**ND9441P**
**ND9541P**
**H.265 16-CH/32-CH Embedded Plug & Play NVR**

VIVOTEK’s ND9441P and ND9541P are H.265 Linux-based standalone NVRs with embedded PoE. Equipped for up to 16-CH/32-CH network cameras, the NVRs both support 16x 802.3 at/af PoE ports which feature PoE Management function to help users troubleshoot the physical layer structure. Both also display the PoE power information, providing for a more convenient and smarter installation.

The ND9441P/ND9541P also supports remote and mobile access via VIVOCloud and iViewer apps for both iOS and Android handheld devices. The VIVOCloud app provides instant push notification and direct video playback functions when triggered by an alarm notification, providing users with a flexible and intelligent NVR for seamless use in small to medium sized video surveillance applications.

With H.265 compression technology and embedded with 4 HDD’s providing up to 32TB, the ND9441P/ND9541P offers greater than 30% more recording capacity than H.264 systems. This advancement provides users with more storage space for longer durations of video recording. In addition, the RAID 0/1/5 configurations provide further data security in the rare event of a hard drive failure.

For high-quality and detailed images, the ND9441P/ND9541P supports a maximum network camera resolution of 12-Megapixels. To intelligently manage bandwidth while maintaining this high-quality, the “Auto Adaptive Stream” function will adjust the display resolution automatically for each different layout type. Furthermore, the NVR supports VIVOTEK’s fisheye network camera “Fisheye Dewarp” function, which provides multiple de-warping modes in live view and playback, ensuring the correct angle of video view and detailed information for flexible usage. Lastly, to quickly and intuitively find any target event, the ND9441P/ND9541P is equipped with the “Story-Board Search” function, which provides a glimpse of past recordings over an intuitive timeline.

The ND9441P/ND9541P supports HDMI and VGA local video output, so users can control the GUI OSD interface via mouse & keyboard, eliminating the need for a separate PC to search video or playback from the NVR. Additionally, the intuitive and friendly VIVOTEK GUI design gives users a smoother control experience than ever before.

**Key Features**

- H.265/H.264 Compression Technology
- Plug & Play One Button Auto Setup
- VIVOCloud App & Portal for 24/7 Surveillance
- Support RAID 0/1/5 Storage
- VIVOTEK Camera Configuration and VAST CMS Integrated
- Live and Playback Fisheye Dewarp
- Embedded Linux OS
- Story Board Event Search
- Up to 12MP Camera Liveview & Playback
- PoE Management
- ONVIF Open Platform (Project Support Function)
- POS Integration (Project Support Function)
- Watermark
Highlight Features

H.265 Compression Technology
To provide high-quality images and efficient video compression for today’s surveillance applications, VIVOTEK presents these two NVRs. Endowed with H.265 technology, these NVRs offer more than 30% ~ 50% greater recording capacity than H.264 systems - effectively giving users larger storage capacity for longer durations of high-quality video recording.

PoE Management
Both NVRs support 16 x 802.3at/af PoE ports which feature PoE management functions, allowing users to easily troubleshoot problems, control power budget for better operation, and set port priority settings to ensure the most important cameras are always on. When system power is overloaded, the PoE ports will auto-reboot for power supply recovery.

RAID
The RAID 0, 1, 5 configuration provides further data security and reliable video storage. (RAID Max. Volume: 16TB)

Auto/Constant Adaptive Stream
The resolution of a Camera’s second Stream has two options according to the display layout selected: Auto-Adaptive Stream or Constant Stream. This increases the flexibility to reduce bandwidth and save on total project costs (auto-adaptive stream), or maintain superb video quality (constant stream).

Intuitive UI
With a friendly and elegant interactive design, users can enjoy the benefit of simple operation and an UI that’s easy on the eyes.

One Button Setup
In order to provide users a highly intuitive experience, VIVOTEK’s NVRs provide Auto-Wizard for convenient system set-up, which takes less than 2 minutes to finish it.
Highlight Features

Story Board Event Search
To quickly and intuitively find any target event, we provide a glimpse of past recording over an intuitive timeline, allowing users to direct playback and archive their video within 10 seconds.

Fisheye Dewarp
VIVOTEK’s NVR offers both LiveView and Playback modes for one fisheye network camera simultaneously. They also provide multiple fisheye de-warp display modes, including 1O, 1P, 1R, 1O3R, 1O8R, allowing users to monitor any angle, or to enjoy precise detailed images for a total surveillance experience.

