

Immersive 360° Coverage With Digital Pan-tilt-zoom



Overview

Verkada's CF81-E fisheye camera delivers dynamic viewing experiences by leveraging advanced onboard processing and a wide-angle 12MP image sensor. Users can choose between five viewing modes: panoramic, digital pan-tilt-zoom, 2-way split, 3-way split and 4-way split.

The CF81-E is IP67 weather rated for both indoor and highly-exposed outdoor installations. The exterior housing provides IK10 protection against direct impacts from vandals, hail and flying debris. Like all Verkada cameras, the CF81-E works out-of-the-box without any additional configurations.

All Verkada cameras include standard features like data encryption, onboard storage and advanced motion-based insights so organizations are able to quickly scale their coverage and increase situational awareness across any number of locations.

Key features

Coverage

- 12MP image sensor for wide-angle coverage
- Five viewing modes
 - 2-way split, 3-way split and 4-way split
 - Panoramic
 - Digital pan-tilt-zoom
- 20m / 66ft IR illuminators for nighttime visibility

Storage and processing

- 512GB-2TB of onboard storage
- Up to 90 days of retention in standard quality
- Low-bandwidth impact, only using 20-50 kbps

Certifications

- IP67 weather rating
- IK10 impact rating
- NDAA compliant



Verkada's hybrid cloud architecture



No NVR or DVRs

Industrial-grade onboard storage saves up to 365 days of continuous video¹

Easy to scale

Bandwidth friendly and supports thousands of cameras across unlimited locations

Centralized management

Modern platform enables secure access on any device from anywhere in the world

The Reliability of Onboard Storage, With the Accessibility of the Cloud

Simple to install

- No NVRs, DVRs, or servers—just a PoE connection
- Cameras come online and configure in minutes
- No added software or complexities like port forwarding

Easy to use

- Centralized management for secure remote access on any device nearly anywhere
- No training required to access footage and features
- Find, download and share footage from any device

Advantages of cloud-managed solution

- Real-time alerts if cameras fall offline
- SAML-based integration with single-sign on (SSO) solutions
- Continuous updates with new AI features
- Instantly share live footage via SMS and email
- Live, proactive alerting based on unusual activity

Ready for scale

- Bandwidth-friendly, operating at just 20–50 kbps
- Scale to thousands of cameras per location
- No added equipment needed to support additional cameras

No hidden costs

- Hardware includes a 10-year warranty
- Automatic firmware updates keep systems secure
- New features and enhancements are added at no additional costs

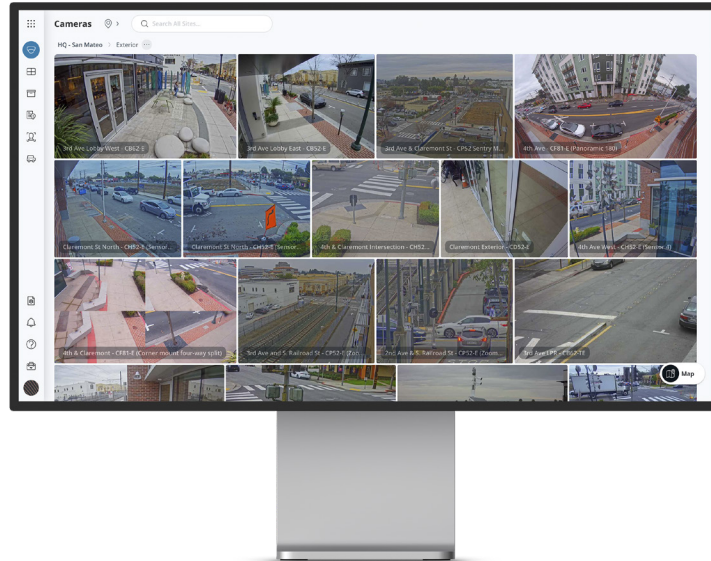


1. All our cameras record in "adaptive quality," capturing both standard and high quality streams. Standard quality (SQ) video is stored up to the amount of retention specified by the customer. The amount of high quality video stored on the camera will depend on the amount of motion detected by the camera over time. To learn more, visit our website: <https://docs.verkada.com/docs/adaptive-quality-recording-whitepaper.pdf>



Verkada Command overview

All-in-one Cloud-based Management Software for Verkada Security Cameras



Command, Verkada’s cloud-based management software, is designed to deliver simple access and management for all cameras and users across all sites from virtually anywhere in the world. From Command, users can set up new cameras, create sites, manage settings, access live and archived footage, manage users and access the advanced features powered by Verkada’s edge-based analytics.

