



USER'S MANUAL

DP2 SERIES



www.NightOwlSP.com



Thank you for choosing Night Owl Security Products!

By purchasing a Night Owl product, you receive a one (1) year warranty covering manufacturing defects in material and workmanship. In addition to warranty and technical support benefits, you have access to our vast library of free instructional “How to Videos.”

For all of our Support Videos, click www.youtube.com/nightowlsp to access Night Owl’s YouTube page.



Night Owl’s DP2 Series Camera Compatibility:

Night Owl’s DP2 Series DVRs are compatible with the following camera model numbers:

CM-DP2L-B
CM-TA2L-BU

DP2 Series cameras and DVR are specific to the DP2 Series and are not backward compatible with other Night Owl® wired products. Not all features and capabilities are shared across all models so you may see features which are not applicable. In addition you may see screen images that do not exactly match those on your display.

NOTE: Not all features will work with all compatible cameras. Must use preferred cameras to access all features.

If the camera’s video quality either day or night is degraded, you may need to change the cable run from the camera to the DVR. This system is designed to work with CL2 UL Rated cabling or better.

Please see the warranty section of this manual for exclusions and additional details. Not all features and capabilities are shared across all models so you may see features which are not applicable. Additionally, you may see screen images that do not exactly match those on your TV/Monitor/Smart Device.

THIS MANUAL WAS ACCURATE AT THE TIME IT WAS COMPLETED. DUE TO OUR ONGOING EFFORT TO CONSTANTLY IMPROVE OUR PRODUCTS, FUNCTIONS MAY HAVE BEEN ADDED OR CHANGED.

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Night Owl's DVRs are manufactured for quality and ease of use. As such, our DVRs contain menus designed for advanced users that should not be adjusted without having enhanced knowledge regarding the menu. In most cases the default settings allow for optimal functionality. The menus that should maintain the default settings are indicated with this icon.

FCC Warnings

FCC

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 and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Compliance Statement

These limits are designed to provide reasonable protection against frequency interference in residential installation. This equipment generates, uses and can radiate radio frequency energy and if not installed or used in accordance with the instructions, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in television reception, which can be determined by turning the equipment off and on. The user is encouraged to try and 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 on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.



CAUTION!

The Federal Communications Commission warns the user that changes or modifications to the unit not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

Safety Instructions

USE THE PROVIDED POWER ADAPTER.

Do not use this product with a power source that applies more than the specified voltage.

NEVER INSERT METAL INTO THE DVR CASE OR ITS OPENINGS.

Inserting metal into the DVR case may cause electric shock.

DO NOT OPERATE IN WET OR DUSTY AREAS.

Avoid placing the DVR in areas such as a damp basement or dusty attic.

DO NOT EXPOSE THE DVR TO RAIN OR USE NEAR WATER.

If the DVR accidentally gets wet, unplug it and contact technical support immediately.

KEEP PRODUCT SURFACES CLEAN AND DRY.

To clean the outside case of the DVR, use a lightly dampened cloth. Do not use cleaning solutions or solvents.

DO NOT INSTALL NEAR ANY HEAT SOURCES.

Do not install the DVR near any heat sources such as stoves, heat registers, radiators or electronics (including amplifiers) that produce heat.

UNPLUG THE DVR WHEN MOVING IT.

Make sure that the DVR is unplugged before you move it. When moving this device, be sure to handle it with care.

MAKE SURE THERE IS GOOD AIR CIRCULATION AROUND THE DVR.

This DVR uses an internal hard drive, which generates heat during operation for video storage. Do not block vents on the DVR, as these vents reduce the generated heat while the system is running. Place this product in well-ventilated area.

DO NOT ATTEMPT TO REMOVE THE TOP COVER.

If you observe any abnormal operation, unplug the DVR immediately and contact technical support. Do not attempt to open the DVR to diagnose the cause of the problem.

HANDLE THE DVR CAREFULLY.

If you drop the DVR on any hard surface, it may damage the device. If the DVR doesn't work properly due to physical damage, contact an authorized dealer for repair.

IT IS RECOMMENDED TO USE YOUR DVR WITH AN UNINTERRUPTIBLE POWER SUPPLY (UPS).

Connecting your DVR and cameras to a UPS allows continuous operation even during power outages. The run-time duration will depend on the rating of the UPS used.

CAUTION!



You may be subjected to severe electrical shock if you remove the cover of the DVR.

Specifications

System Requirements

Please be sure that your PC/MAC® complies with the following specifications:

- PC Operating System: Windows® 10 and above
- MAC Operating System: MAC OS X® 10.9 and above

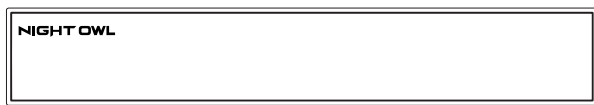
Please be sure that your mobile device complies with the following specifications:

- Android™: 8.0 and above
- iOS®: 12.4 and above

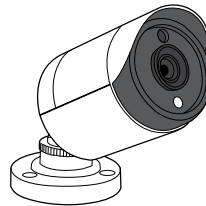
THIS MANUAL WAS ACCURATE AT THE TIME IT WAS COMPLETED. DUE TO OUR ONGOING EFFORT TO CONSTANTLY IMPROVE OUR PRODUCTS, SPECIFICATIONS MAY HAVE BEEN ADDED OR CHANGED.

Package Contents

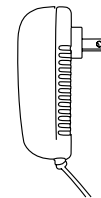
DISCLAIMER: Package contents vary by model number, please refer to your Quick Setup Guide for a complete list of contents.



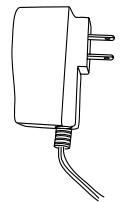
DVR



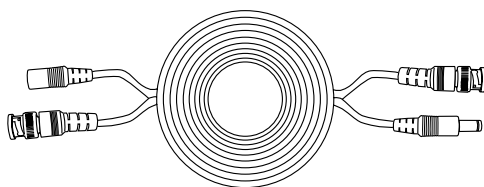
Camera(s)



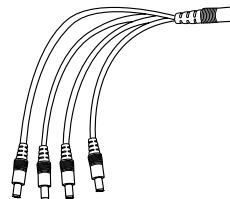
DVR Power Adapter (x1)



Camera Power Adapter(s)
(1 per 4 cameras)



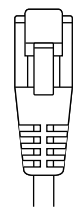
60 ft. Video/Power Cables
(1 cable per camera)



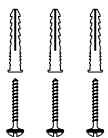
Power Splitter(s)
(1 per 4 cameras)



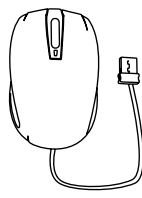
6 ft. HDMI (x1)



6 ft. Ethernet (x1)

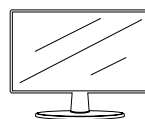


Mounting Hardware

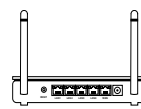


USB Mouse (x1)

Items Not Included



Monitor

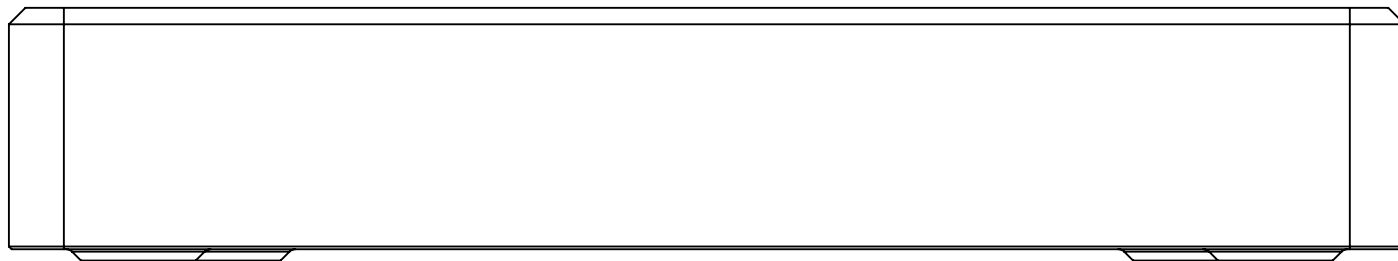


Router

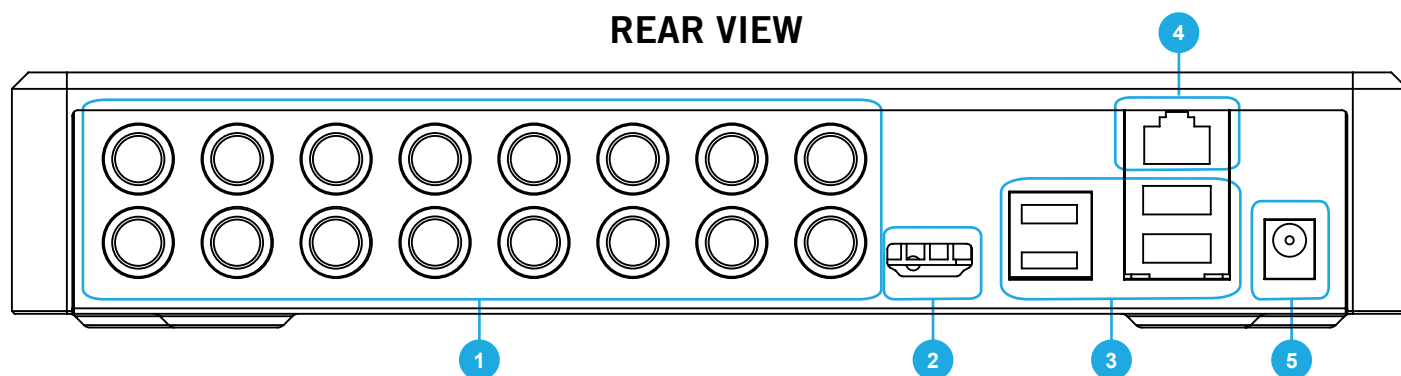
NOTE: A TV or Monitor with a minimum 1080p HD resolution and an HDMI input is required for the initial setup. Use all of the included Night Owl accessories. Third-party accessories may not work correctly.

NOTE: For best results, use the included Night Owl accessories. Third party accessories may not work properly.

FRONT VIEW



REAR VIEW

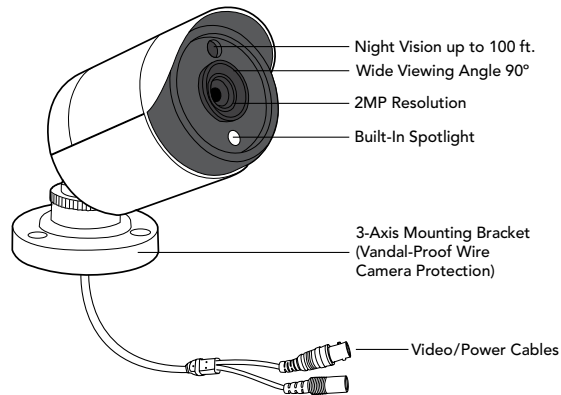


Images used are for reference only. Your product may vary slightly depending on your model number.

- 1 Video In** – Allows for the connection of BNC wired cameras.
NOTE: The DVR automatically detects the camera. Before turning the DVR on, make sure the cameras are connected to the DVR and a power source.
- 2 HDMI (Recommended)** – Connects to the HDMI port of a TV or Monitor using an HDMI cable.
- 3 USB Ports** – Connecting a USB mouse or a USB flash drive for video backup.
NOTE: DO NOT CONNECT two USB mice or two USB flash drives to the DVR.
- 4 LAN** – Connects your device to Internet using an Ethernet cable.
- 5 Power Input** – Connects to the DVR power adapter.

Camera Diagram

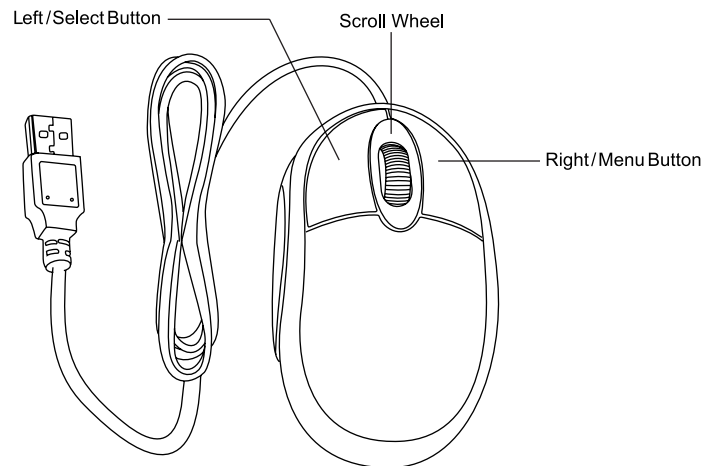
CAMERA



Connect all cameras locally before final placement to ensure that all components function properly.

Mouse Diagram

MOUSE



Live Viewing:

Double-click the left button on any camera view in split-screen mode to bring it to full screen display. Double-click again to return to split-screen mode. Right-click to show the Tool Bar at the bottom of the screen. Left click on the Tool Bar or Menu to access the device's features.

In Setup:

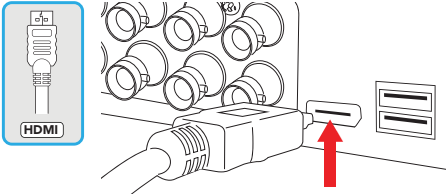
Left-click to make a selection. Right-click to cancel setup or return to previous screen.

To Enter Values:

Move the cursor to a blank field and click the mouse. A virtual keyboard will appear which supports numbers, letters and symbols. The Shift function will access symbols in addition to upper case letters.

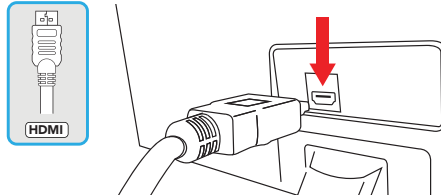
Connecting Your System

1



Plug one end of the included HDMI cable into the HDMI port on the back of the DVR.

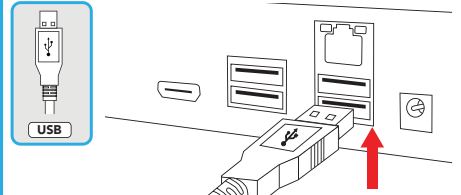
2



Plug the other end of the HDMI cable into the back of your TV or Monitor.

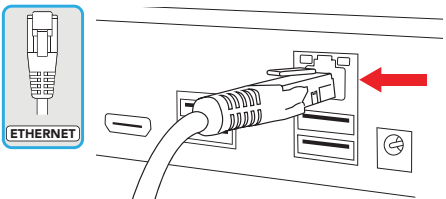
NOTE: To view cameras, TV or Monitor must be tuned to the same input the HDMI is plugged into.

3



Plug the USB mouse into the USB port on the back of the DVR.

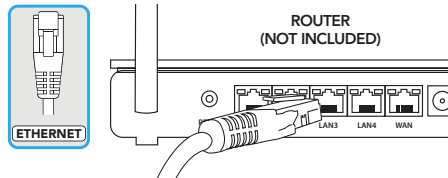
4



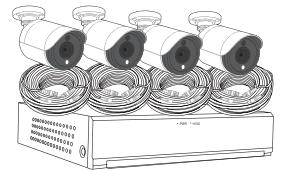
Plug one end of the included Ethernet cable into the LAN port on the back of the DVR.

NOTE: Night Owl recommends connecting to the Internet for the best user experience.

5

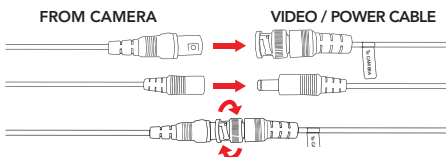


Plug the other end of the Ethernet cable into a port on the back of your router or modem.



