Brigade

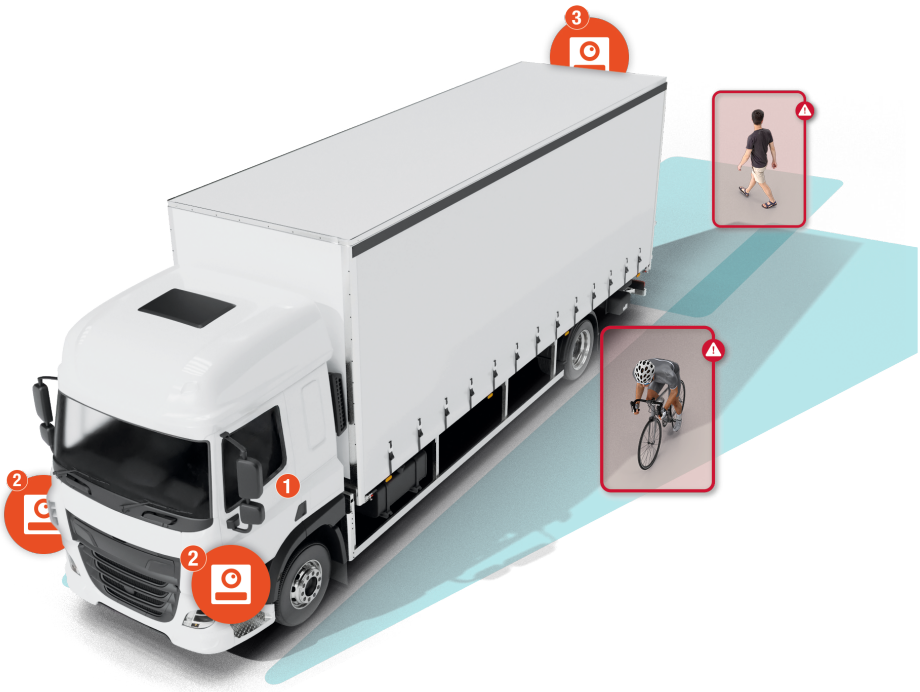
You're safer with us

VBV-1230-AI (8385)
Installation Guide

Please read this manual thoroughly before operating the device and keep it for future reference.

V1

Solution



1 VBV-1230-AI
2-channel AI Box

2 Non-AI Side Camera

3 Non-AI Rear Camera

Contents

1 Precautions

Important Safety Information

Brigade AI camera systems and solutions are designed to assist vehicle and machine operators by enhancing visibility and aiding the detection of people in the surrounding environment by alerting operators to the potential presence of people or Vulnerable Road Users (VRUs). These systems are driver aids only and do not replace the operator's own judgment, attention, or responsibility to safely operate and control the vehicle or machine.

This AI camera system is intended solely for informational and monitoring purposes. It is not designed, tested, or certified for use in any safety-critical control functions of a vehicle.

Important information for EU customers

This AI camera system is classified under the EU AI Act as a low-risk AI system. This system must not be used or relied upon as a safety component as defined in the EU AI Act.

System Capabilities and Limitations

AI human form recognition systems assist in identifying people and VRUs within a defined detection range. While these systems provide enhanced visibility, they should not be solely relied upon to detect every person or VRU in every situation. System performance may be affected by:

1. Environmental conditions (weather, lighting, visibility)
2. Physical obstructions or sensor blockages
3. Camera positioning and field of view
4. Complex backgrounds or crowded environments
5. Speed of vehicle operation
6. Clothing or posture of individuals

The maximum detection range of this device is 20m and may be less depending on the characteristics of the camera systems it is being used with. You are responsible for ensuring that system configurations (reaction times, detection areas etc) meet with your operational and safety requirements.

This product is compatible with CVBS and AHD systems. Depending on the type of system, the camera field of view may be reduced. For more information see the full technical specification. You are responsible for ensuring that the product is suitable and appropriate for your or any third party's specific needs and/or is compatible with all other systems and components that make up a relevant vehicle or machine.

Operator Responsibility

When driving or manoeuvring, the vehicle operator remains completely responsible for:

1. Making all assessments and decisions for safe operation
2. Maintaining continuous attention to surroundings
3. Taking every normal precaution when conducting manoeuvres
4. Obeying all traffic rules and local regulations
5. Using training, judgment, and other safety aids (such as mirrors)

The presence of this system does not reduce or remove the operator's responsibility to operate the vehicle or machine in a safe, fully attentive and lawful manner.

The manufacturer accepts no liability for any injury, damage, or loss arising from.

1. Negligent operation of the system;
2. Misuse or incorrect installation of the system;
3. Failure to maintain or update the system as recommended; or
4. Overreliance on the AI functionality in situations requiring human judgment or intervention

Installation and Training Requirements

Brigade AI camera systems must be installed and commissioned by competent, trained technicians. The installer is responsible for ensuring the system is fit for the purpose and complies with all relevant regulations and legislation.

Operators should receive appropriate training on:

1. How to interpret system warnings and alerts
2. System capabilities and limitations
3. Appropriate response to system notifications

Maintenance

Regular visual inspections, functional testing, calibration , software updates and maintenance are essential to ensure proper system operation. Refer to the maintenance section of this guide for specific requirements.

AI System Transparency

This product uses artificial intelligence to analyse camera images and detect human forms. Users should be aware that the system's operation involves automated human form recognition (identifying an object as a human) that may be affected by the factors listed under "System Capabilities and Limitations" above. This product does not perform autonomous decision-making with respect to vehicle operation or otherwise automatically control the vehicle.

1 Precautions Continued

Storage and Operation

1. Storage temperature: -40~+85°C, operating temperature: -20~+70°C
2. Avoid dropping or striking this device.
3. Never use sharp tools, scratch, or use abrasive cleaning material as this may damage the housing on this device.
4. Do not place external wiring material where they may be pinched or stepped on.

Operating Precautions

1. Working voltage: 10-32V DC. Using the incorrect power supply and incorrect voltage may cause the device damage permanently.
2. Make sure all cables are connected properly.
3. Please ensure lens is not obscured.
4. Once installed if the device position is manually adjusted, it will need to be re-calibrated to ensure correct operation/ detection.

⚠ Warning

1. Excessive working voltage will damage the equipment.
2. If a monitor is used, please only use when necessary to minimise distraction while driving
3. Never try to disassemble this device without professional assistance

⚠ Caution

Never try to repair this device by yourself. In case of any problems, please turn off the device at once and notify our company or authorised dealer.

The device is a complex device. Any disassembly or modification may lead to damage and void the warranty.

1 Precautions Continued

Maintenance

1. Remove all the cable connections from the device before cleaning the device.
2. Use a mild household detergent and clean the unit with a slightly damp, soft cloth.
3. Never use strong solvents such as thinner, as they might damage the finish of the device.

Caution

Risk of electric shock
Do not open

Caution: to reduce the risk of electric shock,
Do not remove cover (or back).
No user-serviceable parts inside.
Refer servicing to qualified service personnel.

