DEFENDER®

VISION AI

QUICK START GUIDE

TABLE OF CONTENTS

ACTIVATE YOUR WARRANTY

PROTECT
Covered for the unexpected

SUPPORT
Receive videos, tips & updates for your product

VALUE
Exclusive access to special offers

Open your camera & scan this QR code,
or visit: **DefenderCameras.com/Warranty**

EXTEND YOUR WARRANTY

Don't forget to protect your purchase and ease your mind by extending your included 1 year manufacturer warranty to 2 or 3 years. If something goes wrong, our team of Security Experts will get you back up and running fast!

Extended Warranties can be purchased up to 60 days after your product's purchase.

2 Year Warranty
Extend your peace of mind to two years

◊ **Product Defects**

◊ **Advanced Replacements**

◊ **Free Return Shipping in Year 2**

3 Year Warranty
Extend your peace of mind to three years

◊ **Product Defects**

◊ **Advanced Replacements**

◊ **Free Return Shipping**

Open your camera & scan this QR code, or visit:
DefenderCameras.com/pages/extended-warranties

WHAT YOU'LL NEED

- Monitor/TV
- Hammer Drill & Appropriate Bit
- Phillips (#2) Screwdriver
- Ladder (*if required*)
- Cable Protectors (*if required*)

WHAT'S INCLUDED

4CH MODEL
- 1 x DVR with 1TB HDD
- 4 x 4K Analog HD Cameras
- 4 x 60ft BNC Cables
- 1 x Camera Power Adapter
- 1 x 4-Way Power Splitter
- 1 x HDMI Cable
- 1 x Ethernet Cable
- 1 x DVR Power Supply
- 1 x USB Mouse
- 4 x Camera Mounting Hardware
- 1 x Quick Start Guide
- 1 x Window Warning Sticker
- 4 x Drilling Template
- Lifetime Live Chat Support

8CH MODEL
- 1 x DVR with 1TB HDD
- 8 x 4K Analog HD Cameras
- 8 x 60ft BNC Cables
- 2 x Camera Power Adapter
- 2 x 4-Way Power Splitter
- 1 x HDMI Cable
- 1 x Ethernet Cable
- 1 x DVR Power Supply
- 1 x USB Mouse
- 8 x Camera Mounting Hardware
- 1 x Quick Start Guide
- 1 x Window Warning Sticker
- 8 x Drilling Template
- Lifetime Live Chat Support

16CH MODEL
- 1 x DVR with 2TB HDD
- 16 x 4K Analog HD Cameras
- 16 x 60ft BNC Cables
- 4 x Camera Power Adapter
- 4 x 4-Way Power Splitter
- 1 x HDMI Cable
- 1 x Ethernet Cable
- 1 x DVR Power Supply
- 1 x USB Mouse
- 16 x Camera Mounting Hardware
- 1 x Quick Start Guide
- 1 x Window Warning Sticker
- 16 x Drilling Template
- Lifetime Live Chat Support

REGULATORY INFORMATION

FCC STATEMENT: This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation. This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20cm between the radiator and any part of your body.

FCC WARNING: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions,may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet different from that to which the receiver is connected.
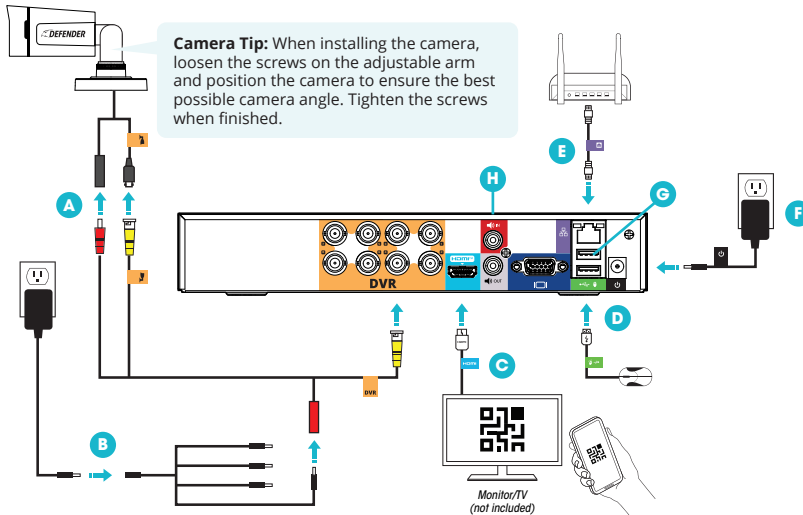- Consult the dealer or an experienced radio/TV technician for help.

IC STATEMENT / DÉCLA RATION IC: This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions: (1)This device may not cause interference. (2)This device must accept any interference, including interference that may cause undesired operation of the device. L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :(1)L'appareil ne doit pas produire de brouillage; (2)L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement. This equipment complies with IC RSS-102 radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. Cet équipement est conforme aux limites d'exposition aux radiations IC CNR-102 établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

DEVICE SETUP

PLEASE READ FIRST!

You must connect the DVR to a monitor/TV to complete the setup. We recommend verifying all accessories and completing the DVR setup before installing the cameras. For the best viewing experience, we recommend using a 4K monitor/TV to view your footage.

Camera Tip: When installing the camera, loosen the screws on the adjustable arm and position the camera to ensure the best possible camera angle. Tighten the screws when finished.

Monitor/TV
(not included)

1. **CONNECT THE MONITOR, USB MOUSE, CAMERAS, MODEM/ROUTER, AND POWER SUPPLY TO THE DVR BASED ON THE COLOR AND IMAGE LABELS:**

    A **Camera and BNC Cable:** Connect the red and yellow BNC connectors to the camera. Attach the second yellow connector to the DVR. *Tip: When connecting the BNC connection, twist right to lock the metal connection in place.*

    B **Camera Power:** Connect the second red power connector from the BNC cable to the 4-way splitter and power supply. Connect the 4-way power splitter and the camera power adapter to a power outlet. **Repeat for 8 or 16 channel setups.*

    C **Monitor/TV:** Connect the monitor/TV to the DVR with the HDMI cable.

    D **USB Mouse:** Connect the USB mouse to the DVR.

    E **Modem/Router:** Connect the Ethernet cable to the DVR and modem/router.
    (NOTE: Wired Ethernet connection required. The DVR cannot connect to the modem/router via Wi-Fi)

    F **DVR Power:** Connect the DVR power cable to a power outlet.

    G **USB Port**

    H **Audio Ports:** Add audio recording to select cameras by connecting an external audio recording device (not included). *IMPORTANT: Vision AI cameras do not come with a built-in microphone.*
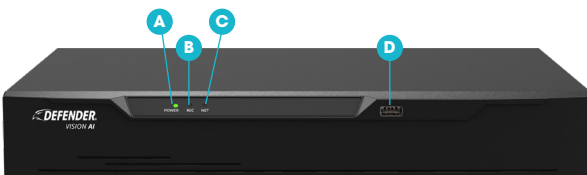
A **Power LED:** Indicates the DVR is on.

B **Record LED:** Data is being read or written to HDD.

