HIKVISION

Quick Start Guide

Hybrid DVR

DS-90xxHFI-ST, DS-90xxHWI-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

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

1. OVERVIEW

THE BOX CONTAINS:


Hybrid DVR/NVR


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 Also note, that the CD may contain outdated manuals and software.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

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

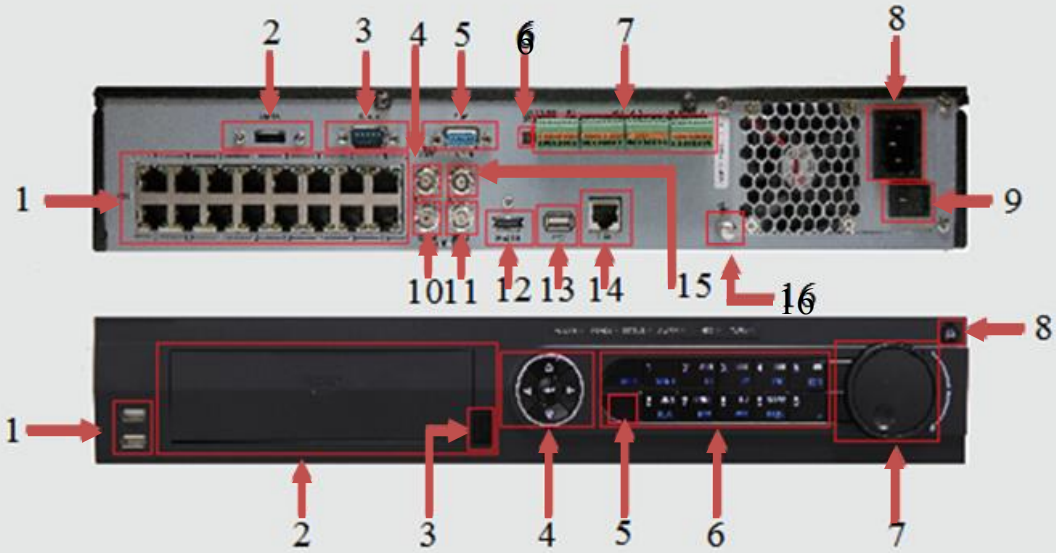
REAR VIEW

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-

FRONT VIEW

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

DS-7716NI-SP/16



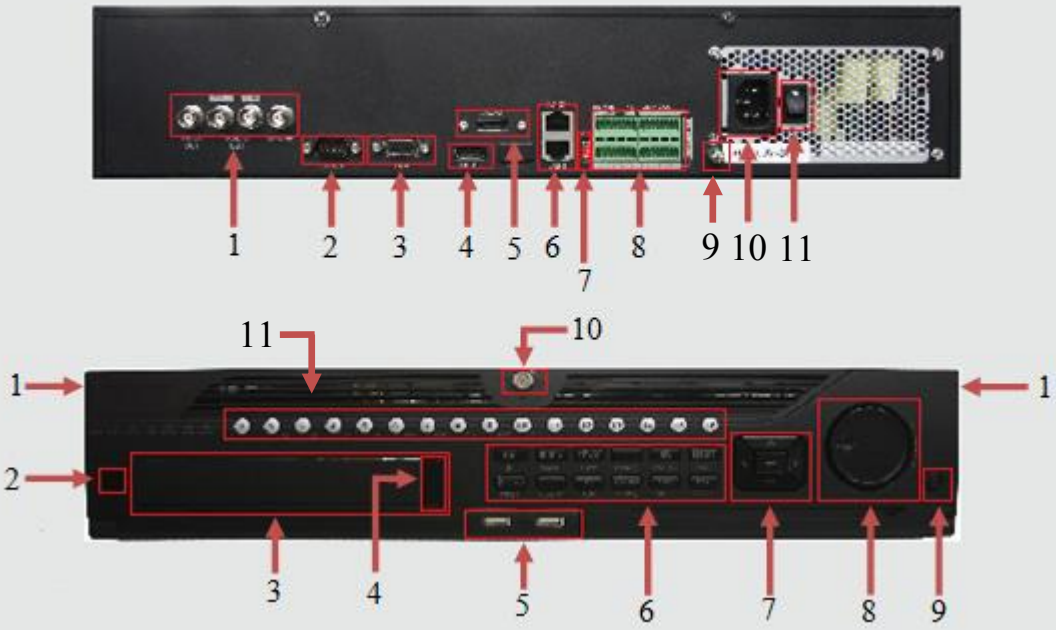
REAR VIEW

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

FRONT VIEW

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

DS-96xxNI-ST/RT



REAR VIEW

1. Spot Monitor Outputs (x4)
2. RS-232
3. VGA Monitor Output (x1)
4. HDMI Monitor Output (x1)
5. e-SATA Port
6. RJ-45 Network Ports (x2)
7. “RESERVED”
8. Alarm In/Out, RS-485 Pins
9. Grounding Post
10. Power Plug
11. Power Switch

FRONT VIEW

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. Device Activation

To ensure the highest level of protection, Hikvision requires users to create a new password for the **admin** account upon first login to a device. The system will check the password strength; "Risky" passwords will not be accepted.

Device Firmware with Secure Activation

Device Type	Model Number	Firmware Version
Value Series IP Camera	DS-2CD2xxx	V5.3.0
Smart Series IP Camera	DS-2CD4xxx	V5.3.0
NVR/Hybrid	DS-9016HWI-ST DS-96xxNI-ST DS-7716NI-SP/16	V3.1.5
Plug-n-Play NVR	DS-76xxNI-EI(E2)/P	V3.1.0
Turbo DVR	DS-72xxHGHI-SH DS-73xxHQHI-SH DS-90xxHQHI-SH	V3.1.6
Super NVR	DS-96128NI-E24/H DS-96256NI-E24/H	TBD

NOTE: DVRs/NVRs starting with the latest firmware (see chart, above) WILL NO LONGER HAVE A DEFAULT PASSWORD. The user must activate the DVR/NVR by creating a password for the **admin** account in one of four ways:

- **Local Activation**

1. Power on the DVR/NVR.

   - A message will appear, prompting user to activate the device.
   - The username field will be greyed-out with the username set to **admin**.

2. Type in a password of your choosing (see "Password Strength Levels" table for guidelines).

   - The password strength will be displayed, accompanied by a color indicator*:

     - Level 0–*Risky* (red indicator): Not acceptable
     - Level 1–*Weak* (red indicator): Acceptable
     - Level 2–*Fair* (orange indicator): Acceptable
     - Level 3–*Strong* (blue indicator): Acceptable

   - Activation will not be allowed unless the password is of acceptable strength.

* **NOTE:** The strength level indicator colors can vary by activation process, model number, and device type.

3. Retype the password into the “Confirm Password” field.

4. After an acceptable password has been created, a confirmation message will appear on the screen.

5. Press the **OK** button to proceed.

- **SADP Software Activation (v2.2.3.5 or higher)**

1. Launch the new version of the SADP software (v2.2.3.5).

   - The software will display all Hikvision devices on the network.
   - A new field called “Security” will be displayed

2. If the DVR/NVR is “Inactive,” highlight the DVR/NVR and enter a new password into the “New Password” field on the bottom right of the screen.

   - The password strength will be displayed, accompanied by a color indicator:

     - Level 0–*Risky* (no indicator): Not acceptable
     - Level 1–*Weak* (pink indicator): Acceptable
     - Level 2–*Medium* (yellow indicator): Acceptable
     - Level 3–*Strong* (green indicator): Acceptable

   - Bar length indicates strength level.

   - Activation will not be allowed unless the password is of acceptable strength. If the password is unacceptable strength (“Risky”), a warning box will be displayed.

3. Retype the password into the “Confirm Password” field.

4. After the password has been entered and confirmed, press the **OK** button to display the pop-up confirmation window.

5. Press the “X” in the top right corner of the pop-up confirmation window to dismiss the window.

- **iVMS-4200 Windows Client Software (v2.3.1.3 or higher) Activation**

1. Launch the iVMS-4200 software.

2. Go to **Control Panel→Device Management**.

   - On the bottom of the screen in the Online Devices section the screen will display all Hikvision devices on the network.

   - A new field called “Security” will be displayed.

3. If the DVR/NVR is “Inactive,” highlight the DVR/NVR and press the **Activate** button to display the “Activation” window.

4. Enter a new password into the “Password” field.

   - The password strength will be displayed, accompanied by a color indicator:
     - Level 0–*Risky* (no indicator): Not acceptable
     - Level 1–*Weak* (pink indicator): Acceptable
     - Level 2–*Medium* (yellow indicator): Acceptable
     - Level 3–*Strong* (green indicator): Acceptable

   - Bar length indicates strength level.

   - Activation will be allowed if the password is of acceptable strength.

   - If the password is of unacceptable strength (“Risky”), a warning box will be displayed explaining the requirements for an acceptable password.

5. Retype the password into the “Confirm Password” field.

6. After the password has been entered and confirmed, press the **OK** button.

   - The DVR’s/NVR’s status will change to “Active.”

- **Web Interface Activation**

1. In a Web browser, type the DVR's/NVR's IP address and press **Enter**.

   - The Activation Window will appear instead of the login page.

2. Enter a new password into the "Password" field.

   - The password strength will be displayed, accompanied by a color indicator:
     - Level 0–*Risky* (no indicator): Not acceptable
     - Level 1–*Weak* (pink indicator): Acceptable
     - Level 2–*Medium* (yellow indicator): Acceptable
     - Level 3–*Strong* (green indicator): Acceptable

   - Bar length indicates strength level.

   - Activation will be allowed if the password is of acceptable strength. A white checkmark will appear in a green circle to the right of the password field.

   - If the password is unacceptable strength ("Risky", a white X will appear in a red circle to the right of the password field and a warning dialog box will be displayed explaining the requirements for an acceptable password.

3. Press the **OK** button.

   - Upon successful activation, user will be logged in to the DVR's/NVR's live view page.

