Watch**NET**®
SECURITY SINCE 2000

4K

NDAA Compliant · 4K UHD H/W DECODE · 4K UHD DISPLAY · H.265 SUPPORT · Linux · intel Inside™

ENX-128HPR

Embedded Linux High Performance NVR
Resilient & Scalable (with Redundant PSU)

RAID · SATA · H.265 · Hot Swap · eMap · 2X HDMI · 2X

Superb 4K Hardware Decode & 4K Local Display
- Support up to 12 MP (4K UHD) IP Camera
- Dewarp Full HD Panomorph IP Cameras
- Liveview Display Modes: 1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 16, 20, 25, 30, 32, 36, 42, 49, 56. 64, 5+1, 12+1, Full Screen, Sequential Mode
- Marvelous PC-less Solution:
- Dual Display, Mirror Display, Target Display, eMap Display
- Audio Out Option Between 2 Screens
- Liveview Instant Playback
- Two-way Audio via USB Type Sound Adapter
- Moving speed adjustment for ONVIF PTZ camera
- Auto-mute Mode for Idle Cursor

Real-time Remote Monitoring
- Built-in Mini-CMS Server (up to 256-channel)
- Built-in NVR Relay Server
- Liveview Instant Playback
- Multi-window Operation
- Quick Navigation with Dynamic E-Map
- Region of Interest (ROI): Monitor 5 or 7 Regional Images from One High-resolution Camera

Megapixel Real-time Video Recording
- Up to 288TB Storage Capacity
- S.M.A.R.T HDD Health Monitoring
- Connect up to 4 iSCSI Servers for Storage Expansion
- Up to 12 Megapixel Recording Resolution
- Support 120 FPS Camera Recording
- Camera Group Recording: Assign Video Keeping Days for Each Camera
- Event Smart Recording for Always Recording
- Schedule Snapshot: Automatic Snapshot of All Selected Cameras

Powerful Event and Action Management
- Detection of Device Connection Lost, External Events and Camera Motion/IVA
- Notification via Liveview Pop-out Window, Email, SMS, Buzzer and External Devices
- Configuration-Free Alarm Notification for HDD Error/Failed
- Chain Event to Have Accurate Event Notification
- Intuitive Event & Action Summary

Multi-channel Playback
- Maximum 16-channel Playback Simultaneously
- Remote Multi-NVR Playback & Smart Search
- Event Instant Playback on Liveview and E-Map
- Bookmark: Mark Incident Moment for Quick Tracking
- Data Search: Explore Event & Meta-Data in a Smarter and More Efficient Way
- Time-divided Search: Quickly Find the Key Frame to Export Related Video and Snapshot
- Export Video with Watermark
- Export Video with OSD Displayed

Advanced and Reliable Security System
- Stable and Secure Linux-embedded System
- Two User-defined Storage Volume Modes:
- Multi-RAID Storage Volume & Single HDD Storage Volume
- Hot Swappable HDD Design
- 5 Steps Quick Configuration
- White/Black List for IP Range
- Detailed Log Information
- 4 Smart Access Ways:
- Anonymous Access, Reboot Auto Access, Timeout Auto Access, and Active Directory (AD) Access
- Flexible User Privilege Management
- NVR Failover and System Monitoring
- Auto Power Resume after Power Shortage
- Built-in SNMP Server to Central Monitor NVRs' Status
- Manage and Configure PoE Switches on NVR

Diverse Backup Methods
- NVR Edge Backup, Become NVR Backup Server: Schedule/Manual
- 4 External Devices for Video Backup (Schedule/ Manual): USB Device, NAS and FTP server
- Export Files from Remote and Local Playback
- Export Files with Free-Installation Video Player
- Event Backup to External FTP: Video Clip & Snapshot

Comprehensive Compatible Ability
- Support H.265/H.264/MJPEG/M-PEG4/MxPEG
- Support 120+ Brands and 7000+ IP Cameras
- Support ONVIF Profile S & T/Generic RTSP & MJPEG
- Support Uninterruptible Power Supply (UPS)
- Integrated POS Terminals for Transaction Surveillance
- Integrated Access Control Server
- Integrated Modbus Analog I/O-Digital I/O Box Server
- Integrated IP Video Door Intercom Server