**C** **Network LED:** DVR is connected to a network.

D **USB Port**

2.   PROPER AI CAMERA INSTALLATION AND PLACEMENT

Defender Vision AI supports Artificial Intelligence (AI) to better detect humans and vehicles to deliver more relevant notifications.

Please Note: The accuracy of human and vehicle detection will be influenced by multiple factors such as, distance from the camera, the size of the human/vehicle, the height, angle and direction of the camera, and your night vision settings.

For optimal performance, follow the recommended guidelines below and set your night vision to Double LED. (See "Vision Modes" to customize your settings.)

- Angle the camera so that objects in the camera's field of view appear in the bottom 2/3 of the camera image.

- Choose a location where objects of interest will be no further than 20ft (6.1m) from the camera.

15°

Camera Field Of View

Optimal Motion Detection Zone

8-11 ft (2.5-3.5 m)

Up to 20 ft (6.1 m)
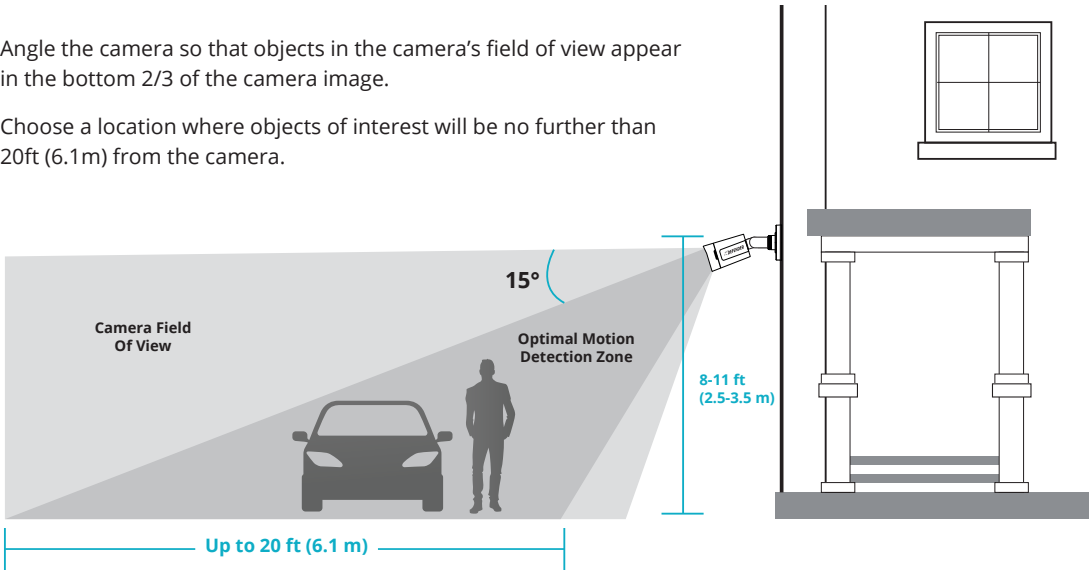
Optimal Human and Vehicle Detection Zone
The following measurements apply when the camera is pointed 15 degrees below horizontal

Camera Height	Minimum Distance	Maximum Distance
8.2 ft (2.5 m)	2.8 ft (0.86 m)	20 ft (6.12 m)
9.8 ft (3 m)	4.5 ft (1.39 m)	19.7 ft (6.03 m)
11.5 ft (3.5 m)	6.3 ft (1.93 m)	19.3 ft (5.90 m)

DVR ACTIVATION
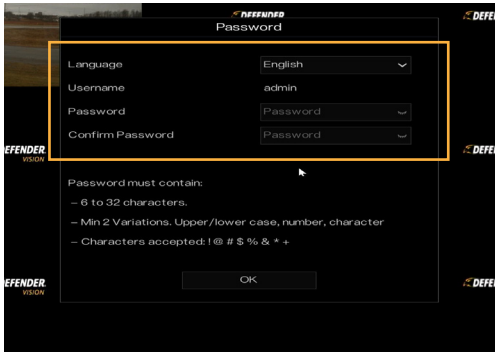
ADMIN PASSWORD

1. Select your language.

2. Create a password – **PLEASE REMEMBER YOUR PASSWORD!**

3. Confirm the password.

4. Click **"OK".**
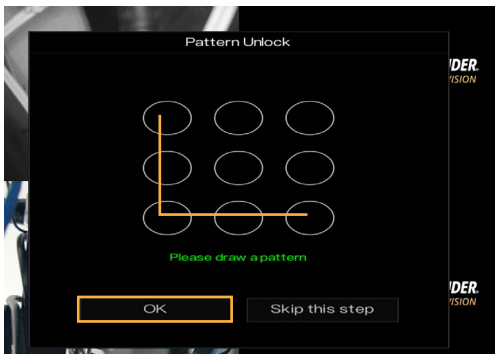
PATTERN UNLOCK

Draw an unlock pattern to access your system in place of a password. If you do not wish to create a pattern, skip this step.

1. Click & drag to draw a pattern – you must connect at least 4 dots.

2. **Re-enter** the unlock pattern to confirm.

3. Click **"OK".**
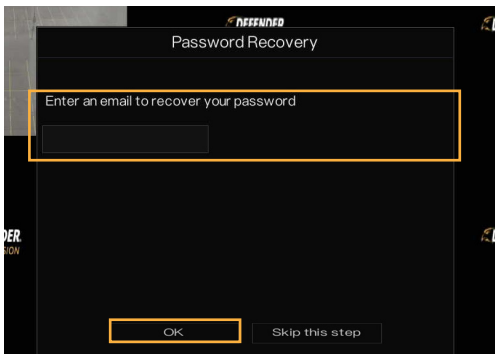
PASSWORD RECOVERY

1. Enter your email address and click **"OK".**

Please Note: We do not recommend skipping this step.

SECURITY QUESTIONS

Security questions are used to reset a forgotten password.

1. Select 3 security questions and enter your answers.

2. Click **"OK".**

REMEMBER YOUR ANSWERS! We recommend writing your questions and answers down and keeping them in a safe place for future reference.

DVR SETUP WIZARD
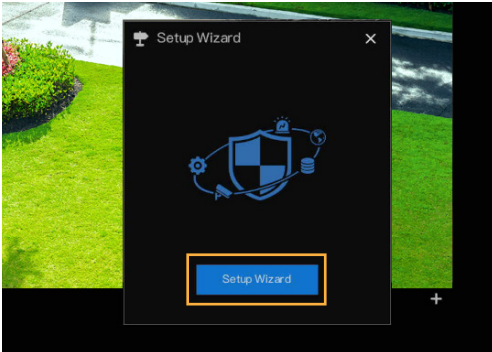
SETUP WIZARD

1. Click **"Setup Wizard"** to start your DVR setup.
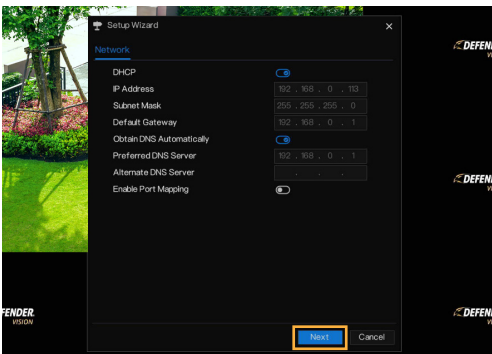
NETWORK

1. If you have a static IP address, make all necessary changes otherwise, no change is required.

2. Click **"Next".**
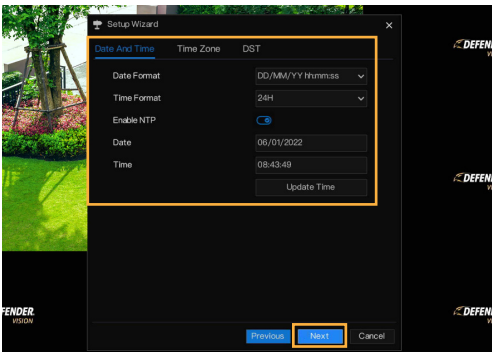
DATE AND TIME

1. Select your Date and Time format.

2. Select Enable NTP to automatically synchronize your date and time to your selected time zone. To manually enter your date and time, toggle off Enable NTP.

