AXIS Q8752-E Mk II Bispectral PTZ Camera

Thermal detection and visual verification

This bispectral camera offers reliable thermal detection and visual verification. It features 360° infinite pan for fast repositioning and continuous tracking of objects. Electronic image stabilization (EIS) on both channels ensures smooth video. And Lightfinder 2.0 and Forensic WDR deliver true colors and great detail in near darkness or challenging light. Built on a powerful analytics platform, it's easy to add Axis and 3rd party analytics. It's possible to connect this camera using fiber optic cabling to overcome distance and bandwidth limitations.

> **Thermal and visual camera in one**
> **360° infinite pan**
> **Dual Electronic Image Stabilization**
> **Built-in cybersecurity**
> **Thermal palettes**

AXIS Q8752-E Mk II Bispectral PTZ Camera

Variants

AXIS Q8752-E Mk II 35 mm 8.3 fps
AXIS Q8752-E Mk II 35 mm 30 fps
AXIS Q8752-E Mk II Zoom 8.3 fps
AXIS Q8752-E Mk II Zoom 30 fps

Camera

Image sensor
Visual: 1/2.8" progressive scan CMOS
Thermal: Uncooled microbolometer 640x480 pixels, pixel size: 17 µm. Spectral range: 8–14 µm

Lens
Visual: Varifocal, 4.3-137.6 mm, F1.4-4.0
Horizontal field of view: 58.5°–2.4°
Vertical field of view: 35°–1.3°
Autofocus, auto-iris
Thermal:
35 mm:
Athermalized 35 mm, F1.2
Near focus distance: 31 m (102 ft)
Horizontal field of view: 17°
Vertical field of view: 12.8°
Zoom:
Athermalized 35–105 mm, F1.6
Near focus distance: 22–195 m (72–640 ft)
Near manual focus distance: 7 m (23 ft)
Horizontal field of view: 18°–6°
Vertical field of view: 13.5°–4.5°

Day and night
Visual: Automatic IR-cut filter

Minimum illumination
Visual:
Color: 0.06 lux at 50 IRE, F1.4
B/W: 0.01 lux at 50 IRE, F1.4

Sensitivity
Thermal: NETD < 50 mK

Shutter speed
Visual: 1/66500 s to 2 s

Pan/Tilt/Zoom
Pan: 360° endless, 0.05°–120°/s
Tilt: -90° to +45°, 0.05°–65°/s
Jerk-free movements at low speed: ±0.01°/s (at 0.05°/s)
Preset accuracy: 0.05°
256 preset positions, guard tour, control queue, focus window, on-screen directional indicator, de-icing control[1], dynamic load balancing[2]
Visual: 32x optical zoom, 12x digital zoom, total 384x zoom, focus recall
Thermal:
Zoom: 3x thermal zoom and 4x digital zoom, total 12x zoom
35mm: fixed focal, no digital zoom

System on chip (SoC)

Model
ARTPEC-7

Memory
2 GB RAM, 512 MB Flash

Compute capabilities
Deep learning processing unit (DLPU)

Video

Video compression
H.264 (MPEG-4 Part 10/AVC) Baseline, Main and High Profiles
H.265 (MPEG-H Part 2/HEVC) Main Profile
Motion JPEG

Resolution
Visual: 1920x1080 HDTV 1080p to 320x180
Thermal: Sensor is 640x480. Image can be scaled up to 800x600 (SVGA)

Frame rate
Visual: Up to 50/60 fps (50/60 Hz) in HDTV 1080p
Thermal: Up to 8.3 fps or 30 fps depending on model

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1. *Internal heaters to defrost ice build-up, activated by HTTP API (VAPIX).*
2. *Pan and tilt motors actively compensate for changes in load conditions induced by external forces such as high winds. This allows minimum power consumption at low wind.*

Video streaming

Multiple, individually configurable streams in H.264, H.265 and Motion JPEG
Axis Zipstream technology in H.264 and H.265
Controllable frame rate and bandwidth
VBR/ABR/MBR H.264/H.265
Low latency mode

WDR

Forensic WDR: Up to 120 dB depending on scene

Image settings

Visual: Saturation, contrast, brightness, sharpness, white balance, day/night threshold, tone mapping, exposure control, exposure zones, defogging, compression, dynamic text and image overlay, 32 individual polygon privacy masks, electronic image stabilization
Thermal: Compression, brightness, sharpness, contrast, local contrast, exposure control, exposure zones, text and image overlay, electronic image stabilization

Audio

Audio streaming

One-way (simplex, half duplex)