SYSTEM

CPU	Intel Ultra-high Speed CPU
HDD TRAY	16 (Hot-swappable)
Maximum Capacity	Up to 288 TB (16 x HDD 2.5"/3.5" SATA II/III or SSD)
LAN Port	2 x 2.5 Gigabit Ethernet
USB Connector	6 x USB 3.2 Gen 1x1 (front 2, rear 4)
Video Output Connector	2 x HDMI 2.0a
GPIO	4-in, 4-out
Certification	FCC, CE, VCCI, BSMI, C-TICK
Operation User Interfaces	(1) Local display monitoring/playback/setting (2) Remote Client with login shortcut (3) Mobile App: Android and iOS
Operating System	Linux-embedded
Disk Management	Linear (JBOD), RAID 0/1/5/6/10
Max. Storage Volume	Up to 16 volumes (Global Hot Spare)
Operating Temperature	0～40°C (32°F~104°F)
Operating Humidity	5%~95% R.H.
Power Supply	External power adaptor, 600W Dual Input power voltage: 100V to 240V AC
Power Consumption	152W~178W
H/W Dimensions	133.4 (H) x 481 (W) x 551.5 (D) mm 5.25 (H) x 18.93 (W) x 21.71 (D) inch
Supported Languages	Bulgarian, Croatian, Czech, Dansk, Deutsch, Dutch, English, Finnish, French, Indonesian, Italian, Japanese, Korean, Hebrew, Hungarian, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Thai, Turkish, Traditional Chinese, Vietnamese

LIVEVIEW

H/W Decode Max Resolution per Channel	Resolution up to 8MP (4K UHD) (H.265 & H.264)
Display Resolution	(1) HDMI 2.0 display port (HDMI·): 3840 x 2160 (4K UHD), 1920 x 1080 (Full HD), 1024 x 768 (XGA) (2) HDMI 2.0 display port (HDMI−): 1920 x 1080 (Full HD), 1024 x 768 (XGA)
H.265 & H.264 H/W Decode Max. FPS in Single Page	• In 3840 x 2160 (4K) display: 4K (8MP): 240 FPS, Full HD: 540 FPS, HD:960 FPS, CIF:1600 FPS (64CH) • In 1920 x 1080 (Full HD) display: 4K (8MP): 270 FPS, Full HD: 780 FPS, HD: 1080 FPS, CIF: 1920 FPS (64CH)
Two-screen Display (HDMI 2.0 x 2)	(1) Mirror display: monitor the same cameras at two sites (2) Dual display: monitor more cameras on two monitors (3) Target display: focus on key areas during video playback (4) eMap display: monitor cameras with a detailed map information
Liveview Control	PTZ Panel, PTZ Patrol, Auto Focus, Digital zoom in/out, Audio, OSD settings, Snapshot, Auto/Manual stream change, Instant playback, ROI, Two-way audio6, Panomorph
E-Map	Multi-layer maps, Double-click to pop-out video window, Pop-out event window, Event instant playback
Mini-CMS Server Monitoring	Up to 256 channels from multiple NVR sites
Liveview Optimization	User-defined dual stream auto switch

RECORDING

Max. Network Throughput	650 Mbps
Video Format	H.265, H.264, MPEG4, MJPEG, MxPEG, Axis Zipstream
Recording Modes	No recording, Event recording, Schedule recording, Always recording, Audio recording by event, Pre-event and Post-event recording, Manual recording
File format	AVI
HDD Capacity Automatic Recycle	• Max. days of each camera • Total capacity percentage

PLAYBACK

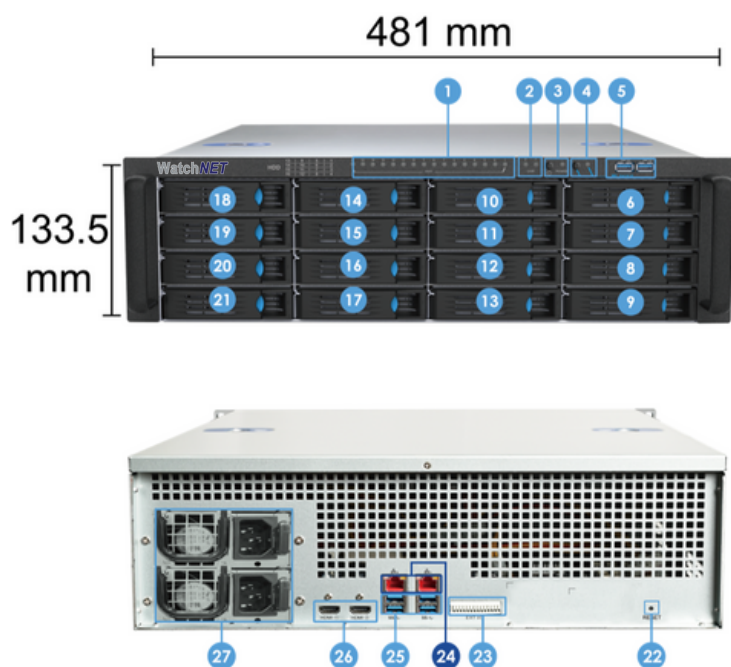|	
Multi-channel Playback	Max. 16-channel Simultaneously
Recording Types	Normal, Event, Video clip, Recovery, Time overlap, Failover (remote), USB device (local)
Smart Search	Motion detection, Foreign object detection, Missing object detection, Camera tampering detection, Lose focus
Backup Methods	Export Files on remote and local playback, USB backup (FAT32 & NTFS), Become NVR backup server, Local backup to USB device, Remote backup to NAS and FTP server, NVR edge backup, Instant export while playback videos on remote, Event backup to external FTP
Video Player	Installation-free NVRPlayer with multi-channel playback
Multi-NVR Playback	Remotely playback recording videos up to 16-channel from multiple WatchNET NVRs
Search Modes	Date, time, channel and recording type
Playback Control	Rewind, Slow motion, Fast forward, Frame by Frame Playback, Panomorph7, Snapshot, ROI, Customized watermark, Bookmark, Data search