3. Select your Time Zone.

4. Schedule your DST (Day Light Savings). This is optional.

5. Click **"Next".**

Please Note: The Sync function will only work when your DVR is connected to the Internet. We recommend making no change to the NTP Server or Sync Time Frequency.
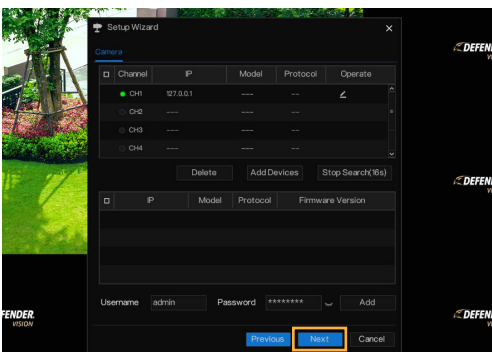
CAMERA

1. Displays the cameras available to connect to the DVR. No change is required.
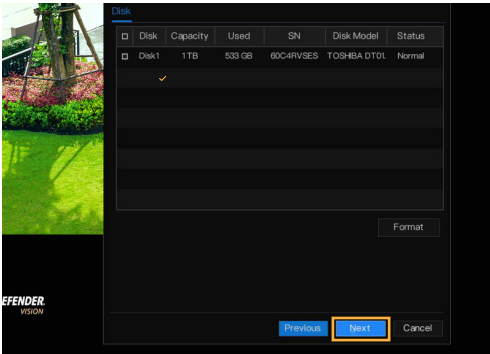
2. Click **"Next".**

DISK

1. Your DVR comes pre-formatted.

2. Click **"Next"**.

SETTING UP REMOTE VIEWING

SETUP WIZARD – MOBILE ACCESS

For remote viewing, the DVR must be connected to the Internet via an Ethernet Cable.

Please Note: The Device ID QR Code can only be scanned within the Defender Empower App. You will be prompted to do this in the next section "Account Setup".
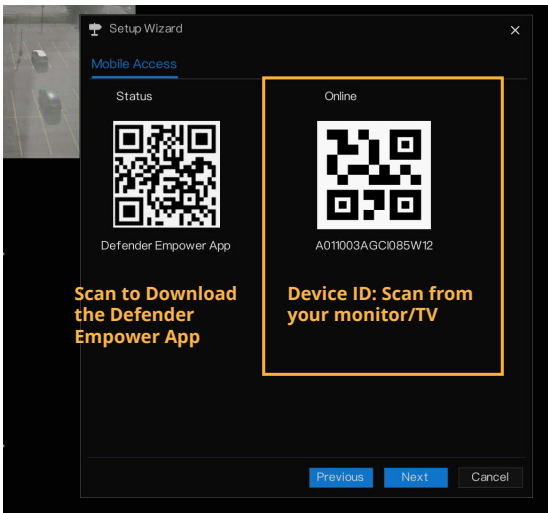
1. Open your camera and scan the **DEFENDER EMPOWER APP** QR Code on your monitor/TV screen to download the App.