Password Strength Levels

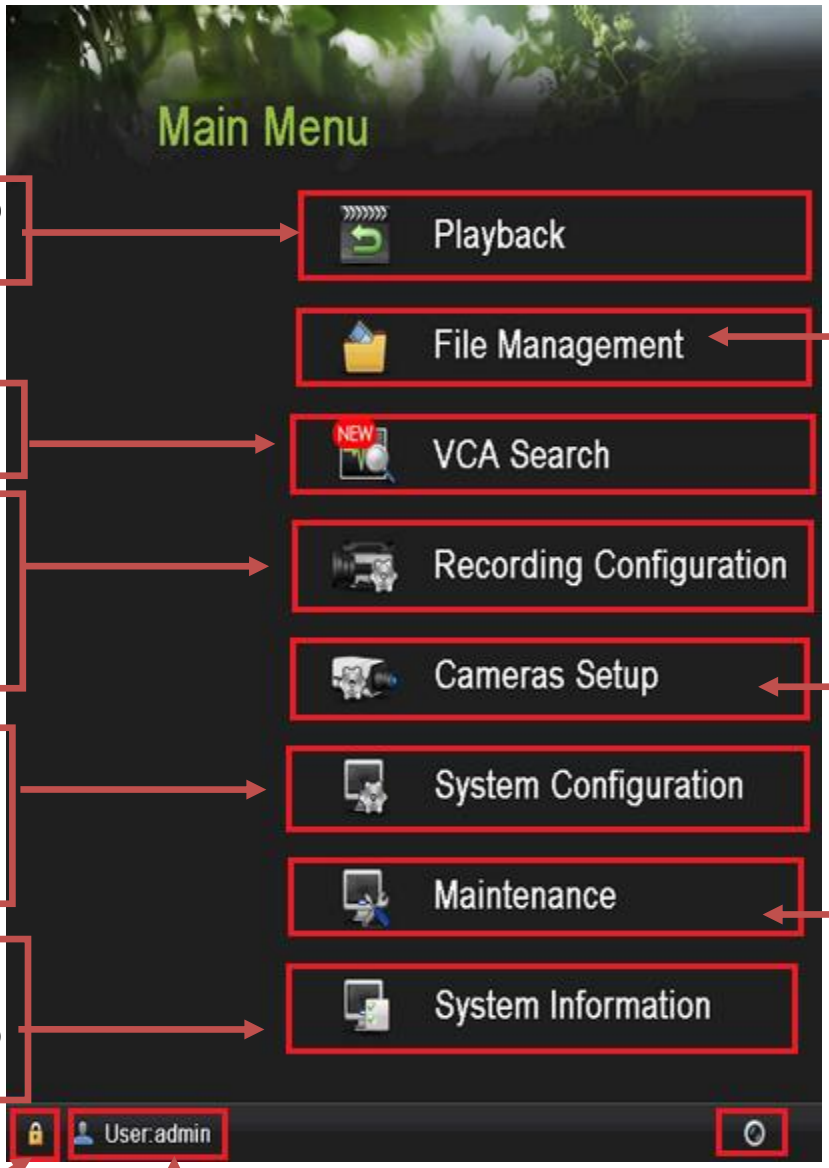
STRENGTH LEVEL	DESCRIPTION
Level 0 (Risky) NVRs ***will not*** accept a Level 0 password	Password length is fewer than eight characters, contains only one type of character, is the same as the user name, and/or is the mirror writing of the user name. This type of password ***will not*** be accepted.
Level 1 (Weak) NVRs ***will*** accept a Level 1 password	Password contains two kinds of characters. The combination is number + lowercase letter or number + uppercase letter, and the password length is at least eight characters. This type of password ***will*** be accepted.
Level 2 (Medium/Fair) NVRs ***will*** accept a Level 2 password	Password contains two types of characters. The combination is **neither** number + lowercase letter *nor* number + uppercase letter, and the password length is at least eight characters. This type of password ***will*** be accepted.
Level 3 (Strong) NVRs ***will*** accept a Level 3 password	Password contains more than three types of characters, and the password length is at least eight characters. This type of password ***will*** be accepted.

NOTE: Types of characters are lowercase letters, uppercase letters, numbers, and special characters. Only ASCII characters are allowed.

3. MAIN MENU LAYOUT

DEFAULT USERNAME: admin

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



View recorded video and make Backup

Search for snapshots, make large backups

Search for VCA event

Setup recording type, motion detection, resolution and frame rate and more

Add cameras, Change brightness, contrast… Camera name, PTZ, Privacy mask

Setup Date/Time, network, screen settings, user accounts and more

Upgrade firmware, factory default, system logs, import/export settings

Model number, firmware version, camera status, HDD status and more

Log Out and Lock the NVR

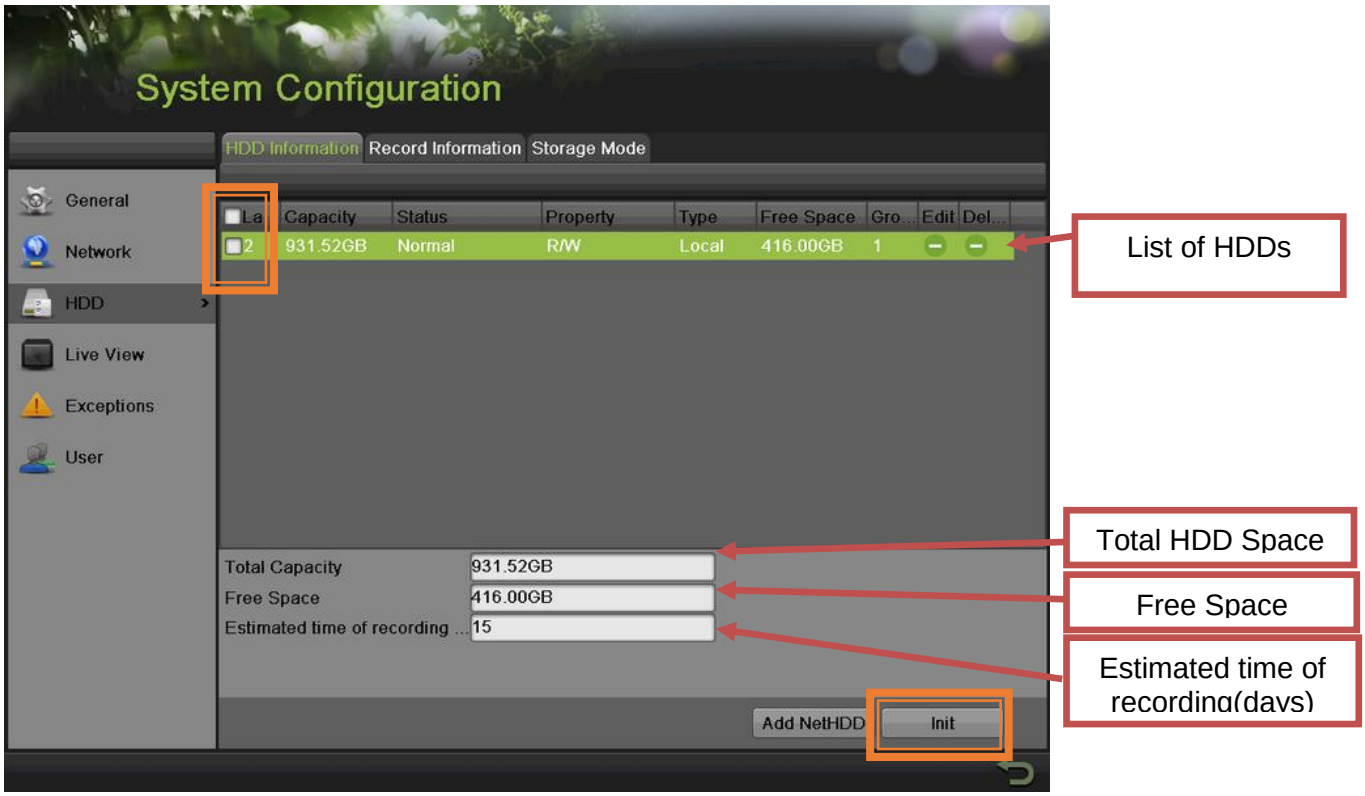
Display the current logged in user

Exit MENU to Live View

4. FORMATTING THE HARD DRIVE

If the Hard Drive (HDD) is not formatted (initialized), the 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"



Please Note:

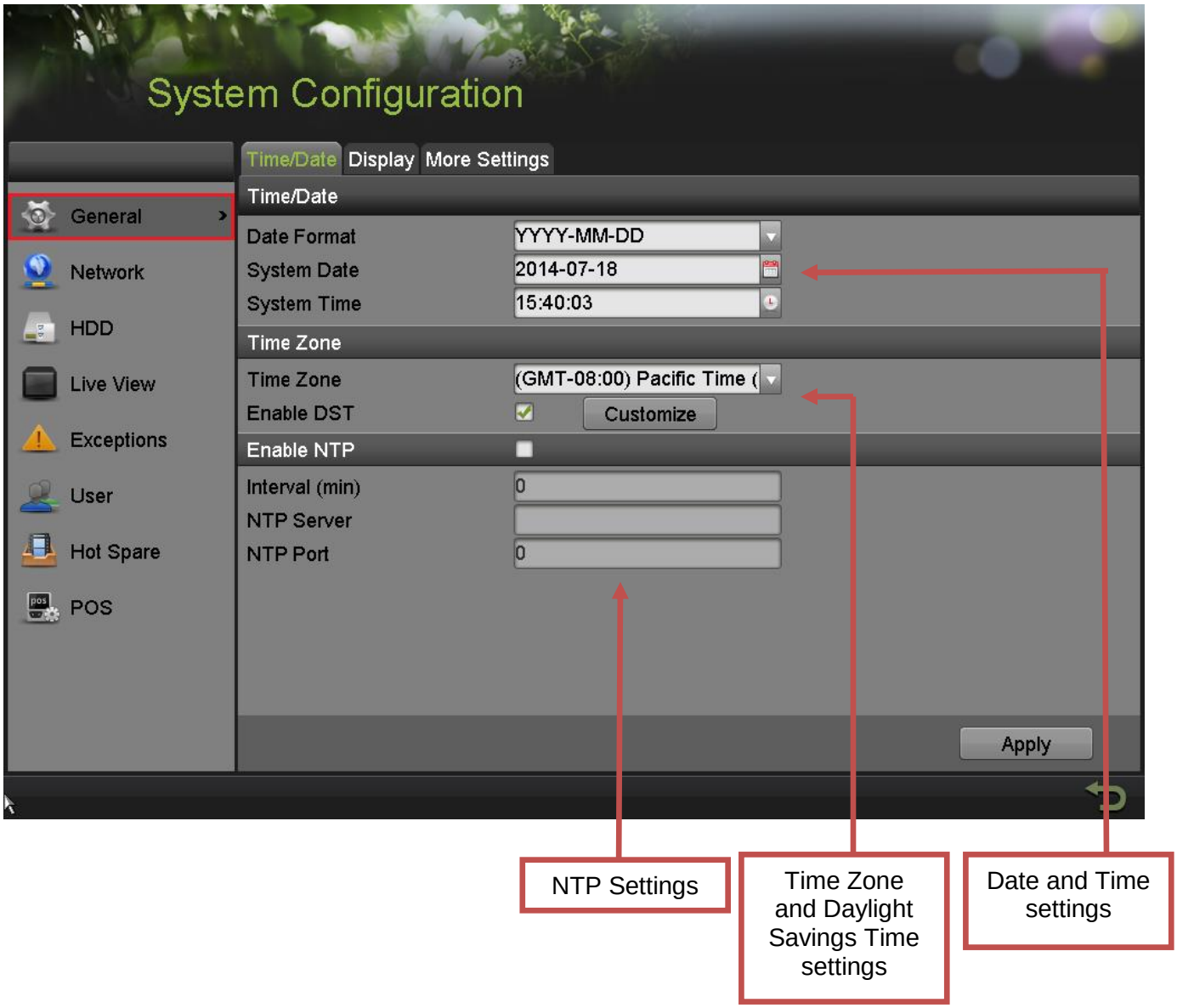
Units purchased with HDDs, already come with formatted HDDs

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

5. DATE AND TIME SETUP

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

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

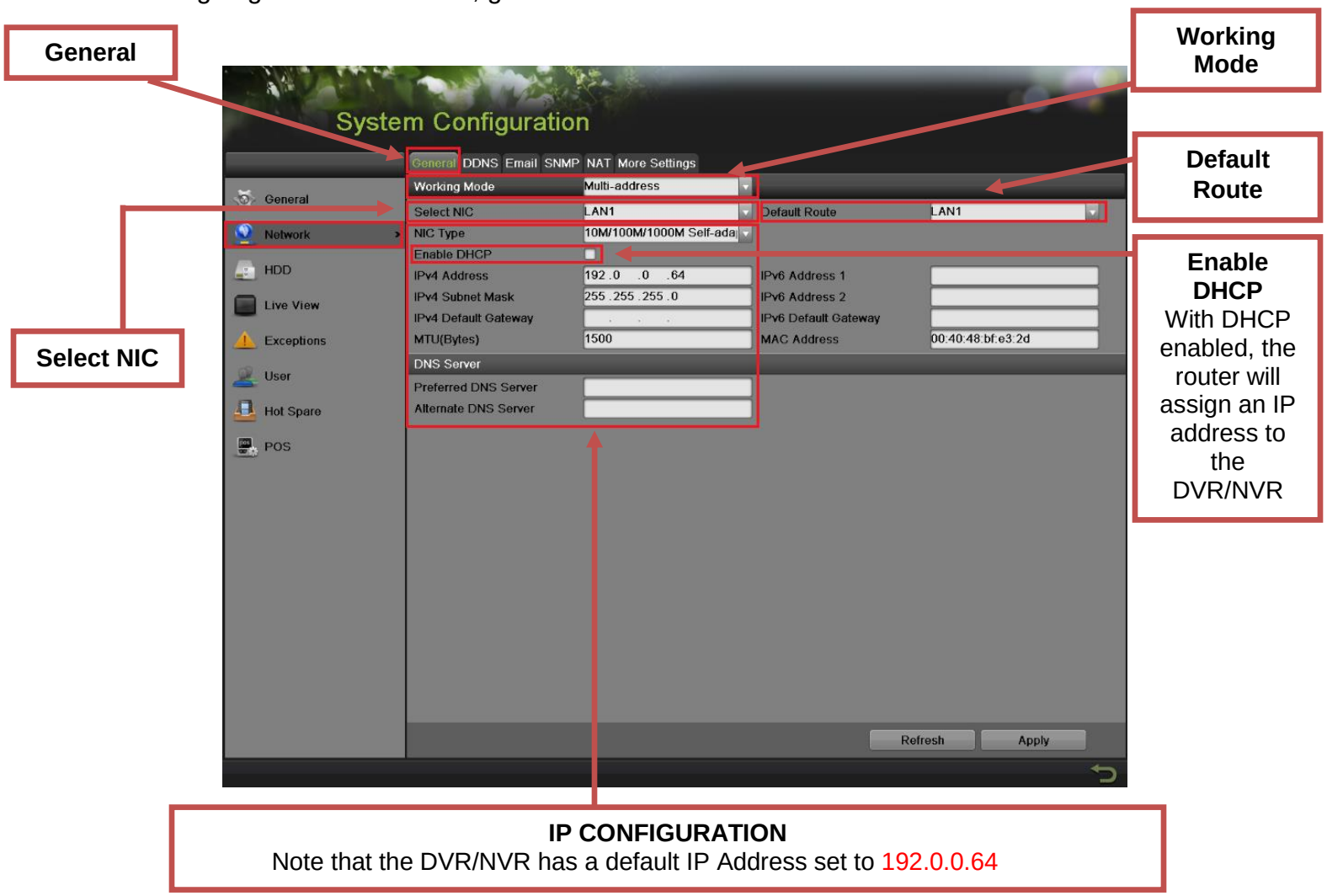


6. SETTING UP THE NETWORK

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 assigning an **IP ADDRESS**, go to **"MENU">"SYSTEM CONFIGURATION">"NETWORK"**



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.

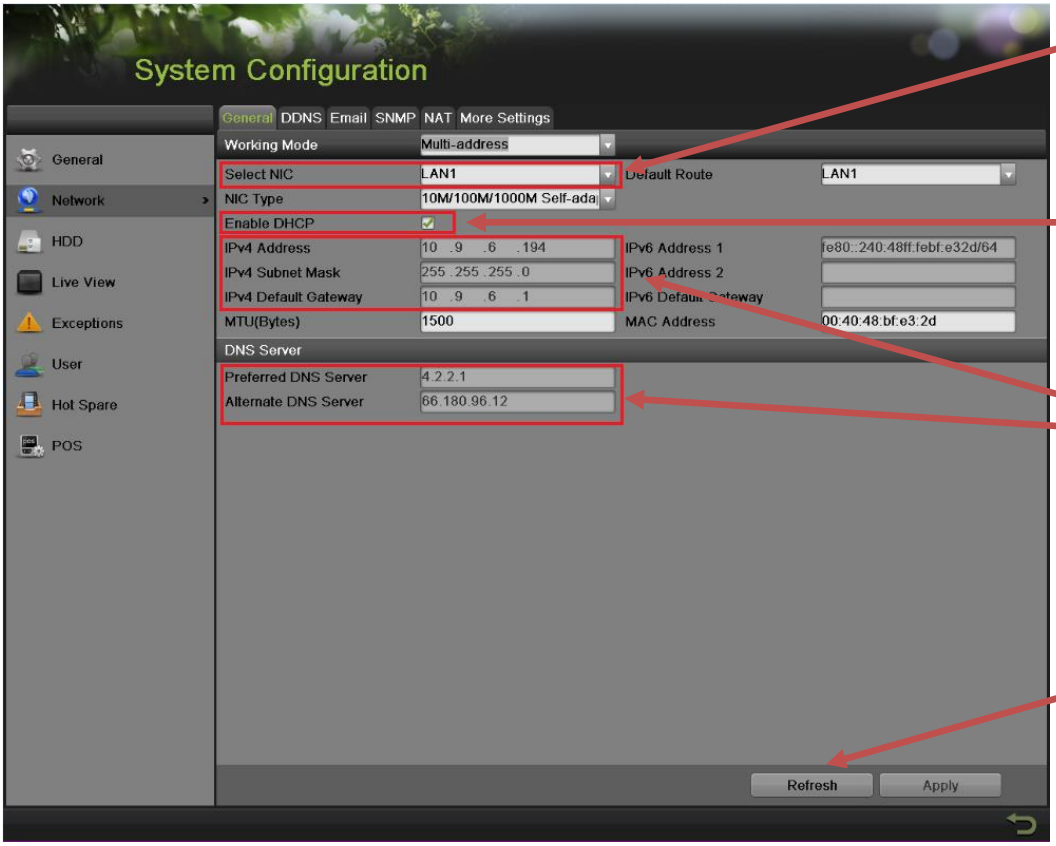
Step 1
Set the **Default Route** to **LAN1**.