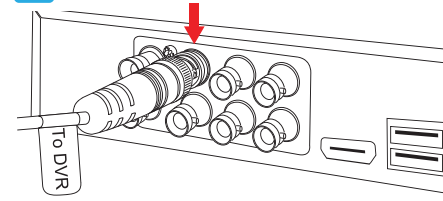
STOP: BEFORE installing, connect and test each camera locally to confirm they function properly.

6



Connect the end of the camera's cable to the end of a video / power cable labeled TO CAMERA ONLY.

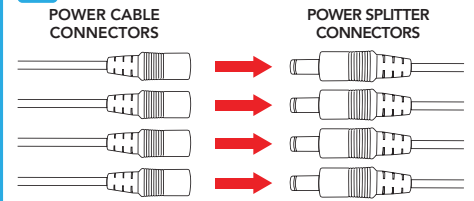
7



Connect the video / power cable labeled TO DVR ONLY to an open video input on the DVR.

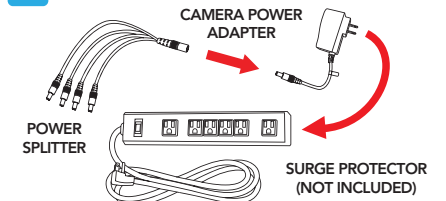
NOTE: Make sure you twist and lock BNC connectors.

8



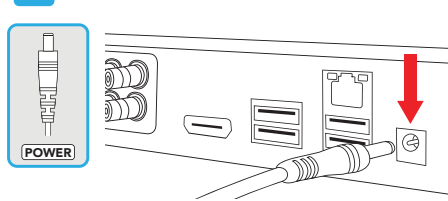
Connect the red female power leads of the video / power cables to the male power splitter ends.

9



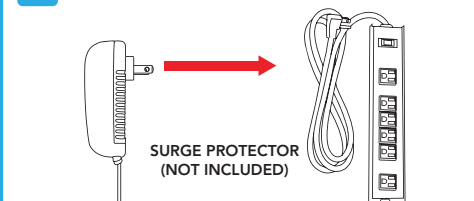
Connect the power splitter to the camera power adapter and plug the adapter into a surge protector or Uninterruptible Power Supply (UPS).

10



Connect the DVR power adapter to the Power Input on the rear of the DVR.

11



Plug the DVR power adapter into a surge protector or Uninterruptible Power Supply (UPS). Some systems beep upon booting up.

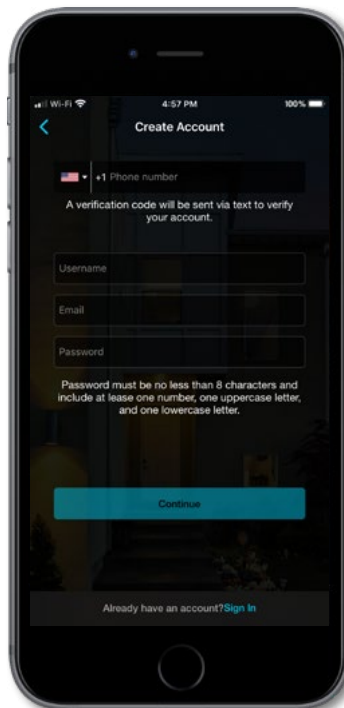
NOTE: Make sure the UPS or surge protector is switched ON.

Downloading Night Owl Protect

- 1 If you're a First Time User, download Night Owl Protect from the App Store or Google Play Store onto your Smart Device. If you already have an account skip to Chapter 3 Step B.



- 2 Create and verify your Night Owl Protect account. Use the Night Owl Protect login credentials to log into the DVR in Chapter 3 Step B.



NOTE: Setup is the same for Smartphone and Tablet.

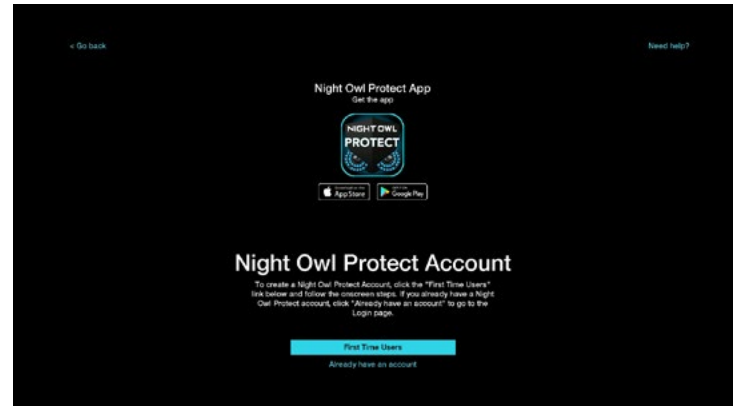
Startup Wizard



Connected DVRs automatically search for the latest firmware version. If you are **NOT** going to connect your DVR to the Internet, follow the onscreen prompts for updating the firmware and registering the device. Skip to “Don’t Want to Connect the DVR to the Internet.”

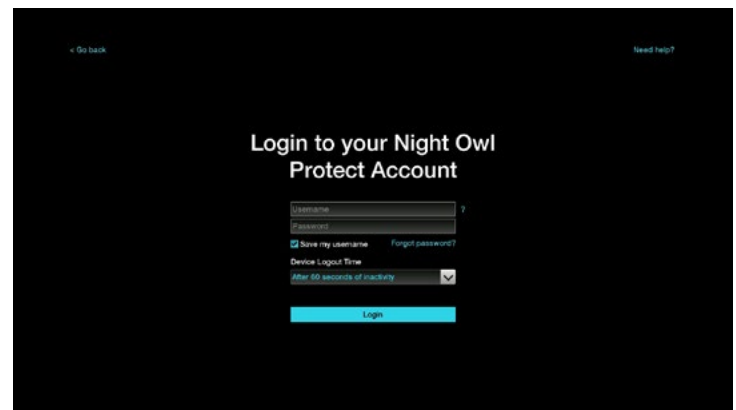
3.1 Connected to the Internet

- A** If you have NOT created a Night Owl Protect account, click “First Time Users” and follow the onscreen steps. If you have a Night Owl Protect account, click “Already have an account,” and skip to step 3b.

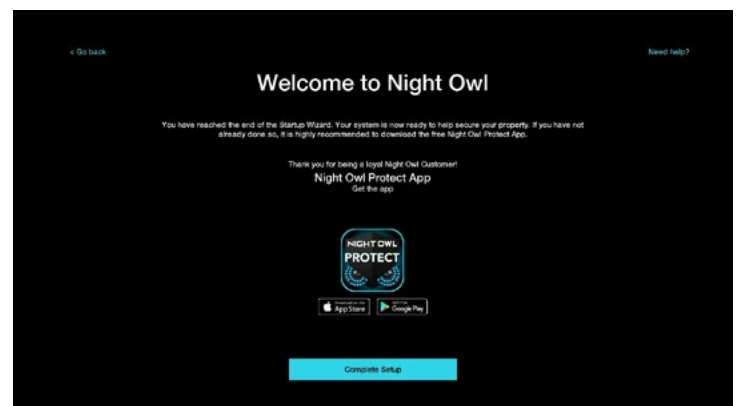


- B** Log in using your Night Owl Protect credentials (the username and password created in Chapter 2, Step 2).

NOTE: The DVR is automatically added to the Night Owl Protect App when you log in using your Night Owl Protect credentials.



- C** After logging into your Night Owl Protect account, the Startup Wizard continues to lead you through the setup process. Click “Complete Setup” to complete the Startup Wizard.



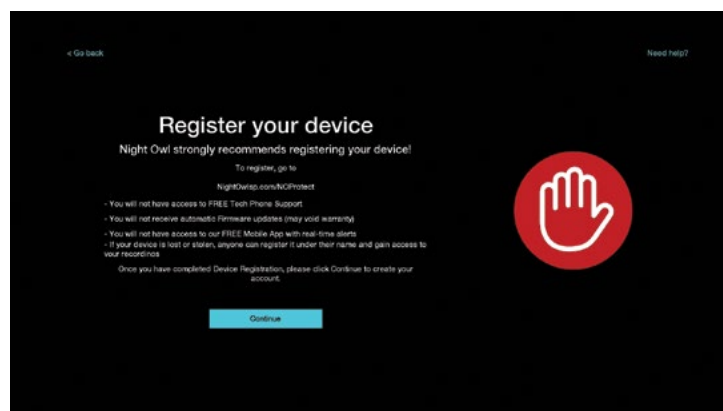
3.2 Don't Want to Connect the DVR to the Internet



Night Owl Strongly Recommends connecting the DVR to the Internet.
If you have decided not to connect:

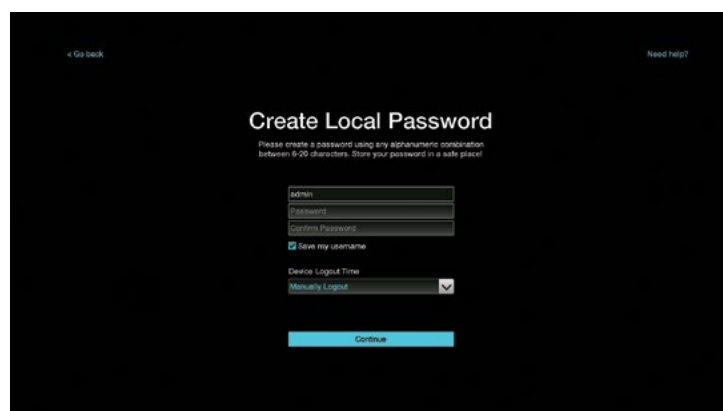
- You must manually update the device's firmware to the latest version to receive Technical Phone Support. The latest firmware version is available on the device's support page on the Night Owl Support Site.
- The DVR must be registered to receive Technical Phone Support.
- You cannot view your system remotely.
- Resetting your password is a much longer process to ensure security

- A** Go to NightOwlISP.com/NOProtect to register the DVR. Use the information found on the DVR's support sticker to complete registration.



- B** Create Local Password

1. Default username is “admin”
2. Create a password (any alphanumeric combo with a minimum of 8 characters; MUST include a number, a lowercase, and uppercase letter).
3. Click “Continue” to go to the Login Screen.



- C** Once the DVR is added to the App, complete the Startup Wizard and camera installation.

Live View

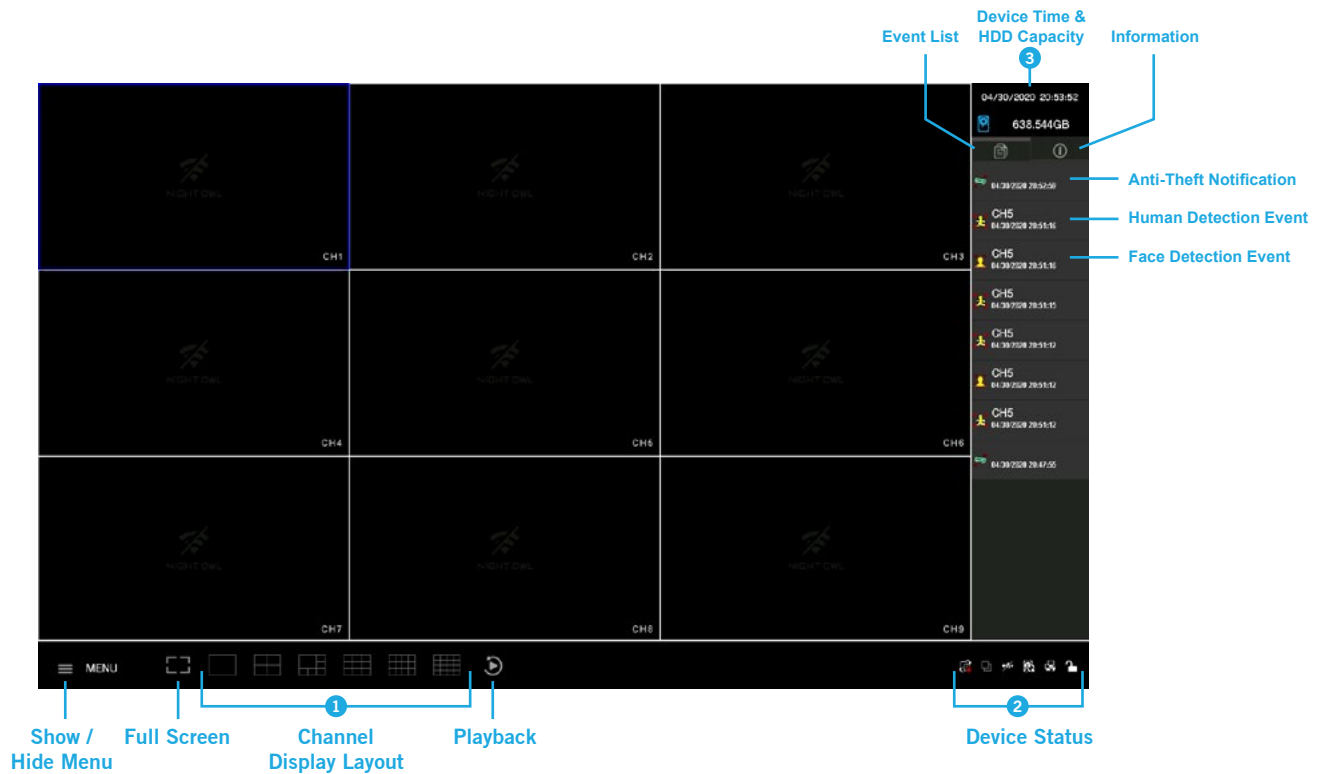
4.1 Live View

The **Live View** screen is where you view your cameras and gain access to the **Tool Bar** and **Menu**.



When you log into the system, the display is in full screen mode. Right click the mouse to display the **Tool Bar** (bottom of screen) and **Function Panel** (right side of screen). Left click on the **Full Screen** icon to close the **Tool Bar** and **Function Panel**.

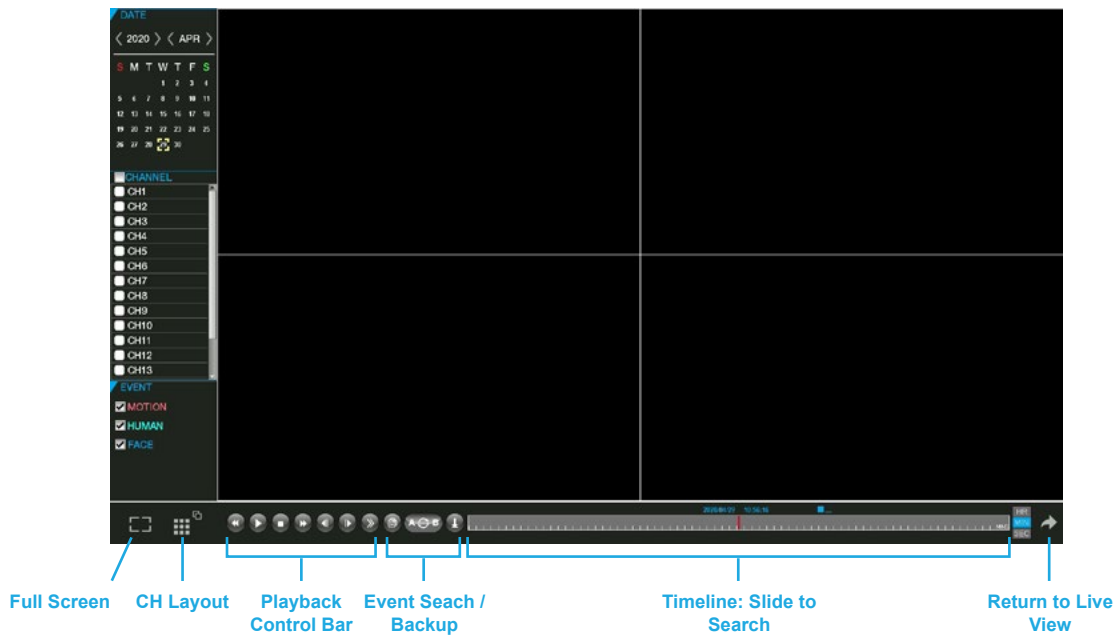
4.2 Tool Bar and Function Panel Overview



	Show/Hide Menu	Opens and closes the Menu
	Full Screen	Closes the Tool Bar and Function Panel
	Channel Display Layout	Select the Live View configuration:
	Playback	Access to Playback Screen
	Device Status	Current status of the system
	Event List	Quick search menu for recorded data or select FULL to show all event logs
	Information	WAN and Channel information
	Device Time and HDD Capacity	Displays the DVR's clock and the current state of the HDD's capacity
	Anti-theft Notification	Indicates the device has been moved. You must add the recorder to the Night Owl Protect app to receive real-time alerts.
	Human Detection Event	Indicates the device has detected a Human shape by a specific channel. You must add the recorder to the Night Owl Protect app to receive real-time alerts.
	Face Detection Event	Indicates the recorder detected a Face by a specific channel. You must add the recorder to the Night Owl Protect app to receive real-time alerts.

