menu item selected. The 'Time/Date' tab is active, showing the following settings:

- Time/Date**
 - Date Format: YYYY-MM-DD
 - System Date: 2014-07-18
 - System Time: 15:40:03
- Time Zone**
 - Time Zone: (GMT-08:00) Pacific Time ()
 - Enable DST: Customize
- Enable NTP**
 - Interval (min): 0
 - NTP Server: [Empty field]
 - NTP Port: 0

Red arrows from callout boxes at the bottom point to these settings:

- Date and Time settings** points to the System Date and System Time fields.
- Time Zone and Daylight Savings Time settings** points to the Time Zone dropdown and the Enable DST checkbox.
- NTP Settings** points to the NTP Server and NTP Port input fields.

5. SETTING UP THE NETWORK

SETTING UP NETWORK ACCESS

Networking a DVR/NVR requires 3 steps:

1. Assign an **IP address, Default Gateway, Subnet Mask, and a DNS server (Please note: DNS, not DDNS)** to the DVR/NVR
2. Forward the appropriate ports on the router (**Port Forwarding**).
3. Register **DDNS** (DDNS registration is required only if the public IP address is Dynamic).

To assign an **IP ADDRESS**, go to “MENU”>”SYSTEM CONFIGURATION”>”NETWORK”

The screenshot shows the 'System Configuration' interface with the 'Network' tab selected. The 'General' sub-tab is active, showing various network settings. Red callout boxes point to specific fields: 'General' points to the top navigation bar; 'Working Mode' points to the 'Multi-address' dropdown; 'Default Route' points to the 'LAN1' dropdown; 'Enable DHCP' points to the checked checkbox; 'Select NIC' points to the 'LAN1' dropdown; and 'IP CONFIGURATION' points to the IPv4 address field.

Field	Value
Working Mode	Multi-address
Select NIC	LAN1
NIC Type	10M/100M/1000M Self-ada
Enable DHCP	<input checked="" type="checkbox"/>
IPv4 Address	192.0.0.64
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	
MTU(Bytes)	1500
DNS Server	
Preferred DNS Server	
Alternate DNS Server	
IPv6 Address 1	
IPv6 Address 2	
IPv6 Default Gateway	
MAC Address	00:40:48:bf:e3:2d

IP CONFIGURATION

- Please note that the DVR/NVR have a default IP Address set to **192.0.0.64**

SETTING UP NETWORK ACCESS

Working Mode, Select NIC and Default Route do not exist in the DS-7716NI-SP/16 Plug-n-Play NVR

Working Mode sets the binding method between the 2 network cards.

Working Mode has 3 modes:

- **Net Fault-tolerance** (Both LAN ports need to be connected to the camera network. In case one LAN port fails, the other one will take over the connection. This is a Network Redundancy Mode)
- **Load Balance** (Both LAN ports need to be connected to the camera network. The LAN cards split the network load. This is recommended for DS-9664NI-ST/RT)
- **Multi-Address** (In this mode the LAN cards operate independently from each other. One LAN port will connect to the camera network, the other LAN will connect to the Router for remote access).

Default Route determines which LAN port is used for accessing the DVR/NVR and not used to connect to IP cameras

For DVRs/NVRs with 32 channels or less, set the **Working Mode** to **MULTI-ADDRESS** (For this to take effect, please **restart** the DVR/NVR).

On the back of the DVR/NVR there are 2 LAN ports. The **bottom port is LAN1**, the **top port is LAN2**. Connect **LAN1** to the Router for remote access and connect **LAN2** to the POE switch with the cameras.

Step 1.

Set the **Default Route** to **LAN1**.

Step 2.

From the “SELECT NIC” dropdown select **LAN1**.

Step 3.

Enable DHCP (check the checkbox). Press “**APPLY**” and then press “**REFRESH**”

Step 4.

After pressing refresh, the **IPv4 Address**, **IPv4 Subnet Mask** and **IPv4 Default Gateway** will have new values.

Step 5.

Disable DHCP (uncheck the checkbox)

SETTING UP NETWORK ACCESS

The screenshot shows the 'System Configuration' interface with the 'Network' tab selected. The 'General' sub-tab is active. The 'Working Mode' is set to 'Multi-address'. The 'Select NIC' dropdown is set to 'LAN1'. The 'NIC Type' is '10M/100M/1000M Self-ada'. The 'Enable DHCP' checkbox is checked. The IPv4 Address is '10.9.6.194', Subnet Mask is '255.255.255.0', and Default Gateway is '10.9.6.1'. The IPv6 Address 1 is 'fe80::240:48ff:febf:e32d/64'. The Preferred DNS Server is '4.2.2.1' and the Alternate DNS Server is '66.180.96.12'. The 'Refresh' button is highlighted at the bottom right.

SELECT NIC
Toggle between LAN1 and LAN2 settings

ENABLE DHCP

Please Note:
After enabling DHCP, The IP configuration becomes "Greyed out"

REFRESH

Step 6.

Change the value of "PREFERRED DNS SERVER" to **8.8.8.8** ("ALTERNATE DNS SERVER" can be left blank).

Preferred DNS Server
Alternate DNS Server

Step 7.

From the "SELECT NIC" dropdown select **LAN2**.

Step 8.

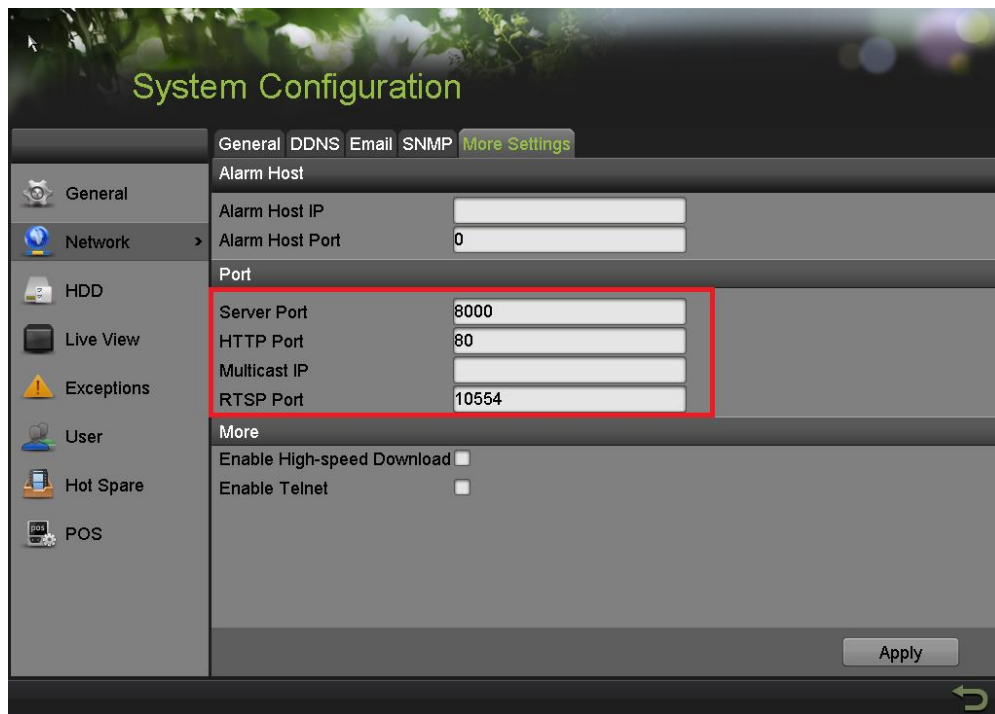
Manually assign an IP address to **LAN2** (please note, that **LAN2** cannot be in the same range as **LAN1**). The Subnet mask for **LAN2** should be **255.255.255.0**