This symbol is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

This symbol is intended to alert the user not to dispose of electrical and electronic equipment.

CAUTION

You are cautioned that any changes or modifications not expressly approved in this manual could void your warranty and necessitate expensive repairs.

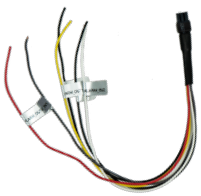
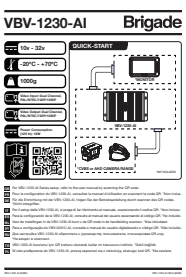
2 What's in the box

VBV-1230-AI

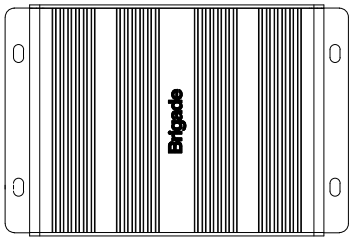
Packing Contents Bill of Materials (BOM)

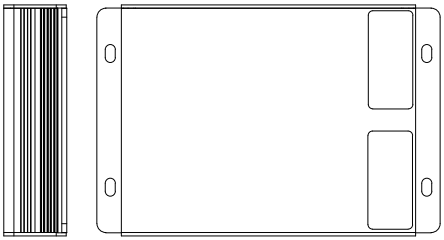
Part Number: 8385

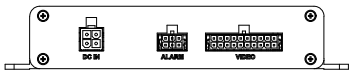
Model Number: VBV-1230-AI

System	System Description	Sub-System	Qty	Sub-System
VBV-1230-AI-ECU	2ch AI Box ECU		1	Part Number 8386
VBV-1230-AI-PH	Power Harness		1	Part Number 8387
VBV-1230-AI-VH	Video Harness		1	Part Number 8388
VBV-1230-AI-IO	IO Harness		1	Part Number 8389
VBV-1230-AI-IG	Quick-Start Card		1	Part Number 8390

3 Product Specification







Model Number:

VBV-1230-AI (8385)

Package Contents

1 x VBV-1230-AI (8385) - AI Box

Below included in box:

1 x VBV-1230-AI-ECU (S8386) - ECU

1 x VBV-1230-AI-PH (S8387) - Power Harness

1 x VBV-1230-AI-VH (S8388) - Video Harness

1 x VBV-1230-AI-IO (S8389) - Alarm Input and Output Cable Harness

1 x VBV-1230-AI-IG (8390) - Quick-Start Card

Key Features

- AI Detection of VRUs - Human Form Recognition (HFR) of Vulnerable Road Users (VRU)
- Audible and visual alerts warn drivers instantly of people in the detection area
- Works with infrared camera technology for enhanced visibility in low light
- Works with Existing Cameras - No need for expensive camera replacements or upgrades
- Uses existing cabling. Quick install with little disruption to operations
- Set custom VRU/HFR detection areas, or use out-of-the-box defaults
- Configuration access requires AC575 (8443)

Technical Specifications

- Operating Voltage: DC 10V-32V
- Current Consumption: 18W @12V

TV Systems:

- 25fps/30fps configurable in WebUI
- Picture Elements: 1280 X 720P
- PAL/NTSC/720P/1080P

Triggers:

- 2 Channel trigger input
- 2 Channel trigger output
- Diode protected relay required, to control external devices

Video Output:

- Approx 1.0 Vp-p / 75Ω

Length of Cable:

- VBV-1230-AI-IO = 300mm
- VBV-1230-AI-PH = 1000mm
- VBV-1230-AI-VH = 300mm

Overall Dimensions:

- 28(H) x 104(W) x 154(L) mm

Housing Material:

- Metal

Finish:

- Brigade Grey

Assembled Weight:

- 1000g

Environmental Specifications

- Operating Temperature: -20° to +70°C
- Storage Temperature: -40° to +85°C
- Vibration Resistance: 5.9G

Approved Standards

- CE - EN IEC 61000-6-2:2019 / EN IEC 61000-6-3:2021
- FCC - FCC Part 15B, Class B
- ICES - ICES-003, Class B
- REACH
- WEEE

Important Characteristics

When used with CVBS and AHD 720p camera systems the field of view may be reduced by up to 5 degrees (2.5 degrees each side of centre) for CVBS and up to 3 degrees (1.5 degrees each side of centre) for AHD 720P. AHD 1080p systems are not affected.

