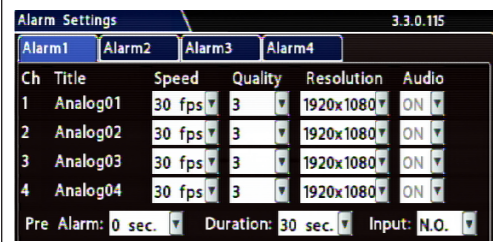


### Step 5. Alarms



From the Configuration menu, select **Alarms & I/O**→**Alarms**.

**Alarm:** Alarms 1 and 2 can be triggered by an event/alarm button. Alarms 1-4 can come from Signals or other features such as speed or GPS.

**Pre Alarm:** Optionally, select a time period prior to an alarm being triggered where recorded video and metadata are included with protected alarm data, which won't be overwritten. For more information, see Recording Settings (Advanced) in the *NH16K Install and Config Guide*.

**Duration:** Set the Duration for how long the NVR will record video flagged as an alarm for each alarm input.

**Input:** Applies to Alarms 1 and 2 only. Choose N.O. (Normally Open), N.C. (Normally Closed), or N.H. (Normally High) depending on the switch type used.

**Speed (frames/second), Quality, and Resolution:** For each alarm, select higher settings for better video while the alarm is recording.

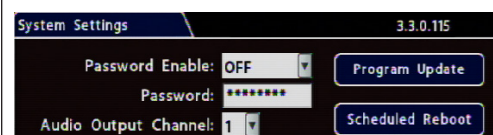
**Note:**

Speed, Quality, and Resolution settings are only adjustable for specific camera/device types. For details, see the *NH16K Install and Config Guide*.

**Audio:** When audio is normally disabled, set ON to enable audio for the Alarm Duration period.

Click **Back** twice to save settings and return to the Configuration menu, then click **Network**.

### Step 7. System



**Password Enable:** Leave OFF unless instructed otherwise.

**Password:** If enabled, this password is required for non-Admin users to access the local NVR UI.

**Audio Output Channel:** Select the audio channel that will be available from the audio RCA port on the front of the NVR.

**Diagnostic Indicator:** If installing an RGY Button or RGY Illuminator, select which one.

**Language:** Select the language for the local NVR UI and vMax Web.

**Scheduled Reboot/Reboot Now:** Configure a time-of-day for the recorder to reboot, or reboot immediately.

Click **Program Update**.

### Advanced Configuration Options

**Alarms & I/O**→**Signals:** configure signal inputs and the actions they generate.

**Alarms & I/O**→**Speed:** record vehicle speed or trigger notifications for excessive speed.

**Network**→**User Levels:** create NVR user logon profiles and assign passwords to enable remote access with various permission levels.

For more information about these settings, please see the *NH16K Install and Config Guide* on the Safe Fleet Community Web site.

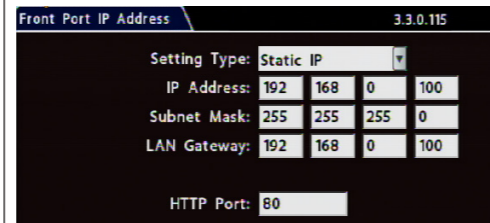
### Warranty

For full warranty information, visit [www.seon.com/documents/Seon-Warranty.pdf](http://www.seon.com/documents/Seon-Warranty.pdf).

### Technical Support

Toll free telephone 1.844.899.7366 Email: [PTsupport@safefleet.net](mailto:PTsupport@safefleet.net)

### Step 6. Network



From the Configuration menu, select **Network**→**IP Addresses**→**Front**.

**Setting Type:** Leave at default **Static IP** setting.

**IP address:** used to communicate with the NVR over the network with vMax Web. Leave at default setting unless instructed by the customer.

**HTTP Port:** typically, leave set to **80** unless instructed by IT personnel.

**Notes:**

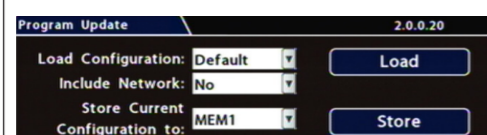
If Smart-Reach Mobile Wi-Fi equipment or a Smart-Reach Cellular modem is installed, click **Network**→**IP Addresses**→**Wifi/Modem** to configure communication parameters. For more information, see the *NH16K Install and Config Guide* and the Smart-Reach documentation available on the Safe Fleet Community.