SETTING UP NETWORK ACCESS

After assigning the IP information, click on the “**MORE SETTINGS**” tab



The “**MORE SETTINGS**” tab contains the ports that need to be forwarded for remote access



The **SERVER PORT** is responsible for the **MOBILE APP** and **CLIENT SOFTWARE** log-in.
The **HTTP PORT** is responsible for **WEB BROWSER** log-in.
The **RTSP PORT** is responsible for **VIDEO/AUDIO STREAMING**.

Units with older firmware have the **RTSP PORT** set to **554**. A lot of cell phone carriers block incoming data through port **554**, which is why HikVision recommends changing that port to **10554**

SETTING UP NETWORK ACCESS

The **HTTP PORT** and the **SERVER PORT** can be changed if desired, in order to avoid conflicts with the **ISP** or the existing network configuration.

PORT FORWARDING

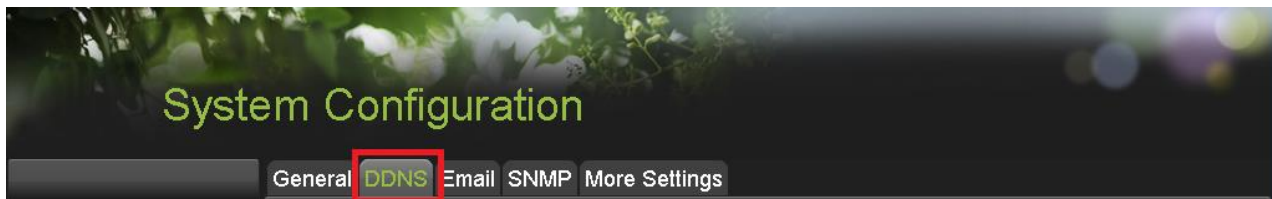
After assigning the IP information to the DVR/NVR, connect a computer to the same router that the DVR/NVR is connected to (wired connection is recommended, to avoid complications). Log into the **ROUTER**, and proceed with **PORT FORWARDING**.

For **PORT FORWARDING** assistance contact the Internet Service Provider (**ISP**), or the router manufacturer. Also refer to www.portforward.com for port forwarding step by step instructions. *Please be aware, that HikVision USA is not associated with www.portforward.com, and is not responsible for any activity between the user and www.portforward.com.* Please refrain from downloading any software from the abovementioned website. Proceed to the “**ROUTERS**” section on the website for step by step instructions.

DDNS SETUP

DDNS registration has been made more user friendly, and takes only a few seconds to complete. The legacy units require user registration on www.hik-online.com. This step is no longer needed.

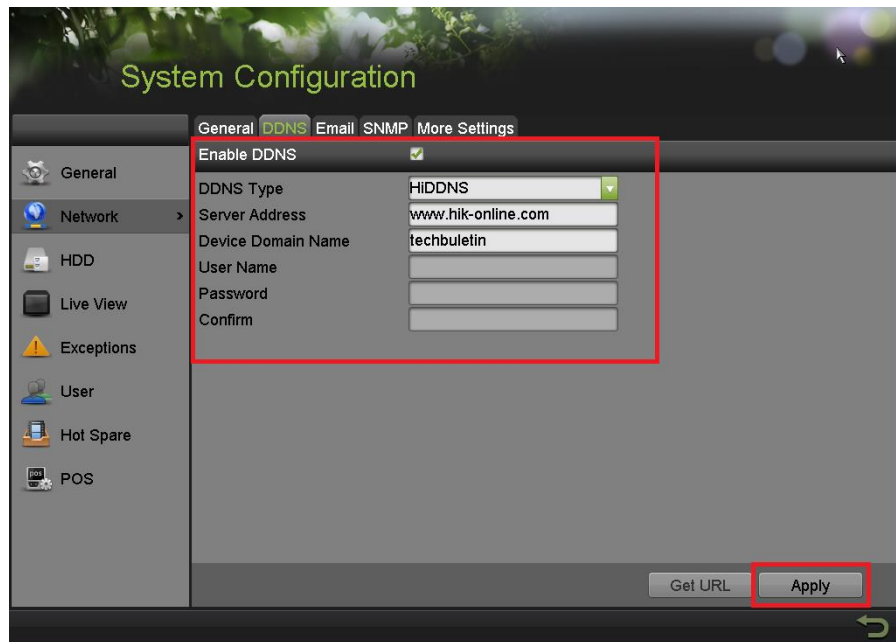
Click on the DDNS tab



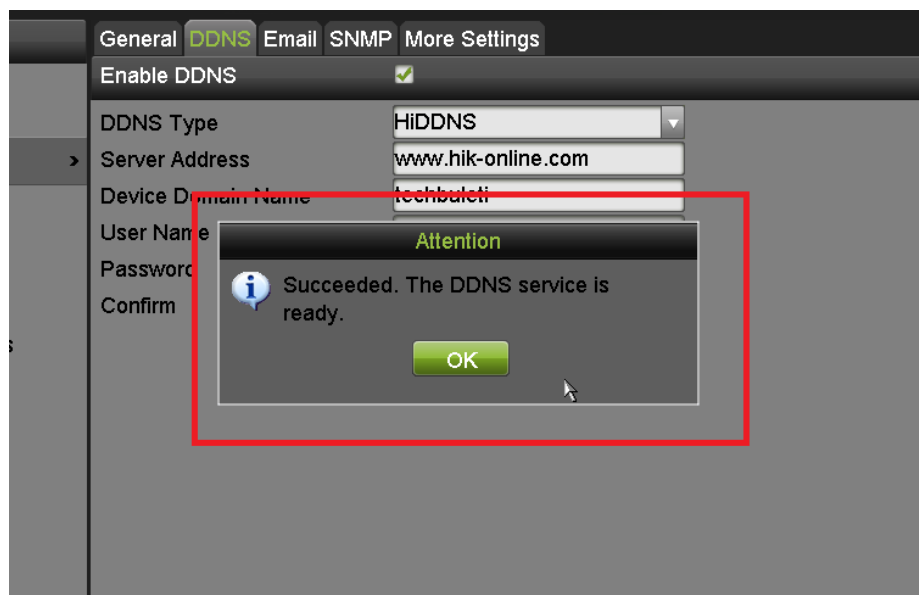
In the **DDNS** tab:

- a. Enable DDNS
- b. Change the **DDNS TYPE** to **HiDDNS** (in some cases **HkDDNS**)
- c. Make sure that the **SERVER ADDRESS** is set to www.hik-online.com
- d. Create a **DEVICE DOMAIN NAME** (the domain name **CANNOT** contain **spaces, special characters and/or upper case letters, as well as it cannot begin with a number**)

SETTING UP NETWORK ACCESS



After the changes have been made, presses “**APPLY**”. A “**SUCCESS**” message will pop up



If the Domain Name does not meet the acceptable criteria, and/or is already registered, an error message will appear

6. ADDING IP CAMERAS

ADDING IP CAMERAS

If you have a DS-7716NI-SP/16, please skip to “7. RECORDING SETUP”

Go to:
“MENU”>”CAMERAS SETUP”

Cameras Setup

Analog **IP Camera** IP Camera Import/Export

Cam	Add/De	Status	IP Camera A	Edit	Up	Camera Name	Protocol	Device Model	Manag	Serial No
D1			10.9.6.235			IPCamera 01	HIKVISION		8000	
D2			192.168.1.70			IPCamera 02	HIKVISION		8000	
D3			10.9.6.34			IPCamera 03	HIKVISION		8000	
D4			10.9.6.40			DS-2CD726...	HIKVISION DS-2CD7264FW...		8000	DS-2CD7...
D5			10.9.6.2			Camera 01	HIKVISION		8000	
D6			10.9.6.3			Camera 01	HIKVISION		8000	
D16			10.9.6.244			Camera 01	HIKVISION DS-2CD4124F-I7		8000	DS-2CD4...
			192.0.0.64				HIKVISION DS-2CD2632F-I		8000	44685442
			192.0.0.198				HIKVISION DS-2CD8254FW...		8000	42302722
			10.9.6.43				HIKVISION DS-2CD2232-I5		8000	44151934

Refresh Default Upgrade Delete Add All Custom Adding

IPC Status: Connected Connected and Support Preview Here Not Connected Need to repair

Net Receive File Bandwidth: 92Mbps

Press the “GARBAGE CAN” icon to delete an added camera

Press “+” to add the camera to the NVR

Press “EDIT” to change the camera’s IP address.
The camera’s IP has to be in the same range as LAN2

Please refer to the manual for detailed information

“REFRESH” to find cameras connected to the network

List of detected cameras (YELLOW)

List of added cameras (WHITE)

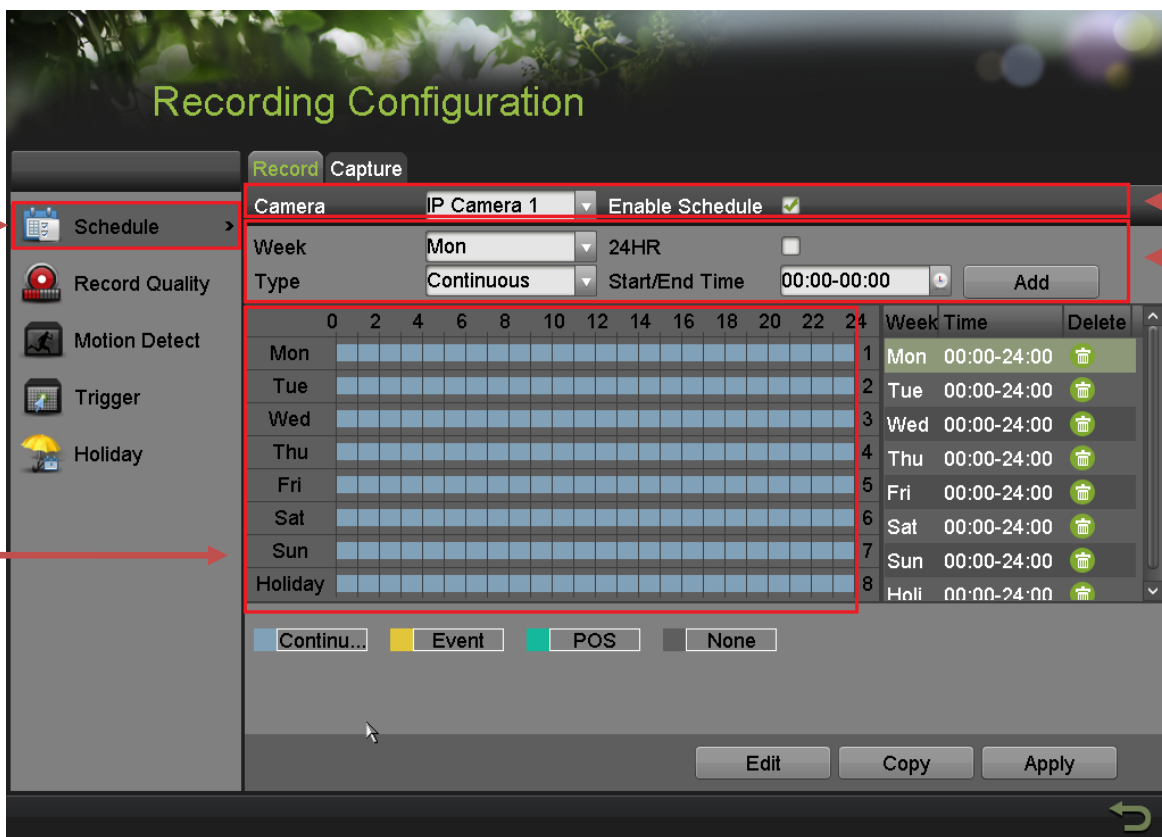
- Please note: To change the CAMERA NAME go to OSD

7. SETTING UP RECORDING

SETTING UP RECORDING

HikVision DVRs/NVRs are defaulted to **CONTINUOUS RECORDING**.

Please go to: “MENU”>”RECORDING CONFIGURATION”



Setup Recording Schedule
(Continuous/Motion)

The color of the calendar is what constitutes the recording schedule:

1. **Blue=Continuous**
2. **Yellow=Event (Motion/Alarm)**
3. **Green= POS (Point of sales)**
4. **Grey= No Recording**

This field is used to customize a part of the existing schedule
This can be ignored if setting up motion only recording