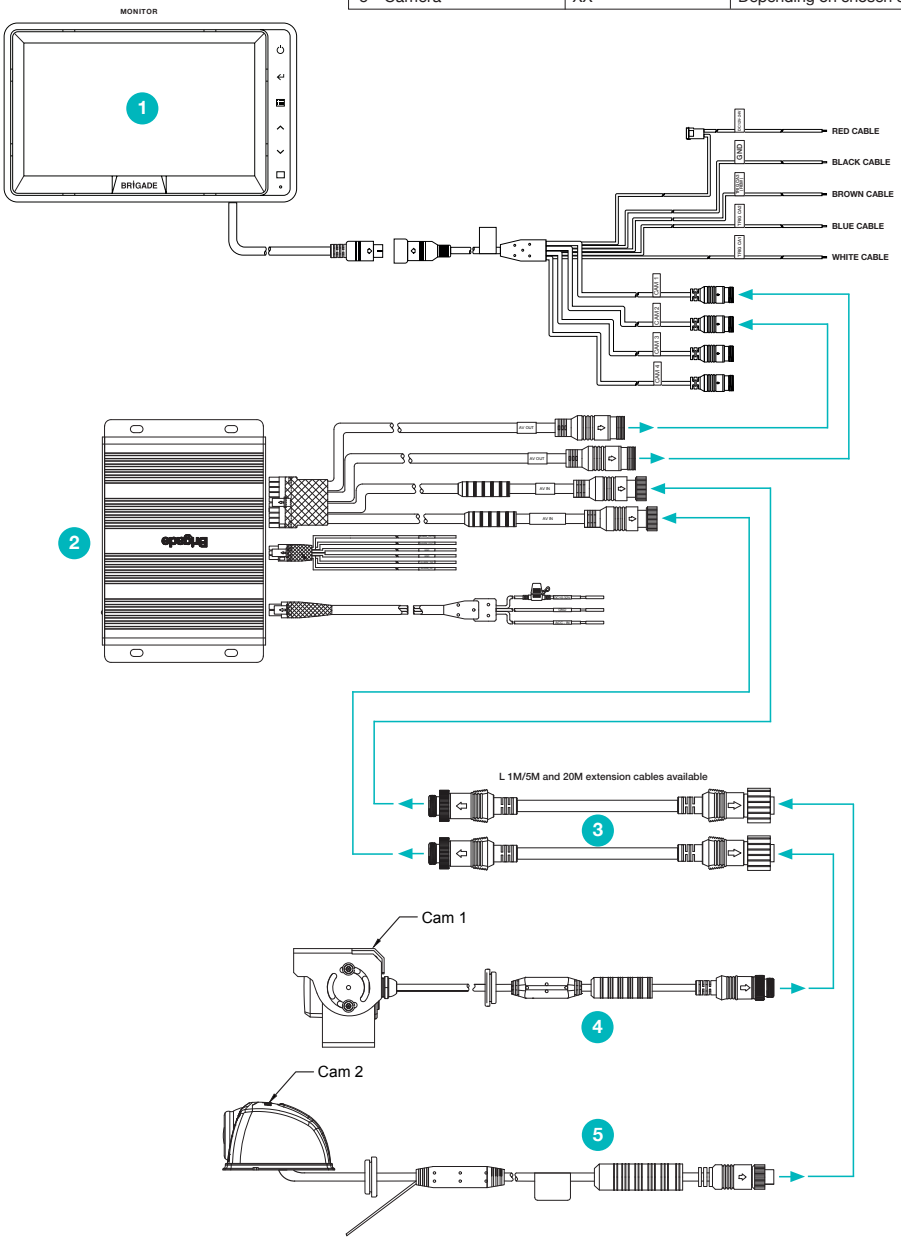
Optional Extras

- Trigger out diode 24V
  Model Number: UDS-RELAY-24
  Part Number: 4215
- Trigger out diode 12V
  Model Number: UDS-RELAY-12
  Part Number: 4216
- WiFi Dongle
  Model Number: AC575
  Part Number: 8443
- Adaptor for Backeye®360-300
  Model Number: AC-H305
  Part Number: 6648
- Adaptor for Backeye®360-200
  Model Number: AC-305
  Part Number: 4903
- Elite camera to Select cable Adaptor
  Model Number: AC-014
  Part Number: 2094
- Elite camera to Select cable Adaptor (5m)
  Model Number: AC-014(5m)
  Part Number: 5049

4 System Connection

Camera, camera extension cable, monitor

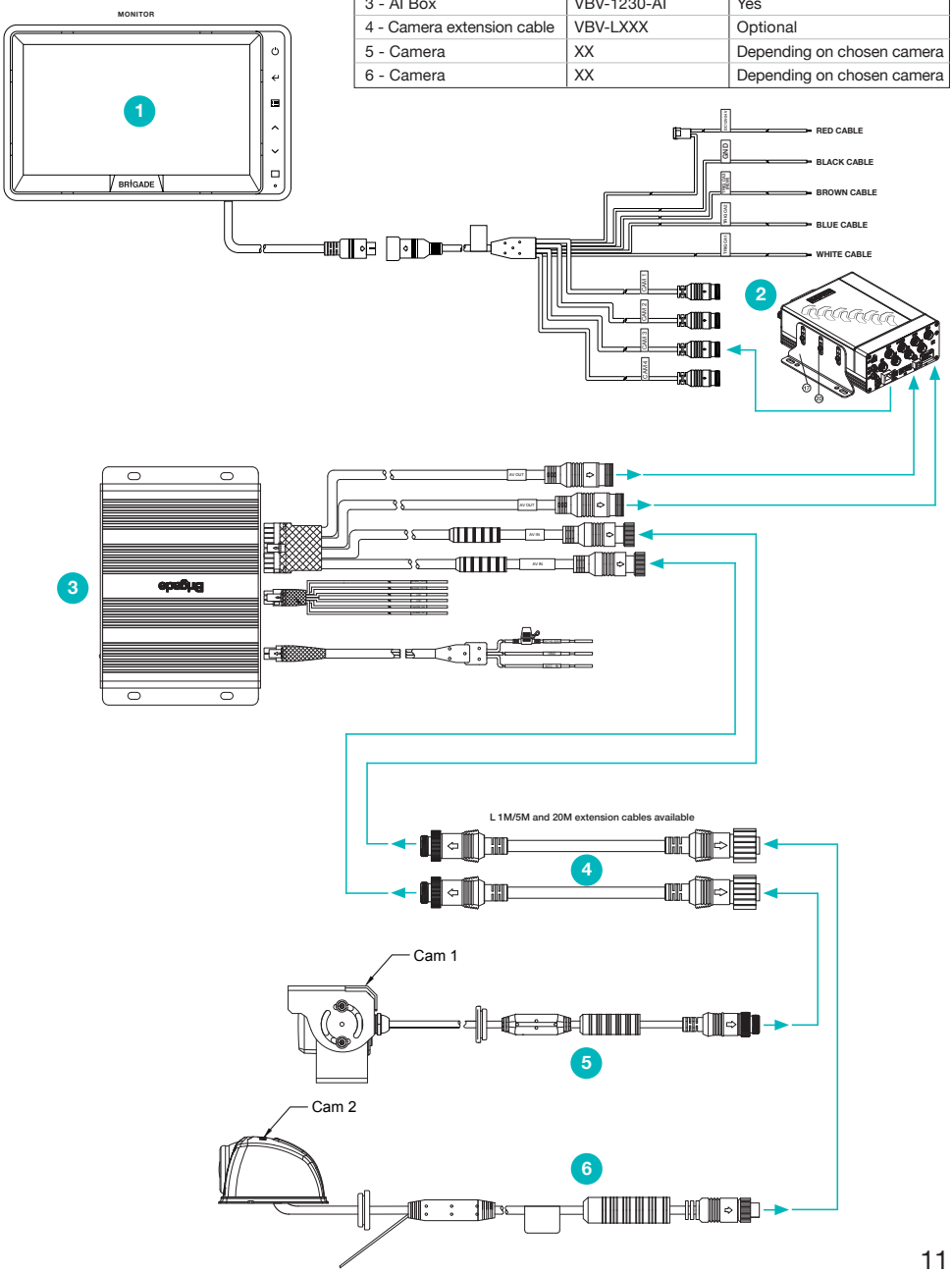
Description	Model	Included
1 - Monitor	Brigade AHD Monitor	Optional
2 - AI Box	VBV-1230-AI	Yes
3 - Camera extension cable	VBV-LXXX	Optional
4 - Camera	XX	Depending on chosen camera
5 - Camera	XX	Depending on chosen camera



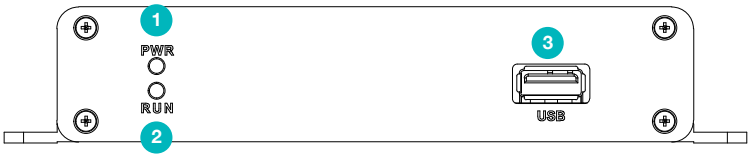
4 System Connection Continued

Camera, camera extension cable, MDR to monitor

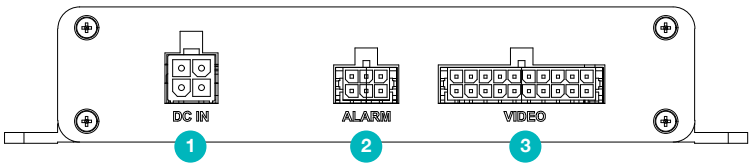
Description	Model	Included
1 - Monitor	Brigade AHD Monitor	Optional
2 - MDR	Brigade MDR	Optional
3 - AI Box	VBV-1230-AI	Yes
4 - Camera extension cable	VBV-LXXX	Optional
5 - Camera	XX	Depending on chosen camera
6 - Camera	XX	Depending on chosen camera



