

HUALIAN INDUSTRIAL Body Worn Camera





WELCOME to HUALIAN



ABOUT US

Hualian Industrial is a technology-oriented high-tech enterprise that integrates information technology into intelligence, our scope covers the production of law enforcement equipment, including body worn camera, smart stun gun, rugged tablet and rugged notebook. Additionally, in terms of software system design services, Hualian Industrial independently develops intelligent management systems and security solutions, and can provide users with customized software and management systems according to the needs of different industries, aiming to provide customers with complete information technology construction services.

What is our value?



High Quality Solution Proposal



Move Forward the Industrial Development



Creates Values for Our



Customers Promote sustainable social

development

Research & Innovation

Hualian Industrial has always implanted the customer's quality requirements and expectations into the company's supplying chain system, integrated and quickly responded to customer needs, to ensure customers can experience the company's creation of value for each customer and provide high-quality products, services and solutions, so as to achieve the sustainable development of the relationship between enterprises and customers.





Body Worn Camera (BWC)







Body Worn Camera

System Diagram



New Hualian Body Worn Camera: BVH004W 2024 Model

- - TDD LTE: Bands 38, 39, 40, 41
 - FDD LTE: Bands 1, 3
 - WCDMA: Bands 1, 2, 5
 - TDSCDMA: Bands 34, 39
 - EVDO: BCO (824.025-848.985M UL, 869.025-893.985M DL)

- The BVH-004W shall be capable of streaming high-quality, low-latency, real-time video and audio with bandwidths ranging from as low as 9kbps to 2mbps, and all bandwidths in between. It supports over-the-air highresolution image retrieval of up to 1080p in user-definable areas via highquality JPEG format. Additionally, it enables over-the-air archive retrieval for remote access to stored data or images
 - Our Hualian Body-Worn Camera (BVH-004W) fully complies with the specified 3G/4G transmission bands, supporting:







"INDUSTRIAL" IMAGE CHIPSET SOLUTION – AMBARELLA S5L



Module design

Dual injection module

IP rate

IP68





BVH-004W Technical Parameters

• System D	esign •		 Physical Specs 	• Im	aging Specs
Operation System	Linux / RAM 1 GB	Work Tempt	(-30±3) °C to+ (55±2) °C		
Storage	64 GB	Storage Tempt	(-40±3) °C to+ (60±2) °C	Video Compression	H.264/H.265
Lens	5.0MP	Humidity	(93±3) %	Video Resolution	1440P / 1596P
Anti-shock	EIS	Display	2.0inch/ 320 * 240resolution / TFT IPSscreen / 4:3 ratio /	Video Format	.mp4 (with watermarks
Positioning	GPS, Galileo, GLONASS	' Dimension	87 * 60.5 * 29.5 mm		AES-256 encryption)
FOV	122 degree	Weight	157 gram	Video Division	5 / 10 / 20 mins
Distortion	< 5.1%	Battery	Lithium Polymer Battery / 2900mAh / 4.35V	Tagging	Supports
Infrared	>3 meters	Dattory life	Up to 10 hours @1080P 30fps recording time	Video Lines	1000line (2688 * 1512)
Network	4G / Wi-Fi 2.4 Ghz / 5Ghz				
Wi-Fi	802.11a / b / g / n / ac	Ingress protection	IP 68	Pixels	5M / 20M / 80M
Wi-Fi security	WPA2-PSK	Drop test	Comply to MIL-STD-810H	Image Format	IPEG
Video protocol Transmission	ONVIF	Mounted system	Pocket mount / MOLLE mount / Four point harness / Wing clip mount	Image Lines	
Pre-Event recording	2 mins	Buttons	Audio / Tag / Photographing / Recording / Power Switch / PTT /		1100lines
Post-event recording	5 mins	Indicator Lights	Green / Yellow / Red	Microphone	Built-in
Encryption	AES-XTS-256	Interface	USB Type -C can be transfer & charging thru USB 2.5mm Audio Jack/ Pogo pin	Loudspeaker power	1.0 W





Rugged Design

- Through the drop test of "2 meters height in 8 different angles", the surface of the product has no obvious scratches and the lens is not damaged, make sure it can work normally even in harsh conditions.
- Through the test of "continuous immersion in water depth of 1.2 meters for up to 60 minutes", the product has been in a normal working state during this period, proof that the air tightness is pretty secure.
- Use tempered glass to protect the screen.