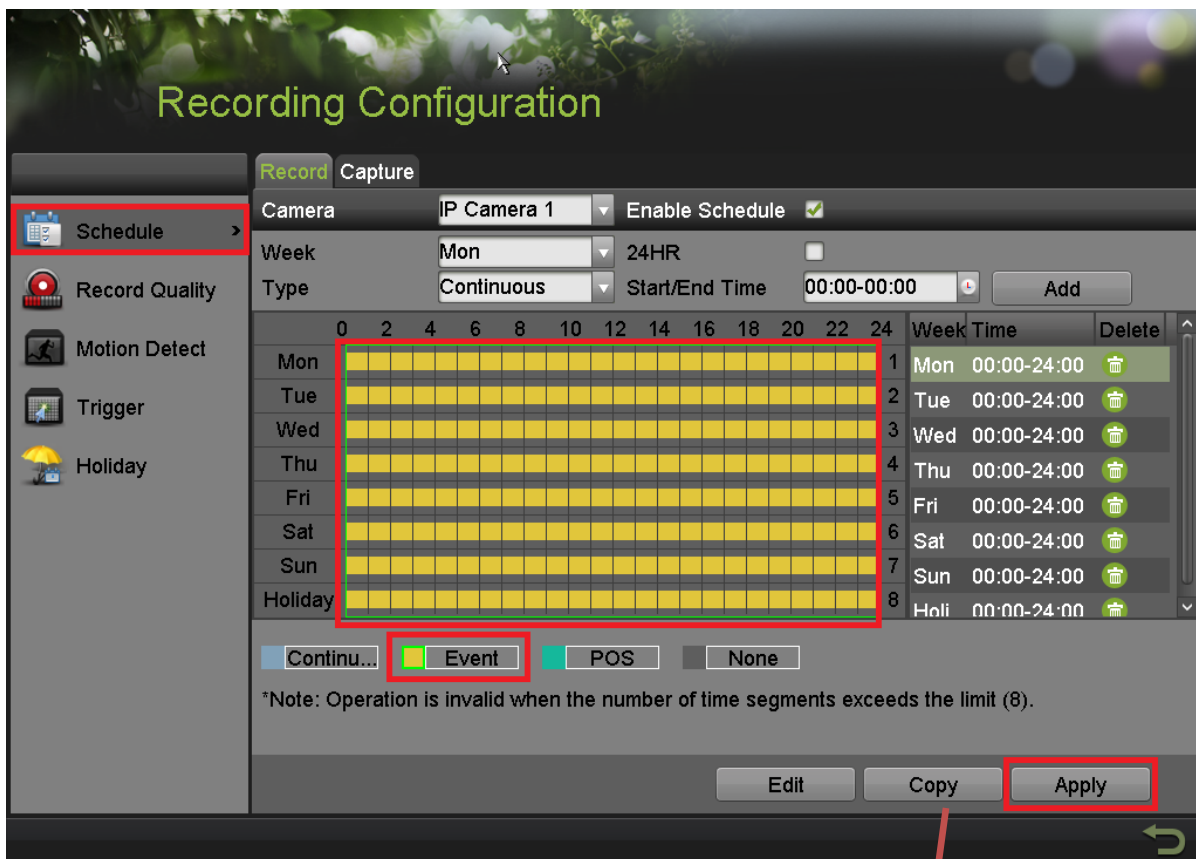
- **Please note:** If **ENABLE SCHEDULE** is not checked, then that camera would not be recording

Select the camera.
Enable/Disable the schedule

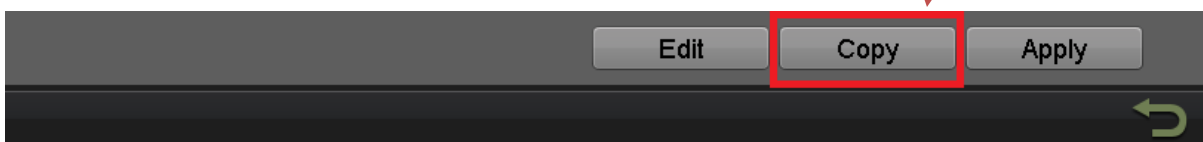
SETTING UP RECORDING

To set the DVR/NVR to **MOTION RECORDING**, go to:

1. “MENU”>”RECORDING CONFIGURATION”
2. Click on the “**EVENT**” under the calendar (yellow). After this the mouse cursor will change to a **WAND**.
3. Select the calendar, and it will turn **YELLOW** (just like on a computer, click on the top-left corner of the calendar and drag to the bottom-right corner).
4. Press **APPLY**.



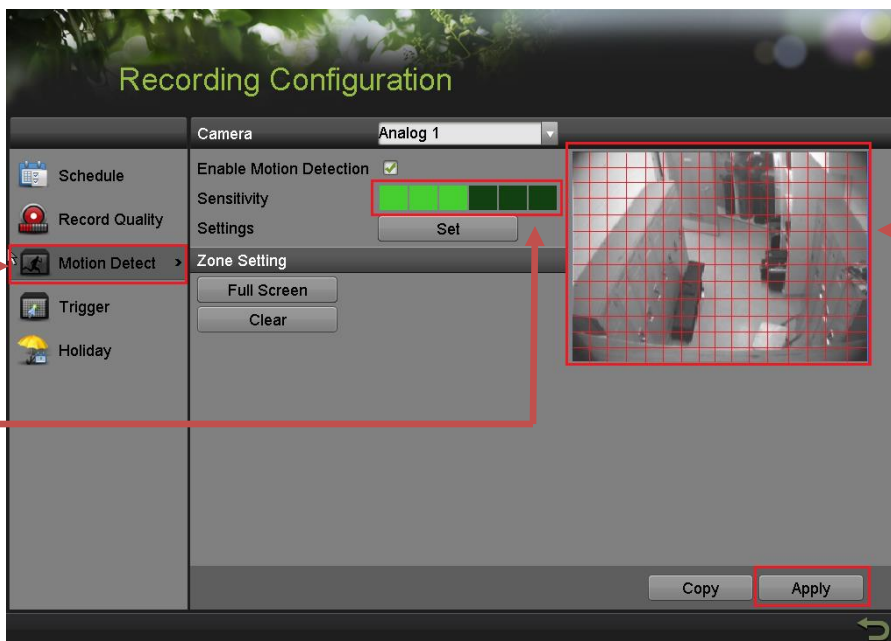
5. Press **COPY** to copy the new schedule to the remaining cameras.



SETTING UP RECORDING



After the recording has been set to “EVENT RECORDING” go to “MOTION DETECT” to set the motion detection for every camera. In this step, the “COPY” option is available only for analog cameras, the IP cameras need to be configured individually.



SETTING UP RECORDING

To set the recording **RESOLUTION/FRAMERATE/BITRATE** settings, please go to:

”RECORD QUALITY” in the **“RECORDING CONFIGURATION”** submenu

The screenshot shows the 'Recording Configuration' window for 'IP Camera 1'. The 'Main Stream' tab is selected. The 'Record Quality' menu item is highlighted in the left sidebar. The 'Continuous' and 'Event' recording modes are shown with their respective settings. Annotations include:

- Select Main Stream**: Points to the 'Main Stream' tab.
- Record Quality**: Points to the 'Record Quality' menu item in the sidebar.
- Select Camera**: Points to the 'IP Camera 1' dropdown menu.
- Continuous**: Points to the 'Continuous' recording mode settings.
- Event**: Points to the 'Event' recording mode settings.

Recording Mode	Continuous	Event
Stream Type	Video & Audio	Video & Audio
Resolution	1920*1080(1080P)	1920*1080(1080P)
Bitrate Type	Variable	Variable
Video Quality	[Progressive]	[Progressive]
Frame Rate	15fps	15fps
Max. Bitrate Mode	General	General
Max. Bitrate(Kbps)	3072	3072
Max. Bitrate Recommended	2560(Kbps)	2560(Kbps)
Record Audio	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Video Stream	Main Stream	

Continuous
Pertains to live view image as well as continuous recording

Event
Pertains to event recording only (Motion or alarm)

SETTING UP RECORDING

Stream Type allows enable/disable the audio streaming from the cameras (if the camera does not have audio capabilities, then the **Stream Type** will only have **Video** option)

Resolution allows setting of the recording resolution

Bitrate Type allows the NVR to save HDD space when set to **Variable** (Available choices: **Variable** and **Constant**)

Video Quality adjusts picture clarity (**medium setting (3 green squares)** is recommended. Medium setting is the balance between good picture and saving HDD space).