2. If you are unable to scan the QR code, search **Defender Empower** in the App Store or the Google Play Store.

ACCOUNT SETUP

Please Note: All App screens & steps may vary slightly. Refer to page 22 "USING THE APP" for further reference.
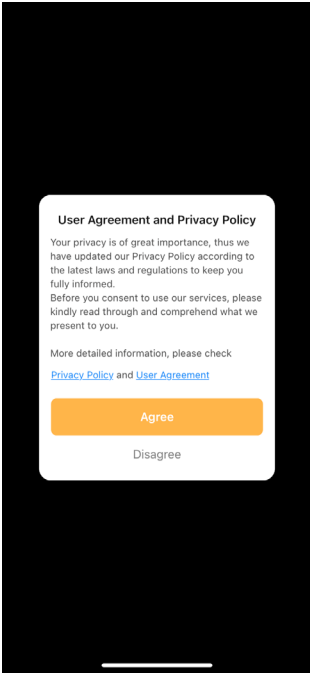
Review and agree to the User Agreement and Privacy Policy.
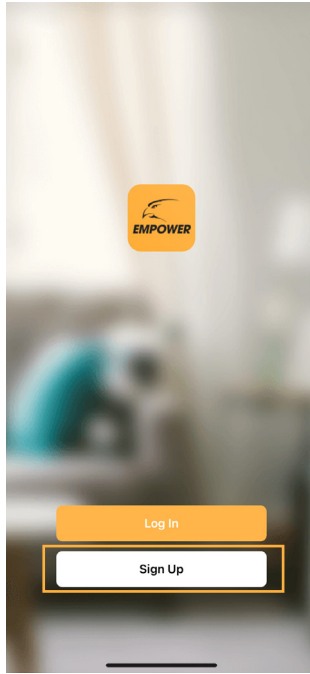
Tap 'Sign Up' to register your account.
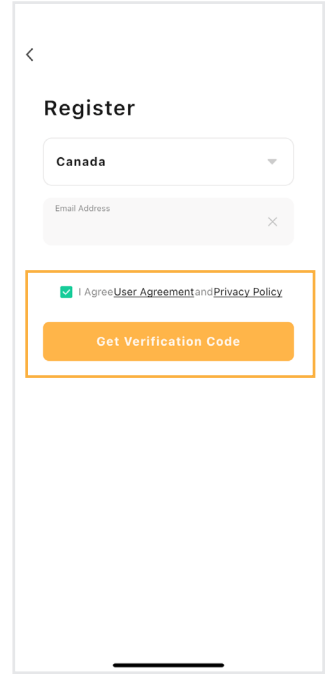
Select your region, enter your email address, and agree to User Agreement and Privacy Policy. Tap 'Get Verification Code'.
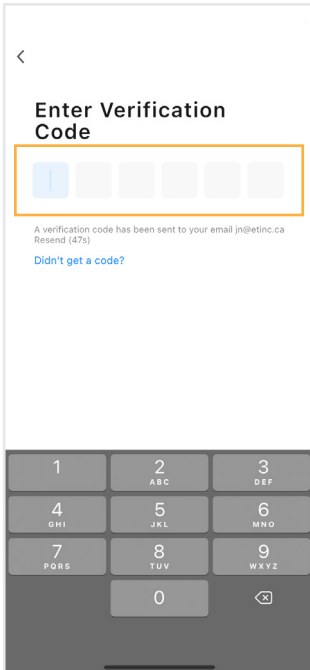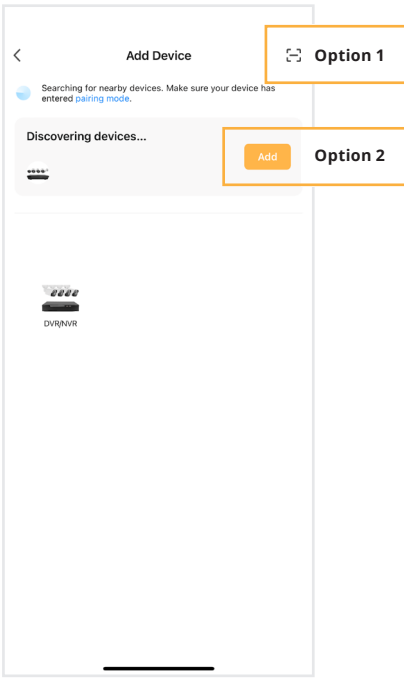
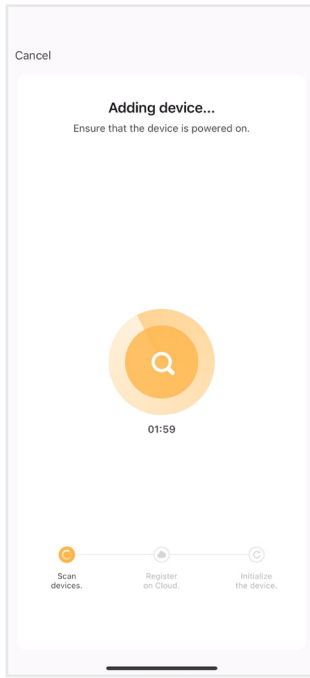Enter the Verification Code sent to your email address. This may take **up to 5 minutes** to receive.
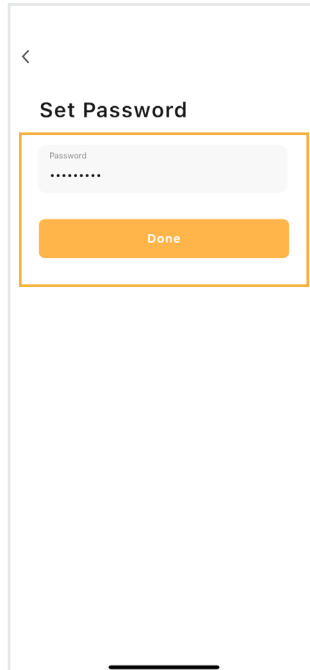
Create a new password and tap 'Done'.
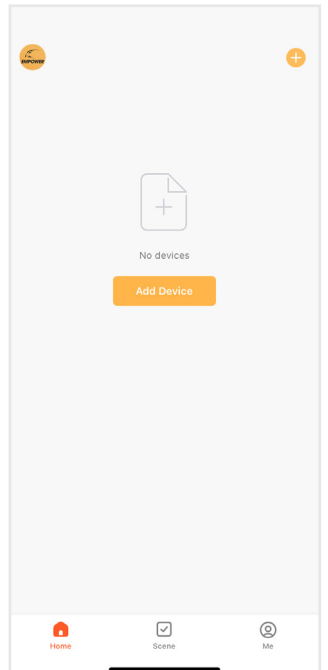
Tap 'Add Device'. Defender Would like you to use Bluetooth, Tap 'OK'.

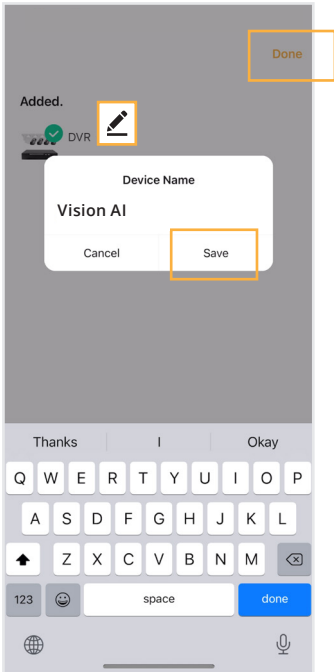**Option 1:** Tap the Scan icon [-] located on the top right.

Option 2: Wait for your App to discover nearby devices. Tap 'Add' to discover devices.

Option 1:
Scan the 'Device ID' QR code located on the Setup Wizard - Mobile Access screen of your DVR.
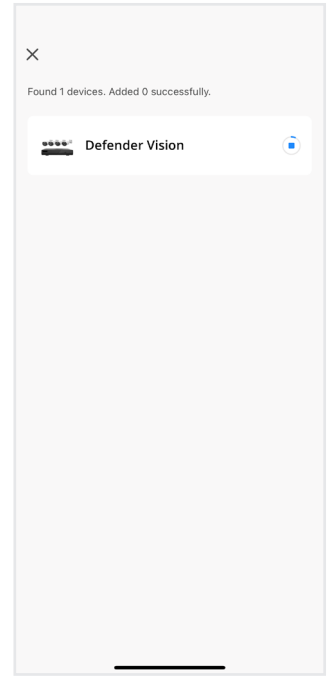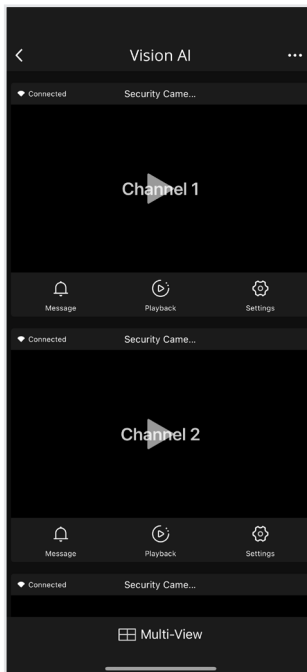

Option 2:
Wait for the Adding Device process to finish. **Do not leave this screen.**

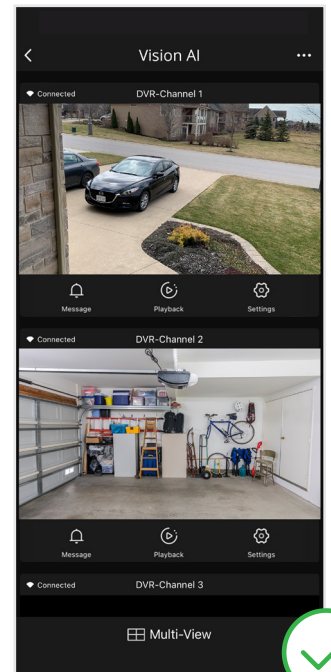Once your device is successfully added, tap 'Next'.

