

# TDNVR64-K-AI

64Channel 2U Network Video Recorder



Launched by TOUGHDOG Technology, is a full portfolio of solutions composed of project-oriented products including IPC, NVR, PTZ, XVR, Thermal and software platform which adopts industry-leading deep learning algorithms. Focusing on customer's requirements, provides precise, reliable and comprehensive AI solutions for verticals.

## System Overview

New network video recorder delivers excellent performance and high recording quality that is ideally suitable for IP video surveillance applications. This NVR adopts powerful processor, providing the capability of 4K resolution processing for applications where image details are highly required. Additionally, the NVR can be served as edge storage, central storage or backup storage with an intuitive shortcut operation menu for remote management and control.

With build-in deep learning module, TOUGHDOG series products adopt video image structuring technology based on deep learning algorithms, achieving high-precision human face recognition and perimeter protection. By applying deep learning artificial intelligence, allows users to focus on what matters most, improves event response time and helps make video actionable.

The NVR is compatible with numerous third-party devices, which make it the perfect solution for surveillance systems that work independently of video management system (VMS).

## Functions

### Perimeter Protection

Automatically filtering out false alarms caused by animals, rustling leaves, bright lights, etc. Enables system to act secondary recognition for the targets. Improving alarm accuracy.

### Real Time Face Recognition

Video stream & picture stream real time face recognition. Facial attributes analysis features including gender, age, expression, glasses, moustache, mouth mask. Identify people and also capture, record faces with metadata. Facial feature filtering while real time display, only show faces with target features.

- 64 Channel IP video access
- Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
- Up to 16 Channel perimeter protection
- Up to 4 Channel video stream face recognition
- Up to 24 face pictures/sec processing
- Up to 20 face databases with 100,000 face images in total



## Face Database Management

Configurable multiple face databases. Powerful face database management. Face database can be applied to video channels independently. Name, gender, birthday, address, certificate type, certificate No., countries & regions and state can be added to each face picture.

## Common/Stranger Mode

TDNVR64-K-AI supports common and stranger mode. In stranger mode, when NVR detects a strange face (not in device's face database), it can trigger alarm, buzzer, snapshot, record, etc. Similarity threshold can be set manually. This function is developed for important infrastructure sites for which access control is critical.

## AI Search

Support search by meta-data of human and vehicles. Support uploading face pictures to NVR and compare them with recorded faces in NVR by similarity. Enable operators to quickly and easily search through multi channels and long duration, efficiently find out when and where a person of interest appear.

## ANPR

Automatic Number Plate Recognition available for convenient entrance/exit management. Support license plate recognition (working with TOUGHDOG ITC camera), black/white list import/export, add/delete B/W list number, search result from recorded video.

## Point of Sale (POS)

Ideal for grocery and retail stores, the optional POS solution allows the NVR to receive a POS transaction via corresponding video. This feature allows merchants to analyze specific transactions via the Fuzzy search algorithm.

## Technical Specification

### System

Main Processor	Multi-core embedded processor
Operating System	Embedded LINUX

### Perimeter Protection

Performance	16 channel, 10 IVS rules for each channel
Object classification	Human/Vehicle secondary recognition for tripwire and intrusion
AI Search	Search by target classification (Human, Vehicle)

### Face Recognition

Performance	Max 24 face pictures/sec processing (modeling and comparing) 4 channel video stream face recognition/16 channel picture stream face recognition (with FD camera)
Stranger Mode	Detect strangers' faces (not in device's face database). Similarity threshold can be set manually.
AI Search	Up to 8 target face images search at same time, similarity threshold can be set for each target face image.
Database Management	Up to 20 face databases with 100,000 face images in total. Name, gender, birthday, nationality, address, ID information can be added to each face picture.
Database Application	Each database can be applied to video channels independently.
Trigger Events	Buzzer, Voice Prompts, Email, Snapshot, Recording, Alarm Out, PTZ Activation, etc.

### Metadata

Face	Gender, age, glasses, beard, mask.
Vehicle	Vehicle color, vehicle model, vehicle logo, plate color, vehicle decorations, call, seatbelt.
Human Body	Tops style, tops color, bottom style, bottom color, hat, bag.
Non-motor Vehicle	Type, color, people number.
AI Search	Support search target video by metadata.