Frame Rate allows setting of the recording frame rate (**12-15 fps** is recommended to save HDD space and not to have a “choppy” image)

Max Bitrate Mode allows choosing between preset bitrate values and customizing the values (**General** setting is recommended)

Max Bitrate (KBPS) is the chosen bitrate for streaming the video

Max Bitrate Recommended is the NVR/DVR’s recommended bitrate according to the parameters set above.

Record Audio allows turning the audio recording on or off (this option is only available if the camera has a microphone connected to it, or only the analog channels 1-4 on the hybrid NVR).

Video Stream allows changing the recording stream between **Main Stream** and **Sub Stream** (this step requires a restart).

Please refer to the table below for recommended recording parameters

Resolution	Video Quality	Frame Rate (FPS)	Bitrate (KBPS)
320x240 (QVGA)	Medium (3 squares)	12-15	207
352x240 (CIF)	Medium (3 squares)	12-15	384
640x480 (VGA)	Medium (3 squares)	12-15	768
704x480 (4CIF)	Medium (3 squares)	12-15	1024
1280x720 (720P)	Medium (3 squares)	12-15	2048
1280x960 (960P)	Medium (3 squares)	12-15	2048
1600x1200 (2MP)	Medium (3 squares)	12-15	2560
1920x1080 (1080P)	Medium (3 squares)	12-15	3072
2048x1536 (3MP)	Medium (3 squares)	12-15	3072
2560x1920 (5MP)	Medium (3 squares)	8	4096

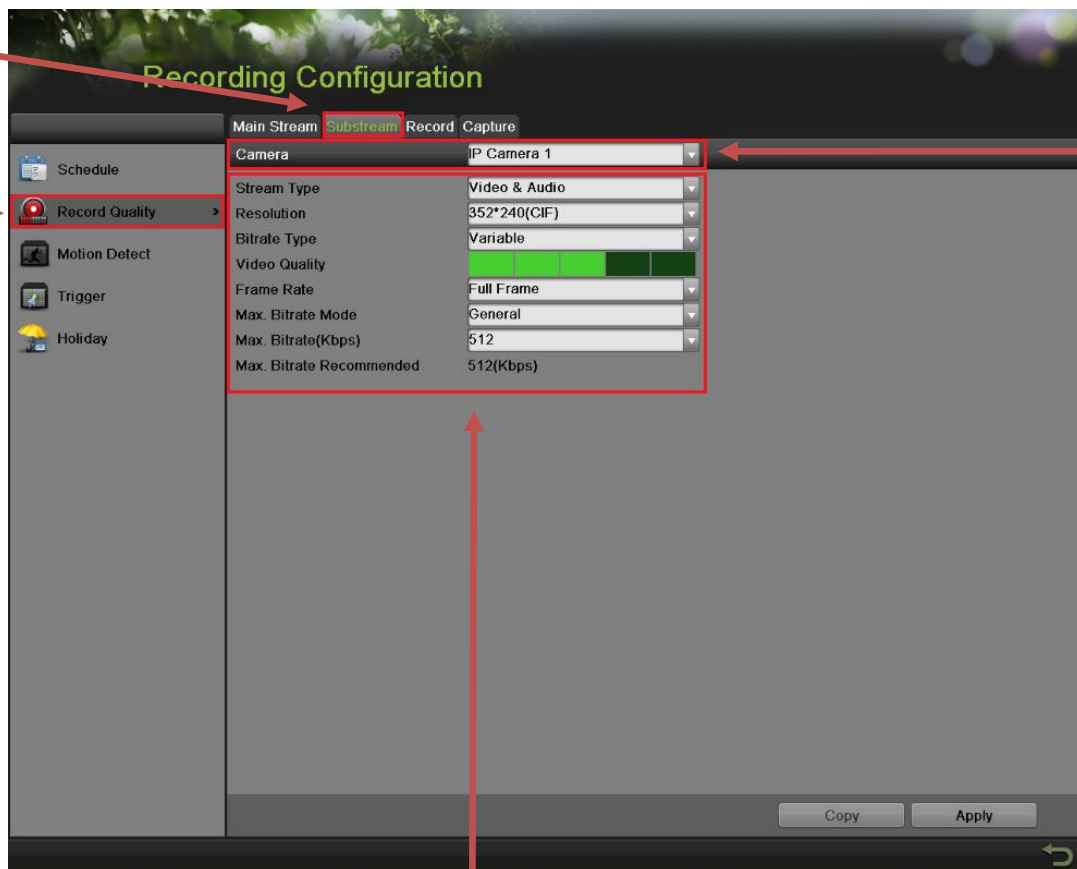
SETTING UP RECORDING

Last step in the recording setup is setting up the **Sub Stream**.

The **Sub Stream** is used for streaming on mobile devices, as well as displaying multiple cameras on the local output