Audio input

External microphone input or line input

Audio encoding

24bit LPCM, AAC-LC 8/16/32/48 kHz, G.711 PCM 8 kHz, G.726 ADPCM 8 kHz, Opus 8/16/48 kHz
Configurable bitrate

Network

Network protocols

IPv4, IPv6 USGv6, ICMPv4/ICMPv6, HTTP, HTTPS[3], HTTP/2, TLS, QoS Layer 3 DiffServ, FTP, SFTP, CIFS/SMB, SMTP, mDNS (Bonjour), UPnP®, SNMP v1/v2c/v3 (MIB-II), DNS/DNSv6, DDNS, NTP, NTS, RTSP, RTP, SRTP/RTSPS, TCP, UDP, IGMPv1/v2/v3, RTCP, ICMP, DHCPv4/v6, ARP, SSH, LLDP, CDP, MQTT v3.1.1, Secure syslog (RFC 3164/5424, UDP/TCP/TLS), Link-Local address (ZeroConf)

System integration

Application Programming Interface

Open API for software integration, including VAPIX® and AXIS Camera Application Platform (ACAP); specifications at *axis.com/developer-community*.
One-click cloud connection
ONVIF® Profile G, ONVIF® Profile M, ONVIF® Profile S, and ONVIF® Profile T, specifications at *onvif.org*

Video management systems

Compatible with AXIS Camera Station Edge, AXIS Camera Station Pro, AXIS Camera Station 5, and video management software from Axis' partners available at *axis.com/vms*.

Onscreen controls

Image stabilization
Day/night shift
Video streaming indicator
IR illumination
Privacy masks
Media clip
Focus recall zone
Timed wiper
Wiper
Heater

Edge-to-edge

Microphone pairing
Speaker pairing

Event conditions

Application
Device status: above/below/within operating temperature, IP address blocked/removed, live stream active, network lost, new IP address, PTZ power failure, ring power overcurrent protection, system ready
Digital audio: digital signal contains Axis metadata, digital signal has invalid sample rate, digital signal missing, digital signal okay
Edge storage: recording ongoing, storage disruption, storage health issues detected
I/O: digital input is active, manual trigger, virtual input is active
MQTT: MQTT client connected
PTZ: PTZ control queue, PTZ malfunctioning, PTZ movement, PTZ preset position reached, PTZ ready
Scheduled and recurring: schedule
Video: average bitrate degradation, day-night mode

Event actions

Day-night mode
Guard tour
I/O: toggle I/O once, toggle I/O while the rule is active
Illumination: use lights, use lights while the rule is active
MQTT: send MQTT publish message
Notification: HTTP, HTTPS, TCP and email
Overlay text
PTZ: PTZ preset, start/stop guard tour
Recordings: record audio, record audio while the rule is active
Security: erase configuration
SNMP trap messages: send, send while the rule is active
Images or video clips: FTP, SFTP, HTTP, HTTPS, network share and email
WDR mode
Wiper: use wiper

Built-in installation aids

Pixel counter, level grid

Analytics

Applications
Included
AXIS Motion Guard, AXIS Fence Guard, AXIS Loitering Guard
AXIS Video Motion Detection, Orientation AID PTZ, audio detection, advanced gatekeeper
Support for AXIS Camera Application Platform enabling installation of third-party applications, see *axis.com/acap*

Approvals

Product markings
UL/cUL, CE, KC, VCCI, RCM

Supply chain
TAA compliant

EMC
CISPR 35, CISPR 32 Class A, EN 55035,
EN 55032 Class A, EN 50121-4, EN 61000-6-1,
EN 61000-6-2
Australia/New Zealand: RCM AS/NZS CISPR 32 Class A
Canada: ICES(A)/NMB(A)
Japan: VCCI Class A
Korea: KS C 9835, KS C 9832 Class A
USA: FCC Part 15 Subpart B Class A
Railway: IEC 62236-4

Safety
CAN/CSA C22.2 No. 62368-1 ed. 3,
IEC/EN/UL 62368-1 ed. 3

Environment
IEC 60068-2-1, IEC 60068-2-2, IEC 60068-2-6,
IEC 60068-2-14, IEC 60068-2-27, IEC 60068-2-78,
IEC/EN 60529 IP66, IEC/EN 62262 IK10, NEMA 250
Type 4X, NEMA TS 2 (2.2.7-2.2.9),
ISO 12944-6:2018 C5 (High), MIL-STD-810H
(Method 501.7, 502.7, 505.7 506.6, 507.6, 509.7, 521.4)

