# Zmodo NVR Full Manual

*A universal manual for all Zmodo NVRs*

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# Getting Started

## Overview

Some Zmodo surveillance systems come equipped with a network video recorder (NVR). The NVR uses a hard drive for local storage, and can be connected to a monitor for local viewing and control. There are a variety of Zmodo NVRs. Some Zmodo NVRs are designed to connect WiFi cameras, some are designed for wired sPoE cameras, and some a combination of both. Each NVR will also support a varying number of channels (4-ch, 8-ch, 16-ch, 32-ch, etc.). However, every NVR will have the same basic feature set and setup.

This guide is a universal guide for all Zmodo NVRs. The guide describes the hardware and software features of your Zmodo NVR, and will cover the general setup procedure and major features of your NVR and its local interface. At the end of the guide, you will find basic troubleshooting tips. For information regarding the Zmodo mobile app please view the Zmodo Support Page, and for specific setup instructions please refer to your product's quick guide.

For more, updated information, please visit www.zmodo.com/support.

Note: The instructions and screenshots in this quick guide are provided for the Zmodo app ver.4.1.12.
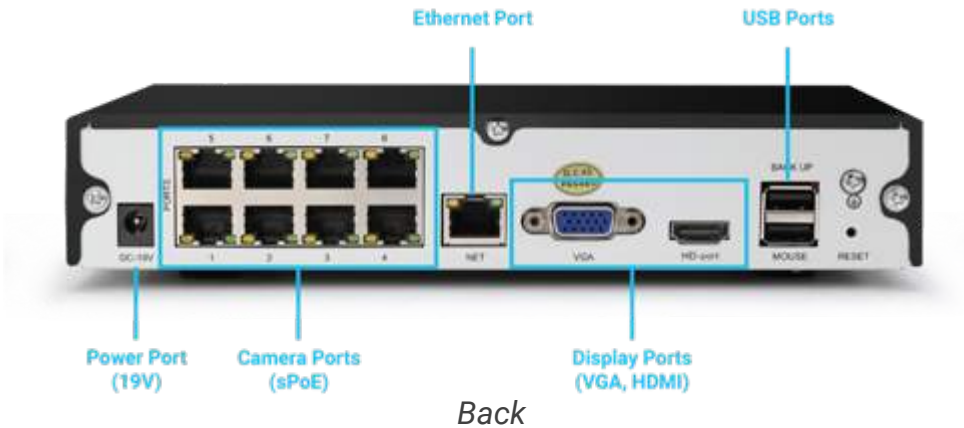
## NVR Model Types

The following describes the three different variations of Zmodo NVR models, along with major feature and installation distinctions. Please note that the actual appearance of the NVR may vary.

**Wired sPoE NVR**



*Front*

*Back*

This NVR is specifically designed to support wired surveillance cameras. The cameras use one custom sPoE cable to provide both power and video from the NVR to each camera for easier installation. When installing the hard drive, you will need to loosen all case screws and remove the top panel.

Note: This NVR can also connect Zmodo WiFi cameras on the same network as the NVR.

**Wireless NVR**


*Front*


*Back*
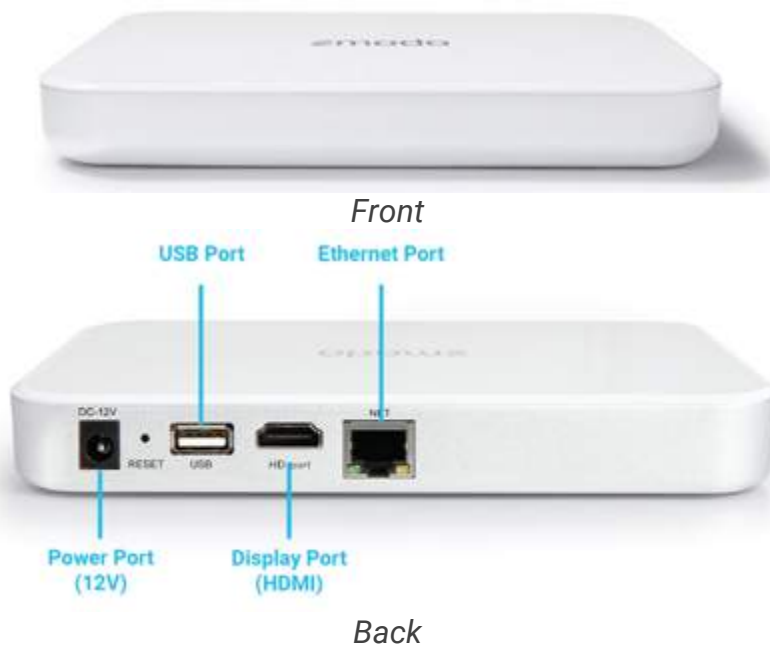
This NVR is specifically designed to support WiFi cameras. Connect the NVR to the same WiFi router that your Zmodo cameras are connected to using an Ethernet cable, and the NVR will automatically find and add the Zmodo cameras on your network. When installing the hard drive, you will need to loosen the screws and remove the HDD panel on the bottom of the NVR.