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)



SELECT NIC
Toggle between LAN1 and LAN2 settings

ENABLE DHCP

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

REFRESH

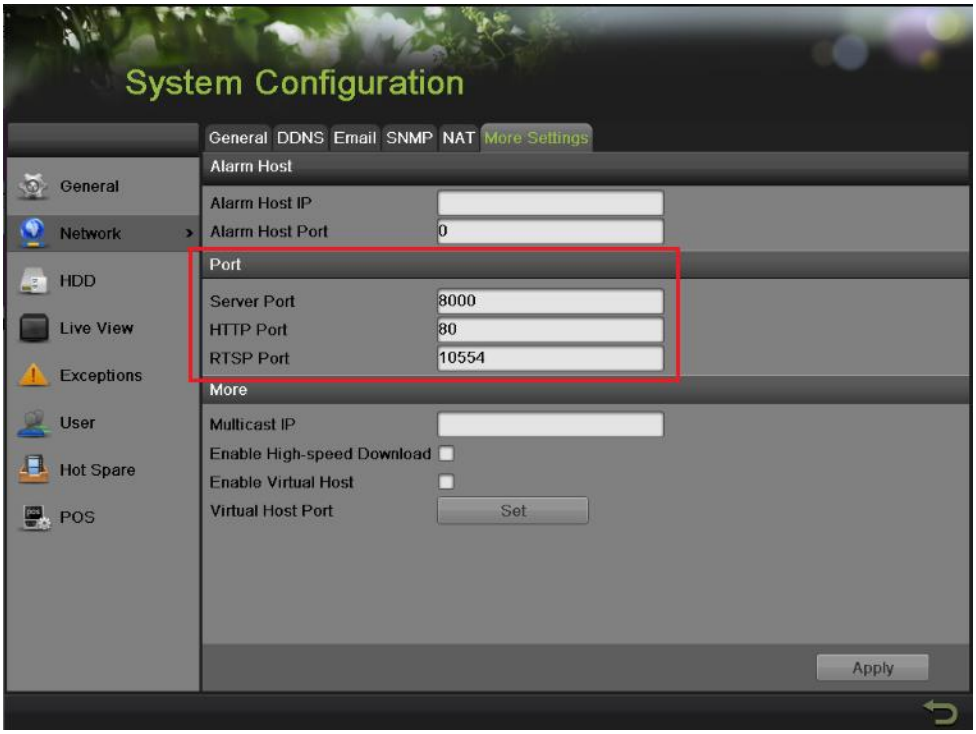
Step 6
Change the value of **"PREFFERED DNS SERVER"** to **8.8.8.8** ("ALTERNATE DNS SERVER" can be left blanc).

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**

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



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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**

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 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 for step by step instructions.

DDNS SETUP

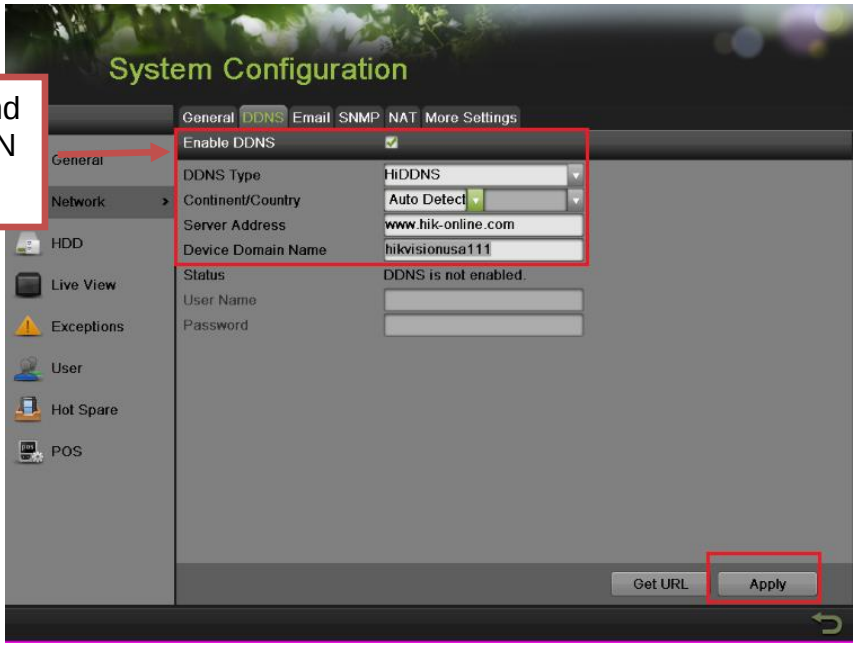
DDNS registration has been made more user friendly, and takes only a few seconds to complete. The legacy units require user registration on www.hik-online.com. This step is no longer needed.

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**

Enable DDNS and create a DOMAIN NAME



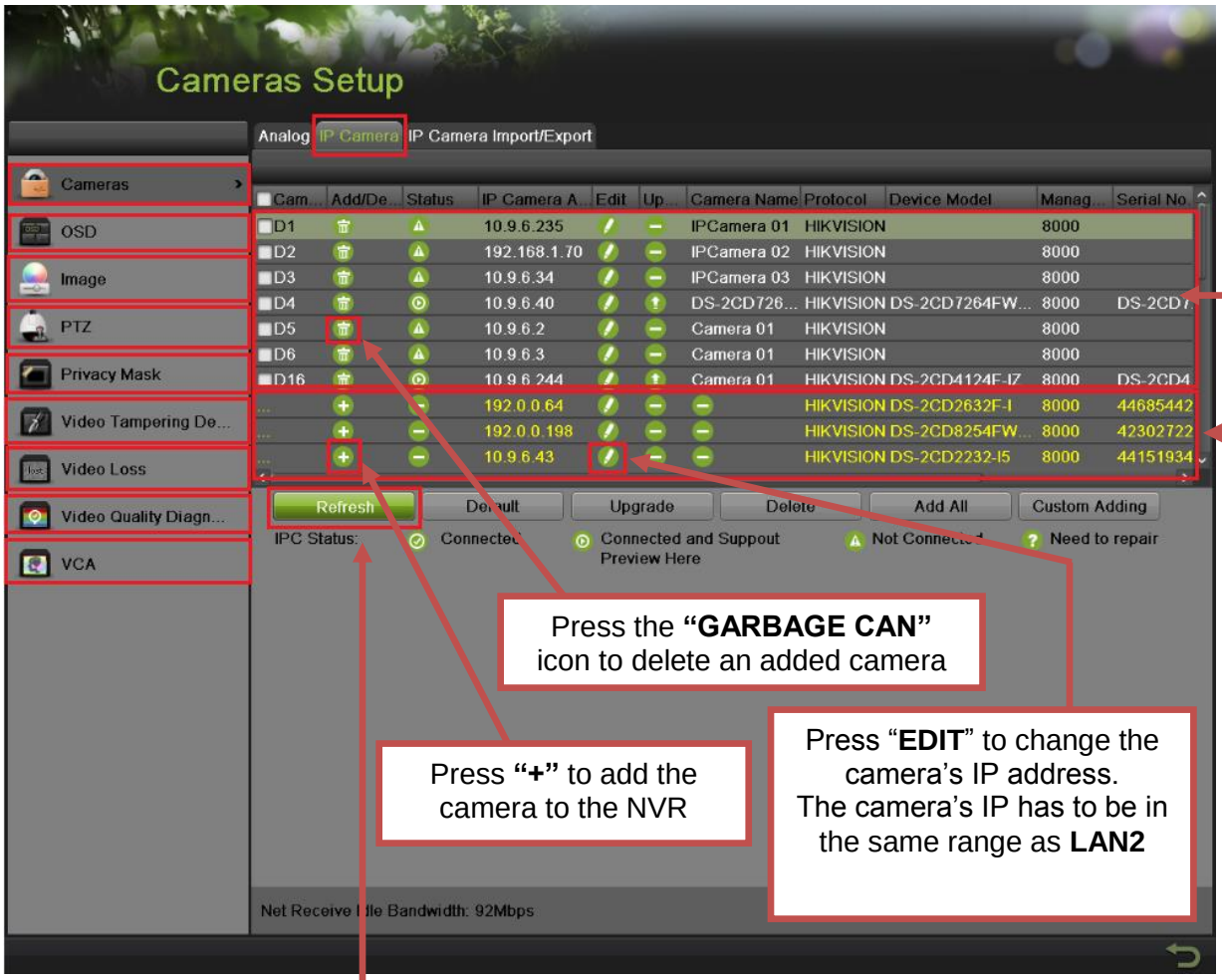
After the changes have been made, presses **"APPLY".** Status will be changed to **"Register success"**.

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

7. ADDING IP CAMERAS

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

Go to:
"MENU">"CAMERAS SETUP"



