WatchNET®
Security Since 2000

ENX-64HP

4K

# ENX-64HP
## Linux-embedded Standalone NVR

HDMI VGA SATA eMap RAID Linux intel H.264 eSATA

CE FC

### Key Features

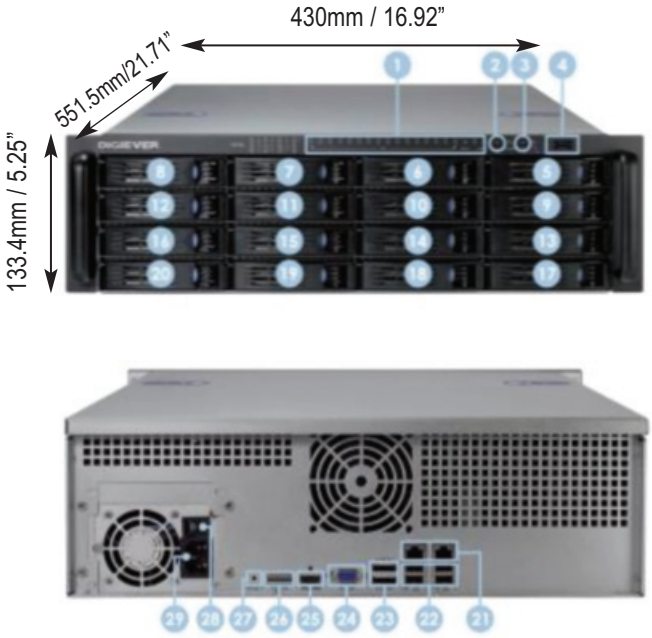
- Impressive Hardware Decode 4K Ultra HD Performance
  - 64Channels Real-time Hardware Decode Local Display
  - 64Channels Real-time Remote Web Monitoring
  - 64Channels Real-time Recording
- Real-timeLiveview Local Display
  - Marvelous PC-less Solution: Dual Display or Mirror Display
  - Dewarp up to 5 MP Panomorph IP Cameras
  - Two-way Audio via USB Type Sound Adapter
- Real-timeRemote BrowserMonitoring
  - VariousWeb Browsers on WindowsOS
  - Liveview Display Modes: 1,3,4,5,8,9,10,12,16,20,25,30,36,42,49,56,64, 5+1/12+1, Full Screen and Sequential Mode
  - Built-in Mini-CMS server (up to 256CH)
  - Quick Navigation with Dynamic E-Map
  - Multi-window Operation
- Excellent Megapixel Real-time Video Recording
  - Up to 10 Megapixel Recording Resolution
  - Camera Group Recording: Assign Video Keeping Days for Each Camera
  - Support 60FPS Camera Recording and Monitoring
- Multi-channel Playback on Remote Browser
  - Maximum 16-channel Playback Simultaneously
  - Event Instant Playback on Liveview and E-Map
  - Remote Multi-NVR Playback
  - Smart Search
- Monitoring everywhere via iOS and Android Mobile Device
- Multi-volume Storage Management with Watch*NET*
- Up to 176TB Storage Capacity(Up to 8TB per HDD) (NVR: 128TB +Watch*NET* Storage Expansion Units: 48TB)
- S.M.A.R.T HDD Health Monitoring
- 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
- Advanced and Reliable Security System
  - Reliable Linux Security System
  - NVR Failover and System Monitoring
  - Integrated Access Control Server
  - Integrated Modbus Analog I/O-Digital I/O Box Server
  - Integrated IP Video Door Intercom Server
  - Detail Log Information
  - Flexible User Privilege Management
- Diverse Backup Methods
  - Export Files from Remote and Local Playback
  - Instant Export while Playback on Remote
  - One Touch USB Backup
  - Remote Backup to NAS
  - Cloud Backup to Dropbox
  - Event Backup to External FTP: Video Clip & Snapshot
  - Export File with Free-Installation Video Player

