AURORA EO/IR Multi-Sensor PTZ System

Precision Tracking · All-Weather Vision · AI-Powered Intelligence · Global Shutter Clarity

Model: ZV-EOS4192-R10006-H

Direct-Drive Gimbal Architecture

Torque motors drive payload axes directly–eliminating gears, backlash and transmission lag for mission-critical tracking.

- Sub-arcminute precision: ≤0.02° positioning accuracy maintains lock on small, agile targets (e.g. Class 1 UAVs)
- Ultra-wide speed range: Pan 0.09° ~ 120°/s, tilt 0.09° ~ 110°/s–seamless transition from micro-scan to high-speed pursuit
- Instant response: <10 mSec latency counters rapid target manoeuvres and platform vibration
- Unlimited motion: 360° continuous pan, ±90° tilt–no blind zones, no mechanical stops

Multi-Spectral Payload Options

- Thermal: 15 ~ 100mm F1.0 lens, 640×512 uncooled core – penetrates darkness, fog and smoke
- Visible: 1/1.8" 4MP 92× (6.1~561mm) optical zoom camera – Ultra long-range & Ultra-low light
- Illumination: 850nm laser illuminator (500m range) for covert night operations
- Optional modules:
    - 1535nm eye-safe laser rangefinder (15–3000m, ±1m accuracy)
    - 4MP wide-angle situational awareness camera (4mm F1.0)
    - Integrated GPS and digital compass for real-time geolocation

Gyro-Stabilised Platform (Optional)

Dual-axis gyro stabilization compensates for vessel roll, vehicle vibration, and platform motion – delivering shake-free imagery in maritime patrol, off-road, and airborne applications.

Embedded AI Capabilities

- AI-adaptive autofocus: maintains sharp imagery across thermal/visible transitions
- AI noise reduction: enhances low-light clarity without detail loss
- AI target recognition & tracking: persistent lock on personnel, vehicles and UAVs despite occlusion or evasive manoeuvres

Operational Deployment

Border and coastal surveillance · Critical infrastructure protection · Naval and vehicle-mounted observation

Engineered for 24/7 operation in extreme environments: dust-proof, salt-spray resistant.

Specifications

Thermal Camera	
Detector	640 × 512, Uncooled VOx Microbolometer
Pixel Pitch	12μm
Spectral Band	8 ~ 14μm
NETD	≤35 mK @ F1.0, 300K
Focal Length	15~100mm 6× Continuous Zoom Lens
Aperture Range	F0.85 ~ F1.25
FOV	28.7° × 23.1° ~ 4.4° × 3.5°
Digital Zoom	8×
Pseudo Colours	10 Modes Available
Image Settings	Saturation, Brightness, Contrast, Sharpness, etc.
Image Enhancement	Support
Image Filtering	Support
Dead Pixel Correction	Support
Noise Reduction	Support
Day Camera	
Sensor	4 Megapixels, 1/1.8" Progressive Scan CMOS
Lens	6.1 ~ 561mm, 92× Zoom, F1.4 ~ F4.7
Horizontal FOV	63.40° ~ 0.98° (Wide ~ Tele)
Min. Illumination	Colour: 0.0005Lux @ (F1.4, AGC ON); B/W: 0.0001Lux @ (F1.4, AGC ON)
Image Settings	Saturation, Brightness, Contrast, Sharpness, etc.
Focus Mode	Auto Focus / One Focus / Manual Focus / Semi-Auto Focus
Digital Zoom	16×
Noise Reduction	3D / 2D
Defog	Electronical Defog & Optical Defog
Image Stabilization	Electronical Image Stabilisation (EIS)
Network	
Protocols	ONVIF (PROFILE S, PROFILE G), SDK, TCP/IP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, NTP, SMTP, SNMP, IPv6
Intelligent Detection	Perimeter Intrusion Detection, Auto Tracking, Human / Vehicle / Vessel Detection and Classification, Fire & Smoke Detection
Storage	Micro SD / SDHC / SDXC card (Up to 512G), NAS (NFS, SMB / CIFS)
Web Languages	English / Turkish / Russian / Korean / Persian
Image	
Max. Resolution	VIS: 2688 × 1520@ 25/30 fps; LWIR: 1920 × 1080 @ 25/30 fps
Video Compression	H.265 / H.264
Illumination	
Max. Distance	≥500m
Wavelength	850nm±10nm (940nm optional)

Angle of Illumination	Synchronized Zoom, Min. Angle: 2°, (effective distance>500m, spot diameter <36m) Max. Angle: 70°, (effective distance>40m)
PT Unit	
Gear Type	Direct Gear Drive
Motor Type	Torque Motor
Rotation Range	Pan: 360° Continuous Rotation; Tilt: +90° ~ -90°
Speed	Pan: 0.09° ~ 120°/Sec; Tilt: 0.09° ~ 110°/Sec
Preset Position Accuracy	± 0.02°
Preset	512 (Customizable)
Functions	Cruise Scan/Auto Scan; Support Query Angle Return Function (optional real-time angle return)
Gyroscope (Optional)	2-Axis (Yaw & Pitch), MENS
Auxiliary (Optional)	
Laser Rangefinder	15m ~ 3000m, ±1m, 1535nm
Wide-Angle Camera	1/1.8" 4MP, 4mm F1.0
GPS	Support
Digital Compass	Support
Interface	
Ethernet	RJ45, 100M Network Port
Serial Port	RS485, Compatible with PELCO protocols
General	
Operating Conditions	-40℃ ~ 65℃; Humidity ≤ 90%
Protection	IP66; TVS 8000V Lightning Protection, Surge Protection and Voltage Transient Protection; NEMA 4X
Power Supply	24V DC ± 20%
Power Consumption	Max: 60W, Avg: 15W
Dimensions	333mm*339mm*252.8mm
Weight	< 20KG