OBSERVER™ SERIES CONFIGURATION GUIDE

SAFETY VISION®

Important Notices

Title: Observer™ Series Configuration Guide
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Revision: 3

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Configuration

The Observer series recorder can be configured through either of the following two methods:

1. Via the on-board web interface, which must be accessed with a PC and web browser – Ethernet cable required – *(preferred method)*

If using this method, proceed to **Connecting to the Recorder – Web Configuration** below.

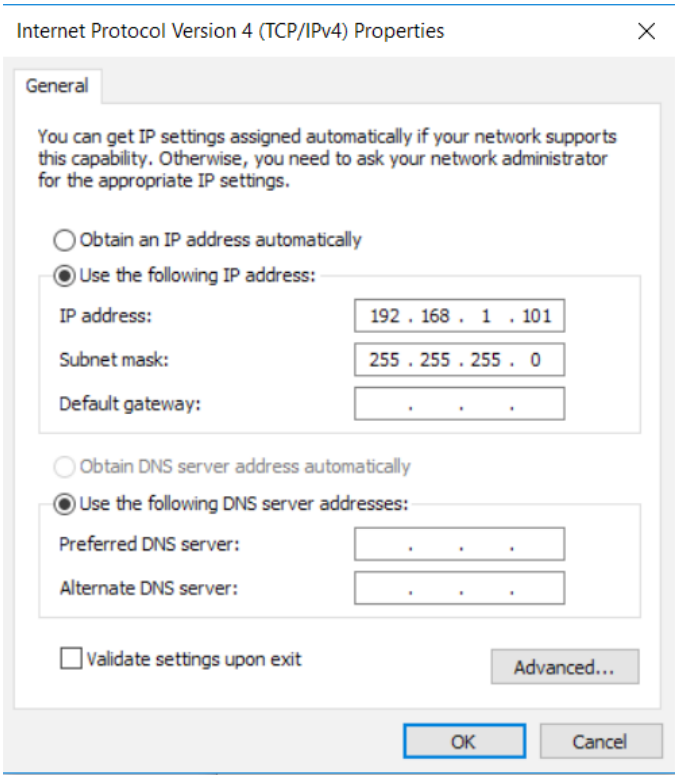
2. Via the SV-CP4-HYB Touch Screen Monitor

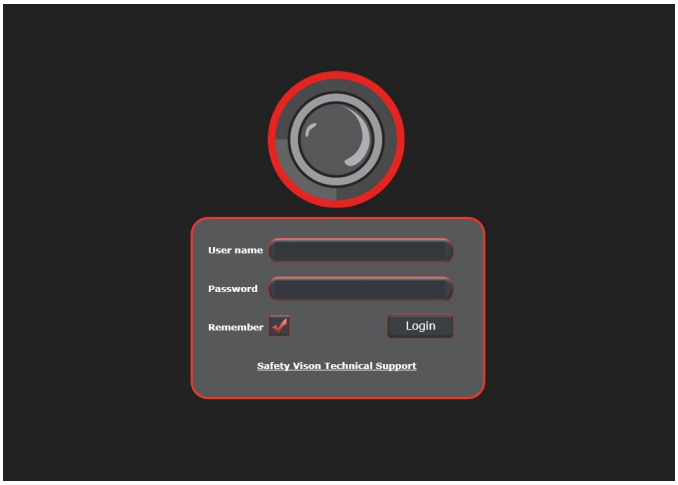
If using this method, proceed to **Monitor Log In and Home Screen** on page 54.

Connecting to the Recorder – Web Configuration

Use the following procedure to access the web-based configuration menus using the default IP address:

1. Connect the PC to the recorder's LAN RJ-45 port with a standard Ethernet cable.
2. Ensure the recorder and PC are receiving power and have started up.
3. Open the Internet Protocol (TCP/IP) Properties window for the LAN connection you are using.
   *In Windows, open Network Connections. Right-click the LAN connection and select **Properties**. In the list of items, select **Internet Protocol Version 4 (TCP/IPv4)** and then click **Properties**.*
4. Select the "Use the following IP address:" option
5. Enter 192.168.1.101 in the IP address field
6. Subnet mask Field: This field normally defaults to 255.255.255.0.
7. Leave all other fields blank
8. Click OK on the Internet Protocol (TCP/IP) Properties window and then click OK on the Local Area Connection Properties window.
   Your PC's IP address and subnet mask are now configured.
9. Open **Windows Internet Explorer** as an **Administrator** *(Right-click the Internet Explorer icon and select **Run as Administrator**)*





10. Navigate to 192.168.1.100
    The Login screen appears. If prompted by firewall or anti-virus application, allow the file to install.
11. Enter the username and password and click **Login.**
    The configuration web interface launches.

The default username is admin
There is no password.

If this has been changed, contact your system administrator for your login information.

Config

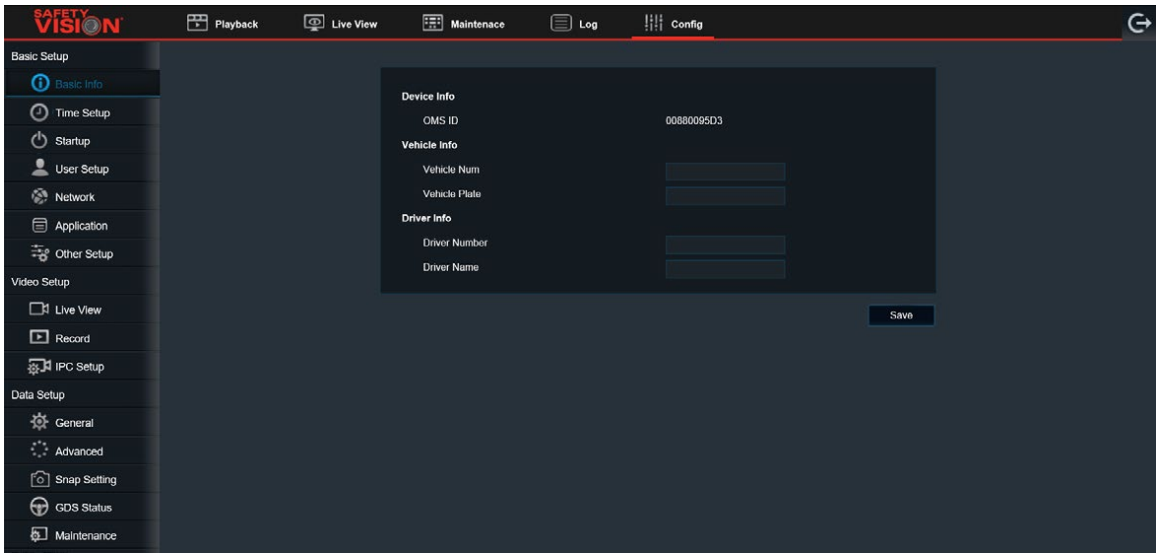
Once logged in, select the **Config** tab from the top to display the configuration page.

Use the tabs on the left of the screen to navigate through the HVR's configuration menus. Some menus contain sub-menus.

*After making any entries, click **Save** at the bottom of the screen.*

Basic Setup

The Basic Setup menu configures basic HVR settings such as the date, time, users, and startup and shutdown parameters.



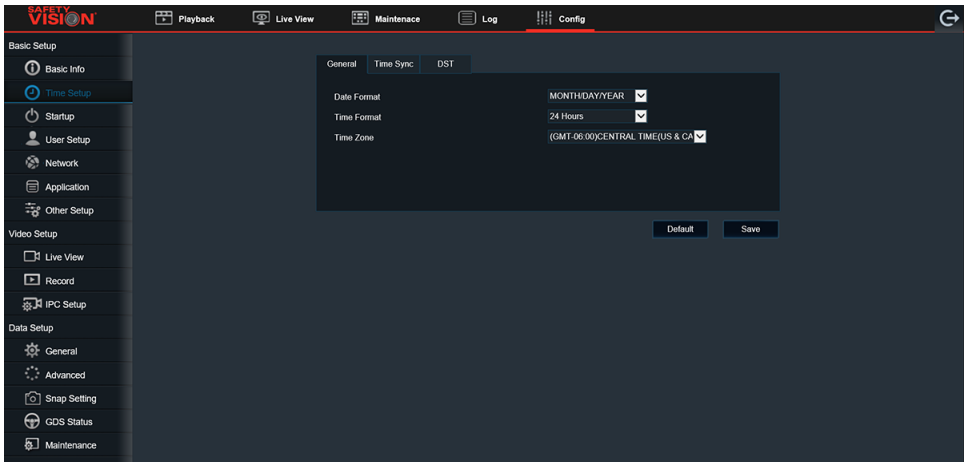
Basic Info

- **Device Info**
  - **OMS ID:** Unique alphanumeric ID assigned to the HVR for identification in the Foresight PRO backend system; this field is automatically populated
    ***NOTE:** The OMS ID will be used when adding the vehicle to the Foresight PRO software*
- **Vehicle Info**
  - **Vehicle Num:** Enter an alphanumeric vehicle fleet number
    ***NOTE:** This will also be used as the Vehicle Name when adding the vehicle to the Foresight PRO software*
  - **Vehicle Plate:** Enter an optional alphanumeric vehicle license plate number
- **Driver Info**
  - **Driver Number:** Enter an optional alphanumeric driver number
  - **Driver Name:** Enter an optional driver name

Then click **Save**.

Time Setup

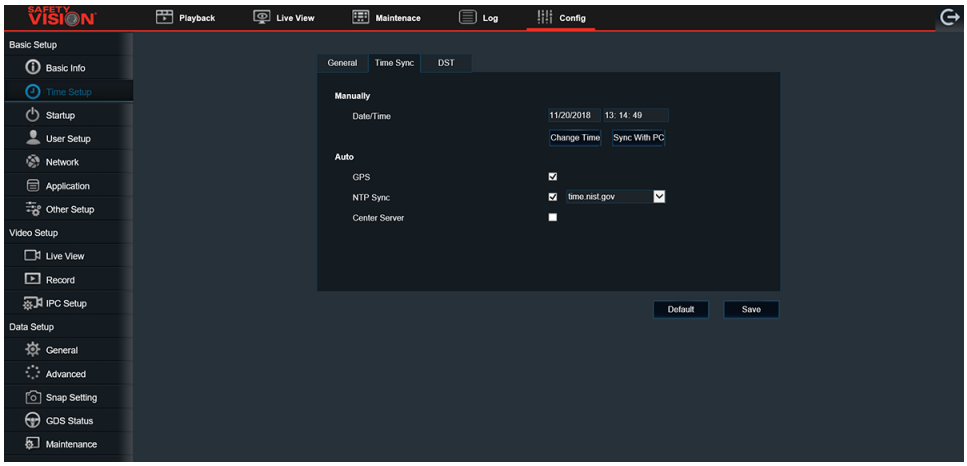
General



- **Date Format:** Select from MONTH/DAY/YEAR *(MM/DD/YYYY)*; DAY/MONTH/YEAR *(DD/MM/YYYY)*; or YEAR-MONTH-DAY *(YYYY-MM-DD)* date format
- **Time Format:** Select 12 or 24 hour time format
- **Time Zone:** Select the appropriate time zone.

Then click **Save**.

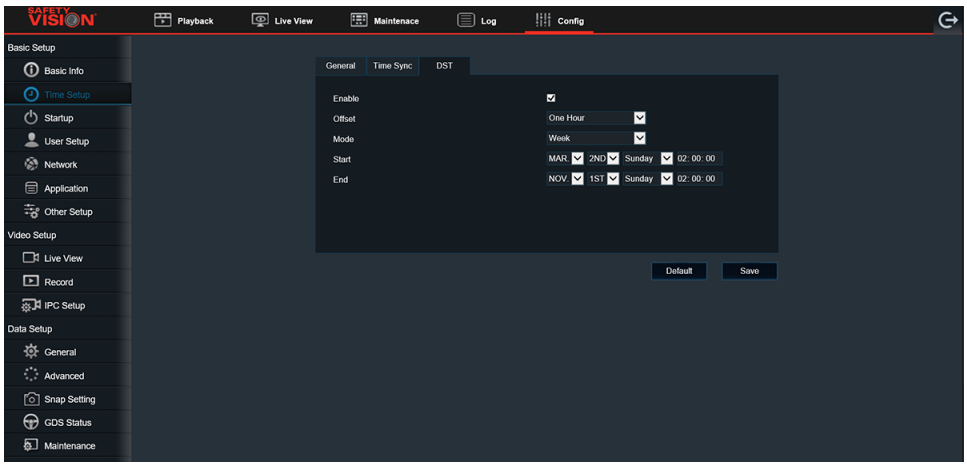
Time Sync



- **Manually**
  - **Date/Time:** Select these fields to manually enter the current date and time of the HVR
- **Auto**
  - **GPS:** Select this option to automatically synchronize the date and date from the GPS signal
  - **NTP Sync:** Select this option to automatically synchronize the date and time to an official time-keeping website when the HVR has an available internet connection; Select from several predefined websites, or select User-Defined to enter your own
  - **Center Server:** Select this option to automatically synchronize the date and time to a Foresight PRO server when the HVR connects

Then click **Save**.

DST

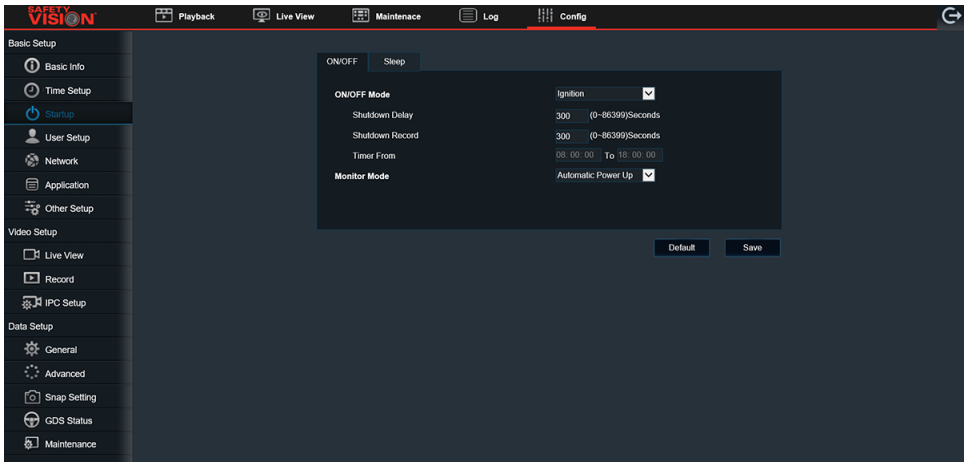


- **Enable:** Select this option to enable Daylight Savings Time *(DST)* automatic time adjustment
- **Offset:** Select a one or two hour DST adjustment
- **Mode:** Select Week to define the DST period by specific weeks in the calendar; Select Date to manually enter an exact date

Then click **Save**.

Startup

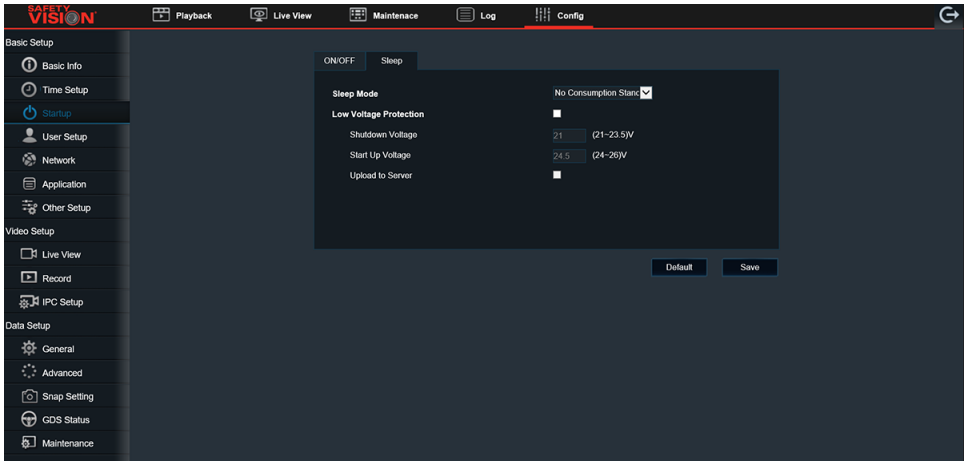
ON/OFF



- **ON/OFF Mode:**
  - Select **Timer** to power the HVR on and off at set specific times
  - Select **Ignition** to power the HVR on and off with the vehicle's ignition
  - Select **Ignition** or **Timer** to power the HVR on during both conditions
- **Shutdown Delay:** Enter the amount of time, in seconds, that the HVR will wait to shut down after vehicle's ignition has been turned off
- **Shutdown Record:** Enter the amount of time, in seconds, that the HVR will continue to record after the vehicle's ignition has been turned off
- **Timer From:** Enter the exact times each day the HVR powers up and powers down when using the Time ON/OFF mode.
- **Monitor Mode:**
  - Select **Automatic Power Up** to turn the SV-CP4-HYB touch screen monitor on automatically with the HVR
  - Select **Auto-Standby** to leave the SV-CP4-HYB touch screen monitor in standby mode *(must be touched to activate)* when the HVR is powered on

Then click **Save**.

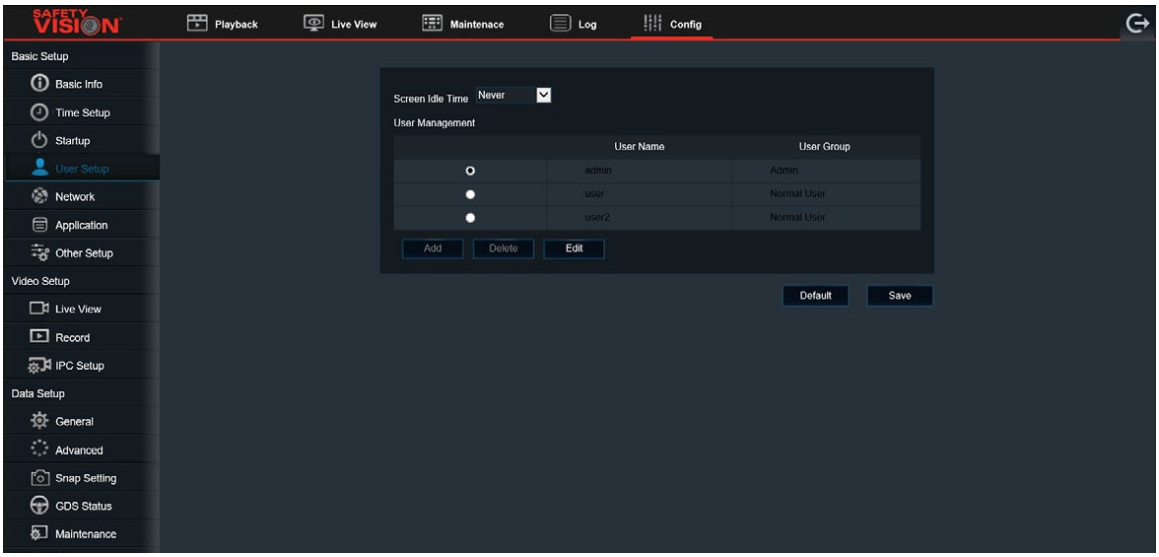
Sleep



- **Sleep Mode:** *Under development*
- **Low Voltage Protection:** Select this option to automatically shut down the HVR when the power it receives drops below the specified voltage
- **Shutdown Voltage:** Enter the minimum voltage, in volts, that the HVR can receive before it automatically disconnects from the Foresight PRO server or shuts down
- **Startup Voltage:** Enter the minimum voltage, in volts, that the HVR must be receiving before starting up
- **Upload to Server:** Select this option to allow the HVR to continue to upload data to a Foresight PRO server while under voltage protection

Then click **Save**.

User Setup



Screen Idle Time: Select the number of minutes after no activity that the configuration web interface automatically logs a user out. Select **Never** to keep this function disabled.

User Management: Add, Edit, and Delete users who must log in to access the HVR's menus. Each user is assigned a name, group, and password.

The following are the maximum users allowed:

- 1 × **Admin:** Admin users have full access to the HVR's menus and configuration settings
- 2 × **Normal User:** Normal users are restricted from accessing the configuration settings

To Add a User

- Select **Add** to add a new user. Enter a unique alphanumeric user name and password, then click Save

To Delete a User

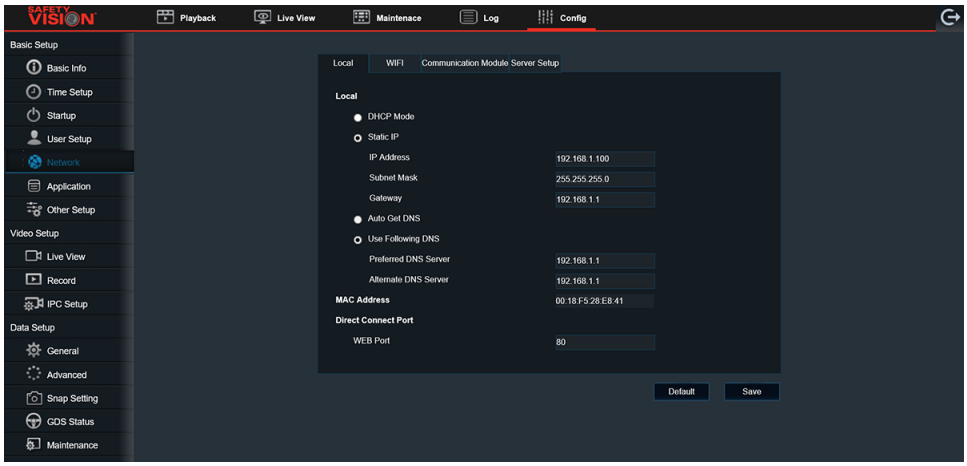
- Select any number of users and then select **Delete**

To Edit a User

- Select a user and then select **Edit** to change a user's name or password, then click **Save**

Network

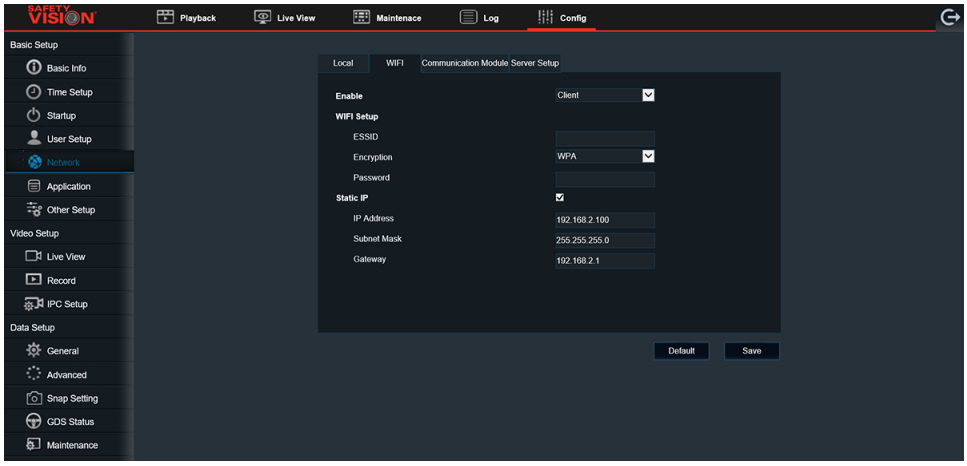
Local



- **DHCP Mode:** Select this option to have the HVR automatically receive an IP address and associated information from the network it is attempting to communicate with
- **Static IP:** If this option is selected, device will be considered as static device
  - **IP Address:** Enter a Static IP address for the HVR
  - **Subnet Mask:** Enter a static subnet mask for the HVR
  - **Gateway:** Enter a static gateway for the HVR
- **Auto Get DNS:** Select this option to allow HVR to receive DNS information automatically
- **User Following DNS:** Select this option to enter the DNS information manually
  - **Preferred DNS Server:** Enter the preferred primary DNS server address
  - **Alternate DNS Server:** Enter the secondary, alternate DNS server address
- **MAC Address:** This field is autopopulated
- Direct Connect Port
  - **WEB Port:** Enter the WEB port for the HVR if necessary

Then click **Save**.

WIFI

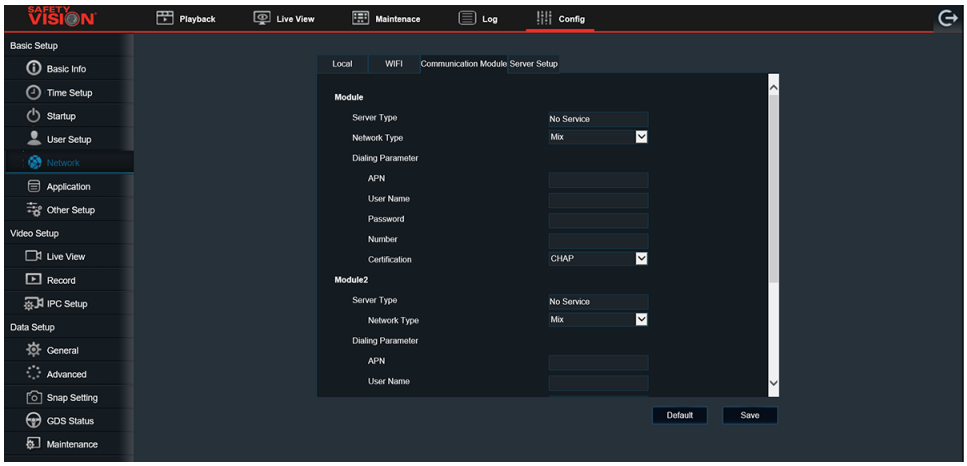


- **Enable:** Select Client from the dropdown menu to enable the internal WIFI module. Enter the following:
- **WIFI Setup**
  - ESSID
  - Encryption
  - **Password:** Enter an alphanumeric password
- **Static IP:** If this option is selected, device will be considered a static device
  - **IP Address:** Enter a Static IP address for the internal WIFI module
  - **Subnet Mask:** Enter a static subnet mask for the internal WIFI module
  - **Gateway:** Enter a static network gateway for the internal WIFI module

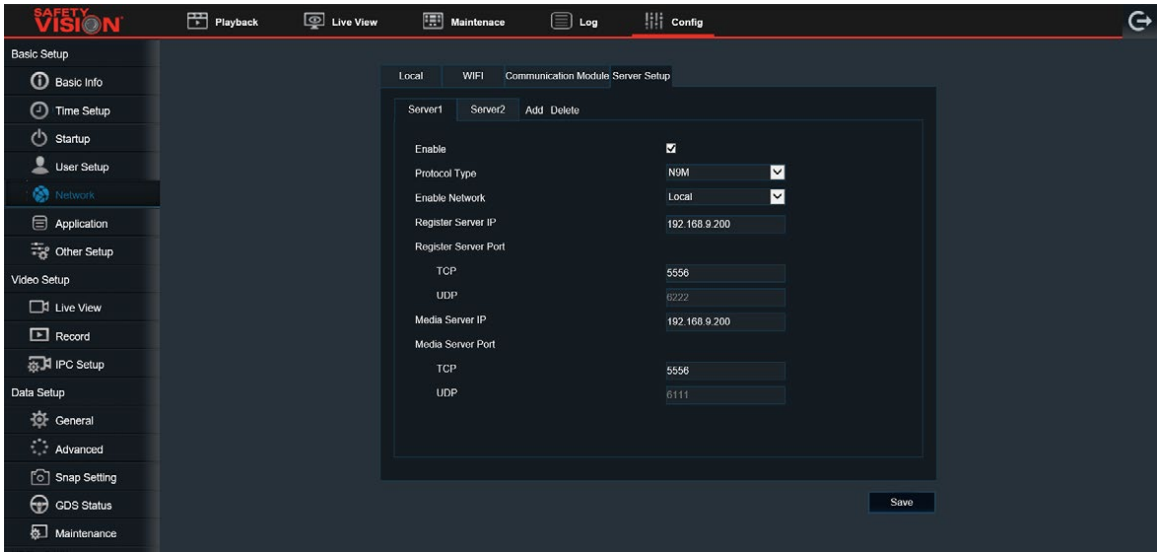
Then click **Save**.

Communication Module

External Cell Modem
Under Development



Server Setup



Select a Server to configure. Multiple servers/configurations can be saved. To add a new server, click the Add button.