Hash environment testing
Car press test
Waterproof test
Electronic shock test







HUR Super Lighter Catcher -

Input rate over 480M pixels/s • Multiple Exposure Line Staggered HDR Hardware Lens Distortion Correction with auto white balance

- Electronic Image Stabilization (EIS) •
- Dual independent sensor inputs
- 3D motion compensated noise reduction (MCTF)



Why HDR is necessary?



Without HDR

With HDR



Premium Recording Quality in Evening.



Infrared light recording



Day& Night Switch





Data Security & Encryption

- to playback.







H.265 Advantage

1. The intra prediction mode of H.265 standard video supports 33 directions, and provides better motion compensation processing and vector prediction methods.

2. Repeated quality comparison tests have shown that the video size encoded by H.265 will be reduced by about 39-44% compared to H.264 at the same image quality.

3. The data obtained through the subjective visual test shows that when the bit rate is reduced by 51-74%, the quality of H.265 encoded video can be similar to or even better than that of H.264 encoded video. The expected signal-to-noise ratio is better.

4. Compared with the subjective visual test ofH.264 and H.265 encoded video, the bit rate of thelatter is greatly reduced than that of the former.





BVH_004W Accessories



Hold Clip



Eagle hook



Dual molle



Wings clip



Chest harness



Live Streaming Platform Wi-Fi / 4G network





Мар

1.The platform can monitor all the BWC registered at the police station.

2.It can track the BWC's location using latitude and longitude.

3. We can view live GPS streaming alongside the video stream or play recorded videos through positioning.





Videos

1. The platform offers real-time monitoring of all registered cameras, providing highquality video and audio over wireless, wireline, and Wi-Fi, with secure end-to-end encryption for transmission to the Command Center, and features advanced functionalities to view, bookmark, and analyze recordings in HD.

2.Can configure the camera's resolution and image quality in command center.

3.Can snapshot the image while recording. 4.Can launch the emergency call from the recorder to the commend center via hold the button "SOS " in the right side of the camera and start the voice communication.









Track

1.Can track the history of any recorders via data / time.







Record

1.Select any of the recorder, and chosethe date, can check the files save inthe server and download online andplaying back.

2.Can also check the "facial

recognitional " history, the recorder can detect the " WANTED " people, their image save in the recorder, and one detected and recognized, it will send the message to the back end system for backup support.







Batch Del E	(P Excel IMP Excel	
Last Time On Line	Service Expiration Time	
2022-04-26 16:52:51	No Service	
2022-04-16 10:41:49	No Service	
2022-03-22 11:40:42	No Service	
2022-04-20 17:32:26	No Service	
2022-04-22 17:19:38	No Service	
2022-04-05 14:50:44	No Service	
2022-04-21 23:09:50	No Service	
2022-04-14 13:59:51	No Service	
2022-03-28 10:23:45	No Service	
2022-04-21 11:57:52	No Service	

Manage

- 1.The administrator can add / delete the police information.
- 2.The administrator can limit different role different rights.
- 3. The administrator can edit the device information.

4.The administrator is the highest role in the entire system and can allocate the department and personnel and device relevant info.





Specification Summary:

- computer, servers or laptop for viewing and management).
- credentials to access the body-worn camera's live feed.
- encrypted data transmission.

5.The client/server system meets all specified requirements:

- The system supports a minimum video stream quality of 480p to 720p.
- Video stream quality can be configured from high to medium and low settings.
- Full HD resolution video frames can be reviewed and live streaming from the BWC site.
- Exported images are of sufficient quality for analysis, including facial recognition, with a pixel resolution of 64MP.
- Users can choose to save video frames locally on their devices.
- customizable, allowing restricted access to sensitive operations and BWC video feeds for specific user groups.