Select
Sub
Stream

Record
Quality



Unlike Main Stream,
Sub Stream can only go up to 4CIF

Select
Camera

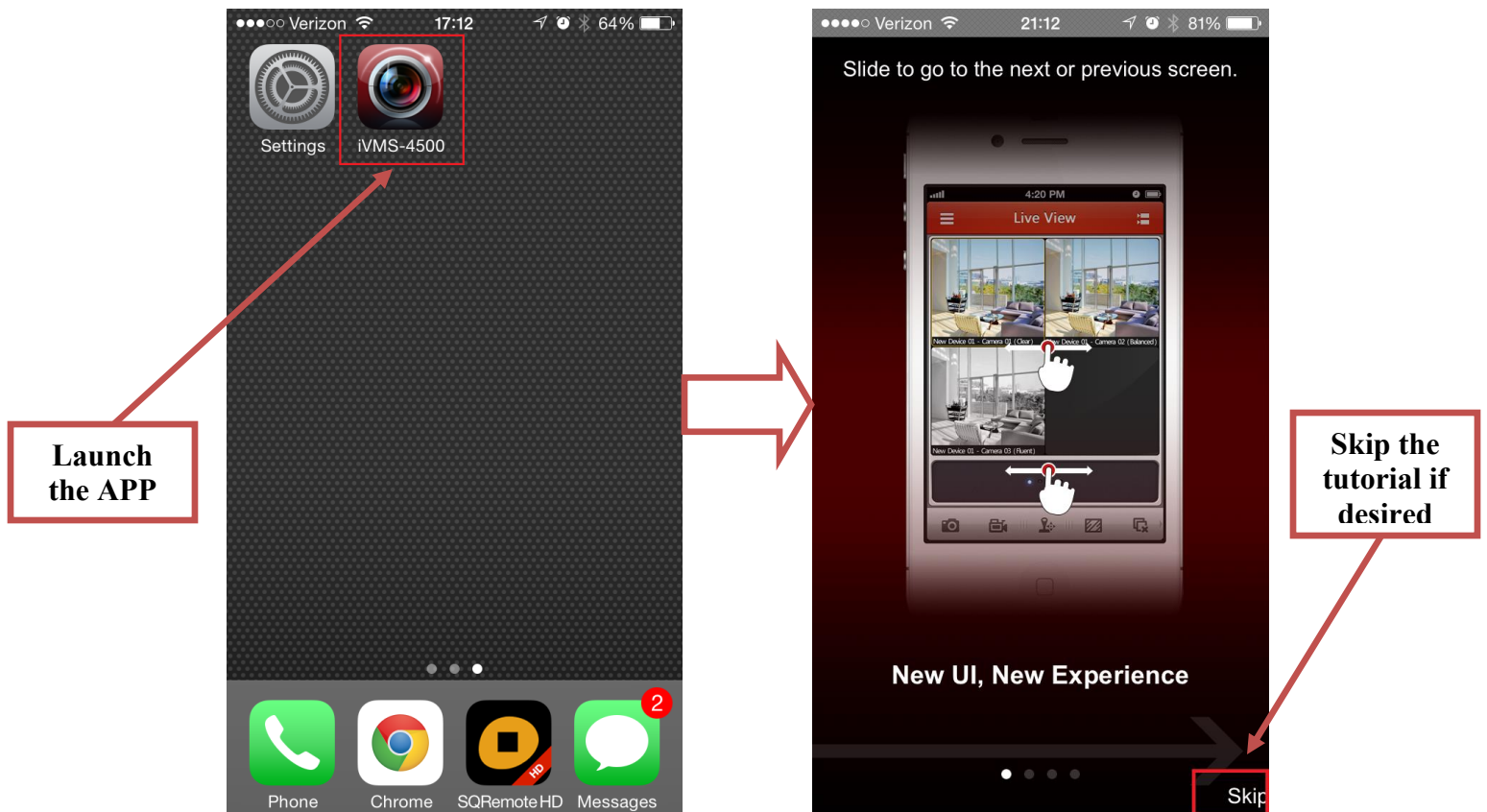
- **Please note:** If the upload speed is not sufficient, consider lowering the frame rate/bitrate/resolution for more fluent mobile app viewing.

8. CONFIGURING THE MOBILE APP

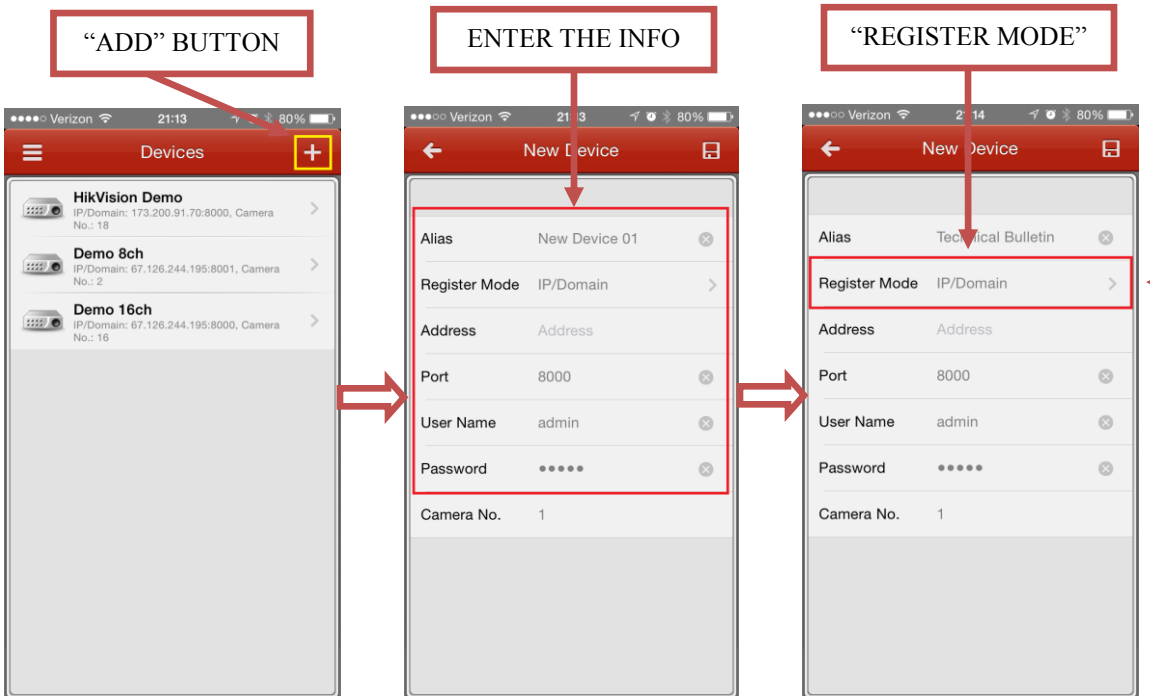
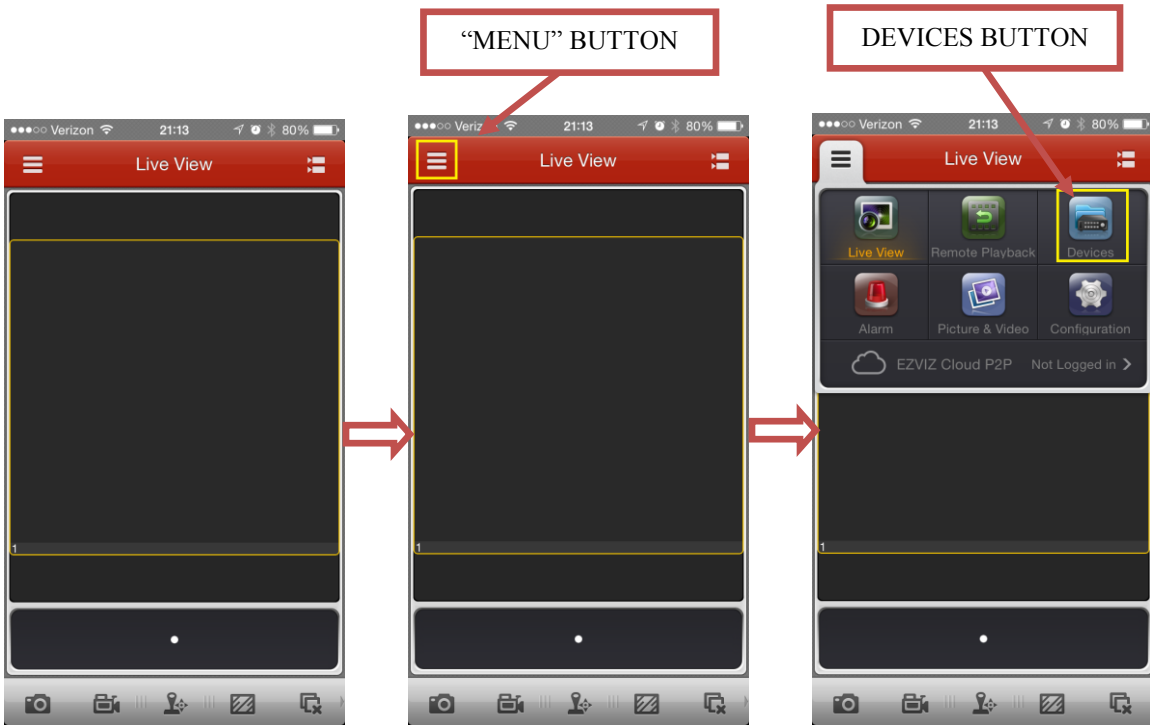
CONFIGURING THE MOBILE APP