| System | |
|---|---|
| CPU | Intel Quad Core Extreme Speed CPU |
| Operating System | Linux Embedded |
| HDD Tray | 16 (Swappable) |
| Max. Capacity[1] | Up to 176TB (2.5"/3.5" SATA HDD x16)<br>(NVR:128TB + Watch*NET*: 48TB) |
| LAN Port[2] | Gigabit x 2 |
| USB Connector | USB2.0 × 1(Front), USB2.0 × 4 (Rear) |
| GPIO | 4-in, 2-out |
| Video Output Connector | HDMI x 1, VGA x 1 (For Dual Display) |
| Disk Management | Linear (JBOD), RAID 0/1/5/10 |
| Operating Temperature | 0~40$^0$C / 32~104$^0$F |
| Operating Humidity | 0~95% R.H. |
| Power Supply | Input: 100-240V AC, 50/60Hz, Output: 600W |
| Power Consumption | 178W (With 16 x 500GB HDD installed and in RAID 5 building process) |
| Certification | CE, FCC, BSMI |
| H/W Dimensions | 133.4(H) x 430(W) x 551.5(D) mm<br>5.25(H) x 16.92(W) x 21.71(D) inch |
| User Interface | 1. Local display monitoring/Playback/settings<br>2. Remote Web Browsers:<br>Microsoft® Internet Explorer / Firefox / Opera / Safari in Windows (32-bit)<br>3. Mobile App: Android and IOS |
| **Liveview** | |
| H/W Decode Max Resolution per Cannel | Resolution up to 8MP (4K UHD) per channel (H.264) |
| H/W Decode Local Display Max. FPS in Signal Page | 4MP 360FPS/Full HD 900FPS/HD 1200FPS/ D1 1600FPS (H.264) |
| Display Capability | Dual display to display digerent liveview display modes on two monitors, Mirror display to display same liveview display mode on two monitors |
| Liveview Control | PTZ panel, PTZ Patrol, Auto Focus, Digital Zoom in/out, Audio, Snapshot, Auto/Manual stream change, Instant playback, ROI, Two way audio[6], Panomorph[7] |
| E-Map[3] | Multi-layer maps, Pop-out event window, Event instant playback |
| Mini-CMS Server Monitoring[3] | Up to 256 channels from multiple NVR sites |
| Liveview Optimization | Smart dual stream auto switch |
| **Recording** | |
| Max. Network Throughput[4] | 650Mbps |
| Video Format | H.265, H.264, MPEG4, Axis Zipstream (H.264) |
| File Format | AVI |
| HDD Capacity Automatic Recycle | 1. Max. days of each camera<br>2. Total capacity percentage |
| Recording Modes | No recording, Event recording, Schedule recording, Always recording, Audio recording by event, Pre-event & Post-event recording, Manual recording |

| Playback | |
|---|---|
| Multi-channel Playback[5] | Max. 16-channel simultaneously |
| Multi-NVR Playback | Remotely playback recording videos up to 16 channel from multiple Watch*NET* NVRs |
| Recording Types | Normal, Event, Video clip, Recovery, Time overlap, Failover (remote), USB device (local) |
| Search Modes | Date, time, channel and recording type |
| Smart Search | Motion detection, Foreign object detection, Missing object detection, Camera tampering detection, Lose Focus |
| Playback Control | Rewind, Slow Motion, Fast forward, Frame by frame Playback, Panomorph[7], Snapshot, ROI, Customized watermark |
| Backup Methods | Export files on remote and local playback, One touch USB backup, Become NVR backup server, Local backup to Watch*NET*, Remote backup to NAS, NVR edge backup, instant export while playback videos on remote, Event backup to external FTP |
| Video Player | Installation-free NVR Player with multi-channel playback |
| **Event & Action Management** | |
| Event Types | 1. Camera Events:<br>Connection lost, Connection lost delay, Motion detection, Audio detection, Digital input<br>2. NVR Events:<br>NVR connection lost, Recording error, UPS low power warning, Storage Threshold warning, Abnormal shutdown, External event(HTTP in), built-in digital input<br>3. NVR Hardware Events:<br>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,User-definedaction (HTTP out), Backup to External FTP, Built-in digital output |
| **Security Management** | |
| User Privilege | Administrator, Power user and User |
| Advanced User Management | Random password sent by Email, Account expiration by assigning a specific date |
| SystemLog Information | Hardware log, Systemlog, Event log, Fileaccess log, Current user log and Historical user log |
| NVR Failover | Monitor up to 4 NVRs in default (Option up to 16 NVRs) |
| Access Control Device Management | Manageup to 4 access control devicesin default (Option up to 16 devices) |
| 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) |
| IP Range Access Control | White/Black List to permit or prohibit specific IP address |
| Timeout Setting | Set up auto timeout period |
| Advanced Security | Video Watermark and Password on exported video file |

| Network Service | |
|---|---|
| Protocol | HTTP, HTTPS, TCP/IP, DHCP, DNS, DDNS, UPnP, FTP, NTP, SMTP, IPv6 (for NVR) |
| 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 Vista / 7 / 8 |
| CPU | ≧16 CH: Intel i5/i7 CPU 3.3GHz or above |
| Memory | ≧16 CH: DDR3 8G or above |

## Appearance




1. LED indicators: LAN1, LAN2, eSATA, HDD1~ HDD16
2. Power button
3. USB BACKUP button (For auto video backup)
4. USB 2.0 x 1 (Support auto video backup)
5. HDD1
6. HDD2
7. HDD3
8. HDD4
9. HDD5
10. HDD6
11. HDD7
12. HDD8
13. HDD9
14. HDD10
15. HDD11
16. HDD12
17. HDD13
18. HDD14
19. HDD15
20. HDD16
21. Gigabit LAN x 2
22. USB2.0 ×4
23. eSATA x 2
24. VGA output
25. HDMI output
26. DI/DO (4 in 2 out)
27. Reset button
28. Power connector
29. Power switch

Note 1. The standard system is shipped without HDD.
Note 2: User is advised to connect cameras and Watch*NET* NVR with Gigabit switch.
Note 3: E-Map and Built-in Mini-CMS Server Monitoring is 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 4 channels,
Note 6: Camera is needed to support two-way audio and integrated with Watch*NET* NVR. On local site, it is necessary to prepare a USB type external audio sound adapter for connecting speaker/microphone to NVR.
Note 7: Watch*NET* NVR supports dewarping display image of ACTi, AXIS, VIVOTEK, ImmerVision Panomorph and fisheye cameras.

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