6. Integration with Hualian DEMS for video storage and management. Authorized users can remotely access and download archived videos through a local workstation, remote PC, or mobile device (Android and iOS). Video playback over the data link and field live streaming are optimized based on video quality, with bandwidth requirements ranging from 9kbps to 2000kbps.

1. Supports live video streaming from body-worn cameras to a centralized system. (The client software will be installed in a Windows OS

2. The software is available for both Android and iOS devices, allowing users to download the app and securely log in with their account

3. Only authorized users with valid credentials can access video streams, enforced through secure login and role-based access control. 4. Access from public networks will be securely protected, ensuring controlled and safeguarded entry into the system which Supports

- Multiple BWC video streams can be remotely viewed from a single mobile device through a multi-window interface. - User permissions are

- Permissions cover viewing individual streams, accessing the video archive, downloading recordings, and modifying stream performance. - Comprehensive logging includes system access, video stream access, configuration changes, and video archive downloads.







Facial Recognition Software



Facial Recognition Integration Overview

The facial recognition system will be integrated into the existing Body-Worn Camera (BWC) facility to enhance the security and operational capabilities of border security personnel. This solution ensures real-time processing, monitoring, and secure transmission of facial data across multiple platforms. The system supports installation of facial recognition software on servers that operate with Linux Ubuntu and Windows OS, providing flexibility and compatibility for diverse infrastructure setups.

Key Features of the Facial Recognition System:

- 1. Concurrent Face Image Reception
 - Receives 240x320 pixel face images from multiple BWCs concurrently.
 - Provides real-time monitoring across various operational zones.
- 2. Centralized Watchlist Management
 - Capable of enrolling and archiving 50,000+ watchlist subjects on a central server.
 - Supports image upload over 3G/4G networks from BWC devices.
- 3. Automated Face Processing
 - Processes faces from a single image automatically.
 - Improves operational efficiency by minimizing manual involvement.





Security and Real-Time Alerts

- 1. Secure Data Transmission

 - Complies with high-security standards for sensitive information.
- 2. Automated Alerts & GPS Tracking
 - Sends automated and segmented alarms based on watchlist settings.
 - Tracks GPS location and provides sighting data of positive matches for real-time action.
 - Alarms can be directed to specific officers or control rooms.



AES256 encryption ensures all data sent between BWCs and the server is protected.





Web-Based Interface & Conclusion

Web-Based System Management

- Manage the system via an easy-to-use, web-based interface.
- Allows administrators to control watchlists, system settings, and alerts remotely.

Integrated Solution

The facial recognition software license enhances the existing BWC system with advanced features, providing secure, real-time monitoring and operational control for border security.

Digital Evidence Management System (DEMS)





Kiosk Docking Station (KDS)



Docking Station Brief Introduction



Flexible deployment, easy expansion

The kiosk docking station is easy to deploy with universal wheels and need limited space to place and perform the data download and charging of 20 ports for BWCs.

Human-machine information is automatically bound to effectively manage assets

In addition to collectefiles from BWC, the docking station supports searching and editing files, and setting file saving and uploading functions

Unattended, automated data collection

The docking station adopts an unattended working mode, automatically collecting data information while charging when connected to the terminal. It selects important files according to the system design and uploads them to the evidence management center, while also providing a hard disk management system that monitors available storage capacity and triggers an alarm when the disks are full. The system supports remote login services, reducing labor costs and minimizing the risk of human intervention.

To provide the hands free operation, the kiosk designed with facial recognition, when the people come in front of the docking station, the camera imbedded in the kiosk will start detection and recognition, people can withdraw the camera under his / her name, and when duty off and do the same operation to return the camera.