Video Playback

The Playback Panel allows you to view recorded events. Right click on the Live View to access the **Tool Bar**. Left click  on the **Tool Bar** to access the **Playback Panel**.



- Step 1:** From the **CHANNEL** list, select the channel(s) you want to search for recordings.
- Step 2:** Use the calendar under **DATE** to select the date(s) that have video footage from the selected channel(s). Dates marked in blue have recordings.
- Step 3:** (Optional) Use the **EVENT** feature to search event type(s) to narrow down the search results.
- Step 4:** Slide the timeline to search the time segments that have video footage. Time segments are marked Red for Motion Recordings, Green for Human Detection Recordings and Blue for Facial Capture Recordings.
- Step 5:** Slide the Timeline to the time segment you want to watch, and **Playback** starts automatically.

	Fast Forward	Increase the speed for fast forwarding
	Rewind	Increase the speed for rewinding
	Play / Pause	Click to play the latest recorded video clip immediately. Click again to pause. When paused, click  once to advance one frame forward, and click  to rewind one frame.
	Stop	Click to stop the video playback.
	Slow Playback	Click once for 1/4 x speed playback. Click twice for 1/8 x speed playback.
	Previous / Next Hour	Click to jump to the next / previous time interval within the selected hour. For example, 11:00 ~ 12:00 or 4:00 ~ 5:00. The earliest video clip recorded during this whole hour automatically plays.
	Event List	Click to access the quick search menu for a specific event search or select FULL to show all event logs.
	Repeat	Click to set point A and point B in a video clip. The system only plays the specified range of that clip.
	Backup	Click to access the backup menu for video backup

Video Backup

Backup your recordings on a USB Flash Drive or External HDD. Before inserting a USB Flash Drive or connecting an External HDD to the DVR, it must be formatted to FAT32/ExFat

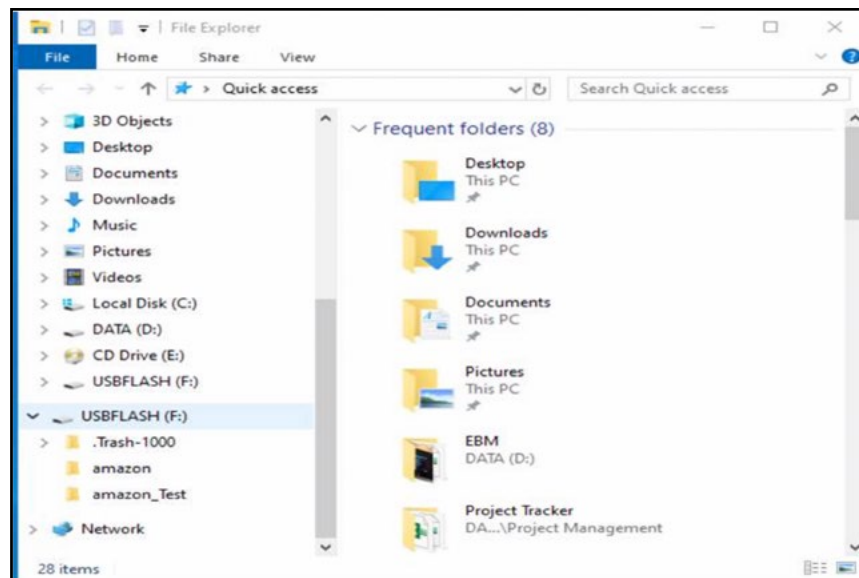
WARNING: Formatting erases ALL data on the USB or HDD

NOTE: DO NOT connect the DVR's hard disk drive to your PC or Mac!

6.1 Formatting a USB Flash Drive and External HDD

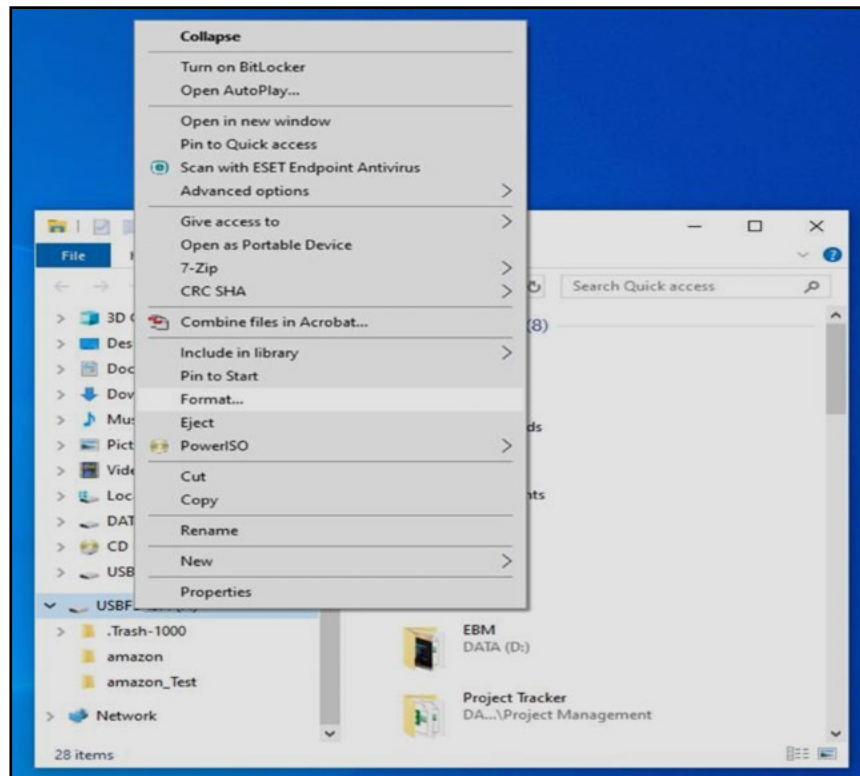
6.1.1 Formatting for Windows OS

- 1 Insert an empty Flash Drive or connect to an external HDD into a USB port on your PC.
- 2 Locate the Windows Key on your keyboard. Press and hold **Window key + Key "E,"** release both when the **File Explorer** pops up.
- 3 Find your Flash Drive or external HDD on the left side of the **File Explorer**.



- 4 Right click on the Flash Drive or external HDD. A menu window opens. Use an empty USB Flash Drive or external HDD and select it on the File Explorer.

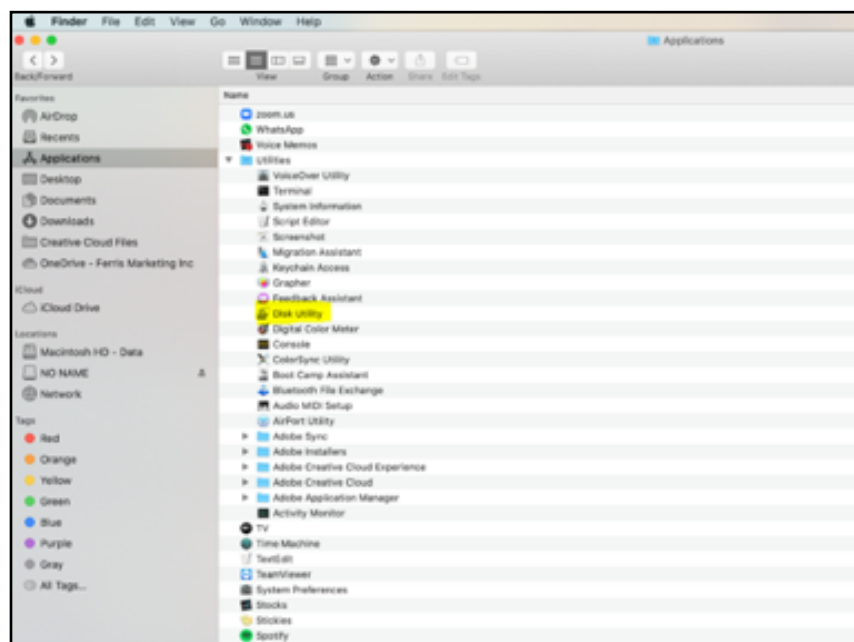
- 5 Locate “Format” on the dropdown list and click it. The Format Menu opens.



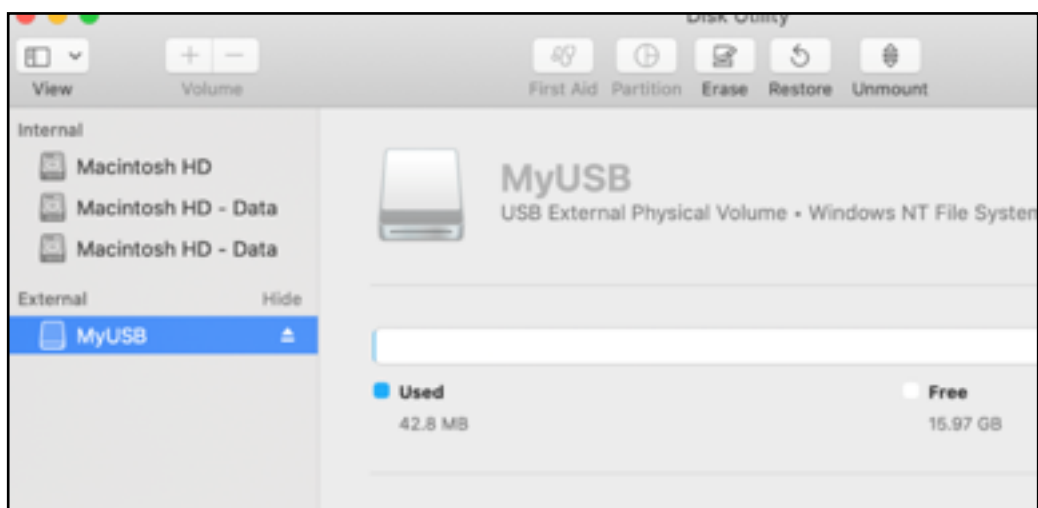
- 6 In the “File System” field select FAT32 and click “Start.”
- 7 Don’t unplug the Flash Drive or external HDD until formatting is complete.

6.1.2 Formatting for Mac OS

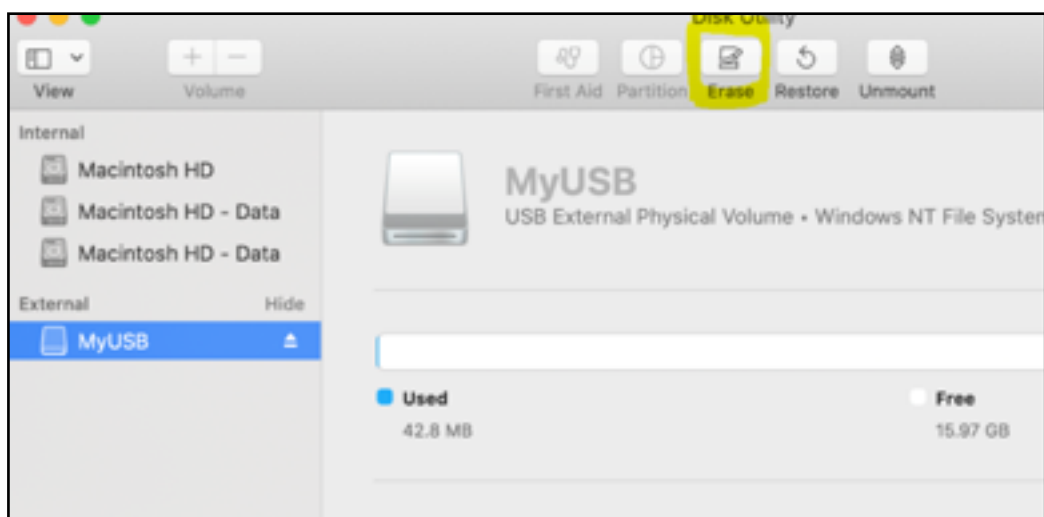
- 1 Plug the USB Flash Drive or connect the external HDD into your Mac.
- 2 Go to Applications>Utilities and launch **Disk Utility**.



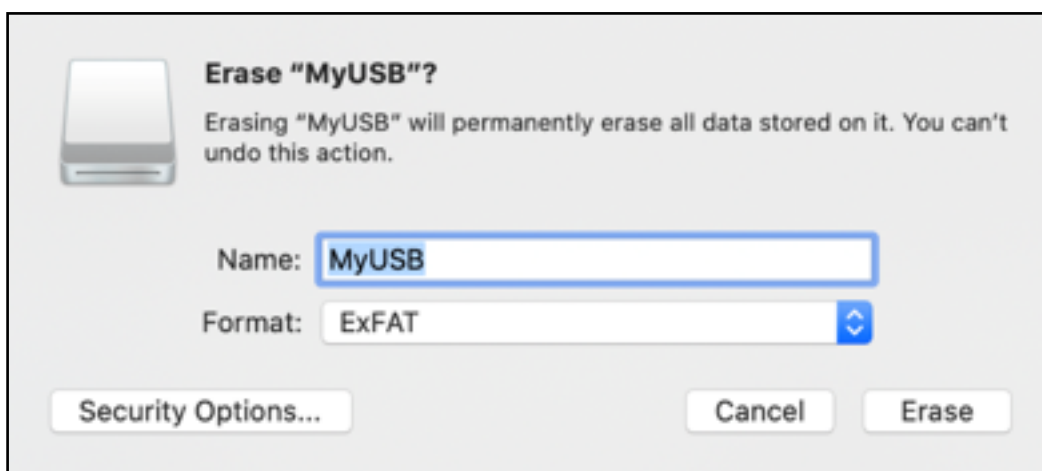
- 3 Click the USB Flash Drive or external HDD in the sidebar in Disk Utility.



- 4 Click “Erase” in the Disk Utility Toolbar.