Select the edit icon ✏ to change your device name.
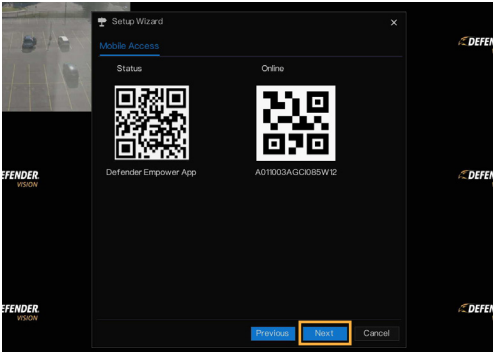
Enter a Device name, tap 'Save' and 'Done'
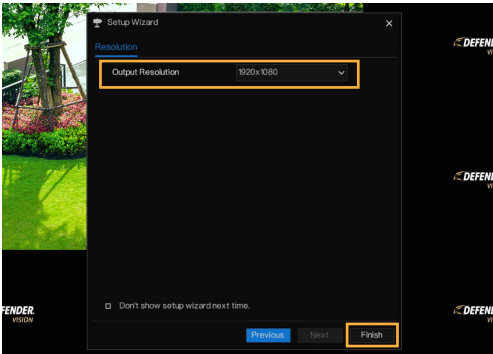

Tap each channel to load the camera footage.

The Mobile App setup is complete. Return to the DVR to finalize setup.

DVR SETUP CONTINUED

1. Your DVR is now added to the Defender Empower App for remote viewing.

2. Select **"Next".**

OUTPUT RESOLUTION

We recommend setting the output resolution to match the resolution of the monitor/TV. *For the best viewing experience, we recommend using a 4K monitor/TV.*

1. Select the Output Resolution. When using a 4K monitor/TV select "3840x2160"

2. Click **"Finish".**

Please Note: When a higher output resolution than the monitor/TV is selected, the DVR will automatically default to the max output resolution of your screen.
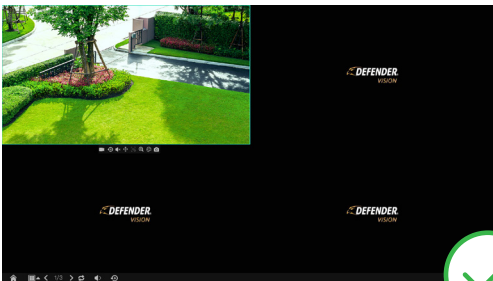

Success! Your DVR is ready for use.

CUSTOMIZE CHANNEL NAME

Customize each channel name to your preference.

1. Right click to view the Main Menu > Select OSD under Channel.
2. Select the channel and enter a customized Channel Name.
3. Toggle on/off **"Time"** and **"Channel Name"** to your preference to display this information in the camera footage.
4. Select **"Apply".**
5. Repeat for each channel or to duplicate the channel name for other channels, select **"Copy"** and apply to the desired channel(s). Select **"OK"** and **"Apply".**
6. Right click to return to the main menu.
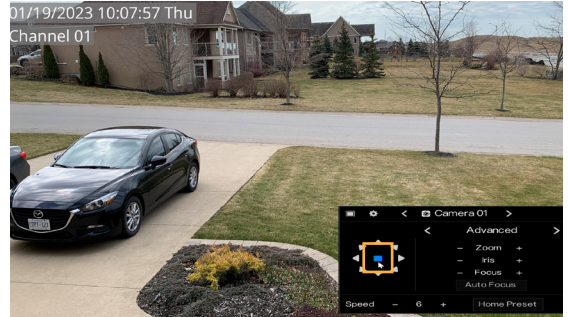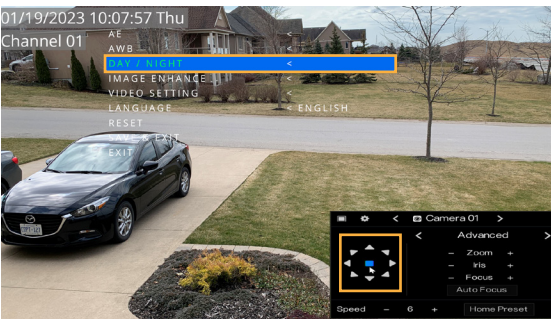7. Right click to return to live view.
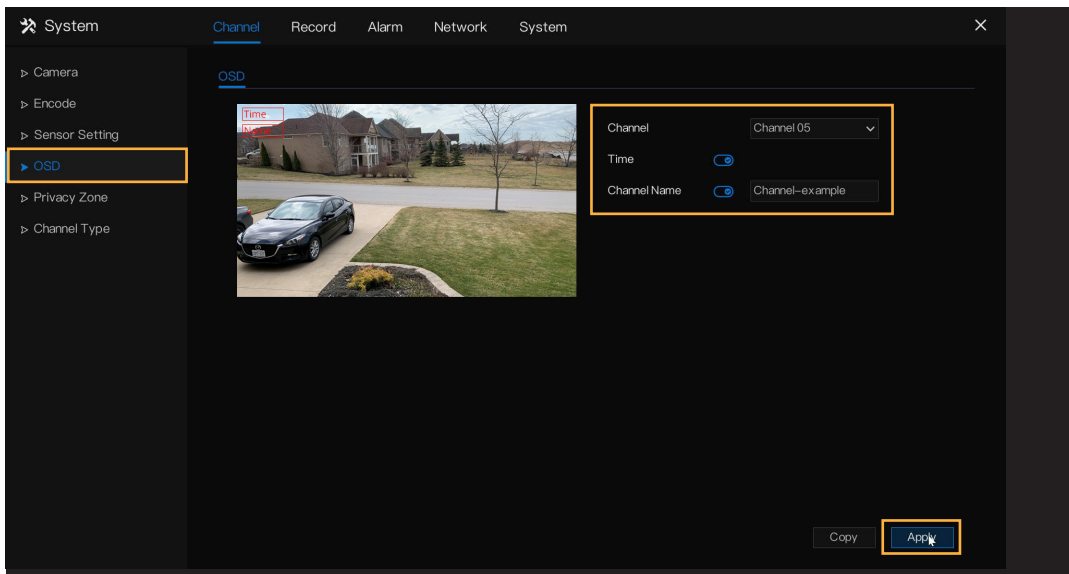
VISION MODES

You have the option to customize each channel to one of four vision modes.
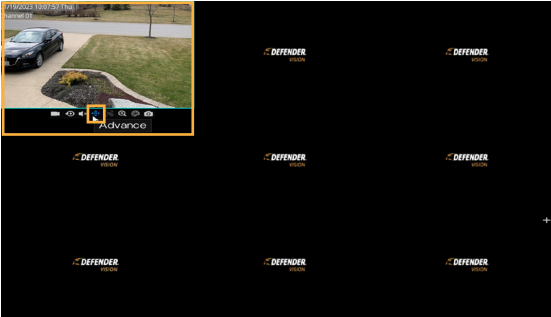
From the live view, left-click on the channel you wish to change > Select Advance ⬚
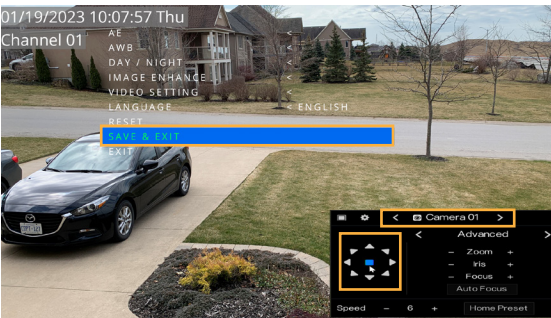

Enter the vision mode settings by pressing OK. ■

Using the navigation arrows, select Day/Night, then OK. ■

Select your preferred vision mode using the left and right navigation arrows > navigate down to return > select OK. ■

DOUBLE LED - The camera will record in full color during the day and black and white at night until motion is detected. When motion is detected, the spotlight will turn on for up to 60 seconds or as long as motion is detected, enabling color night recording during that duration.