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)**

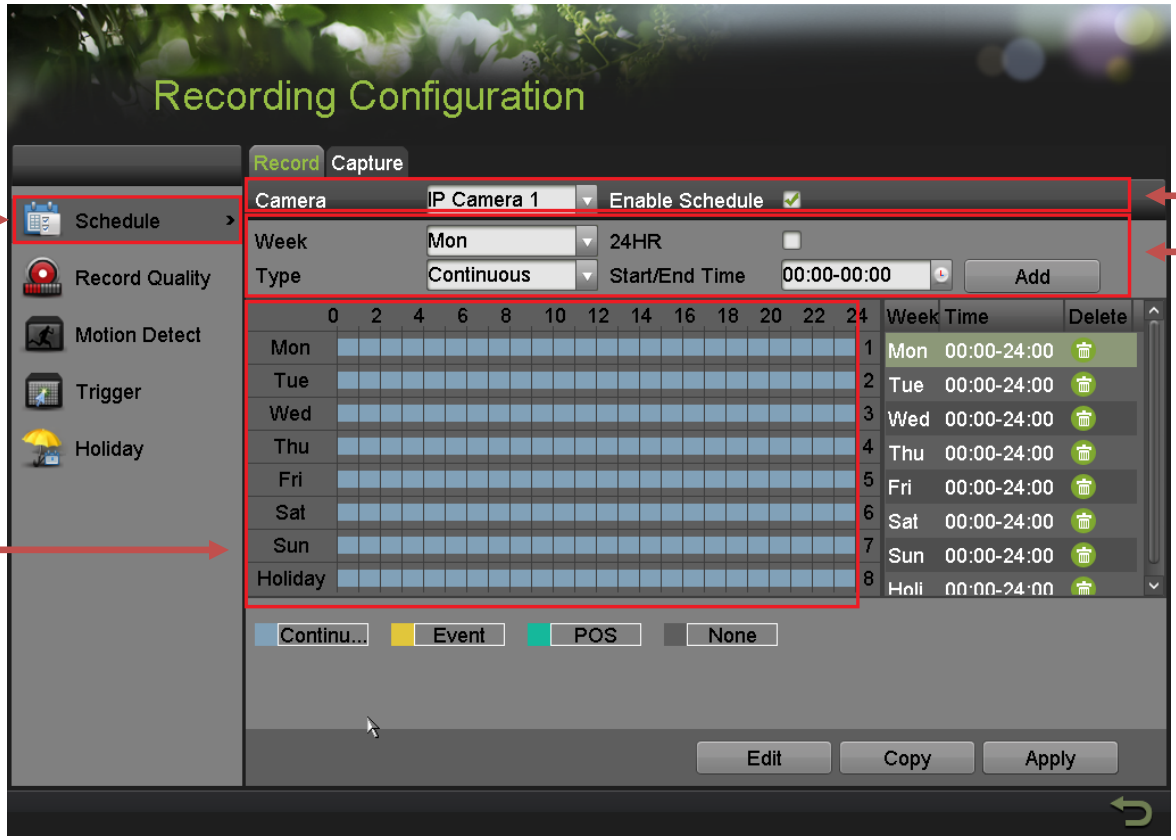
List of added cameras **(WHITE)**

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

8. 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**

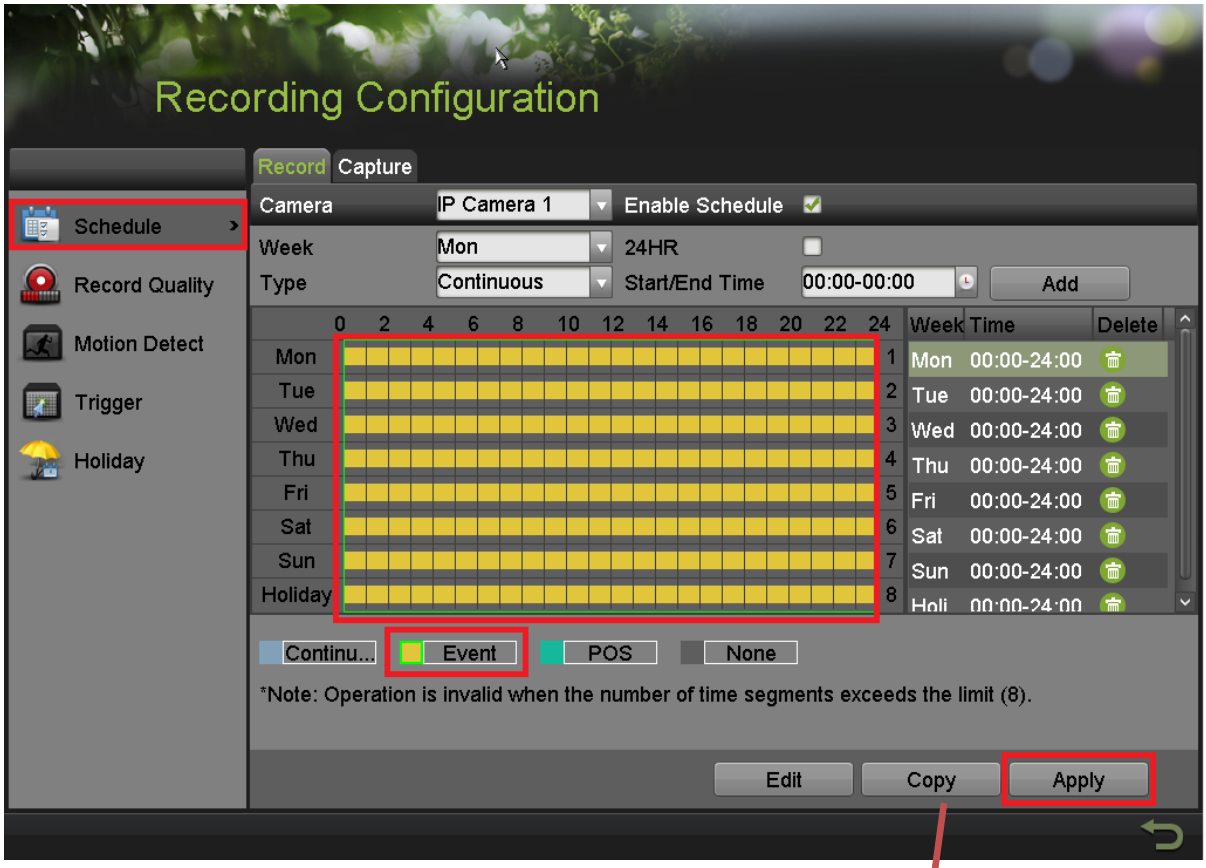
This field is used to customize a part of the existing schedule **This can be ignored if setting up motion only recording**

Select the camera. Enable/Disable the schedule

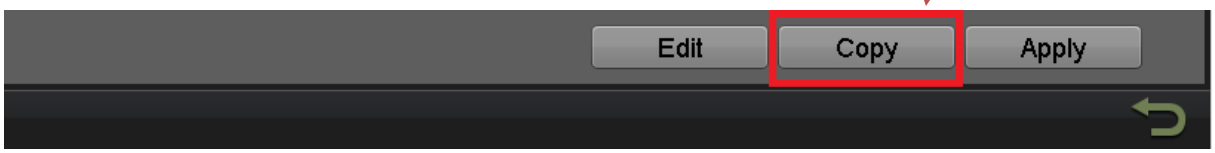
- **Please note:** If **ENABLE SCHEDULE** is not checked, then that camera would not be recording

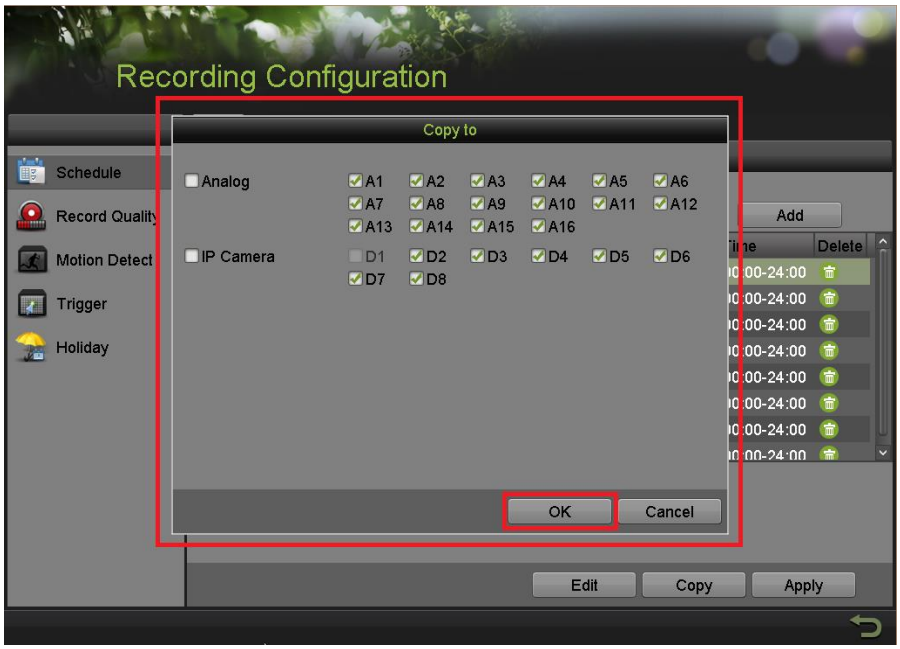
To set the DVR/NVR to **MOTION RECORDING**, go to:

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.**

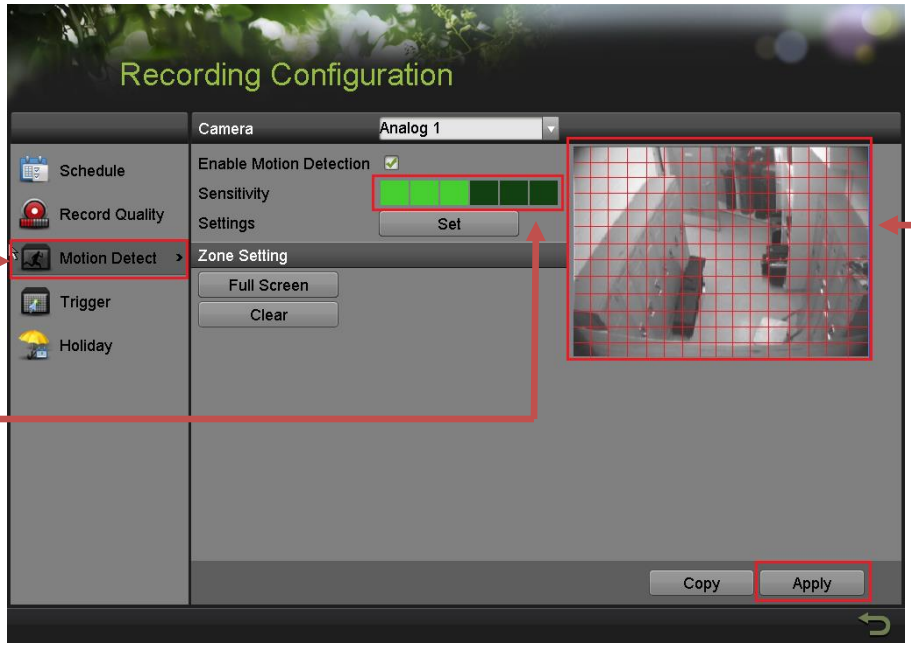


5. Press **COPY** to copy the new schedule to the remaining cameras.





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.



Motion Detection Setup

Motion Sensitivity
The amount of bright green squares indicates the sensitivity level. (in this picture the sensitivity is set to 3)

Motion Area
The grid indicates the area, where motion will be detected

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

"RECORD QUALITY" in the **"RECORDING CONFIGURATION"** submenu

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 choses: **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).