**Professional sPoE Wired NVR**



*Front*



Display Port
(HDMI)

Ethernet Port

Power Port
(12V)

USB Port

*Back*



Camera Ports    Ethernet Port    Power Cable
(19V)
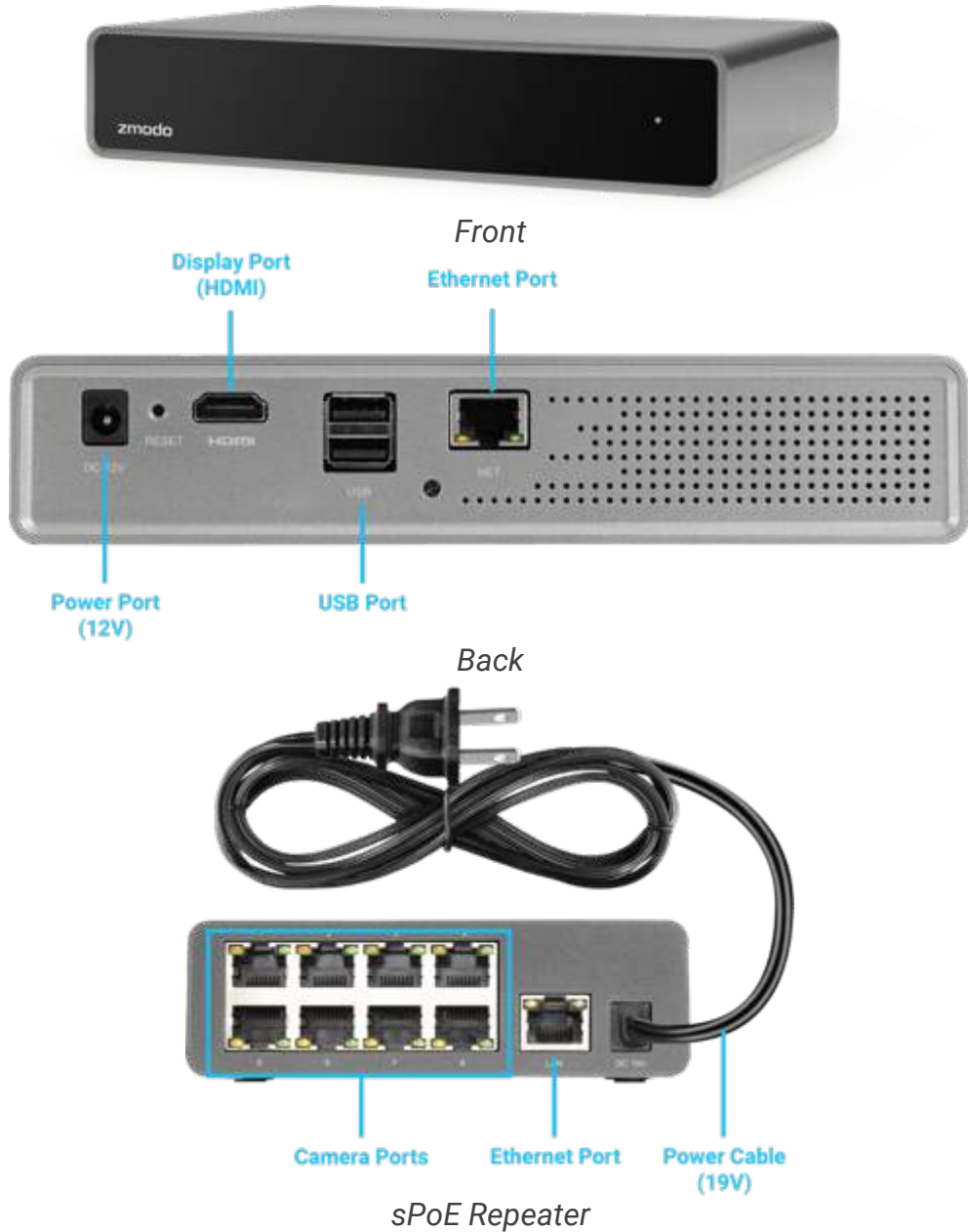
*sPoE Repeater*

This NVR is specifically designed to cover larger spaces. The NVR includes sPoE repeaters for wired sPoE cameras and can connect Zmodo WiFi cameras as well. Install the sPoE repeater in a monitoring zone or room, and connect it to the same WiFi network as your NVR to connect the cameras. When installing the hard drive, you may need to remove the adhesive footings on the bottom of the

NVR to expose the screws. Loosen the screws and open the NVR to install the hard drive.

## Camera Compatibility

Your Zmodo NVR can connect and work with almost all Zmodo cameras. If you have a 1080p NVR, you will be able to connect both 720p and 1080p cameras. If you have a 720p NVR, you will only be able to connect 720p cameras and will not be able to connect a 1080p camera.

In order to connect a camera, you will need to A) plug it into the corresponding port on the back of the NVR using the provided sPoE (simplified power over Ethernet) cable (if applicable) or B) configure your WiFi camera to the same network that your NVR is connected to.

Your NVR will automatically find all Zmodo cameras on the same network.

## Zmodo App (Remote Access)

View and control your NVR through the free Zmodo app. Sign up for a free account to:

- View live video across all channels for your NVR
- Review alerts and recorded footage
- Set schedules to determine when the camera is on or off
- Set schedules to determine when you receive notifications
- Share your NVR with family and set specific permissions
- Share and post moments for your friends to see

## Zmodo Web App (Remote Access)

You can view and control your NVR remotely from any device by using the web app. Just type user.zmodo.com into the address bar on your web browser and log in using your Zmodo account information.

## NVR Interface (Local Access)

You can also view and control your NVR through the local interface. Follow the instructions below to access the local interface:

Before you begin: The NVR may not have a username and password when you first configure your NVR. Once you have completed the initial setup, it is *highly*

recommended that you set up a strong password before you continue using your NVR.

1) Set up your NVR and connect all components. Connect a USB mouse, plug in and/or configure your cameras, and power on your NVR using the included power adapter.

