



At a glance

Camera channels: typically 128 IP
 Hard drives: up to 12 x 3.5"
 Storage capacity: up to 120TB
 IP throughput: up to 1,200Mbps/s
 PSU: Dual PSU as standard
 Failover ready*
 HyperRAID™ ready (up to N+5 redundancy)*
 EcoStore™ HDD spin-down ready*



V-Series Network Video Recorders (NVRs)

Wavestore **V-Series** NVRs deliver an enterprise recording, management and control solution for large size projects that demand mission-critical reliability. Typically, at least 128 network cameras can be connected to each NVR, which are supplied with pre-installed Wavestore's Video Management Software (VMS). Throughput of 1,200Mbps/sec is provided with multiple network interfaces to segregate incoming and outgoing network traffic. Ports can be bonded to provide fault-tolerance and maintain high-performance at all times.

Housed in a rack mountable 2U case, **V-Series** NVRs come complete with dual power supply as standard and can accommodate up to 12 x 3.5" hot swappable hard drives to provide up to 120TB of storage. In a typical installation, this can deliver more than 45 days continuous real-time recording from 128 Full HD cameras with RAID5 redundancy.**

Choose your Wavestore VMS channel license level

V-Series NVRs are compatible with all four levels of Wavestore's VMS: Base, Premium, Enterprise and Ultimate, which offer a broad range of capabilities and features to ensure the right solution for any given application.

Server Groups

Multiple **V-Series** NVRs, as well as other Wavestore NVRs and HVRs, can be configured into a server group of up to 255 units* to satisfy large and distributed installations via a single Graphical User Interface (GUI).

Failover

V-Series NVRs are failover ready and can be used to protect your live viewing, recorded data and configuration in the event of hardware failure on a primary NVR. Should this occur, the failover server will automatically take the place of the primary NVR by applying the same configuration and continuing to display and record video, all without any operator intervention. Failover is available at Wavestore VMS Enterprise channel license level

and above.

HyperRAID redundancy and EcoStore energy saving

V-Series NVRs are compatible with Wavestore's HyperRAID™ technology as standard, providing options of RAID5/RAID6 (N+1/N+2) at Wavestore VMS Premium or Enterprise channel license levels, or up to an industry leading N+5 at Ultimate channel license level. EcoStore™ is also provided at Enterprise channel license level and above, which can save over 80% of HDD energy by spinning down drives not in a read or write state.

Warranty

All **V-Series** NVRs are supplied with a full three-year return to base hardware warranty, extendable to five-years.

Pre-installed with Wavestore Video Management Software (VMS)

Whether you are looking for a video only application using a mix of camera technologies, including 360° fisheye and 4K, or a fully integrated solution with third-party providers for Access Control, Video Analytics, Intruder Detection and more, it is possible to create best-in-breed total security solutions that meet exacting specifications for the end-customer with Wavestore's ONVIF conformant truly open-platform VMS.

Coupled with a flexible and cost-effective license model, additional cameras or functionality can easily be added at a later date without disruption to the existing system. What's more, there's no recurring support contracts to sign up to and technical support is free of charge.

Wavestore's WaveView and WaveView Mobile clients

WaveView is Wavestore's free of cost client software which delivers an intuitive interface designed to offer full, yet simple, control of total security solutions. Authorised WaveView client devices can simply access individual or

grouped Wavestore NVRs to give users full control of their security system.

The WaveView Mobile application adds mobile viewing capability enabling operators to view and control their system from iOS or Android devices.

WaveView's leading search and playback capabilities allow operators to quickly review recorded images via an intuitive play bar, providing instantaneous access to exactly the right image from any point in time from the recorded data, even over large amounts of stored data.

Export of video evidence

In just three mouse clicks, operators can export clips from multiple cameras simultaneously to a variety of file formats or create a storyboard of events with a sequence of cameras, including virtual PTZ control of 360° fisheye cameras. Authentication and encryption of video and audio content are also supported.

Key Features

- Highly secure VMS embedded into the Linux Operating System (OS)
- Up to 4096bit encryption with comprehensive cyber-security package provided as standard
- Fully ONVIF conformant and truly open-platform
- Compatible with the world's leading camera brands and video formats
- Compatible with a wide range of camera technology including UHD, 4K, HD, 360° fisheye, panoramic, thermal, HD over analogue and analogue
- Comprehensive third-party integration capability across Intelligent Video Analytics, Access Control, Intruder Detection and other technologies*

* These features are available from the NVR/HVR but are dependent on the Wavestore VMS channel license level to operate. Please check specifications prior to ordering.