All HikVision DVRs, NVRs and IP Cameras can be accessed with **iVMS-4500 application**. The APP can be downloaded from the **APP STORE (iPhone/iPad)**, **PLAYSTORE (Android)**. The app is also available for **WINDOWS MOBILE** devices (Nokia Phones and tablets).

Download the app from the appropriate place and launch it. When the APP is launched for the first time, a tutorial screen will be displayed, and it can be easily skipped.

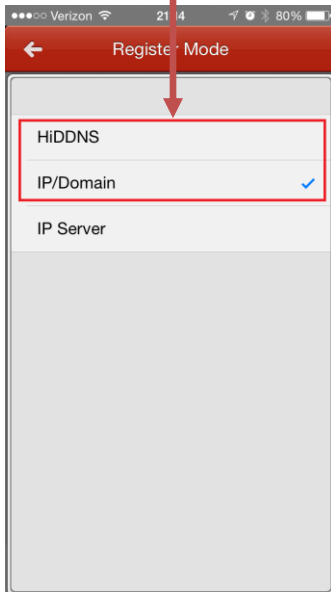


CONFIGURING THE MOBILE APP

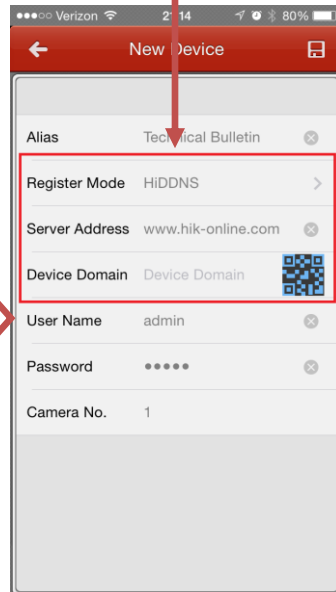


CONFIGURING THE MOBILE APP

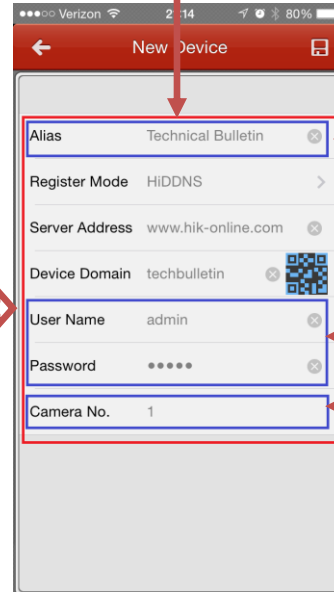
CHANGE THE MODE



ENTER "DEVICE DOMAIN"



COMPLETE THE PAGE

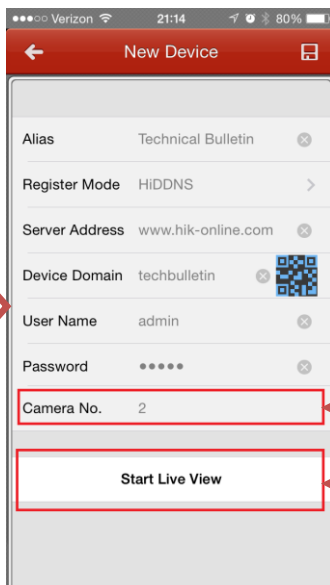
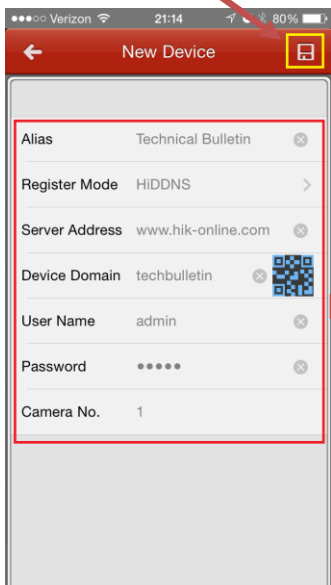


Please Note:
Alias is just a friendly name for the address book (i.e. Home/Office)

User Name and Password are the DVR's/NVR's username and password

Please note:
The "CAMERA NUMBER" is set to 1.
After saving the changes, the number will resemble the correct amount of cameras

"SAVE" BUTTON



Please note:
The "CAMERA NUMBER" has changed to the correct number of cameras connected to the DVR/NVR

Please note:
"START LIVE VIEW" button will begin live camera stream

9. PLAYING BACK RECORDED VIDEO

PLAYING BACK RECORDED VIDEO

To initiate a **PLAYBACK**, go to “MENU”>”PLAYBACK”.