- **Enable:** Select this box to activate a server
- **Protocol Type:** Select N9M
- **Enable Network: Select either:**
  - **Local:** External WIFI device
  - **WIFI:** Internal WIFI module
  - **Module 1:** *Under development*
  - **Module 2:** *Under development*
  - **Auto Adaptation:** *Under development*
- **Register Server IP:** Enter the Foresight PRO server IP address
- **Register Server Port**
  - **TCP:** Default port is 5556
- **Media Server IP:** Enter the Foresight PRO server IP address
- **Media Server Port:**
  - **TCP:** Default port is **5556**

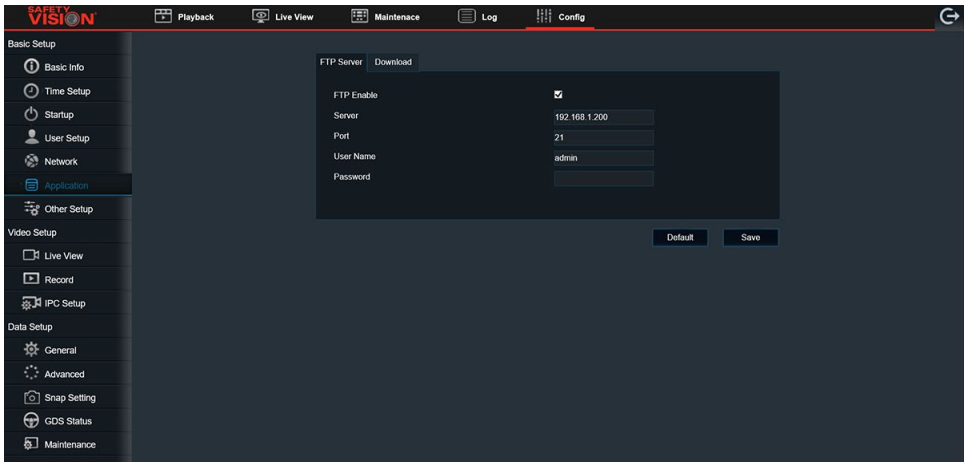
NOTE: *The Register Server IP address and the Media Server IP address **MUST** be the same IP address of the server hosting the Foresight PRO software.*

Then click **Save**.

Application

FTP Server

Select FTP Enable to enable the FTP server option, which allows you to log into the HVR as an FTP server with an external PC, as well as allows snapshots to be uploaded to the FTP *(See Snap Setting under Data Setup for more information)*.



Enter the following information about the FTP server:

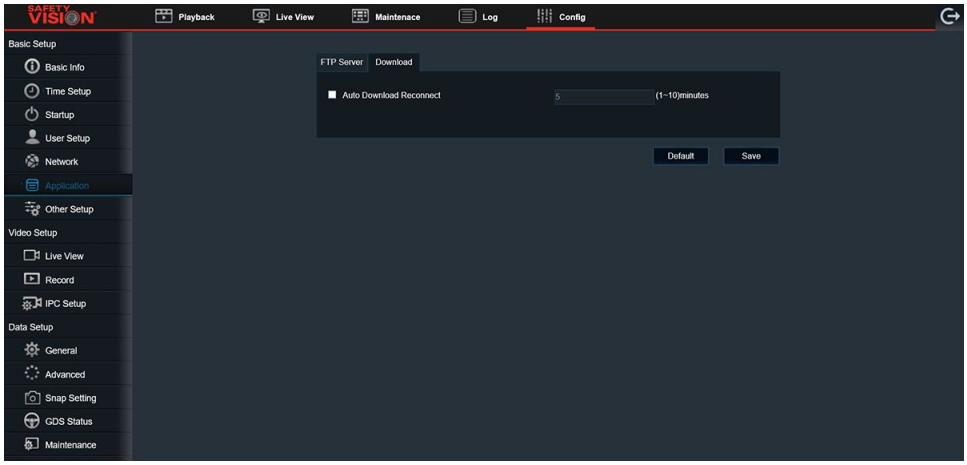
- **Server**
- **Port**
- **User Name**
- **Password**

Then click **Save**.

Download

- **Auto Download Reconnect:** Select this option to enable the HVR to reconnect automatically if a download is interrupted; Enter the time to wait to retry *(between 1 and 10 minutes)*.

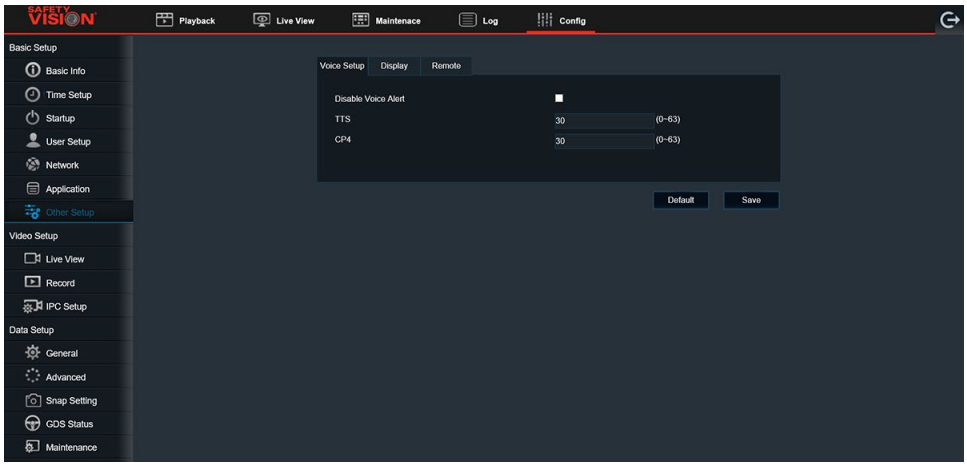
Then click **Save**.



Other Setup

Voice Setup

The Voice Setup menu configures the voice commands that are sounded when certain events happen.

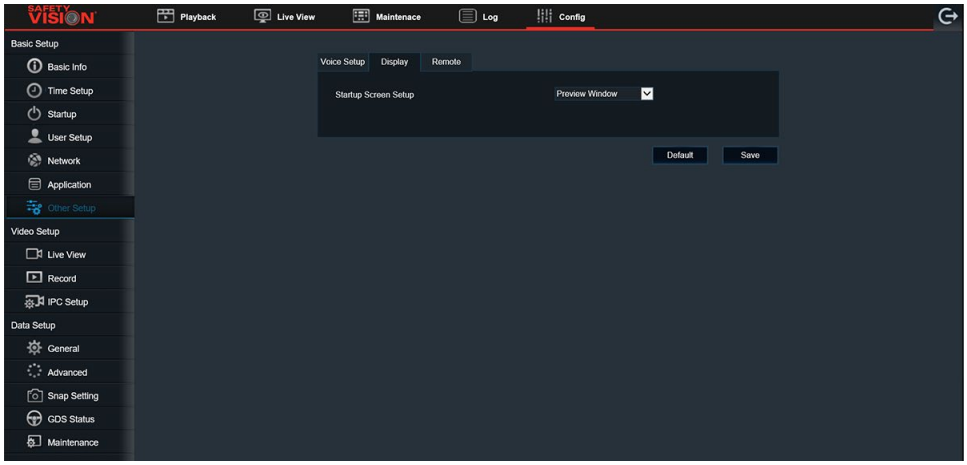


- **Disable Voice Alert:** Select this option to turn off all voice notifications
- **TTS and CP4:** Enter a volume level, between 0 and 63 decibels, that the voice notifications are sounded through the SV-CP4-HYB touch screen monitor

Then click **Save**.

Display

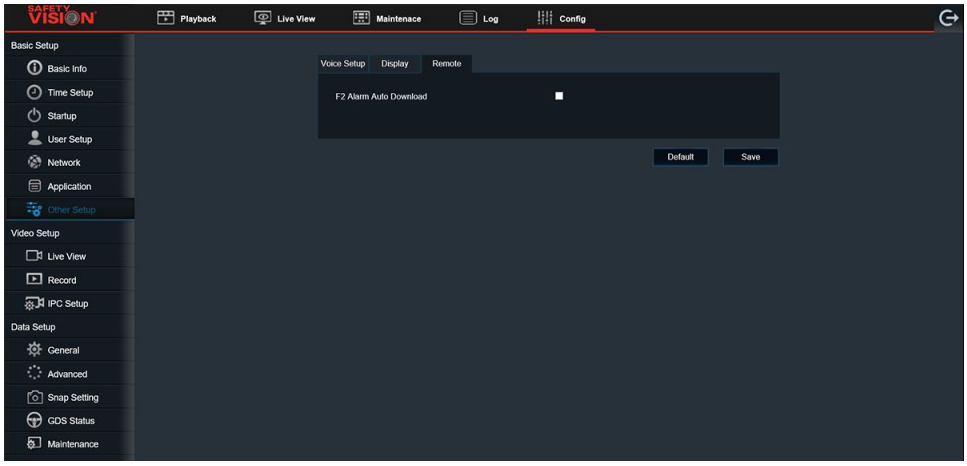
Startup Screen Setup:



- **Preview Window:** Select this option to display live camera views on the SV-CP4-HYB touch screen monitor upon system startup
- **System Status:** Select this option to display the system status screen on the SV-CP4-HYB touch screen monitor upon system startup

Then click **Save**.

Remote



- **F2 Alarm Auto Download:** Select this option to enable automatic event downloading using the F2 button on the HVR's remote control. A USB flash drive must be inserted into the USB port on the front panel of the HVR

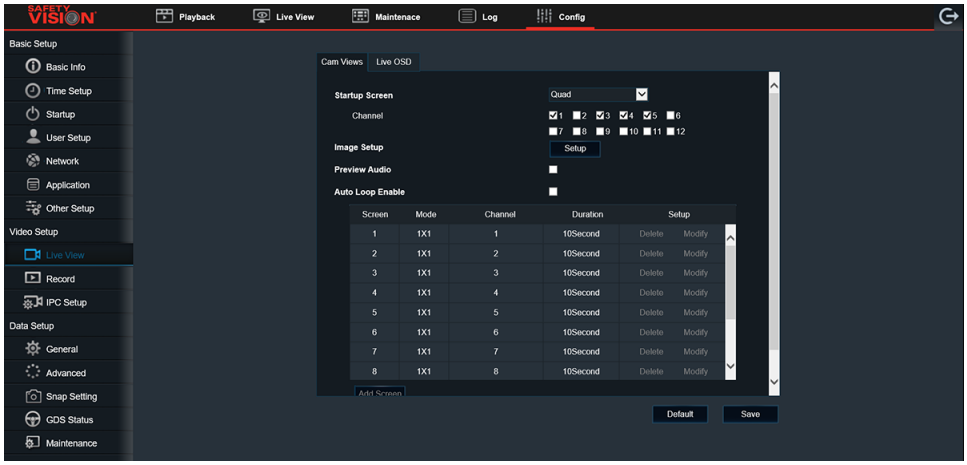
Then click **Save**.

Video Setup

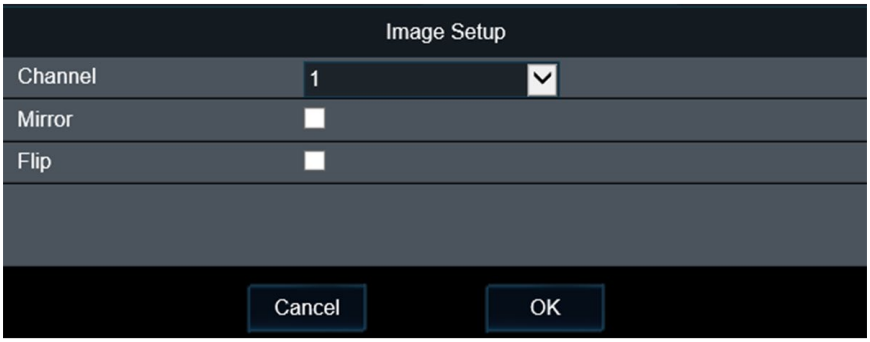
The Video Setup menus configure how video is displayed and recorded.

Live View

Cam Views

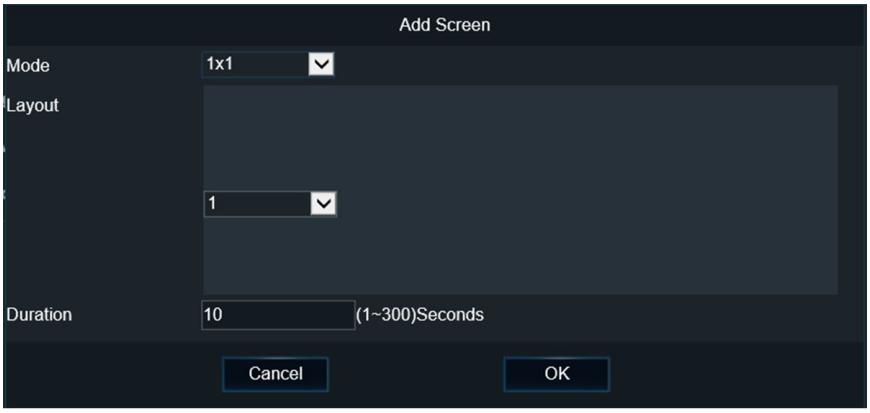


- **Startup Screen:** Select from the dropdown menu the format of the Live View that appears automatically when the HVR starts up *(Single/Quad/9-Split)*
    - **Channel:** Select which channels appear in the Live View
- **Image Setup:** Click Setup to display the **Image Setup** screen, and select the following:
    - **Channel:** Select a channel from the dropdown menu
    - **Mirror:** Select this option to display a mirror image of the selected channel
    - **Flip:** Select this option to display a flipped image of the selected channel Then click **OK**.



- **Preview Audio:** Select this option to enable audio while viewing the Live View
- **Auto Loop Enable:** The Auto Loop feature allows you to program the Live View to automatically cycle through different camera channels. The screen will cycle in the order listed on the monitor.

  To enable the Auto Loop feature, select the **Auto Loop Enable** option. Select **Add Screen** button at the bottom of the menu, or select **Modify** under **Setup** to display the **Add Screen**, and enter the following:



- **Mode:** Select 1 × 1 *(one channel)*, 2 × 2 *(four channels)*, 3 × 3 *(nine channels)* for each screen that loops
- **Layout:** Select the channels that appear in each screen section
- **Duration:** Select the duration, in seconds, each screen is displayed in Auto Loop

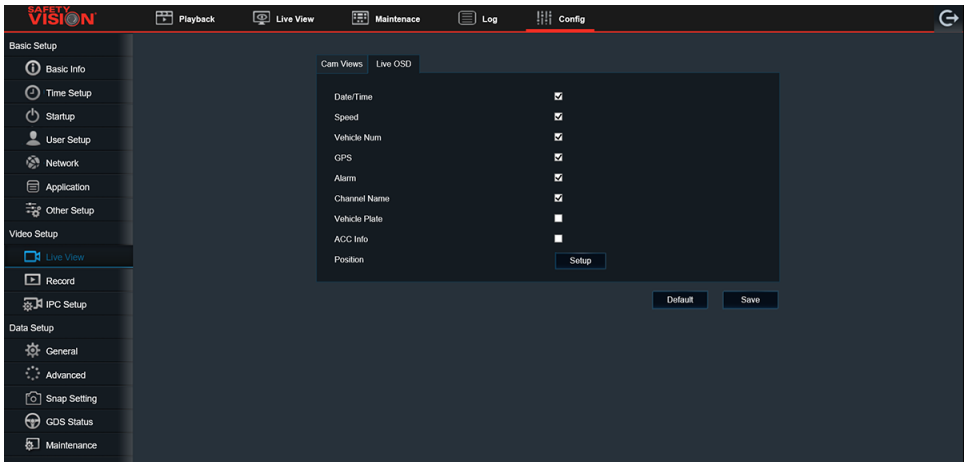
Then click **OK**.

Then click **Save**.

Live OSD

Select which pieces of metadata appear overlaid on the on-screen display *(OSD)* of the Live View:

- **Date/Time**
- **Speed**
- **Vehicle Num**
- **GPS**
- **Alarm**
- **Channel Name**
- **Vehicle Plate**
- **ACC Info**

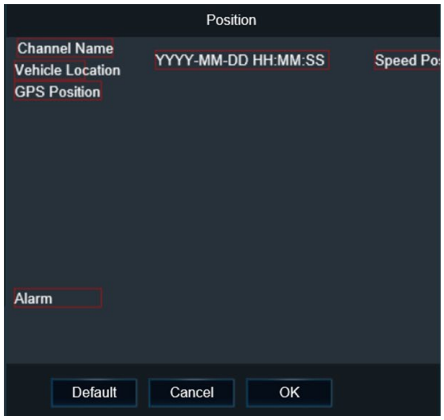


Position Setup

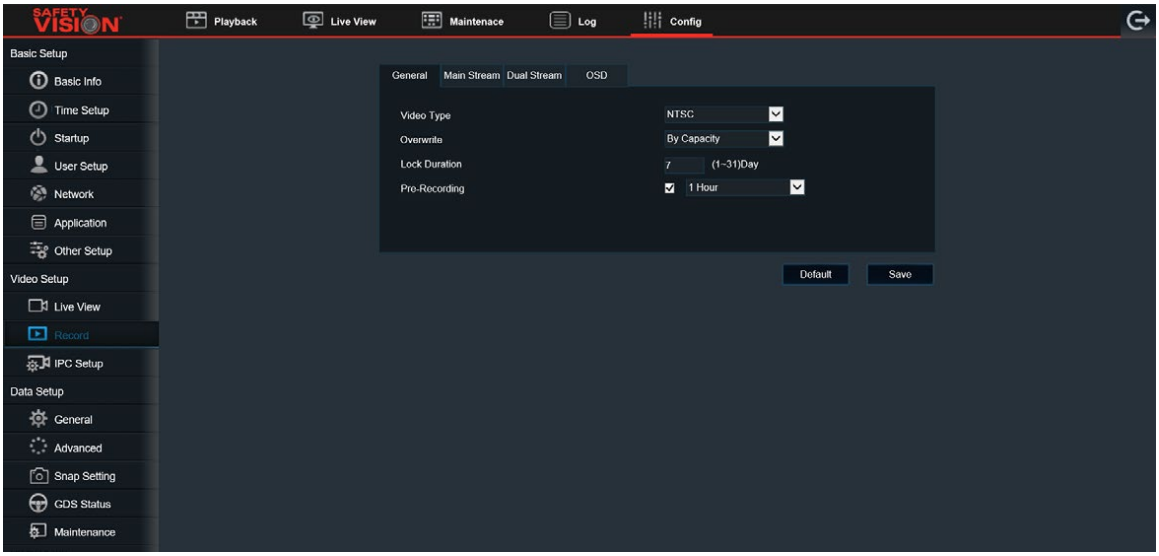
Select the **Setup** button to adjust the position of the selected metadata options on the screen. Click and drag each metadata description to the desired location. Select **Default** to return the metadata to its default position.

Then click **OK** to return to the Live OSD menu screen,

Then click **Save**.



Record

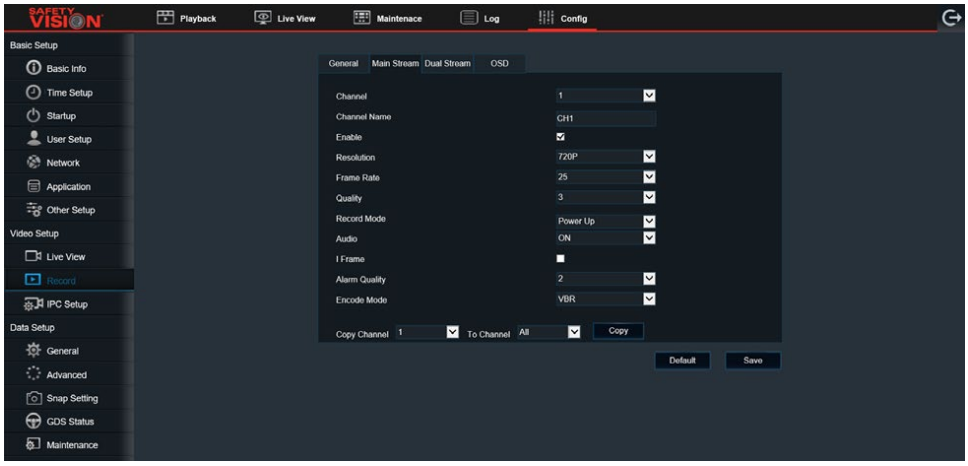


General

- **Video Type:** Select either NTSC or PAL video type
- **Overwrite:** Select the option of when the primary storage device beings to overwrite:
  - **By Days:** Enter the time, between 1 and 31 days, when the HVR will begin to overwrite the oldest data
  - **By Capacity:** Once the primary storage device reaches capacity, new recordings will begin to overwrite the oldest data
  - **Never:** Select this option to prevent the primary storage device from overwriting
- **Lock Duration:** Enter the time, between 1 and 31 days, that recorded files are locked, during which time the HVR is prevented from recording over them
- **Pre-Recording:** Select this option to enable pre-recording, and select an amount of time included in a video recording from before the alarm was activated

Then click **Save**.

Main Stream

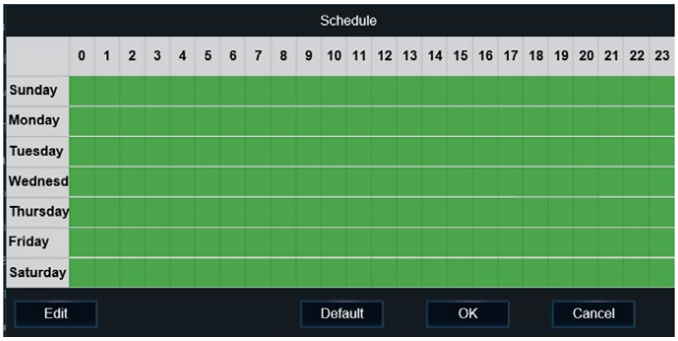


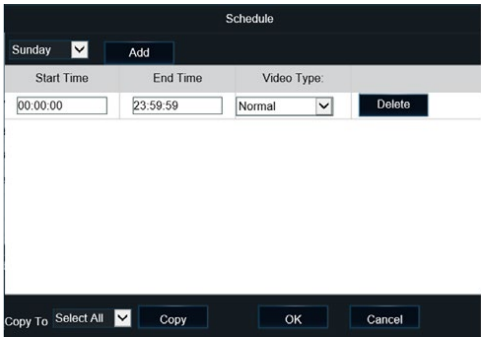
- **Channel:** Select a channel in the Channel field to configure
- **Channel Name:** Enter a name for the selected channel that will appear overlaid on recorded video
- **Enable:** Select this option to enable the channel; Deselect this option to disable the channel
- **Resolution:** Select the recording video resolution *(resolution ranked in ascending order, "W" indicated "wide")*
- **Frame Rate:** Select between 1 and 30 frames per second
- **Quality** *(bit rate)*: Select between 1 and 8, 1 being the best, for continuous recorded video quality
- **Record Mode:** Select either **POWER UP** *(continuous recording begins when HVR is powered on)*; **TIMER** *(HVR records during the configured time schedule [see below])*; or **ALARM** *(records only when an alarm is activated)*
- **Audio:** Select ON to enable, or OFF to disable, audio recording on the selected camera channel
- **I Frame:** *Under development*
- **Alarm Quality** ***(bit rate)*:** Select between 1 and 8, 1 being the best, to adjust the video quality when an alarm is activated
- **Encode Mode:** Select CBR or VBR video encoding

Then click **Save**.

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **To Channel** field and click the Copy button.

Then click the **Save**.

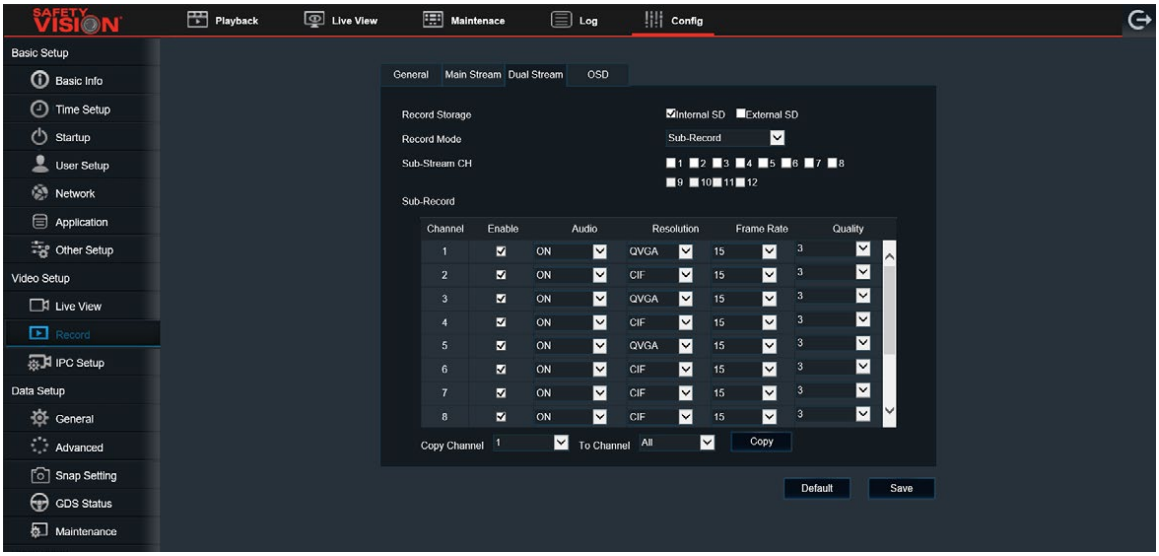




To configure the **TIMER** option, click the **Schedule** button to display the Schedule Window. Then, click on **Edit** to display the Schedule Edit Screen. Select a day from the dropdown menu, several time periods can be configured per day. Click **Add** to add additional time periods. Enter a **Start Time** and **End Time** and select a **Video Type** for each of them. Complete day plans can be copied to other days by selecting them in the **Copy To** field, and clicking **Copy**. When finished, click **OK** to return to return to the Main Stream menu.

Then click **Save**.

Dual Stream



The Dual Stream menu configures a dual stream recording setup, where the HVR records one video stream to one storage device, and a secondary stream can be configured to stream to another storage device or viewed live in Foresight PRO.

- **Record Storage:** Select the storage device to which the second stream of data is recorded
- **Record Mode:** Select from the following record mode options:
  - **Mirror record** *(records identical data)*
  - **Alarm backup** *(records alarms only)*
  - **None** *(does not record dual stream)*
  - **Sub-Record** *(provides stream for Live View in Foresight PRO, see Sub-Record Setup below)*
- **Sub-Stream CH:** Select which channels are recorded in the second stream

Then click **Save**.

Sub-Record Setup

After selecting Sub-Record as the Record Mode, configure each individual channel to be displayed in the Live View of Foresight PRO:

- **Enable:** Select this option to enable the channel
- **Audio:** Select ON to enable, or OFF to disable, the audio for the channel
- **Resolution:** Select the resolution for the channel *(resolution ranked in ascending order)*
- **Frame Rate:** Select between 1 and 30 frames per second
- **Quality *(bit rate)*:** Select between 1 and 8, 1 being the best, to adjust the video quality for the selected channel

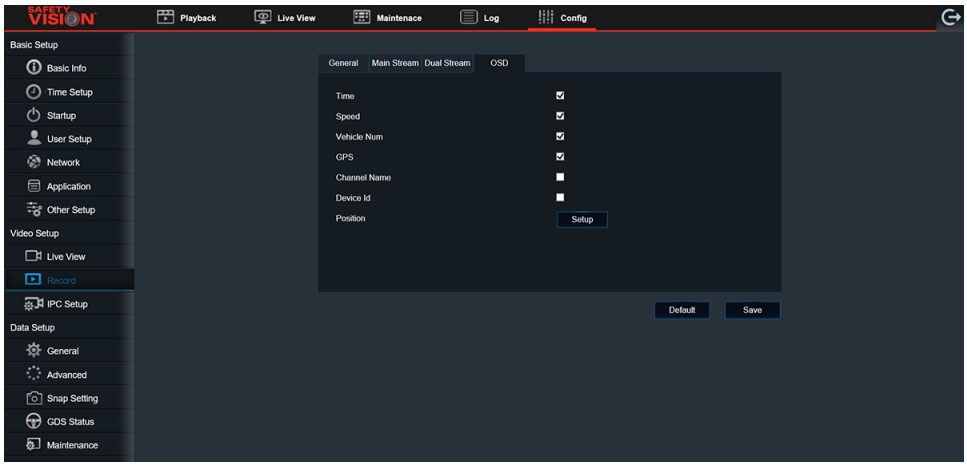
After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select the camera in the **To Channel** field and click the **Copy** button.

Then click **Save**.