Network
NIST SP500-267, IPv6 USGv6

Cybersecurity
ETSI EN 303 645, BSI IT Security Label, FIPS 140

Cybersecurity

Edge security
Software: Signed OS, brute force delay protection, digest authentication and OAuth 2.0 RFC6749 OpenID Authorization Code Flow for centralized ADFS account management, password protection
Secure keystore: TPM 2.0 (CC EAL4+, FIPS 140-2 Level 2)
Secure boot, encrypted filesystem (AES-XTS-Plain64 256bit)

Network security
IEEE 802.1X (EAP-TLS, PEAP-MSCHAPv2)[4],
IEEE 802.1AE (MACsec PSK/EAP-TLS), IEEE 802.1AR,
HTTPS/HSTS, TLS v1.2/v1.3[4], Network Time Security
(NTS), X.509 Certificate PKI, host-based firewall

Documentation
AXIS OS Hardening Guide
Axis Vulnerability Management Policy
Axis Security Development Model
AXIS OS Software Bill of Material (SBOM)
To download documents, go to *axis.com/support/cybersecurity/resources*
To read more about Axis cybersecurity support, go to *axis.com/cybersecurity*

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4. *This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (openssl.org), and cryptographic software written by Eric Young (eay@cryptsoft.com).*

General

Casing
IP66-, NEMA 4X- and IK10-rated[5] powder coated aluminum
Color: white NCS S 1002-B
Front window: **visual:** glass, **thermal:** germanium
Long-life silicone wiper
Weathershield: high-impact UV-stabilized thermoplastic
This product can be repainted.
For repainting instructions, go to the product's support page. For information about the impact on warranty, go to *axis.com/warranty-implication-when-repainting*.

Power
52–58 V DC, typical 25 W, max 185 W
Power loss recovery[6]
Surge protection 2kV, according to EN 61000-4-5

Connectors
Audio: 3.5 mm mic/line in
I/O: 6-pin 2.5 mm terminal block for 4 configurable inputs/outputs
Network: Shielded RJ45 10BASE-T/100BASE-TX/ 1000BASE-T, SFP slot (SFP module not included)[7]
Power: DC input, terminal block
Illumination (in upper part of positioning unit)

Storage
Support for microSD/microSDHC/microSDXC card
Support for SD card encryption (AES-XTS-Plain64 256bit)
Recording to network-attached storage (NAS)
For SD card and NAS recommendations see *axis.com*

Operating conditions
-40 °C to 60 °C (-40 °F to 140 °F)
Maximum temperature according to NEMA TS 2 (2.2.7): 74 C (165 F)
Start-up temperature: -40 °C (-40 °F)
Humidity 10-100% RH (condensing)
Wind load when PTZ operational
37 m/s (83 mph)[8], 45 m/s (100 mph) without weathershield
With AXIS PT IR Illuminator Kit C: 40 m/s (90 mph), 52 m/s (116 mph) without weathershield
Maximum effective projected area (EPA): 0.121 m^2

Storage conditions
Temperature: -40 °C to 65 °C (-40 °F to 149 °F)
Humidity: 5–95% RH (non-condensing)

Dimensions
244 x 360 x 582 mm (9.5 x 14 x 23 in)
For the overall product dimensions, see the dimension drawing in this datasheet.
Effective Projected Area (EPA): 0.121 m^2 (0.39 ft^2)

Weight
35 mm: 14.9 kg (32.8 lb)
Zoom: 15.3 kg (33.7 lb)

Box content
Camera, installation guide, connector kit

Optional accessories
AXIS Surveillance Cards, AXIS T94J01A Wall Mount, AXIS T94N01G Pole Mount, AXIS T95A64 Corner Bracket, AXIS Washer Kit B, AXIS Cable 24 V DC/24-240 V AC 22 mh , AXIS T8611 SFP Module LC.LX, AXIS T8612 SFP Module LC.SX, AXIS PT IR Illuminator Kit C, AXIS T99 Illuminator Bracket Kit A, Power supply DIN PS56 480 W, AXIS T61 Audio and I/O Interface Series
For more accessories, see *axis.com/products/axis-q8752-e-mk-ii#compatible-products*

System tools
AXIS Site Designer, AXIS Device Manager, product selector, accessory selector, lens calculator
Available at *axis.com*

Languages
English, German, French, Spanish, Italian, Russian, Simplified Chinese, Japanese, Korean, Portuguese, Polish, Traditional Chinese, Dutch, Czech, Swedish, Finnish, Turkish, Thai, Vietnamese

Warranty
5-year warranty, see *axis.com/warranty*

Export control
This product is subject to export control regulations, and you should always comply with all applicable national and international export or re-export control regulations.

