



V Series

MA9312-EHTV

4K x 2CH Dual-Directional
Panoramic AI Camera



Technical Specifications

System Information

CPU	Multimedia SoC (System-on-Chip)
Flash	8GB
RAM	4GB

Camera Specifications

Image Sensor	1/1.8" Progressive CMOS
Max. Resolution	3840x2160 (4K/8MP) x 2
Lens Type	Motorized, Vari-focal, Remote Focus
Focal Length	f = 4.3~9.8mm
Aperture	F1.6 ~ F2.6
Iris Type	P-iris
Field of View	110.4° ~ 45.1° (Horizontal) 57.9° ~ 25.4° (Vertical) 133.9° ~ 51.8° (Diagonal)
Shutter Time	1/30 sec. to 1/32,000 sec.
WDR Technology	WDR Pro
Day/Night	Yes
Removable IR-cut filter	Yes
Illuminators	Built-in IR illuminators up to 20 meters with Smart IR, IR LED*4
Minimum Illumination	0.02 lux @ F1.6 (Color) 0.005 lux @ F1.6 (B/W) 0 lux with IR illumination on
Pan Range	350° each lens
Tilt Range	80° each lens
Rotation Range	350° each lens

Pan/Tilt/Zoom Functionalities	ePTZ: 48x digital zoom (4x on IE plug-in, 12x built-in)
Storage	Seamless Recording to MicroSD/SDHC/SDXC card (1T capacity supported) and recording to network-attached storage (NAS)
Built-in Installation Aids	Remote focus, remote zoom, Micro USB* , pixel calculator *Requires Wi-Fi dongle and Micro B converter

Video	
Compression	H.265, H.264, MJPEG
Maximum Frame Rate	H.265 & H.264: 30 fps @ (3840x2160) x 2 MJPEG: 15 fps @ (3840x2160) x 2
Maximum Streams	3 streams each channel; (up to total 14 profiles)
S/N Ratio	70 dB
Dynamic Range	120 dB
Video Streaming	Adjustable resolution, quality and constrained bit rate control, Smart Stream III
Image Settings	General settings video title and time stamp overlay, video orientation (flip, mirror, rotation), day/night settings Illuminators illuminators, anti-overexposure, VCA-based Smart IR III Image settings white balance, image adjustment (brightness, contrast, saturation, sharpness, gamma curve), defog, 3DNR, HLM, scene mode (auto, deblur) Exposure BLC, HLC, exposure control (exposure level, iris adjustment, exposure time, gain control, iris mode), AE speed adjustment, WDR Focus zoom, focus Privacy mask (Color, Mosaic) Pixel calculator Scheduled profile settings

Audio	
Audio Capability	Two-way audio (Full duplex)* * Requires AO-015 cable
Compression	G.711, G.726, MPEG-2 AAC-LC
Interface	Built-in microphone External microphone Input* External line output* * Requires AO-015 cable
Effective Range	5 meters

Network	
Users	Live viewing for up to 20 clients
Security	Access list, Account block, Audit log, Configurable password strength protection, CSRF protection, Digest authentication, HTTPS, IEEE 802.1x, Secure boot, Session timeout, Signed firmware, Trend Micro IoT Security (brute force attack event, cyberattack event, quarantine event), User access log, User account management, certificate management, Built-in FIPS 140-2 Level 2 certified Trusted Platform Module (TPM)

Protocols	802.1X, ARP, Bonjour, CIFS/SMB, DDNS, DHCP, DNS, FTP/SFTP, HTTP, HTTPS, ICMP, IGMPv3, IPv4, IPv6, NTP, PPPoE, QoS (CoS/DSCP), RTSP/RTP/RTCP, SMTP, SNMP, SSL, TCP/IP, TLS 1.2/1.3, UDP, UPnP
Interface	10 Base-T/100 BaseTX/1000 Base-T Ethernet (RJ-45) *It is highly recommended to use standard CAT5e & CAT6 cables which are compliant with the 3P/ETL standard.
ONVIF	Profile G, S, T ,M supported, specification available at www.onvif.org