Facialrecognition to unlock/lock cabinet







Kiosk Technical Parameters

• Items	
Design	All-in-one design kiosk
Structure	1.2mm cold-rolled plate, anti-static spraying,
Dimension	600 * 500 * 1700 mm
Display	21.5 inch with touch panel
Resolution	1920*1080
Brightness	250cd/m ²
Ports	20 ports for 20 unit BWCs
Connection	USB – Type C / RJ45 for network connection
Port voltage / current	Single charging current 1.5A, full load 1.0A / 5
Processor	Inter core I3 4160 3.6Hz
Memory storage	DDR3 4G
System hard disk	SSD 60G/64G
Storage disk	Monitoring level hard disk 4TB
Disk port	Supports 10 single hard disk storage, and eacl
RAID	Supports RAID0 \ RAID1 \ RAID5 etc.
Power	AC 500W
Facial recognition	Supports
UPS	220V output 600W / last 15-25 mins
Operation system	Windows10

Description

g, with movable universal wheels and brake parking casters

5.0V

ch ports max storage is 60TB







	۲ ۲	Logout] [Modify Password]
Departme	nt Name	GO!
Department Address	Department Number	Created Time
		2017-04-15 10:52:04
		2017-04-15 10:52:33
		2022-04-21 22:17:48
		Displaying 1 to 4 of 4 items

Department Management

- 1.In each station, if there are different department needs the body worn camera and docking station, then the all can be managed via the DEMS.
- 2. The DEMS will have the administrator with the highest rights to edit / delete all the relevant info in DEMS.



 $\leftarrow \rightarrow$ C \triangle Not secure | 192.168.0.118:8080/htmls/index.html

🛱 Data Management System	Data Management System				
Welcome admin				Jser No.	
41 4 Þ IÐ	Department Info	User List			
S M T W T F S 27 28 29 30 31 1 2	GuangDone	+Add - Delete	Edit 💁 Export 💁 Import		
3 4 5 6 7 8		User No.	User Name	Gender	ID
17 18 19 20 21 22 23		1 001	Thomas	Male	
24 25 26 27 28 29 30		2 🗌 002	LEON	Male	
2 0 7 0 0		3 🗌 003	Frak	Male	
🖄 Information Management —		4 🗋 004	KATE	Female	
O Department Management		5 🗋 005	Roy	Male	
User Management		6 006	Miss Ho	Female	
Collection Management		7 🗋 007	JamesBorn	Male	
O Device Management					
O Notice Management					
File Management +					
🖵 System Management 🛛 🕂					
Data Statistics +					
III Business Controller +		20 V M 4 Page	1 of 1 🕨 🕅 Ŏ		

		🛛 🗶 🖬 🚱 E
User Name		[Logout] [Modify Password]
Work Unit	Tel	Address
Test		
		Displaying 1 to 7 of 7 items

Functionalities

User Management

1.The name list in the police station will be recorded, and can be allocated the recorder to the staff via DEMS.

2.If the staff left the station, then can

be re-allocated to the fresh.

3.User info including user number, user name, gender and dedicated ID and department.



← → C ☆ ▲ Not secur	re 192.168.0.118:8080/htm	nls/index.html	🖻 🖈 🗷 🏶 i
Data Management System Uelcome admin	Data Management Syster	m Department Name IP	[Logout] [Modify Password]
<pre></pre>	Department Info	Docking Station List	
27 28 29 30 31 1 2 3 4 5 6 7 8 1 10 11 12 13 14 15 16 17 18 19 20 21 22 28 24 25 26 27 28 29 30 1 2 3 4 5 6 7		Change Station Setting Restart Synchronised Time Change State Image: Station Image: Setting Image: Setting Image: State Image: Station Image: Setting Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: State Image: Status: Working Image: State Image: State Image: State	
User Management			
O Device Management			
Notice Management			
File Management			
Business Controller +		20 V 14 4 Page 1 of 1 V V	Displaying 1 to 1 of 1 items

Collection Management

1.Via DEMS, the command center can manage all docking station in different stations, including the data storage period, working status, etc.





		Logout] 【M	odify Password
Device No.			Search
Device User	Status	Rema	ark
Frak	Working		

Device Management

1.Via DEMS, the recorder will be
registered in the system, registered
info including the recorder's number,
and after register, can be allocated to
the personnel.

Displaying 1 to 2 of 2 items





File Management

1.In DEMS, to find out the dedicated
files, can search through the date, or
the user's ID. Device number,
department, file important level etc.
2.The administrator can create the case
and define the important level, also,
while creating the case, can input the
file description for better history
track.