2) Connect your NVR to a monitor display. Depending on your model, you will need to use either an HDMI or VGA cable (not included) to connect your NVR to an external display.

3) Power on your monitor and complete the startup guide to begin. The startup guide will assist you in configuring your NVR for initial use. Once completed, you can access and perform the following through the local interface:
- View live video footage for all of your cameras
- Change your NVR and camera settings
- Adjust the image on your cameras
- View playback video from the hard drive
- Adjust motion detection zones (for supported devices)
- And more

## Setup

**Minimum Requirements**

- **2.4GHz/5GHz WPA/WPA2 password-protected WiFi network (for kits with WiFi cameras) or high-speed broadband internet (for kits with wired cameras)**
    - If you have a dual-band router, make sure that the 2.4GHz and 5GHz signals are broadcasting on a different SSID. Your network cannot be hidden.
    - You will need to make sure that you have a strong WiFi signal where you want to install your WiFi cameras.
- (mobile viewing & setup) iPhone®, iPad®, or iPod touch® (v.7.0 or newer) or Android™ (v.4.0 or newer) mobile device for the Zmodo mobile app.
    - If you cannot download the app from the App Store® or Google Play™, please visit the download page on the support page at www.zmodo.com/support.
- (web viewing) Internet Explorer®, Safari®, Chrome™, Firefox®
    - Log in to the web app at user.zmodo.com with your Zmodo account to view your devices on a web browser.

**Safety Requirements**

Before setup, you'll want to find a suitable location and secure location for your NVR. You can enclose your NVR in a locked enclosure for extra security in the event of a break-in. Please follow the safety instructions below before setting up your NVR.

- Use only the provided power adapter to power the NVR. Please make sure that you plug the power adapter into the NVR **first**, before plugging it into the power outlet.
- Do not insert any objects into the NVR case or openings.
- Do not place heavy objects on top of the NVR.
- Keep the NVR surfaces clean and dry.
- Do not operate in wet or dusty environments.
- Keep the NVR away from all fluids.
- Operate and keep the NVR indoors in temperatures between $0^oC$ ($32^oF$) and $40^oC$ ($104^oF$).
- Do not install the NVR near any heat sources and avoid direct sunlight.
- Make sure that there is good air circulation where the NVR is installed.
- Install the NVR in a stable environment.
- Handle the NVR carefully and avoid any collisions and strong falls.

**HDD Installation**

IMPORTANT: Your NVR may not come with a preinstalled hard disk drive (HDD). When installing or upgrading the HDD, please make sure that you install a **SATA HDD** between **250GB** and **2TB** (or 4TB for some systems) of storage after receiving your system. Please make sure that you purchase or use an HDD optimized for **always-on read/write surveillance**, e.g. **low-power WD AV-25** or **WD Purple** hard drives.

Please follow the general steps below to install your HDD. The enclosure for each NVR may vary. Please refer to **Getting Started – NVR Model Types** for information on your specific NVR.

1) Make sure your NVR is unplugged from its power source, and open the enclosure. For some NVRs, you will need to use a Philips screwdriver to remove a panel at the bottom of the NVR. For others, you will need to use a Philips screwdriver to remove the screws around the top panel, and slide the panel off.

2) Connect the SATA power and data cables from the NVR to the corresponding ports on your HDD.

3) Place the HDD into the NVR and make sure that the cables are snug. Some models will include a rubber buffer to cover your HDD to make sure that it's secure.

4) Fasten the HDD to the NVR (if applicable). Using the provided screws, fasten the HDD to the NVR.

5) Reapply the cover from step 1.

**Configuring your cameras**

A) Plug in all wired cameras to the NVR or sPoE Repeater. Your NVR system will include custom sPoE cables. Use the cables to connect your cameras to your NVR. If your NVR uses sPoE Repeaters please make sure that your sPoE Repeater is connected to the same network as your NVR.

*Note:* Before routing the cables permanently, please connect the cameras to the NVR or sPoE repeater and power on to test the system and cameras and make sure that no components were damaged during shipping.

B) Configure WiFi cameras to your WiFi network. Follow the instructions in your quick guide to configure your cameras, or follow the instructions below.

**Setting up your NVR**

Follow the instructions below to help configure your NVR for initial use. In order to access your NVR remotely, you will need to follow the instructions below. For updated instructions and troubleshooting guides, please visit [www.zmodo.com/support](www.zmodo.com/support).

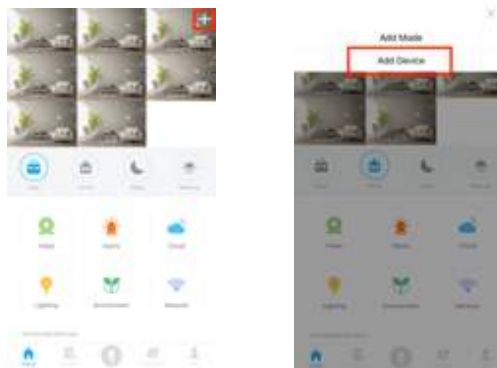**If your NVR will only connect wired sPoE cameras**

*Note:* Before routing the cables permanently, please connect the cameras to the NVR or sPoE repeater and power on to test the system and cameras and make sure that no components were damaged during shipping.

1) Connect your Android$^{TM}$ or iOS$^®$ smartphone to the **2.4GHz WPA/WPA2 WiFi network** that you want your NVR to connect to. Refer to the previous sections in the manual for minimum requirements and instructions for placement.

2) Download and install the "Zmodo" app from Google Play$^{TM}$ or the App Store$^®$. Launch the app and sign up for a free Zmodo account. You can also download the app from the "Documents, Software, & Downloads" section of the support page.



