

# TVN-2216-2T

TruVision™ NVR 22 recorder, 16 IP channels, 2TB, H.265 NVR, 1.5U

## Overview

TruVision NVR 22 (TVN 22) is a robust high performance H.264/H.265 network video recorder. With a total bandwidth of 80/160/256 Mbps available, the TVN 22 is able to connect up to 8/16/32 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 22 allows recording resolutions up to 8MPX at various frame rates.



## Ease of use

TVN 22 is 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

TVN 22 is supporting both H.264 and H.265 compression techniques. The H.265 compression is the next evolution of video encoding. The use of 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 less storage capacity is needed by H.265 than H.264 encoding for the same video duration. 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.

## Recording performance

The maximum on-board storage capacity for the TVN 22 is 24TB, using four 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. Recording options include continuous, event and alarm. The three modes can be combined, to ensure that the most efficient recording is possible.

## Basic intrusion integration

TVN 22 has an alarmreceiver module embedded inside.

## Details

- Linux embedded Plug and Play configuration
- Up to 160 Mbps camera recording bandwidth
- Up to 16 IP channels
- Up to 24TB embedded storage (4x 6TB)
- 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-detection
- 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
- External integration through SDK



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The alarm message receiver can connect to up to three Interlogix IP intrusion panels that report in SIA or XSIA format. Alarm messages, disarming and arming messages can be sent from the alarm panel to the recorder, which then can take actions (trigger alarm recording, send a PTZ to a preset, run a shadow tour or preset tour, trigger an alarm output or send a notification message to TVRmobile). Also the heartbeat message between panel and recorder is monitored. This solution offers straightforward alarm verification and is free of charge.



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## Technical Specifications

### Video/audio input

Camera channels	16
IP camera channels	16
Max. bandwidth per channel	16
Camera bandwidth (Mbps)	160
Max. IP audio in	16
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	4
Maximum recording resolution	8 MPX
Recording modes	Alarm, Event, Manual, Time-lapse high, Time-lapse low
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 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

### General

Rack stacking size	1.5 U
Removable fan	No
Redundant power supply	No
Rack mountable	Yes
Power supply:	AC 100V~240V
Power consumption (without hard disk):	<=20W
Operating temperature:	-10 °C ~ +55 °C (14 °F ~ 131 °F)
Operating humidity:	10% ~ 90%
Chassis:	1.5U rack mountable or desk-based chassis
Dimensions (W x D x H):	442 x 398 x 74 mm (17.4 x 15.67 x 2.91 ")
Weight (without hard disk):	less than 5 kg

### Electrical

Power consumption without HDD (W)	<=20 W
Power supply type	100 to 240 VAC

### Physical

Physical dimensions	442 x 371 x 74 mm
Colour	Black



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## Video/Audio input

IP camera input:	Up to 8/16/32 channels
Total bandwidth available:	IN:80/160/256 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
Bi-directional audio:	1-ch, RCA ( 2.0 Vp-p, 1 kohm )
RTSP streaming support:	Yes
Onvif support:	Yes

## Viewing

OSD viewing resolutions:	8MPX/6MPX/5MPX/4MPX/3MPX/1080p/UXG
Remote viewing resolutions:	Up to 8 MPX - depending on remote client capabilities
HDMI output resolutions:	3840 x 2160/60Hz, 3840 x 2160/30Hz, 1920 x 1080/60Hz, 1600 x 1200/60Hz, 1280 x 1024/60Hz, 1280 x 720/60Hz, 1024 x 768/60Hz
HDMI version:	HDMI 2.0 (compatible with 1.4)
VGA output resolutions:	1920 x 1080P/60 Hz, 1280 x 1024/60 Hz, 1280 x 720/60 Hz, 1024 x 768/60 Hz
BNC output:	Yes - alarm event only, no menu controls
Digital Zoom:	Up to 16x

## Playback

Playback resolution:	Up to 8 MPX
Simultaneous playback OSD:	Up to 8/16 channels
Simultaneous playback browser:	Max. 16 tiles (4x4)
Reverse playback OSD:	Up to 1 ch.
Reverse playback browser:	Up to 9 channels, depending on PC performance
Playback transcoding	Yes, using web browser

## Recording

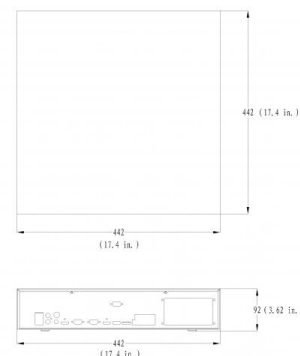
Recording resolution:	8MPX/6MPX/5MPX/4MPX/3MPX/Full HD 1080p/UXGA/HD 720p/VGA/4CIF/DCIF/2CIF /CIF/QCIF
Internal SATA slots:	4
Maxmium capacity per SATA drive:	6TB
Recording modes:	Time lapse High, Time lapse Low, Event, Alarm, Manual
External Sstorage	eSATA, NAS, SAN

## 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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