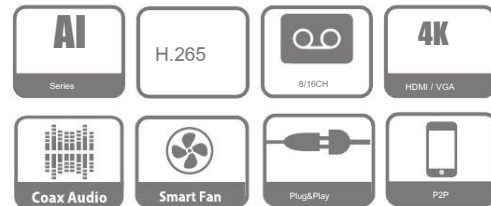


## 8 Channel Penta-brid 1080P Mini 1U Digital Video Recorder



- H.265+/H.265 dual-stream video compression
- Supports HDCVI/AHD/TVI/CVBS/IP video inputs
- Max 12 channels IP camera inputs, each channel up to 6MP; Max 48 Mbps Incoming Bandwidth
- Perimeter Protection and SMD Plus



### System Overview

WATASHI Technology, a world-leading video-centric smart IoT solution and service provider, debuted its new XVR series, featuring full-channel SMD Plus to benefit customers from AI upgrade. The series are designated to reduce false-alarm rates and human surveillance costs, thus bringing great value to customers in search of products with accurate human/vehicle alarm to raise the security level of various indoor and outdoor facilities.

Renovated from the original SMD technology running on CPU, the new SMD Plus adopts independent AI smart chip loaded with new deep-learning algorithm, enabling the computing power improved by 10 times. As a result, SMD Plus can recognize moving objects and differentiate human and vehicles, so as to effectively avoid false alarms caused by tree branches, insects, shadows, wind or other environmental factors. Meanwhile, users are allowed to select people or vehicles for playback, thus greatly saved target search time.

### 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.

#### SMD Plus

SMD Plus, referred to as Smart Motion Detection Plus, which is an upgrading version of SMD that greatly improves the alarm accuracy by loading deep-learning algorithm. It analyzes person and vehicle shapes based on motion detection and send alarms only when person and vehicle intrudes.

#### Smart H.265+

Smart Codec, H.265+ can reduce up to 90% bit rate and storage requirements compared with H.264 without having to invest in new cameras.

#### HDCVI/AHD/TVI/CVBS Auto-detect

The XVR can auto recognize the signal of front-camera without any setting. It makes operation more friendly and convenient.

#### High Definition Camera Input

The XVR supports up to 5MP HDCVI camera and 6MP IP camera input.

#### Coaxial Audio/Upgrade/Alarm

The integrated design can reduce wiring troubles which makes it much more cost-effective and convenient for installation.

#### Long Distance Transmission

The HDCVI system supports long distance transmission over coaxial cable and UTP, max. 700m for 4K/4MP, 800m for 1080P and 1200m for 720P.

#### Smart Fan Design

The smart fan can automatically turn on or turn off according to the CPU temperature. This function can effectively reduce the fan noise to provide a better user experience.

#### Smart Search

Extract and classify person and vehicles from massive video data, easy for end users to trace historical information and analyze. Person & Vehicle optional for playback to achieve quick target search, saving event retrieval time.



## Technical Specification

### System

Main Processor Embedded Processor

Operating System Embedded LINUX

### Perimeter Protection

**Perimeter protection**

- 1.AI by DVR: Detection alarm for human and vehicle. Filter misinformation such as leaves and light.
- 2.Function configuration: Set at most 10 rules such as area intrusion and tripwire intrusion.
- 3.Performance: 2 channels

**Live View**

1. Rule box inspection: Configure the rule box and object inspection box.
- 2.Smart panel: Display object classification (human, vehicle), event types, triggering time, image matting and object types. Attribute is not supported.
3. Counting: Count people in People total. Count motor vehicles in Vehicle. Support exporting of associated event playback before and after 10 seconds.

**Playback**

1. Search conditions: According to channels, time, event types and target types.
- 2.Functions: Support search of associated event playback or snapshot before and after 10 seconds.
3. Snapshot capacity: 500,000

### SMD Plus

**SMD Plus**

1. AI by DVR: Motion detection alarm for human and vehicle. Filter misinformation such as leaves and light.
2. Performance: 8 channels , AI by DVR

**Preview** Preview: Configure and inspect detection box

**Playback**

- 1.Playback: Search videos through channels, time and target types.
- 2.Functions: Support search of associated event playback before and after 10 seconds.

### Video and Audio

Analog Camera Input 8 Channel, BNC

HDCVI Camera 5MP, 4MP, 1080P@25/30fps, 720P@50/60fps, 720P@25/30fps

AHD Camera 5MP, 4MP, 1080P@25/30, 720P@25/30fps

TVI Camera 5MP, 4MP, 1080P@25/30, 720P@25/30fps

CVBS Camera PAL/NTSC

IP Camera Input 8+4 Channel, each channel up to 6MP

Audio In/Out 1/1, RCA

Two-way Talk Reuse audio in/out, RCA

### Recording

Compression H.265+/H.265/H.264+/H.264

Resolution 5M-N, 4M-N, 1080P, 1080N, 720P, 960H, D1, CIF

Record Rate Main stream:All channel 5M-N(1~10fps); 4M-N/1080P(1~15fps); 1080N/720P/960H/D1/CIF (1~25/30fps)  
Sub stream: D1/CIF(1~15fps)