3) Open the Add (+) menu and select the "Add Device" option. Log in to your Zmodo account and select the Add (+) menu and select the "Add Device" option in the upper right corner.



4) Tap "Wireless Device and Smart Kit" and select the "Smart Kit" option to add your NVR.

**5) Make sure that your NVR is powered on and connected to your WiFi router.** Connect your NVR to your WiFi router using an Ethernet cable (provided). Please make sure that your smartphone is connected to the same WiFi network that your NVR is connected to.
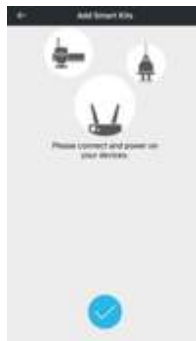


**6) Tap the check mark to proceed. The app will automatically search your network for all Zmodo NVRs.** This may take a few minutes. Once it is found, your NVR will be displayed on a list. If it fails, you may need to restart the setup procedure and try again. Tap the NVR that you would like to add to your Zmodo account, and proceed.



**7) Name your NVR and set a strong password for it. Tap the check mark to proceed.** Note: The password provides an additional layer of security for your device. You will not need to use it when accessing your device from the Zmodo app. It is not required, but is highly recommended.

8) Press "Finish" to complete the setup. You will not need to configure any WiFi cameras.



**If your NVR will connect WiFi cameras or a combination of WiFi and wired sPoE cameras**

*Note:* For initial setup, please fasten the antennas (if applicable) to the cameras and power on in a location close to your WiFi router. You can place and permanently install your cameras once you have configured them.

1) Connect your Android™ or iOS® smartphone to the **2.4GHz WPA/WPA2 WiFi network** that you want your NVR to connect to. Refer to the previous sections in the manual for minimum requirements and instructions for placement.

2) Download and install the "Zmodo" app from Google Play™ or the App Store®. Launch the app and sign up for a free Zmodo account. You can also download the app from the "Documents, Software, & Downloads" section of the support page.

**3) Open the Add (+) menu and select the "Add Device" option.** Log in to your Zmodo account and select the Add (+) menu and select the "Add Device" option in the upper right corner.
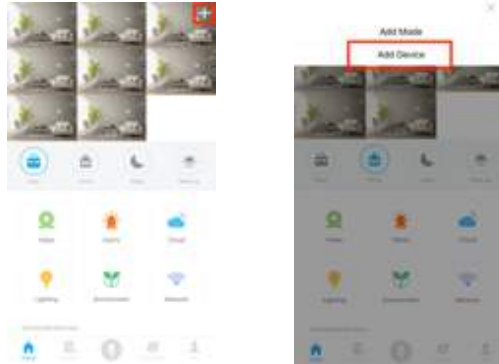


**4) Tap "Zink" to add your NVR.** This will initiate the Zink setup process.
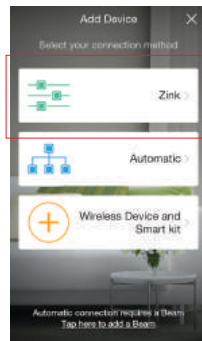


**5) Make sure you have powered on your WiFi cameras and tap the check mark to proceed.** Tap the "+" or "-" to adjust the number of devices that you will be connecting. You will want to enter the number of WiFi cameras plus the number of NVRs. For example, if you are connecting 8 WiFi cameras and one NVR, you will enter "9" devices. Tap the check mark to proceed.



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6) Select "Tap here to begin setup". Carefully read the on-screen instructions and select "Tap here to begin setup" to go to the WiFi settings page on your smartphone.



7) Select the network named "ZMD_SAP" and connect to it. Your cameras will broadcast a WiFi network during setup.



8) Select or enter the name and password of the WiFi network that your devices will connect to. Return to the Zmodo app page and you will see the following screen. Select or enter the SSID and password for your WiFi network. Note: The WiFi name and password are case-sensitive.



9) If you see this screen, the app will connect your devices to your WiFi network This may take a few minutes. Once it's completed, please skip to step 13. If you do not see this screen, please proceed to step 10.
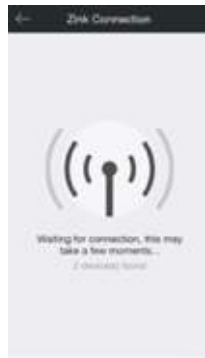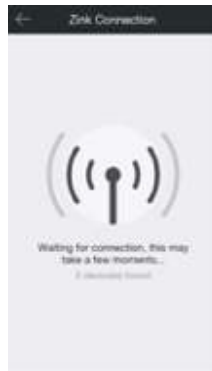
10) If this app interface appears, please press "Tap here to select WiFi".
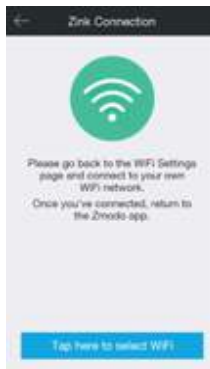


11) Select the WiFi network that your NVR and cameras will connect to, and connect to it. Return to the Zmodo app once your smartphone is connected to the WiFi network.



12) If you see this screen, the app will connect your devices to your WiFi network This may take a few minutes.