AI Analytics	
Compute Capability	SoC with built-in hardware deep learning accelerator
Vision Object Analytics	Object Detection People, Vehicle (4-wheeled, 2-wheeled), Human / Vehicle Bestshot, Path Extraction
	Attribute Extraction People (gender, clothing color, bag, hat), Vehicle (bike, bus, car, motorcycle, truck, color)
	Human face Bestshot, Re-Search Extraction
Application	Deep Learning VCA (Smart Motion Detection, Smart VCA) Smart VCA - Group 1 Smart Motion Detection (Five-window video motion detection, People detection, Vehicle detection, Time filter), Smart VCA (Intrusion detection, Loitering detection, Line crossing detection, face detection)
	Smart VCA - Group 2 Unattended object detection, Missing object detection, Crowd detection
Application available with license	Smart VCA - Group 3 Running detection, Parking Violation Detection, Restricted Zone Detection *Support for more analytic applications and free trial, please visit VIVOTEK website.
RealSight Engine	Smart IR III, Deblur, WDR, White Balance, Exposure Control

Solution Integration	
VADP Package	Trend Micro (Default, 3-year free trial)
Video Motion Detection	Motion Detection (Five-window video motion detection)

Alarm and Event	
Event Trigger	Audio detection*, camera tampering detection, cybersecurity events (brute force attack event, cyberattack event, quarantine event), digital input*, manual trigger, motion detection, periodical trigger, recording notification, SD card life expectancy, shock detection, system boot * Requires AO-015 cable
Event Action	Event notification via audio clip*, camera link, digital output*, email, HTTP, FTP/SFTP, NAS server, SD card File upload via email, HTTP, FTP/SFTP, NAS server, SD card *Requires AO-015 cable

General	
Connectors	RJ-45 cable connector for 10/100/1000 Mbps Network/PoE connection Audio line input* Audio line output* Digital input: 1* Digital output: (DO+: 12V, 50mA; DO-: 30V, Open Drain, 1A)* * Requires AO-015 cable
LED Indicator	System power and status indicator
Power Input	IEEE 802.3 at PoE Class 4
Power Consumption	Max 25.5W /19.8W (IR on/off)

Dimensions	230 x 135 x 112mm
Weight	1.55kg
Certifications	EMC CE (EN 55032 Class A, EN 55035), UKCA (BS EN 55032: 2015 +A11: 2020, BS EN 55035: 2017 +A11: 2020), FCC (FCC Part 15 Subpart B Class A), RCM (AS/NZS CISPR 32 Class A), VCCI (VCCI-CISPR 32 Class A), ICES-003 Issue 7 Safety UL (UL 62368-1), CB (IEC/EN 62368-1 including annex Y, IEC/EN 62471) Environment NEMA (NEMA 250 Type 4X) , IK10 (IEC 60529), IP66 / IP67 (IEC 60529) IA BIS (IS 13252), BSMI (EMC: CNS 15936, Safety: CNS 15598-1)
Operating Temperature	Starting Temperature: -30°C ~ 55°C (-22°F ~ 131°F) Working Temperature: -40°C ~ 55°C (-40°F ~ 131°F) (IR off) -40C ~ 50°C (-40F ~ 122°F) (IR on)
Humidity	98% RH (non-condensing)

System Requirements

Operating System	Microsoft Windows 10/8/7 Mac 10.12 (Chrome only)
Web Browser	Chrome 58.0 or above Internet Explorer 11
Other Players	VLC: 1.1.11 or above

Included Accessories

Packing Contents	Quick installation guide, alignment sticker, L-shaped wrench, screws pack,sunshield
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DORI (EN 62676-4 Standard)

Detection (25PPM/ 8PPF)	Wide: 88.1 m (289.2 ft) Tele: 197.6 m (648.2 ft)
Observation (63PPM/ 19PPF)	Wide: 35.0 m (114.9 ft) Tele: 77.9 m (255.7 ft)
Recognition (125PPM/ 38PPF)	Wide: 17.5 m (57.4 ft) Tele: 39.0 m (127.8 ft)
Identification (250PPM/ 76PPF)	Wide: 8.7 m (28.6 ft) Tele: 19.5 m (63.9 ft)