If the IP information is changed and saved in a configuration file for upload to other NVRs, their settings will have to be updated as well. For more information, see "NVR Configuration Uploads" in the *NH16K Install and Config Guide*.

**If the system uses Commander or Depot Manager:** contact Technical Support for assistance with setup.

Click **Back** to save settings and return to the Configuration menu, then click **System**.

### Step 8. Load Config File, Format Drive



**Store Current Configuration:** Select **USB Device** as the file-saving destination. Plug a USB memory device into the front of the NVR. Click **Store** to save the file on the USB memory device.

**Load:** For details on uploading configurations to the recorder, see "NVR Configuration Uploads" in the *NH16K Install and Config Guide*.

**Update:** Delivers a firmware update to the recorder, network switch, or a connected IP camera from an image file stored on a USB device. Select **DVR**, **Switch**, or **IPC**, then click **Update** and navigate to the image file:

**DVR or Switch :** The device reboots when updates are done.

**IPC:** Click a numbered tab at the top of the screen to update firmware on the camera connected to the selected port, then click **Update**.

**Format:** Format the hard drive and SD card (if installed) when the configuration is complete and tested and before final delivery of the installation to the customer.

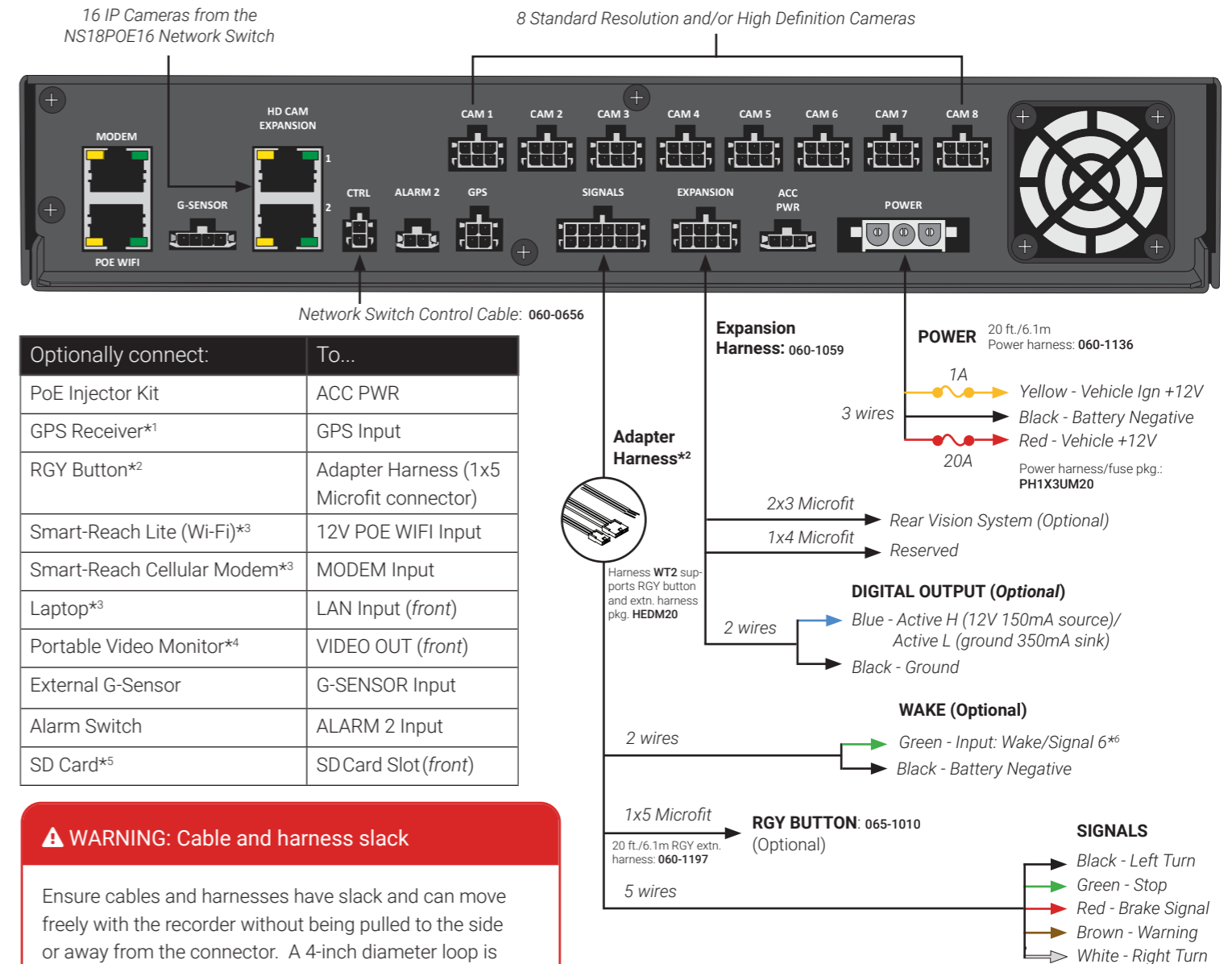
Click **Back** twice to save settings and return to the Configuration menus.