4 System Connection Continued



Name	Description
1 - PWR - Power indicator light	Red light is on when device Powers on
2 - RUN - Status Indicator light	The light flash green when the system is operating
3 - USB-Port	Allow to connect adapter and USB device for firmware updates and AC585 (8443)



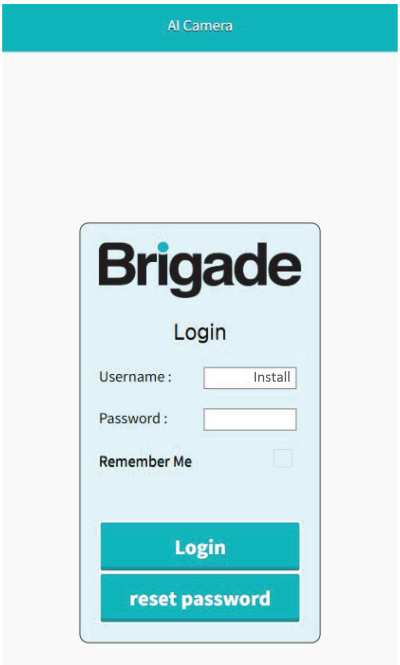
Name	Description
1 - DC IN	Power Supply
2 - ALARM	2x Trigger Input and 2x Trigger Output
3 - VIDEO	2x Video Input and 2x Video Output

5 VRU/HFR Explained

When VRUs are entering the detection zone, the machine operator can receive either/ or the following alerts:

1. When connected to a monitor, every VRU detected within the detection zone is tracked and identified with a red frame around them and an audible alarm (if supported by the monitor), the alarm will continue until the VRU leaves the detection zone.
2. When connected to an internal buzzer, the machine operator will receive a visual alert (if connected to a monitor) and an audible alarm, the alarm will continue until the VRU leaves the detection zone.

Ethernet/webinterface



Contents

1 Introduction Technology

Brigade Internet Protocol IP Device's are compatible with multiple network protocols such as:

MDR, ONVIF, RTSP, TCP/IP and FTP

This enables data transmission over a network. The Cameras and AI-Boxes also have a web interface.

A web interface is a graphical user interface installed on a device. This can be accessed via a web browser (Firefox/Chrome/Internet Explorer) even without internet if it is active in your own network.

The web interface has the advantage of being able to quickly make settings or receive live images without being integrated into a complex network.

Information on hardware and MDR-related settings can be found on our homepage under product support.

⚠ Warning

1. Working voltage: 10-32V. Below 7V, it will no longer function and may damage the camera.
2. Make sure all cables are properly connected. Observe polarity.
   Improper cable connections can damage the camera.
3. A 100% detection rate cannot be guaranteed.
4. Never attempt to repair this device yourself.
5. No guarantee or warranty is given for any changes or modifications that are not part of this manual.

2 Prerequisite

To configure the devices you have connection options:

Connection Setup

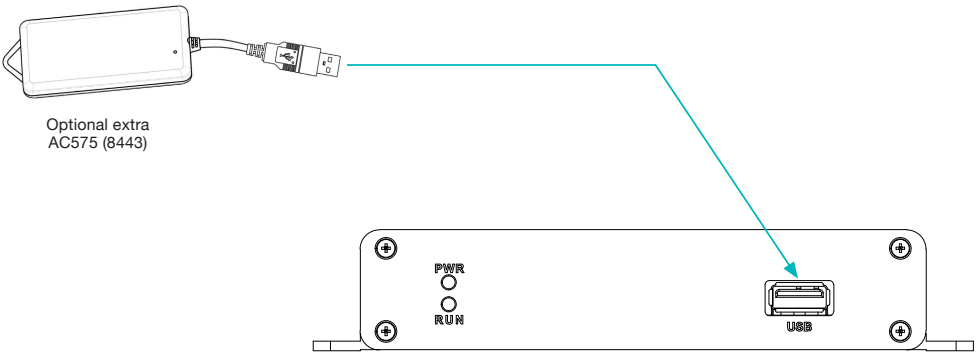
Option 1: VBV-1230-AI (8385)
WIFI-Adapter (AC575) (8443)

Option 2: VBV-1230-AI (8385)
Adapter USB to Ethernet RJ45

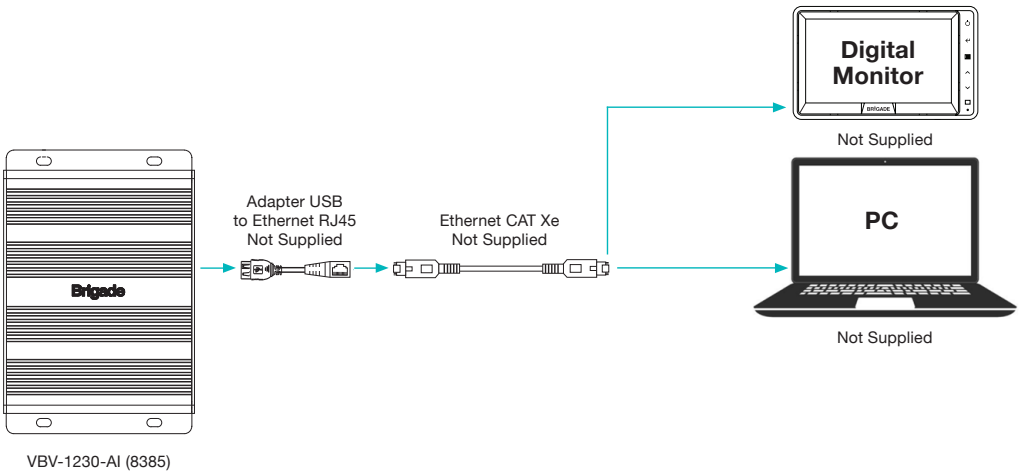
3 Hardware

Hardware Example

Option 1



Option 2

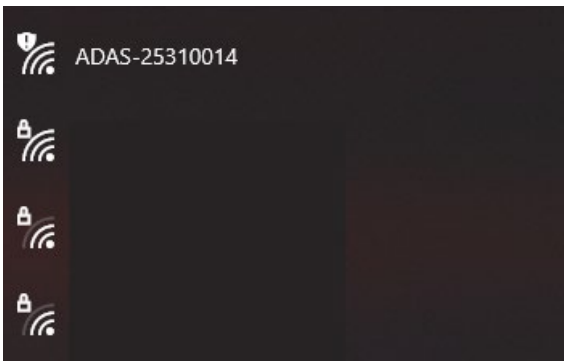


4 Option 1 Config - WiFi Dongle

Option 1 Config

1. Connect the Wifi-Dongle to the VBV-1230-AI as shown above.
2. Switch to a computer or Mobile device. Here is a Windows 10 example:

   Go to network/connection settings on your device, search for available networks and select “ADAS-xxxxxxx” from the list.