Please note: "Spotlight" linkage must be enabled in motion detection. See Setting Up Event Notifications to enable.

IR - The camera will record full color during the day and black and white at night.

FULL COLOR - The camera will always record in color. At night, the spotlight will remain on to enable full color recording.

CLOSE - The camera will record in color during the day. At night, the camera's recording color will be dependent on ambient lighting.

Navigate down to Save & Exit and select OK. ■

- Repeat for each channel by navigating to the next channel.
- Right click to view the main menu
- Double left click to return to your set camera view layout.

SETTING UP EVENT NOTIFICATIONS
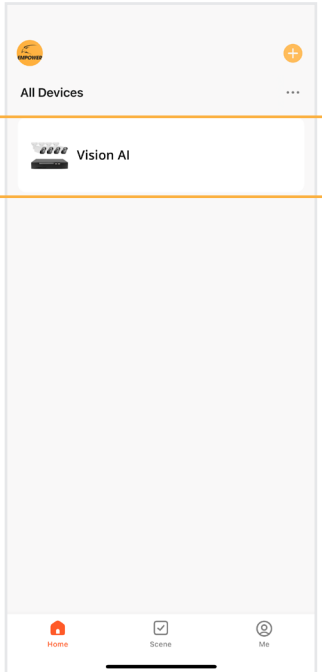
MOTION DETECTION

IMPORTANT: Toggle spotlight on in motion detection when using "Double LED" vision mode.

1. Right click to view the Main Menu > Select Motion Detection under Alarm.

2. Select the channel you wish to customize your notifications for.

3. Toggle **"Enable Motion Detection"** on/off based on your preference.

4. Toggle on/off as many Event Actions as desired. For immediate notification, we recommend toggling on "Push message to APP". *Please Note: For email notifications, follow setup instructions found in our support center support.defendercameras.com.*

5. Select **"Apply".**

6. Repeat for each channel or to duplicate the "Event Action" notification settings for other channels, select **"Copy"** and apply to the desired channel(s). Select **"OK"** and **"Apply"**.

7. Right click to return to the main menu.

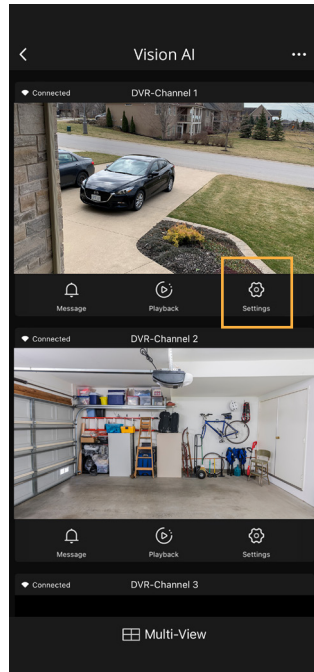8. Right click to return to live view.
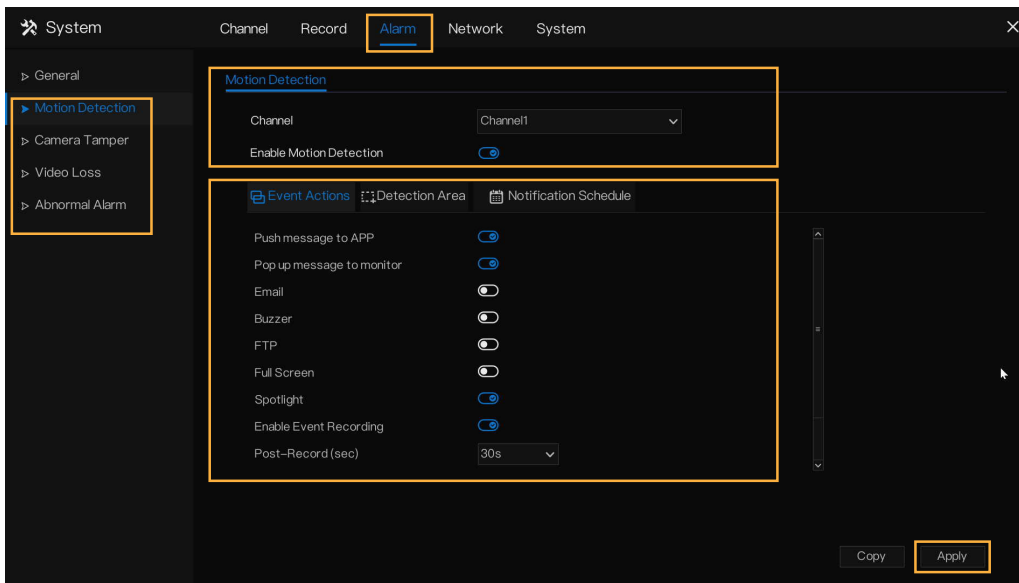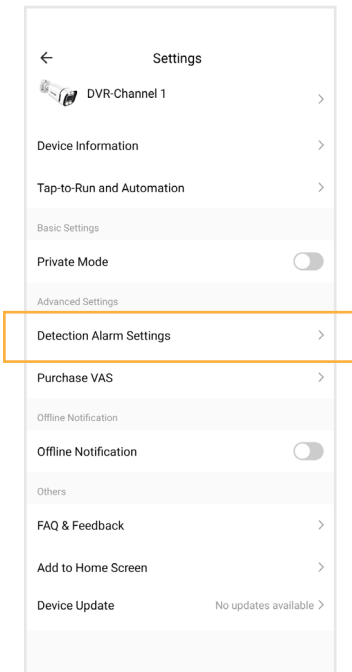
APP SETTING - MOTION DETECTION

Please Note: Motion Detection settings MUST be enabled/changed in your DVR and in your Defender Empower App. Repeat for each channel.
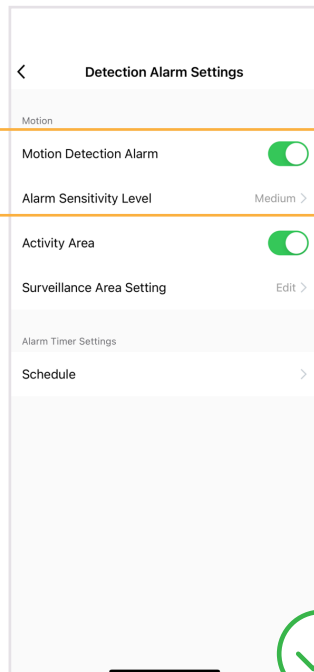
Open the App and select your device.
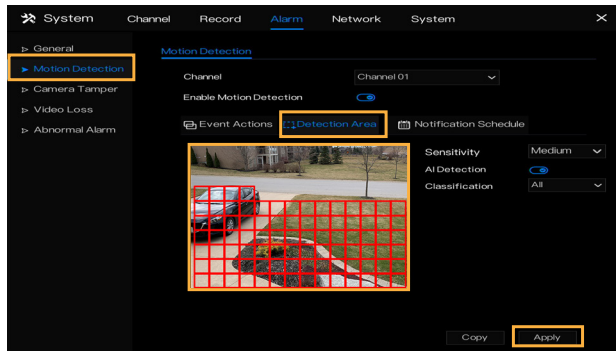
Tap 'Settings'.