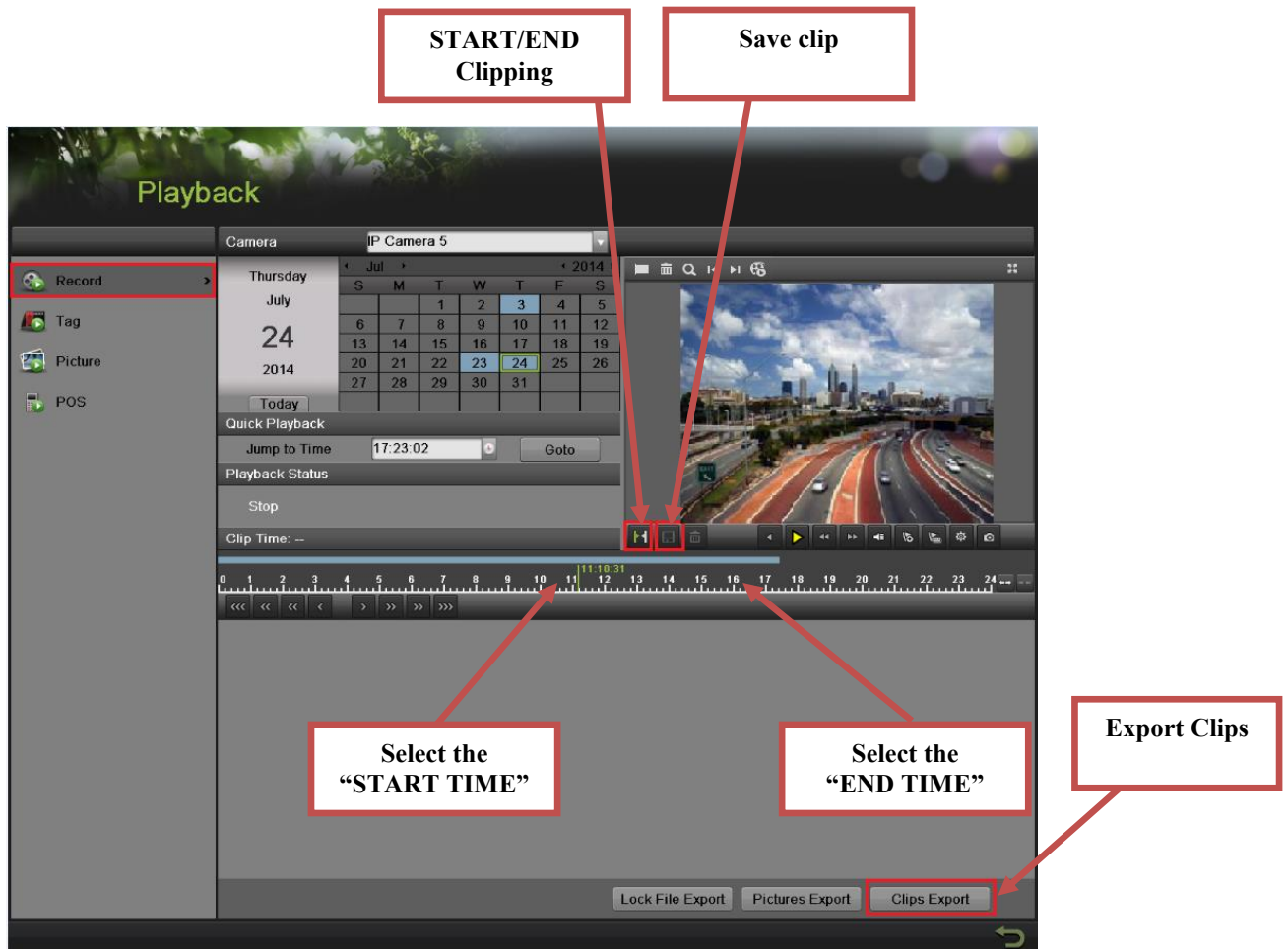
The screenshot shows the HIKVISION Playback interface. The interface includes a camera selection dropdown (IP Camera 5), a calendar for July 2014 with the 24th selected, a 'Jump to Time' field (17:23:02), a 'Goto' button, a 'Play' button, and a timeline at the bottom. Callouts point to various features: 'Smart Search/Smart Playback' (top right), 'Full Screen' button (right side), 'Press PLAY to begin playback' (bottom right), 'Click on the timeline to select the desired time of playback' (bottom left), 'Select the desired time of playback' (middle left), 'Select the desired date to playback' (middle left), and 'Select a camera to playback' (top left).

Steps to initiate **PLAYBACK**

1. Select the desired camera
2. Select the desired date. The days that contain recording will be highlighted on the calendar
3. Select the desired time using the Timeline or “Jump to Time” feature.
4. Press “PLAY”

10. MAKING A BACKUP

MAKING A BACKUP

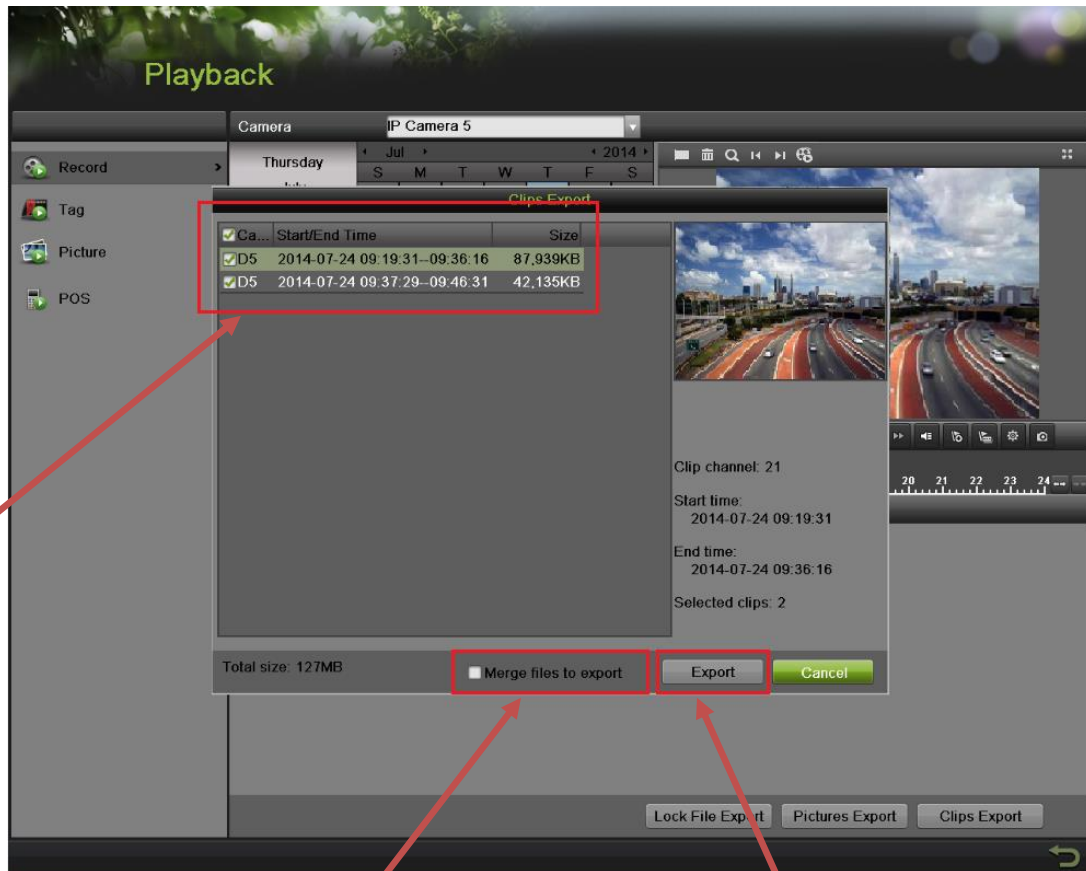


Steps to make a **BACKUP** of recorded video

1. Insert a USB FLASH Drive or a USB HDD into an available USB Port
2. Go to **"MENU">"PLAYBACK"**
3. Select the DATE and beginning time of the incident
4. Click **"START CLIPPING"**
5. Select the ending time of the incident
6. Click **"END CLIPPING"** (Same button as "Start Clipping")
7. Click **"SAVE CLIP"**
8. Repeat steps 1-7 as many times as required
9. Click **"CLIPS EXPORT"**

MAKING A BACKUP

After pressing “CLIPS EXPORT” a new window opens up containing all saved clips.



If selected,
multiple clips
created from the
same camera
will be stitched
together

EXPORT THE
CLIPS TO USB
DEVICE

10. Select the desired clips
11. Press “EXPORT”
12. After the backup is complete, simply remove the USB FLASH Drive or the USB HDD.