# NH16K NVR System

# Quick Installation Guide

This Quick Installation Guide is a basic install and setup reference for the recorder. Review it completely before proceeding. **The NH16K system also requires installation of the network switch** (Safe Fleet NS18POE16 - see the *16-Port Network Switch Installation Guide*, part #700-1156). **Third-party switch gear is not supported, and may inhibit proper operation.** Please visit the Safe Fleet Community at <https://community.safefleet.net> for the latest product details and full installation instructions.

Typical System Setup: The NH16K supports a maximum of 16 channels:



Optionally connect:	To...
PoE Injector Kit	ACC PWR
GPS Receiver*1	GPS Input
RGY Button*2	Adapter Harness (1x5 Microfit connector)
Smart-Reach Lite (Wi-Fi)*3	12V POE WIFI Input
Smart-Reach Cellular Modem*3	MODEM Input
Laptop*3	LAN Input (front)
Portable Video Monitor*4	VIDEO OUT (front)
External G-Sensor	G-SENSOR Input
Alarm Switch	ALARM 2 Input
SD Card*5	SD Card Slot (front)

**WARNING: Cable and harness slack**

Ensure cables and harnesses have slack and can move freely with the recorder without being pulled to the side or away from the connector. A 4-inch diameter loop is normally sufficient.

**WARNING: Noise suppression**

Do not use the output of a noise suppression solenoid as a recorder ignition or power source. If no true ignition or power source can be readily found, consult the bus schematic bus or manufacturer to locate a proper source.

**WARNING: Automatic drive formatting**

Storage media might not be recognized on recorders running different firmware. By design, unrecognized media automatically formats when inserted into a recorder, so recording can commence. Customers who swap cartridges between recorders should ensure each recorder has the same firmware version.

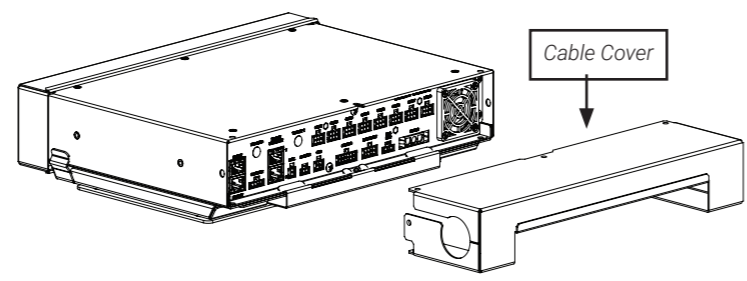
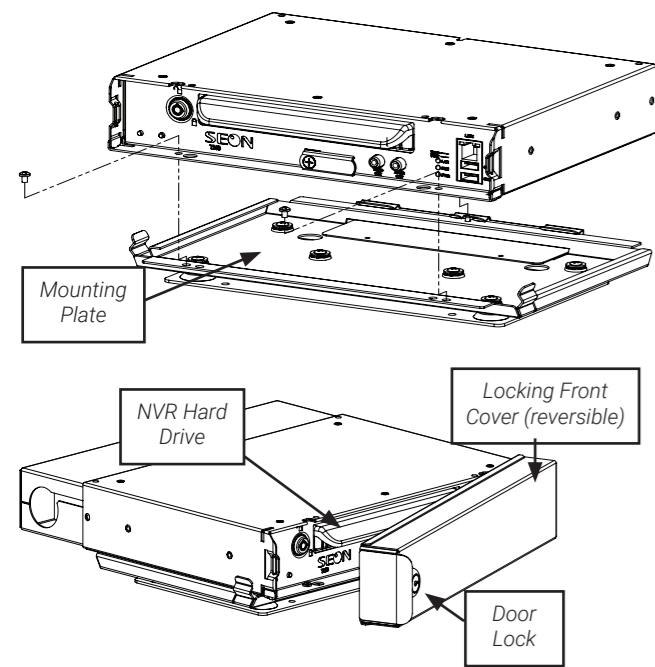
### Notes (\*)