Tap 'Detection Alarm Settings'.

Turn on Motion Detection Alarm and Select your 'Alarm Sensitivity Level'.
We recommend medium.

DETECTION AREA

Please Note: This setting is only available when "Enable Motion Detection" is selected in "Setting Up Event Notifications".

Detection Area allows the system to notify you only when motion is detected in the selected regions. **If you wish to be notified of all motion in the cameras field of view, skip this step.**

1. Right click to view the Main Menu > Select Motion Detection under Alarm > Select Detection Area

2. Select the channel you want to adjust the detection area for. Keep **"Enable Motion Detection"** selected.

3. Left click and drag your mouse over the areas you wish to select or deselect. *(Red gridded area is your active detection area)*

4. Select **"Apply".**

5. Repeat for each channel or to duplicate the detection area setting for other channels, select **"Copy"** and apply to the desired channel(s). Select **"OK"** and **"Apply".**

6. Right click to return to the main menu.

7. Right click to return to live view.

AI CUSTOMIZATION

Please Note: AI default setting is on, "Classification All". This setting identifies both human and vehicle motion at a medium sensitivity level. If this is your preferred setting, skip this step.

*Sensitivity level settings applies to motion detection with or without AI Detection turned on.

1. Right click to view the Main Menu > Select Motion Detection under Alarm > Select Detection Area

2. Select the channel you want to adjust the AI customization for. Keep **"Enable Motion Detection"** selected.

3. To receive notifications on all motion detected, toggle off AI Detection.

4. Select your sensitivity level preference. We recommend medium.

5. With AI Detection on, select your AI Classification reference.

   • All (detects human and vehicle)

   • Only Human

   • Only Vehicle

6. Select **"Apply"**

7. Repeat for each channel or to duplicate the AI customization and notification setting for other channels, select **"Copy"** and apply to the desired channel(s). Select **"OK"** and **"Apply".**

8. Right click to return to the main menu.

9. Right click to return to live view.
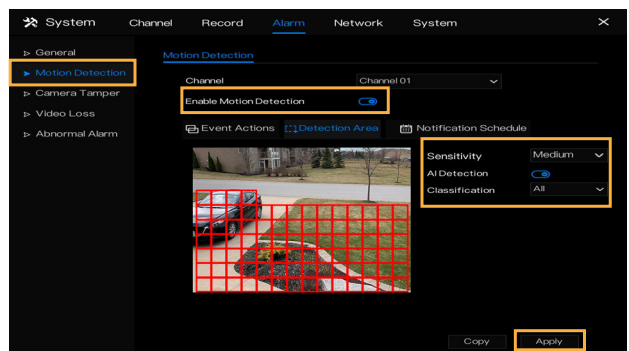
NOTIFICATION SCHEDULE

By default, you will receive motion notifications 24/7. **If this is your preferred setting, skip this step.**

To be notified when motion is detected only during certain times of the day, customize your notification schedule.

1. Right click to view the Main Menu > Select Motion Detection under Alarm > Select Notification Schedule.

2. Select the channel you want to create a notification schedule for.

3. Left Click and drag over the time of day you do not want to receive notifications. To deselect/select the entire day, click ⟳ .

4. Select **"Apply".**

5. Repeat for each channel or to duplicate the notification schedule setting for other channels, select **"Copy"** and apply to the desired channel(s). Select **Select "Ok"** and **"Apply".**

6. Right click to return to the main menu.

7. Right click to return to live view.
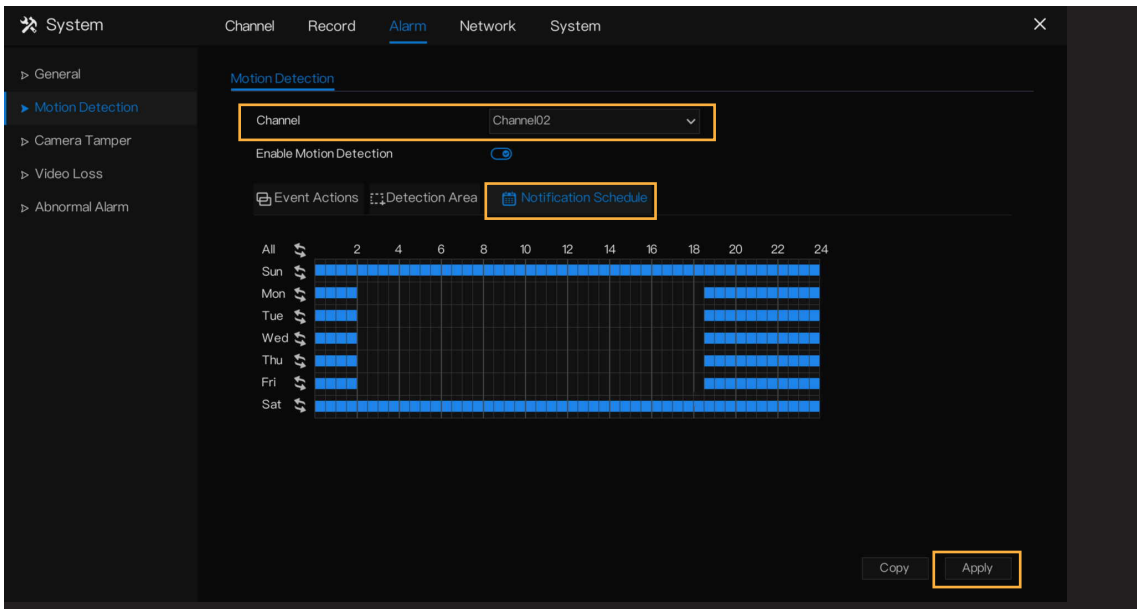
SET UP RECORDING SCHEDULE

Customize your recording preference for each channel. Record continuously, when motion is detected, or a combination.

Please Note: By default, the DVR will record continuously (●). If this is your preferred setting, skip this step.
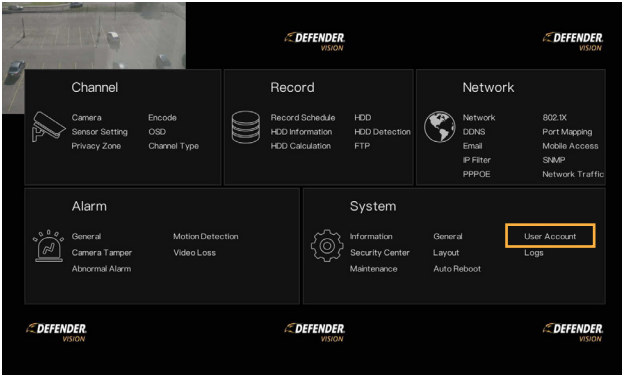
1. Right-click to access the main menu > select Record Schedule under Record

2. Select the channel you wish to edit the recording schedule for.

3. Select your preferred recording type (Continuous ● or Motion ●).

4. Hold and drag your mouse over the time and day you wish to record using your desired recording type. To edit or delete a setting, drag over the time again. To deselect/select the entire day, click 🔄 .

