

# NH16v2 NVR Hybrid

## 16 Channel Network Video Recorder with Hybrid Technology

Record up to 16 IP channels or mix with High-Definition analog or standard resolution cameras.

Meet today's coverage demands with high quality images and valuable extras such as built-in GPS with antenna, automatic capture of speed, acceleration, and geo-fencing alarm events, and remote health monitoring via hardware and software options.



### Highest Resolution with Full Frame Rate

Supports resolutions up to 3Mpx at 30 FPS on each IP camera channel and uplift to 4K resolution on up to 4 channels.

### Flexible Hybrid Technology

Supports IP plus full high-definition (1080p), high-definition (720p), and standard definition analog cameras.

### Remote Diagnostics

Remote diagnostic indicator provides DVR status (includes video loss) to the vehicle operator and advanced DVR health diagnostics are available on VMS software.

### Media Options

Up to 8TB SSD primary storage (4TB HDD) with optional solid state backup storage options up to 1TB.

### Companion Network Switch

16-Port PoE switch auto-assigns addresses, manages power, detects wire faults, and reports status to recorder.

### Tested Tough for Road & Rail Vehicles

SAE-J1455, MIL-STD-810, EN50155, & EN50121 tested for electronics used in heavy duty road and rail vehicles (includes shock, vibration, voltage fluctuations, and more).

### Recommended Cameras:

#### Analog Options:



HD2Q Interior Dome



HD3Q Interior Dome



HD3U Interior Camera



HD3W Outdoor Wedge

#### IP Options:



C3Q9 Interior Mini Dome



C3W9 Outdoor Wedge



C8Q2 4K



C12F2 360°

#### Accessories:



Event/Diagnostic Button



Hard Drive Dock III



GPS



G-Force Sensor

### Optional Add-ons:



Wi-Fi auto-download & Video management



Live GPS Tracking



Live Video Streaming

1.877.630.7366  
safefleet.net

SAFE FLEET  
Driving Safety Forward™

# NH16v2 NVR Hybrid

## 16 Channel Network Video Recorder with Hybrid Technology

Video	
<b>Recording Channels</b>	16 Active Channels Max, 16 IP via Switch, 8 Analog Hi-Def Built-In, One audio per active video channel
<b>Analog Video</b>	Main: Up to 720p at 30 FPS Main: Up to 1080p at 30 FPS (120 FPS Max, Shared) Second: Up to 5 FPS all channels
<b>IP Video</b>	Up to 2048x1536 (3Mpx) at 30 FPS on each channel
<b>4K Support</b>	Up to 4 IP channels at 3840x2160 (8Mpx)
<b>Quality Settings</b>	Adjustable, 4 levels
<b>Codec</b>	H.264
<b>Auto Overwrite</b>	Selectable On/Off
<b>Display Modes</b>	1UP, 9UP, or 16UP
<b>User Interface</b>	Web UI: Config & Live View Local UI: Config, Live View, Playback, Export, Search
<b>Delay On/Off</b>	Record On Delay ≤1 hr., Record Off Delay ≤1 hr., Power Off Delay ≤4 hr.
<b>On-Screen Display</b>	Main title, time & date, record & system status
<b>Dual Stream Transmission</b>	Transmit main or second stream live video with audio over optional broadband (cellular) network
Storage	
<b>Primary</b>	Removable Single or Dual Drive Storage Cartridge Capacity up to 8TB SSD (4TB HDD)
<b>Backup</b>	Up to 1TB SD Card (Optional)
Inputs & Outputs	
<b>Network Ports</b>	Front: 1 at 1Gbps, unpowered Rear: 3 at 100Mbps, 48V PoE (802.3af) Rear: 1 at 1Gbps, 48V PoE (802.3af) Rear: 2 at 1Gbps, unpowered
<b>Monitored Inputs</b>	11 (7 Signals + 1 Wake + 3 Alarm)
<b>Video Out</b>	1 Front with Audio, 1 Rear Video Only
<b>Status Indicators</b>	3 LED on DVR + Optional Diagnostic Indicator
<b>Signal Out</b>	1 at 12V, 100ma max
Wireless	
<b>GPS</b>	GPS module built-in with RF antenna included
<b>Wi-Fi</b>	Optional, external wireless device connects to dedicated 1Gbps network port
Smart Features	
<b>Smart-Temp™</b>	Ensures the DVR stays at its optimal operational temperature
<b>Smart-Start™</b>	Vehicle startup voltage protection safeguards DVR from electrical spikes
<b>Smart Stop™</b>	Shuts down DVR if download activity is complete (requires Commander)
<b>Temp Power</b>	Turns on DVR for short duration maintenance activities
<b>Inertia Sensor</b>	3 axis external G-sensor option
Electrical	
<b>Voltage Range</b>	9 to 36 VDC Operating
<b>Transient Protection</b>	600 W for power input, 400 W per signal input
<b>Configuration Backup</b>	Time & programmed info (retained up to 7 years)

