

# TVN-2232P-2T

TruVision™ NVR 22P recorder, 32 IP channels, 2TB, H.265 NVR, 2U

## Overview

TruVision NVR 22P (TVN 22) is a robust high performance H.264/H.265 network video recorder. With a total bandwidth of 256 Mbps (16-channel) or 320Mbps (32- and 64 channel) available, the TVN 22P is able to connect up to 16/32/64 IP cameras and provide real time recording (25/30 fps) at Full HD 1080p resolution on all channels simultaneously. With its fully flexible bandwidth allocation, the TVN 22P allows recording resolutions up to 8MPX at various frame rates.

## Ease of use

TVN 22P was designed to make system configuration and overall use easier for both the installer and end-users through features such as: ezDDNS, start-up wizards, plug & play hard drives, auto discovery of natively supported cameras and is fully compatible with TruVision Navigator 6.0SP1 and TVRmobile 2.4.

## H.265

The TVN 22P is supporting both H.264 and H.265 compression techniques. The H.265 compression is the next evolution of video encoding. Using H.265 will result in a reduced file size for the same video content and a reduced transmission bandwidth compared to H.264. This means that for the same storage capacity more video can be stored when using H.265 than H.264 encoding. To use the H.265 encoding in the TVN 22, H.265 cameras need to be used. H.265 will be available in the TruVision S4 IP cameras.

## Ease of use

Thanks to its 2U housing, the maximum on-board storage capacity for the TVN 22P is 48TB, using eight six TB hard drives. The hard drives can be accessed via the lockable front panel door, allowing customers to easily expand storage as their system and/or requirements grow. Additionally, TVN 22P supports RAID 0,1,5,10 for storage redundancy (with FW 1.0 max 16TB of disk space can be used for RAID). Recording options include continuous, event and alarm. The three modes can be combined, to ensure that the most efficient recording is possible.



## Details

- Linux embedded Plug and Play configuration
- Up to 320 Mbps camera recording bandwidth
- Up to 32 IP channels
- Up to 48TB embedded storage (8x 6TB)
- RAID 0, 1, 5, 10 support
- Flip-open front panel for easy HDD access, servicing and expansion
- New icon based front panel
- Real time Full HD recording
- Motion detection, VCA, privacy masking, tamper detection
- TruVision IP camera auto-discovery
- Third party camera support via ONVIF and PSIA
- IP camera configuration import/export
- Custom protocol configuration (RTSP streaming)
- Network redundancy
- Integration of UTC IP intrusion panels via SIA/XSIA reporting
- Recorder failover functionality (one failover unit per 4 operational recorders)
- TVK-800 IP Keypad support (no support for local display of H.265 cameras)
- USB DVD burner support
- Full browser-, OSD- and software-based access for live, recorded & configuration
- TVRmobile app for iOS and Android
- TruVision Navigator license-free client/host or standalone application



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## Technical Specifications

### Video/audio input

|                                       |  |
|---------------------------------------|--|
| Camera channels                       | 32                                       |
| IP camera channels                    | 32                                       |
| Max. bandwidth per channel            | 16                                       |
| Camera bandwidth (Mbps)               | 320                                      |
| Max. IP audio in                      | 32                                       |
| Max. analog audio In                  | 1-ch, RCA ( 2.0 Vp-p, 1 kohm )           |
| Supported video compression standards | H.264, H.265, MPEG-4                     |
| Supported video streaming standards   | Onvif, PSIA, RTSP, RTSP Custom Protocols |

### Local viewing

|                                     |                   |
|-------------------------------------|-------------------|
| Synchronous playback OSD (channels) | Up to 16 channels |
| Reverse playback OSD (channels)     | 1                 |
| HDMI output                         | 1                 |
| VGA output                          | 1                 |
| BNC output                          | 1                 |
| HDMI version                        | 2.0               |
| Max. local output resolution        | Full HD 1080p     |

### Remote viewing

|  |  |
|--|--|
| Total available viewing bandwidth (Mbps) | 256  |
| Max. live viewing streams                | 128  |
| Max. playback viewing streams            | 128  |
| Max. playback resolution web browser     | 8 MPX  |
| Max. simultaneous playback web browser   | Max. 16 tiles (4x4)  |
| Reverse playback web browser (channels)  | Up to 9 channels, depending on PC performance                |
| Browser compatibility                    | Internet Explorer, Mozilla Firefox, Safari                   |
| Software compatibility                   | Advisor Manager, TruVision Navigator, TVRmobile, Web Browser |

### Storage

|                                 |   |
|---------------------------------|---|
| Storage capacity (TB)           | 2   |
| Max. capacity per SATA HDD (TB) | 6   |
| SATA interfaces                 | 8   |
| Maximum recording resolution    | 8 MPX   |
| Recording modes                 | Alarm, Event, Manual, Time-lapse high, Time-lapse low |
| Supported RAID levels           | RAID 0, RAID 1, RAID 10, RAID 5                       |
| External storage                | eSATA, NAS, SAN                                       |
| SAS extension                   | No  |
| Flip-open front panel           | Yes   |
| Hard drive redundancy           | Yes   |
| Hard drive grouping             | Yes   |
| Hot spare recorder              | Yes   |
| Edge failover recording         | Yes   |