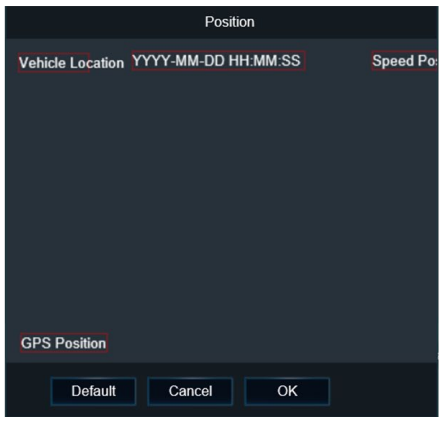
OSD

Select which pieces of metadata appear overlaid on recorded video:

- **Date/Time**
- **Speed**
- **Vehicle Num**
- **GPS**
- **Channel Name**
- **Device Id**



Position: Where the metadata appears overlaid relative to its position on the screen can be adjusted. Select **Setup** to display the Position screen. Click and drag the metadata to the location where you want it to appear.



Then click **OK**.

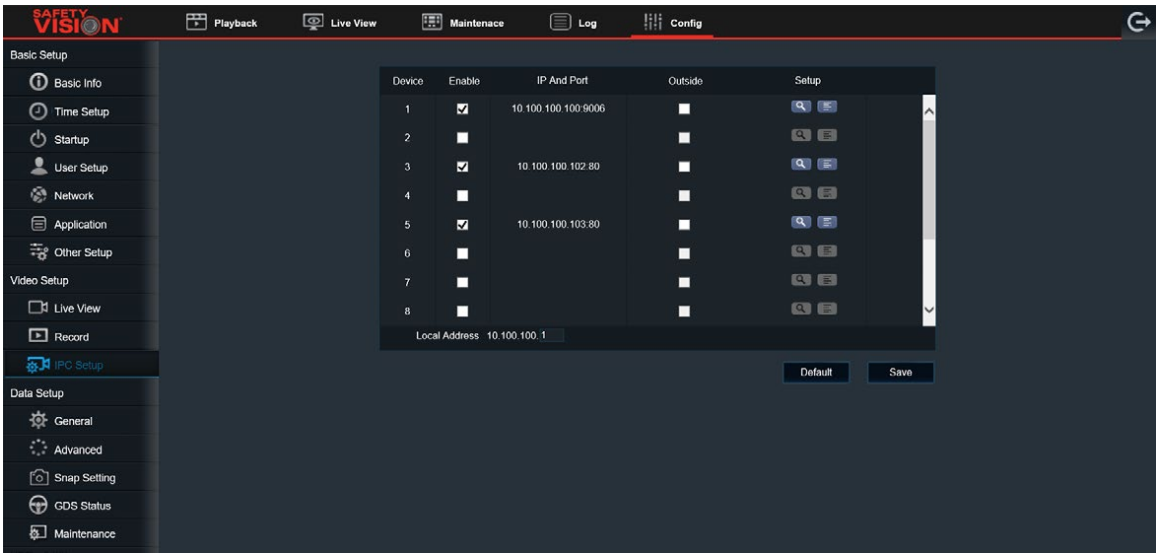
Then click **Save**.

IPC Setup

The IPC menu allows you to configure IP network cameras.

***NOTE 1:** Users **MUST FIRST** follow the steps in **Appendix A: IP Camera Configuration BEFORE** following the steps below*

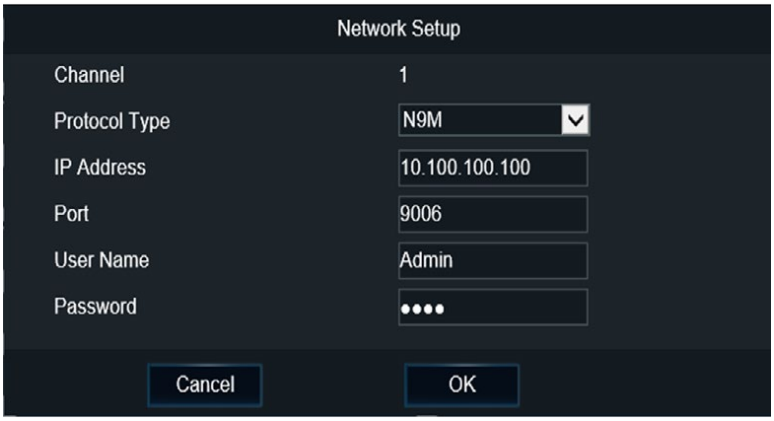
***NOTE 2:** If no PoE ports are available to connect PC to recorder, users must use an external monitor or the SV-CP4-HYB touch screen monitor to configure the IP cameras*



1. Select **Enable** for the channel you would like to use
2. Select the Search icon *(magnifying glass)* to search for available IP cameras.
   The IPC search screen appears
3. In the IPC search screen, select an available camera and select **OK**
4. Select the Setup icon *(icon next to magnifying glass)* for the IP camera you would like to configure.
   The Network Setup screen appears
5. **Enter the following:**
   - **Protocol Type:**
     - *Select ONVIF for 45, 46, 47, 48, Gen2 and Gen3 IP series cameras*
     - *Select N9M for 41H IP series camera*
   - **IP Address:** ***NOTE:** This **MUST** be the same IP address that was entered in the Device Tool application under **Appendix A: IP Camera Configuration***
   - **Port:** autopopulated
   - **User Name:** *See below*
   - **Password:** *See below*
     - **45, 46, 47, 48 IP series cameras:** enter admin in the User Name field and SV123456 in the Password field
     - **41H IP series camera:** leave the User Name and Password fields blank
     - **Gen2 and Gen3 IP series cameras:** enter Admin in the User Name field and 1234 in the Password field.

   Then click **OK**.

   Then click **Save**.
   (Repeat the above steps for all IP cameras)

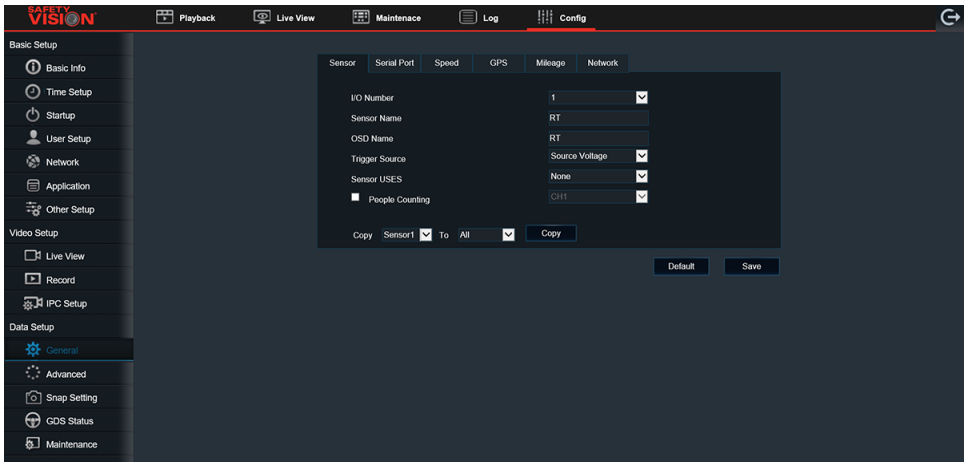


Data Setup

The Data Setup menus configure how the HVR communicated with external devices.

General

Sensor

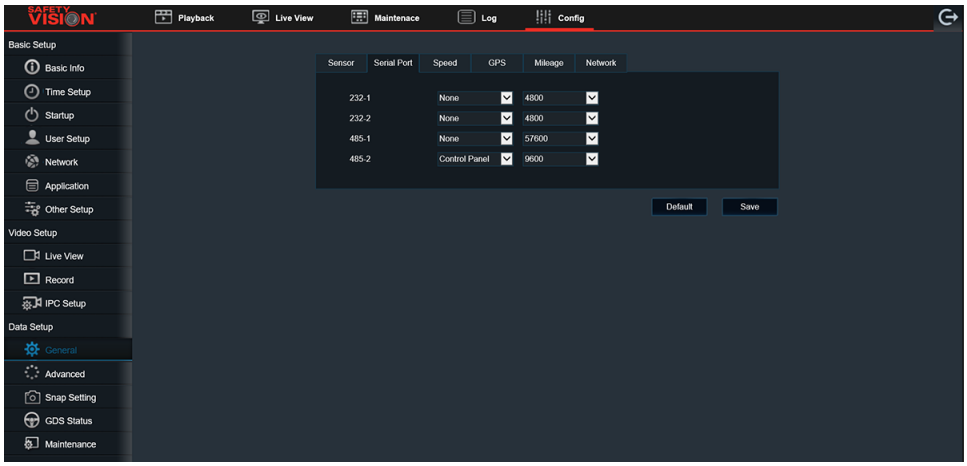


The Sensor tab configures the sensor inputs connected to the sensor harness

- **I/O Number:** Select a sensor in the I/O Number field to configure
- **Sensor Name:** Enter an alphanumeric name for the selected sensor
- **OSD Name:** Enter an alphanumeric name for the selected sensor that will appear on the on-screen display when the sensor is active
- **Trigger Source:** *Under development*
- **Sensor USES:** *Under development*
- **People Counting:** *Under development*

Then click **Save**.

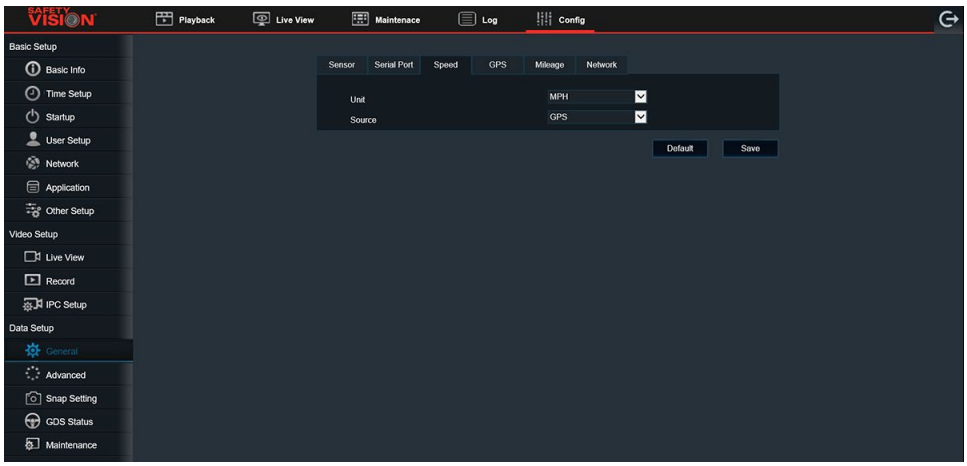
Serial Port



The Serial Port tab configures which devices are connected to the serial port. For each connection, select which device is connected *(None, Extend, Control Panel, 485 BUS. External GPS, CAN, 3Axis ACC, Green Driver, PTZ, WIFI_Trans)* and the frequency for each.

Then click **Save**.

Speed

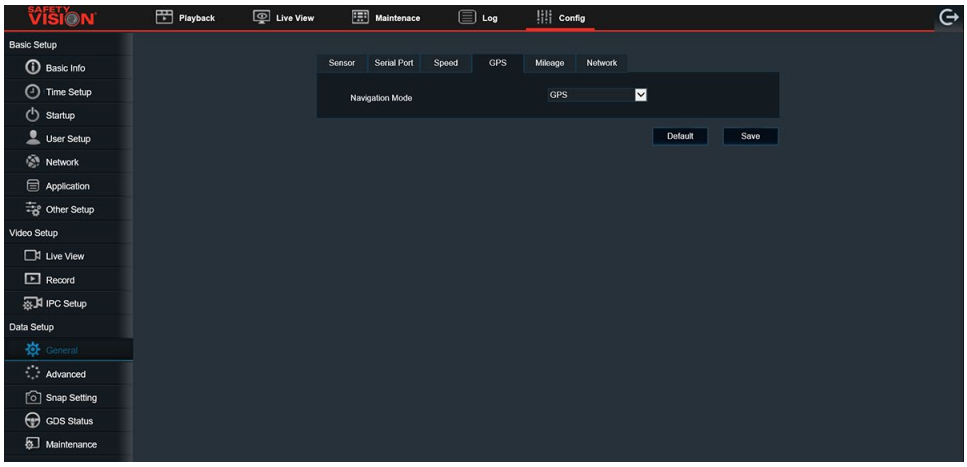


- **Unit:** Select speed to be calculated in MPH or KM/H
- **Source:** Select GPS as the source of the vehicle's speed data, *(OBD and Pulse [under development])*

Then click **Save**.

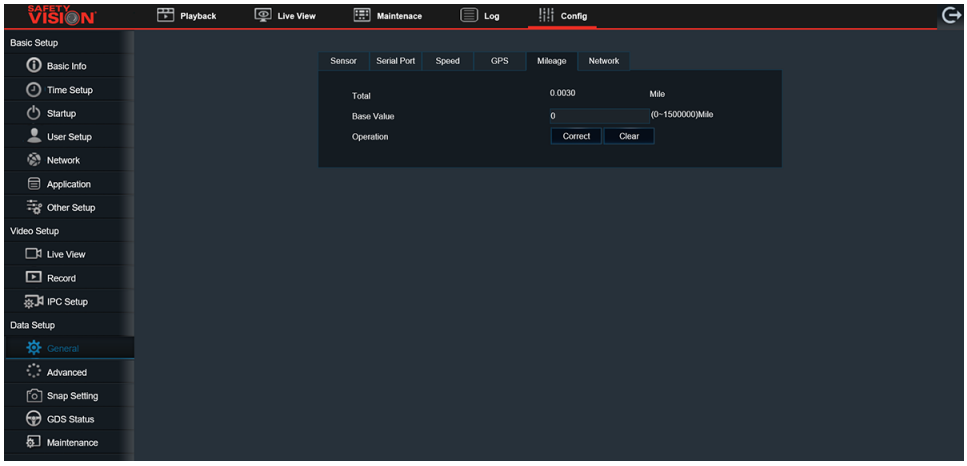
GPS

Under Development



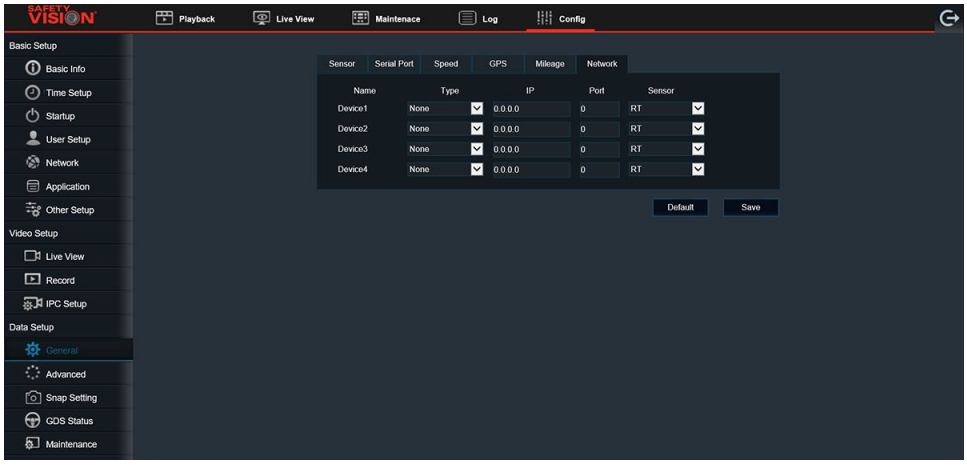
Mileage

The Mileage tab tracks the total miles the HVR has been installed in the vehicle.



Network

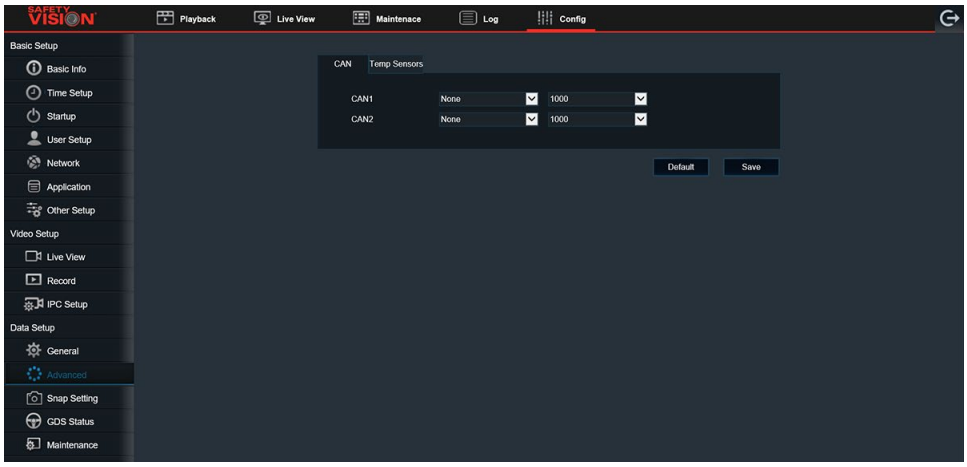
Under Development



Advanced

CAN

Under Development

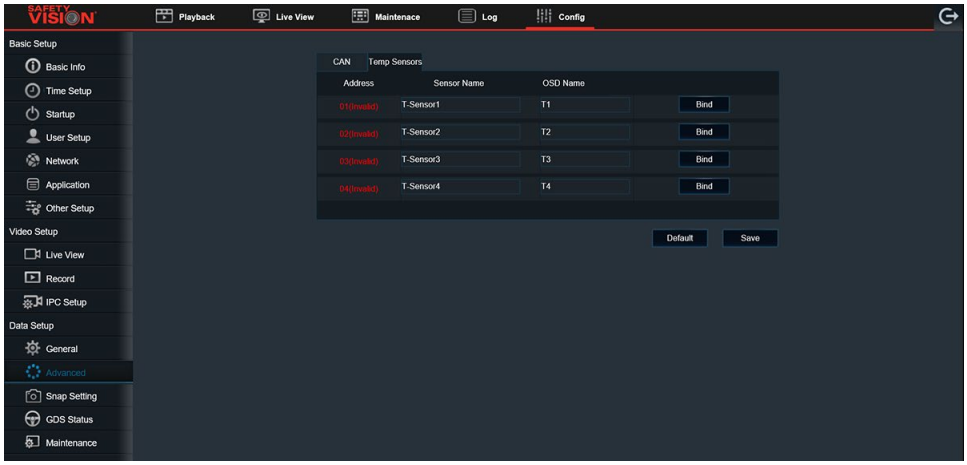


Temp Sensors

For each optional temperature and humidity sensor, enter the following:

- Sensor Name
- OSD name

Then click **Save**.



Snap Setting

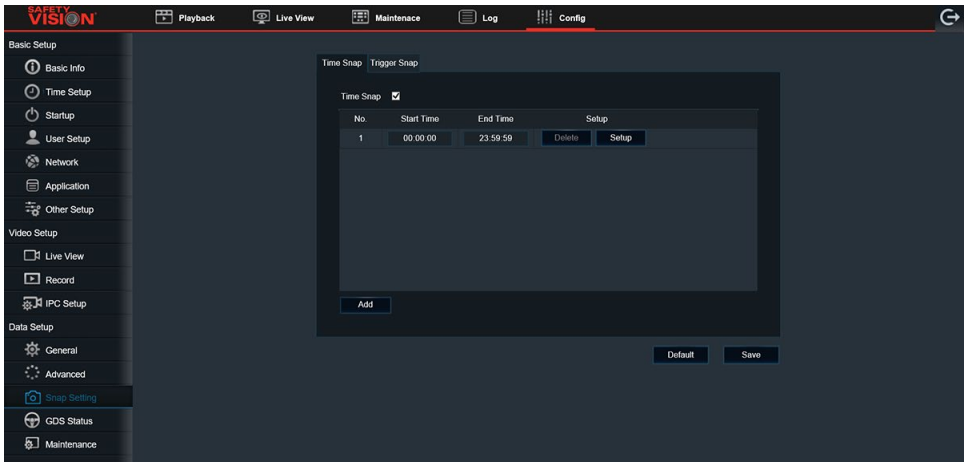
The Snap Setting menu configures the snapshot feature. Still image snapshots can be taken at set intervals, instead of full motion video, in order to conserve storage space in certain applications.

Time Snap

Use the **Time Snap** menu to configure snapshots to be taken during set intervals.

- Select the **Time Snap** box at the top
- Then click the **Add** button at the bottom to add a time period
- Enter a Start Time and **End Time** for the time period
- Then click the **Setup** button to configure each channel *(see Snap Setting Setup Screen below)*

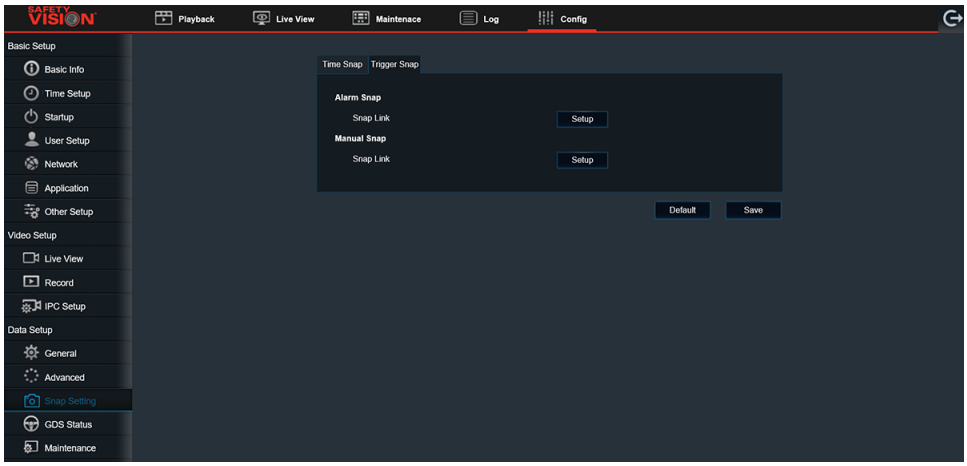
Then click **Save**.



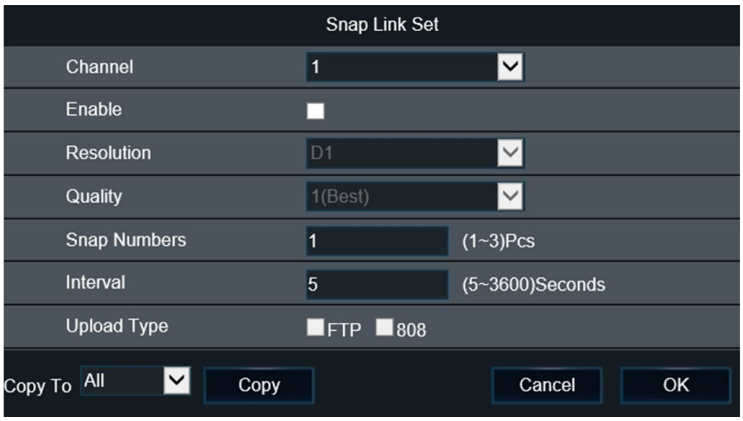
Trigger Snap

Use the **Trigger Snap** menu to configure snapshots to be taken during alarms or manually. Click the **Setup** button under each option to configure each channel *(see Snap Setting Setup Screen below)*.

Then click **Save**.



Snap Setting Setup Screen



- **Channel:** Select a channel in the Channel field to configure
- **Enable:** Select this option to enable snapshots to be taken for the selected channel
- **Resolution:** Select the resolution of the snapshots
- **Quality:** Select the quality of snapshots, with 1 being the best
- **Snap Numbers:** Select the number of snapshots *(between 1 and 3)* taken at each interval
- **Interval:** Select the interval that snapshots are taken *(from every 5 seconds to every 3600 seconds)*
- **Upload Type:** Select FTP *(uploads the snapshots to the FTP client)*

Then click **OK**.

Then click **Save**.

After completing all the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy To** field and click the **Copy** button.

Then click **OK**.

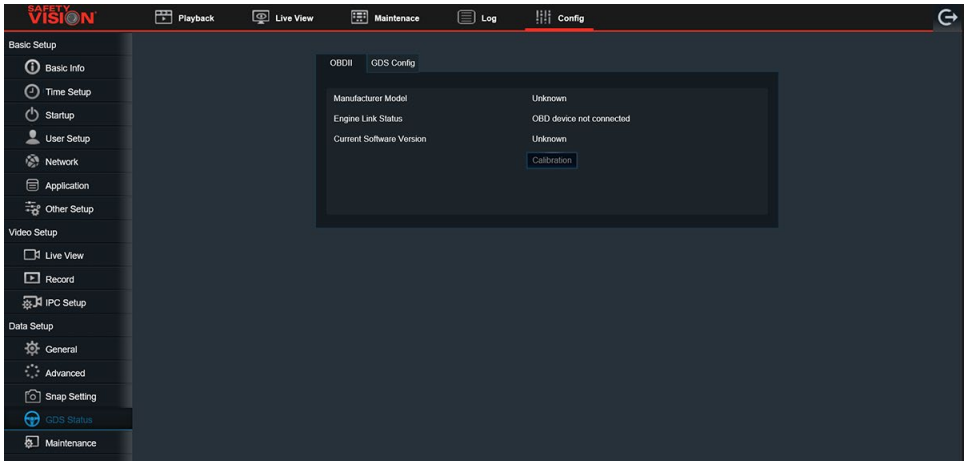
Then click **Save**.

GDS Status

The GDS Status menu is under development at this time.

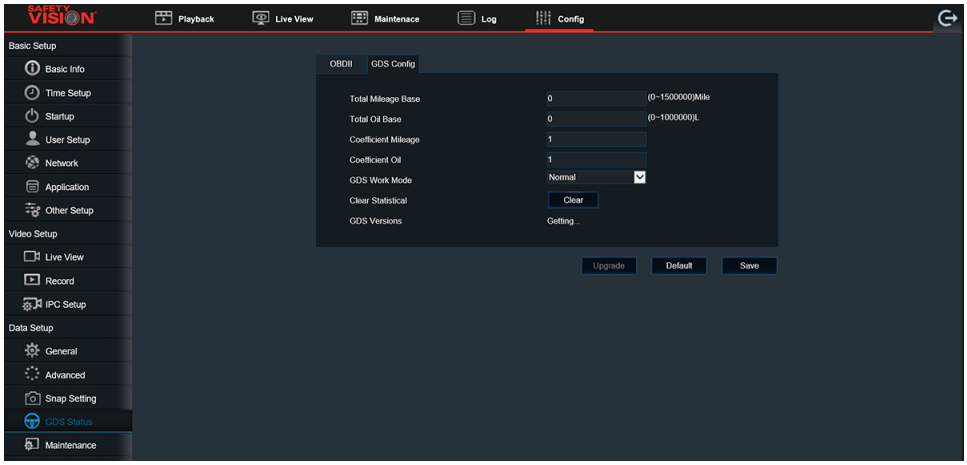
OBDII

Under Development



GDS Config

Under Development



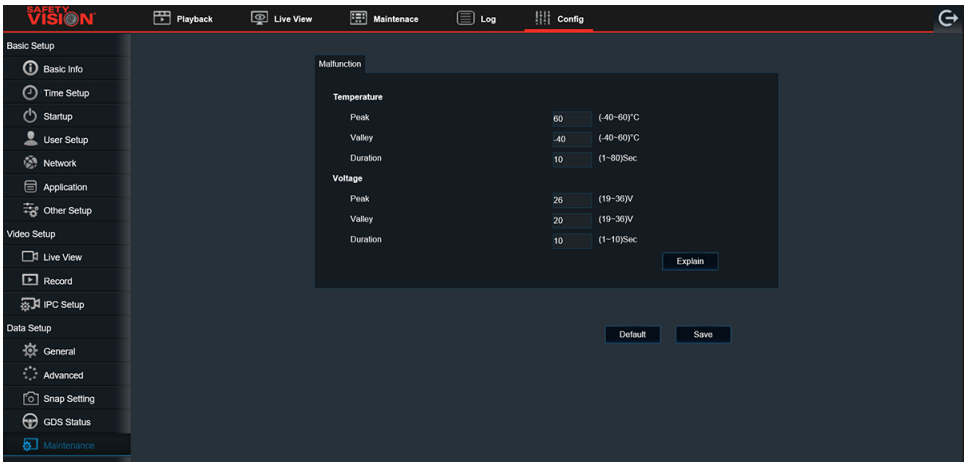
Maintenance

The Maintenance menu configures typical vehicle maintenance thresholds that can appear in a central management system.