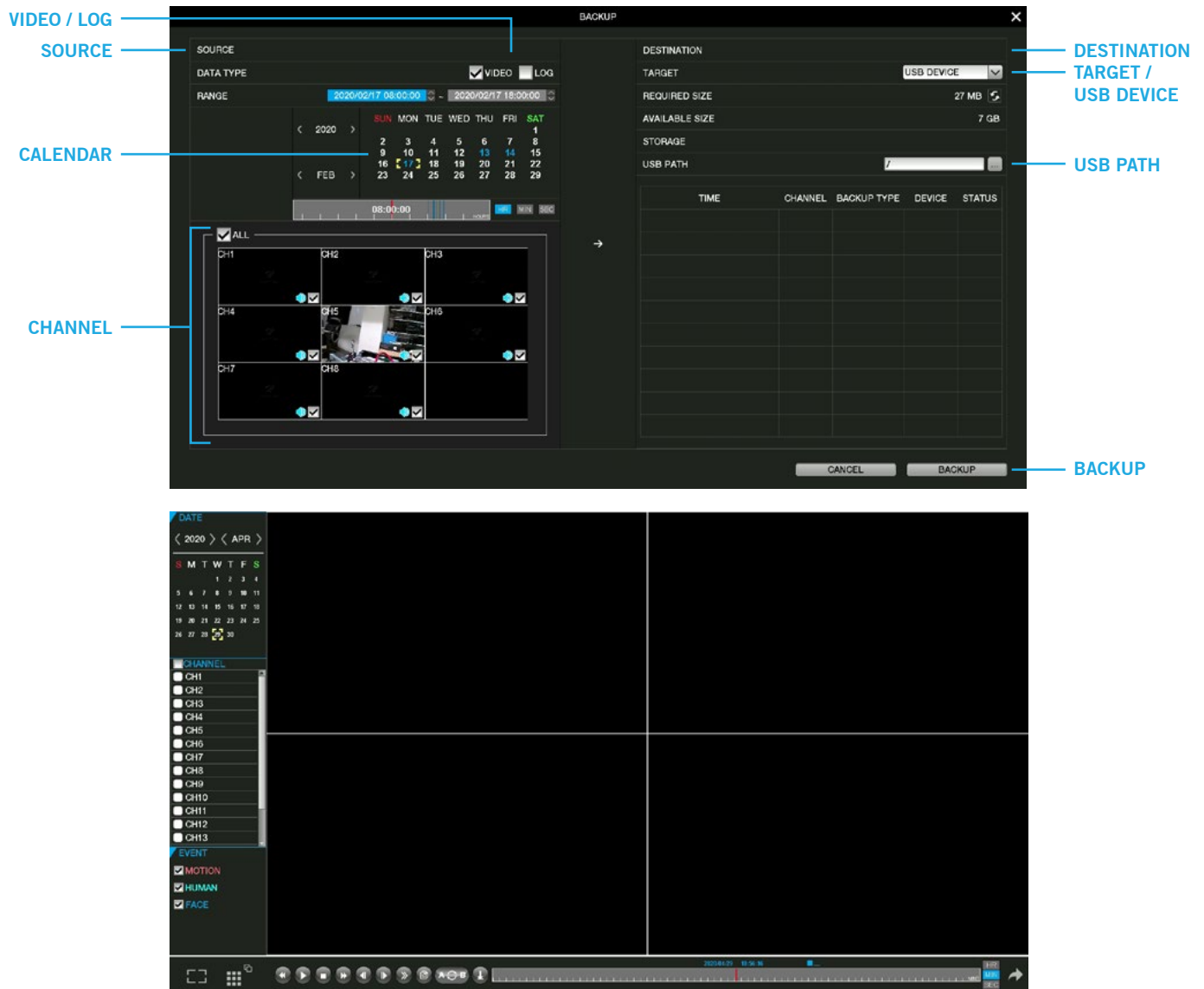
- 5 Create a name and click on the Format dropdown menu and choose either MS-DOS (FAT32) or ExFAT.



- 6 Click “Erase.”

6.2 Video Backup

Right click on the **Live View** screen to bring up the **Tool Bar**. Left click  to access the playback panel. Left click  to open the **Backup Menu**. Follow the steps below to backup video.



NOTE: You can play the videos that you backup in the default media players for macOS and Windows.

Step1: Under **SOURCE**, choose the data type (**VIDEO** or **LOG**). Use the **CALENDAR** to select the time range and date you want to copy. Dates with video recordings are highlighted in blue.

Step2: Select the **CHANNEL(s)** to copy.

Step3: Under **DESTINATION**, use the **TARGET** dropdown to save the data on a USB Flash Drive (**USB DEVICE**)

Step4:(Optional) When **USB DEVICE** is chosen, specify a directory in **USB PATH**, if needed.

Step5:Click **BACKUP** to start copying. The backup video is in .MOV format.

NOTE: You can also go to **MENU > EXPORT > BACKUP** and click  to access the Backup screen.

DVR and Channel Status

7.1 Status & Operation

The icons below keep you up to date on the DVR and its Channel's statuses.

7.1.1 Device Status

	Key lock		Key unlock
	USB Flash Drive / device connected		No USB device connected
	Timer record on		Timer record off
	Overwrite on		Overwrite off
	Sequence mode on		Sequence mode off
	USB backup in progress		USB flash drive full
	USB backup failed		

Network Status:

	(WAN) Internet connected		(WAN) Internet disconnected
	(WAN) Local connection		
	(LAN) DHCP / Static IP mode		(LAN) Camera disconnected

7.1.2 Channel Status

NOTE: The functions shown may vary by model

General Icons:

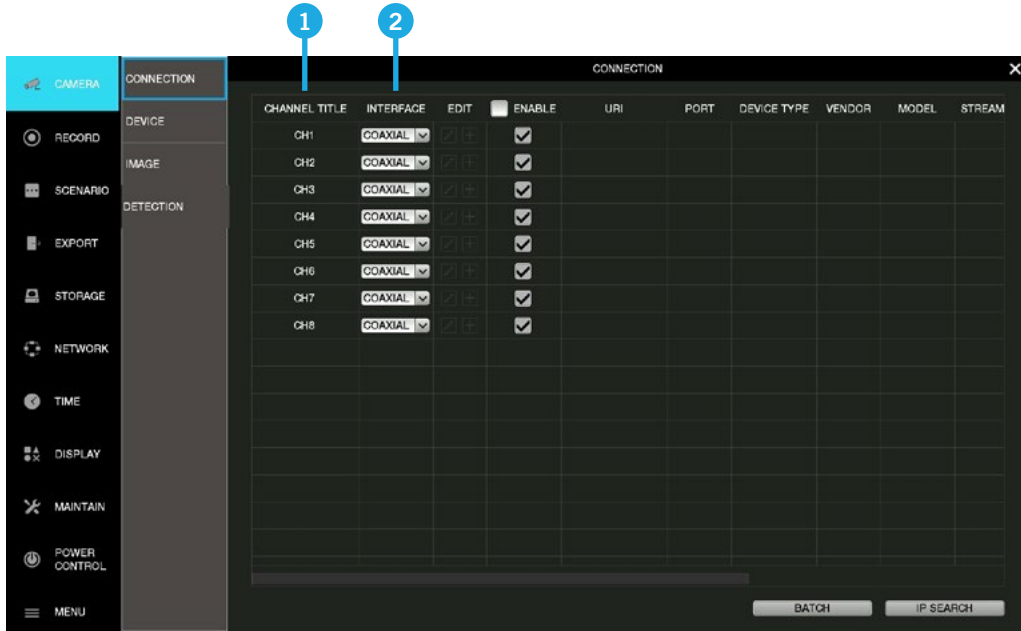
	Original size		Fit to screen		Digital Zoom		Recording
	Light controller (Connected camera doesn't support the light control)		Light controller (camera light is ON, click to OFF)		Light controller (camera light is OFF, click to ON)		
	Human event detected		Motion event detected		Face event detected		

Main Menu

8.1 Camera

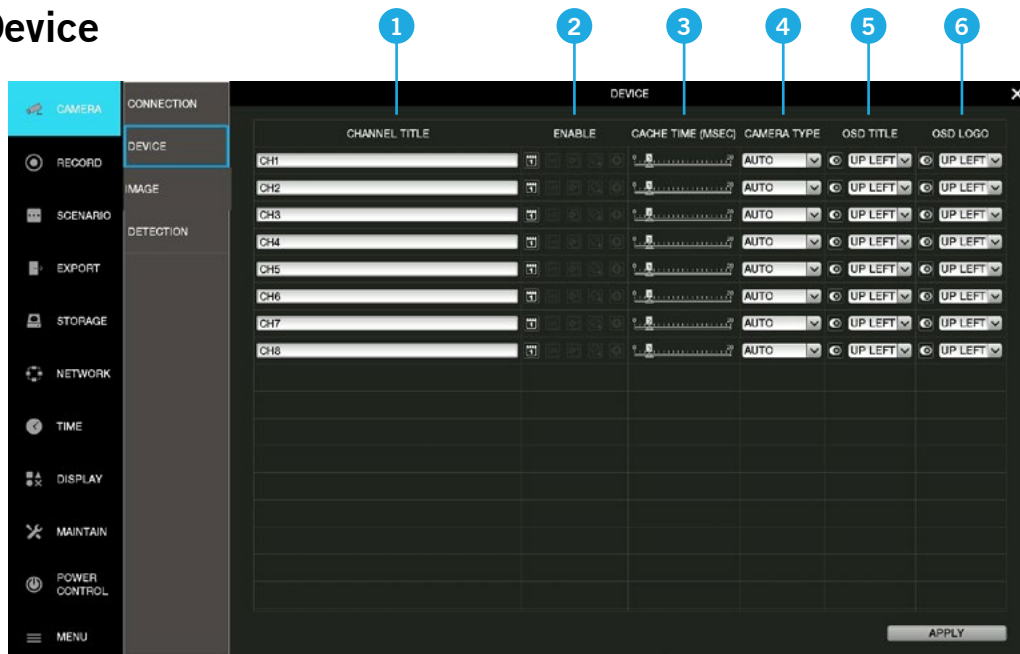
Left click “Camera” on the Main Menu to access submenus to adjust camera settings.

8.1.1 Connection



- 1 **Channel Title** - Channel Name
- 2 **Interface** - Coaxial Connection

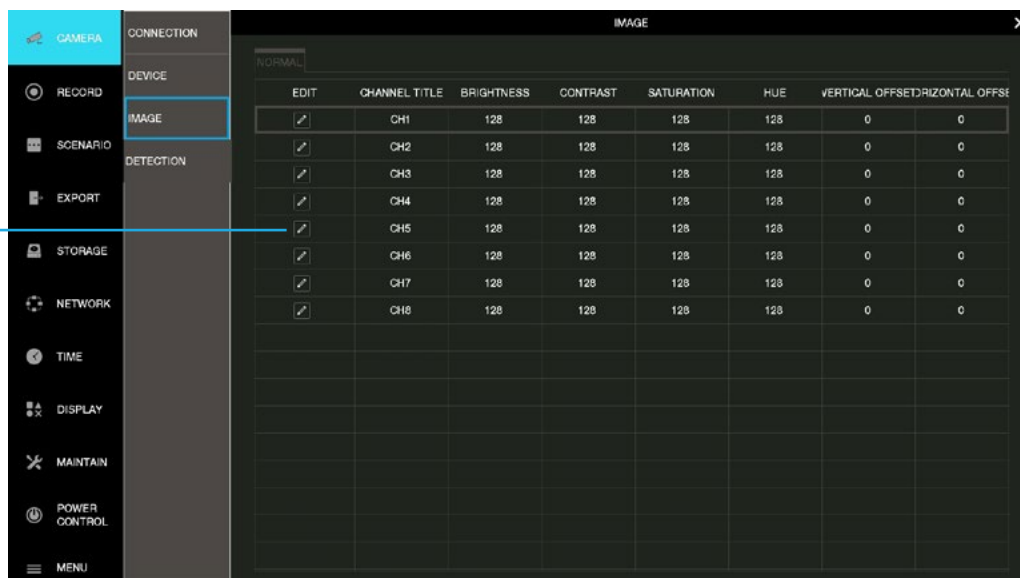
8.1.2 Device



- 1 **CHANNEL TITLE** - Click to name the channel (up to 63 characters). The default name is the channel number.
- 2 **ENABLE** - You can enable or disable the **Time Stamp**. When turned on, the recording time displays on the channel's Live View.
- 3 **CACHE TIME (MSEC)** - Cache time determines the buffering time for playbacks.
- 4 **CAMERA TYPE** - The camera type is detected automatically.
- 5 **OSD TITLE** - Choose to display the name of the channel and its location in the camera's Live View (UP LEFT / UP MIDDLE / UP RIGHT / DOWN LEFT / DOWN MIDDLE / DOWN RIGHT). When selected, the title displays in footage that is exported.
- 6 **OSD LOGO** - Choose to display the Night Owl logo and its location in the camera's Live View (UP LEFT / UP MIDDLE / UP RIGHT / DOWN LEFT / DOWN MIDDLE / DOWN RIGHT).

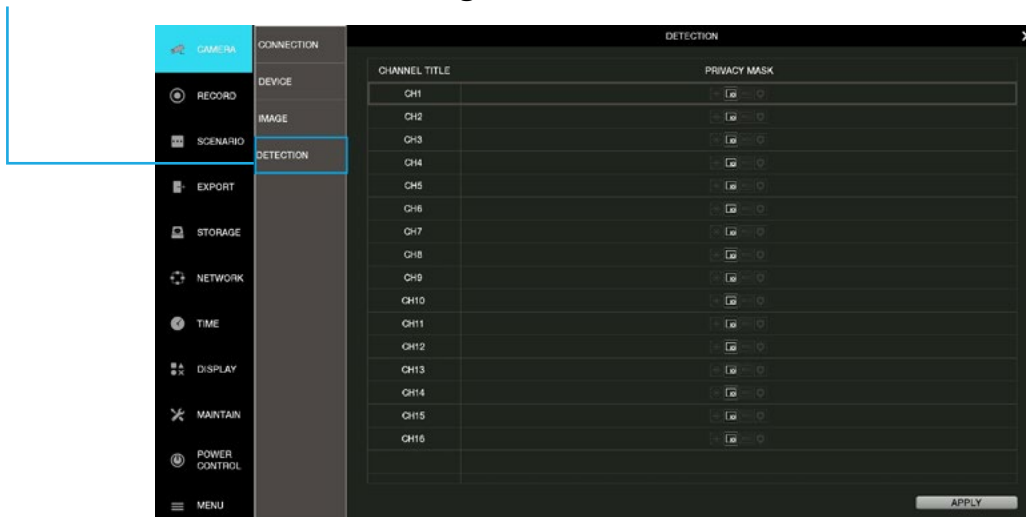
8.1.3 Image

Click  to manually adjust the brightness / contrast / saturation / hue of the selected channel.

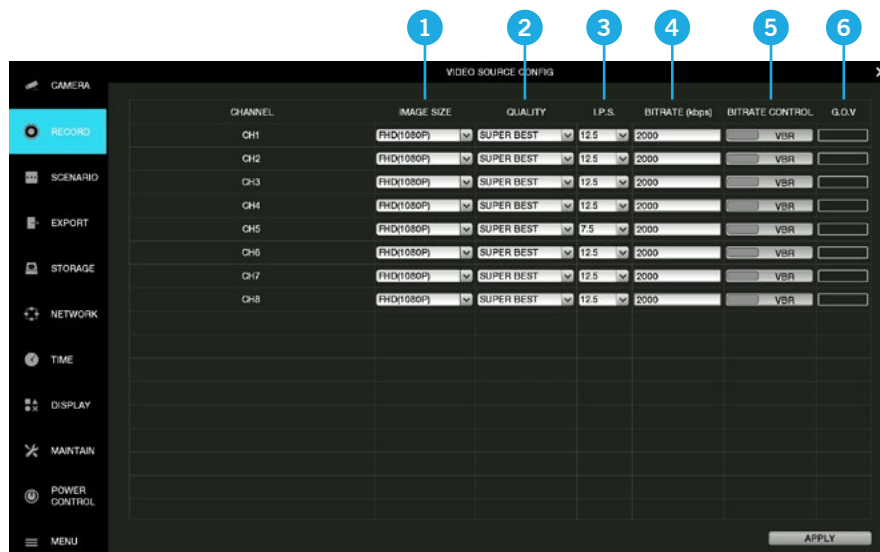


8.1.4 Detection

Access each camera's detection settings.