5. Click **"Apply".**

6. Repeat for each channel(s). To duplicate the recording schedule for other channels, select **"Copy"** and apply to the desired channel(s). Select **"Ok"** and **"Apply".**

7. Right click to return to the main menu.

8. Right click to return to live view.

Please Note: "Enable Record Audio" is not supported by Vision AI cameras. This function can only be used when an external microphone is connected to the audio port and installed with the camera.

"Alarm" is intended for professional use. To use this function, an external sensor must be connected to the DVR.
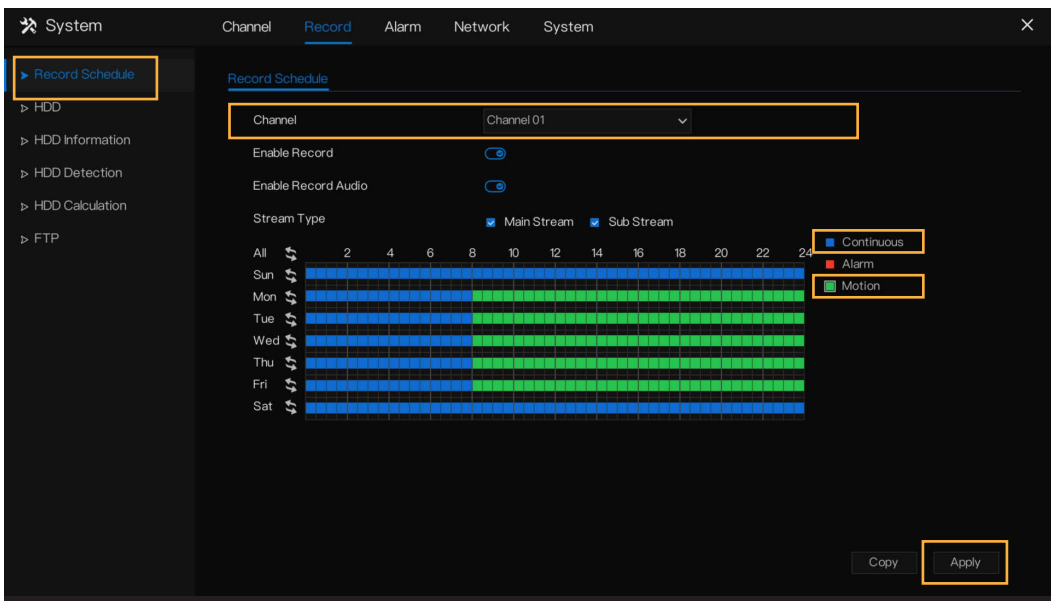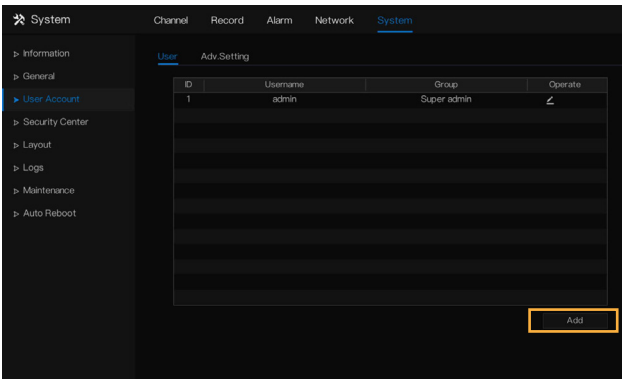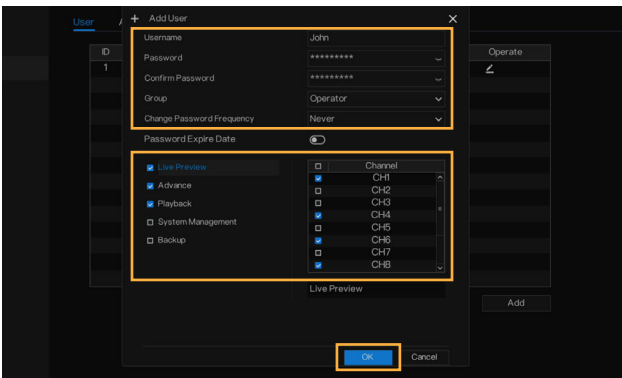
ADD ADDITIONAL USERS

Please Note: To share access via the Empower App only, an additional user does not need to be created. Refer to "Share App Access" to share remote access.

1. To setup additional logins to the DVR for authorized users, right-click to access the main menu > Select User Account under System.

2. Click **"Add".**

3. Create a username and password.

4. Confirm the password.

5. Select the Group the user will be part of. Each Group has unique access.

6. Click **"OK".**

7. Right click to return to the main menu.

8. Right click to return to live view.

LIVE-VIEW PANEL EXPLANATION

A **Instant Record**
(Record settings will be temporarily overwritten)

B **Instant Playback**

C **Audio** *(Note: Must install an external microphone and/or speaker to live view with audio)*

D **Advance** *(Note: some features are not supported)*

E **Zoom In**

F **Image Settings**

F **Snapshot**

G **Home Button**

H **Camera View Layout**

I **Current Live View Page**

J **Auto Sequence**

K **Volume** *(External microphone (not supported by Vision AI cameras) and speakers or monitor/TV must be installed to live view with audio.)*

L **Playback**

M **System Information**

USING THE APP

The Defender Empower App allows you to remotely view live video or playback recorded footage, save and share recordings, share App access and receive customized notifications.

Open your camera & scan this QR code to access the **Defender Empower App Quick Start Guide.**

FREQUENTLY ASKED QUESTIONS

Can I allow other people to view my DVR remotely?

Yes. You can share your Defender Empower App access with up to 20 additional users. Each user must download the Defender Empower App and create their own account before sharing access.

Is Vision AI compatible with other Defender Camera security system?

No, Vision AI is not compatible with other Defender security systems. If replacing or adding additional cameras or DVR, check compatibility.

Can I view my live or recorded footage from a web browser?

No, we do not offer web viewing. You can view the footage from the free Defender Empower App with compatible iOS/Android smart phones/tablets, and through a TV or monitor connected to the DVR.

Can I Extend My Camera's BNC Cable?

Yes, you can extend each camera to a maximum of 180 feet. We recommend using Defender's certified authentic and genuine BNC cable when doing so.

How can I change the length of time before I am automatically signed out of my DVR?

From the DVR, right click to access the main menu > select User Account under System > select Adv.Setting > toggle on "Enable Auto Login" or change Auto Logout Time (min) to 0 or your preferred duration > select Apply.

How can I disable the Setup Wizard?

From the DVR, right click to access the main menu > select User Account under System > select Adv.Setting > toggle off "Enable Setup Wizard" > select Apply.

Visit our website to view set-up videos or
contact our Support Team.

DefenderCameras.com/Support