Verkada

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 end–to–end 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 video[1]

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
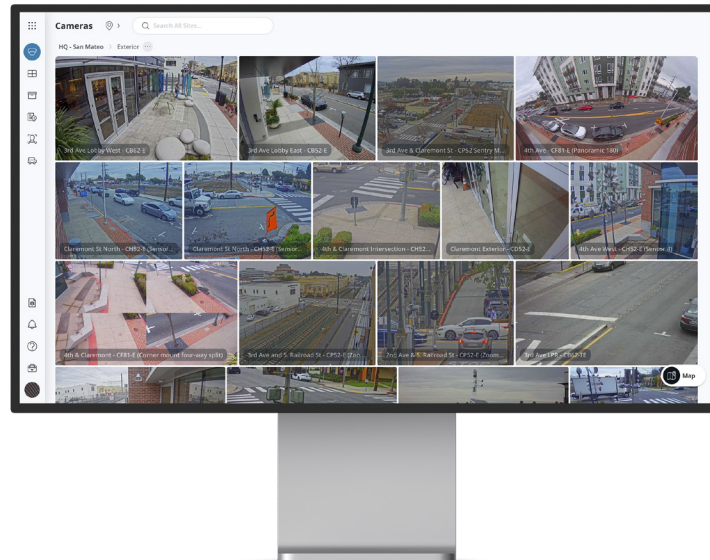- New features and enhancements are added at no additional costs

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 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
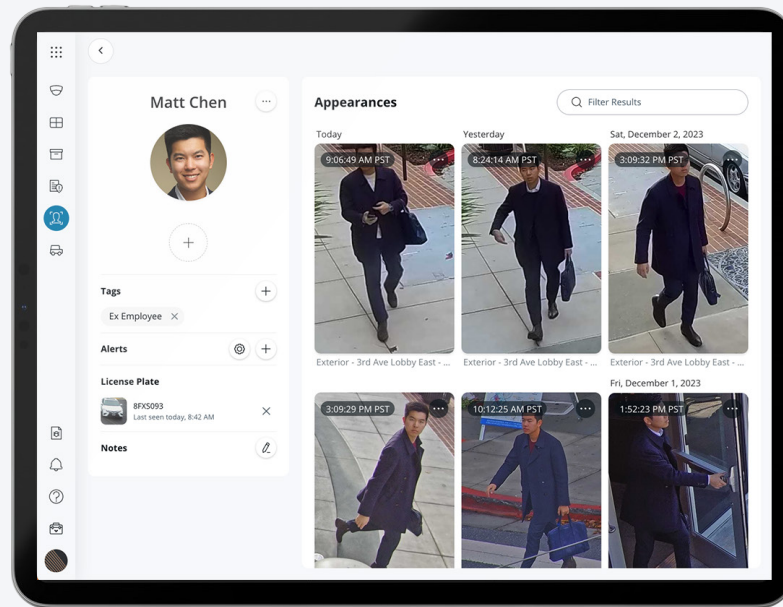
Streamline incident management

- 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 People Analytics
Simplify and Speed Up Investigations
With Intelligent People and Face Detection

People Analytics combines intelligent edge–based video processing with computer vision in the cloud to give users high–quality images of all individuals identified in the scene. Using People Analytics, customers can filter people by various attributes and expedite investigations.

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 history

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

Attribute filters

- Filter based on a range of attributes, including clothing color, gender appearance and facial matches
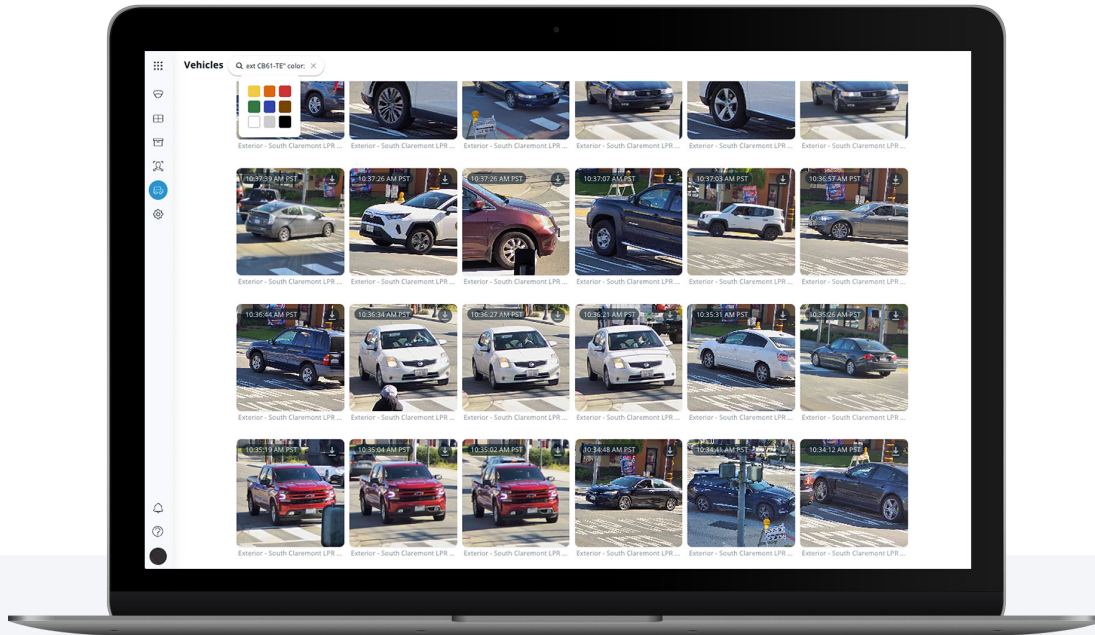
Person of Interest notifications

- Create a Person of Interest using an uploaded photo or existing face in Command
- 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

Verkada's Vehicle Analytics
Quickly Search and Filter
To Find Vehicles of Interest

Vehicle Analytics is a powerful edge–based feature that gives users high–quality images of all vehicles identified in a scene. With Verkada's centralized management platform, customers can filter vehicles by date, time, color and body type.

Find and Filter Vehicles With Ease

Vehicle history
- Browse through high-resolution snapshots of vehicles detected in frame
- Save snapshots or easily access associated full-res video

Investigate anywhere
- Vehicle Analytics is available from any compatible device and can be accessed from virtually anywhere in the world

Attribute filters
- Filter based on a range of attributes, including vehicle color and body type

Cross–camera search
- Easily find similar vehicles of interest across all cameras deployed across all sites
- Create and export playback of multiple angles of a vehicle to quickly provide evidence

License Plate Recognition (LPR)
- Leverage a dual-camera system to provide LPR coverage, monitor a live LPR feed and search by plate number
- Receive License Plate of Interest alerts via SMS or email with an image or link to review the associated footage

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 Resolution[1]	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 LDC[2])	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 Rate[3]	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 Input[4]	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 Consumption[4]	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

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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, motion search, trajectory analysis[5]	**Sharing and Privacy**	Live Links, privacy regions, audit log
Vehicle Analytics	Vehicle search, attribute search, motion search, trajectory analysis[5]		

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

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.

Meet your virtual guard

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 there is a threat to people or property.*
- Video-verification helps to ensure priority police response and screens out false alarms.

Take action
- If there is a legitimate threat, 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 no visible threat, 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-2	Arm Mount	$89
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