Malfunction

For both Temperature and Voltage, enter the following:

- **Peak:** enter the maximum value *(in degrees Celsius or volts)*
- **Valley:** enter the minimum value *(in degrees Celsius or volts)*
- **Duration:** enter the amount of time, in seconds, that a threshold can be surpassed before a malfunction is noted *(select the 'Explain' button for more details)*

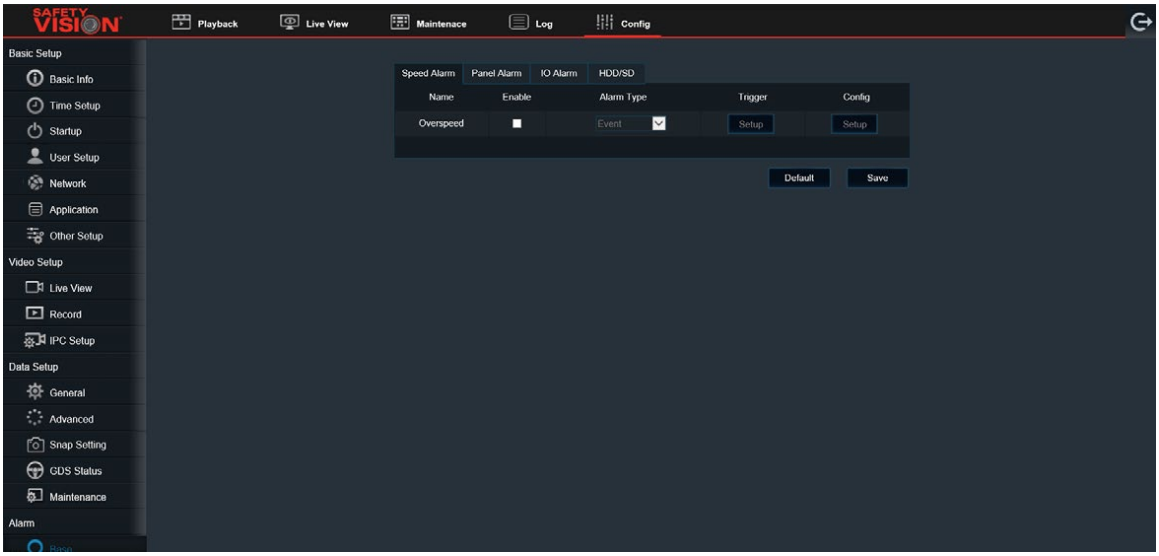


Then click **Save**.

Alarm

The Alarm menus configure the various alarms and their triggers

Base



Speed Alarm

- Select the **Overspeed** option to enable speed alarms. An alarm is triggered when the configured speed is exceeded.
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Overspeed Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Overspeed Event Config Setup below)*

Then click **Save**.

Overspeed Trigger Setup

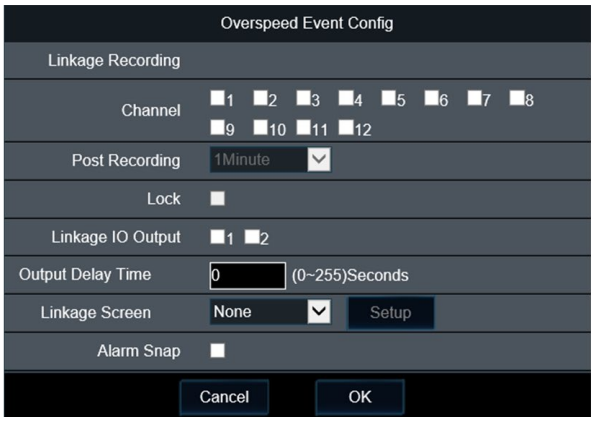
- Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Speed Alarm.
- **Early Difference:** Enter the MPH difference from the MPH entered in the Speed field that the vehicle can deviate from before an alarm occurs
- **Speed:** Enter the maximum speed in MPH that can be obtained by the vehicle before an alarm is triggered
- **Alarm Duration:** Enter the time *(between 0 and 255 seconds)* that the alarm records
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Overspeed Event Config Setup

Click the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Speed Alarm.

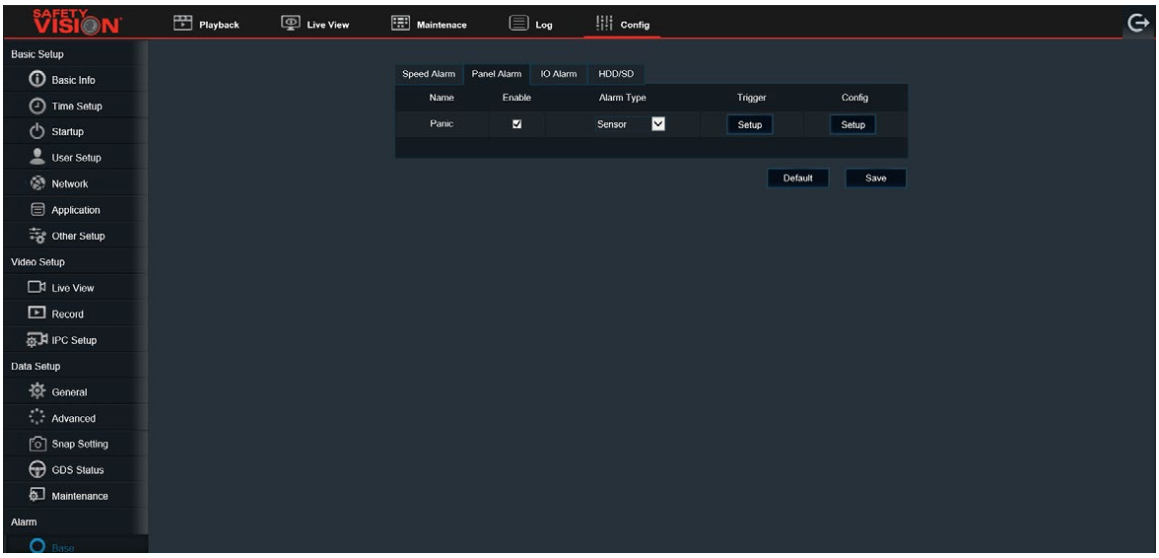


- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Click the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

Panel Alarm

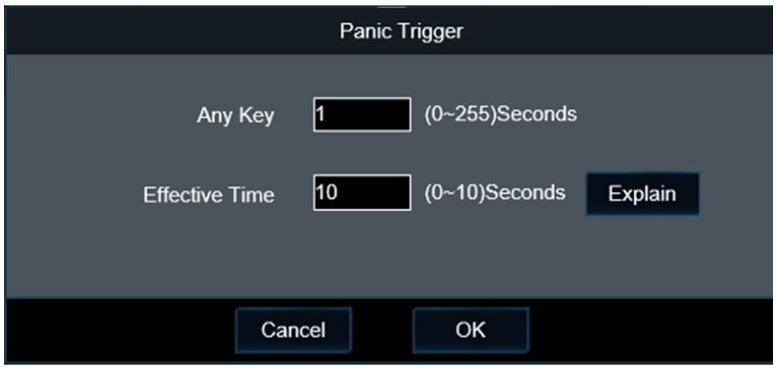


- Select the **Panic** option to enable panel alarms. An alarm is triggered when the 'PANIC' button on the LED panic button panel has been pressed.
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the Setup button to configure the parameters specific to this type of alarm *(see Panic Trigger Setup below)*
- **Config:** Click the Setup button to configure the recording, monitor display and additional options specific to this type of alarm *(see Panic Event Config Setup below)*

Then click **Save**.

Panic Trigger Setup

Click the Setup button under the Trigger field to display the setup screen to configure the parameters specific to the Panel Alarm.



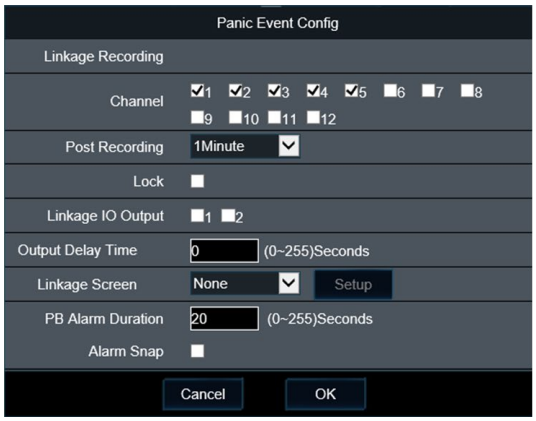
- **Any Key:** Enter a time *(between 1 and 255 seconds)* that the 'PANIC' button on the LED panic button panel must be pressed and held down for to trigger the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Panic Event Config Setup

Click the Setup button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Panel Alarm.

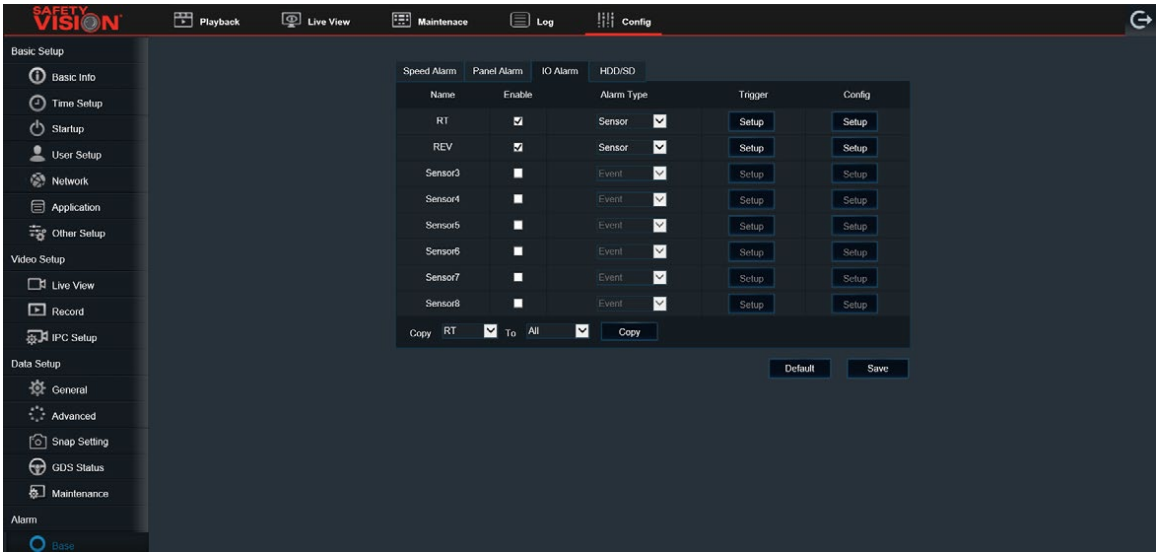


- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Click the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB Alarm Duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

IO Alarm



- Select **Enable** next to each sensor to enable IO alarms. An alarm is triggered when the sensor is activated
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Sensor Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Sensor Event Config Setup below)*

Then click **Save**.

After completing all of the fields for one sensor, the same configuration can be copied to other sensors. In the **Copy** field, select which sensor's configuration to copy. In the **To** field, select which sensor to apply the copied configuration to, and click the **Copy** button. Then click the **Save** button.

Sensor Trigger Setup

Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the IO Alarm for each selected sensor.

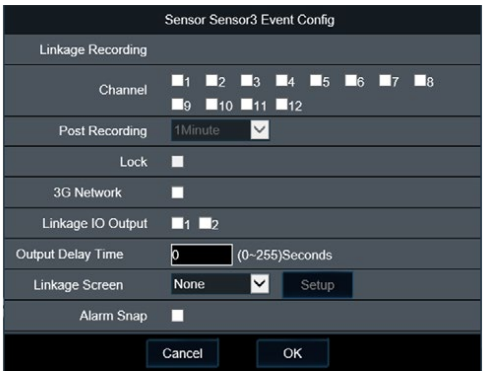
- **Trigger:** Select if the sensor sends a High or Low signal
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Sensor Event Config Setup

Click the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the IO Alarm.

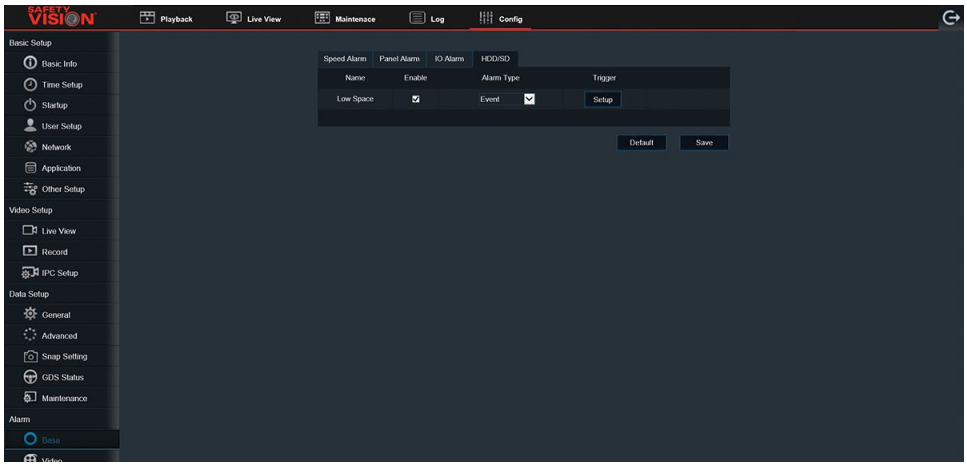


- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- 3**G Network:** ***DO NOT USE***
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

HDD/SD

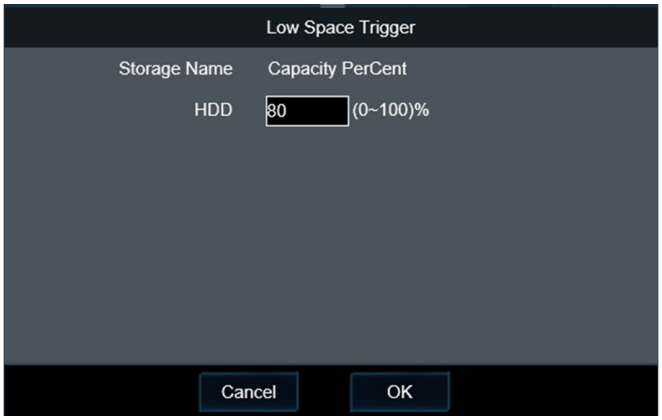


- Select the **Low Space** option to enable HDD/SD alarms. An alarm is triggered when the selected storage device is approaching low available space
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Low Space Trigger Setup below)*

Then click **Save**.

Low Space Trigger Setup

Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the HDD/SD alarms.



Select the storage device you want to configure the HDD/SD alarm for *(only the storage device(s) present in the recorder will be displayed in the setup screen to configure).*

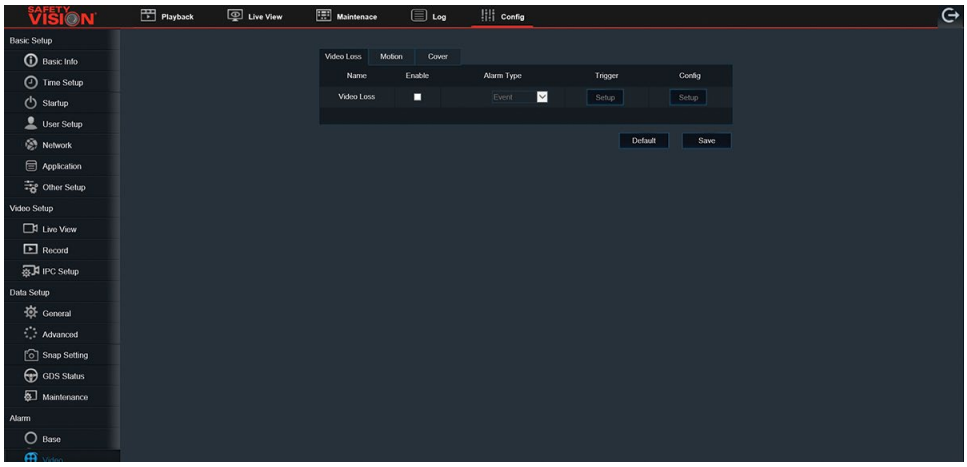
Enter a percentage *(between 0% and 100%)* of capacity that the selected storage device must obtain to trigger an alarm when approaching low available space.

Then click **OK**.

Then click **Save**.

Video

Video Loss

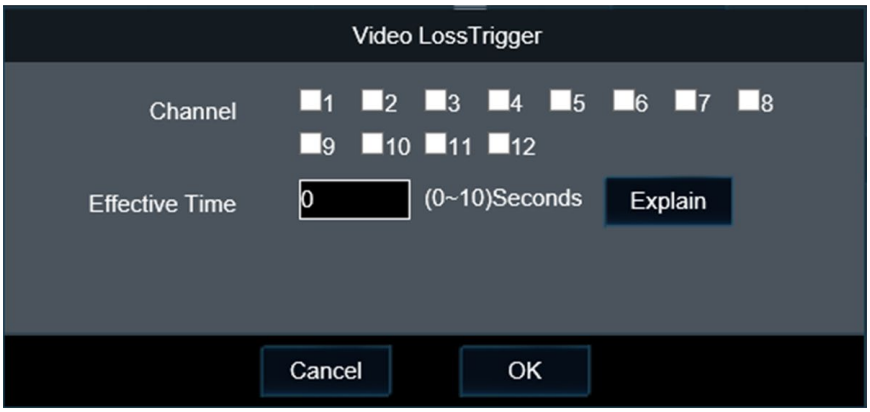


- Select the **Video Loss** option to enable video loss alarms. An alarm is triggered whenever video loss or camera failure is detected.
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Video Loss Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Video Loss Event Config Setup below)*

Then click **Save**.

Video Loss Trigger Setup

Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Video Loss Alarm.



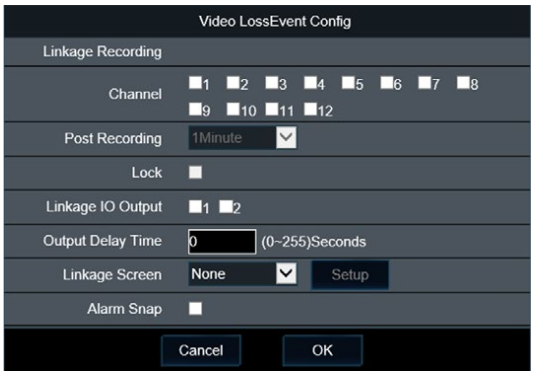
- **Channel:** Select which channels the Video Loss alarm will be applied to
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Video Loss Event Config Setup

Click the Setup button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Video Loss Alarm.



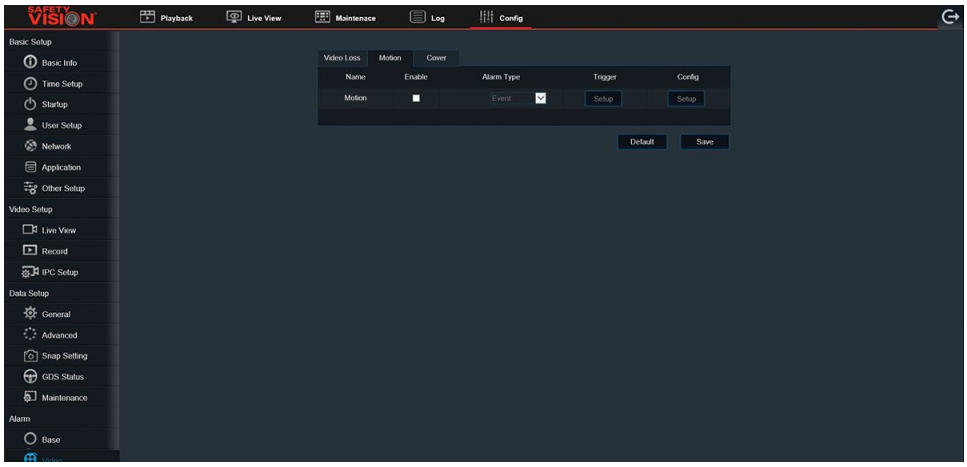
- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

Motion

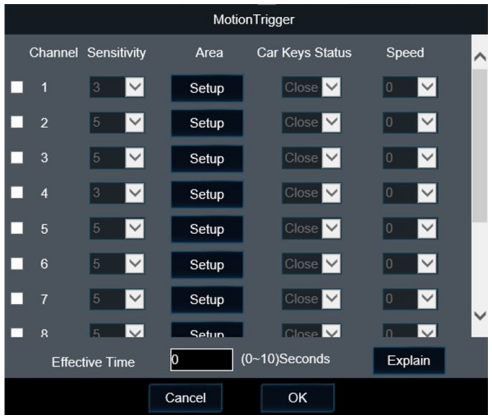
Note: *Must use cameras that support motion detection only*



- Select the **Motion** option to trigger alarms when motion is detected in the selected camera channels.
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Motion Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Motion Event Config Setup below)*

Then click **Save**.

Motion Trigger Setup



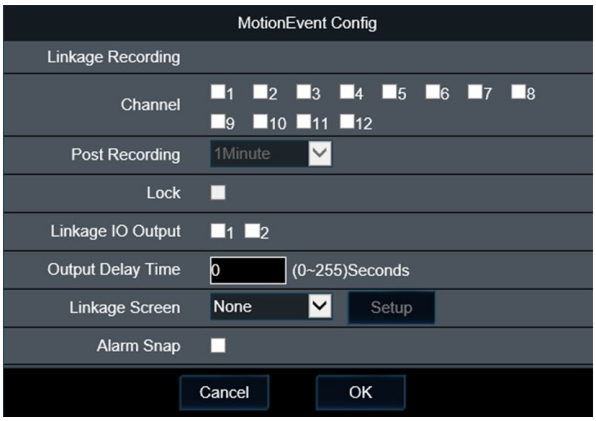
- **Channel:** Select which channels to configure the Motion alarm for
- **Sensitivity:** Select the sensitivity level
- **Area:** Click the **Setup** button to display the area window and select which areas of the channel should detect motion. Click **Clear** to erase areas if needed. Click **OK** when finished.
- **Car Keys Status:** Select either **Close** *(ignition off)*, **Enable** *(ignition on)*, or **All** *(ignition on/off)* for when channel should detect motion
- **Speed:** Select 0 speed, or All speed, for when channel should detect motion
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Motion Event Config Setup

Click the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Motion Alarm.

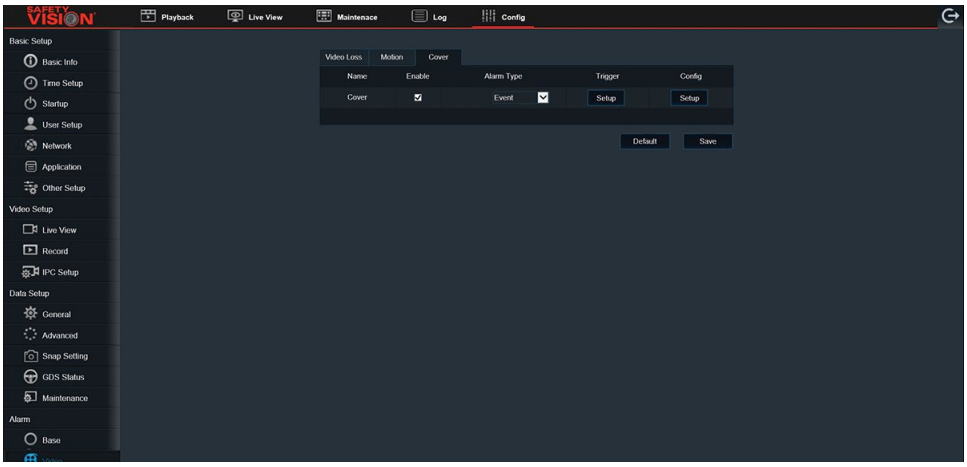


- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Click the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

Cover

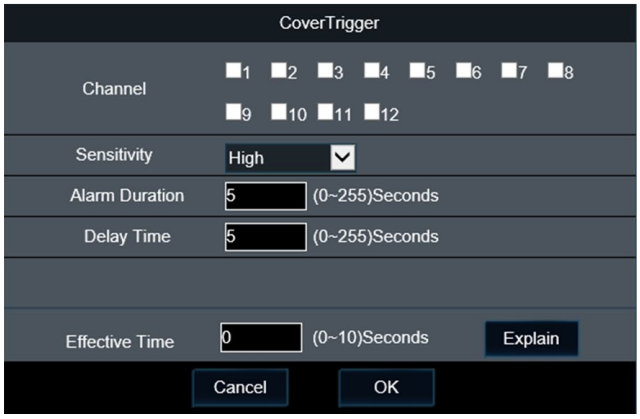


- Select the **Cover** option to enable cover alarms. An alarm is triggered when it is detected that a camera lens may have been covered or otherwise obstructed.
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see Cover Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Cover Event Config Setup below)*

Then click **Save**.

Cover Trigger Setup

Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Cover Alarm.



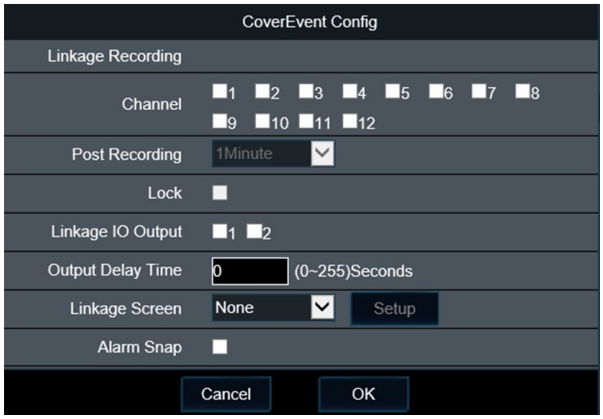
- **Channel:** Select which channels the Cover alarm will be applied to
- **Sensitivity:** Select either High, Middle, or Low sensitivity
- **Alarm Duration:** Enter the time *(between 0 and 255 seconds)* that the alarm records
- **Delay Time:** Enter the time *(between 0 and 255 seconds)* that must occur when the camera lens is covered or otherwise obstructed before triggering the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

Cover Event Config Setup

Click the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Cover Alarm.



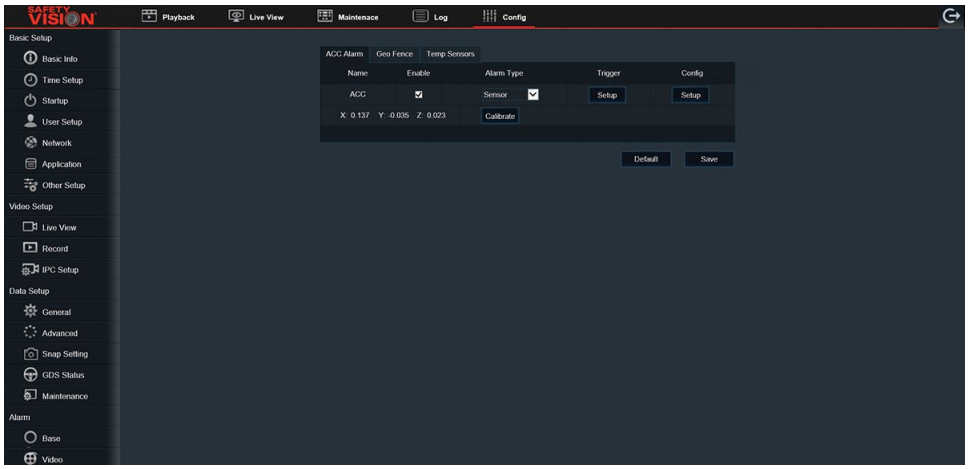
- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Click the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

Then click **Save**.

Advanced

ACC Alarm

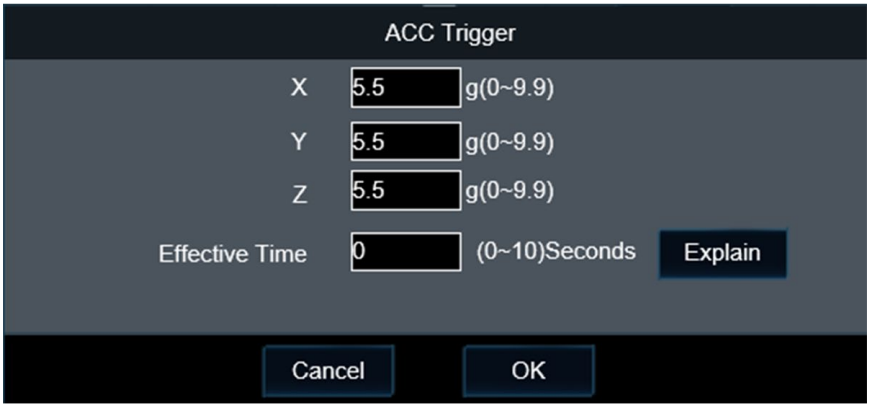


- Select the **ACC alarm** option to enable ACC alarms. An alarm is triggered due to shock detected by an accelerometer
- **Alarm Type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Click the **Setup** button to configure the parameters specific to this type of alarm *(see ACC Trigger Setup below)*
- **Config:** Click the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see ACC Event Config Setup below)*
- **Calibrate:** Click the **Calibrate** button while the HVR is still to reset the accelerometer readings to 0.0.