EVENT & ACTION MANAGEMENT

Event Types	(1) Camera Events: Connection lost, Connection lost delay, Motion detection, Audio detection, Cross-line detection, Temperature detection, People counting threshold alarm, Loitering detection, Tampering detection, Intrusion detection, Advanced motion detection, Foreign/Missing object detection, Low FPS, Camera digital input (2) NVR Events: NVR connection lost, UPS low power warning, Storage Threshold warning, Abnormal shutdown, Time sync failed, External event (HTTP-in), NVR digital input (3) Storage Event: RAID Degraded/ Rebuilding/ Failed (4) NVR Hardware Events: CPU temperature warning, CPU fan warning, System fan warning, HDD error warning, HDD fail warning, Redundant power supply failure (Optional)
Action Types	Alert sound, Event log history, Video pop-out window, Highlight video window, Event recording, E-Mail notification, Video clip/ snapshot via E-Mail, SMS, Buzzer alarm, Go to pre-set point, Camera digital output, SNMP trap, External IO box, Stack light, Network horn speaker, Backup to external FTP and User-defined action (HTTP-out), NVR digital output
Chain Event	Precise alarms when multi-events triggered within user-defined time

SECURITY MANAGEMENT	
User Privilege	Administrator, Power user and User
System Log Information	Hardware log, System log, Event log, File access log, Current user log, Historical user log
Access Control Device Management	Manage up to 4 access control devices in default (Option up to 16 devices)
IP Range Access Control	White/Black List to permit or prohibit specific IP address
Advanced Security	Video watermark and password on exported video file
Advanced User Management	Random password sent by Email, Account expiration by assigning a specific date
NVR Failover	Monitor up to 4 NVRs in default (Option up to 16 NVRs)
External Modbus Analog I/O-Digital I/O Box	Connect up to 4 Modbus A/IO-D/IO boxes in default (Option up to 16 boxes)
Timeout Setting	60~3600 seconds

NETWORK SERVICE	
Protocol	HTTP, TCP/IP, DHCP, DNS, DDNS, UPnP, FTP, NTP, SMTP, IPv6 (for NVR)
Two LAN Port Applications	Share IP, Separated IP and Load balance
File Sharing	Windows networking, FTP service
Built-in Servers	Built-in DHCP/NTP server

REMOTE WEB BROWSER PC REQUIREMENTS	
OS (32 and 64-bit)	Windows 7/8/10/11
CPU	Intel i7 CPU or above
Memory	16G or above

NOTES	
Note 1	The standard system is shipped without HDD.
Note 2	User is advised to connect cameras and NVR with gigabit switch
Note 3	E-Map, Built-in Mini-CMS Server Monitoring and Smart Search are not supported on local display.
Note 4	Maximum network throughput is varied in different environment.
Note 5	Multi-channel playback on remote web browsers is supported up to 16 channels and multi-channel playback on local display is supported up to 16 channels.
Note 6	Camera is needed to support two-way audio/ corridor mode and integrated with NVR. On local site, it is necessary to prepare a USB type external audio sound adapter for connecting speaker/microphone to NVR.
Note 7	WatchNET NVR supports dewarping display image of ACTi, AXIS, VIVOTEK, ImmerVision Panomorph and fisheye cameras

481 mm

133.5 mm

APPEARANCE	
1	HDD LED indicator
2	Network LED indicator
3	Power LED indicator
4	One-touch backup button with LED indicator
5	2 x USB3.2 Gen 1x1 (Front)
6-21	HDD 1 to HDD 16
22	Reset button
23	DI/DO (4 x in, 4 x out)
24	2 x 2.5 Gigabit Lan ports
25	4 x USB 3.2 Gen 1x1 (Rear)
26	2 x HDMI 2.0a
27	Dual Power Connector