VIVOCloud - Push Notification
Enhanced event notification for 24/7 mobile surveillance. Once the NVR has an alarm notification, the VIVOCloud app will receive the push notification and users can directly playback the video immediately via Android/iOS devices.

VAST CMS Integration
VIVOTEK’s NVR is both CMS compliant and a totally scalable configuration thanks to VAST CMS. This powerful tool enables users to set up and manage advanced IP surveillance systems with ease.

Applications

Rich Performance
- H.265/H.264
- Fisheye Dewarp
- Story Board Search
- PoE Management

High Reliability
- 12M IP Cam Support
- 16 PoE
- RAID

Scalable Solution
- ONVIF
- VIVOCloud
- VAST CMS

Department Store  Hotel  Commercial Building  Supermarket
## Product - Order Information

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td>ND9441P</td>
<td>H.265, 16CH, 16 PoE, 4HDD NVR</td>
<td>100150900G, US</td>
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<td>100150910G, EU</td>
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<td>100150920G, UK</td>
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<td>100150930G, AU</td>
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<tr>
<td>ND9541P</td>
<td>H.265, 32CH, 16 PoE, 4HDD NVR</td>
<td>100150800G, US</td>
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## Accessory - Order Information

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<td>Surveillance HDD 2TB</td>
<td>9000022500G</td>
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<tr>
<td>Surveillance HDD 3TB</td>
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<td>Surveillance HDD 4TB</td>
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<td>Surveillance HDD 6TB</td>
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<tr>
<td>AM-612: Rack Mount Slide Rails</td>
<td>9000030000G</td>
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## Mechanical Information

**Front View**

- LED Indicators
- USB 2.0

**Back View**

- USB 3.0
- HDMI
- VGA
- 16x 802.3at/af PoE Ports
- 2xGbE Ports
- Audio In/Out
- RS485
- 100-240V AC Power In
- 8x Alarm Input
- 4x Alarm Output
## Technical Specifications

### Hardware Information

<table>
<thead>
<tr>
<th>Model</th>
<th>ND9441P H.265 16-CH Embedded Plug &amp; Play NVR</th>
<th>ND9541P H.265 32-CH Embedded Plug &amp; Play NVR</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OS</td>
<td>Embedded Linux</td>
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<tr>
<td>CPU</td>
<td>ARM Processor</td>
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<tr>
<td>Flash</td>
<td>256 MB</td>
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<tr>
<td>RAM</td>
<td>2 GB</td>
<td>4 GB</td>
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<tr>
<td>Watchdog</td>
<td>Hardware + Software</td>
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<tr>
<td>Power Restoration</td>
<td>System Restart Automatically after Power Recovery</td>
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</tr>
<tr>
<td><strong>Storage</strong></td>
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<td></td>
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<tr>
<td>HDD Devices</td>
<td>Internal x4</td>
<td></td>
</tr>
<tr>
<td>HDD Max. Capacity</td>
<td>8 TB x4</td>
<td></td>
</tr>
<tr>
<td>Disk Management</td>
<td>Create, Format and Remove Disk</td>
<td>HDD S.M.A.R.T</td>
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<td>RAID 0, 1, 5 (RAID Max. Volume: 16TB)</td>
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<tr>
<td><strong>Video &amp; Audio</strong></td>
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<td>Video Output</td>
<td>HDMI x1, VGA x1</td>
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<tr>
<td>Resolution</td>
<td>1920x1080, 1280x720</td>
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<tr>
<td>Graphics Decoder</td>
<td>Hardware decoding</td>
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</tbody>
</table>

**Decoding Capacity**

- **H.265/H.264:**
  - 2560x1920 @ 30 fps (1-CH)
  - 1920x1080 @ 120 fps (4-CH)
  - 1280x720 @ 240 fps (8-CH)
  - 1280x720 @ 480 fps (16-CH)
  - 720x480 @ 960 fps (32-CH)

**Camera Position**

- Change the viewcell position on the Live View screens

**External Interface**

- **USB Interface**
  - Front: 2 (USB 2.0)
  - Back: 1 (USB 3.0)
- **Alarm In**
  - 8
- **Alarm Out**
  - 4
- **Audio**
  - 3.5 Phone Jack Audio Output x1
  - 3.5 Phone Jack Audio Input (Reserved) x1
- **External HDD**
  - USB 3.0 Port x 1
- **RS485**
  - 1 Port (Reserved)

