

# 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

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## 16 Channel Network Video Recorder with Hybrid Technology

<b>Video</b>	
<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
<b>Storage</b>	
<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)
<b>Inputs &amp; Outputs</b>	
<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
<b>Wireless</b>	
<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
<b>Smart Features</b>	
<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
<b>Electrical</b>	
<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)

<b>Mechanical/General</b>	
<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
<b>Electrical</b>	
<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
<b>Environmental</b>	
<b>Operating Temperature</b>	HDD: -30 to 50°C (-22 to 122°F) SSD: -40 to 60°C (-40 to 140°F)
<b>Approvals</b>	
<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
<b>Specifications – Plus System</b>	
<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

<b>Ethernet</b>	
<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
<b>Electrical</b>	
<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
<b>Mechanical/General</b>	
<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)
<b>Environmental</b>	
<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)
<b>Approvals</b>	
<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-041723

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