The password is “88888888”

The communication distance of WIFI is around 7m.

Skip to section Web Interface page 25.

5 Option 2 Ethernet Adapter

Option 2 Config

The devices have an integrated web server.

Therefore, it also has its own IP address, which allows access to the user interface.

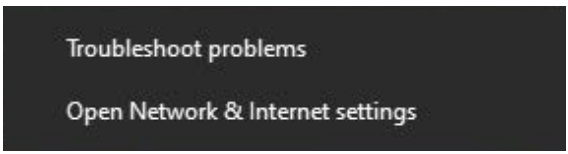
Communication between the IP Device and the computer only works if the correct IP address is used.

The AI-Box´s default IP address is: 192.168.66.142

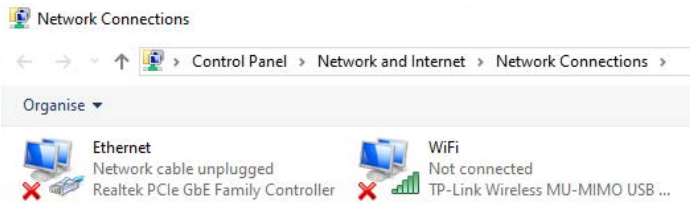
Computer Network Connection Windows 10

Connect the IP Device to a computer, then go to the computer network settings. Here is a Windows 10 example:

1. Right click the network icon, choose the “Open Network & Internet settings”



2. In the setting page choose the “Change adapter options”. Double click the “Ethernet” option.



3. In the pop-up window click the “Properties” – “Internet Protocol Version 4 (TCP/IPv4)”.

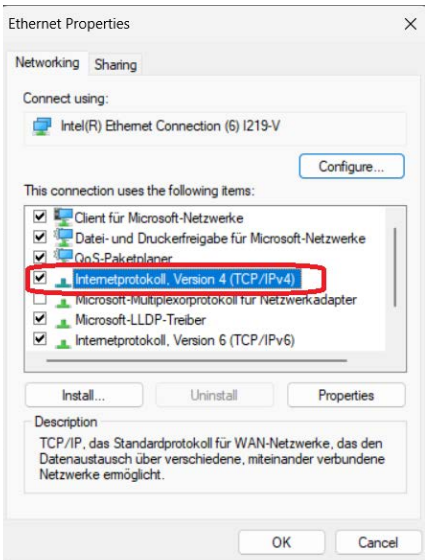
5 Option 2 Ethernet Adapter Continued

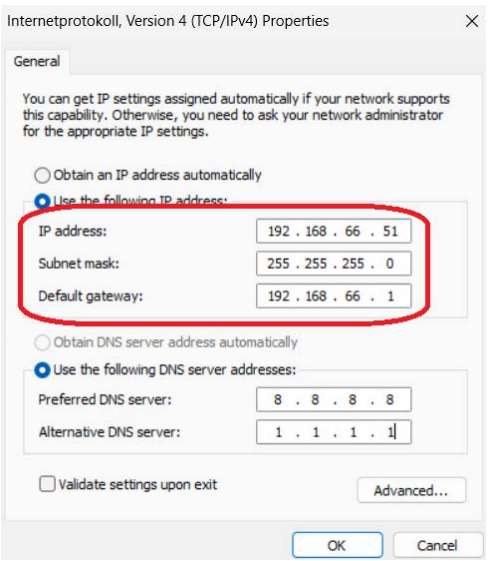
4. Choose the “Use the following IP address:”. In the box please enter the same 3 groups of numbers as the IP Device. The last group can be any number from 2 to 255. This IP address must be unique as it is the only way for it be recognised.

   Therefore, please choose a number different from other existing IP cameras.

   IP= 192.168.66.XX / Gateway= 192.168.66.1

   The Subnet Mask is automatically filled in. Save after configuring the IP address.



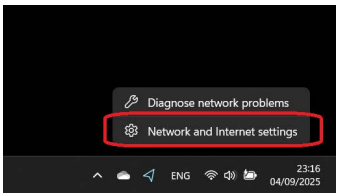


5 Option 2 Ethernet Adapter Continued

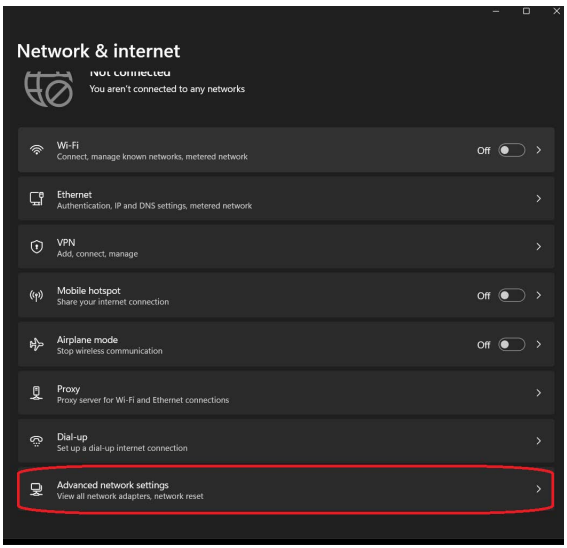
Computer Network Connection Windows 11

Connect the IP Device to a computer, then go to the computer network settings. Here is a Windows 11 example:

1. Right click the network icon, choose the “Open Network & Internet settings”

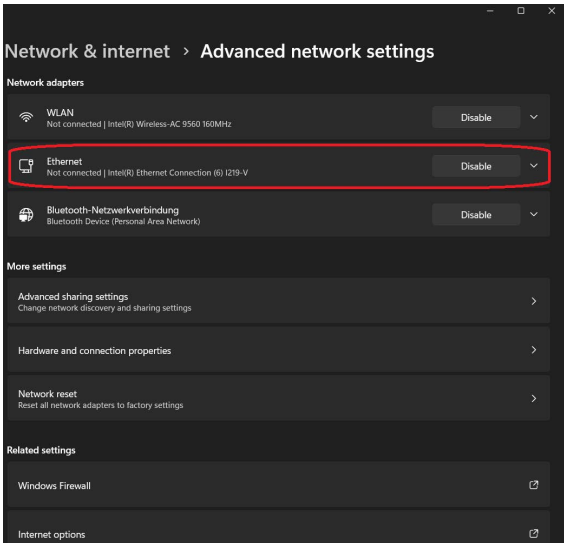


2. In the setting page choose the “advance network options”.

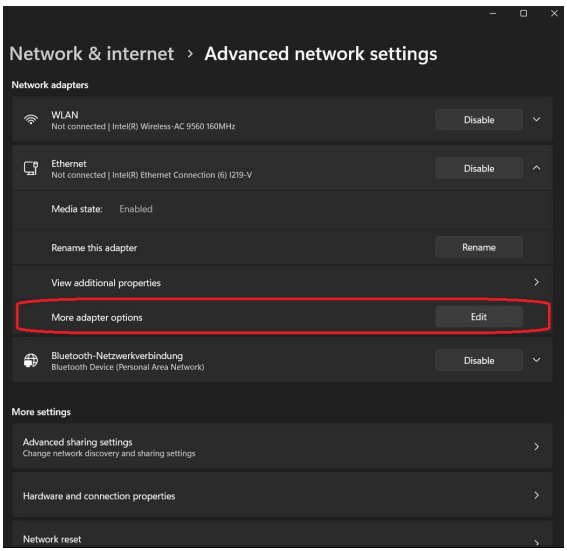


5 Option 2 Ethernet Adapter Continued

3. Click on the “Ethernet” register.



4. In the setting page choose the “advance network options”.



5 Option 2 Ethernet Adapter Continued

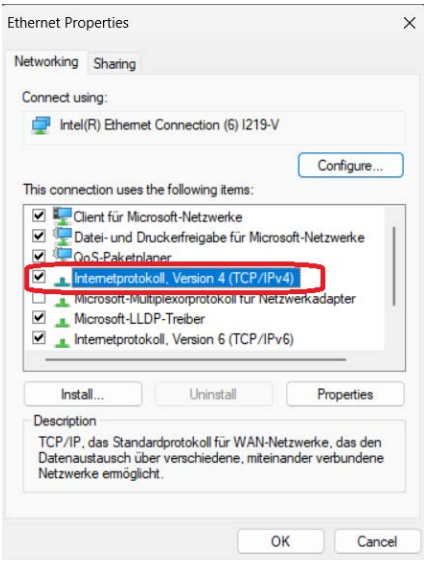
5. In the pop-up window click the “Properties” – “Internet Protocol Version 4 (TCP/IPv4)”.

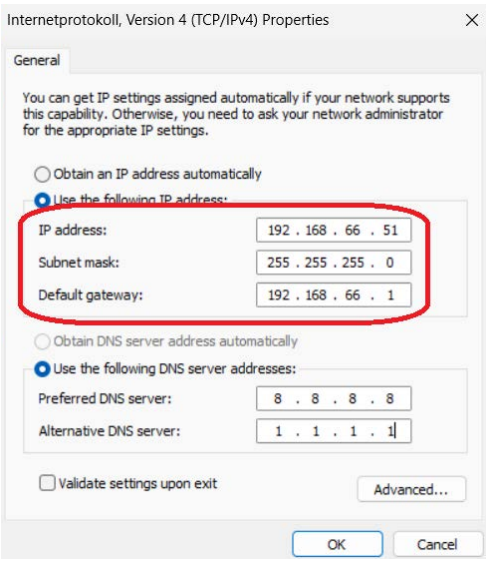
   Choose the “Use the following IP address:”. In the box please enter the same 3 groups of numbers as the IP Device. The last group can be any number from 2 to 255. This IP address must be unique as it is the only way for it be recognised. (Not .76 or .142)

   Therefore, please choose a number different from other existing IP cameras.

   IP= 192.168.66.XX / Gateway= 192.168.66.1

   The Subnet Mask is automatically filled in. Save after configuring the IP address.





6 Web Interface/Settings

Web Interface

1. Open a web brouser (Firefox/Chrome/Internet Explorer).

   From there, enter the IP address of the AI Box 192.168.66.142 in the address field.

   If you use the Dongle, please enter 192.168.60.1 in your brouser address line. The website will load in a few seconds.

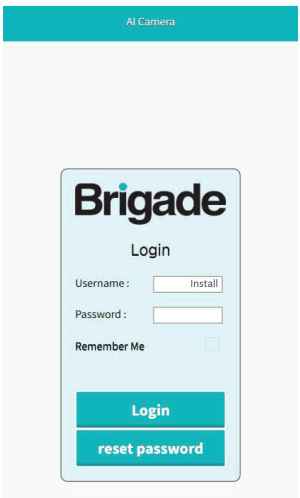
   After entering the IP address, a login page is displayed.

   OSD and passwords can be found in UAC (User Access Controls) Page at the end of this manual.

   The username is: “Install”.

   The password is: “Br1GaDeAI”

   The password can be changed on the settings page.



⚠ Warning

1. If you change the password please make a note of the new password, there is no way to gain access if you forget your password, Please contract Technical support.

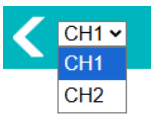
2. After finishing the IP setup, we can calibrate the VRU/HFR detection alarm system and operate some other settings on the device web interface.

   Please refer to the UAC section in Appendix 1 for login details.

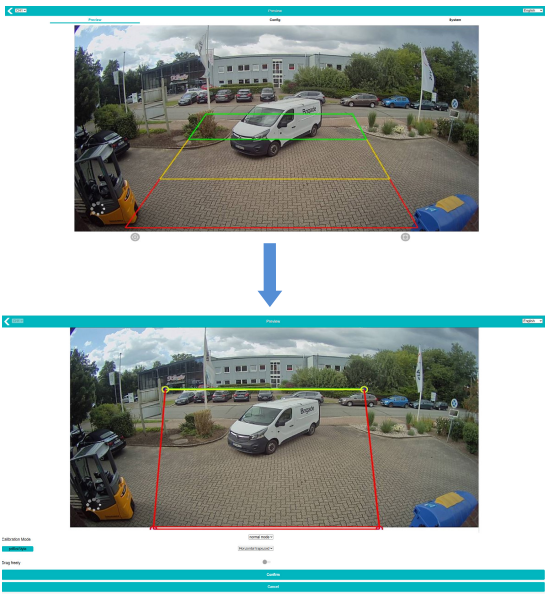
Operations of Detection Zone Calibrating

Calibration Mode

Click the Calibration button on the web page, and choose “normal mode”. The area on the phone/PC screen corresponds to the “Detection Zone” on the monitor. “pdRoiStyle” has four types of ROI to choose, which are horizontal trapezoid, vertical (red frame on the left), vertical (red frame on the right), and semicircle.



Please select the relevant camera channel you wish to configure from the top left corner.



Choose the corresponding ROI type and drag the corresponding line segment or point to manually modify the ROI area. Click “Confirm” button for calibration. The calibration will take effect immediately and the “Detection Zone” displayed on the monitor will be updated immediately.

VRU/HFR Detection Functions

Function description: When a VRU/HFR appears in Detection Zone, the camera will frame them with the corresponding colour depending what zone the VRU/HFR is detected in, and a “ding” alarm will be heard.

The alarm continues until the VRU/HFR leave the Detection Zone area.

1. The red box alarm

When the VRU/HFR is detected the red box is generated, it means that the VRU/HFR has entered the red Detection Zone area. The output alarm sound is “ding ding ding”, and the alarm sound frequency is relatively short.