8.2 Record



Set the parameters for Live View, Record Streaming, and Sub Streaming.

- 1 **IMAGE SIZE:** Select the image size for each channel.

Note: The options available for **IMAGE SIZE** depend on the connected camera.

- 2 **QUALITY:** Select the video quality for each channel. The higher the value, the better the image quality.

- 3 **I.P.S.:** Image per Second, the higher the value, the smoother the video.

Note: The options available for **FPS** (Frames Per Second) depend on the connected camera.

- 4 **BITRATE (kbps):** Select how much data to process per unit of time, for each channel. The higher the value, the better the video quality.

- 5 **BITRATE CONTROL:** Configure the upper bit rate limit for the selected channel, if necessary.
VBR - When the bit rate of the camera exceeds the value set, the video fluency may be affected.
CBR - When the bit rate of the camera exceeds the value set, the image quality may be affected.

- 6 **G.O.V.:** "Group of VOPs" is used to configure the length of G.O.V. The greater the value, the poorer the image quality.

8.3 Scenario

Adjust the Recording Mode, Push Notifications, Light Triggered, Recording Area, and Recording Sensitivity Settings.



8.3.1 Pre-defined Scenarios

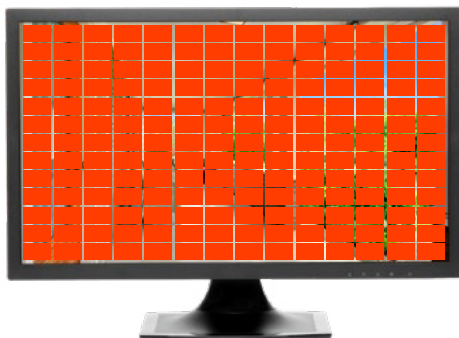
The pre-defined scenarios are created for you to quickly enable the recording and notification functions which are used frequently. Click  to select or change recording modes.

- 1 **TIME LAPSE** - Default setting for all channels. The DVR records 24/7 at 1 FPS (Frame Per Second). If an event is detected, the DVR records at full FPS. If a Human or Motion Event is detected, the DVR records at the set FPS during the duration of the Event. The DVR returns to Time Lapse recording after the event. Time Lapse can be setup in combination with Motion, Human or both.
- 2 **FACE DETECTION** - Captures a person's face up to 10 feet away from the camera.
- 3 **HUMAN DETECTION** - Default setting for all channels. The DVR will record at full frame rate when a human is detected.
- 4 **MOTION DETECTION** - The DVR will record at full frame rate when motion (pixel change) is detected.
- 5 **CONTINUOUS RECORDING** - The DVR records 24/7 at maximum recording speed as set by the user.
- 6 **PUSH** - Disabled by default. When enabled, the DVR sends Push Notifications to your mobile device when triggered by an event.
Note: To receive Push Notification, the DVR MUST be connected to the Internet and added to your Night Owl Protect account.
- 7 **LIGHT** - Enabled by default on all channels. If the box is checked, the Light is enabled and turns on when a HUMAN EVENT is detected.
- 8 **RECORDING AREA**
Set the Recording Area
Area without the red grid – Area the DVR records
Area with the red grid – Area the DVR will **NOT** record

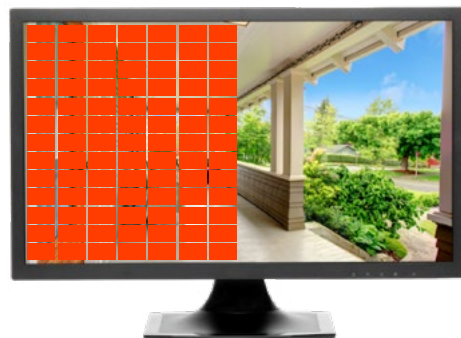
By default, the DVR is set to record the full screen (No red grid)



Set to record full screen (default value)



Set to not record any event



Only right section of the screen will record

- 9 RECORDING SENSITIVITY** - Adjust the motion sensitivity needed to trigger a recording (Higher sensitivity = more recordings).

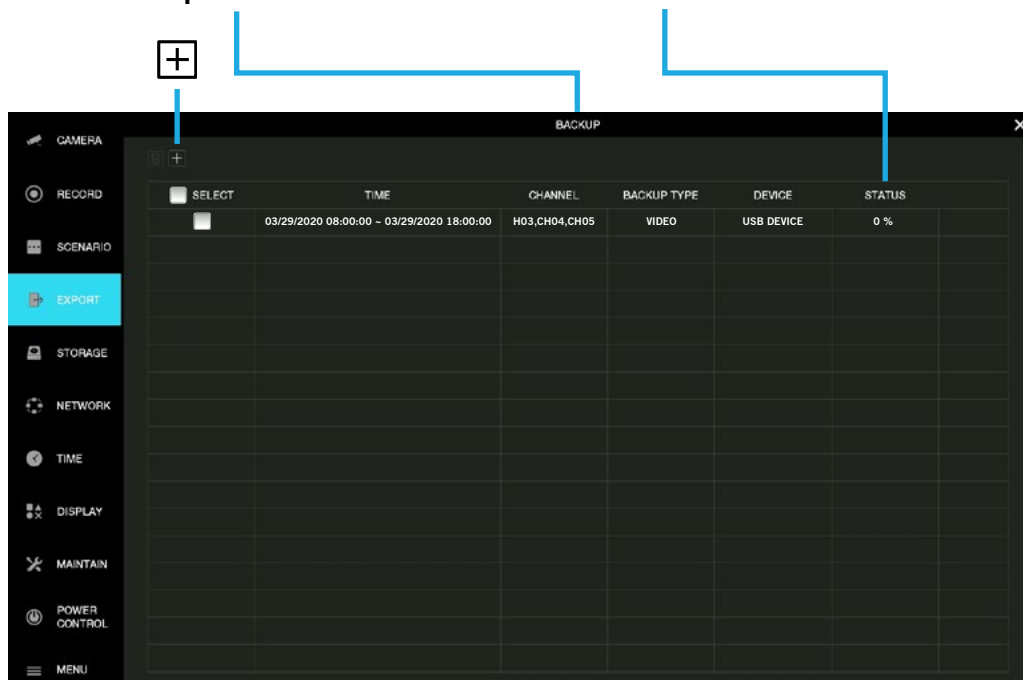
8.4 Backup and Exporting Recordings

8.4.1 Backup

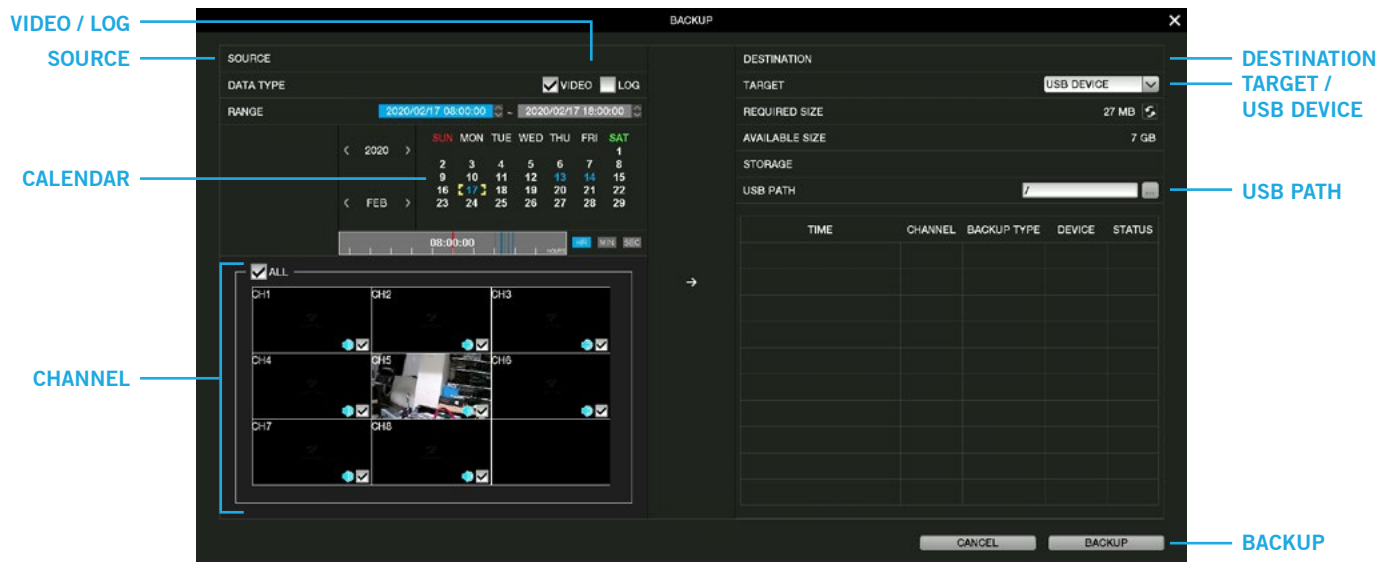
Note: Before inserting a USB flash drive into the DVR, it must be formatted to FAT32. See Section 6: **Video Backup**, to learn how to format the Flash Drive.

Note: DO NOT connect the DVR's hard disk drive to your PC or Mac!

Left click  to access the Backup screen. You can add multiple recordings for backup. The screen below shows the **Backup Task Queue** with the current **Status**.



The screen below lets you choose the parameters for the video backup. Follow the steps below to backup videos.



Step 1: Under **SOURCE**, choose the data type (**VIDEO** or **LOG**). Use the **CALENDAR** to select the time range and date you want to copy. Dates with video recordings are highlighted in blue.

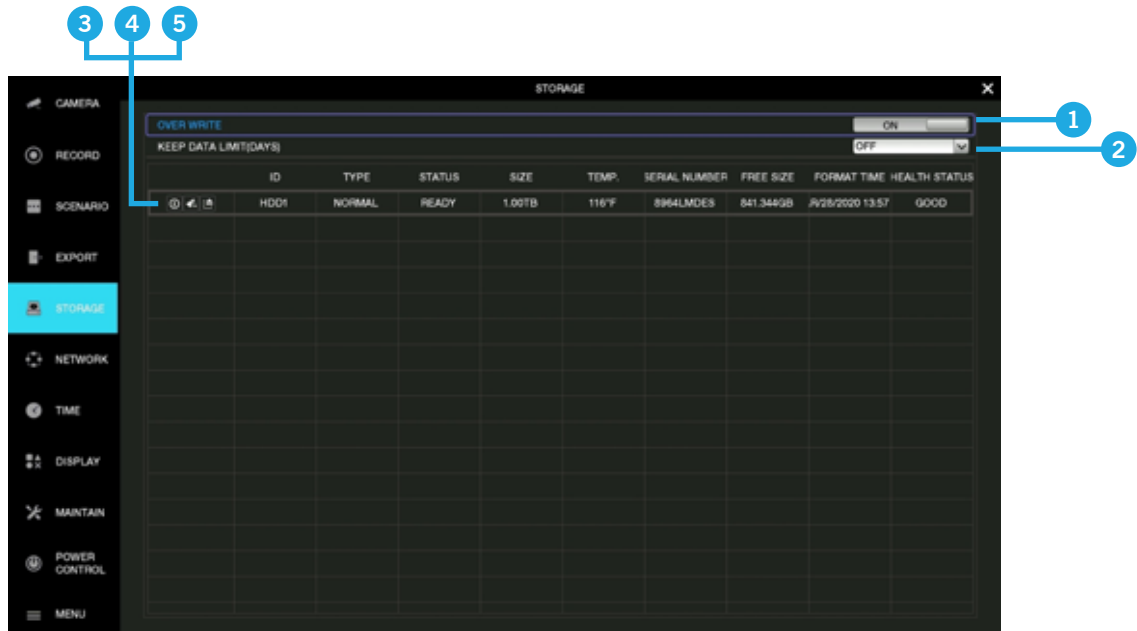
Step 2: Select the **CHANNEL(s)** to copy.

Step 3: Under **DESTINATION**, use the **TARGET** dropdown to save the data on a USB flash drive (**USB DEVICE**)

Step 4: (Optional) When **USB DEVICE** is chosen, specify a directory in **USB PATH**, if needed.

Step 5: Click **BACKUP** to start copying. The backup video is in .MOV format.

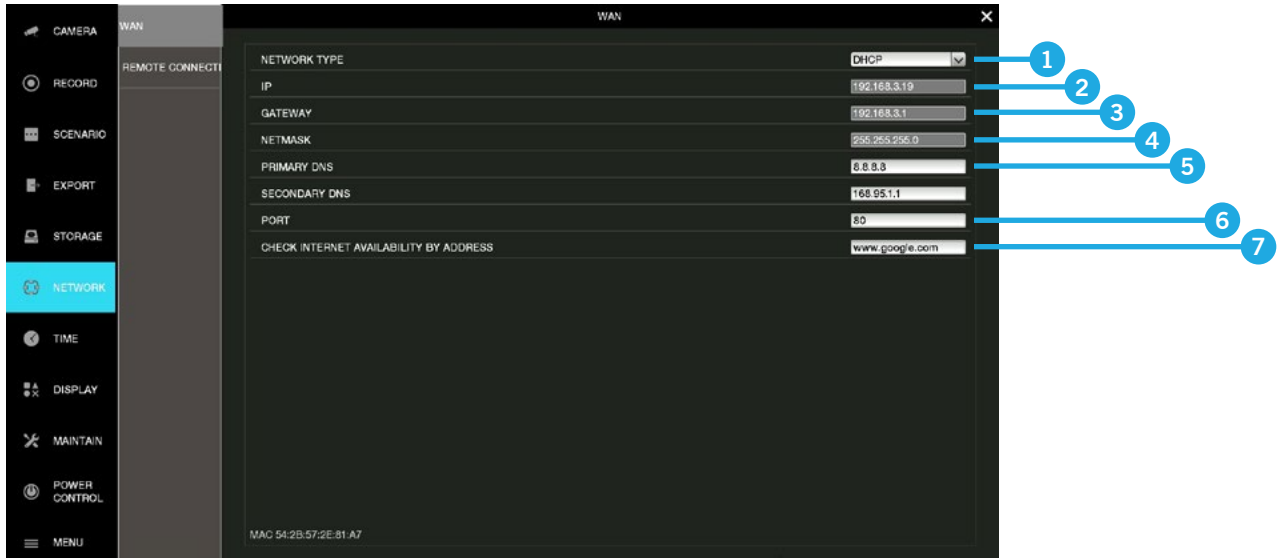
8.5 Storage



- 1 **OVERWRITE** - By default, HDD Overwrite is set to ON. When on, the  icon appears on the screen.
- 2 **KEEP DATA LIMITS (DAYS)** - Select how many days to save the recording data, from **1** to **31** days. Once the assigned amount of days is reached, the recorded data is removed. Select **OFF** to disable this function.
- 3  **HDD details** - Check the details of the selected hard disk drive.
- 4  **HDD Format** - Click to format the selected hard disk drive and erase all data. When adding a new hard disk drive to the DVR, it **MUST** be formatted to work properly.
- 5  **Mount** /  **Unmount HDD** - HDD hot-swapping is supported for this device. There's no need to power off the device first to install or remove a hard disk drive. **However, Night Owl recommends turning the power off as a safety precaution before removing or swapping a HDD.**

8.6 Network

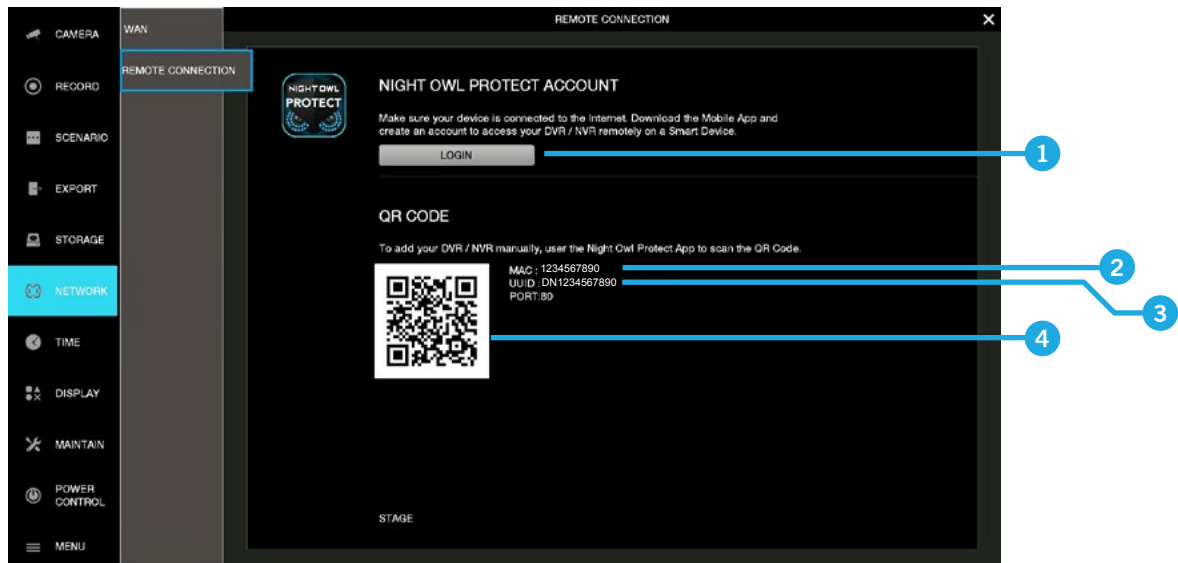
WAN is used to connect the DVR to the Internet for remote access.