### Networking

|   |   |
|---|---|
| Network interface cards (NIC)               | 2   |
| NIC type                                    | RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface   |
| NIC mode                                    | Network Redundancy  |
| Network ports per NIC                       | 1   |
| DNS support                                 | DDNS, ezDDNS, No-IP                                       |
| HTTPS support                               | Yes   |
| Network interface:                          | 2 RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface |
| Network redundancy:                         | Yes   |
| NIC redundancy:                             | Yes   |
| Multi-address mode                          | Yes   |
| ezDDNS:                                     | Yes   |
| DDNS:                                       | Yes   |
| no-IP.com:                                  | Yes   |
| Total viewing bandwidth bandwidth available | 256 Mbps  |
| Total Live viewing streams available        | 128   |
| Total playback viewing streams available    | 128   |
| HTTPS support:                              | Yes   |

### External interfaces

|                           |        |
|---------------------------|--------|
| USB interface back        | 1      |
| USB interface front       | 2      |
| Max. analog audio outputs | 1      |
| Serial interface          | RS-232 |
| Alarm inputs              | 16     |
| Alarm outputs             | 4      |



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## Environmental

|                       |                                |
|-----------------------|--------------------------------|
| Operating temperature | -10 to +55°C (14 °F to 131 °F) |
| Relative humidity     | 10 to 90%                      |

## Standards & regulation

|            |                     |
|------------|---------------------|
| Compliance | CE, REACH, RoHS, UL |
|------------|---------------------|

## Video/Audio input

|                                       |   |
|---------------------------------------|---|
| IP camera input:                      | Up to 16/32/64 channels   |
| Total bandwidth available:            | IN: 256/320/320 Mbps/OUT: 256 Mbps for all models                       |
| Maximum bandwidth per channel         | 16 Mbps   |
| Average bandwidth per channel         | 10 Mbps   |
| Video compression standards supported | H.264, H.265, MPEG-4  |
| Audio input/output                    | In: 1-ch, RCA ( 2.0 Vp-p, 1 kohm ); Out: 2-ch, RCA ( 2.0 Vp-p, 1 kohm ) |
| RTSP streaming support:               | Yes   |
| Onvif support:                        | Yes   |

## Viewing

|                            |  |
|----------------------------|--|
| OSD viewing resolutions:   | 8MPX/6MPX/5MPX/4MPX/3MPX/Full HD1080p/UXGA/HD 720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF   |
| Remote viewing resolutions | Up to 8 MPX - depending on remote client capabilities  |
| HDMI output resolutions:   | HDMI 1: 3840 × 2160/60Hz, 3840 × 2160/30Hz, 2560 × 1440/60Hz, 1920 × 1080/60Hz, 1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz HDMI 2: 1920 × 1080P/60 Hz, 1280 × 1024/60 Hz, 1280 × 720/60 Hz, 1024 × 768/60 Hz |
| VGA output resolutions     | VGA 1: 2560 × 1440/60Hz, 1920 × 1080/60Hz, 1600 × 1200/60Hz, 1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz VGA 2: 1920 × 1080P/60 Hz, 1280 × 1024/60 Hz, 1280 × 720/60 Hz, 1024 × 768/60 Hz                                       |
| HDMI version:              | HDMI 2.0 (compatible with 1.4)   |
| BNC output                 | Yes - alarm event only, no menu controls   |
| Digital zoom               | Up to 16x  |

## Playback

|                                |   |
|--------------------------------|---|
| Playback resolution:           | Up to 8 MPX                                   |
| Synchronous playback OSD       | Up to 8/16 channels                           |
| Simultaneous playback browser: | max. 16 tiles                                 |
| Reverse playback OSD:          | Up to 1 channel                               |
| Reverse playback browser:      | Up to 9 channels, depending on PC performance |
| Playback transcoding:          | Yes, using web browser                        |

## Recording

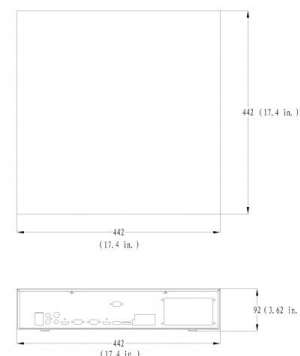
|                                 |  |
|---------------------------------|--|
| Recording resolution:           | 8MPX/6MPX/5MPX/4MPX/3MPX/Full HD 1080p, UXGA/HD 720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF |
| Internal SATA slots:            | 8  |
| Maximum capacity per SATA drive | 6TB  |
| Recording modes:                | Time lapse High, Time lapse Low, Event, Alarm, Manual                            |
| External storage:               | eSATA, NAS, SAN  |
| RAID                            | 0, 1, 5, 6, 10 (With FW 1.0 max 16 TB can be used for RAID)                      |

## External interface

|                   |   |
|-------------------|---|
| RS-232 interface: | Yes                                     |
| RS-485 interface  | Yes (not used)                          |
| USB interface:    | 2 x USB 2.0 (front), 1 x USB 3.0 (back) |
| Alarm interface:  | 16 alarm in (NO/NC), 4 alarm out (NO)   |

## Operations

|                       |   |
|-----------------------|---|
| Local:                | On screen display - VGA, HDMI or BNC (spot)     |
| Remote:               | Browser interface/TruVision Navigator/TVRmobile |
| Browser requirements: | IE 8 9 10 11, Firefox                           |



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