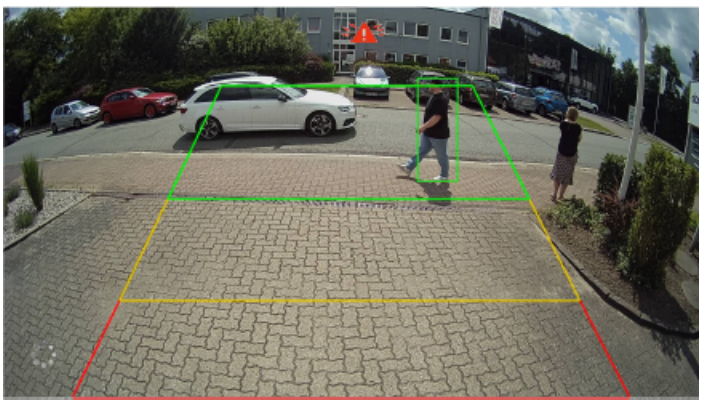
2. The yellow box alarm

When the VRU/HFR is detected and the yellow box is generated, the output alarm sound is “ding ding”. The alarm sound frequency is moderate.

3. The green box alarm

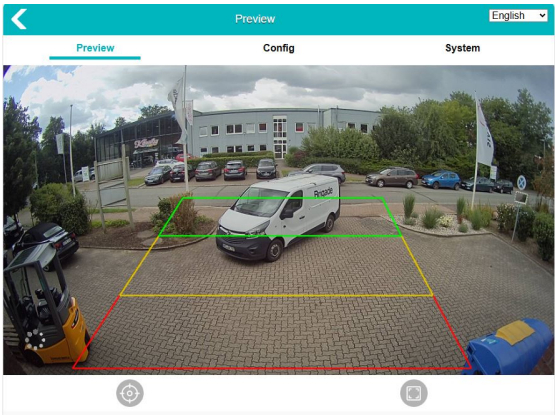
When the VRU/HFR is detected and the green box is generated, the output alarm sound is “ding”, and the alarm sound frequency is flat.

Note: when there are multiple boxes for VRU/HFR detection, the priority of alarm sound is: red box (highest) yellow box (second) green box (lowest). For example, when there are three boxes of red, yellow and green, the default alarm sound is the alarm sound of red box.

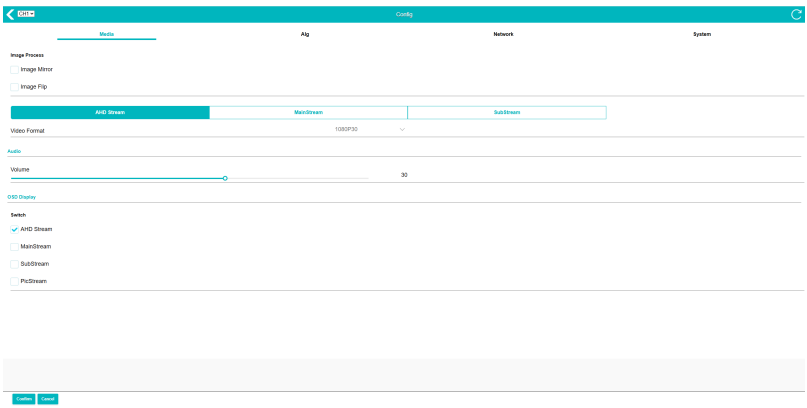


7 Settings - Media

System Settings



Click “Config” button to enter the parameter setup interface.
As shown below:

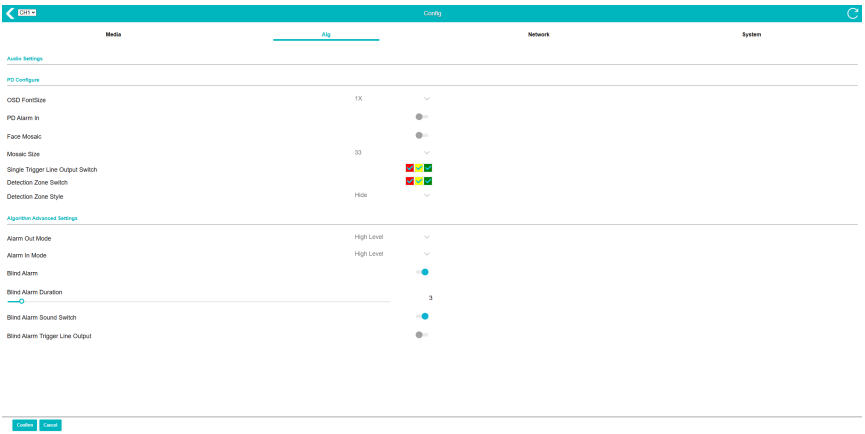


Media Configuration

Image Mirror	Switches image mirror or non mirror
Image Flip	Switches image flip or non flip
AHD Stream	Set the display resolution and output frame rate CBVS mode can be set to NTSC and PAL
Main Stream	Set the Video Codec, resolution and frame rate
Sub Stream	Set the Video Codec, resolution and frame rate
Volume	Set the sudio volume level

8 Settings - Alg

Algorithm Configuration



OSD Font Size	OSD fontsize display, with the option to disable confidence and adjust confidence fontsize.
PD Alarm In algorithm	To set VRU/HFR detection trigger input. When PD Alarm In is enabled, the VRU/HFR detection will only be activated when connected to a multifunctional. CAN cable or a device with Alarm In input, and when the Alarm In provides a 12V voltage.
Face Mosaic	When activated, VRU/HFR faces within the detection area will be pixelated.
Mosaic Size	The size of the pixelated cells can be adjusted (5/10/15), with smaller cells resultingin more blur.
Detection Zone Switch	The detection area in the red/yellow/green area can be set. When the red detection area is off, it will not be displayed on the screen, and the alarm will not be triggered in the corresponding area
Detection Zone Style	To set whether to display filled colors, outline, or hide in the detection areas. Settings function immediately
Alarm Out Model	Alarm Out Model can be set to either high level voltage or low level voltage. When set to high level, the trigger line outputs a high level voltage when VRU/HFRs are detected within the detection areas, and a low level when no VRU/HFRs are detected. Conversely, when set to low level voltage, the trigger line outputs a low level voltage when HFRs are detected, and a high level when no VRU/HFRs are detected
Alarm In Mode	It can be set to high electrical level and low electrical level. When set to high level, only high. level input to the trigger input line can start the algorithm to detect VRU/HFRs. When set to low level, only low level input to the trigger input line can start the algorithm to detect VRUs.
Blind Alarm	The camera will produce alarm notifications when the camera is Blind
Blind Audio Enable	The sound is on by default. If it is turned off, when the blind alarm is triggered, the display will only show the shelter alarm icon without the sound alarm.

9 Settings - Network

RTSP:

Use video software to open the RTSP stream. The VLC player is listed here as an example. Establish the network connection and open the VLC player or other comparable software.