Mechanical/General	
<b>Dimensions</b>	(H x W x D) 2.8x 11.6x 10.5 in (72 x 294 x 267 mm)
<b>DVR Weight</b>	6.6 lbs. (3 Kg) with front door and rear shroud
<b>Locking Front Door</b>	Restricts access to user interface ports and media
<b>Rear Shroud</b>	Added protection for rear ports and connectors
<b>Primary Storage Lock</b>	Restricts access to media removal
Electrical	
<b>Voltage Range</b>	9 to 36 VDC Operating (20A Max draw)
<b>Standby Power</b>	60mW
<b>PoE Port Rating</b>	802.3at (12.95W at powered device) 30W shared across all PoE ports
Environmental	
<b>Operating Temperature</b>	HDD: -30 to 50°C (-22 to 122°F) SSD: -40 to 60°C (-40 to 140°F)
Approvals	
<b>Emissions</b>	FCC (Title 47, Part 15, 47 CFR 15) and EN50155
<b>Shock, Vibration, &amp; Electrical</b>	SAE-J1455, MIL-STD-810G, EN50155 for Heavy Duty and Rail Vehicles
<b>Environmental</b>	RoHS, WEEE
Specifications – Plus System	
<b>Signals</b>	7 external signal inputs + 3 internal signals
<b>Alarms</b>	4 actions triggered by a signal or alarm input
<b>Wake</b>	Starts DVR directly into record mode
<b>Diagnostic Indicator</b>	Remote DVR status display
<b>Event Button</b>	2 alarm inputs, each adds an event mark to video
<b>Location, Speed, Time</b>	Sync time and record vehicle location and speed (GPS antenna required)
<b>Geo-fencing</b>	Trigger alarm if vehicle exits geo-boundary
<b>SuperCaps</b>	Protects against video loss in case of sudden power loss

### Network Switch Specifications

Ethernet	
<b>Ports</b>	2 Gbps Uplink Ports, unpowered 16 100Mbps Ports, 48V PoE, 802.3at (subject to output power limits)
<b>Technology &amp; Protocol</b>	Store and Forward, CSMA/CD
<b>Switch Capacity</b>	16 Port @ 100Mbps + 2 Port @ 1Gbps
Electrical	
<b>Voltage Range</b>	9 to 36 VDC Operating (12A Max draw)
<b>PoE Port Rating</b>	802.3at (12.95W at powered device)
<b>Output Power Limits</b>	86W with 12V Source, 112W with 24V Source
<b>Control Input</b>	0 - 4VDC = OFF / 4.1V - 33.6VDC = ON
Mechanical/General	
<b>Dimensions</b>	(H x W x D) 2.8x 11.6x 10.5 in (72 x 294 x 267 mm)
<b>Weight</b>	5.1 lbs. (2.3 kg)
Environmental	
<b>Operating Temperature</b>	HDD: -30°C to 50°C (-22°F to 122°F) SSD: -40°C to 60°C (-40°F to 140°F)
Approvals	
<b>Emissions</b>	FCC (Title 47, Part 15, 47 CFR 15) and EN50155
<b>Shock &amp; Vibration</b>	SAE-J1455, MIL-STD-810G, EN50155 for Heavy Duty and Rail Vehicles
<b>Environmental</b>	RoHS, WEEE

Information is subject to change at any time without notice.

1330-NH16V2-HYBRID-NVR-SS-001723

Copyright ©2022 Safe Fleet and its subsidiaries. All rights reserved. No part of this publication may be reproduced by any means without written permission from Safe Fleet. The information in this publication is believed to be accurate. However, Safe Fleet does not make any representation or warranty to that effect and does not assume responsibility for any consequences resulting from use of such information. Revisions or new editions of the publication may be issued (or not issued) in our discretion to incorporate such changes.

1.877.630.7366  
safefleet.net

SAFE FLEET  
Driving Safety Forward™