Manage from anywhere

- Remotely access footage and manage sites from any supported browser or device
- Native apps for iOS, Android and Verkada’s VX52 Viewing Station
- Receive alerts for offline cameras, tampering and motion detection

Effortlessly archive and share

- Command licenses include unlimited cloud archiving and 30-days of cloud backup
- Easily export any footage in MP4 format and allow recipients to verify its authenticity
- Share Live Links and floorplans with first responders

Scale with simplicity

- Add more devices and sites without complicating the user experience
- Leverage granular roles and permissions to manage users at scale
- Bring cameras online without 3rd party plugins, thick clients or downloads

Stay secure from the ground up

- Stay secure with data encrypted in transit (AES 128) and at rest (AES 256)
- Access cameras securely without port-forwarding, VPNs, or complicated configurations
- Receive automatic firmware updates to stay a step ahead of emerging threats

Quickly detect and respond to threats

- Stay informed with customizable, intelligent alerts
- Speed up investigations with intelligent people and face detection
- Search and filter to find vehicles of interest and detected license plates

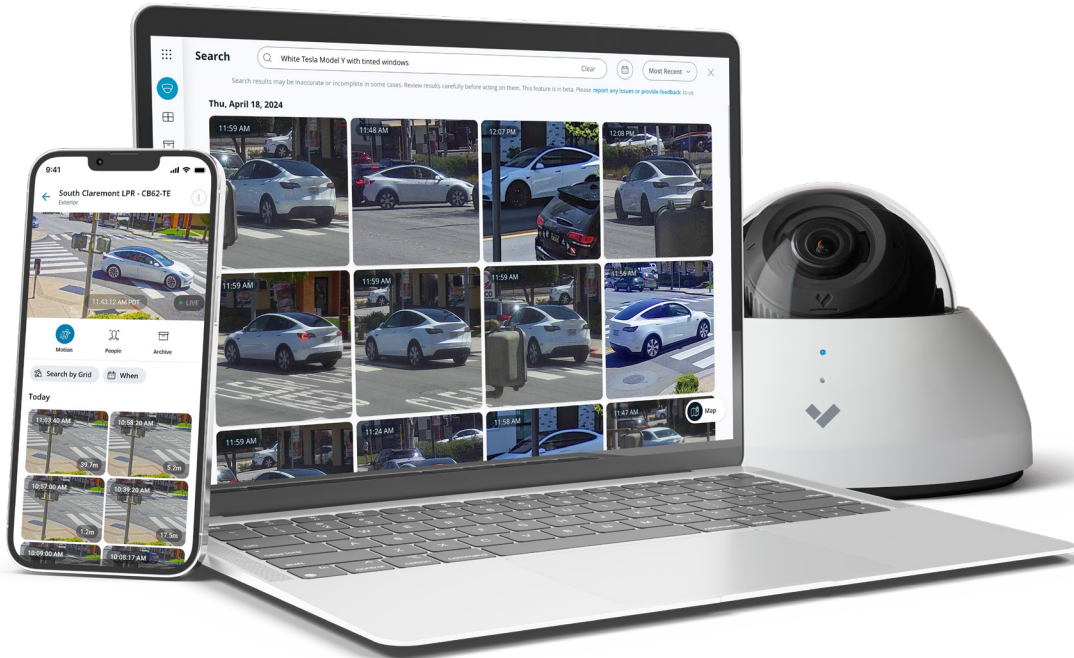
Streamline incident management

- Consolidate relevant footage to easily review and annotate
- Share incidents while controlling permissions and retaining audit logs
- Export incidents in a zip file and auto-generate incident reports



Verkada's AI-Powered Search¹

Use Natural Language to Conduct Investigations Directly Relevant to Your Organization



Verkada's latest AI-powered search in Command gives users the ability to search for a near-limitless number of attributes of people and vehicles across their organization. With AI-powered search, users can leverage their own words in a freeform search bar to describe a person or vehicle of interest and conduct highly-granular investigations as a result.

Tap into AI to unlock nearly unlimited search criteria

- A high-performance text-to-image open source AI model and our own in-house enhancements turn the Command search bar into a blank canvas for freeform text queries—allowing users to conduct investigations into specific, granular attributes of people and vehicles.