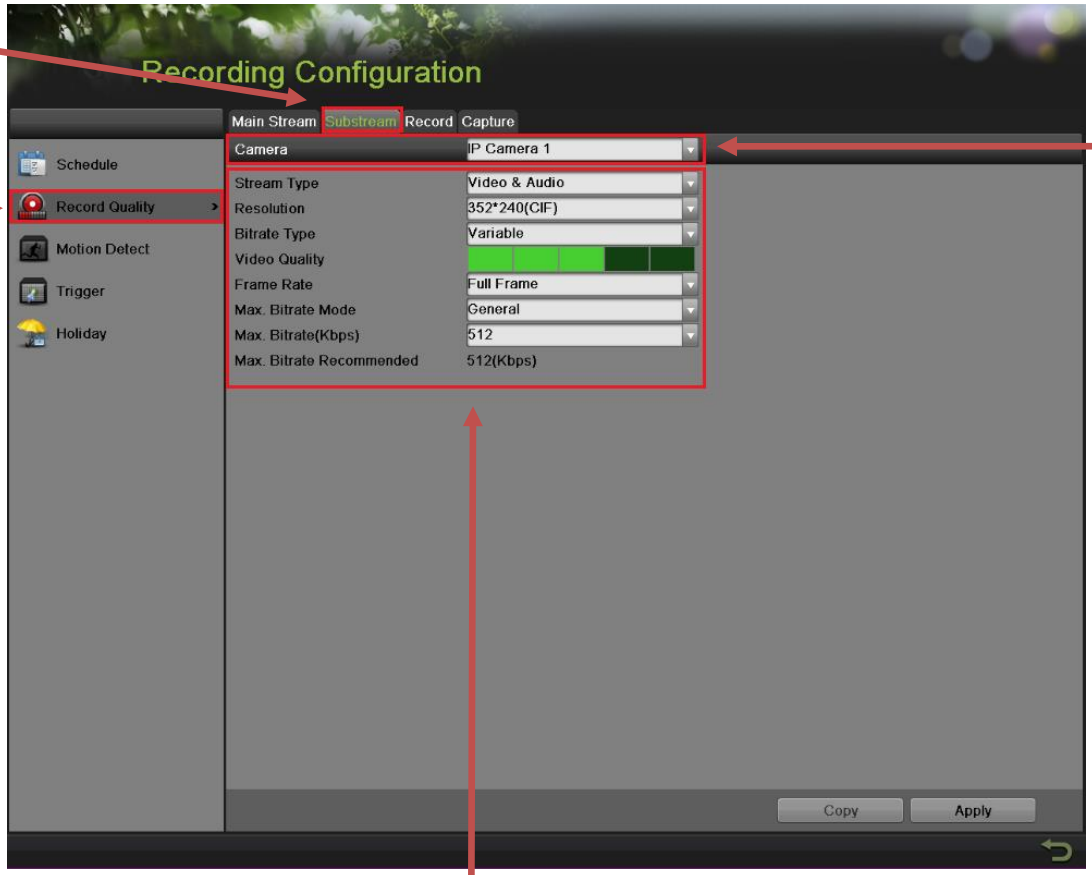
Please refer to the table below for recommended recording parameters

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

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**

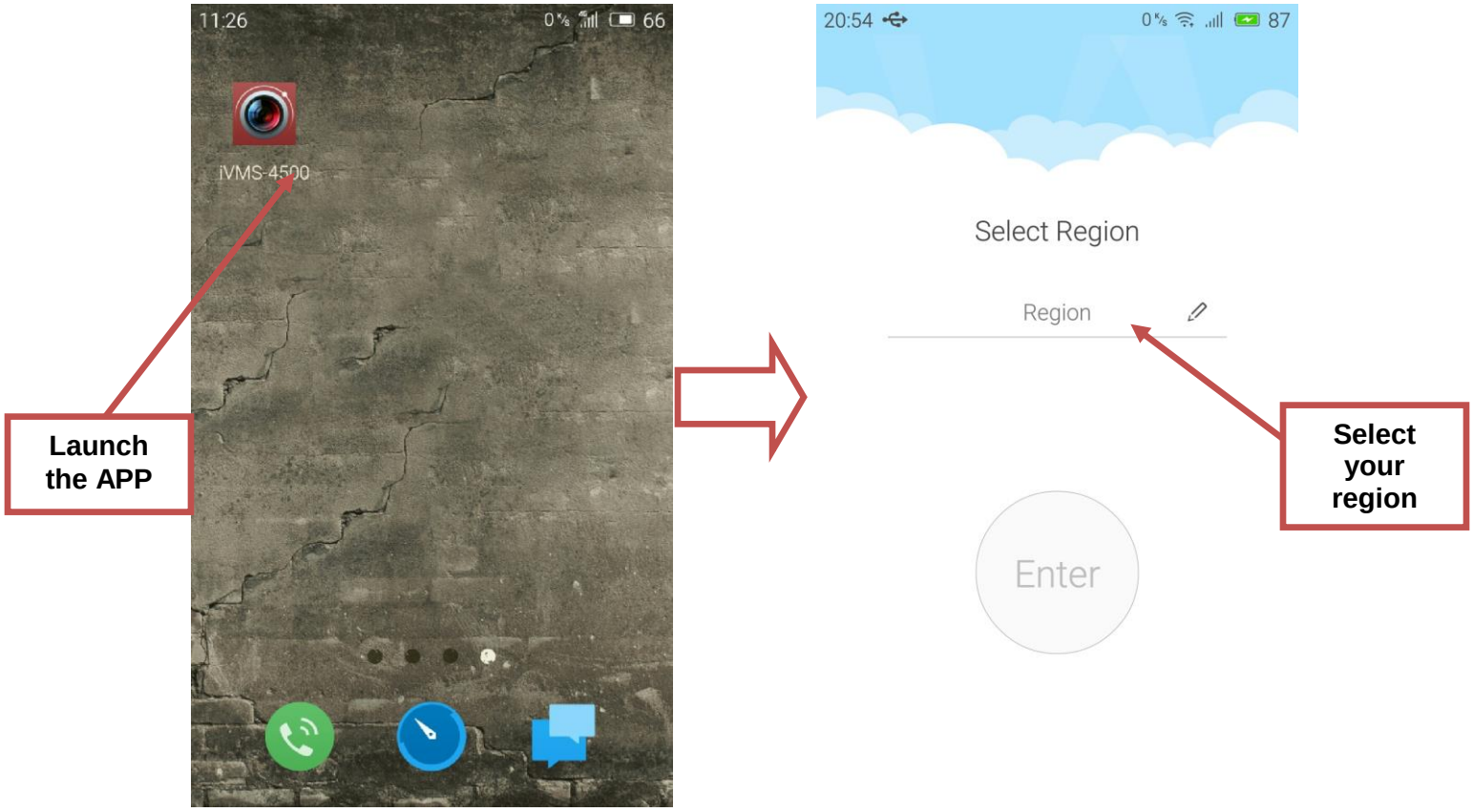
Select Camera

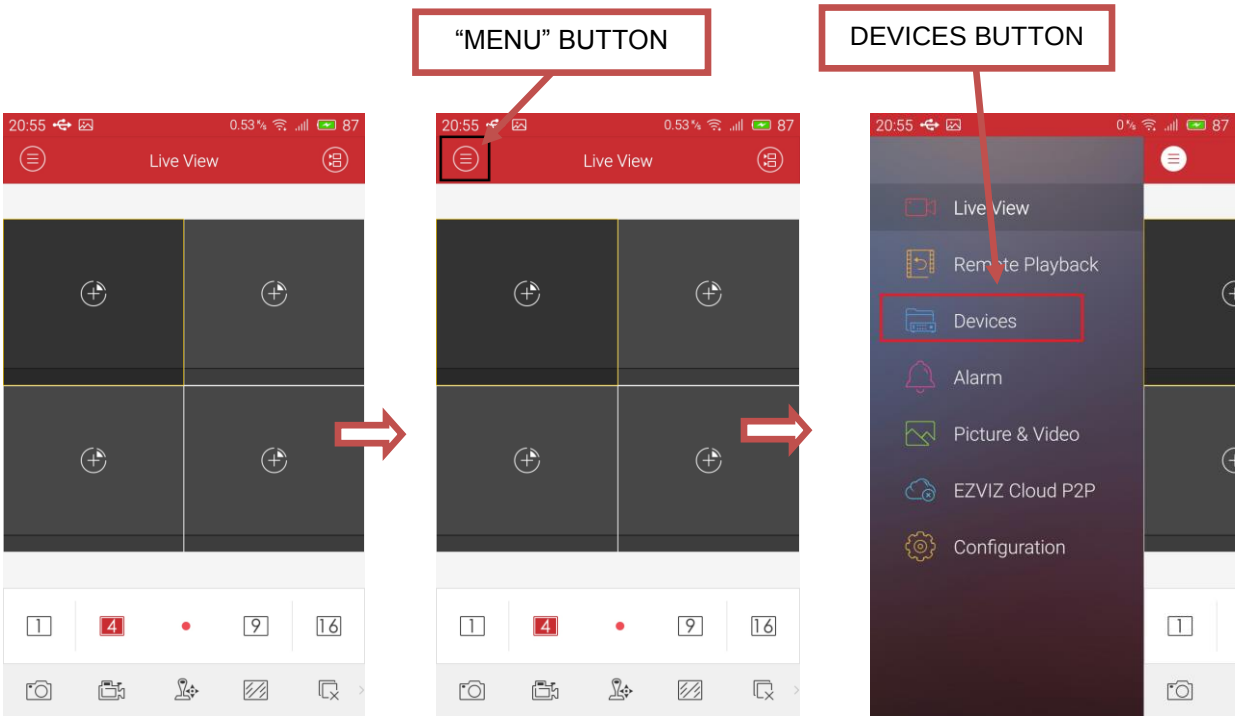
Please note: If the upload speed is not sufficient, consider lowering the frame rate/bitrate/resolution for more fluent mobile app viewing.