### Audio and Video

IP Camera Input	64 Channel
Two-way Talk	1 Channel Input, 1 Channel Output, RCA

### Display

Interface	2 HDMI, 1 VGA
Resolution	HDMI1/VGA: 1920 × 1080, 1280 × 1024, 1280 × 720 HDMI2: 3840 × 2160, 1920 × 1080, 1280 × 1024, 1280 × 720
Decoding Capability	4-ch@8MP (30fps), 16-ch@1080P (30fps)
Multi-screen Display	1st Screen: 1/4/8/9/16/25/36 2nd Screen: 1/4/8/9/16

### Recording

Bandwidth	320 Mbps (160 Mbps when AI function enabled)
Compression	Smart H.265+/H.265/Smart H.264+/H.264/MJPEG
Resolution	16MP, 12MP, 8MP, 6MP, 5MP, 4MP, 3MP, 1080P, 1.3MP, 720P, D1 etc.

Record Mode	Manual, Schedule (Continuous, MD (Motion Detection), Alarm, IVS)
Record Interval	1–120 min (default: 60 min), Pre-record: 1–30 sec, Post-record: 10–300 sec

### Video Detection and Alarm

Trigger Events	Alarm Out, Video Push, Email, Recording, PTZ, Tour, Snapshot, Voice Prompt, Buzzer and Screen Tips
Video Detection	Motion Detection, MD Zones: 396 (22 × 18), Video Loss, Tampering and Scene Change
Alarm input	16 Channel
Relay Output	6 Channel

### Playback and Backup

Sync Playback	1/4/9/16
Search Mode	Time/Date, Alarm, MD and Exact Search (accurate to second)
Backup Mode	USB Device/Network

### Third-party Support

Third-party Support	Arecont Vision, Airlive, AXIS, Canon, Dynacolor, JVC, LG, Panasonic, Pelco, Xunmei, Samsung, Sanyo, Sony, Watchnet and more
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### Network

Interface	2 RJ-45 Ports (10/100/1000 Mbps)
PoE	N/A
Network Function	HTTP, HTTPS, TCP/IP, IPv4/IPv6, UPnP, SNMP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, IP Search (Support Dahua IP camera, DVR, NVS, etc.), P2P
Max. User Access	128 users
Mobile App	iPhone, iPad, Android
Interoperability	ONVIF 2.4, SDK, CGI

### Storage

Internal HDD	8 SATA III Ports, Up to 8 TB capacity for each HDD
eSATA	1 eSATA

### Auxiliary Interface

USB	4 USB Ports (2 Rear USB 3.0, 2 Front USB 2.0)
RS232	1 Port, for PC Communication and Keyboard
RS485	1 Port, for PTZ Control

### Electrical

Power Supply	Single, AC100V–240V, 50–60 Hz
Power Consumption	NVR: <16.1W (Without HDD)
Fan	Smart fan, automatically adjust running speed

### Environmental

Operating Conditions	-10°C to +55°C (+14°F to +131°F), 86–106kpa
Storage Conditions	0°C to +40°C (+32°F to +104°F), 30–85% RH

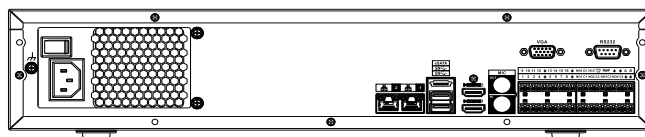
### Construction

Dimensions	2U, 439.7 mm × 451.0 mm × 94.9 mm (17.31" × 17.75" × 3.73")
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# TDNVR64-K-AI

Net Weight	6.70 kg (14.8 lb) (without HDD)
Gross Weight	9.30 kg (20.5 lb) (without HDD)
Certifications	
CE	EN55032, EN55024, EN50130-4, EN60950-1
FCC	Part 15 Subpart B, ANSI C63.4-2014
UL	UL 60950-1

## Panels



## Ordering Information

Type	Model	Description
32/64 Channel	TDNVR64-K-A	64 Channel 2U Network Video Recorder

## Dimensions (mm[inch])