🔂 Data Management System	Data Management System	[Logout] [Modify Password]
Welcome admin	Account	Name Account Role GO!
41 4 Þ IÐ	Account List	Permission List
27 28 29 30 31 1 2	+ Add - Delete 🖉 Edit	Get Machine No. USB Binding
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 14	Account Name Account Role Work Unit 1 admin producter GuangDone	System Maintain File View
24 25 26 27 28 29 30 1 2 3 4 5 6		File Edit File Delete
		File Download Dep View
🕼 File Management 🛛 🕂		Dep Edit Dep Delete
🖵 System Management 🛛 —		Emp View Emp Edit
O Account Management		Emp Delete Account View
O Permission Management		Account Edit Account Delete
		Role View Role Edit
		Role Delete Device View
III Data Statistics +	20 V 14 4 Page 1 of 1 1 1 0	Device Edit Device Delete
III Business Controller +	Displaying 1 to 1 of 1 items	DS View DS Edit

Account Management

1.In DEMS, the administrator can will set different account for different people to access the system for further checking.



🔂 Data Management System	Data Management Sy	vstem							ut] [Modify Password]
Welcome admin							Role Name		Search
Image: Harmonic	Role List + Add - Delete 1 producter	Edit 2 administrator	3 producer						
S Information Management +	Get Machine No.	USB Binding	System Maintain	File View	File Edit	File Delete	File Download	Dep View	Dep Edit
System Management —	Dep Delete	Emp View	Emp Edit	Emp Delete	Account View	Account Edit	Account Delete	Role View	Role Edit
Account Management	Role Delete	Device View	Device Edit	Device Delete	DS View	DS Edit	DS Delete	Remote Config	Report View
Management	Business View	Business Edit	Business Delete	ANNC View	ANNC Edit	ANNC Delete			
<u>Ⅲ</u> Data Statistics +									
III Business Controller +								Confirm	Cancel

Permission Management

1.In DEMS, after the account setting done,the administrator will also set thepermission for different account toimprove the work efficiency.





Specification Summary:

Digital Evidence Managemanet System License Features:

1.Handling and Administration of Captured Video Footage

• Provides seamless access and management of recorded footage uploaded from connected Body-Worn Cameras (BWCs). 2.Administration of User and Operator Accounts

• Comprehensive system for creating, modifying, and managing user and operator accounts with role-based access controls. 3.Configuration and Control of Camera Settings

• Enables remote and centralized control of all connected camera settings, ensuring optimal operational configurations. 4.Secured Custody of Evidence

• Guarantees a secure and traceable chain of custody for video footage, protecting the integrity of evidence. 5.Validated Evidence Management Platform

• Built on a trusted and tested platform specifically designed for secure evidence handling and storage. Advanced Incident and Evidence Management:

1.Incident Report and Resolution Management

• Fully integrated incident reporting system that allows for the attachment of video evidence and facilitates efficient resolution tracking. 2.Fully Secure Evidence Management System

• Ensures maximum security and protection throughout the evidence lifecycle with advanced security features:

- Secure Data Transfers: Video transmissions are encrypted using AES256 to ensure data integrity and confidentiality.
- Full Audit Logs: Detailed audit logs track every action and access point in the system, providing full transparency.
- Access Control Based on User Roles: Ensures that only authorized personnel can access, view, or manage sensitive data.

Centralized Monitoring and Storage:

1.Centralized Video Monitoring and Archiving

compatible like Linux Ubuntu and Windows OS, offering flexibility for diverse operational environments.

• Customizable Data Retention and Protocols: Offers customizable retention schedules for video data, in compliance with organizational policies.

• The evidence management system provides a secure, centralized platform for monitoring, archiving, and remotely extracting footage from Body-Worn Cameras, utilizing highly secure, end-to-end encrypted video transmission. Seamless integration with the Office Command Center ensures consistent, reliable footage retention and secure evidence management. The system also supports installation of evidence management software on servers







Video Wall



Video Wall Deployment

• Real time monitoring

With the large screen in the command center, can perform the real time monitoring.

Communication with front-line

In any emergency situation happened, the command center can talk to the front line polices.

•WANTED people pop up

With the facial recognition in the BWCs, any WANTED people happened will trigger the alarm and send back to the command center for timely support.





Matrix switcher