# WRC188-16P-I

## 16 Channel 1U 16PoE AI Network Video Recorder

- · 16 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
- · 1-8 PoE Ports support ePoE & EoC



Icons: Face Recognition · Face Capture · Human Capture · ANPR · Metadata · Image Search · Blacklist Alarm · People Counting · False Alarm Filter

AI series products adopt the most advanced AI technologies, including deep learning algorithms that primarily target people and vehicles, which provides higher flexibility and accuracy for end-users. This enables the WATASHI AI series to offer various advanced applications such as Face Recognition, ANPR, Metadata, People Counting, traffic data statistics, etc.

The complete lineup of WATASHI AI includes network (PTZ) cameras, network video recorders, servers, and platform management products. Beyond seeing the world, the power of AI allows devices to perceive the environment and understand the world in a better way.

## System Overview

WATASHI new WRC188-16P-I 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, NVR5000-I 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, NVR5000-I 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.

### Face Database Management
Configurable multiple face databases. Powerful face database management. Face database can be applied to video channels independently. Name, gender, birthday, nationality, address, ID information can be added to each face picture.

### Common/Stranger Mode
NVR5000-I 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 metadata 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 appeared.

### ANPR
Automatic Number Plate Recognition available for convenient entrance/ exit management. Support license plate recognition(working with WATASHI 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.

Onvif

DATA SHEET

## 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 | 16 Channel |
| Two-way Talk | 1 Channel Input, 1 Channel Output, RCA |

### Display

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|---|---|
| Interface | 1 HDMI, 1 VGA |
| Resolution | HDMI/VGA: 3840 × 2160 , 1920 × 1080 , 1280 × 1024, 1280 × 720 , 1024 × 768 |
| Decoding Capability | 4-ch@8MP(30fps), 16-ch@1080P(30fps) |
| Multi-screen Display | 1/4/8/9/16 |

### Recording

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|---|---|
| Bandwidth | 320Mbps (160Mbps 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 | 4 Channel |
| Relay Output | 2 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, PSIA, Samsung, Sanyo, Sony, Watchnet and more |

### Network

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|---|---|
| Interface | 1 RJ-45 Ports (10/100/1000Mbps) |
| PoE | 16 ports (IEEE802.3af/at) 1-8 ports support ePoE & EoC |
| 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 |
| Smart Phone | iPhone, iPad, Android |
| Interoperability | ONVIF 2.4, SDK, CGI |

### Storage

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|---|---|
| Internal HDD | 2 SATA III Ports, Up to 8 TB capacity for each HDD |
| eSATA | N/A |

### Auxiliary Interface

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|---|---|
| USB | 2 USB Ports (1 Rear USB 3.0 , 1 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: <16.5W (Without HDD) |
| | PoE: Max 25.5W for single port<br>130W total rated power, 80% control for protection |
| Fan | Smart fan, automatically adjust running speed |

## Environmental

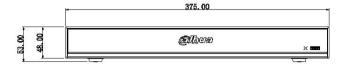| | |
|---|---|
| Operating Conditions | -10°C ~ +55°C (+14°F ~ +131°F), 86 ~ 106kpa |
| Storage Conditions | -20°C ~ +70°C (-4°F ~ +158°F), 0 ~ 90% RH |

## Construction

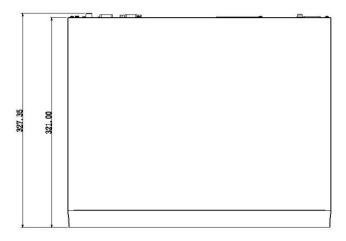| | |
|---|---|
| Dimensions | 1U, 375mm x 327.3mm x 53mm ;<br>(14.8" x 12.9" x 2.1") |
| Net Weight | 2.70kg (6.0 lb) (without HDD) |
| Gross Weight | 4.00kg (8.8 lb) (without HDD) |

## Certifications

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|---|---|
| CE | EN55032, EN55024, EN50130-4, EN60950-1 |
| FCC | Part 15 Subpart B, ANSI C63.4-2014 |
| UL | UL 60950-1 |

## Dimensions (mm)



## Rear Panel



## Ordering Information

| Type | Part Number | Description |
|---|---|---|
| 16 Channel AI NVR | WRC188-16P-I | 16 Channel 1U 16PoE AI Network Video Recorder |