- For speed tracking, use a GPS receiver.
- The RGY Button is optional, and requires the WT2 adapter harness and the RGY extension harness (part# 060-1197).
- An optional Smart-Reach Wi-Fi bridge or Smart-Reach Cellular modem can be connected to the rear panel 12V POE WIFI/MODEM ports, and a laptop can be used from the Ethernet output on the front panel.
- An optional Video Monitor can be used from the video outputs located on the front panel.
- Use Safe Fleet-approved cards only.
- Wake/Signal 6 Input, active high (5-32V edge-triggered)

# NVR Installation

The NVR is designed for horizontal installation (i.e. on top of the mounting plate).

**Do NOT install the NVR upside down or vertically.**



**⚠ WARNING:** Do not install the NVR in a location where the unit is exposed to excessive heat or moisture.

Installation close to extreme heat or moisture voids the product warranty. Route wiring and cables away from sharp edges that might damage insulation. Avoid sharp bends in cables.

When in doubt, contact the support team before connecting the NVR to other equipment in the vehicle.

## Powering up the System

Turn on the vehicle ignition to power up the NVR. When the **PWR** LED shows green and the **HDD** LED flashes green, the NVR is operating normally and recording.

## NVR Menu Setup

Depending on installed options, NVR menu settings must be updated for the system to operate properly.

To access NVR menu settings:

1. Connect a portable video monitor to VIDEO OUT on the NVR front panel.
2. Plug a USB mouse into the USB mouse port on the NVR front panel.
3. Right-click anywhere on the live camera views to access NVR menus. Return to live camera views after updating menus.



**💡 TIP: 9-up and 16-up camera views**

Live camera feeds appear in a 9-up (3x3) grid. Tiles display according to assigned channel number (sequentially from top-left to bottom-right). If more than 9 channels are enabled on the NVR, the live display switches to a 16-up (4x4) grid. For more information, see Step 4.

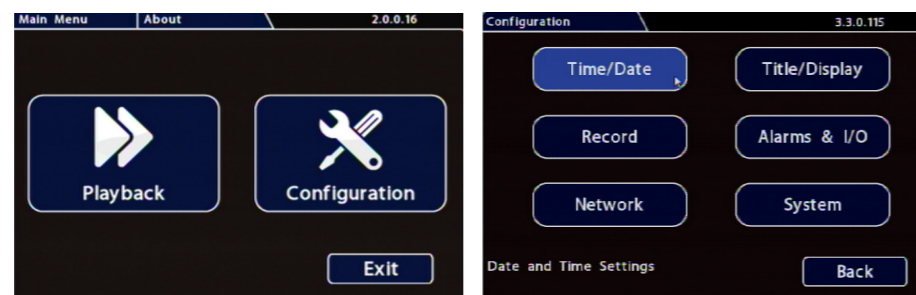
## NVR Menu Settings

This section covers only the basic menu options required to get your NVR working. For full menu details, see the *NH16K Install and Config Guide* on Safe Fleet Community.

### Accessing Configuration Screens

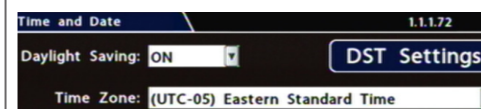
With a portable video monitor and mouse connected, power up the NVR. When live camera views appear:

1. Right-click anywhere to display the NVR **Main Menu**.
2. Click Configuration to access the **Configuration** menu.



## Basic NVR configuration

### Step 1. Date & Time



**Daylight Saving:** Leave **On** and at default dates unless in an area that does not use daylight savings (ex: Arizona, Saskatchewan).

**Time Zone:** Select the time zone.

**Time Format:** Choose 12 or 24 hour display.

**Time:** Input the correct time.

**Date Format:** Select the date format.

**Date:** Input the date.

**GPS Time Sync:** If GPS is installed, set this **On** to have system time automatically updated when satellites are detected.

Click **Back** to save the menu settings and return to the Configuration menu. Click **Title/Display**.

### Step 3. Record

**Repeat Record:** Leave **On** for the hard drive to record over the first recordings when it is full.

**Record-On Delay Time:** Leave at default to let the bus voltage settle after the bus starts up, to prevent voltage drops affecting the recorder.