Then click **Save**.

ACC Trigger Setup

Click the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the ACC Alarm.



- Click in each of the **X**, **Y**, and **Z** fields and enter a threshold *(between 0 and 9.9 Gs)* for each direction which when exceeded triggers the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the 'Explain' button for more details)*

Then click **OK**.

Then click **Save**.

ACC Event Config Setup

Click the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the ACC Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post Recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage Screen:** Select the screen type that appears on the monitor while the alarm is active. Click the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **Alarm Snap:** Select this option to capture a snap shot when this alarm is activated

Then click **OK**.

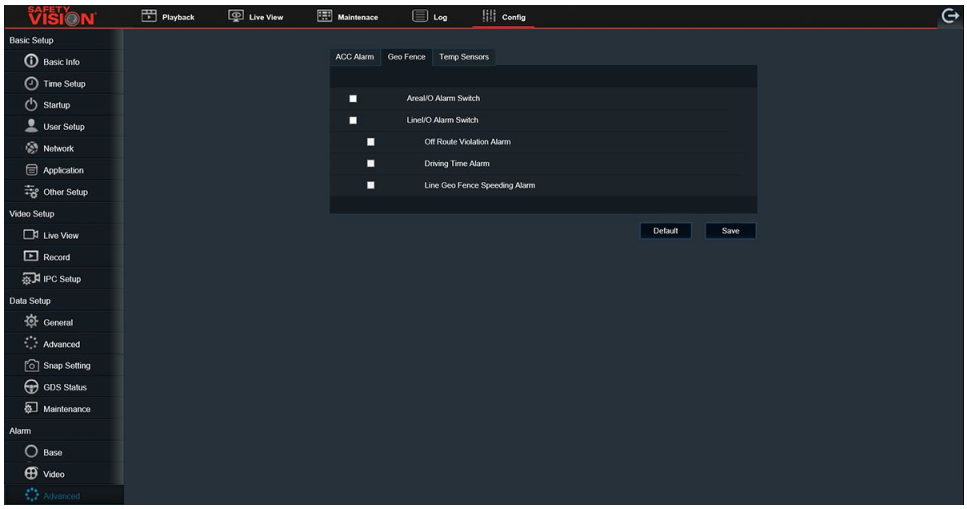
Then click **Save**.

Geo Fence

Select either **Area I/O Alarm Switch**, **Line I/O Switch**, or both option, to activate an alarm when the indicated geo fence is breached.

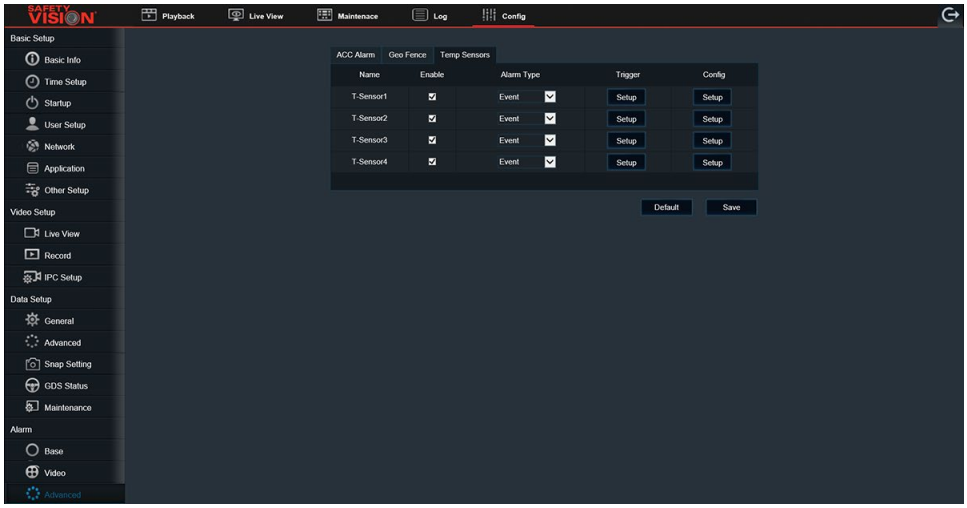
For the **Line I/O Alarm Switch** option, select **Off Route Violation Alarm**, **Driving Time Alarm**, **Line Geo Fence Speeding Alarm** options. Geo fences can be configured in the Foresight PRO software.

Then click **Save**.



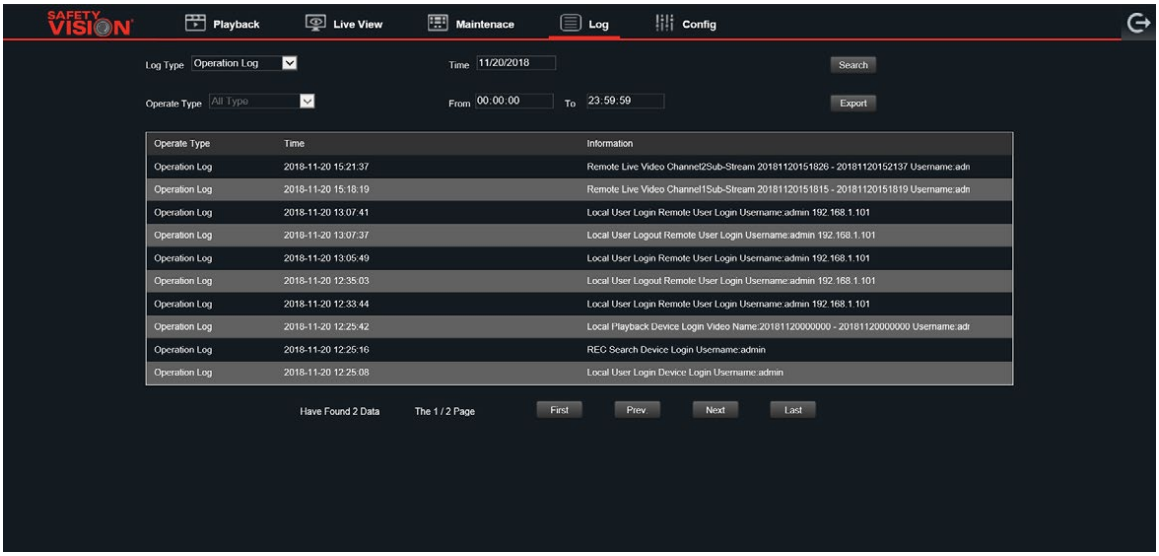
Temp Sensors

Under Development



Log

On the top of the configuration web interface, select the Log tab to search for and display a list of current and past events or user actions.



In the **Log type** field, select the type of log to search for:

- **Operational log:** Log of actions performed by users *(searching for video, changing configurations, etc.)*
- **Locked log:** Log of when video was locked
- **Alarm log: Log of different types of alarms. After selecting this option, go to the Operate Type field and select from the following:**
  - **All:** All alarms
  - **IO alarm:** Alarms initiated by a sensor connected to the I/O hub
  - **Panel alarm:** The 'PANIC' button on the LED panic button panel has been pressed
  - **Speed alarm:** The vehicle has exceeded the configured max speed
  - **Video loss:** A camera has stopped transmitting a signal
  - **ACC alarm:** The accelerometer has detected an impact above the configured threshold

Click in the **Time** field, and select the date from the calendar for which you want to search. In the From and To fields, enter the specific time range for which you want to search.

After making these selections, click the **Search** button.

Results

After clicking the Search button, the results of the log search are displayed.

Use the **First**, **Prev.**, **Next** and **Last** buttons on the bottom of the screen to scroll through the page results.

Exporting Log Files

Select the **Export** button on the top right of the screen, to export results.

Maintenance

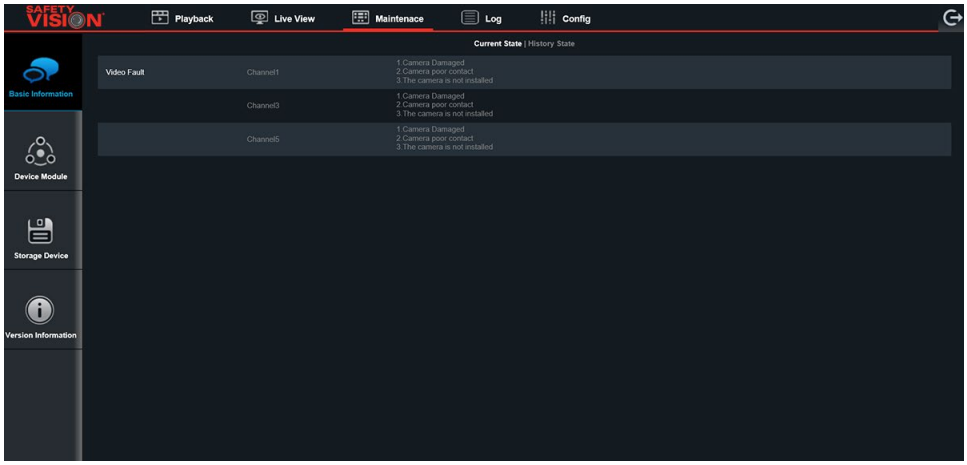
On the top of the configuration web interface, select the **Maintenance** tab to display the Maintenance page.

The Maintenance page main provides detailed information regarding the current status of the HVR and the accessories connected to it.

Use the tabs on the left side of the screen to navigate between different menus.

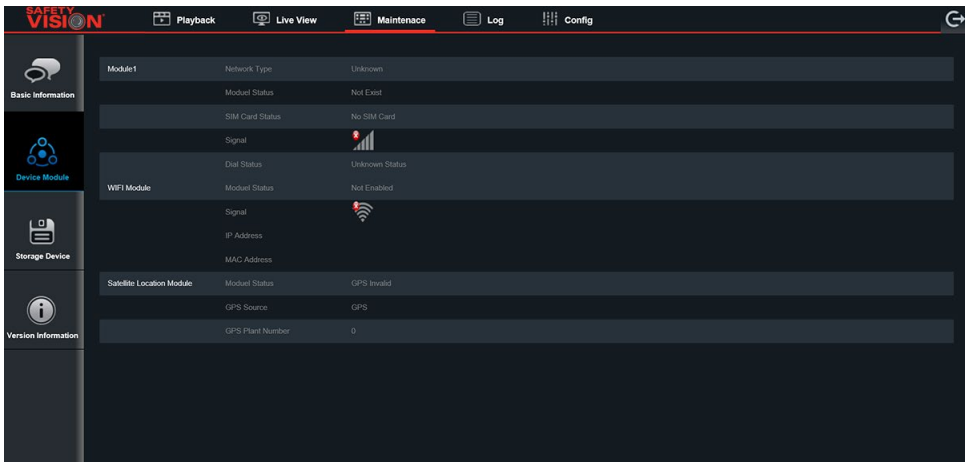
Basic Information

The Basic Information menu provides detailed information regarding the current/history state of the HVR channels and other information. This information is useful when troubleshooting certain issues. The Basic Information page is for display only and cannot be changed.

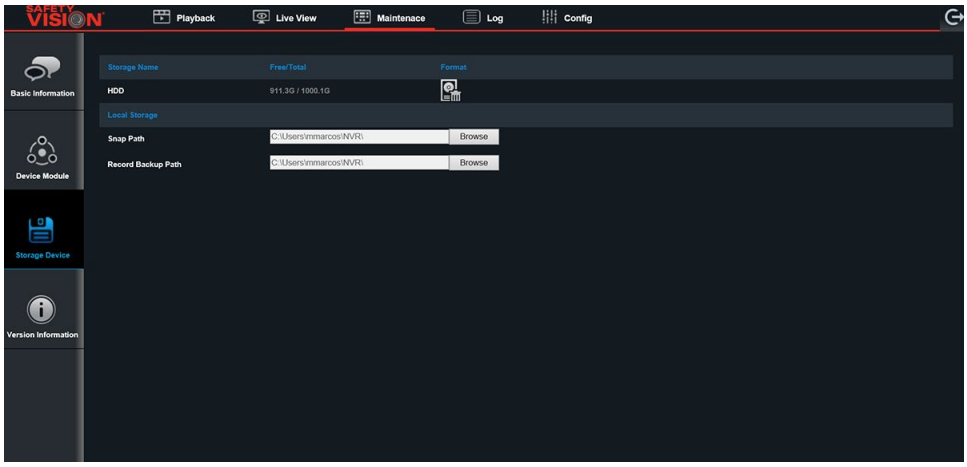


Device Module

The Device Module menu provides information about the internal/external wireless, cellular, and GPS modules of the HVR. This information is useful when troubleshooting certain issues. The Device Module page is for display only and cannot be changed.



Storage Device



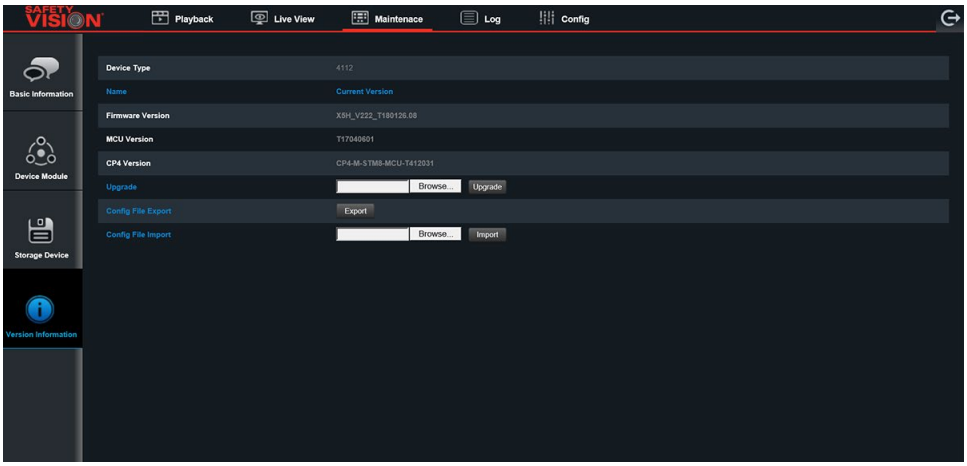
The Storage Device menu is used to format storage devices connected to the record and displays the Free/Total ration *(ratio of available space to the amount of total storage space)* for each.

To format a device, click the **Format** icon.

Formatting a device erases all data, including recorded video. Use with caution.

- **Snap Path:** Select the desired location for saving snapshots during video playback
- **Record Backup Path:** Select the desired location for saving exported video during video playback

Version Information



The Version Information menu provides information of the firmware versions of the HVR in addition to other information. This information is useful when troubleshooting certain issues.

Upgrade

To upgrade the HVR's firmware, obtain the firmware upgraded file from Safety Vision technical support. **Save** the firmware upgrade file in a location of your choice. Click the **Browse...** button, and navigate to where the firmware file is saved and click **Open**. Confirm the appropriate file is displayed and click **Upgrade**. The firmware upgrade process begins automatically.

Make sure HVR maintains constant power while upgrading firmware.

***Note:** Any previously exported configuration files will need to be re-exported after updating the firmware.*

Config File Export

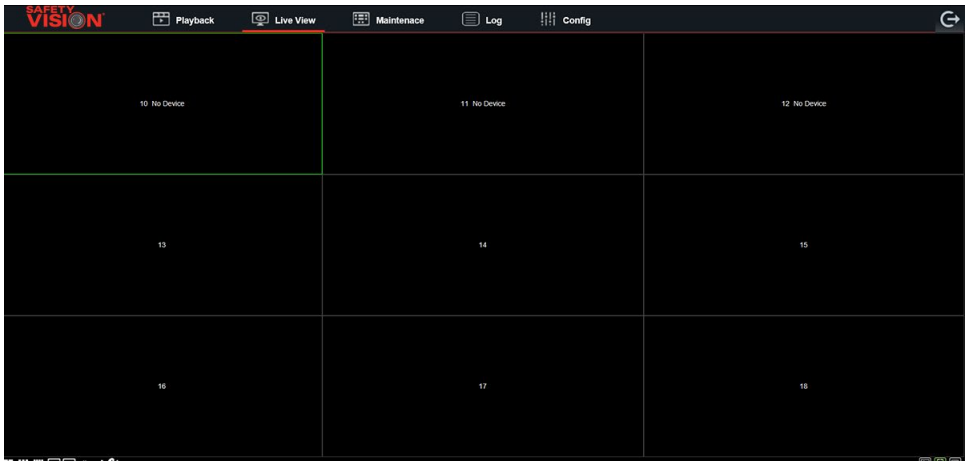
To save a configuration file, confirm all configuration settings are set appropriately, then click the **Export** button. The configuration file is automatically saved in the PC's Downloads folder.

Config File Import

To import a saved configuration file, click the **Browse...** button. Navigate to where to appropriate file is saved and click **Open**. Confirm the appropriate file is displayed and click **Import**. The configuration file is uploaded automatically. By importing a configuration file, the HVR will immediately reboot on its own.

Live View

On the top of the configuration web interface, select the Live View tab to display the Live View page.



The Live View page displays the current camera's view similar to the Live View on an external monitor. Right-click on the display and select Open Camera to view a camera's live view.

Use the buttons at the bottom of the screen to control the display area. Additionally, you can click on the Camera icon at the bottom of the screen to download a still image of the displayed camera channel via the web browser. Adjust color, contrast, and brightness by clicking the palette icon at the bottom.

Playback

The Playback tab allows you to search for and playback recorded video similar to the Recording Search function when using an external monitor.

Use the calendar on the Left to scroll through the months and year, and select to search for Main Record, Sub Record, or Mirror Record video.

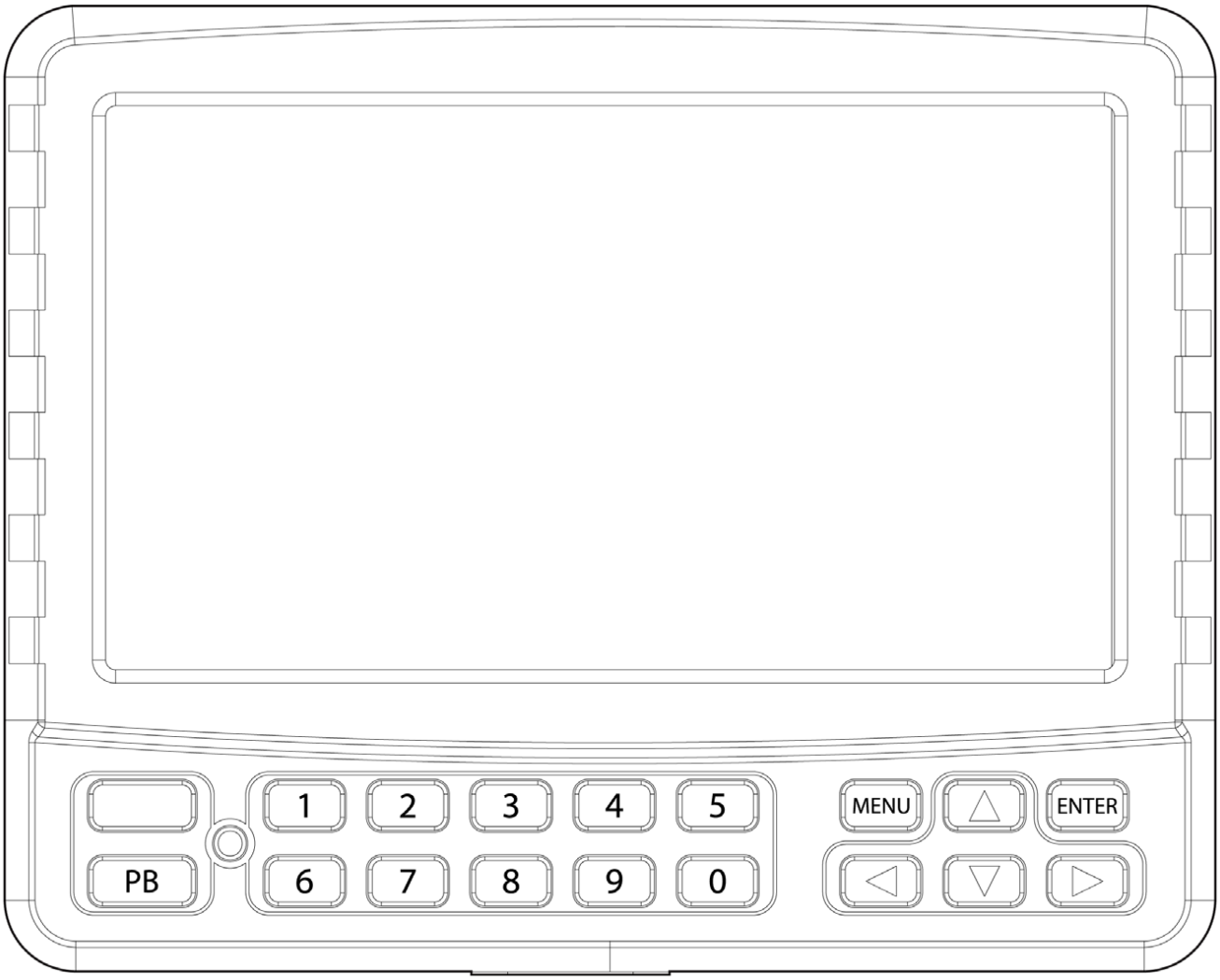
- **Main record:** video recorded to the primary storage device
- **Sub record:** video recorded by the secondary video stream configured in the Record menu
- **Mirror record:** video recorded to the mirror SD card

Available video appears as colored days on the calendar.

- **Alarm** *(red)*: video recorded as a result of a configured alarm
- **Locked** *(yellow)*: video determined important and locked from deletion
- **Normal** *(green)*: video recorded not as a result of a configured alarm *(continuous recording, etc.)*
- Select a day on the calendar to display a list of video files available, then advance to the channel selection window below.

Channels

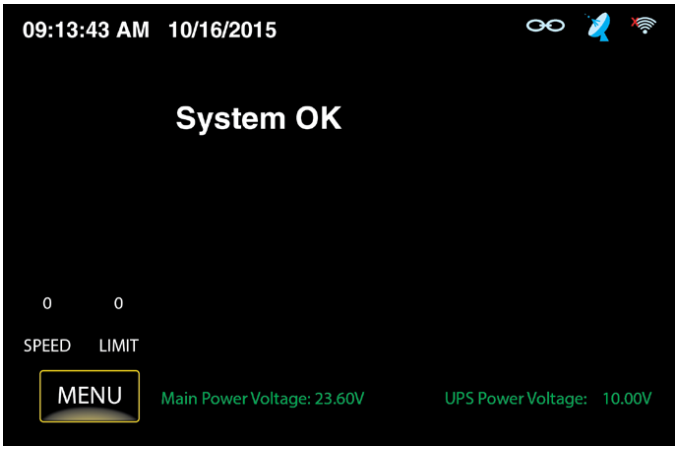
Select specific channels you want to review by checking its box. You can use the **Video Type** field to select only channels with Normal or Alarm type video. Users also have the option to enter specific time ranges in the **Start Time** and **End Time** fields. Then click the **Search** button to advance to the results. Double-click on a file to begin playback. Use the playback controls at the bottom of the screen.



SV-CP4-HYB Touch Screen Monitor

To make selections using the SV-CP4-HYB monitor, simply tap on the touch screen. Do not exert excessive force on the screen.

After the recorder initializes, the Status Screen is displayed. Tap **MENU** to display the login window. Enter your assigned user name and password and tap Login. The Home Screen is displayed. Tap the Return symbol to return to the Status Screen, and you can use the Up and Down Arrow keys on the SV-CP4-HYB to switch between the Live View and the Status Screen.



Tap the screen once while displaying the Live View to display the shortcut bar. Use the shortcut bar to display a single screen or a quad-view. Tap **Playback** or **Com Menu** to access video playback or system info, respectively. Tap the Log In icon to log in and access the Home screen.

The SV-CP4-HYB monitor incorporates the functionality of a remote control. Buttons on the monitor are functionally the same as the remote control buttons.

The SV-CP4-HYB monitor also provides an IR receiver for the remote control. When using the remote control, ensure it is pointed at either the IR receiver on the monitor or the IR receiver on the front of the recorder.

Additionally, the SV-CP4-HYB monitor provides two additional buttons on the left side of the control panel. The blank black button toggles between dim and bright monitor brightnesses for day or night. The red **PB** button provides Panic Button functionality.

USB Mouse

Additionally, a USB mouse can be attached to the front USB port to navigate menus on an external monitor.

Monitor Log In and Home Screen

Log In

Tap the screen once to display the shortcut bar. Tap the large **Log In** icon on the right to display the log in prompt. The log in prompt also appears if you are logged out and attempt to access Playback or other functions that require logging in.

Enter your **Username** and **Password**, select a **Language**, and tap **Login** to log in.

The default login is:
Username: admin
Password: admin

Home Screen

Once logged in, the Home Screen displays. The Home Screen provides access to the following features:

- **REC (Recording) Search:** Search for a playback previously recorded video
- **System:** View the recorder's system details and current status
- **Log Search:** Search the recorder's log file to view previous actions and events
- **Setup:** View and setup the recorder's configuration

Log In icon

Logout icon

Log Out

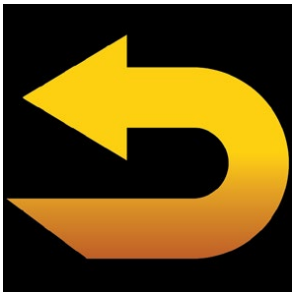
Tap the **Logout** icon to log out of the recorder. A prompt is displayed; confirm your action by tapping **OK**. You will have to log in again to review video.

Shotcut Symbols

When browsing the menus:

Tap the **Home** symbol to display the Home Screen.
Tap the **Return** symbol to return to a previous menu.

Home icon



Return icon

Recording Search

On the Main Menu, tap the **REC search** Icon to search for previously recorded video, review it, and export it.

Calendar

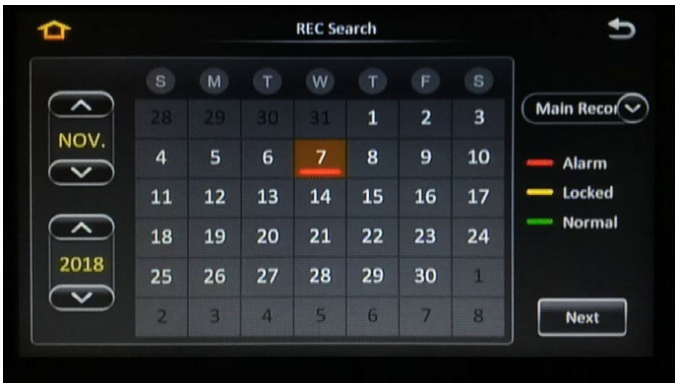
The **Calendar** screen appears. Tap the arrows to scroll through the months and year on the left. On the right, select to search for Main record, Sub record, or Mirror record video.

- **Main record**: video recorded to the primary storage device
- **Sub record**: video recorded by the secondary video stream configured in the Record menu
- **Mirror record**: video recorded to the mirror SD card

Available video appears as colored bars on the calendar.

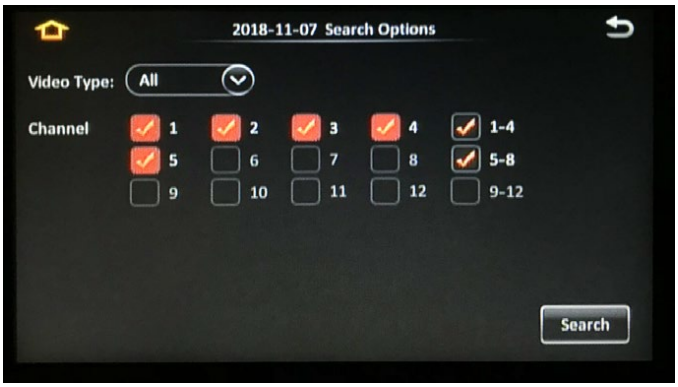
- **Alarm (red)**: video recorded as a result of a configured alarm
- **Locked (yellow)**: video determined important and locked from deletion
- **Normal (green)**: video recorded not as a result of a configured alarm (continuous recording, etc.)

Select a day on the calendar, then tap the **Next** button to advance to the channel selection screen.