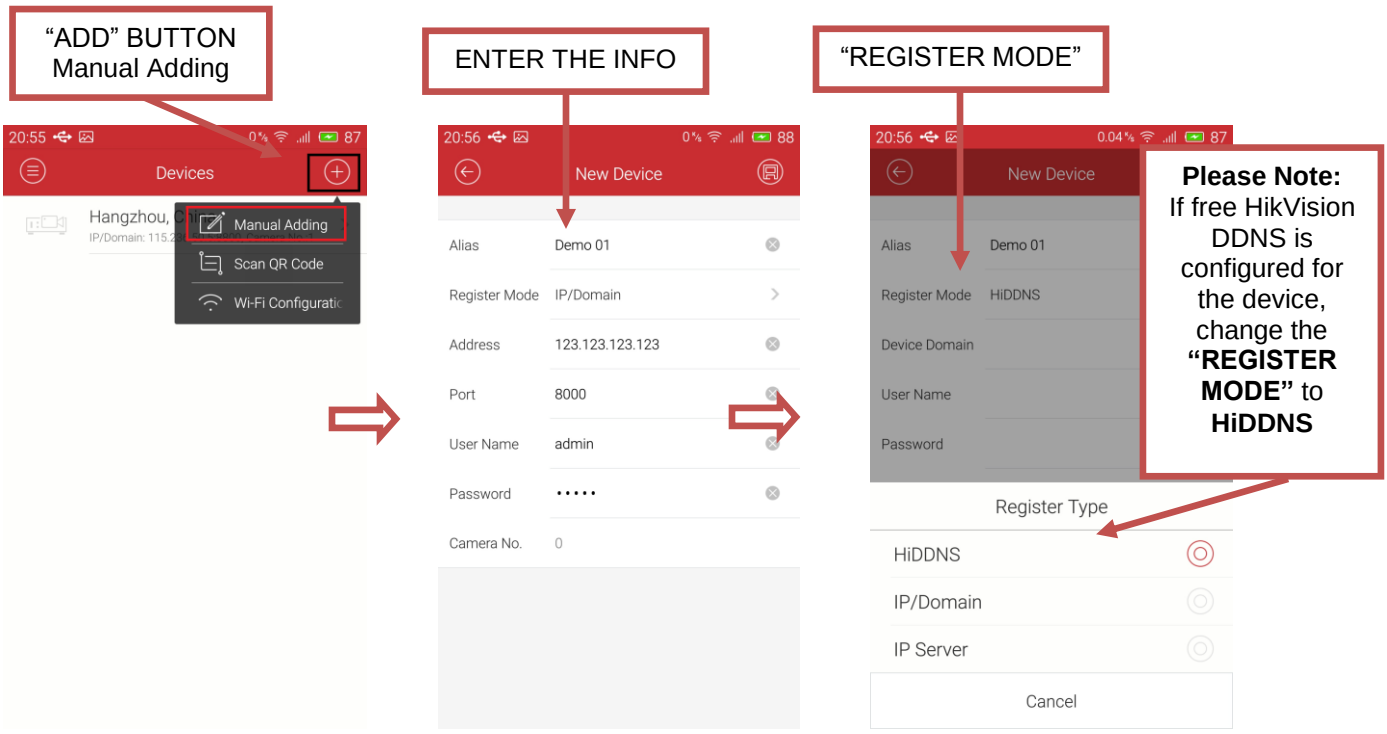
9. CONFIGURING THE MOBILE APP

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).

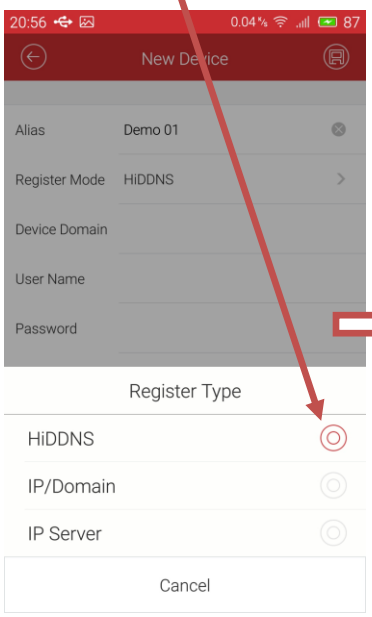
Download the app from the appropriate place and launch it. When the APP is launched for the first time, a tutorial screen will be displayed, and it can be easily skipped.



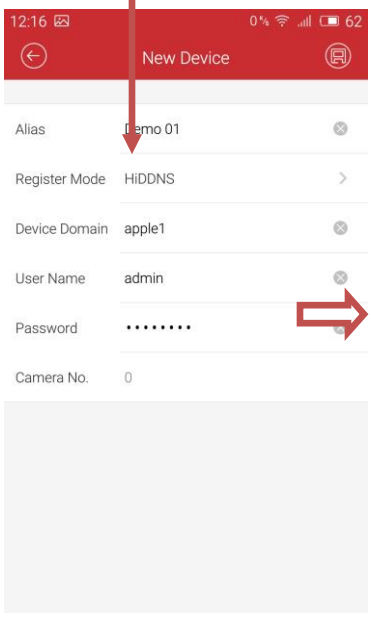




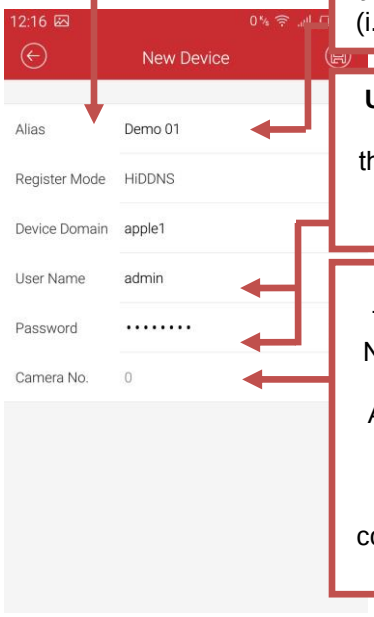
CHANGE THE MODE



ENTER "DEVICE DOMAIN"



COMPLETE THE PAGE

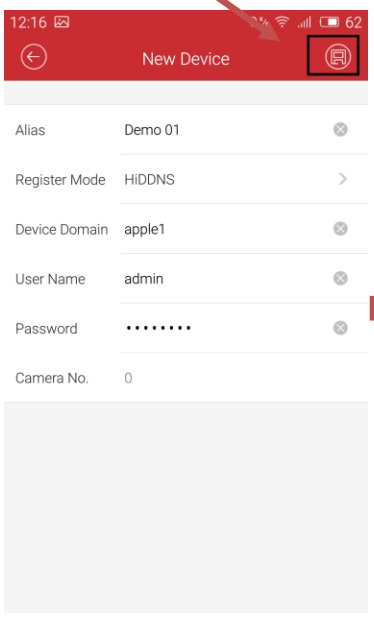


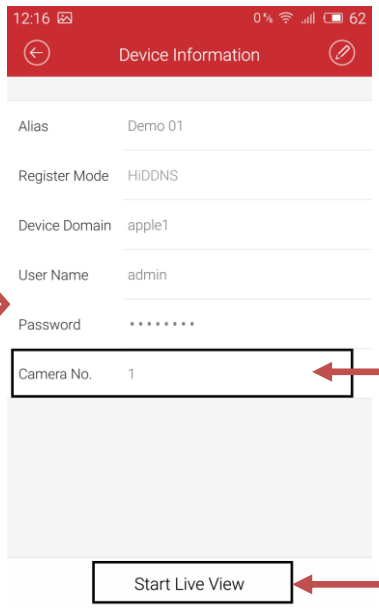
Please Note:
Alias is just a friendly name for the address book (i.e. Home/Office)

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



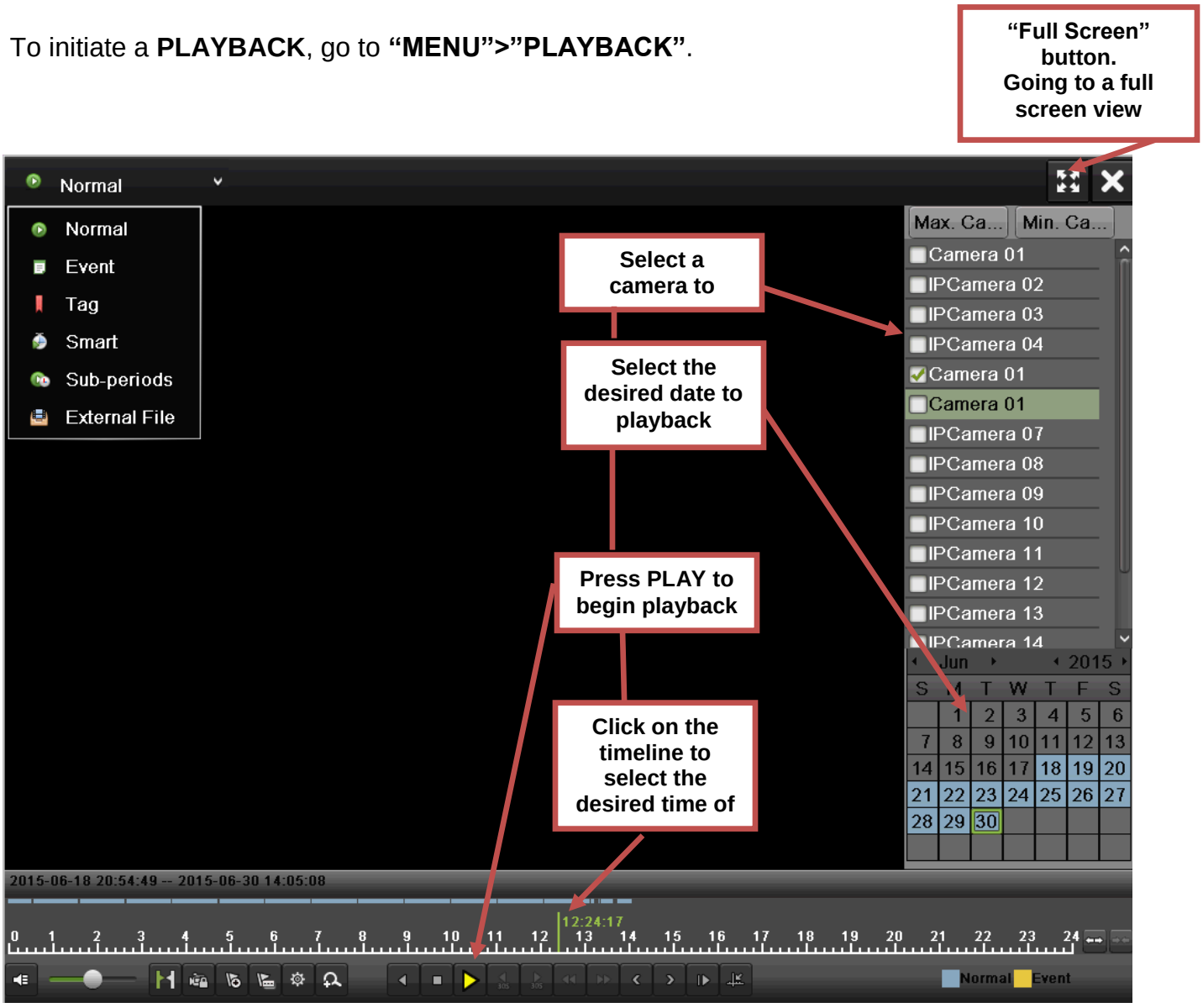


Please note:
The "CAMERA NUMBER" has changed to the correct number of cameras connected to the DVR/NVR