Structure detailed queries beyond the norm

- Search for specific attributes like articles of clothing, apparel, brands, and more, to drill-down into more granular attributes of people that can make investigations more accurate and streamlined.
- Identify vehicles of interest with detailed criteria like tinted windows, spoilers, bumper stickers, text (like “UPS truck” or “San Mateo School Bus”) and more, to quickly detect vehicles pertinent to one’s investigation.

Conduct investigations that address different industry-specific use cases by time and location²

- Better investigate slip-and-fall cases, shoplifting, break-ins, occupational hazards, workplace safety compliance and more, using freeform queries.
- Organize searches by time and location for added specificity and more relevant insights of people and vehicles.

Take actionable steps once the subject or vehicle of concern is identified

- After identifying a specific person or vehicle, archive the relevant footage and create an incident report.
- Sift through results of people, download their image to add them as a POI or search their face across all of your organization’s cameras for exhaustive analysis of people under investigation.

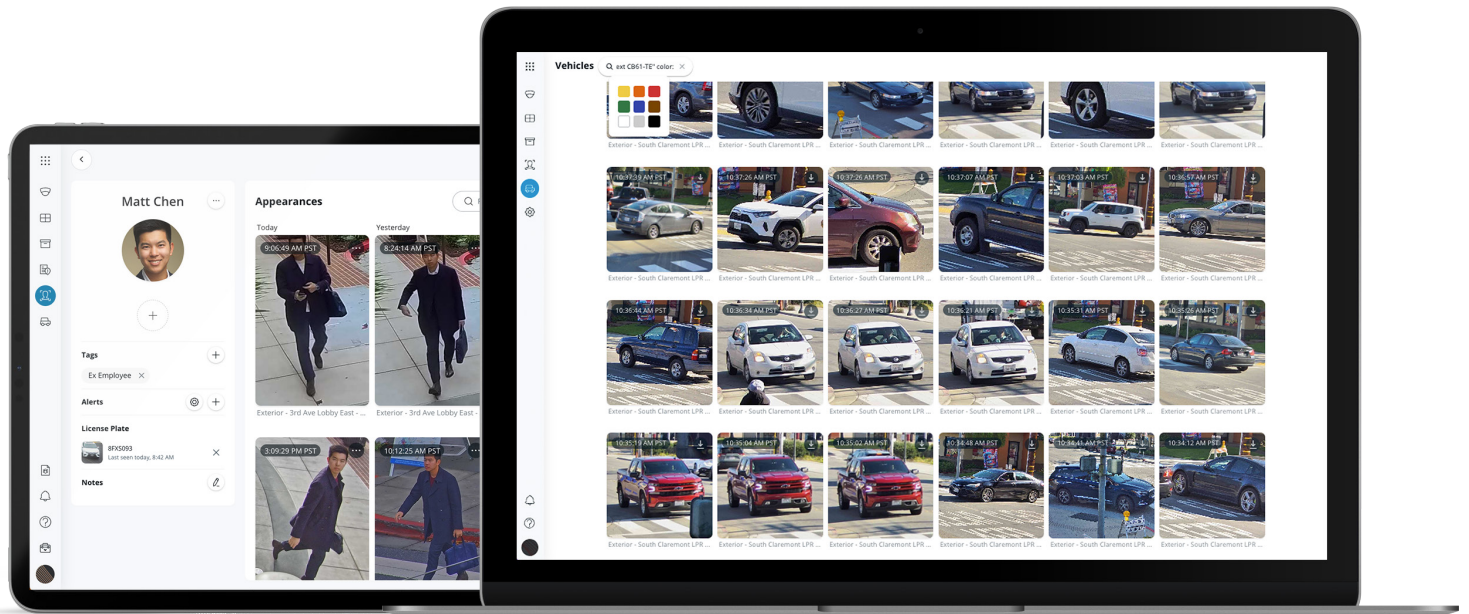
1. AI-powered search is currently supported in English only.

2. Check out our [User Guide](#) for example queries and methods for constructing your own queries relevant to your organization’s requirements.



Verkada's People and Vehicle Analytics

Simplify Investigations with Intelligent People, Face and Vehicle Detection



People and Vehicle analytics combine intelligent edge-based video processing with computer vision to give users high-quality, cloud-based images of all individuals and vehicles identified in the scene. Using these analytics, customers can filter for specific attributes of people or vehicles (like clothing color or vehicle type) on a camera-by-camera basis.