13) Name your NVR and cameras and set a password for them. Tap the check mark to proceed. Note: The password provides an additional layer of security for your device. You will not need to use it when accessing your device from the Zmodo app. It is not required, but is highly recommended.
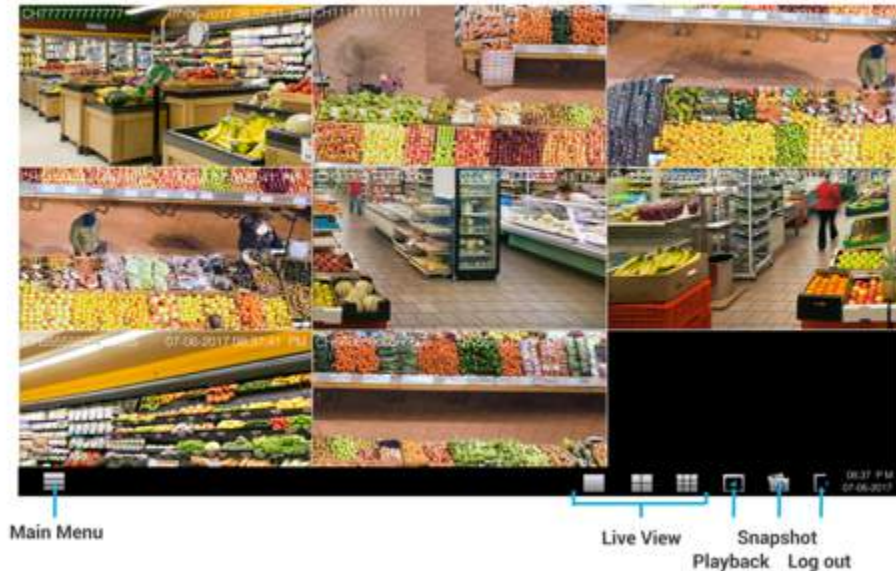


13) Your NVR has been successfully configured! You will be able to access your NVR from the Device List in the Zmodo app.
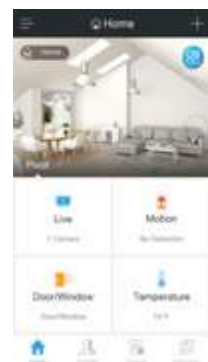


# Using the Local Interface: Basic Features

**Navigating the Quick Menu**
The main features of the NVR can be accessed through the Quick Menu. Reveal the Quick Menu by moving your cursor to the bottom of the screen. You will need to be logged in.



**Main Menu**. Open the main menu to access the advanced features of your NVR.

**Live View**. Select one of these options to quickly toggle how many channels your NVR will display simultaneously on the screen.

**Playback**. Access the playback page to review recorded footage on your NVR.

**Snapshot**. Access the snapshots that are saved on your NVR.

**Log out / Power Off**. Log out of your account when not in use so that others cannot tamper with the settings for your NVR.

**Playback Footage**
Your NVR will record footage directly onto the hard drive (required). You can review this footage by accessing the **Playback** option from the **Quick Menu**.

1) Select the channel(s) that you would like to review. You can select up to 4 channels to view simultaneously.

2) Select the date that you would like to view. First select the month and year. The dates with available footage recorded will be highlighted in blue on the calendar. Select the date that you would like to review.

3) Control the playback using the playback bar. You can fast forward, rewind, pause, stop, or play at a faster speed.

4) Use the zoom buttons to zoom in or out on your playback ribbon. This allows you to pinpoint more precise times to review, or quickly navigate your playback ribbon.

5) Double-click on the playback ribbon to skip to a specific time. The playback ribbon will be marked where footage is recorded. Green footage means that regular, continuous footage was recorded. Blue means that intelligent recording (compressed) footage was recorded, and the yellow means that footage with motion was recorded.

6) Check or uncheck boxes to isolate certain types of footage. You can check or uncheck the boxes shown to display only certain types of footage.

**Snapshot Gallery**

You can review saved clips and snapshots from the Snapshot Gallery.
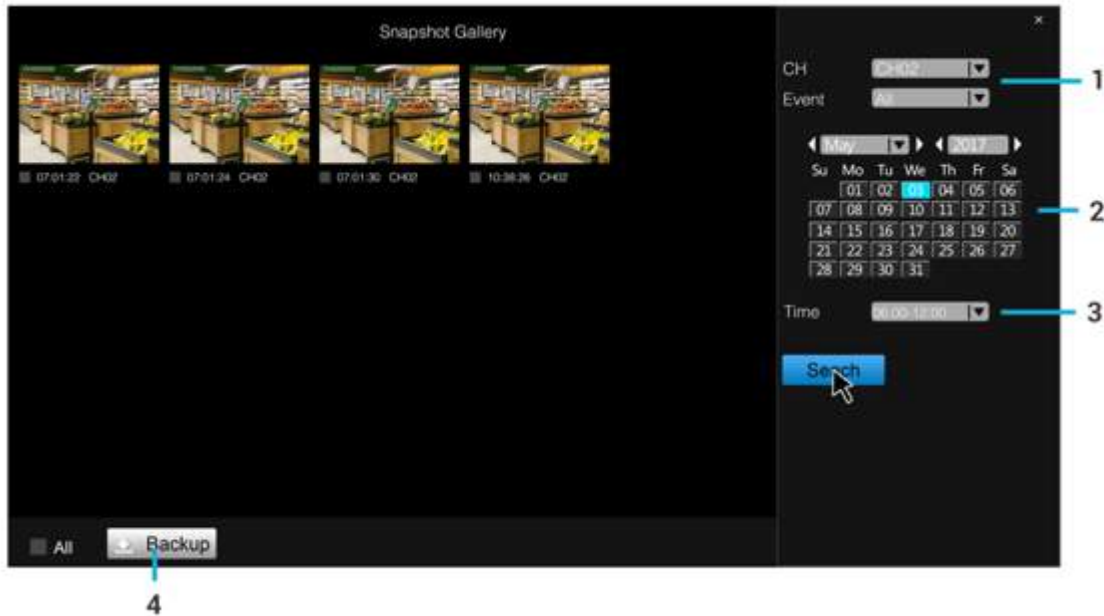
1) Select the channel and the type of event that you would like to search for.