**Record-Off Delay Time:** Set to 10-20 minutes to keep the NVR and cameras on after the ignition turns off to record the bus post-trip check.

**Power-Off Delay Time:** This starts up after Record Delay Off time ends. If Wi-Fi is used, set to 2 hours or more. If no Wi-Fi, leave at default.

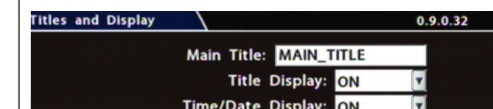
**Enable Dual Drive:** Set **ON** if 2 drives are installed.

**Record2:** Leave at 5 FPS unless instructed otherwise.

**Smart Stop:** When enabled, the NVR starts counting down the selected duration when the vehicle's ignition turns off, to reduce battery drain. For details, consult the NVR's installation guide.

Click **Camera** to access camera settings.

### Step 2. Titles and Display

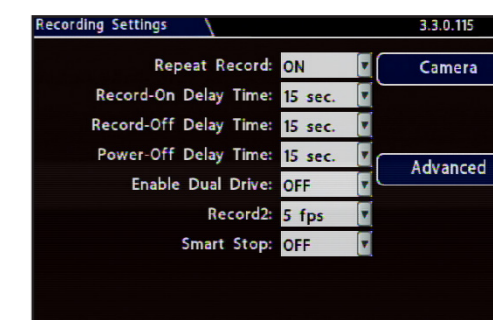


**Main Title:** Enter the bus number.

**Title Display:** Leave **On** to overlay Main Title and Camera Name on video images in live and recorded views (see "Camera Views", below). If you want to remove a text overlay (**Titles, Time/Date, Record Status, System Data, Metadata, Internal Temperature Units**) to reveal more of the video image, set its **Display** value to **Off**.

Click **Back** to save the menu settings.

In the Configuration menu, click **Record**.



### Step 4a. Analog Cameras (click the Analog tab)

**Ch:** Leave at default settings unless you need to customize camera display locations in Live and Playback views.

**Source:** If red font is displayed, a camera is not connected to the corresponding port, or the connected camera type does not match the current selection; choose the appropriate setting for the connected camera type as required.

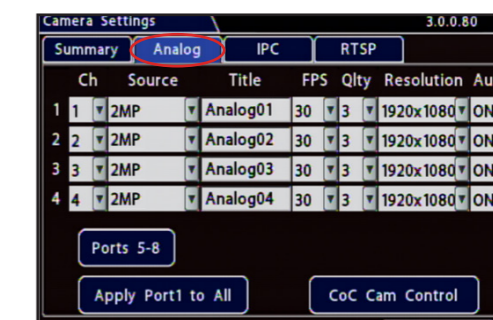
**Title:** For each camera, enter a title that describes the view it records, such as: *Front, Step, Mid, or Rear*. Titles display here as well as on the camera view overlays.

**FPS:** Leave the channel speed at default settings unless you have special requirements.

**Qty:** Leave at default settings unless you have special requirements.

**Resolution:** Leave the channel resolution at default settings unless you have special requirements.

**Audio:** Leave **ON** for interior mounted cameras. Turn **OFF** for exterior-mounted cameras.



### Step 4b. CoC Cam Control

Some cameras are equipped with IR (Infrared) LEDs that illuminate automatically in low light conditions.

**To turn off IR** (e.g. for a forward-facing camera) or **configure Backlight settings**:

Select **Camera Settings**→**Analog**→**CoC Cam Control** and use the Configuration Main Menu.

For details on disabling IR, and information on other CoC options, consult your camera's *Quick Installation Guide*.

**⚠ IMPORTANT**

For both analog and IP cameras, set unused camera **FPS** speeds and **Audio** to **OFF**, so the NVR will not generate video loss events.

### Step 4c. IP Cameras (click the IPC tab)

**Note:** To enable the **IPC configuration tab**, **NS18POE16** must be selected in the **Network**→**Port Functions** screen dropdown menu for the rear-panel Ethernet port connected to the network switch. For more information, see the *NH16K Install and Config Guide* on the Safe Fleet Community.

**Ch:** Select an IP camera feed display location for Live and Playback views.

**Type:** if red font is displayed, select the appropriate camera model from the list.

Adjust **Title, FPS, Qty, Resolution,** and **Audio** settings as required (these function the same for analog and IP cameras).

Click **Back** to save settings.