Bring Intelligence to Investigations

Face search

- Quickly search for matching people by selecting an existing face from your organization or by uploading an image

Person and Vehicle history

- Browse through high-resolution snapshots of people and vehicles detected
- Save snapshots or easily access associated full-res video
- Search for matched people and vehicles across your entire organization with cross-camera search

Attribute filters

- Drill-down into specific cameras to filter for people and vehicles based on a range of attributes, including clothing or vehicle color, gender appearance, vehicle body type and facial matches

Person and License Plate of Interest notifications

- Create a Person of Interest using an uploaded photo or existing face in Command
- Capture a license plate of interest with our CB52-TE or CB62-TE Bullet cameras
- Set up proactive SMS/email alerts for when a matching face is detected by a camera
- Link License Plates of Interest to a Person of Interest



Fisheye camera Tech Specs



CF81-E

Camera features

Image Sensor	1/2.3" Progressive CMOS	Shutter Speed	1/30 sec. to 1/16,000 sec.
Sensor Resolution¹	12MP (4056 x 3040); active pixels (3008 x 3008)	Day/Night	IR-cut filter for day and night function
Lens Type	Fixed	IR Cut Filter	Yes
Focal Length	1.18mm	IR Range	20m / 66ft
Aperture	F2.18	Minimum Illumination	0.009 lux @ F1.9 (Color) 0 lux with IR Illuminators on
Iris	Fixed	Onboard Storage	Capacity: From 512GB to 2TB Card: MicroSD, SDXC
Field of View (after LDC²)	Horizontal: 180° Vertical: 180° Diagonal: 180°	CPU	Ambarella CV22S88
Sensor Movement	N/A		

Standard video settings

Compression	H.265, H.264	Historical Video Settings	Adaptive quality ¹
Frame Rate³	24fps	WDR Technology	120dB dynamic range, true WDR, dual exposure
Live Streaming Settings	High quality (HQ): Up to 4,500 Kbps (default) Standard quality (SQ): Up to 600 Kbps		

Standard audio settings

Audio	Supported	Interface	Built-in microphone
Audio Capacity	One-way audio	Effective Range	5m / 15ft

Power and network

Power Input⁴	With IR: IEEE 802.3af Type 1 PoE/ IEEE 802.3at Type 2 PoE+ Extended temperature range: IEEE 802.3at Type 2 PoE+	Connectivity	RJ-45 cable connector for network/PoE connection; 10/100 Mbps
Power Consumption⁴	With IR: 42.5 - 57V, 0.413-0.31A, 17.59W Without IR: 42.5 - 57V, 0.121-0.09A, 5.16W Extended temperature range: 42.5 - 57V, 0.57A - 0.422A, 24.1W	RTSP	RTSP 1.0 RFC 2326 Max concurrent streams: 2 Audio support: No

1. All our cameras record in "adaptive quality," capturing both standard (SQ) and high quality (HQ) streams. SQ video is stored up to the amount of retention specified by the customer. The amount of HQ video stored on the camera will depend on the amount of motion detected by the camera over time. To learn more, visit our website: <https://docs.verkada.com/docs/adaptive-quality-recording-whitepaper.pdf>

2. Lens Distortion Correction (LDC) crops the sensor field of view to deliver a rectified, undistorted output image.

3. Frame rate can be adjusted by support.

4. Extended temperature range includes operating temperatures below -8.5°C / 16.7°F and assumes IR will be enabled.



Fisheye camera Tech Specs



CF81-E

General

Operating Temperature	-40°C to 50°C / -40°F to 122°F	LED Indicator	System power and status indicator
Humidity	0 to 90%	Warranty	10 Years
Certifications	FCC, ICES, CE, UL, CB, IK10 impact rating, IP67 weather rating	Included Accessories	Quick installation guide, screw packs, mount plate, mounting template, water-proof connectors, conduit adapter, T10 security driver, cable gland wrench

Mechanical

Weight	Camera: 1023.42g / 36.1oz Mount plate: 178.59g / 6.30oz	Body	Aluminum, plastic dome trim
Dimensions	Ø: 155mm / 6.10in, H: 71.62mm / 2.82in with mount plate Ø: 155mm / 6.10in, H: 64.42mm / 2.54in without mount plate		

Software capabilities

Alerts	Camera status, motion detection, people detection, vehicle detection, Person of Interest detection, crowd detection	Streaming and Storage	Cloud backup, configurable retention days, selectable storage location, low bandwidth mode, timelapse, RTSP
People Analytics	People search, attribute search, face search, Occupancy Trends, motion search, trajectory analysis, ⁵ selective face blurring, AI-powered search ⁶	Sharing and Privacy	Live Links, privacy regions, audit log
Vehicle Analytics	Vehicle search, attribute search, motion search, trajectory analysis, ⁵ AI-powered search ⁶		

5. Trajectory analysis is supported in panoramic and ePTZ circle mode.

6. AI-powered search is currently supported in English only.



Professional video monitoring Stop Crimes in Progress

Verkada's professional video monitoring solution enables organizations to detect and respond to threats as they happen, using only their cameras.