2) Select the date that you would like to view. First select the month and year. The dates with available footage recorded will be highlighted in blue on the calendar. Select the date that you would like to review.

3) Select the time period in which your clip occurred. Once you have selected all of these options, press "Search" to populate a list of clips.

4) Select the clips that you would like to backup, or press "All" to select all clips. Once you have selected these clips, press "Backup" to download the clips onto an external drive. You will need to plug in an external storage device to the USB port on your NVR.

**Note:** If your NVR only has one USB port, you will need to use a USB port hub to expand your USB ports.

## Advanced Features: Overview

You can access the advanced features of the NVR by accessing the **Quick Menu** and opening the **Main Menu** as shown below. The next four sections will detail each option.
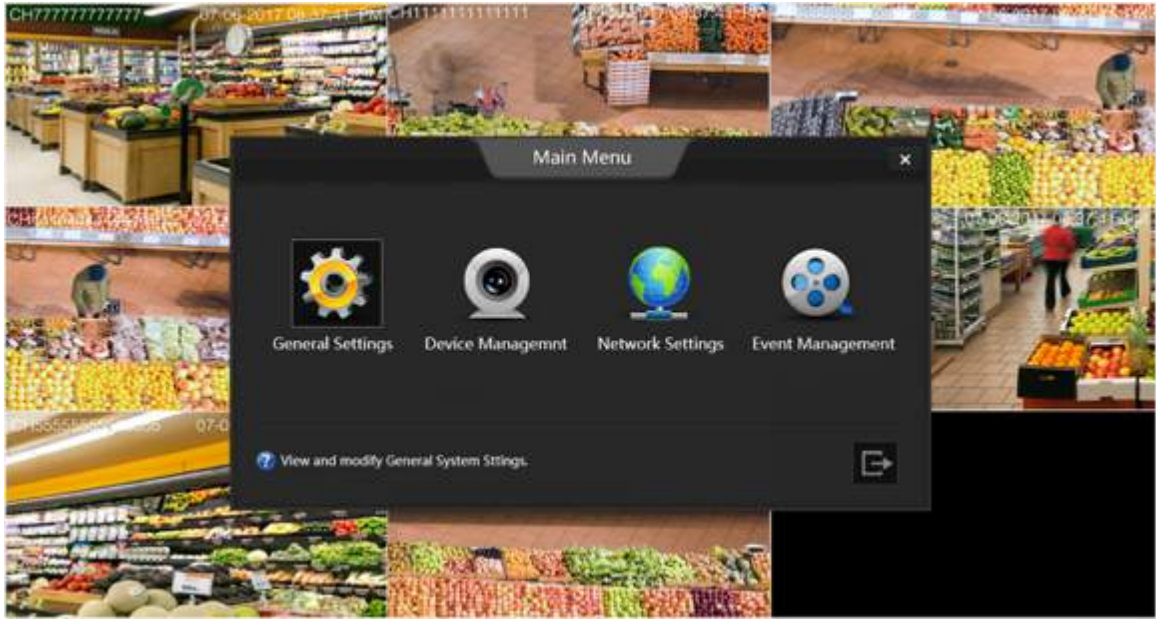
# Advanced Features: General Settings

## Account Management

You can use the **Account Management** page to add, edit, or delete user accounts for your NVR's local interface. These user accounts will be used to log into and access your NVR's settings.



## Date & Language

Adjust the date, time and language settings of your NVR. Tap "Enable NTP" to allow the NVR to automatically sync the date and time from the internet, or manually set the date and time for your NVR. Tap "Sync Camera Time" to automatically sync each camera with the NVR's time stamp.

## Display Settings

Using the "Channel" dropdown menu, select a channel that you would like to edit. Choose a name for the channel by typing, for example, "Front door" under "Channel Name" and making sure the "Display" box is checked. You can also choose to display or hide the time stamp on your channel.

**Enable Auto Sequence** will automatically rotate through the selected channels on your local display. You can choose to view one channel at a time, selecting the specific channels, 4 channels at a time, or 8 channels at a time.



## System Log

The system log will keep record of different alerts on your NVR. For example, if your NVR was powered off unexpectedly, a record of it will be displayed below. Just search the type of alert and the date to see what happened to your system in that span of time.



## Disk Drive Info

Edit recording behavior when the hard disk drive is full by selecting if it will "overwrite" the oldest recorded footage or stop recording. You will need to press "Save" to save the settings.

View your hard drive information, and format a hard drive if desired by selecting the hard drive and pressing "Format".
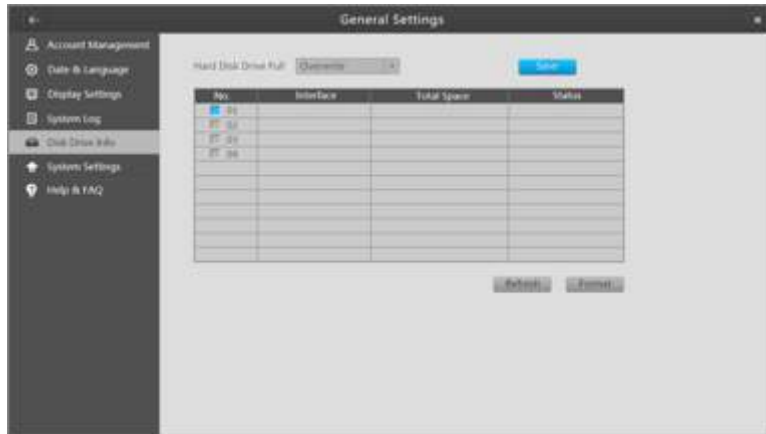