Part numbers
Available at *axis.com/products/axis-q8752-e-mk-ii#part-numbers*

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5. *Excluding front window.*
6. *IP data and home position retained, and guard tour and other events resumed.*
7. *If a network link is established via both the SFP slot and the RJ45 connector, the former acts as the primary link and the latter as the fail-over link.*
8. *The values shown are based on results from actual wind tunnel testing. For drag force calculations, use maximum effective projected area (EPA).*

Sustainability

Substance control
PVC free
RoHS in accordance with EU RoHS Directive 2011/65/
EU and 2015/863, and standard EN IEC 63000:2018
REACH in accordance with (EC) No 1907/2006. For SCIP
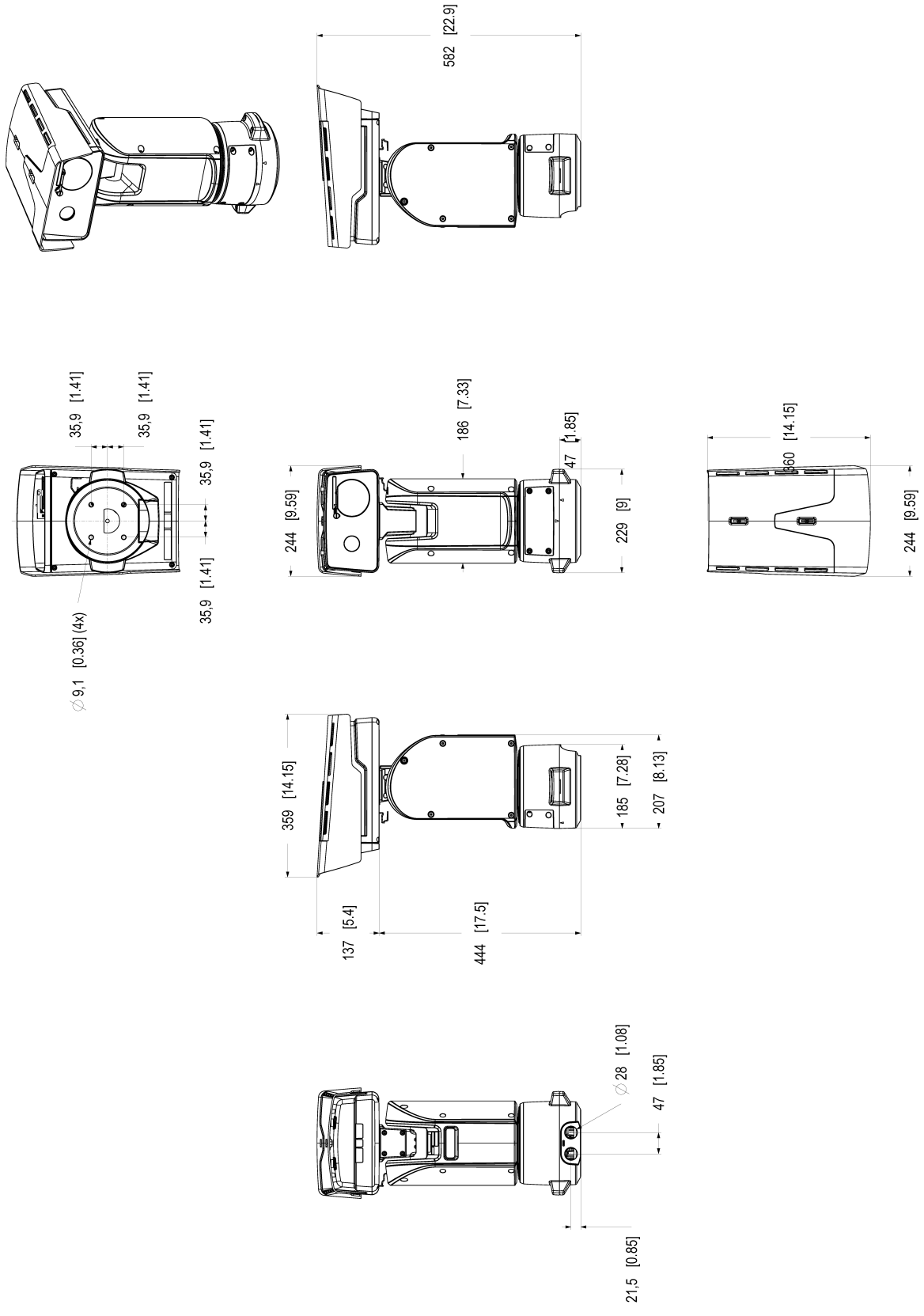UUID, see *echa.europa.eu*

Materials
Screened for conflict minerals in accordance with OECD
guidelines
To read more about sustainability at Axis, go to *axis.
com/about-axis/sustainability*