- 1 **Network Type:** DHCP Network configuration mode that gathers the network values automatically from the DHCP server. If unchecked, this value can be set manually.
- 2 **IP:** Network address of the connected DVR.
- 3 **Gateway:** The connection between two networks. This should always be the IP address of the connected router.
- 4 **Netmask:** The range of IP addresses that can be found in the network. This should always be set to the default address 255.255.255.000.
- 5 **Primary DNS:** Domain Name System server address.
- 6 **Port:** Allows a computer to access the DVR through your LAN or the Internet. The default value is 80.
- 7 **Check Internet Availability by Address:** It uses the URL on the field as a reference to check the Internet status.

8.7 Remote Connection

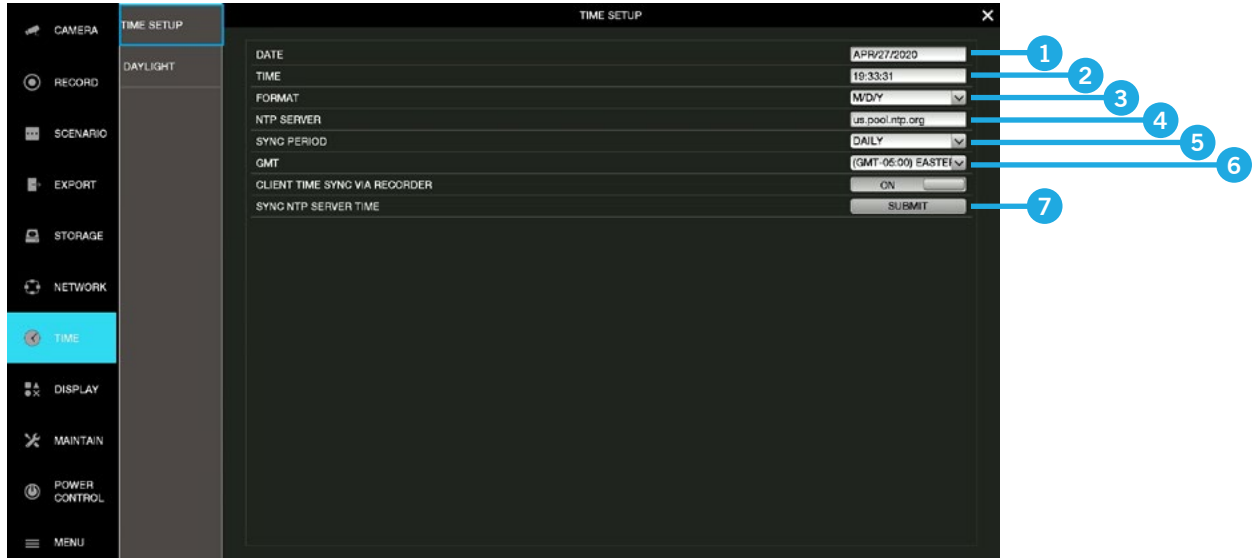
Allows you to add your DVR to the Night Owl Protect App when the DVR is connected to the Internet.



- 1 **Login:** Allows the user to login with their Night Owl Protect credentials. The user will have to enter local Admin password first to confirm ownership. If the user is already logged into the DVR with their Night Owl Protect account, the DVR will display the user's username instead of the Login button.
- 2 **MAC Address:** The unique identifier assigned to network interfaces for communications at the data link layer.
- 3 **UID:** Unique Device ID number that identifies the DVR.
- 4 **QR Code:** QR code that represents the UID number of the DVR. Scan the code on this screen when performing a QR code setup to add this DVR to the Night Owl Protect App

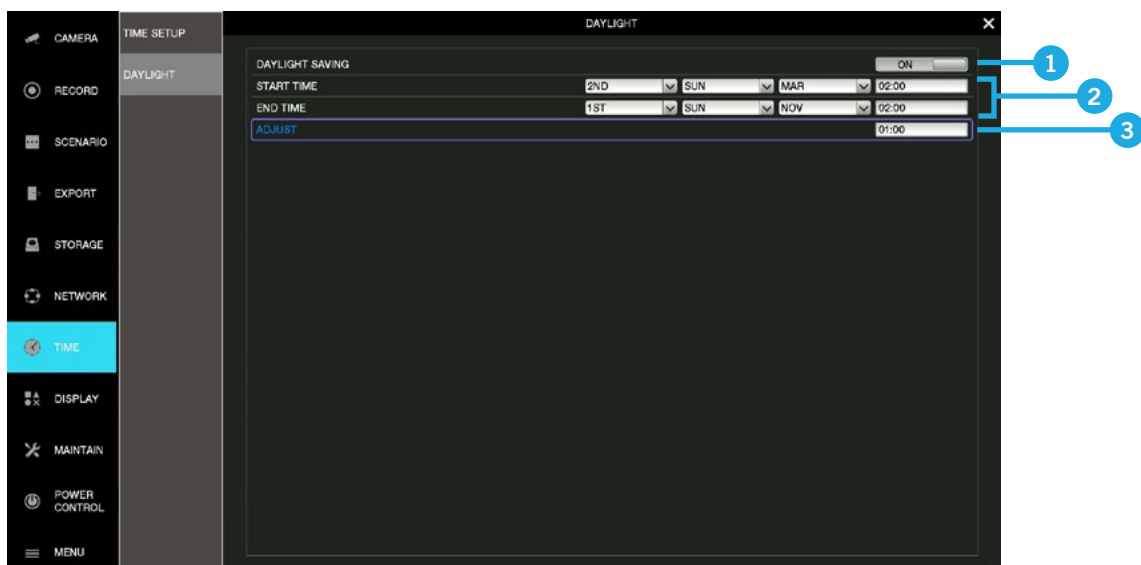
8.8 Time

8.8.1 Time Setup



- 1 **DATE** - Set the current date. The default display format is MONTH/DATE/YEAR (**M/D/Y**).
- 2 **TIME** - Set the current time in HOUR : MIN : SEC.
- 3 **FORMAT** - Set the time display format: **Y/M/D**, **M/D/Y** or **D/M/Y**.
- 4 **NTP SERVER** - Click to change the default NTP server to another server you are familiar with or keep the default NTP server.
- 5 **SYNC PERIOD** - Select to synchronize the device's time every day (**DAILY**), or turn this function off (OFF).
- 6 **GMT** - Select your Time Zone. Make sure you choose the correct Time Zone!
- 7 **Sync NTP Server Time (NOT RECOMMENDED)** - Chose SUBMIT to synchronize the DVR's time with the NTP server, pre-defined in NTP SERVER.

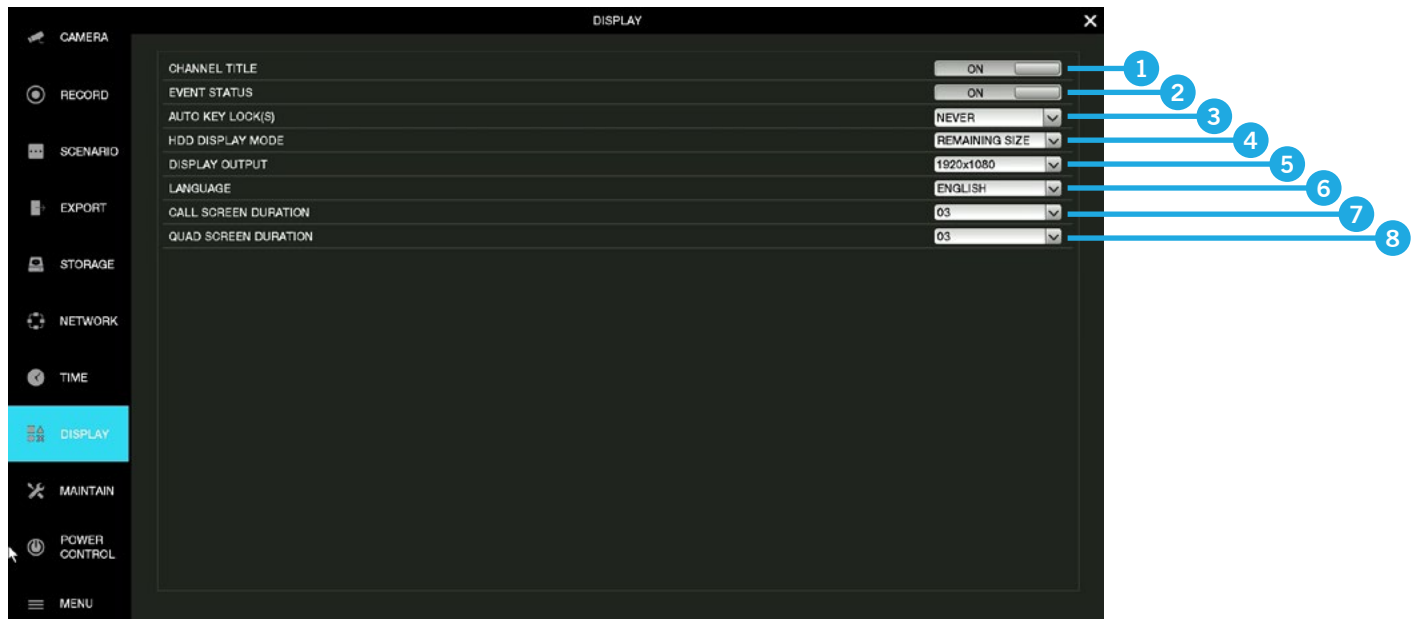
8.8.2 Daylight



Depending on your Time Zone:

- 1 **DAYLIGHT SAVINGS** - Select to enable (**ON**) or disable (**OFF**).
- 2 **START TIME / END TIME** - Set the start time and end time for Daylight Savings.
- 3 **ADJUST** - Set the time in HOUR: MIN.

8.9 Display

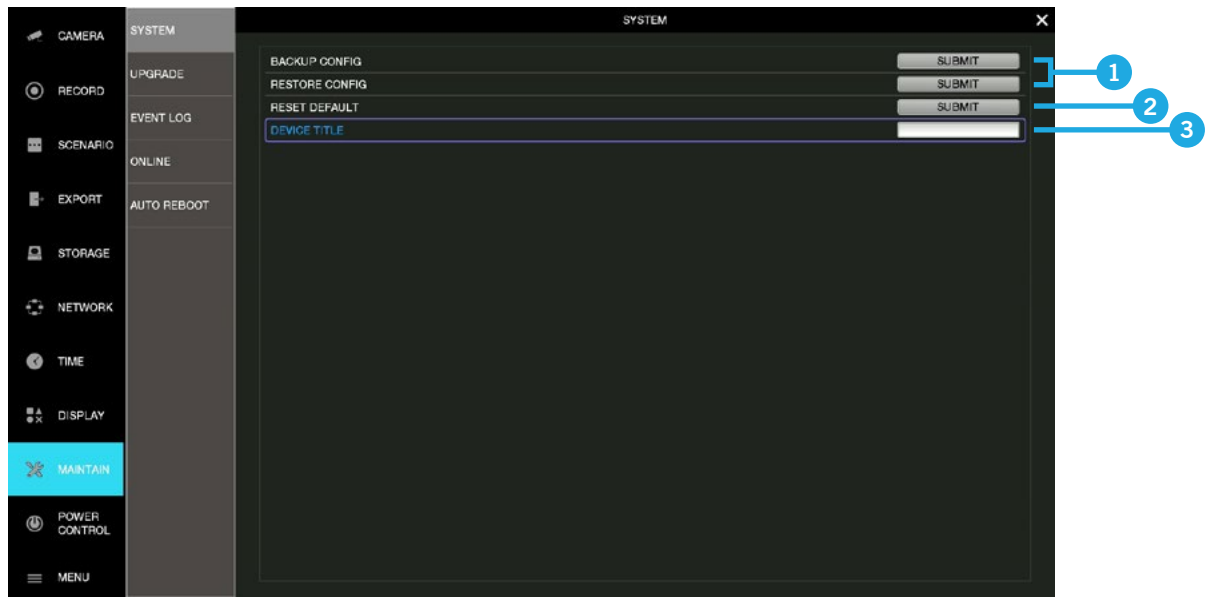


- 1 **CHANNEL TITLE** - Select to display the channel title on the Live View.
- 2 **EVENT STATUS** - Select to display the Event Icons on the Live View.
- 3 **AUTO KEY LOCK(S)** - Set the display's time-out, after which the Key Lock is activated.
(NEVER / 30 sec / 60 sec / 120 sec)
- 4 **HDD DISPLAY MODE** - Select **REMAINING SIZE** to show the remaining HDD capacity for **recording**, or **REMAINING TIME** to show the remaining recording time.
- 5 **DISPLAY OUTPUT** - Select the display resolution. The default value is **AUTO**. This is used for the main display output. Make sure your TV or Monitor has a minimum 1080p resolution.

Note: To have the best image quality on your monitor, make sure (1) the selected output resolution is supported by your TV / Monitor, and (2) the output settings on both the TV / Monitor and the DVR are consistent. If the image is not positioned or scaled properly, refer to your TV / Monitor's menu for adjustment. For details, refer to the TV / Monitor's User Manual.

- 6 **LANGUAGE** - Select a display language.
- 7 **CALL SCREEN DURATION** - Select the duration time in seconds (**03** / **05** / **10** / **15**) when the channel display mode is 1-cut and  (Sequence) is selected.
- 8 **QUAD SCREEN DURATION** - Select the duration time in seconds (**03** / **05** / **10** / **15**) when the channel display mode is 4-cut and  (Sequence) is selected.

8.10.1 System



1 BACKUP CONFIG / RESTORE CONFIG

(a) To save the DVR's current configurations for later use, insert a compatible USB flash drive into the USB port. Click **SUBMIT** in the **BACKUP CONFIG** field to copy the current DVR configurations to a file "System.bin" and save to your USB flash drive.

(b) To restore the DVR configurations, insert the USB flash drive with the file "System.bin" into the USB port and select **SUBMIT** in **RESTORE CONFIG** field.