Bit Rate 32Kbps ~ 6144Kbps Per Channel

Record Mode Manual, Schedule (General, Continuous), MD (Video detection: Motion Detection, Video Loss, Tampering), Alarm, Stop

Record Interval 1 ~ 60 min (default: 60 min), Pre-record: 1 ~ 30 sec, Post-record: 10 ~ 300 sec

Audio Compression AAC(only for the 1st channel), G.711A, G.711U, PCM

Audio Sample Rate 8KHz, 16 bit Per Channel

Audio Bit Rate 64Kbps Per Channel

## Display

Interface 1 HDMI ,1 VGA

Resolution HDMI:  
8CH: 1920x1080, 1280x1024, 1280x720  
VGA: 1920x1080, 1280x1024, 1280x720

Multi-screen Display

When IP extension mode not enabled:  
8CH: 1/4/8/9  
When IP extension mode enabled:  
8CH: 1/4/8/9/16

OSD Camera title, Time, Video loss, Camera lock, Motion detection, Recording

## Network

Interface 1 RJ-45 Port (100M)

Network Function HTTP, HTTPS, TCP/IP, IPv4/IPv6, Wi-Fi, 3G/4G, UPnP, RTSP, UDP, SMTP, NTP, DHCP, DNS, IP Filter, PPPoE, DDNS, FTP, Alarm Server, P2P, IP Search (Supports Dahua IP camera, DVR, NVS, etc.)

Max. User Access 128 users

Smart Phone iPhone, iPad, Android

Interoperability ONVIF 16.12, CGI Conformant

## Video Detection and Alarm

Trigger Events Recording, PTZ, Tour, Video Push, Email, FTP, Snapshot, Buzzer and Screen Tips

Video Detection Motion Detection, MD Zones: 396 (22 x 18), Video Loss, Tampering and Diagnosis

Alarm input N/A

Relay Output N/A

## Playback and Backup

Playback 8CH: 1/4/9

Search Mode Time /Date, Alarm, MD and Exact Search (accurate to second)

Playback Function Play, Pause, Stop, Rewind, Fast play, Slow Play, Next File, Previous File, Next Camera, Previous Camera, Full Screen, Repeat, Shuffle, Backup Selection, Digital Zoom

Backup Mode USB Device/Network

## Storage

Internal HDD 1 SATA Port, up to 10TB capacity

eSATA N/A

## Auxiliary Interface

USB 8CH:2 USB 2.0

RS232 N/A

RS485 1 Port, for PTZ Control

## Electrical

Power Supply DC12V/2A

Power Consumption (without HDD) 8CH: <10W



## Construction

Dimensions	Mini 1U, 325mm×255mm×55mm (12.8" x 10" x 2.2")
Net Weight (without HDD)	8CH: 1.2kg (2.6 lb)
Gross Weight	8CH: 1.9kg (4.2lb)
Installation	Desktop installation

## Environmental

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

## Third-party Support

Third-party Support	Dahua, Arecont Vision, AXIS, Bosch, Brickcom, Canon, CP Plus, Dynacolor, Honeywell, Panasonic, Pelco, Samsung, Sanyo, Sony, Videotec, Vivotek, and more
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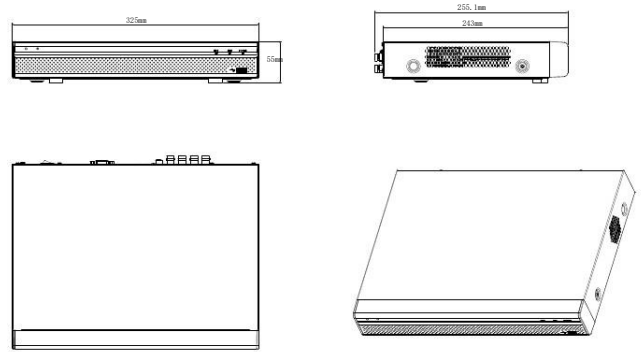
## Certifications

Certifications	FCC: Part 15 Subpart B CE: CE-LVD: EN 60950-1/IEC 60950-1 CE-EMC: EN 61000-3-2, EN 61000-3-3, EN 55032, EN 50130, EN 55024
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## Ordering Information

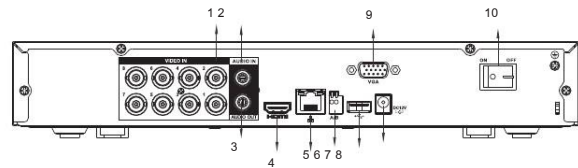
Type	Part Number	Description
8 Channel XVR	WVR002X-I	8 Channel Penta-brid 1080P Mini 1U Digital Video Recorder

## Dimensions (mm)



## Rear Panel

WVR002X-I



- |                            |                      |
|----------------------------|----------------------|
| 1 VIDEO IN                 | 6 RS485 Interface    |
| 2 AUDIO IN, RCA Connector  | 7 USB Interface      |
| 3 AUDIO OUT, RCA Connector | 8 DC 12V Power Input |
| 4 HDMI Interface           | 9 VGA Interface      |
| 5 Network Interface        | 10 Power Switch      |