Channels

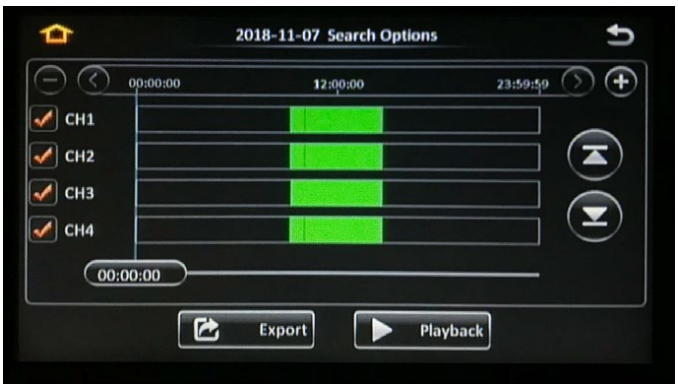
Select specific channels you want to review by checking its box. You can use the **Video Type** field to select only channels with Normal or Alarm type video. Then tap the **Search** button to advance to the results screen.



Results

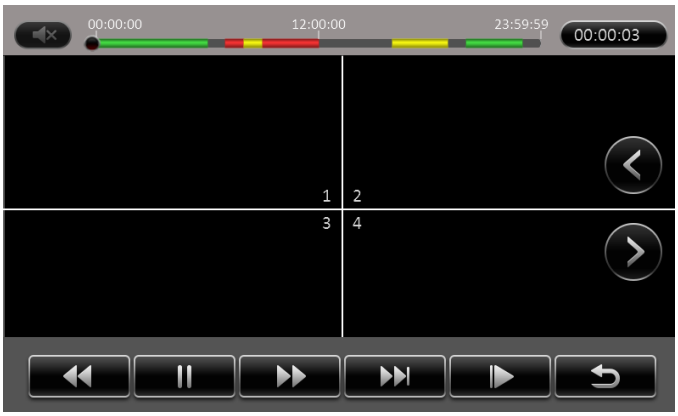
The results screen displays available recorded video as colored bars across the 24 hour period of the selected day. The timeline can be adjusted at the top of the screen. Tap the (+) and (-) icons to zoom in and out *(display a narrower or wider band of time)* of the timeline. Tap the (<) and (>) icons to move back and forth along the timeline. Tap the **up** and **down** arrow icons on the right side of the screen to scroll through available channels.

Select the channels you want to review by checking them on the left side of the screen, then tap the **Playback** or **Export** buttons to advance to either of those two functions.



Playback

Tapping the **Playback** button on the results screen begins video playback immediately.



You can slide your fingers along the timeline at the top of the screen to quickly advanced to a specific point in the video. Additionally, a specific time can be entered in the **Time Field** in the upper right hand corner of the screen. Tap the **Time Field** to display the onscreen keyboard.

Tap the **speaker icon** on the upper left side of the screen to increase volume, decrease volume, or to mute volume.

Tap the **arrow icons** on the right side of the screen to scroll to additional channels if more than four were selected.

Tap the **Return** icon in the lower right side of the screen to return to the video search results.

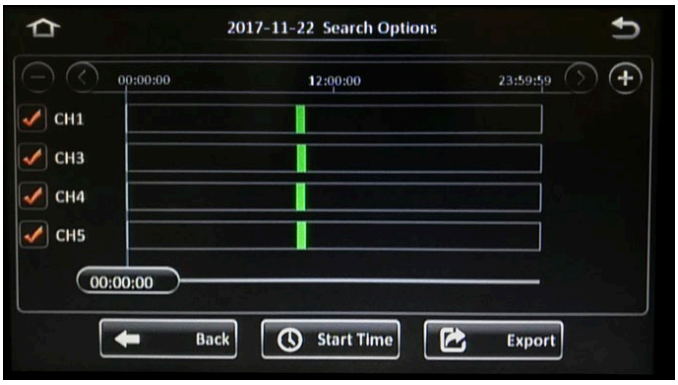
Export

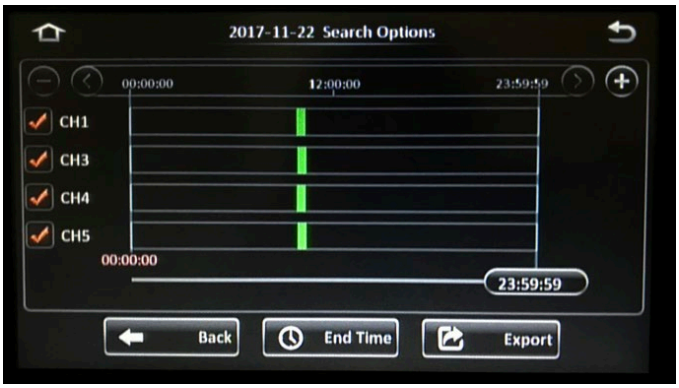
Tapping the Export button on the results screen begins the export process. Selected video can be downloaded to a USB flash drive:

6. **Insert a USB flash drive into the USB port on the front panel of the recorder.**
7. **Tap the Export button on the results screen.**
8. **Use your finger to drag the marker to where the exported video clip will begin.**
   Additionally, you can also tap the time marker icon at the bottom of the marker line to display a keypad and enter the start time manually.
9. **Tap the Start time button.**
   A second marker appears.
10. **Use your finger to drag the marker to where the exported video clip will end.**
11. **Tap the End time button.**
    The Export prompt appears, displaying the exported video clips length and file size, as well as the capacity of the inserted USB flash drive.
12. **Tap the export button, then select the desired export file format:**
    Proprietary Data: video can only be played back using the Foresight PRO software.
    AVI Data: video is exported in .avi format, which can be played by most commonly available media players.
13. **Tap OK.**
    The video clip is exported automatically.

If the amount of video being downloaded exceeds the capacity of the USB thumb drive being used, a prompt appears requesting that an additional thumb drive be inserted to conclude the export.

Exported files are saved on the root directory of the USB thumb drive. Files are titled first by Unit ID, then Alarm Log, then the date recorded.





System

Tap the **System** icon on the Home Page to view the System menus. System menus mainly provide detailed information regarding the current status of the HVR and the accessories connected to it.

This information can be useful when troubleshooting certain issues. All of the fields in the System menus are for display only and cannot be changed. Configurable parameters can be adjusted in the Setup menus.

Tap the tabs on the left side of the screen to navigate between different menus.

Version Info

The Version Info menu provides information on the firmware versions of the HVR in addition to other information.

- **Device Name:** Name of HVR
- **OMS ID:** Unique alphanumeric ID assigned to the HVR for identification in the Foresight PRO back-end management system
  NOTE: *The OMS ID will be used when adding the vehicle to the Foresight PRO software*
- **MAC address:** HVR's MAC address
- **Firmware version:** HVR's firmware version
- **MCU version:** firmware version of the HVR's internal MCU
- **CP4 Version:** firmware version of the SV-CP4-HYB monitor attached to the HVR's Panel Port

Modules

The Modules menus provide information about the internal/ external wireless and GPS modules of the HVR.

WIFI

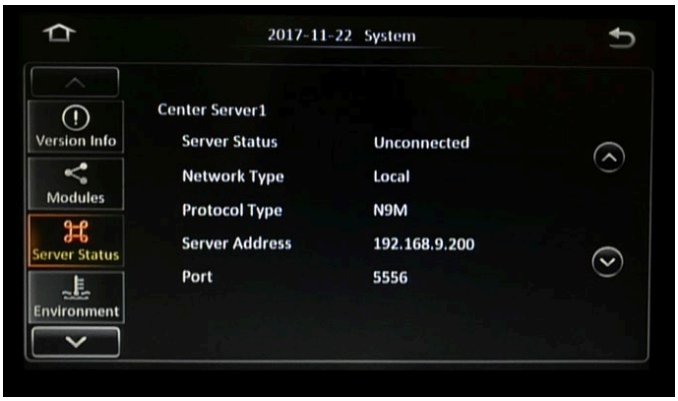
- **Built-in WIFI Status:** Displays if the internal WiFi module is currently connected to a wireless network
- **Signal:** If the internal WiFi module is connected to a network, the Signal strength will be displayed
- **IP Address:** IP address of the internal WiFi module
- **MAC Address:** MAC address of the internal WiFi module
- **External WIFI Status:** Displays the status of a connected external WiFi device
- **ESSID:** ESSID of a connected external WiFi device
- **IP Address:** IP address of a connected external WiFi device
- **MAC Address:** *Under development*

GPS

- **Planet GPS Status:** The HVR's current geographical location in exact longitude and latitude
- **GPS Source:** Source of the GPS information (from the internal GPS module or an external GPS module)
- **GPS Planet Number:** Total number of satellite signals
- **GPS Angle:** Displays the GPS course orientation
- **Speed:** Displays the real-time speed of the vehicle in which the HVR is installed

Server Status

The Server Status menu displays the status of the Foresight PRO server(s) to which the HVR is connected.



- **Server Status:** Connection status
- **Network Type:** Type of network used to communicate with the Foresight PRO server
- **Protocol Type:** Type of protocol used when communicating with the Foresight PRO server
- **Server Address:** IP address of the Foresight PRO server
- **Port:** Port of the Foresight PRO server

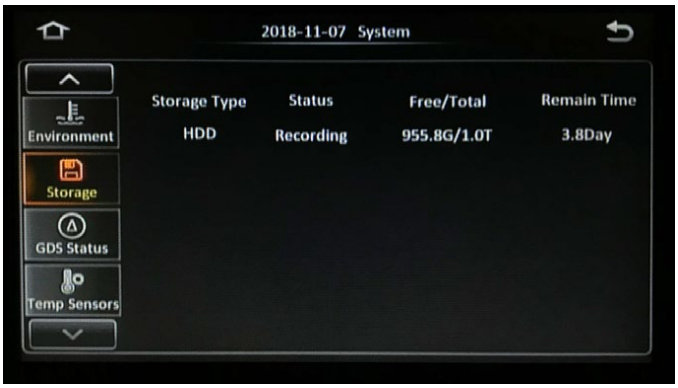
Environment

The Environment menu displays current voltage and device temperature readings.

- **Voltage:** voltage (displayed in volts) the HVR is currently receiving
- **Device temperature:** displays the internal temperature of the HVR displayed in degrees Celsius
- **HDD heater status:** displays if the internal HDD heater is currently on or off

Storage

The Storage menu displays the status, capacity, and recording time for each data storage device connected to the HVR.



- **Storage type:** type of storage device
- **Status:** displays if the device is currently Recording, is Normal, or a problem has occured
- **Free/Total:** displays the ratio of available storage space to the amount of total storage space
- **Remain time:** displays the amount of video that can be recorded given the remaining storage space available

GDS Status (Good Driver Status)

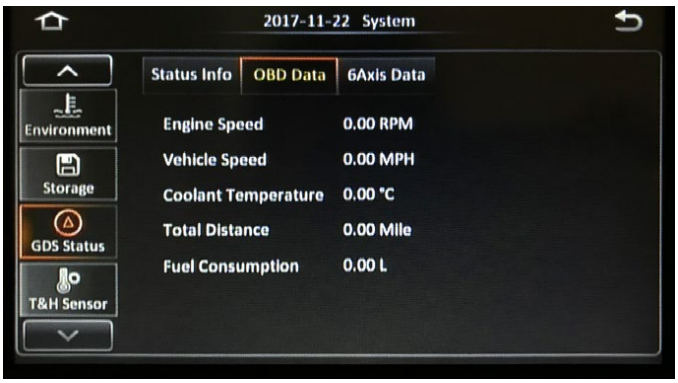
The Good Driver Status feature is under development at this time.

Status Info

- GDS Communication
- GDS Versions
- OBD Communication
- OBD Versions
- Data Collection
- Engine Type

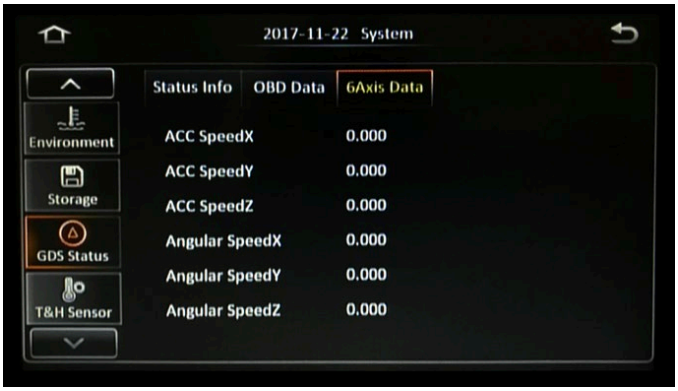
OBD Data

- Engine Speed
- Vehicle Speed
- Coolant Temperature
- Total Distance
- Fuel Consumption



6Axis Data

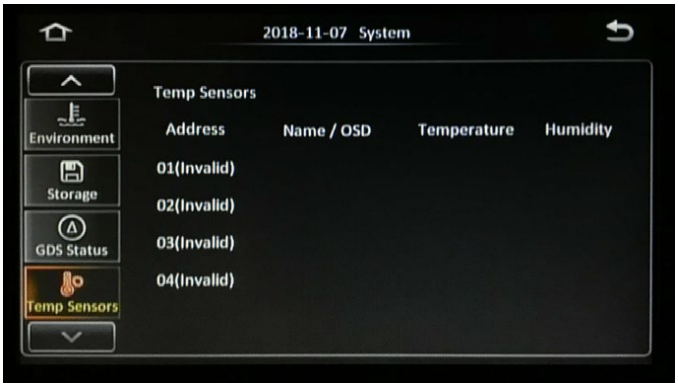
- ACC SpeedX
- ACC SpeedY
- ACC SpeedZ
- Angular SpeedX
- Angular SpeedY
- Angular SpeedZ



Temp Sensor

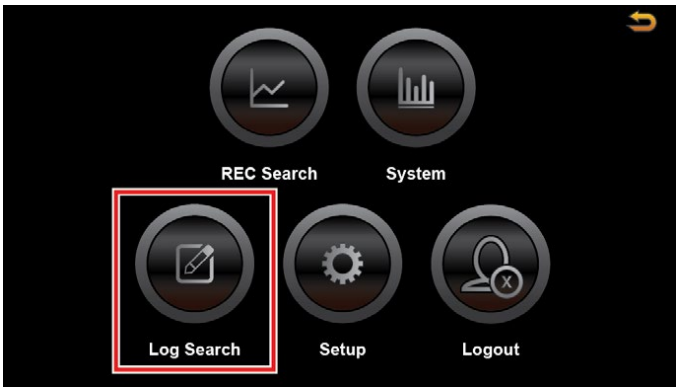
The Temp Sensor menu displays the status of any temperature or humidity sensors connected to the recorder.

- Address
- Name/OSD
- Temperature
- Humidity



Log Search

On the Main Menu, tap the Log Search icon to search for and display a list of current and past events or errors.



Calendar

The Calendar screen appears. Tap the arrows to scroll through the months and year on the left. Days where log files exist include a Green Log Mark.

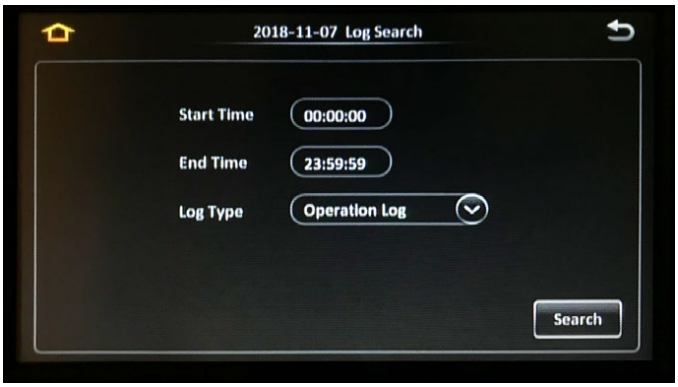
Tap a day to select it, then tap the **Next** button.

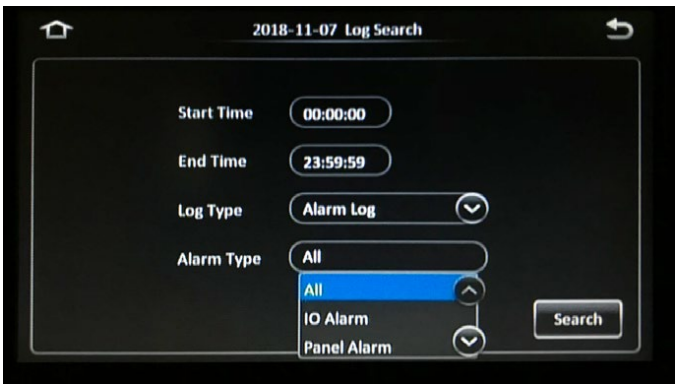
Time and Log Type

The time and log type screen appears. Tap the **Start time** and **End time** fields to display an onscreen keypad to enter a specific start and end time in which you want to search.

In the **Log type** field, select the type of log to search for:

- **Operational log:** Log of actions performed by users *(searching for video, changing configurations, etc.)*
- **Locked log:** Log of when video was locked
- **Alarm log:** Log of different types of alarms. After selecting this option, the **Alarm Type** field appears:
  Alarm Type Field options:
  - **All:** All alarms
  - **IO alarm:** Alarms initiated by a sensor connected to the I/O hub
  - **Panel alarm:** The 'PB' button on the SV-CP4-HYB monitor or LED panic button panel has been pressed
  - **Speed alarm:** The vehicle has exceeded the configured max speed
  - **Video loss:** A camera has stopped transmitting a signal
  - **Video blind:** A camera may be covered or obscured
  - **Motion:** Motion has been detected
  - **ACC alarm:** The accelerometer has detected an impact above the configured threshold
  - **Geo fence alarm:** The vehicle has deviated from the configured geo fence parameters
  - **High Temp alarm:** A temperature sensor has detected heat above the configured threshold
  - **Heating-up alarm:** *Under development*

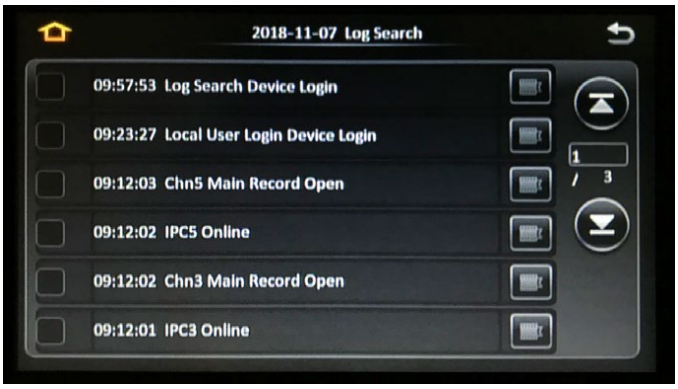




After making these selections, tap the **Search** button.

Results

After tapping the **Search** button, the results of the log search are displayed.



Tap the **up** and **down** arrow icons on the right side of the screen to scroll through the page results. Or, tap the **page number field** to display an onscreen keypad to manually enter a specific page to display.

Tap the **film icon** next to any of the alarm log results to automatically begin video playback of the alarm.

Exporting Log Files

Tapping the **Export** icon in the lower right corner of the screen begins the export process. The selected video can be downloaded to a USB flash drive:

1. **Insert a USB flash drive into the USB port on the front panel of the HVR**
2. **Select any of the alarm log results you want to export video for by tapping in any of the boxes on the left hand side of the screen**
3. **Then tap the Export icon in the lower right corner of the screen**
   The Export prompt window appears on the screen, displaying the exported video clip's file size, as well as the capacity of the inserted USB flash drive.
4. **Select the desired export file format:**
   - **Proprietary data:** video is exported in a proprietary format that can only be played back using the Foresight PRO software
   - **AVI data:** video is exported in .avi format, which can be played by most commonly available media players
5. **Tap OK**
   The video clip is exported automatically

Setup

Tap the Setup icon on the Home Page to view the Setup menus. Setup menus allow configuration of the many HVR options and features.

Navigate the Setup menus by tapping on the icons at the top of the screen. Once in a top menu, tap the tabs on the left of the screen to view the different sub-menus. Some sub-menus contain multiple pages.

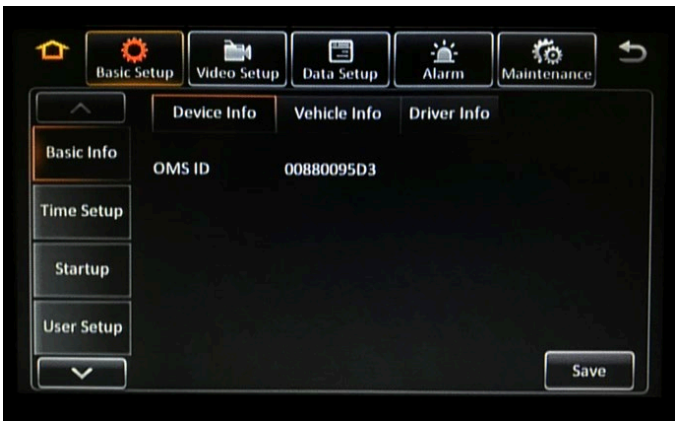
Basic Setup

The Basic Setup menu configures basic HVR settings such as the date, time, users, and start up and shutdown parameters.

Basic Info

Device Info

- **OMS ID:** Unique alphanumeric ID assigned to the HVR for identification in the Foresight PRO backend system; this field is automatically populated
  NOTE: *The OMS ID will be used when adding the vehicle to the Foresight PRO software*



Vehicle Info

- **Vehicle Num:** Enter an alphanumeric vehicle fleet number
  NOTE: *This will also be used as the Vehicle Name when adding the vehicle to the Foresight PRO software*
- **Vehicle Plate:** Enter an optional alphanumeric vehicle license plate number

Then tap the **Save** button.

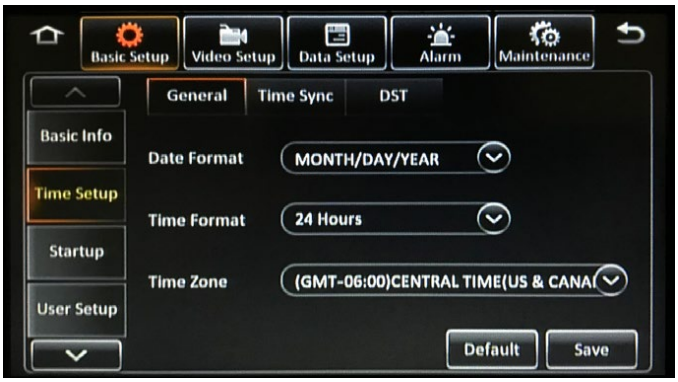
Driver Info

- **Driver Number:** Enter an optional alphanumeric driver number
- **Driver Name:** Enter an optional driver name

Then tap the **Save** button.

Time Setup

General



- **Date Format:** Select from MONTH/DAY/YEAR *(MM/DD/YYYY)*; DAY/MONTH/YEAR *(DD/MM/YYYY)*; or YEAR-MONTH-DAY *(YYYY-MM-DD)* date format
- **Time Format:** Select 12 or 24 hour time format
- **Time Zone:** Select the appropriate time zone

Then tap the **Save** button.

Time Sync

- **Date/Time:** Tap these fields to manually enter the current date and time of the HVR
- **GPS:** Select this option to automatically synchronize the date and time from the GPS signal
- **Center Server:** Select this option to automatically synchronize the date and time to a Foresight PRO server when the HVR connects
- **NTP sync:** Select this option to automatically synchronize the date and time to an official time-keeping website when the HVR has an available internet connection; Select from several predefined websites, or select User-Defined to enter your own

Then tap the **Save** button.

DST

- **Enable:** select this option to enable Daylight Savings Time (DST) automatic time adjustment
- **Offset:** select a one or two hour DST adjustment
- **Mode:** Select Week to define the DST period by specific weeks in the calendar; Select Date to manually enter an exact date

Then tap the **Save** button.

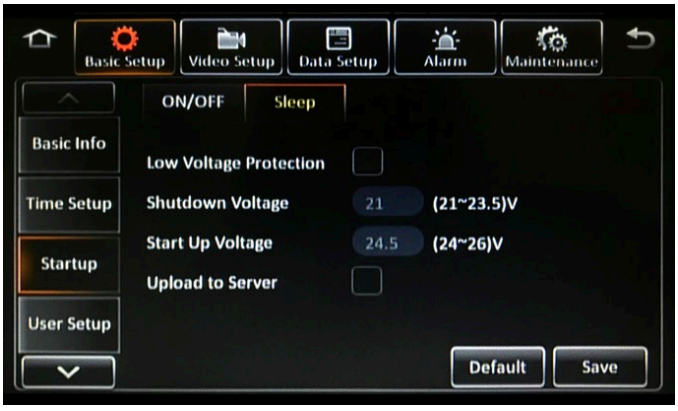
Startup

ON/OFF

- **ON/OFF mode:**
  - Select **Timer** to power the HVR on and off as set specific times
  - Select **Ignition** to power the HVR on and off with the vehicle's ignition
  - Select **Ignition or Timer** to power the HVR on during both conditions
- **Shutdown Delay:** Enter the amount of time, in seconds, that the HVR will wait to shut down after the vehicle's ignition has been turned off
- **Shutdown Record:** Enter the amount of time, in seconds, that the HVR will continue to record after the vehicle's ignition has been turned off
- **Timer From:** Enter the exact times each day the HVR powers up and powers down when using the Timer ON/OFF mode
- **Monitor mode:**
  - Select **Automatic Power Up** to turn the SV-CP4-HYB touch screen monitor on automatically with the HVR
  - Select **Auto-Standby** to leave the SV-CP4-HYB touch screen monitor in standby mode *(must be touched to activate)* when the HVR is powered on

Then tap the **Save** button.

Sleep



- **Low Voltage Protection:** Select this option to automatically shut down the HVR when the power it receives drops below the specified voltage
- **Shutdown Voltage:** Enter the minimum voltage, in volts, that the HVR can receive before it automatically disconnects from the Foresight PRO server or shuts down
- **Start Up Voltage:** Enter the minimum voltage, in volts, that the HVR must be receiving before starting up
- **Upload to Server:** Select this option to allow the HVR to continue to upload data to a Foresight PRO server while under voltage protection

Then tap the **Save** button.

User Setup

Screen Idle Time: Select the number of minutes after no activity that the touch screen monitor automatically exits a Menu and displays the live camera views. Select **Never** to keep this function disabled.

Then tap the **Save** button.

Users: The User Setup menu allows you to Add, Edit, and Delete users who must log in to access the HVR's menus. Each user is assigned a name, group, and password.

The following are the maximum number of users allowed:

- 1 × Admin: Admin users have full access to the HVR's menus and configuration settings
- 2 × Normal User: Normal users are restricted from accessing the configuration settings

To Add a user

- Select **Add** to add a new user. Enter a unique alphanumeric user name and password, then tap the **Save** button.

To Delete a user

- Select any number of users by tapping in any of the boxes on the left hand side of the screen, and then tap the **Delete** button to delete them from the HVR.

To Edit a user

- Select a user by tapping in any of the boxes on the left hand side of the screen, and then tap the **Edit** button to change a user's name or password. Then, tap the **Save** button.

Network

Local

- **DHCP mode:** Select this option to have the HVR automatically receive an IP address and associated information from the network it is attempting to communicate with
- **Static IP:** If the checkbox is checked, device will be considered as static device
- **IP address:** Enter a Static IP address for the HVR
- **Subnet mask:** Enter a static subnet mask for the HVR
- **Gateway:** Enter a static network gateway for the HVR
- **Auto get DNS:** Select this option to allow the HVR to receive DNS information automatically
- **Use following DNS:** Select this option to enter the DNS information manually
- **Preferred DNS server:** Enter the preferred primary DNS server address
- **Alternate DNS server:** Enter the secondary, alternate DNS server address

Then tap the **Save** button.

Ports

- **WEB port:** Enter the WEB port for the HVR if necessary

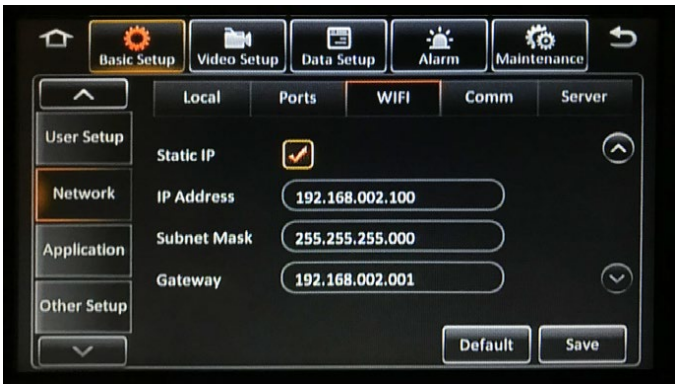
Then tap the **Save** button.

