VX1848-V3 Network Storage Datasheet

VX1848-V3

Overview

VX1848-V3 , with high performance, high reliability, high density, high scalability and high usability, is a new-generation unified network storage developed especially for video surveillance. Integrating a range of features such as iSCSI storage, RAID processing, permanent data protection and cutting-edge disk management technology, this device offers concurrent block access performance (iSCSI) ,and thus to be a comprehensive solution to storage in video surveillance.

Features

- Intelligent RAID Engine (ISET)
- Convenient RAID application
- The RAID can be used immediately after being created. The system automatically initializes at the background.
- Free from the impact of abnormal RAID status
- The performance of storage devices usually deteriorates in the case of RAID degradation. The Intelligent RAID Engine technology can be a shield against the impact of abnormal RAID status on services to ensure the normal operation of front-end monitoring services.
- Free from the influence of concurrent reading/writing
- The IOPS multiplies when concurrent reading and writing occurs on a disk. The Intelligent RAID Engine technology can be a shield against the impact of video recording and playback to ensure the normal operation of front-end services.
- Cache algorithms for videos
- Optimized read/write cache management algorithm, greatly improving access performance and extending the lifespan of HDDs.

- SSD Cache
- The use of SSD Cache can be greatly improving access performance of hot data
- Dynamic adjustment of reconstruction speed
- The system adjusts the reconstruction speed automatically based on the system conditions to reduce the impact of RAID reconstruction on services and to improve the effective utilization of system resources.
- Super Error Correction (SEC)
- Automatic disk inspection and repair
- The unique hard disk fault-tolerant processing algorithm ensures service continuity even when multiple disk errors exist in the array. Fault sectors can also be automatically repaired.
- Fast disk reconstruction
- Data can be copied to a hot spare disk within a short period. This substantially reduces the read I/O of disk, speeds up the reconstruction, and avoids data loss.
- RAID superblock backup
- Array composition is not affected when data in a certain sector cannot be read. In addition, damaged data can be repaired by using the backup sector to improve array reliability.
- Data Protection
- Data safe box
- Online embedded UPS protection and data safe box are provided to ensure secure writing of cache data into data safe box at unexpected power-off without data loss.
- Disk pre-copying
- Pre-detection of failure is implemented to transfer data from risky disk to the hot spare disk.
- Disk protection
- Once a disk error is detected, the disk repair process would automatically start. Data in the failed disk is recalculated from other disk in the array to remap the bad blocks of disk.
- Link protection
- Link aggregation and dynamic failover ensure the read/write bandwidth without affecting the availability of data channels.
- Three Dimensional Linear Expansion
- Seamless expansion based on LUN resources
- Multiple 4*12Gbps Mini SAS HD interfaces for back-end expansion.
- High-Quality Hardware Design
- High density
- The innovative enclosure with 4U height that holds up to 48 disks, is space-saving
- Carrier-class applications with high availability
- The application of Intel 64-bit server platform architecture, 64-bit multi-core processor, DDR5memory, and 64-bit storage OS ensure

excellent service continuity by providing stable and reliable data access. The system availability reaches up to 99.999%.

- Watchdog
- The system would be forced into the security mode in case of a failure. High-speed cache data is stored in the data safe box. Storage media in the data safe box can roam to the new system together with the array disk. The system can be recovered securely and conveniently.
- Dual BIOS
- When the active BIOS fails to start, the system automatically detects the failure and switches to the standby BIOS. This ensures reliable system startup and BIOS update.
- Redundant power supplies
- The hot-swappable power supply is designed in redundancy and load balancing mode. Automatic power switching in case of failure and online replacement of failed power supply are supported.
- Overload protection
- The mechanism of hardware overload protection is provided. When the temperature reaches the protection threshold, the system automatically turns off to protect the disk data.
- When CPU and memory malfunction or reach the protection threshold, the system automatically sends alarm messages through mails, short messages, and SNMP Trap.
- Power protection
- Disk powered on sequentially during system startup, protection from impulse current.
- Multistage fan speed and energy saving
- Fans with multistage speed are configured in the hot-swappable frame in redundancy mode. System power consumption can be balanced intelligently with heat dissipation calculation to ensure low power consumption and stable operation of the system.
- Convenient maintenance
- Functions as indicator alarm, mail alarm, SNMP Trap alarm and SMS alarm are supported.
- Automatic startup after unexpected power-off, and timed startup and shutdown are also available.
- The environmental monitoring function allows the monitoring of the utilization of network interface and CPU, the querying of the access of LUN and RAID, as well as the management of device voltage and temperature. In this way, administrators can comprehensively inspect system operation condition and reasonably allocate resources to maximize the device performance.
- Green Technology and Energy Conservation
- Selected power supplies with high PF and conversion efficiency
- Intel CPU with cutting-edge process technology and advanced architecture
- Particularly selected chips with low power consumption for service model of video surveillance
- Unique simplified design of board
- Reduced component type and quantity, under the affirmatory premise of the function, performance and reliability
- Multistage fan speed
- Several temperature sensors are configured and built inside to intelligently control the fan speed.