## System Settings

This menu will allow you to disable the startup guide from appearing every time the NVR powers on and adjust the resolution that your NVR displays on the local display.
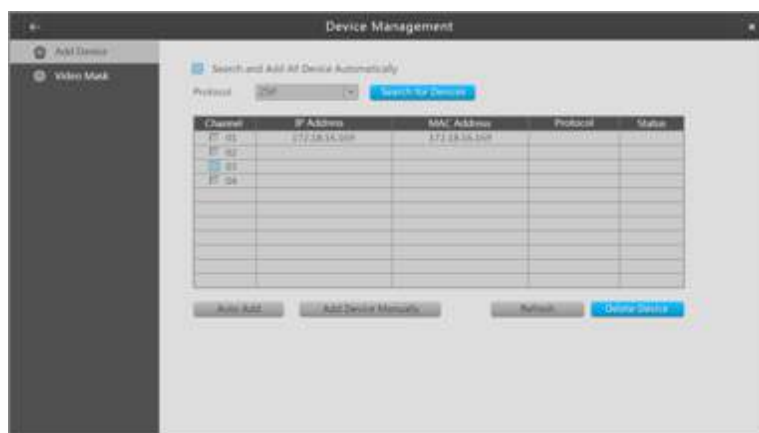
**Help & FAQ**

Displays troubleshooting information. For updated FAQs and support documents, please visit support.zmodo.com.



# Advanced Features: Device Management

**Add Device**

This page will allow you to add or delete cameras from your NVR's channel feed. For specific instructions, please view the descriptions below:



**Search and Add All Devices Automatically.** If this box is checked, the NVR will automatically find and add Zmodo devices that are connected to the network. Make sure that you do not select this box if you would like to manually add cameras.

**Search for Devices.** Press this option to open a list of Zmodo cameras that are connected to the same network as your NVR. Select the camera(s) that you would like to add and press "Add".



**Add Device Manually.** This menu will allow you to search for your cameras by manually entering the network information.



## Video Stream Settings

You can manually adjust the video stream settings to optimize your bandwidth and performance. The Local Video Stream settings will adjust the video stream settings that are displayed locally on your NVR. The Network Transmission Stream settings will adjust the video stream settings that are streamed through your network to other devices.

**Video Mask**

Use this page to block out certain areas of your video feed. Select the channel that you would like to edit and press the pencil icon to draw an area that you would like to conceal. Press the eraser icon and click on any area that you would like to reveal. Press "Save" to apply your changes.



## Advanced Features: Network Settings

You will be able to adjust the network settings manually for your NVR. However, we highly recommend that you leave the network settings on by default. You will not need to port-forward your NVR because your NVR will be accessible remotely through the Zmodo app.

# Advanced Features: Event Management

## Schedule Recording

Customize recording options and schedules to make sure that you maximize your local storage.
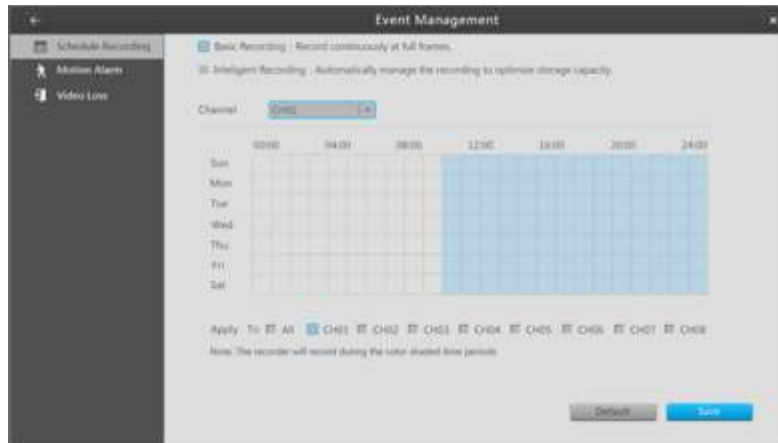


**Basic Recording vs. Intelligent Recording.** Intelligent recording will compress the video files whenever motion is not detected, and it will record at full frames whenever motion is detected, making sure that your local storage is utilized efficiently. If you select the Basic Recording option, your NVR will record at full quality continuously.

## Creating Schedules

1) Select the channel that you would like to create a recording schedule for.

2) Drag on the calendar to select which times you would like to record footage. Note that the camera will record during the **colored** time periods.

3) Press save before editing another channel. You will need to save the schedule for the channel before editing another channel. If you would like to apply this schedule across multiple channels, you can select which channels to do so, and press "save" when finished.

**Motion Alarm**

You can adjust the alert settings for each channel by using this menu. You will receive motion alerts through the Zmodo mobile app on your Android or iOS smart device (app required). See the descriptions below for details.
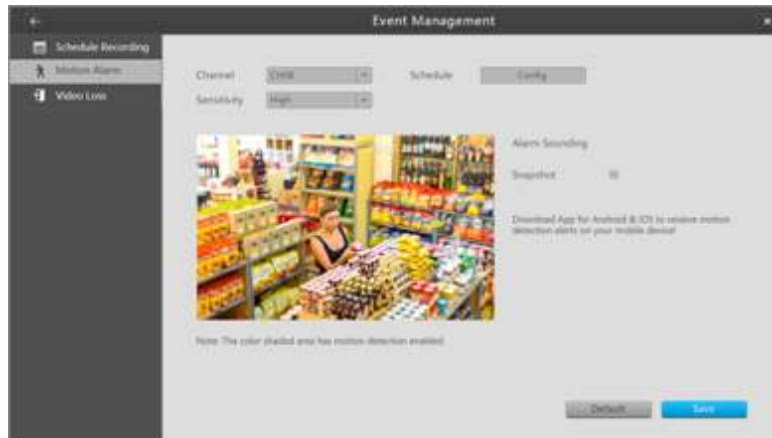


**Channel.** Select the channel that you would like to customize the alert settings for. Please "Save" the settings before editing another channel, otherwise the changes will not be applied.