WIFI

Tap in the **Enable** field and select **Client** to enable the internal WIFI module. Enter the following information:

- **ESSID**
- **Encryption**
- **Password:** Enter an alphanumeric password
- **Static IP:** If the checkbox is checked, device will be considered as static device
- **IP address:** Enter a Static IP address for the internal WIFI module
- **Subnet mask:** Enter a static subnet mask for the internal WIFI module
- **Gateway:** Enter a static network gateway for the internal WIFI module

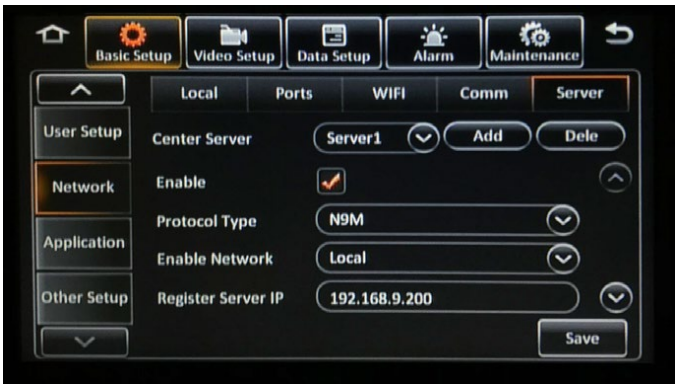
Then tap the **Save** button.



Comm

External Cell Modem
Under development

Server



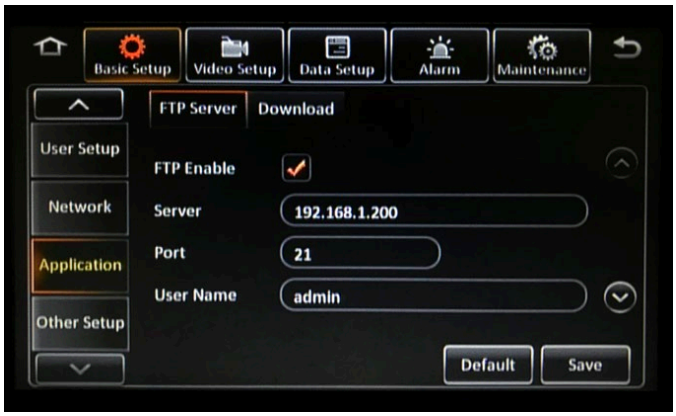
Select a Center Server to configure from the dropdown menu. Multiple servers/configurations can be saved. To add a new server, tap the **Add** button. To activate a server, select the **Enable** box option and enter the following information:

- **Protocol type:** Select N9M
- **Enable network:** Select either:
  - Local: External WiFi device
  - WIFI: Internal WiFi module
  - Module1: *Under development*
  - Module2: *Under development*
  - Auto Adaptation: *Under development*
- **Register Server IP:** Enter the Foresight PRO server IP address
- **Register Server Port:** Default port is **5556**
- **Media Server IP:** Enter the Foresight PRO server IP address
- **Media Server Port:** Default port is **5556**
  NOTE: *The Register Server IP address and the Media Server IP address MUST be the same IP address of the server hosting the Foresight PRO software.*

Then tap the **Save** button.

Application

FTP Server

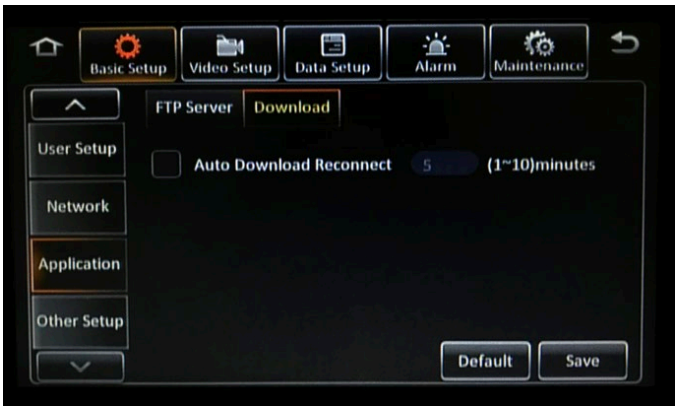


Select **FTP Enable** to enable the FTP server option, which allows you to log into the HVR as an FTP server with an external PC, as well as allows snapshots to be uploaded to the FTP *(See Snap Setting under Data Setup for more information)*.

Enter the following information about the FTP server:

- **Server**
- **Port**
- **User name**
- **Password**

Then tap the **Save** button.



Download

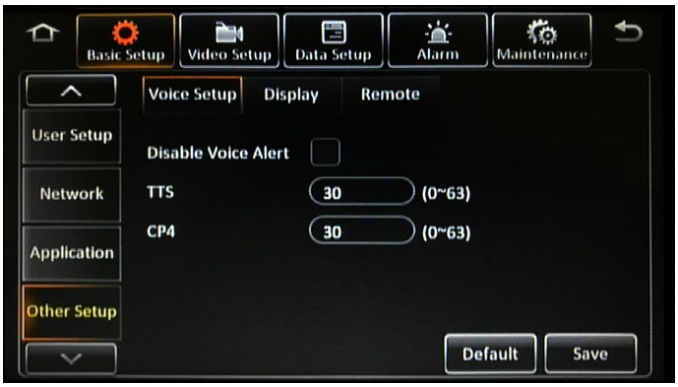
- **Auto Download Reconnect:** Select this option to enable the HVR to reconnect automatically if a download is interrupted; Enter the time to wait to retry *(between 1 and 10 minutes)*

Then tap the **Save** button.

Other Setup

Voice Setup

The Voice Setup menu configures the voice commands that are sounded when certain events happen.



- **Disable Voice Alert:** Select this option to turn off all voice notifications
- **TTS Voice and CP4 Voice:** Enter a volume level, between 0 and 63 decibels, that the voice notifications are sounded through the CP4 touch screen monitor

Then tap the **Save** button.

Display

Startup Screen Setup:

- **Preview Window:** Select this option to display live camera views on the CP4 touch screen monitor upon system startup
- **System Status:** Select this option to display the system status screen on the CP4 touch screen monitor upon system startup

Then tap the **Save** button.

Remote

- **F2 Alarm Auto Download:** Select this option to enable automatic event downloading using the F2 button on the HVR's remote control. A USB flash drive must be inserted into the USB port on the front panel of the HVR.

Then tap the **Save** button.

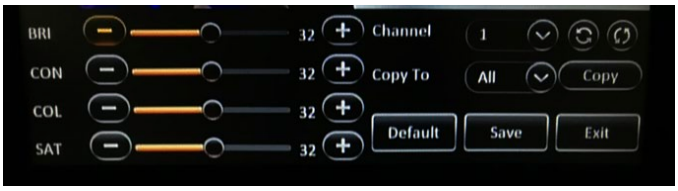
Video Setup

The Video Setup menus configure how video is displayed and recorded.

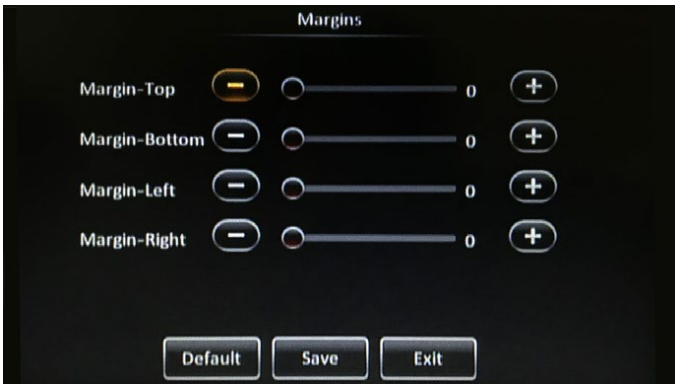
Live View

Cam Views

- **Preview Audio:** Select this option to enable audio while viewing the Live View
- **Image Setup:** Tap the Setup button to display the Image Setup screen
    - **Select a channel in the Channel field and adjust the following settings:**
        - BRI *(Brightness)*
        - CON *(Contrast)*
        - COL *(Color)*
        - SAT *(Saturation)*
    - Then tap the **Save** button
    - Select a channel in the **Copy to** field and tap **Copy** to automatically copy the same settings to additional channels



- **Margins:** Tap the Setup button to display the Margins Setup screen.
    - Adjust the space from the edge of the image to the edge of the monitor display to your satisfaction
    - Then tap the **Save** button



- **Startup screen:** Select the format of the Live View that appears automatically when the HVR starts up *(Single / Quad / 9-Split)*
- **Channel:** Select which channels appear in the Live View

Then tap the **Save** button.

Auto Loop

The Auto Loop tab allows you to program the Live View to automatically cycle through different camera channels. The screen will cycle in the order listed on the monitor.

To enable the Auto Loop feature, select the **Auto Loop Enable** option at the bottom of the screen. Tap the **Add Screen** button, or tap an existing screen's **Setup** icon to display the **Edit Screen**, and enter the following:

- **Mode:** Select 1×1 *(one channel)*, 2×2 *(four channels)*, or 3×3 *(nine channels)* for each screen that loops
- **Layout:** Select the channels that appear in each screen section
- **Duration:** Select the duration, in seconds, each screen is displayed in Auto Loop.

When finished, tap the **OK** button

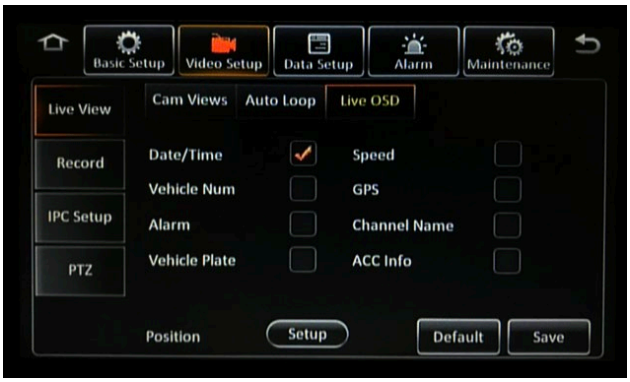
Then tap the **Save** button.

Live OSD

Select which pieces of metadata appear overlayed on the on-screen display (OSD) of the Live View:

- **Date/Time**
- **Speed**
- **Vehicle Num**
- **GPS**
- **Alarm**
- **Channel name**
- **Vehicle Plate**
- **Acc Info**

Then tap the **Save** button.

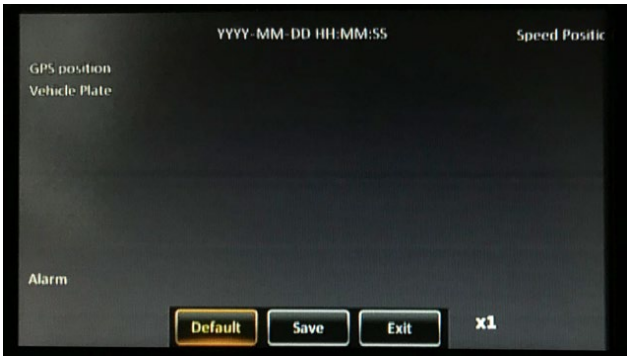


Position Setup

Tap this option to adjust the position of the previously selected metadata options on the screen. Tap and drag each metadata description to the desired location. Select **Default** to return the metadata to its default position.

Then tap the **Save** button to return to the Live OSD menu screen.

Then tap the **Save** button.



Record

General

- **Video Type:** Select either NTSC or PAL video type
- **Overwrite:** Select the option of when the primary storage device begins to overwrite:
    - **By Days:** Enter the time, between 1 and 31 days, when the HVR will begin to overwrite the oldest data
    - **By Capacity:** Once the primary storage device reaches capacity, new recordings will begin to overwrite the oldest data
    - **Never:** Select this option to prevent the primary storage device from overwriting
- **Lock duration:** Enter the time, between 1 and 31 days, that recorded files are locked, during which time the HVR is prevented from recording over them
- **Pre-Recording:** Select this option to enable pre-recording, and select an amount of time duration for pre-alarm recording; This is the amount of time included in a video recording from before the alarm was activated.
- **STR_LINK-RECORD:** *Under development*

Then tap the **Save** button.

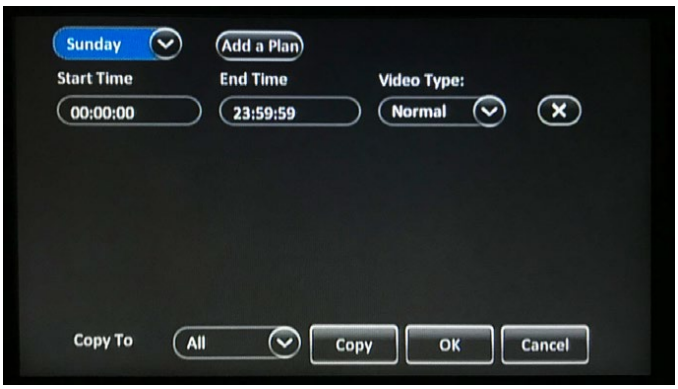
Main Stream

- **Channel:** Select a channel in the Channel field to configure
- **Channel Name:** Enter a name for the selected channel that will appear overlayed on recorded video
- **Enable:** Select this option to enable the channel; Deselect this option to disable the channel
- **Resolution:** Select the recording video resolution *(resolutions ranked in ascending order, "W" indicates "wide")*
- **Frame Rate:** Select between 1 and 30 frames per second
- **Quality (bit rate):** Select between 1 and 8, 1 being the best, for continuous recorded video quality
- **Record mode:** Select either **POWER UP** *(continuous recording begins when HVR is powered on)*; **TIMER** *(HVR records during the configured time schedule [see below])*; or **ALARM** *(records only when an alarm is activated)*
- **Audio:** Select this option to enable audio recording on the selected channel
- **I Frame:** *Under development*
- **Alarm Quality (bit rate):** Select between 1 and 8, 1 being the best, to adjust the video quality when an alarm is activated
- **Encode mode:** Select CBR or VBR video encoding

Then tap the **Save** button.

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy to** field and tap the **Copy** button. Then tap the **Save** button.

To configure the **TIMER** option, first select a day. Several time periods can be configured per day. Tap **Add a plan** to add additional time periods, and enter a **Start time** and **End time** for each of them. Complete day plans can be copied to other days by selecting them in the **Copy to** field, and tapping **Copy**.



Then tap the **Save** button.

Dual Stream

The Dual Stream page configures a dual stream recording setup, when the HVR records one video stream to one storage device, and a secondary stream can be configured to stream to another storage device or viewed live in Foresight PRO.

- **Record storage:** Select the storage device to which the second stream of data is recorded
- **Record mode:** Select from the following record mode options:
  - Mirror record (records identical data)
  - Alarm backup (records alarms only)
  - None (does not record dual stream)
  - Sub-Record (provides stream for Live View in Foresight PRO, see Sub-Record Setup below)
- **Channels:** Select which channels are recorded in the second stream

Then tap the **Save** button.

Sub-Record Setup

Tap the **Setup** button next to the Record mode field after selecting Sub-Record to display the Setup screen to configure each individual channel to be displayed in the Live View of Foresight PRO

- Channel
- Enable
- Audio
- Resolution
- Frame rate
- Quality

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy to** field and tap the **Copy** button.

Then tap the **OK** button.

Then tap the **Save** button.

OSD

Select which pieces of metadata appear overlayed on recorded video:

- Date/Time
- Speed
- Vehicle Num
- GPS
- Channel Name
- Device ID

Then tap the **Save** button.

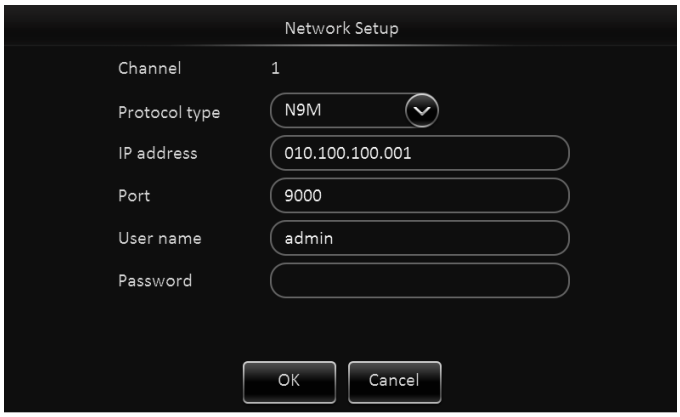
Where the metadata appears overlayed relative to its position on the screen can be adjusted. Tap the **Setup** button to display the position screen. Use your finger to drag the metadata to the location where you want it to appear. Then tap the **Save** button.

IPC Setup

The IPC menu allows you to configure IP network cameras.

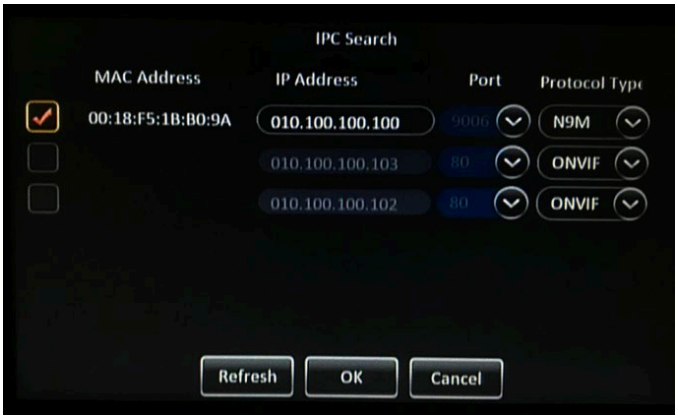
NOTE: *Users **MUST FIRST** follow the steps in **Appendix A: IP Camera Configuration BEFORE** following the steps below*

1. Select **Enable** for the channel you would like to use
2. Select the **Search** icon *(magnifying glass)* to search for available IP cameras.
   The IPC search screen appears
3. In the IPC search screen, select an available camera and select **OK**
4. Select the **Setup** icon *(icon next to magnifying glass)* for the IP camera you would like to configure. *The Network Setup screen appears*
5. Enter the following:
   - **Protocol Type:**
     - Select **ONVIF** for **45, 46, 47, 48, Gen2** and **Gen3** IP series cameras
     - Select **N9M** for **41H** IP series camera
   - **IP Address:** ***NOTE:*** *This **MUST** be the same IP address that was entered in the Device Tool application under Appendix A: IP Camera Configuration*
   - **Port:** autopopulated
   - **User Name:** *See below*
   - **Password:** *See below*
     - **45, 46, 47, 48 IP series cameras:** enter admin in the User Name field and SV123456 in the Password field
     - **41H IP series camera:** leave the User Name and Password fields blank
     - **Gen2 and Gen3 IP series cameras:** enter Admin in the User Name field and 1234 in the Password field.



Then tap **OK**.

Then tap **Save**.
(Repeat the above steps for all IP cameras)

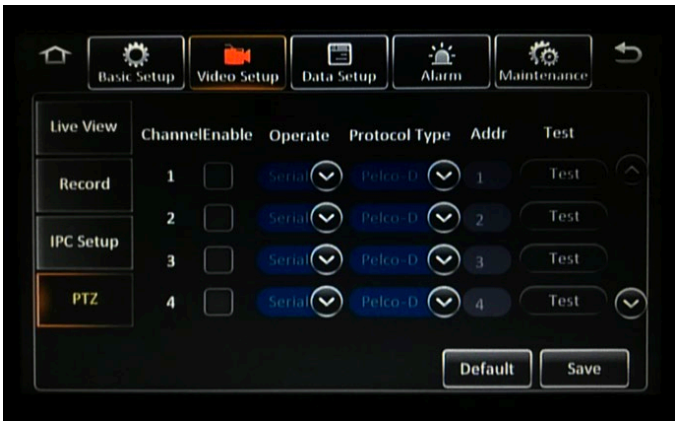


PTZ

The PTZ tab allows you to configure the capabilities of any PTZ *(pan-tilt-zoom)* equipped cameras attached. For each attached PTZ camera, configure the following:

- **ChannelEnable:** Select this option to enable PTZ functions
- **Operate:** Select Serial, N9M, or ONVIF
- **Protocol Type:** Select Pelco-D or Pelco-P
- **Addr:** Enter the numbered address of the camera
- **Test:** Eap this button after configuration to display a PTZ control menu to ensure operation is correct

Then tap the **Save** button.

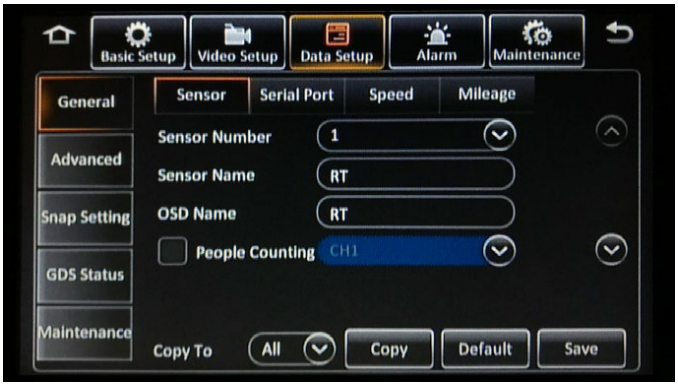


Data Setup

The Data Setup menus configure how the HVR communicates with external devices.

General

Sensor

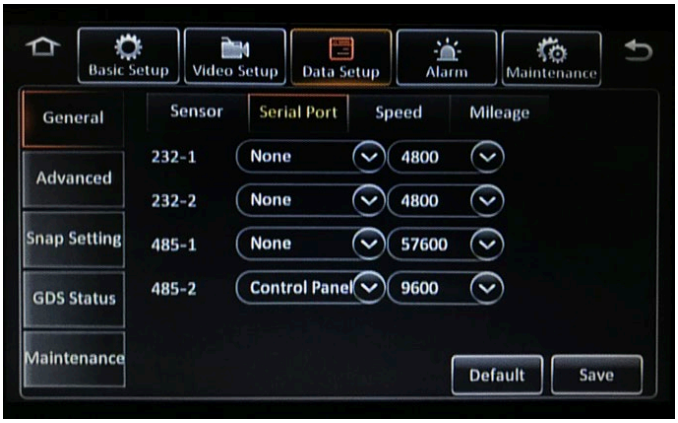


The Sensor tab configures the sensor inputs connected to the sensor harness

- **Sensor number:** Select a sensor in the Sensor number field to configure
- **Sensor name:** Enter an alphanumeric name for the selected sensor
- **OSD Name:** Enter an alphanumeric name for the selected sensor that will appear on the on-screen display when the sensor is active
- **People counting:** *Under development*
- **Trigger Source:** *Under development*
- **Sensor USES:** *Under development*

Then tap the **Save** button.

Serial Port



The Serial Port tab configures which devices are connected to the serial port. For each connection, select which device is connected *(None, Extend, Control Panel, 485 BUS, External GPS, CAN, 3Axis ACC, Green Driver, PTZ, WIFI_Trans)* and the frequency for each.

Then tap the **Save** button.

Speed

- **Unit:** Select speed to be calculated in MPH or KM/H
- **Source:** Select GPS as the source of the vehicle's speed data, (OBD and Pulse *[under development]*)

Then tap the **Save** button.

Mileage

The Mileage tab tracks the total miles the HVR has been installed in the vehicle.

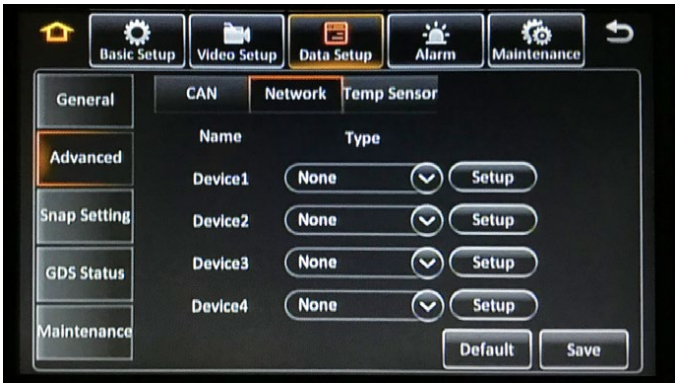
Advanced

CAN

Under Development

Network

Under development

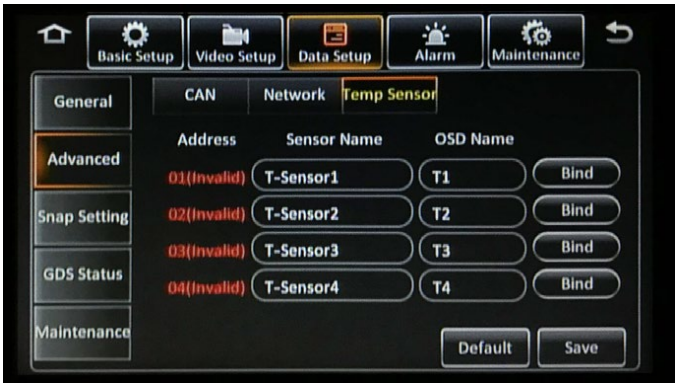


Temp Sensor

For each optional temperature and humidity sensor, enter the following:

- Sensor name
- OSD Name

Then tap the **Save** button.



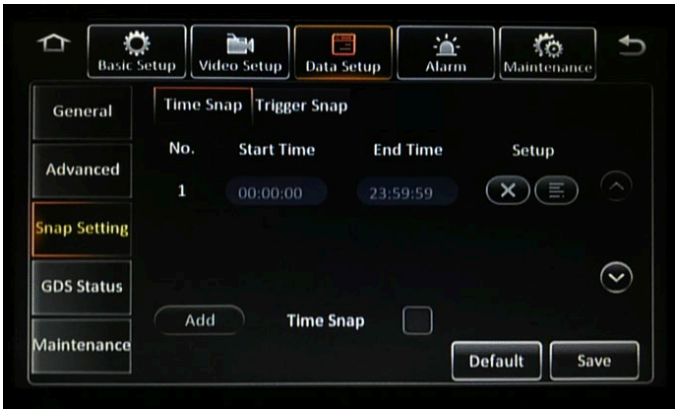
Snap Setting

The Snap Setting menu configures the snapshot feature. Still image snapshots can be taken at set intervals, instead of full motion video, in order to conserve storage space in certain applications.

Time Snap

Use the **Time snap** menu to configure snapshots to be taken during set intervals.

- Select the **Time snap** option at the bottom of the screen
- Then tap the **Add** button to add a time period
- Enter a **Start time** and **End time** for the time period
- Then tap the **Setup** icon to configure each channel *(see right)*
- Then tap the **Save** button



Trigger Snap

Use the **Trigger snap** menu to configure snapshots to be taken during alarms or manually. Tap the **Setup** button under each option to configure each channel *(see right)*.

Then tap the **Save** button.

Snap Setting Setup Screen

- **Channel:** Select a channel in the Channel field to configure
- **Snap Enable:** Select this option to enable snapshots to be taken for the selected channel
- **Resolution:** Select the resolution of the snapshots
- **Quality:** Select the quality of the snapshots, with 1 being the best
- **Upload Type:** Select FTP *(uploads the snapshots to the FTP client)*
- **Snap numbers:** Select the number of snapshots *(between 1 and 3)* taken at each interval
- **Interval:** Select the interval that snapshots are taken *(from every 5 seconds to every 3600 seconds)*

Then tap the **OK** button.

Then tap the **Save** button.

After completing all of the fields for one camera, the same configuration can be copied to other cameras. Select a camera in the **Copy to** field and tap the **Copy** button. Then tap the **OK** button.

Then tap the **Save** button.

GDS Status

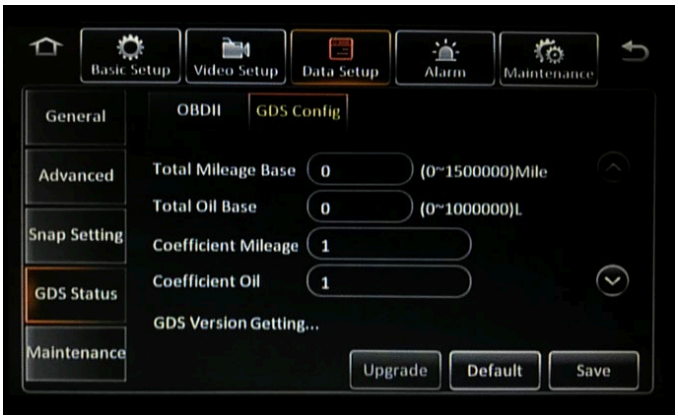
The GDS Status tab is under development at this time.