Environmental responsibility
axis.com/environmental-responsibility
Axis Communications is a signatory of the UN Global
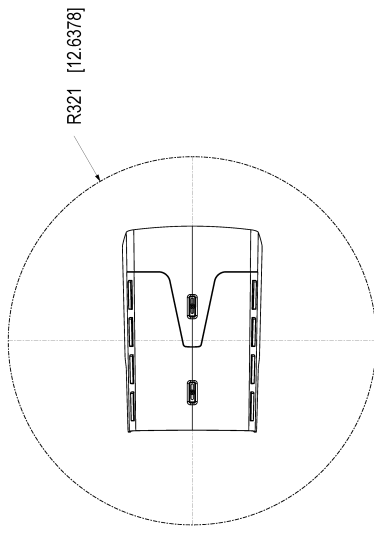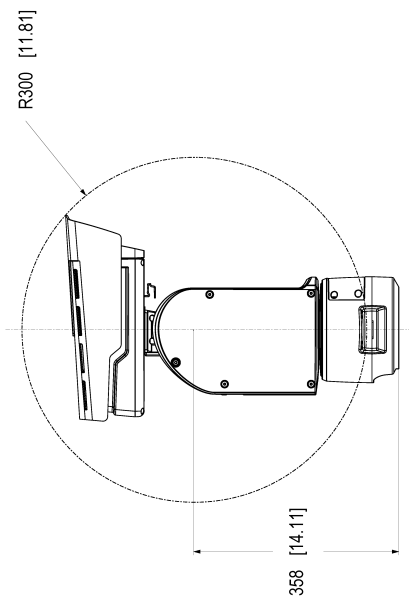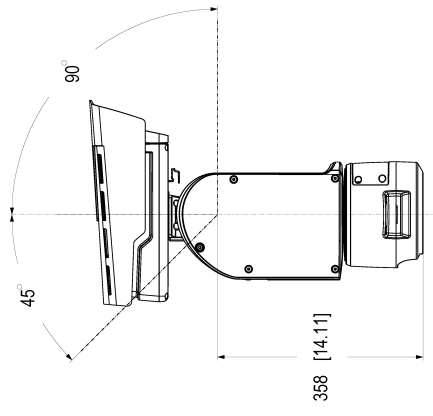Compact, read more at *unglobalcompact.org*

582 [22.9]

35,9 [1.41]
35,9 [1.41]
35,9 [1.41]
35,9 [1.41]
∅ 9,1 [0.36] (4x)

186 [7.33]
244 [9.59]
47 [1.85]
229 [9]

360 [14.15]
244 [9.59]

359 [14.15]
185 [7.28]
207 [8.13]
137 [5.4]
444 [17.5]

∅ 28 [1.08]
47 [1.85]
21,5 [0.85]

AXIS Q8752-E MkII Bispectral PTZ Camera

R300 [11.81]

R321 [12.6378]

358 [14.11]

Tilt

90°

45°

358 [14.11]

AXIS Q8752-E MkII Bispectral PTZ Camera

Electronic image stabilization

Electronic image stabilization (EIS) provides smooth video in situations where a camera is subject to vibrations. Built-in gyroscopic sensors continuously detect the camera's movements and vibrations, and they automatically adjust the frame to ensure you always capture the details you need. Electronic image stabilization relies on different algorithms for modeling camera motion, which are used to correct the images.

Lightfinder

The Axis Lightfinder technology delivers high-resolution, full-color video with a minimum of motion blur even in near darkness. Because it strips away noise, Lightfinder makes dark areas in a scene visible and captures details in very low light. Cameras with Lightfinder discern color in low light better than the human eye. In surveillance, color may be the critical factor to identify a person, an object, or a vehicle.

Forensic WDR

Axis cameras with wide dynamic range (WDR) technology make the difference between seeing important forensic details clearly and seeing nothing but a blur in challenging light conditions. The difference between the darkest and the brightest spots can spell trouble for image usability and clarity. Forensic WDR effectively reduces visible noise and artifacts to deliver video tuned for maximal forensic usability.

Thermal palettes

A mode that allows the user to select a color range to show relative temperature differences in a scene. The user can choose between black-and-white ranges, color ranges, or a mix between the two. The same input (measured thermal radiation) can result in different visual appearance depending on how each pixel value is mapped to a color range.

Zipstream

The Axis Zipstream technology preserves all the important forensic in the video stream while lowering bandwidth and storage requirements by an average of 50%. Zipstream also includes three intelligent algorithms, which ensure that relevant forensic information is identified, recorded, and sent in full resolution and frame rate.

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