2 RESET DEFAULT

Click **SUBMIT** to reset all settings or partial settings to their factory default values. Select **YES** to confirm or **NO** to cancel. The system reboots after reset.

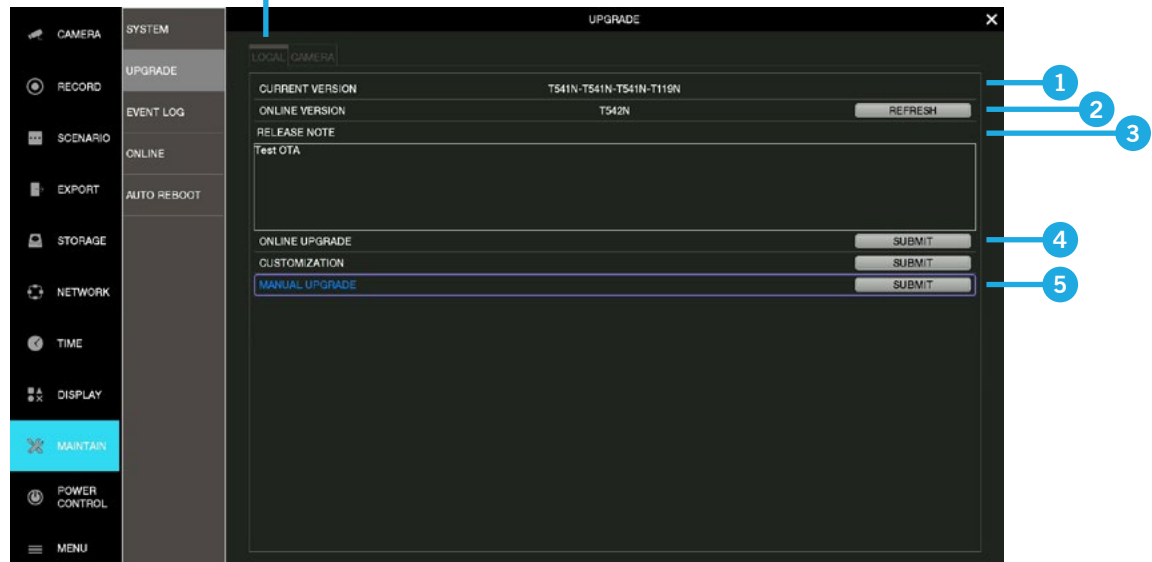
3 DEVICE TITLE

Name the DVR.

8.10.2 Upgrade

In this menu, you can choose to upgrade your DVR (**LOCAL**) or the connected cameras (**CAMERA**).

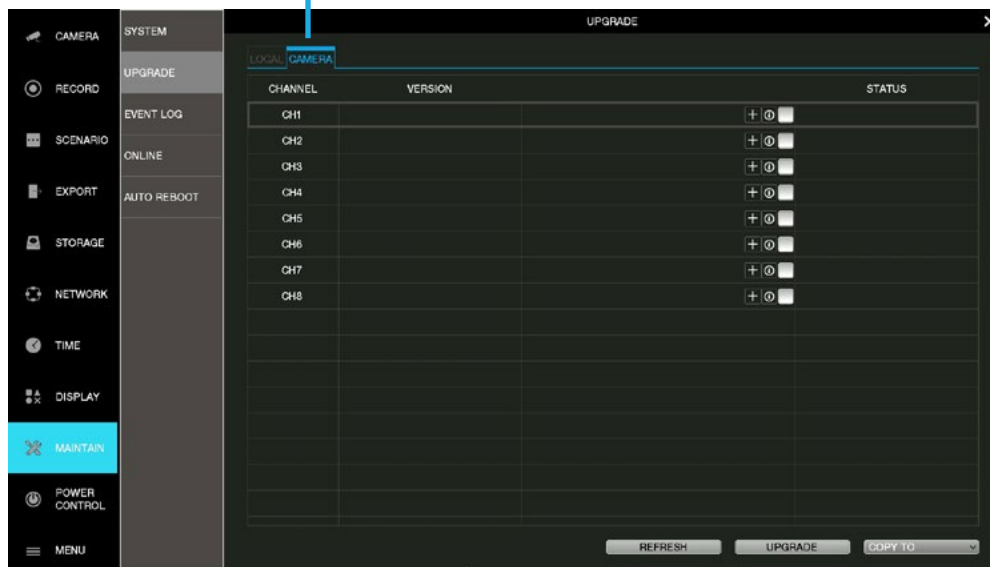
LOCAL TAB



- 1 **Current Version:** Display current DVR firmware version
- 2 **Online Version:** Display latest DVR firmware version in the OTA Server if there is a new version available. Click Refresh to check OTA version.
- 3 **Release Note:** New OTA version release notes if there is a new one. If not, it displays “Your Firmware is the latest version”
- 4 **Online Upgrade:** Click Submit download and install a new FW version from the OTA server (if any available)
- 5 **Manual Upgrade:** Save the upgrade files obtained from your installer or distributor on a compatible USB flash drive. Insert the flash drive into the USB port. Click **SUBMIT** to start upgrading. Click [Here](#) for additional support for **Manual Upgrade**.

Note: Before inserting a USB flash drive into the DVR, it must be formatted to FAT32.
See Section 6: **Video Backup**, to learn how to format the Flash Drive.

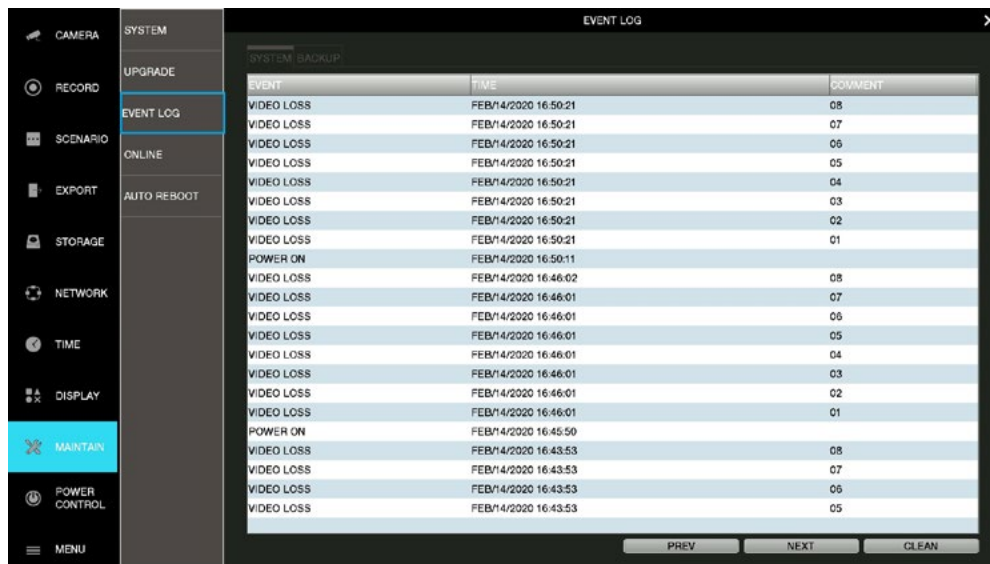
CAMERA TAB



- 1 Save the upgrade files obtained from your installer or distributor in a compatible USB flash drive and insert it into the USB port.
- 2 Choose  to browse to where the firmware file is saved and choose the file to upgrade. Then, choose **SELECT** to confirm and return to the upgrade page.
- 3 Repeat Step2 as many as needed until all cameras which need firmware upgrade are selected. If one firmware file applies to several IP cameras, select **COPY TO** to apply the same file to the applicable cameras.
- 4 Choose **UPGRADE** to start upgrading all selected cameras or choose  to upgrade the camera one by one.

8.10.3 Event Log

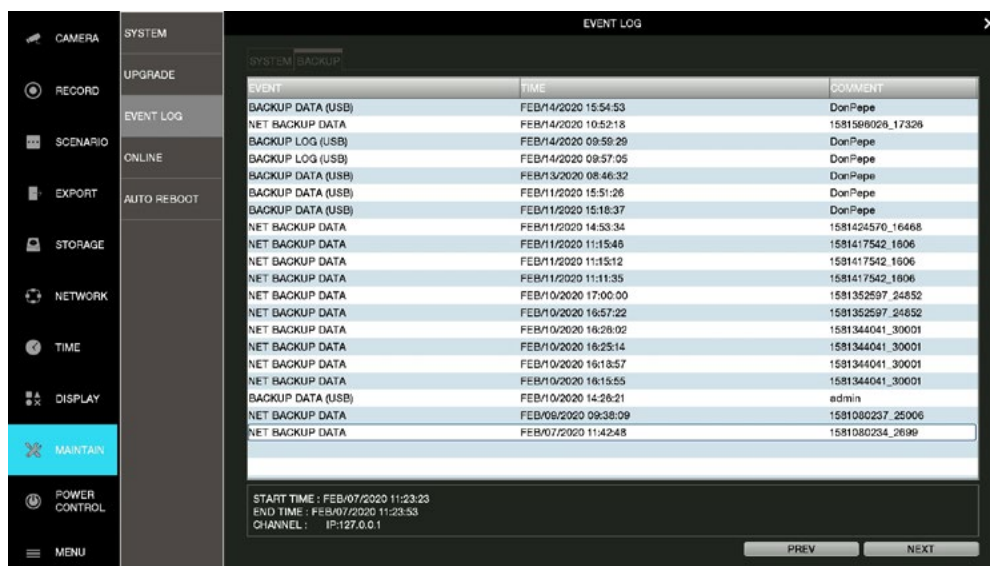
You can see all event information (Type, Time Stamp, and Channel), or clear all Log Records.



The screenshot shows the 'EVENT LOG' window with a sidebar menu on the left. The 'EVENT LOG' option is selected. The main area displays a table of events. The table has three columns: 'EVENT', 'TIME', and 'COMMENT'. The events listed are 'VIDEO LOSS' and 'POWER ON'.

EVENT	TIME	COMMENT
VIDEO LOSS	FEB/14/2020 16:50:21	08
VIDEO LOSS	FEB/14/2020 16:50:21	07
VIDEO LOSS	FEB/14/2020 16:50:21	06
VIDEO LOSS	FEB/14/2020 16:50:21	05
VIDEO LOSS	FEB/14/2020 16:50:21	04
VIDEO LOSS	FEB/14/2020 16:50:21	03
VIDEO LOSS	FEB/14/2020 16:50:21	02
VIDEO LOSS	FEB/14/2020 16:50:21	01
POWER ON	FEB/14/2020 16:50:11	
VIDEO LOSS	FEB/14/2020 16:46:02	08
VIDEO LOSS	FEB/14/2020 16:46:01	07
VIDEO LOSS	FEB/14/2020 16:46:01	06
VIDEO LOSS	FEB/14/2020 16:46:01	05
VIDEO LOSS	FEB/14/2020 16:46:01	04
VIDEO LOSS	FEB/14/2020 16:46:01	03
VIDEO LOSS	FEB/14/2020 16:46:01	02
VIDEO LOSS	FEB/14/2020 16:46:01	01
POWER ON	FEB/14/2020 16:45:50	
VIDEO LOSS	FEB/14/2020 16:43:53	08
VIDEO LOSS	FEB/14/2020 16:43:53	07
VIDEO LOSS	FEB/14/2020 16:43:53	06
VIDEO LOSS	FEB/14/2020 16:43:53	05

At the bottom of the window, there are three buttons: 'PREV', 'NEXT', and 'CLEAN'.



The screenshot shows the 'EVENT LOG' window with a sidebar menu on the left. The 'EVENT LOG' option is selected. The main area displays a table of events. The table has three columns: 'EVENT', 'TIME', and 'COMMENT'. The events listed are 'BACKUP DATA (USB)' and 'NET BACKUP DATA'.

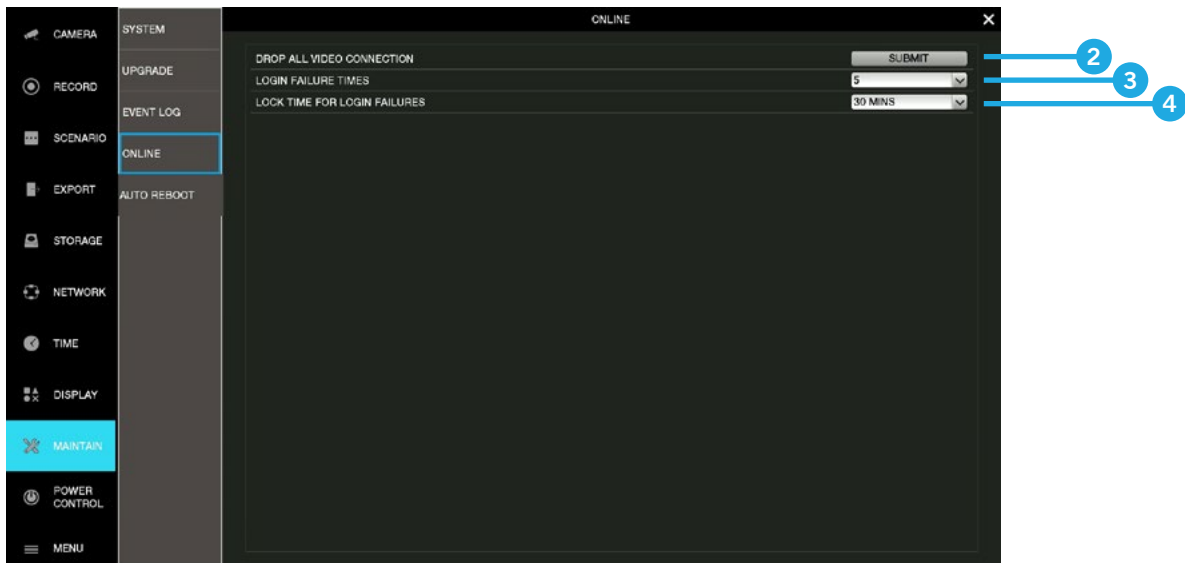
EVENT	TIME	COMMENT
BACKUP DATA (USB)	FEB/14/2020 15:54:53	DonPepe
NET BACKUP DATA	FEB/14/2020 10:52:18	1581569026_17326
BACKUP LOG (USB)	FEB/14/2020 09:59:29	DonPepe
BACKUP LOG (USB)	FEB/14/2020 09:57:05	DonPepe
BACKUP DATA (USB)	FEB/13/2020 08:46:32	DonPepe
BACKUP DATA (USB)	FEB/11/2020 15:51:26	DonPepe
BACKUP DATA (USB)	FEB/11/2020 15:18:37	DonPepe
NET BACKUP DATA	FEB/11/2020 14:53:34	1581424570_16468
NET BACKUP DATA	FEB/11/2020 11:15:48	1581417542_1606
NET BACKUP DATA	FEB/11/2020 11:15:12	1581417542_1606
NET BACKUP DATA	FEB/11/2020 11:11:35	1581417542_1606
NET BACKUP DATA	FEB/10/2020 17:00:00	1581352597_24852
NET BACKUP DATA	FEB/10/2020 16:57:22	1581352597_24852
NET BACKUP DATA	FEB/10/2020 16:26:02	1581344041_30001
NET BACKUP DATA	FEB/10/2020 16:25:14	1581344041_30001
NET BACKUP DATA	FEB/10/2020 16:18:57	1581344041_30001
NET BACKUP DATA	FEB/10/2020 16:15:55	1581344041_30001
BACKUP DATA (USB)	FEB/10/2020 14:26:21	admin
NET BACKUP DATA	FEB/09/2020 09:38:09	1581080237_25006
NET BACKUP DATA	FEB/07/2020 11:42:48	1581080234_26199

At the bottom of the window, there is a summary section with the following text:

START TIME : FEB/07/2020 11:23:33
END TIME : FEB/07/2020 11:23:53
CHANNEL : IP:127.0.0.1

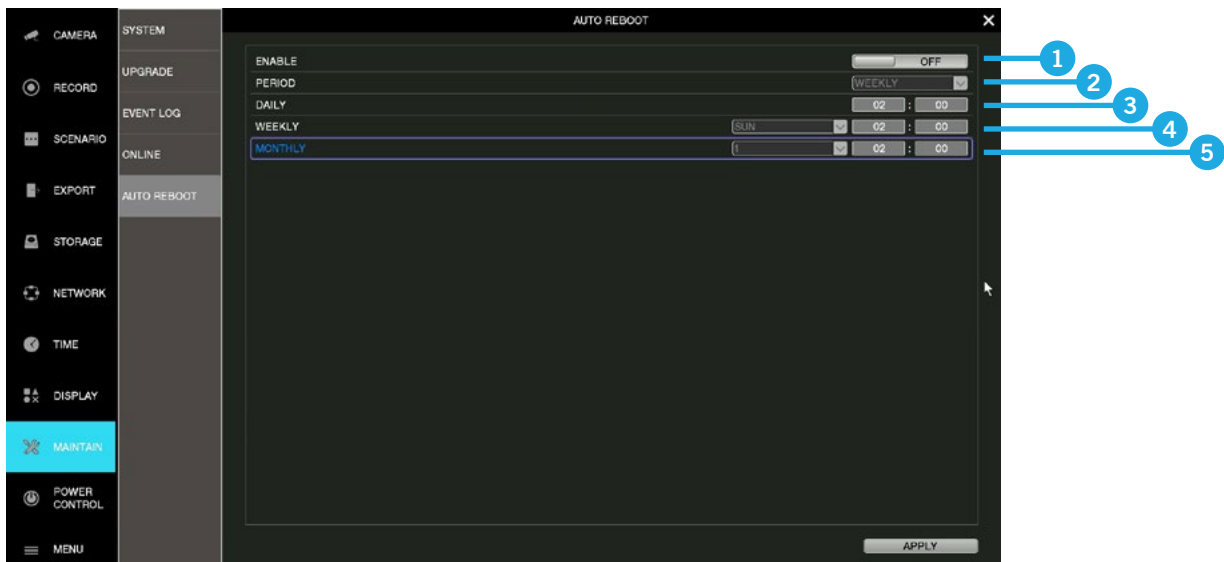
At the bottom of the window, there are two buttons: 'PREV' and 'NEXT'.

8.10.4 Online



- 1 **ANONYMOUS VIEWER LOGIN (DISABLED FEATURE)** - Switch to **ON** to allow anonymous login. You don't need to enter a username and password for remote access.
NOTE: Although the DVR currently includes this feature, it is **NOT** supported by Night Owl Protect to ensure your privacy and security.
- 2 **DROP ALL VIDEO CONNECTION** - Click **SUBMIT** to force disconnection of all remote login credentials.
- 3 **LOGIN FAILURE TIMES** - The DVR locks the IP address after several login attempts. Choose the failure times of login attempts from the same IP address (**1 ~ 20**). Go to **LOCK TIME FOR LOGIN FAILURES** to select how long to lock the IP address after login failures limit is reached.
- 4 **LOCK TIME FOR LOGIN FAILURES** - Select how long to lock the IP address after login failures limit is reached (**1 MIN / 2 MINS / 3 MINS / 5 MINS / 10 MINS / 30 MINS / 1 HOUR**).

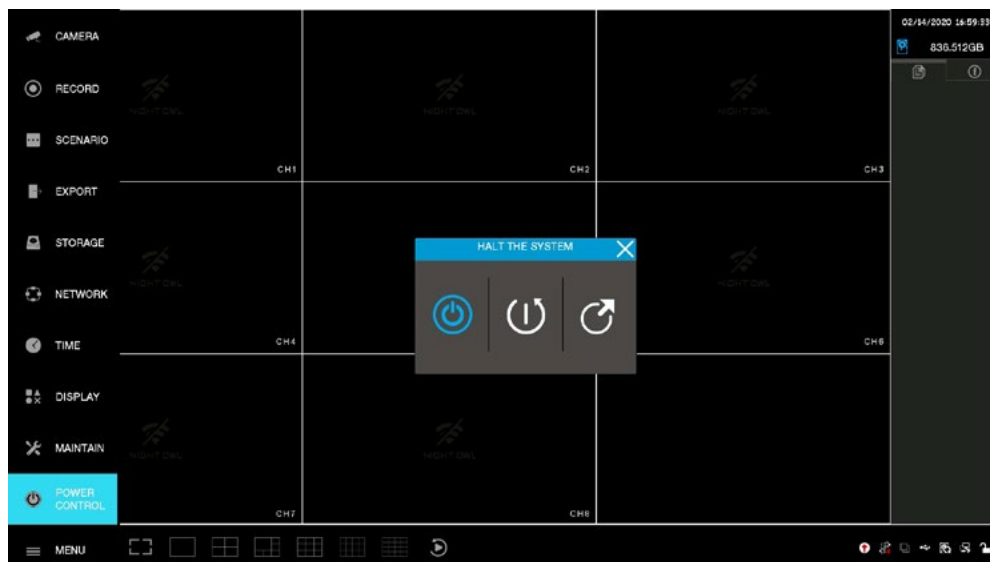
8.10.5 Auto Reboot



- 1 **ENABLE:** Enable or disable Automatic Reboot.
- 2 **PERIOD:** DVR can be rebooted DAILY/WEEKLY/MONTHLY
- 3 **DAILY:** Select the time of day for the DVR to reboot. Hours are in a 24H format; 00 to 23
- 4 **WEEKLY:** Select the day and time your DVR will reboot.
- 5 **MONTHLY:** Select the date and the time of day your recorder will reboot.

8.11 Power Control

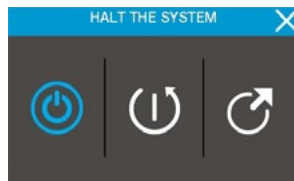
Click to show the power functions. Options include Halt, Reboot, or System Logout.



Icon	Meaning	Description
	System Halt	Click to stop the system and remove the power adapter. Safest way to shut down.
	System Reboot	Click to reboot the system.
	System Logout	Click to logout and/or log in with another account.

To manually logout of your DVR, follow the steps below:

Click on **MENU** -> **POWER CONTROL**. Click  to logout or click on  icon.



Note: When logging back in, the default username and password for offline or unregistered DVR's is **admin**. To log back into DVR's that are online and registered, enter your Night Owl Protect credentials.

APPENDIX A

Right click **MENU** on the bottom left corner of the **Tool Bar** to display the main menu and submenu lists:

	CAMERA	CONNECTION	
		DEVICE	
		IMAGE	BRIGHTNESS
			CONTRAST
			SATURATION
			HUE
		DETECTION	
	RECORD	IMAGE SIZE	
		QUALITY	
		FPS (Frames Per Second)	
	SCENARIO	RECORDING BY	
		PUSH	
		LIGHT	
		RECORDING AREA	
		RECORDING SENSITIVITY	
	EXPORT	BACKUP	
	STORAGE		OVERWRITE KEEP DATA LIMIT(DAYS)
	NETWORK	WAN	
		REMOTE CONNECTION	
	TIME	TIME SETUP	DATE
			TIME
			FORMAT
			NTP SERVER
			SYNC PERIOD
			GMT
			CLIENT TIME SYNC VIA RECORDER
			SYNC NTP SERVER TIME
		DAYLIGHT	

*For selected models only

	DISPLAY		CHANNEL TITLE
			EVENT STATUS
			AUTO KEY LOCK(S)
			HDD DISPLAY MODE
			DISPLAY OUTPUT
			LANGUAGE
			SPOT MONITOR*
			CALL SCREEN DURATION
			QUAD SCREEN DURATION
	MAINTAIN	SYSTEM	BACKUP CONFIG
			RESTORE CONFIG
			RESET DEFAULT
			DEVICE TITLE
			ENABLE AUTO PLUG AND PLAY
			BIND MAC ADDRESS
			RESET ALL GUARD CONNECTION
			BAUD RATE
			HOST ID
		UPGRADE	LOCAL
			CAMERA
		EVENT LOG	SYSTEM
			BACKUP
		ONLINE	ANONYMOUS VIEWER LOGIN
			DROP ALL CONNECTION
			LOGIN FAILURE TIMES
			LOCK TIME FOR LOGIN FAILURES
		AUTO REBOOT	
	POWER CONTROL	HALT THE SYSTEM	
		REBOOT THE SYSTEM	
		LOGOUT	

*For selected models only

APPENDIX B: Advanced Config

STOP: Please do not adjust the Advanced Configuration Settings unless you are familiar with and understand the changes you are making.

PRIVACY MASK

You can cover certain areas on the camera image with privacy masks. Up to 4 areas could be added.

PRIVACY MASK					
MOSAIC SIZE					
NAME	FUNCTION	MOSAIC	COLOR	MOSAIC COLOR	TRANSPARENCY
MASK1	OFF	OFF	ON		0%
MASK2	ON	ON	ON		25%
					EDIT

Select one of the 4 mask profiles available and click on **EDIT** to modify setting.

PRIVACY MASK - PROFILE #	
FUNCTION	ON
COLOR FOR MASK	DROPDWON
TRANSPARENCY	0%
MASK AREA	SETUP

ITEM	DESCRIPTION
FUNCTION	Select ON to enable the privacy mask function.
COLOR FOR MASK	Select the color for the privacy mask.
TRANSPARENCY	Select the transparency for your privacy mask. The options are: 0% , 25% , 50% , and 100% . When 100% is chosen, no color is shown but only the mosaic effect for the mask area.
MASK AREA	Select SETUP to enter the area selection page. To exit, right click.

Glossary

DP2: 1080p (2MP) HD Hi-Definition Analog System with Human Detection Technology and Built-in Motion-Activated Spotlights.

DDNS: Dynamic Domain Naming System. Method for automatically updating hostnames, addresses, URL's or other information on a given name server.

DHCP: Dynamic Host Configuration Protocol. A network protocol that allows a server to automatically assign a device and IP address.

Human Detection: Technology that uses advanced algorithms to detect human motion, reducing false alerts to your Smart Device.

IP: Internet Protocol. Protocol for standard communications across the Internet.

ISP: Internet Service Provider. An organization that provides services for accessing or using the Internet.

PIR: Passive Infrared. Heat-based sensors eliminate most false alarms and only delivers alerts when people, animals or vehicles are detected.

SMTP: Simple Mail Transfer Protocol. Standards used for email transmission.

UPS: Uninterrupted Power Supply. Device used to keep the DVR and cameras powered when the main power supply is lost or disconnected.

UTC (Up-the-Coax): This new technology allows for PTZ functions to be sent back and forth between the DVR and camera using a standard BNC (Video/Power) cable without the need for a separate port.

Warranty

NIGHT OWL, LLC (“Night Owl”) provides the following warranty to the original retail purchaser only (the “Purchaser”) with respect to this product (the “Product”):

For a period of one (1) year after the date of sale, the Product shall be free from manufacturing defects in material and workmanship. Product registration may be required to submit a warranty claim. In the event that the Product is defective, the Purchaser must i) contact Night Owl’s Technical Support Team, ii) provide Night Owl with the proof of purchase showing the product is still under warranty and was purchased from Night Owl directly or an Authorized Reseller and iii) return the Product to Night Owl. In its sole discretion, Night Owl will either repair or replace the Product at no additional cost to the Purchaser. Any replacement Product (or parts) will be covered by the same warranty as the original Product through the expiration date of the original warranty period.

Exclusions

This warranty does not apply to the following parts or upon the following events:

1. Bulbs, LEDS and batteries;
2. The Product was not used or installed in the manner described in the installation instructions;
3. Negligent use of the Product or misuse or abuse of the Product;
4. Electrical short circuits or power surges;
5. Use of replacement parts not supplied by Night Owl;
6. Product is either tampered with, modified or repaired by another service provider;
7. Product has not been maintained in accordance;
8. Accident, fire, flood or other acts of God;
9. Failure to use Night Owl approved accessories;
10. Defects or damages arising by use of the Product in other than normal conditions (including normal atmospheric, moisture and humidity conditions).

Except as otherwise prohibited by law, this warranty is in lieu of other warranties, express or implied and Night Owl neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale or service of the Product.

In no event shall Night Owl be liable for any special or consequential damages arising from the use of the Product or arising from the malfunctioning or non-functioning of the Product or for any delay in the performance of this warranty due to any cause beyond its control. This warranty shall not apply to installation or the removal and re-installation of products after repair.

Night Owl does not make any claims or warranties of any kind whatsoever regarding the Product’s potential, ability or effectiveness to prevent, minimize or in any way affect personal or property damage or injury. Night Owl is not responsible for any personal damage, loss or theft related to the Product or to its use for any harm, whether physical or mental related thereto. Any and all claims or statements, whether written or verbal, by salespeople, retailers, dealers or distributors to the contrary are not authorized by Night Owl and do not affect this provision of this warranty.

Disclaimer

Certain uses, publication and/or distribution of video/audio recordings from security cameras and/or audio devices are prohibited or restricted by federal, state and local laws. When enabling and/or using audio recording features with your hidden security camera, be sure to comply with the laws in your country, state and locality.

Mac and Mac OS X are registered trademarks of Apple Inc. Windows, Windows XP, Windows Vista, Windows 7, Windows 8 and Windows 10 are registered trademarks of Microsoft Corporation in the United States and/or other countries.

Troubleshooting

If a problem occurs, you may be able to easily correct it yourself. The following table describes some common issues and their most likely solutions. Please refer to the table before calling technical support.

Error	Possible Causes	Solutions
System is not receiving power or is not powering up.	Cable from power adapter is loose or is unplugged.	1. Confirm that all cables are connected correctly. 2. Confirm that the power adapter is securely connected to the back of the unit.
	Cables are connected, but system is not receiving sufficient power.	1. Confirm that the system is powered ON (LED indicators on the front should be ON). 2. If the unit is connected through a power bar or surge protector, try bypassing the bar and connecting the power directly to the wall outlet. 3. Confirm that there is power at the outlet. 4. Connecting the power cable to another outlet. 5. Test the outlet with another plugged device (such as a phone charger).
Hard drive is full (0%) and the unit is no longer recording.	Overwrite is not enabled.	Go to the Menu > HDD and ensure that Overwrite is set to Auto .
Mouse not detected by system.	Mouse cable is not firmly connected to the system.	Firmly connect the mouse cable to the USB Mouse port on the front panel.
	Mouse is not connected to the system.	
	System needs to be reset.	Power off the system (disconnect power cable). Firmly connect a USB mouse to the USB Mouse port on the front panel of the system. Reconnect the power cable to the DC 19V port on the rear panel.

Error	Possible Causes	Solutions
There is no picture on selected channels/camera picture is not being displayed.	Camera cables are loose or have become disconnected.	1. Check the camera video cable and connections. 2. Disconnect and reconnect the cable at the system and at the camera. 3. Try moving the camera to another channel or use another cable.
The system beeps at startup.		The beep at startup is normal.

User Information

Be sure to write down all the important information below and place it in a secure location.

General DVR Information

Admin Password: _____

User Password: _____

Model Number: _____

UID: _____

Internet Login Information

Web Port: _____

IP Address: _____

Subnet Mask: _____

Gateway: _____

DNS1: _____

DNS2: _____



NEED HELP?

Why Call? Our Support Site Has it All!

For system manuals, troubleshooting guides, FAQs, video tutorials and more:

- 1 Please visit Support.NightOwlSP.com
- 2 Enter the Series listed on the Product Support Sticker into the Search bar.
- 3 Access the support material needed.



www.NightOwlSP.com