OBDII

Under Development

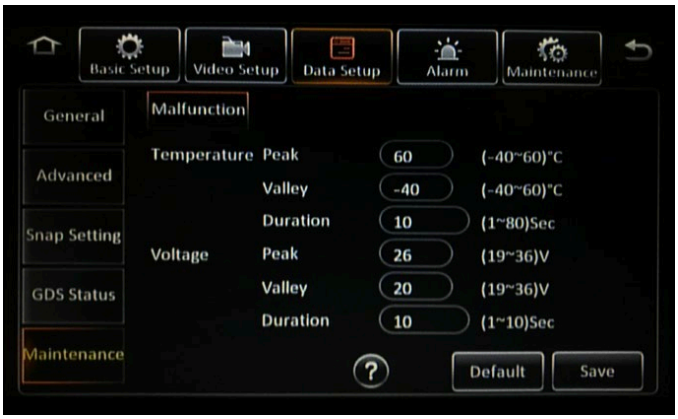
GDS Config

Under Development



Maintenance

The Maintenance tab configures typical vehicle maintenance thresholds that can appear in a central management system.



Malfunction

For both Temperature and Voltage, enter the following:

- **Peak:** enter the maximum value *(in degrees Celsius or volts)*
- **Valley:** enter the minimum value *(in degrees Celsius or volts)*
- **Duration:** enter the amount of time, in seconds, that a threshold can be surpassed before a malfunction is noted *(select the question mark icon for more details)*

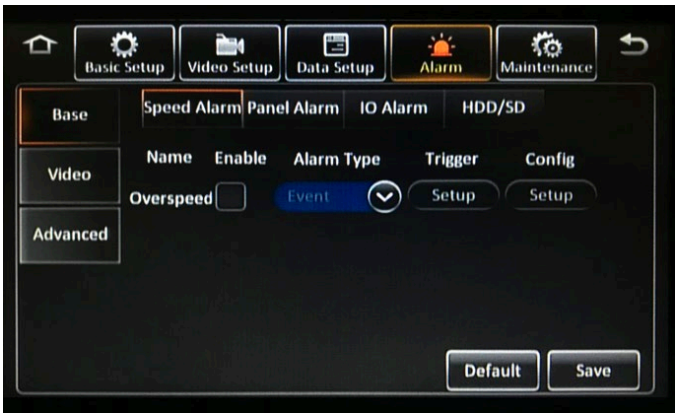
Then tap the **Save** button.

Alarm

The Alarm menus configure the various alarms and their triggers.

Base

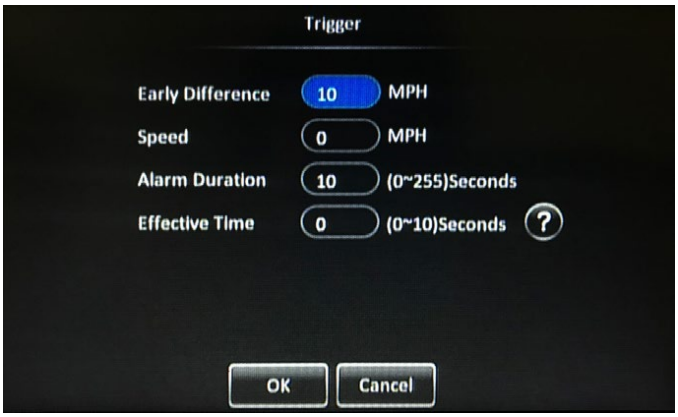
Speed Alarm



- Select the **Overspeed** option to enable speed alarms. An alarm is triggered when the configured speed is exceeded.
- **Alarm type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*
- **Config:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*

Then tap the **Save** button.

Trigger Setup



Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Speed Alarm.

- **Early difference:** Enter the MPH difference from the MPH entered in the Speed field that the vehicle can deviate from before an alarm occurs
- **Speed:** Enter the maximum speed in MPH that can be obtained by the vehicle before an alarm is triggered
- **Alarm Duration:** Enter the time *(between 0 and 255 seconds)* that the alarm records
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

Tap the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Speed Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

Panel Alarm

- Select the **Panic** option to enable panel alarms. An alarm is triggered when the 'PB' button on the SV-CP4-HYB monitor or LED panic button panel has been pressed
- **Alarm Type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*
- **Config:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*

Then tap the **Save** button.

Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Panel Alarm.

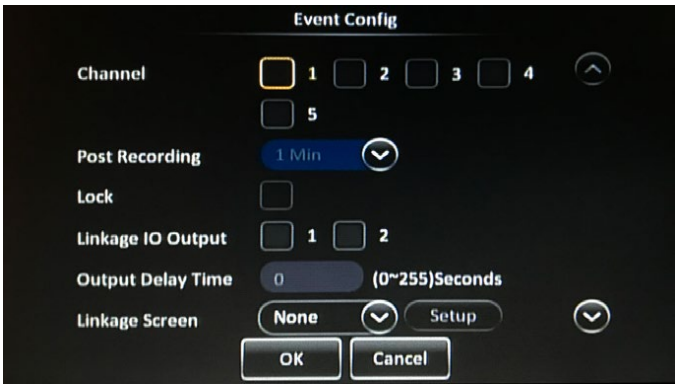
- **Any key:** Enter a time *(between 1 and 255 seconds)* that the 'PB' button on the SV-CP4-HYB monitor, or 'PANIC' button on the LED panic button panel must be pressed and held down for to trigger the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

Tap the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Panel Alarm.



- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

IO Alarm

- Select **Enable** next to each sensor to enable IO alarms. An alarm is triggered when the sensor is activated.
- **Alarm type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*.
- **Config:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*.

Then tap the **Save** button.

After completing all of the fields for one sensor, the same configuration can be copied to other sensors. In the **Copy** field, select which sensor's configuration to copy. In the To field, select which sensor to apply the copied configuration to, and tap the **Copy** button. Then tap the **Save** button.

Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the IO Alarm for each selected sensor.

- **Trigger:** Select if the sensor sends a High or Low signal
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

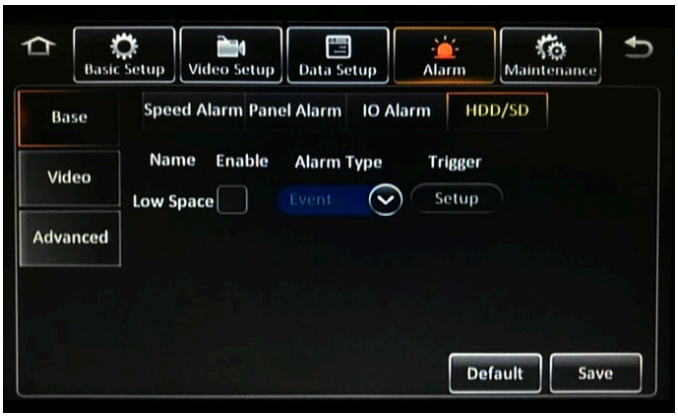
Tap the Setup button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the IO Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time (between 1 and 30 minutes) the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **3G Network: DO NOT USE**
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

HDD/SD



- Select the **Low Space** option to enable HDD/SD alarms. An alarm is triggered when the selected storage device is approaching low available space
- **Alarm type:** Select either **Sensor** *(When a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(When an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Tap the Setup button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*

Then tap the **Save** button.

Trigger Setup

Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the HDD/SD alarms.

Select the storage device you want to configure the HDD/SD alarm for *(only the storage device(s) present in the recorder will be displayed in the setup screen to configure).*

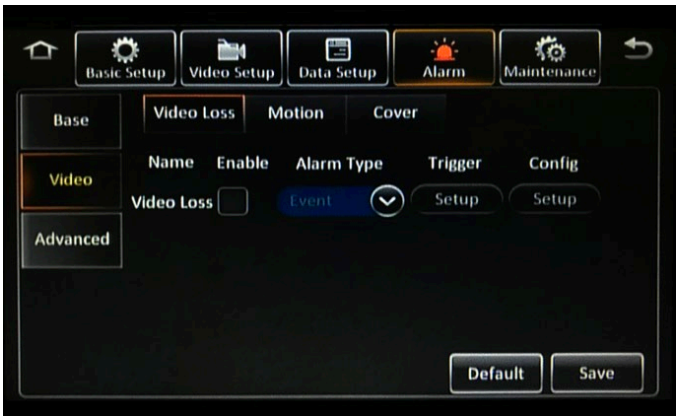
Enter a percentage (between 0% and 100%) of capacity that the selected storage device must obtain to trigger an alarm when approaching low available space.

Then tap the **OK** button.

Then tap the **Save** button.

Video

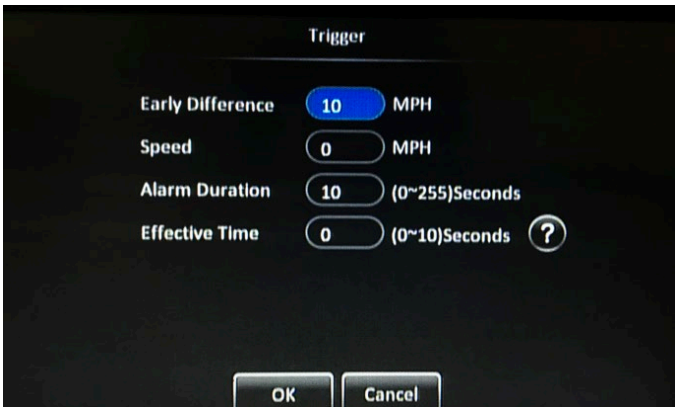
Video Loss



- Select the **Video Loss** option to enable video loss alarms. An alarm is triggered whenever video loss or camera failure is detected.
- **Alarm type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*
- **Config:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*

Then tap the **Save** button.

Trigger Setup



Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Video Loss Alarm.

- **Channel:** Select which channels the Video Loss alarm will be applied to
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

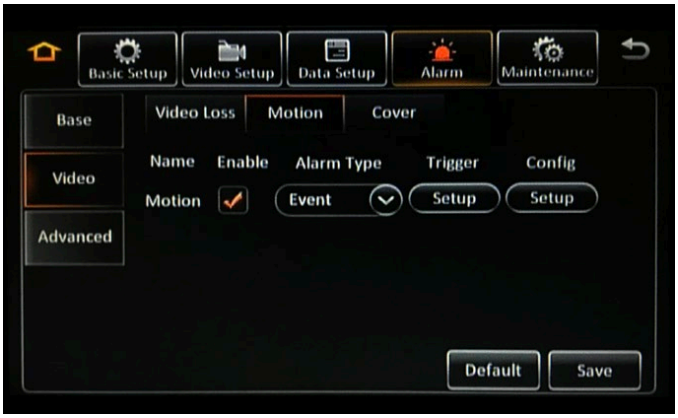
Tap the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to Video Loss Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

Motion

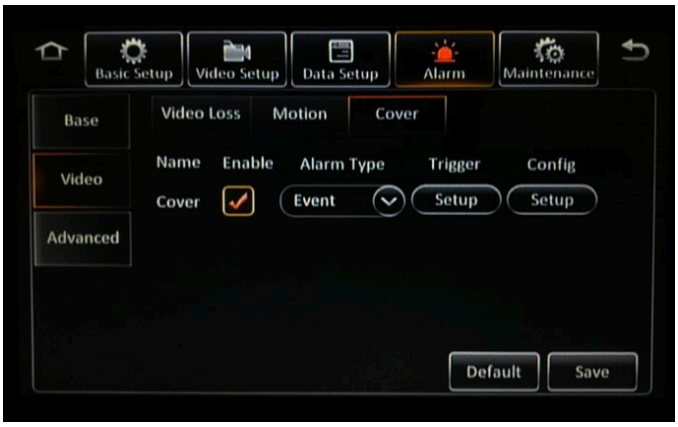


Select the **Motion** option to trigger alarms when motion is detected in the selected camera channels. During configuration, select the portion of the field of view in which motion will trigger an alarm.

Then tap the **Save** button.

Note: *Must use cameras that support motion detection only*

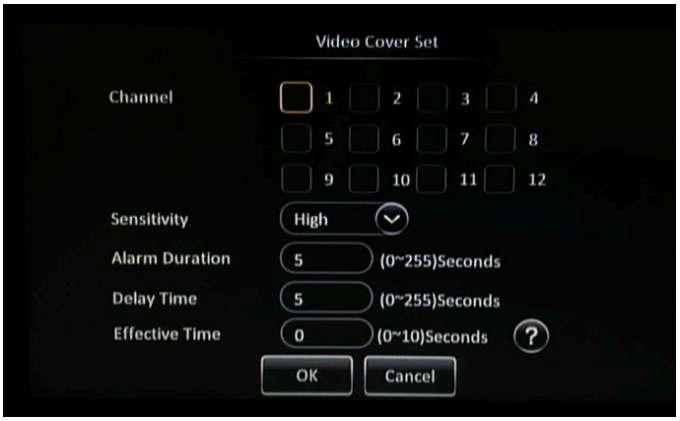
Cover



- Select the **Cover** option to enable cover alarms. An alarm is triggered when it is detected that a camera lens may have been covered or otherwise obstructed.
- **Alarm type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included)*.
- **Trigger:** Tap the Setup button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*.
- **Config:** Tap the Setup button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*.

Then tap the **Save** button.

Trigger Setup



Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the Cover Alarm.

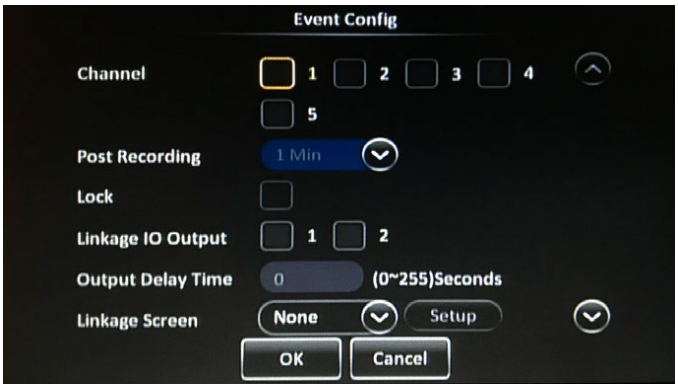
- **Channel:** Select which channels the Cover alarm will be applied to
- **Sensitivity:** Select either High, Middle, or Low sensitivity
- **Alarm Duration:** Enter the time *(between 0 and 255 seconds)* that the alarm records
- **Delay Time:** Enter the time *(between 0 and 255 seconds)* that must occur when the camera lens is covered or otherwise obstructed before triggering the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

Tap the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the Cover Alarm.



- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the Setup button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

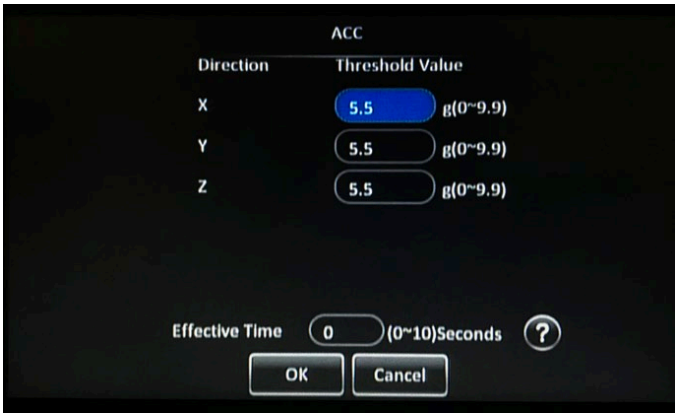
Advanced

ACC Alarm

- Select the **ACC Alarm** option to enable ACC alarms. An alarm is triggered due to shock detected by an accelerometer
- **Alarm type:** Select either **Sensor** *(when a Sensor alarm is triggered, it is recorded in video as metadata only)*, or **Event** *(when an Event alarm is triggered, it marks recorded video as 'Alarm Video' with metadata included).*
- **Trigger:** Tap the **Setup** button to configure the parameters specific to this type of alarm *(see Trigger Setup below)*
- **Config:** Tap the **Setup** button to configure the recording, monitor display and additional options specific to this type of alarm *(see Config Setup below)*
- **Calibrate:** Tap the **Calibrate** button while the HVR is still to reset the accelerometer readings to 0.0.

Then tap the **Save** button.

Trigger Setup



Tap the **Setup** button under the Trigger field to display the setup screen to configure the parameters specific to the ACC Alarm.

- Tap in each of the **X**, **Y**, and **Z** fields and enter a threshold *(between 0 and 9.9 Gs)* for each direction which when exceeded triggers the alarm
- **Effective Time:** Enter the time *(between 0 and 10 seconds)* that the alarm is effective *(select the Question Mark icon for more details)*

Then tap the **OK** button.

Then tap the **Save** button.

Config Setup

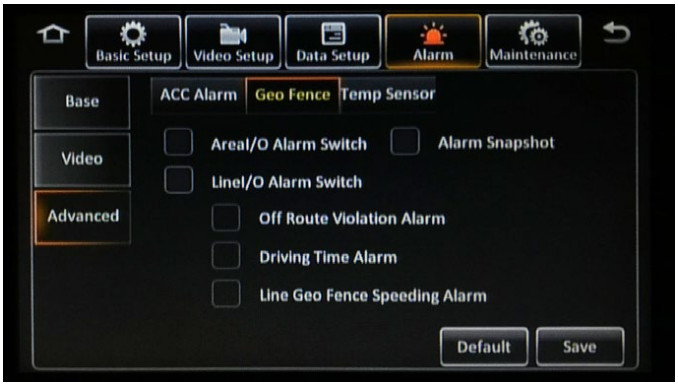
Tap the **Setup** button under Config to display the setup screen to configure the recording, monitor display, and additional options specific to the ACC Alarm.

- **Channel:** Select the channels that are recorded for the duration of this alarm
- **Post recording:** Enter the amount of time *(between 1 and 30 minutes)* the alarm records video after it is triggered
- **Lock:** Select this option to lock the video during this alarm to prevent the HVR from overwriting it
- **Linkage IO Output:** Select IO outputs 1 or 2 to be activated during this alarm
- **Output Delay Time:** Enter the amount of time *(between 0 and 255 seconds)* between when the alarm is triggered and when the IO signal is sent
- **Linkage screen:** Select the screen type that appears on the monitor while the alarm is active. Tap the **Setup** button to select the channels that appear in each screen section and the Duration *(between 1 and 300 seconds)* that it appears on the monitor
- **PB alarm duration:** Enter the amount of time *(between 0 and 255 seconds)* that the alarm occurs for, before post-recording begins
- **Alarm snap:** Select this option to capture a snap shot when this alarm is activated

Then tap the **OK** button.

Then tap the **Save** button.

Geo Fence



Select either **Area I/O Alarm Switch**, **Line I/O Alarm Switch**, or both options, to activate an alarm when the indicated geo fence is breached.

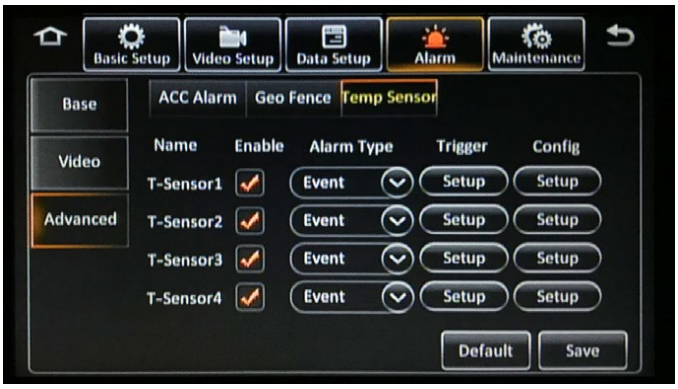
Select the **Alarm Snapshot** option to capture a snap shot when this alarm is activated.

For the **Line I/O Alarm Switch**, select **Off Route Violation Alarm**, **Driving time Alarm**, **Line Geo Fence Speeding Alarm Options**. Geo fences can be configured in the Foresight PRO software.

Then tap the **Save** button.

Temp Sensor

Under Development



Maintenance

The Maintenance menus provide access to useful tasks, such as configuration file import/export, data export, and storage device formatting.

Config

Insert a USB flash drive into the USB port on the front of the HVR and tap **Export** to download a configuration file for the HVR. The configuration file contains all of the settings on the HVR and can be copied to additional HVRs. The file is saved as config on the root directory of the flash drive.

To upload a configuration file to an HVR, insert a USB flash drive with a configuration file present on the root directory into the USB on the front panel and tap **Import**.

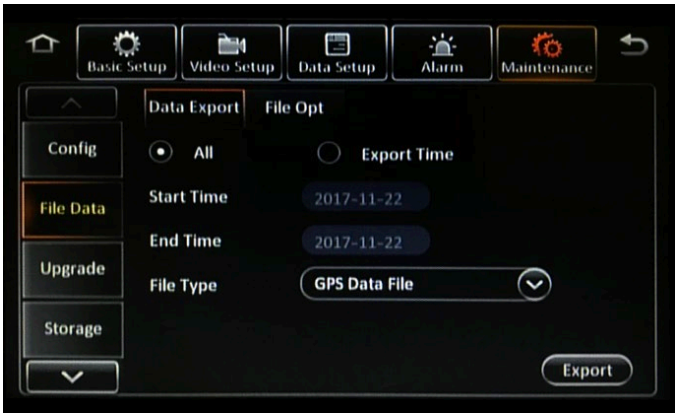
File Data

The File Data menu allows you to export certain data from the recorder for analysis.

Data Export

Select **All** to export all of the selected data available, or select **Export Time** to request only data in a specific time range. Enter a **Start time** and **End time**, then select from the following file types:

- GPS data file
- Vehicle info file
- ACC info file
- Can info file *(under development)*
- Dial Info File
- Captured picture
- Alarm log
- Operation log
- GPS Date



To export the selected data, tap **Export**.

File Opt

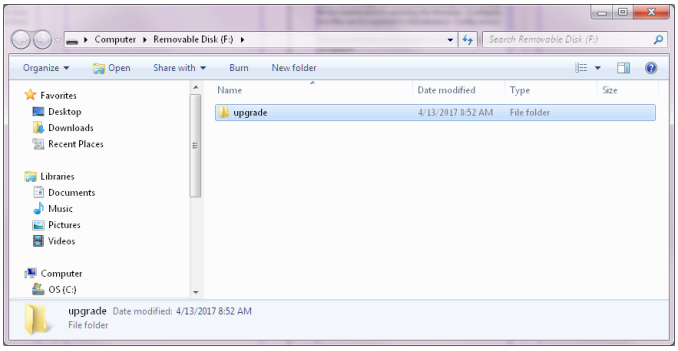
Under Development

Upgrade

The Upgrade menu allows you to update the recorder's firmware.

NOTE: *Any previously exported configuration files will need to be re-exported after updating the firmware.*

1. Obtain the firmware upgraded file from Safety Vision technical support.
2. On an otherwise blank USB flash drive, place the firmware upgrade file in a folder titled **upgrade** in the root directory.
3. Insert the flash drive into the USB port on the front panel of the HVR and tap the **Upgrade** icon next to **Device upgrade** *(to upgrade the HVR's firmware)*, **CP4 Upgrade** *(to upgrade the CP4 touch screen monitor's firmware)*, **IPC upgrade** *(to upgrade any connected IP cameras)*, or **GPS Upgrade** *(to upgrade any external GPS module)*.



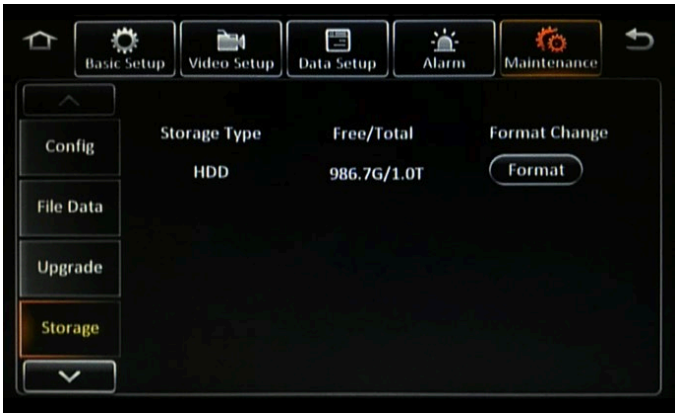
The firmware upgrade process begins automatically

Make sure HVR maintains constant power while upgrading firmware.

Storage

The Storage menu is used to format storage devices connected to the recorder and displays the ratio of free to total space available for each.

To format a device, tap **Format**.



Formatting a device erases all data, including recorded video. Use with caution.

Reset

The Reset menu allows you to reset the recorder's entire configuration to the factory default settings. To reset all settings, tap the **Reset** button.

Resetting a recorder erases all settings. Use with caution.

Tap the **Reboot** button to reboot the recorder.

Hardware

Under Development

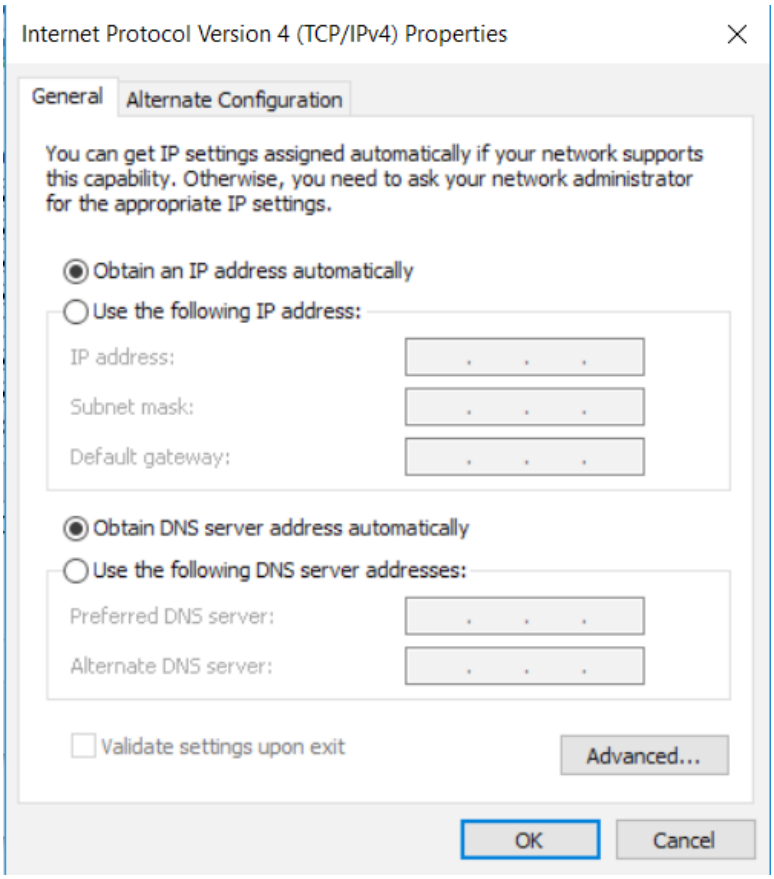
Appendix A: IP Camera Configuration

Note: *Users must first install the proper 'Device Tool' application of the IP camera for which you want to configure. (Obtain the proper 'Device Tool' application from Safety Vision technical support)*

After installing the proper Device Tool application, follow the steps below:

Connecting to the IP Camera

1. Connect the PC to the IP camera's RJ-45 port with a standard Ethernet cable.
2. Open the Internet Protocol (TCP/IP) Properties window for the LAN connection you are using.
   In Windows, open Network Connections. Right-click the LAN connection and select ***Properties****. In the list of items, select* ***Internet Protocol Version 4 (TCP/IPv4)*** *and then click* ***Properties****.*
3. Select the "Obtain an IP address automatically:" option
4. Click OK on the Internet Protocol (TCP/IP) Properties window and then click OK on the Local Area Connection Properties window.
   Your PC's IP address and subnet mask are now configured.
5. Open the Device Tool application of the IP camera, the camera will be listed in the window *(If camera does not appear, click the refresh button)*
6. Click to select the IP camera and disable the DHCP function by deselecting the "Enable DHCP" box
7. Enter the IP address, use one of the following:
   NOTE: *This will be used when configuring the IP camera via the HVR's configuration menu*
   10.100.100.101
   10.100.100.102
   10.100.100.103
   10.100.100.104
8. Enter the Admin Password *(see below)*:
   41H series cameras: leave password field blank
   45, 46, 47, and 48 series IP cameras enter: SV123456
   Gen2 and Gen3 series IP cameras enter: 1234
9. Then click Modify. *(Repeat the above steps for all IP cameras)*
10. Proceed to the Observer series Configuration Guide.



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