**Network**

- **Network Interface**
  - 10/100/1000Mbps Ethernet (RJ-45) x 2
- **PoE**
  - 16x 802.3at/af Compliant PoE Ports (Total Max. 160W)
- **Protocols**
  - IPv4, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, SMTP, FTP, DHCP, NTP, DNS, DDNS, IP Filter

**Power**

- **Power Input**
  - 100-240V AC, 50/60Hz
- **Power Consumption**
  - Max. 260 W

**LED Indicator**

- Status, Record, HDD1, HDD2, HDD3, HDD4, Net1, Net2, CH1 – CH16

**Mechanic**

- **Form Factor**
  - Desktop
- **Operation Buttons**
  - Reset (Back)
- **Dimensions**
  - 430 (W) x 400 (D) x 44.5 (H) mm
- **Weight**
  - 4.5 kg (without HDD)
- **Operating Temperature**
  - 0°C – 40°C (32°F – 104°F)
- **Humidity**
  - 0 – 95%

**General**

- **Safety Certifications**
  - CE, LVD, FCC, VCCI, C-Tick, UL
- **Warranty**
  - 24 months

**Client PC Requirements**

- **Operating System**
  - Microsoft Windows OS: XP/Vista/7/8/10/2008/2012
- **CPU**
  - Intel Celeron or above
- **Memory**
  - 2 GB or above
## Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>ND9441P: H.265 16-CH Embedded Plug &amp; Play NVR</th>
<th>ND9541P: H.265 32-CH Embedded Plug &amp; Play NVR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet</td>
<td>10/100Mbps</td>
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<tr>
<td>Display Resolution</td>
<td>1024x768 pixels or above</td>
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<tr>
<td>Web Browser</td>
<td>Internet Explorer 10 (32 bit) or above</td>
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</tr>
<tr>
<td>Software AP</td>
<td>Installation Wizard 2, Shepherd, VAST, VAST 2</td>
<td></td>
</tr>
<tr>
<td>Mobile/Tablet App</td>
<td>VIVOCloud (iOS/Android), iViewer (iOS/Android)</td>
<td></td>
</tr>
</tbody>
</table>

### Accessories

- Power Cord, Quick Installation Guide, 32x H.D.D. Screws, 8x H.D.D. Brackets, 1x USB Mouse, 4x SATA Cables

### Software Information

#### Record

- Maximum Channel: 16, 32
- Record Throughput (MB): 192 Mbps, 96 Mbps
- Network Throughput (MB): 96 Mbps
- Audio Format: G.711, G.726
- Video Format: H.265, H.264, MJPEG
- Video Resolution: Up to 12MP Camera
- Recording Time (sec.):
  - Pre-Record: 5 (Max. 10)
  - Post-Record: 20 (Max. 300)
- Recording Stream: Single
- Recording Mode: Continuous, Schedule, Manual, Event, Activity Adaptive Streaming
- Recording Setting: Recycle (unit: Day)
- Recording Path: Local Path
- Record Video Format: 3GP
- Watermark: Supported

#### LiveView (Local Display)

- Stream Application: Constant/Auto Adaptive Stream
- LiveView Display: 16 Channels Multiple Layout Display: 1x1, 2x2, 3x3, 4x4, 1P+3, 1V+3, 1P+6, 3V, 1M+12, 1M+4, 1M+6, 1P+7, 1P+10, 1M+12, 1M+4, 1M+6, 1P+7, 1P+10
- Multiple Layout Display: 32 Channels Multiple Layout Display: 1x1, 2x2, 3x3, 4x4, 1P+3, 1V+3, 1P+6, 3V, 1M+12, 1M+4, 1M+6, 1P+7, 1P+10, 1M+12, 1M+4, 1M+6, 1P+7, 1P+10
- Monitor Enhancement: OSD Display (NVR), OSD Display (Camera), Camera Information, Remote I/O Control, Event Notification, Aspect Ratio, Fisheye Dewarp (1O, 1P, 1R, 1O3R, 1O8R)
- PTZ Control: Panel Control/Joystick
- PTZ Operation: Direction Control, Home, Iris, Preset, Patrol (Group), PiP Control