**Schedule.** You can configure a schedule for when motion alerts will be active. Note that the alerts will be active during the **colored** time periods.

**Sensitivity.** Adjust the sensitivity of motion detection for the channel.

**Alarm.** If you have connected an external alarm (only available on certain NVRs), you can set the alarm to trigger whenever motion is detected on this channel.

**Snapshot.** If selected, the NVR will save a snapshot whenever motion is detected on this channel.

**Default / Save**. You can press the "Default" option to revert to default settings for the channel. You will need to save all settings before editing another channel, otherwise the changes will be lost.

**Video Loss**

Receive alerts whenever video is lost for a certain channel.
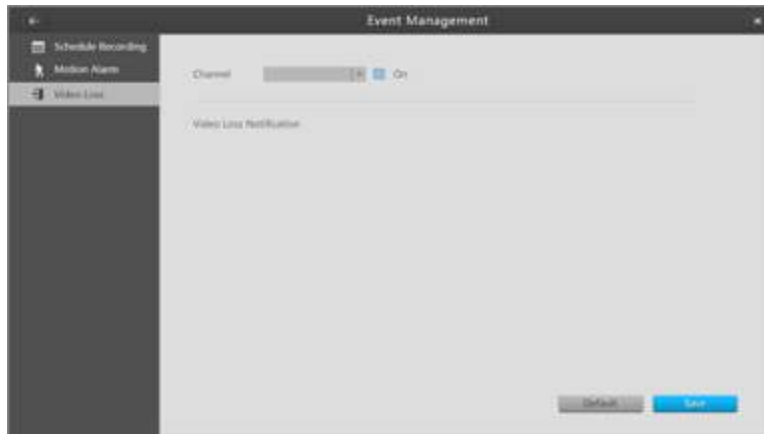
# Support & Troubleshooting

For more comprehensive and updated support information, please visit the support page at www.zmodo.com/support. Find the NVR under the list of available devices to access the NVR support page.

We also offer a friendly, U.S.-based customer support team of product experts who would love to help you. You can contact the dedicated Smart Devices support team at:

**Phone:** 217-903-5037
**Service Hours:** Mon-Fri 8:00am – 8:00pm CST
**Email:** customerservice@zmodo.com

# Security & Privacy

Security is and has always been our priority. We spare no effort to protect your privacy and security.

## Encrypted Communication
**To protect your privacy, Zmodo apps and Zmodo devices connect to the Zmodo servers using bank-level AES 256-bit encryption and Transport Layer Security (TLS). All video and pictures are secured with AES 256-bit symmetric-key encryption. Only the customer can decrypt and view the video through approved clients (our mobile and web apps) with their account credentials. Zmodo devices also have perfect forward secrecy, using 2048-bit RSA private keys for key exchange with the Zmodo servers. We also employ other security measures**

**to protect private data, such as secure HTTP access (HTTPS) using TLS/SSL, and more.**

Security of connected devices is an ever-changing environment, and Zmodo is committed to staying at the forefront. By owning a Zmodo device, you can be assured that your device will stay secure and updated.

## Secure Servers

Zmodo uses our own servers for storing your information and processing your video. We utilize state-of-the-art electronic surveillance systems to protect our servers. Our data center and servers are located in Illinois, USA. Zmodo's server room is safeguarded by a 24/7 video surveillance system and has back-up power in case of emergencies. Access to the server room is highly restricted. Access to the servers are highly restricted as well.

## Enhanced Privacy Protection

Keeping your data private and protecting your account from unauthorized access are paramount at Zmodo. If you are interested in how your personal information is collected and protected, please see our complete [privacy policy.](privacy policy)
We have strict policies and technical barriers in place to prevent unauthorized access to your video data. A very select number of employees (senior engineering leadership) have the ability to access video data only when legally required or requested by you for technical support.

We provide optional sharing function to Zmodo device owners. You're always in control over who has access to your Zmodo device content. You can decide to share your content with friends and family, or the general public, through various sharing settings. Or, your content can remain private as it is by default.

## Password and Account

Account passwords are not stored directly on our servers. Zmodo follows best practices and uses a non-reversible function to protect your password.

## Best Practices Advice

Always install the latest versions of our app and device firmware and keep your web browser and Flash plug-in updated.
If you believe one of your devices with the Zmodo App installed has been compromised, resetting your Zmodo password will immediately log your account out on all devices.

In order to assist us with keeping your account safe and secure, please do not give out your account password to anyone.

## Responsible Disclosure Policy

Any reports about security vulnerabilities are welcomed. If you are a security researcher and believe you have found security vulnerability, we would like to hear about it immediately.

Before making any information public, we DO ask you to give us a reasonable amount of time to respond to your report. Please DO NOT access or modify user data without permission of the account owner and DO act in good faith not to degrade the performance of our services (including denial of service). If you comply with those requests, we will not take legal action against you.

To contact us directly to report vulnerability, email us at support@zmodo.com.