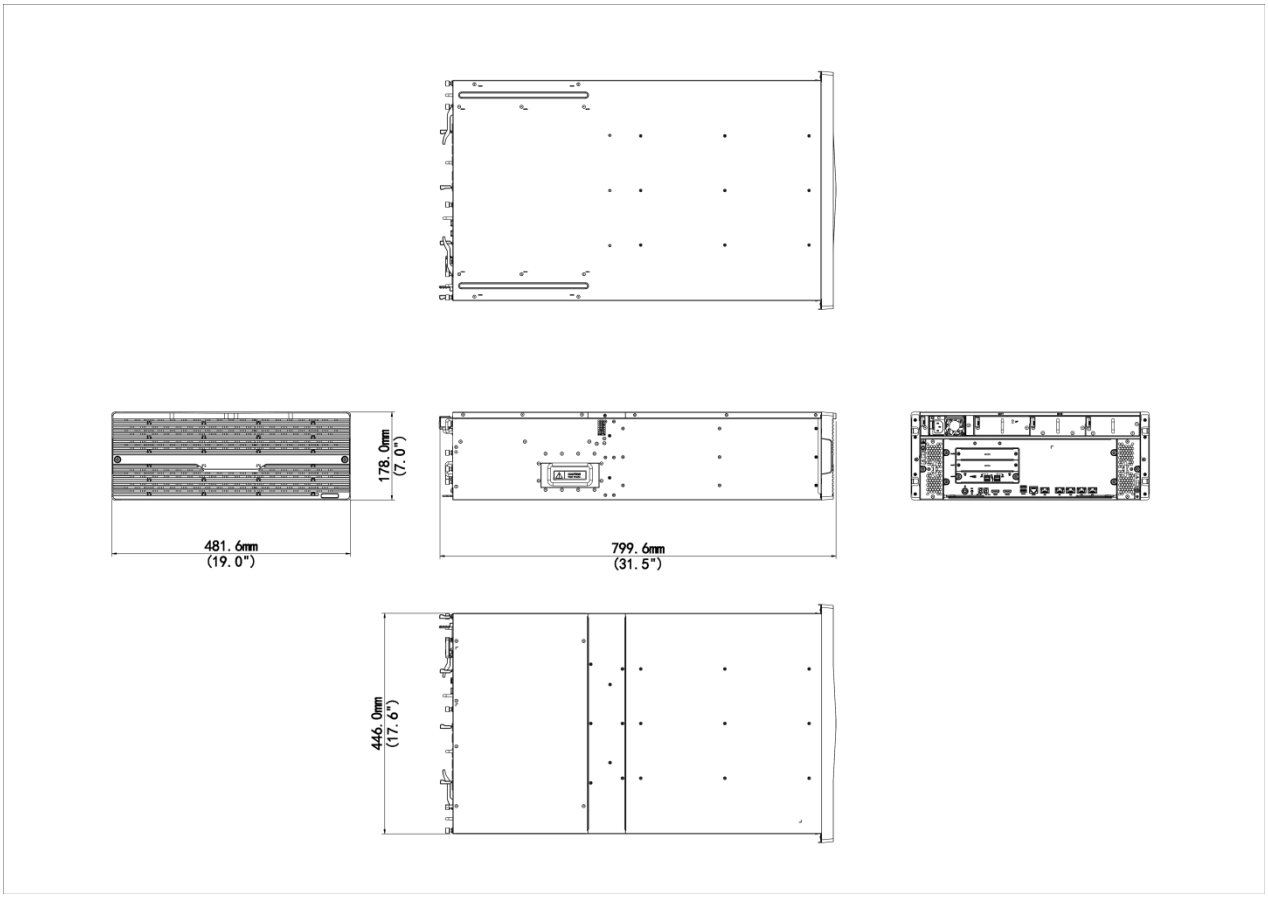
- Hibernation for unoccupied disks
- Intelligent cache design
- Reasonably sort and buffer the read/write data by intelligent algorithm reduce the disk read/write times, and reduce the hard disk power consumption.