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

10. PLAYING BACK RECORDED VIDEO

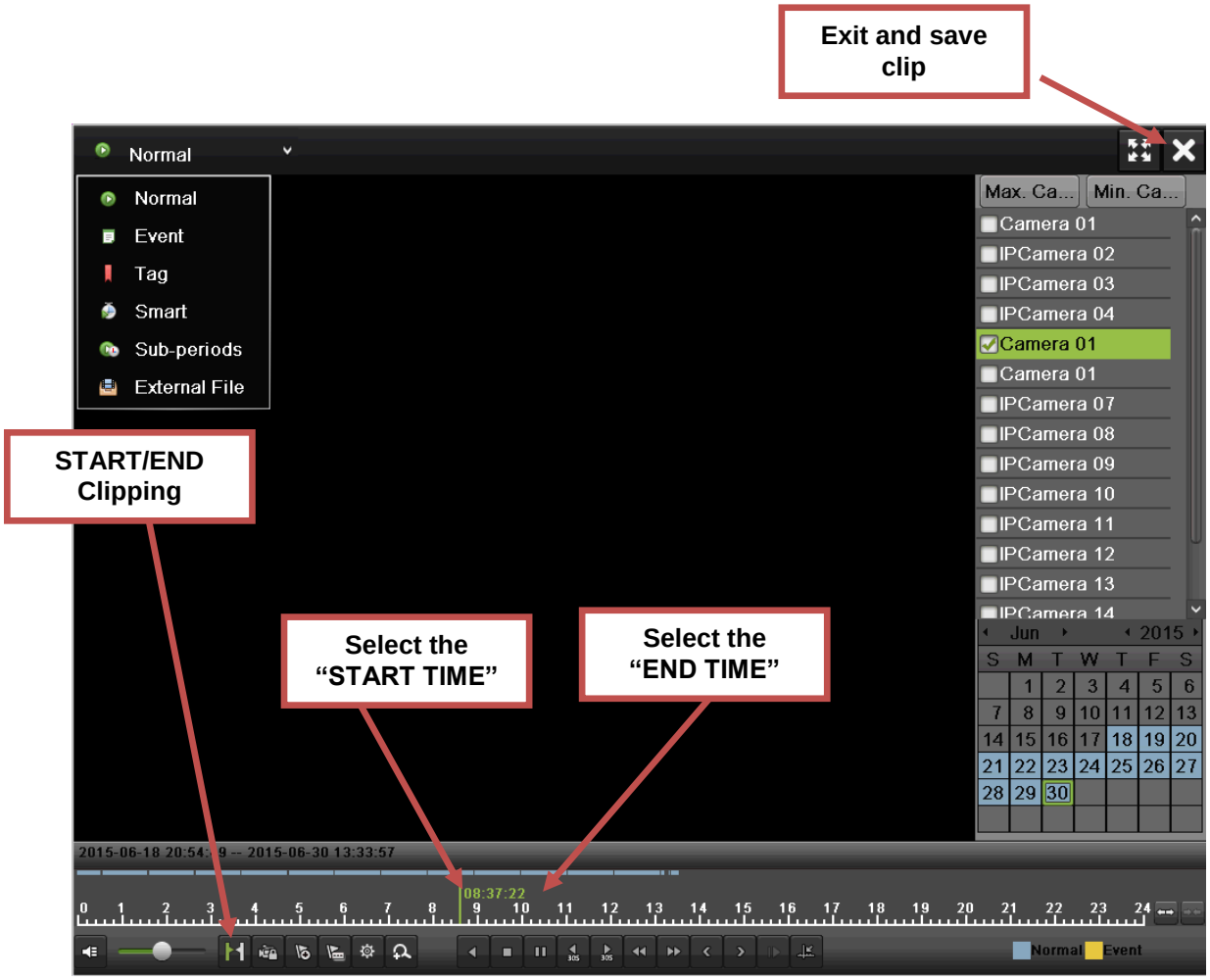
To initiate a **PLAYBACK**, go to **"MENU">"PLAYBACK"**.



Steps to initiate **PLAYBACK**

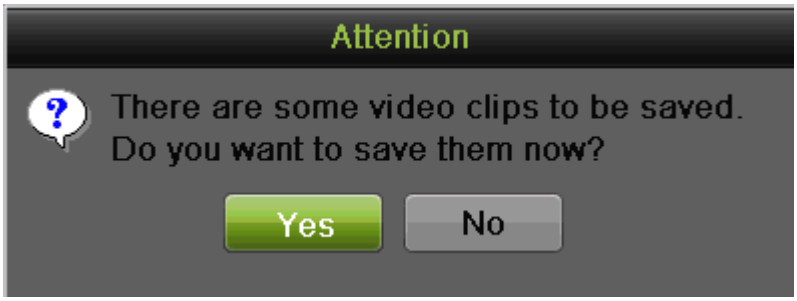
1. Select the desired camera
2. Select the desired date. The days that contain recording will be highlighted on the calendar
3. Press "PLAY"
4. Select the desired time using the Timeline or "Jump to Time" feature.

11. MAKING A BACKUP

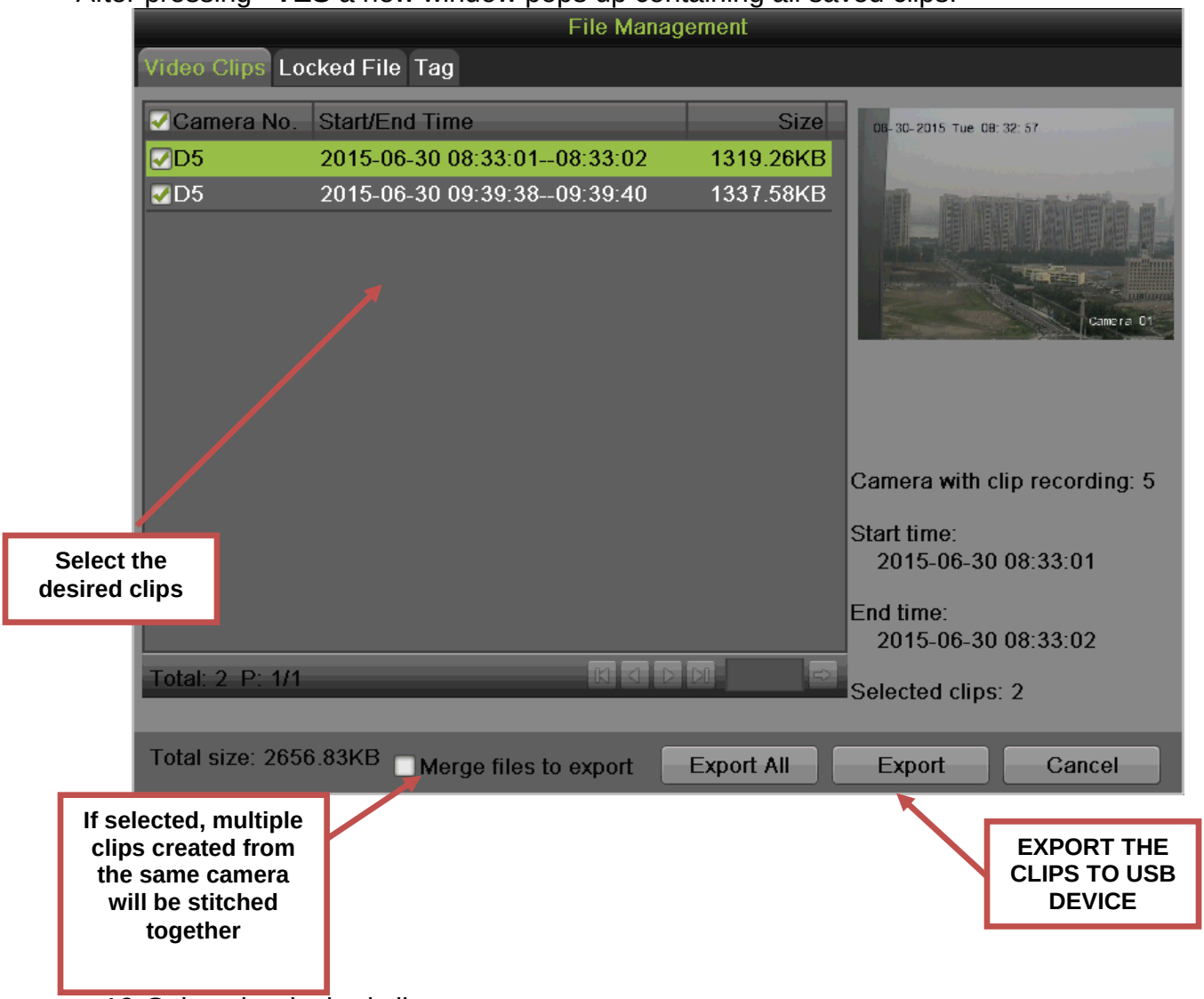


Steps to make a **BACKUP** of recorded video

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. Repeat steps 1-7 as many times as required
8. Click **"EXIT"** or right-click.
9. Click **"YES"** to save clipping.



After pressing **"YES** a new window pops up containing all saved clips.



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