#### Playback (Local Display)

- Playback Display: 4 Channels Multiple Layout Display: 1x1, 2x2, 1P+3, 1V+3
- Playback Control: Regular (Play, Pause, Stop), Rewind, Next/Previous Frame, Speed Control, Calendar, Event, Timeline, Timeline Scale, Thumbnail (Storyboard)
- Video Search: By Calendar, Date/Time, Alarm
- Thumbnail Explorer (Storyboard): Listing the thumbnail of recorded video (Max. 2 CH)
- Monitor Enhancement: OSD Display (Camera), Event Notification, Aspect Ratio, PiP Control, Fisheye Dewarp (1O, 1P, 1R, 1O3R, 1O8R)
- Snapshot: JPEG
- Video Clip Export: EXE

#### LiveView (Remote)

- Stream Application: Stream Selection
- Audio Capability: One Way
- LiveView Display: 16 Channels Multiple Layout Display: 1x1, 2x2, 3x3, 4x4, 1V+3, 1M+5, 1M=12
- Multiple Layout Display: 32 Channels Multiple Layout Display: 1x1, 2x2, 3x3, 4x4, 1V+3, 1M+5, 1M+12, 1M+41
- Monitor Enhancement: OSD Display (NVR), Drag & Drop, Image Freeze, Audio Control, Remote I/O Control, Event Notification, Bookmark, Fisheye Dewarp (1O, 1P, 1R)
- PTZ Control: Panel Control
- PTZ Operation: Direction Control, Home, Zoom, Focus, Iris, Preset, Patrol (Group), PiP Control
- Snapshot: JPEG

#### Playback (Remote)
### Technical Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>ND9441P</th>
<th>ND9541P</th>
</tr>
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<td>H.265 16-CH Embedded Plug &amp; Play NVR</td>
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</table>

<table>
<thead>
<tr>
<th>Playback Display</th>
<th>4 Channels</th>
<th>Multiple Layout Display: 1x1, 2x2, 1V+3</th>
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</thead>
<tbody>
<tr>
<td>Playback Control</td>
<td>Regular (Play, Pause, Stop), Next Frame, Speed Control, Calendar, Timeline, Timeline Scale, Bookmark</td>
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<tr>
<td>Monitor Enhancement</td>
<td>OSD Display (NVR), Drag &amp; Drop, Audio Control, PIP Control, Fisheye Dewarp (1O, 1P, 1R)</td>
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<tr>
<td>Snapshot</td>
<td>JPEG</td>
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</tr>
<tr>
<td>Video Clip Export</td>
<td>EXE</td>
<td></td>
</tr>
</tbody>
</table>

#### Alarm Management

- **Schedule Type**: Continuous, Schedule, Manual
- **Event**: Motion Detection, PIR Detection, Tampering Detection, Digital Input (Camera), Digital Output (Camera), Connection Abnormal, Storage Abnormal, Storage Full, Camera Network Loss, DI, DO
- **Action**: Record, Email (Text), Email (Snapshot), FTP, Buzzer, ePTZ Control (Go to Preset), NVR DO, Camera DO, VIVOTechnology APP Notification
- **Recording Time (sec.)**: Pre-Record: 5 (Max. 10), Post-Record: 20 (Max. 300)

#### Backup

- **Manual**: USB Dongle (FAT Format)

#### System

- **User Management**: User Account: 16
  - User Account Time Limit: 10 mins
  - User Level: Administrator, Regular User
  - User Feature Definition: By Camera
- **Log**: System, Recording, User, Error
- **Date&Time**: Time Zone, Manual, Automatic Sync NTP, Daylight Saving Time
- **Firmware**: Manual update
- **Restore Default**: Supported
- **Backup/Restore (Configuration)**: Supported
- **Language**: Czech, English, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Simplified Chinese, Traditional Chinese

#### Camera Integration

- **Insert Camera**: Manual, Search
- **Video (Media) Setting**: Compression, Resolution, FPS, Video Quality
- **Image Setting**: Image Display, Image Adjustment
- **PTZ Control**: Panel Control, Joystick
- **PTZ Operation**: Direction Control, Home, Preset, Patrol (Group)
- **Motion Detection**: Supported
- **ONVIF Core Spec**: Version 2.2 or above (By Project)
- **ONVIF Stream**: Video(H.264 & MJPEG)
- **ONVIF Recording**: Continuous, Schedule, Manual
- **ONVIF Discover**: Discover the other brand camera through "Insert Camera & Batch Insert"

#### Device Integration

- **UPS**: APC Model Compatible
- **Joystick**: IPD-USB, AJ001

#### Dimensions

![Dimensions Diagram]

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