Specifications

Model	VX1848-V3
Module	
Controller number	1
CPU	Intel 64-bit multi-core processor
Memory	8 GB, up to 128 GB
Power module	1 default, 1 optional
Battery module	1 default, 1 optional
Fan module	2
Power Supply	100 V – 127 V/ 200 V – 240 V AC, 60 Hz/50 Hz
Power Consumption	Controller enclosure :<800 W (fully configured)
Weight	Controller enclosure :Fully configured：< 69 kg
Dimension	Controller enclosure: 179mm X 477mm X801mm Note：for standard cabinet with 1000mm depth or above 1.6mm×589.0mm
Authentication certificate	CE, FCC, CB, RoHS, WEEE
Operating temperature	5 °C~40°C / 41 °F ~ 104 °F, (10°C~ 35°C / 50 °F ~ 95°F Recommended)
Performance	
IPSAN Mode	512-channel (1024Mbps) recording, 51-channel (102Mbps)playback
Video Mode	512-channel (1024Mbps) recording, 512-channel (1024Mbps) forwording, 51-channel (102Mbps)playback
Interface	
Front-end Service Interface	5-port 2.5GE interface 4-port 2.5GE interface module（optional） 2-port 10 GE SFP＋ interface module（optional） 4-port 10 GE SFP＋ interface module（optional）

Back-end Expansion Interface	Expandable 2-port 4*12 Gbps Mini SAS HD（optional）
PCIe slot	3
HDMI	2
USB	2
Serial port	1
HDD slot	48
Function	
RAID	JBOD and RAID 0,1,10, 5, 50,6 Dedicated hot-spare disk and global hot-spare disk
Protocol	iSCSI, NFS, SMB, FTP,AFP
Host Connection	Up to 2048
Maximum Number of Logic Resources	2048
Alarm	Indicator alarm, mail alarm, SNMP Trap alarm, and short message alarm

Dimensions



Accessories

ND-HD-S-48

48 Disk Slots Single Control Storage Hdd Kit

LIS-NI-HDD Authorization-IN

Hdd Authorization Host License

FB-IN4GA-V3-NB

4 Port 2.5 Gigabit Ethernet Interface Module

FB-IN2XG-V3-NB

2 Port 10Gb Ethernet Interface Module

FB-IN4XG-V3-NB

4 Port 10Gb Ethernet Interface Module

NI-MEM8G-DDR5-UDIMM-NONECC-NB

Memory Upgrade Package UDIMM DDR5 Non 8GB

NI-MEM16G-DDR5-UDIMM-NONECC-NB

Memory Upgrade Package UDIMM DDR5 Non 16GB

NI-MEM32G-DDR5-UDIMM-NONECC-NB

Memory Upgrade Package UDIMM DDR5 Non 32GB

NI-HD6000V-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Surveillance SATA Hard Disk(Seagate 6TB*2)

NI-HD8000V-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Surveillance SATA Hard Disk(Seagate 8TB*2)

NI-HD4000V-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Surveillance SATA Hard Disk(Seagate 4TB*2)

ND-HD6000V-A-S-WD

UNV 48 Disk Slots Single Control Storage,Integrative Surveillance SATA Hard Disk(WD 6TB*2)

BAT-LA5800

Lead-acid Battery Module

NI-HD4000E-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Enterprise SATA Hard Disk(Seagate 4TB*2)

NI-HD6000E-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Enterprise SATA Hard Disk(Seagate 6TB*2)

NI-HD8000E-A-S-ST-01

UNV 48 Disk Slots Single Control Storage,Enterprise SATA Hard Disk(Seagate 8TB*2)

ND-HD010TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 10TB*2)

ND-HD016TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 16TB*2)

ND-HD018TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 18TB*2)

ND-HD020TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 20TB*2)

ND-HD012TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 12TB*2)

ND-HD016TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 16TB*2)

ND-HD6000E-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 6TB*2)

ND-HD018TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 18TB*2)

ND-HD8000E-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 8TB*2)

ND-HD4000E-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 4TB*2)

ND-HD010TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 10TB*2)

ND-HD020TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 20TB*2)

ND-HD014TE-A-S-TB

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Toshiba 14TB*2)

ND-HD018TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 18TB*2)

ND-HD016TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 16TB*2)

ND-HD014TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 14TB*2)

ND-HD012TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 12TB*2)

ND-HD010TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 10TB*2)

ND-HD8000E-A-S-WD

UNV 48 Disk Slots Single Control Storage,Integrative Enterprise SATA Hard Disk(WD 8TB*2)

ND-HD020TE-A-S-WD

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(WD 20TB*2)

ND-HD014TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 14TB*2)

ND-HD012TE-A-S-ST

UNV 48 Disk Slots Single Control Storage Integrative Enterprise SATA Hard Disk(Seagate 12TB*2)

ND-HD6000E-A-S-WD

UNV 48 Disk Slots Single Control Storage,Integrative Enterprise SATA Hard Disk(Western Digital 6TB*2)

DE1848-V2

48 Network Storage Disk Enclosure Unit

PWR-800A-AC-NB

800W AC Power Module

Ordering Info

Product Model	Description
VX1848-V3	48 HDD Network Storage Device

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