** Typical expected figures; please make sure the calculations for your specific camera and site requirements are completed before ordering.

TECHNICAL SPECIFICATION	V-Series
Channels & throughput	
Typical no. IP channels	128
Max. built-in analogue channels	-
Typical no. audio channels	128
Max. IP throughput	1,200Mbps/sec
Compression formats	H.265, H.264, MJPEG, MPEG-4, MxPEG and JPEG2000
Typical video storage rate	1600 FPS
Operation	
Operating system	Linux (VMS embedded)
Operating system drive	64GB SATA DOM
CPU	Intel Xeon E3-1220v6
RAM	8GB DDR4 ECC
Graphics card	On-board
Connectivity	
Network interfaces	4 x Gb NIC
USB ports	2 x USB 2.0 2 x USB 3.0
Monitor outputs	VGA
Alarm I/O module	Optional
Keyboard and mouse	Yes (not supplied)
Wavestore VMS	
Pre-installed with Wavestore's VMS	Yes
Wavestore VMS channel license compatibility	All levels
VMS configuration restore points	Yes
Multicast support	Yes
Automatic camera discovery and camera group set-up	Yes
WaveView Client	
Local client use	Setup only
Remote client use	Yes
WaveView Mobile compatible	Yes

Popular configurations:

V212-24PU4-HR-4G-NA-D11	2U rack-mount NVR, 24TB storage, 1,200Mbps, HyperRAID and EcoStore ready, dual PSU, 3-year warranty
V212-60PU6-HR-4G-NA-D11	2U rack-mount NVR, 60TB storage, 1,200Mbps, HyperRAID and EcoStore ready, dual PSU, 3-year warranty
V212-120PU12-HR-4G-NA-D11	2U rack-mount NVR, 120TB storage, 1,200Mbps, HyperRAID and EcoStore ready, dual PSU, 3-year warranty

Rear Panel Connections:

- VGA monitor connection (for set-up only)
- Network interface Ports 0,1,2,3
- 2 x 3.0 USB ports
- 2 x 2.0 USB ports
- Dual mains input

Build your V-Series NVR:

Series	Form Factor	Max No. of HDDs	Storage fitted (TB)	Drive type fitted	No. of HDDs fitted	RAID ports	No. of NICs	Analogue channels	Power supply	CPU options	Graphics options
V	2 (2U)	12	From 6TB to 120TB in multiples of 6TB, 8TB or 10TB	PU (Surveillance grade) GD (Enterprise grade)	1 to 12	HR (HyperRAID ready) R40 (4 int. 0ext.)	4G (4)	NA (none)	D (dual)	1 (standard)	1 (standard)

Channel licenses sold separately



Email: info@wavestore.com

Visit: wavestore.com

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GLOBAL HQ (EMEA)

Wavestore Global Ltd.

Tel: +44 (0) 1895 527 127

USA/CANADA

Wavestore Americas Inc.

Toll-free: 855-526-8887



MIDDLE EAST

Wavestore Middle East

Tel: +971 (4)881 2903

TECHNICAL SPECIFICATION	V-Series
Storage and Hard Drives (HDDs)	
Max. number of HDDs	12
Min. internal storage	6TB
Max. internal storage	120TB
HDD type	Surveillance grade (standard) Enterprise grade (option)
Hot swap HDD bays	Yes
EcoStore™ HDD spin-down compatible*	Yes
Redundancy	
RAID*	HyperRAID (RAID5/6, N+1/2) HyperRAID Plus (up to N+5)
Dual PSU	Yes
Failover compatible*	Yes
Physical	
Form factor	2U rackmount
Dimensions (D x W x H)	647mm x 483mm x 89mm
Weight (with 1 HDD fitted)	16.4kg (approx)
Weight (each additional HDD)	Approx. 750g
Operating temperature range	5°C to 40°C 41°F to 104°F
Operating relative humidity (non-condensing)	20% - 80%
Power	
Power input	100-240v AC 50/60Hz
Power consumption with 1HDD	100W typical
Power consumption (each additional HDD)	9W typical
Warranty	
Standard warranty	3-year return to base
Extended warranty	Up to 5-years