Turn your cameras into a monitored alarm system

Professional video monitoring allows organizations to turn their Verkada cameras into a complete, monitored alarm solution - no extra hardware required. Simply select which cameras should be monitored, set an arm/disarm schedule and choose how monitoring agents should respond to a threat, such as remote talk down or notifying police.

How it works

Detect unusual activity

- Choose which cameras should be monitored and when. An alarm is triggered if a person is detected while the system is armed.
- Other Verkada devices, including intrusion sensors, access control and environmental sensors, can also be configured as alarm triggers.

Assess the threat

- Monitoring agents immediately review camera footage to determine if a person is actually present.*
- Video-verification helps to ensure priority police response and screens out false alarms.

Take action

- If there is a person present, the monitoring agent will immediately notify your call list.
- Agents can also request emergency dispatch or talk down to intruders through an on-site speaker.
- If there is not a person present, the agent will dismiss the incident.

Key benefits



Detect intruders before they enter your building

Protect your perimeter with cameras that can detect intruders the minute they set foot on your property.



No alarm panel or sensors needed

Use cameras as intrusion sensors and get all the benefits of a monitored alarm system without any extra hardware.



Cut back on expensive in-person guards

Cameras detect intruders and agents can take action, reducing the need for live guards patrolling or watching cameras.



Help get priority police response

Video-verified alarms help the police know that they should respond quickly and helps you avoid false alarm fines.



Take action against intruders immediately

In addition to notifying law enforcement, our agents can talk down to intruders through a powerful speaker to scare them off.

*Professional monitoring with video verification is included in the LIC-BA Standard Alarm License or the LIC-BV Premium Alarm License. One License is required per location, and includes up to 50 monitored cameras. Monitoring is provided by fully redundant, US-based, UL-listed central monitoring stations with Five Diamond Certification from The Monitoring Association. Certified monitoring centers are also available in Canada, the UK and Australia.



Ordering Information

Fisheye camera pricing

Model Number	MP ¹	WDR	Lens	IR Range	Onboard Storage	Maximum SQ Onboard Retention ¹	People/Vehicle Analytics	Cost (MSRP) ^{USD}
CF81-30E-HW	12MP	✓	Fixed	20m / 66ft	512GB	30 Days	✓	\$1,999
CF81-60E-HW	12MP	✓	Fixed	20m / 66ft	1TB	60 Days	✓	\$2,699
CF81-90E-HW	12MP	✓	Fixed	20m / 66ft	2TB	90 Days	✓	\$3,399

Video Security Cloud License pricing

Model Number	Description	Cost (MSRP) ^{USD}
LIC-CAM-1Y	1-Year Camera License	\$199
LIC-CAM-3Y	3-Year Camera License	\$549
LIC-CAM-5Y	5-Year Camera License	\$899
LIC-CAM-10Y	10-Year Camera License	\$1,799

Accessories pricing

ACC-MNT-ARM-1	Arm Mount	\$99
ACC-MNT-3	L-Bracket Mount	\$129
ACC-MNT-7	Angle Mount	\$149
ACC-MNT-8	Pendant Cap Mount (Gen 2)	\$69
INJ-POE-PLUS	PoE Plus (802.3at) Injector, GigE	\$129
ACC-CAM-SHIELD-1	Camera Weather Shield	\$79
ACC-MNT-CLIP-1	Tile Clip Mount	\$99

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Ordering Information

Viewing Station pricing

Model Number	Description	Cost (MSRP) USD
VX52-HW	VX52 Viewing Station	\$499
LIC-VX-1Y	1-Year Viewing Station License	\$499
LIC-VX-3Y	3-Year Viewing Station License	\$1,299
LIC-VX-5Y	5-Year Viewing Station License	\$1,999
LIC-VX-10Y	10-Year Viewing Station License	\$3,999