Click Media->Open Network Streaming->

rtsp://camera IP address:port/live/mainstream

Enter your login data.

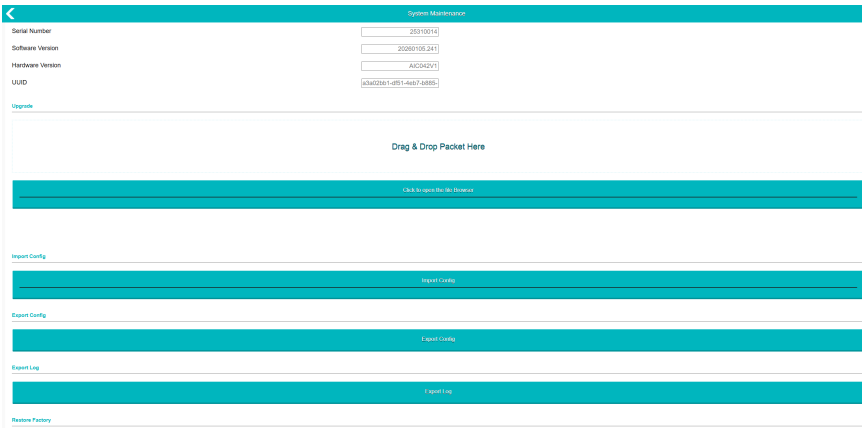
With some software applications it is necessary to integrate the login data into the address.

Part No.	Model	IP Address	RTSP Address	ONVIF Support
7321	VBV-2220C-AI-D04	192.168.66.76	rtsp://192.168.76.101:554/live/mainstream	Live video stream
7396	VBV-2230C-AI-D04	192.168.66.76	rtsp://192.168.76.102:554/live/mainstream	Video picture settings
			rtsp://192.168.76.100/live -- Surround view	Encoder settings
			rtsp://192.168.76.100/left -- Left single view	Video settings
			rtsp://192.168.76.100/right	Event & metadata settings
			rtsp://192.168.76.100/front	Firmware upgrade
7524	VBV-360-1000-AI	192.168.76.100	rtsp://192.168.76.100/back	Local storage
8385	VBV-1230-AI	192.168.66.142	rtsp://192.168.66.142:554/cam1/mainstream	Live video stream

10 Settings - System

System Configuration

Click “System” button and enter into system page, series number, software version, hardware version, and UUID are shown.



Import Config	Import configuration files. The imported configuration file must be a compressed package containing (config. xml, config_bak1.xml, config_bak2.xml).
Export Config	Export the device configuration file. Export Log.
Export Log	Export device log files.
Restore Factory	Restore the device to factory settings and all parameters are restored to default values.
Reboot	Restart the device
Change Password	Modify the device login Password.
Device Time	Manually synchronize device time.

10 Settings - System Continued

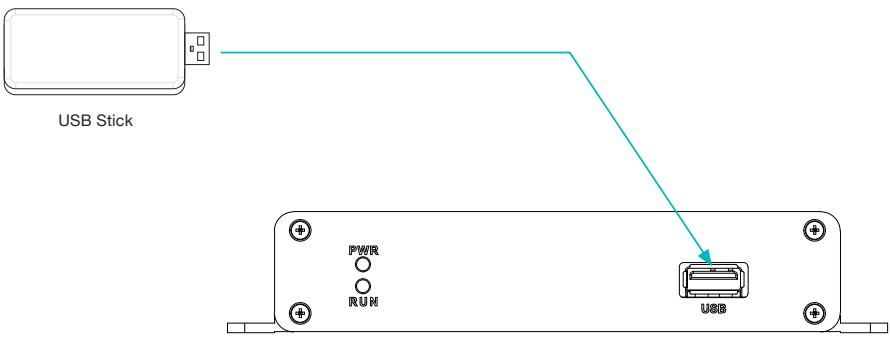
System Upgrade

USB flash drive upgrade

The device can be upgraded with a flash disk. Specific methods:

1. Format the flash disk as Fat32 file system.
2. Place the upgrade package named “XXXX_upgrade_ XXXXXXXX.XXXX.bin” on the flash disk*, connect the flash disk to the device, restart the device, and wait for a few minutes to complete the upgrade. If you want to realize batch upgrade without automatically deleting the upgrade package after upgrade, you can rename the update report a “XXXX_upgrade_fixed_XXXXXXXX.XXXX_.bin”.
3. After the upgrade, the software version number of the device will also change synchronously. Check the version number in the lower left corner of the monitor when the device is turned on. Or view the version number in the “System”->”Software Version” on the web page.

* Do not power the camera without the USB connected or you will need to reboot the device.



10 Settings - System Continued

Network (LAN) Update

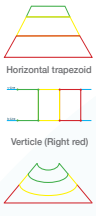
The device can also be upgraded through the Network (LAN) function.
Steps:

1. Enter the system maintenance interface of the web page.
2. Click the “Click to open the file Browser” button to upload the upgrade package, or drag the upgrade package to the upgrade button on the web page. After the upgrade package is transferred 100%, the device will automatically restart for upgrading.
3. The software version number of the device will change correspondingly after the upgrade. The version number can be checked in the lower left corner of the display when the device is powered on, or in “System” -> “Software Version”.

Note:

1. During the online upgrade process, the device cannot be powered off. The device may have problems if it loses power during the online upgrade process. In this case, a USB flash drive should be used to upgrade the device. The device will return to normal after this upgrade.

10 Appendix 1 - User Account Controls

Menu	Sub Menu	Parameter				Installer	NA Installer
Login	Username	-				Install	Install
	Password	-				Br1GaDeAI	Br1GaDeAI
	Remember	On/Off				Off	Off
Setting	Preview	Language	English/简体中文/日本语/ Español/Português/ Русский/Türkiye/Deutsch/ Français			English	English
		Calibration Mode	Normal Mode			Normal Mode	Normal Mode
			pdRoiStyle	 Horizontal trapezoid / Verticle (Left red) / Verticle (Right red) / Semicircle		 Horizontal trapezoid	 Horizontal trapezoid
			Drag Freely	ON/OFF		OFF	OFF
			Select Zone	The option is only displayed when the pdRoiStyle option is Canvas			
			Smoothness	The option is only displayed when the pdRoiStyle option is Canvas	0.00 - 1.00	0	0
			Hide Other Zones	The option is only displayed when the pdRoiStyle option is Canvas	ON/OFF	OFF	OFF
	Config	Media	Image Mirror	ON/OFF		OFF	OFF
			Image Flip	ON/OFF		OFF	OFF
			AHD Stream	Video Format		1080P	1080P 30
			Main Stream	Video Encode	H264/H265	H264	H264
				Resolution	D1_N/D1_P/CIF_N/CIF_P/720P/1080P	720P	720P
				Frame Rate (fps)	2fps/5fps/6fps/10fps/12fps/20fps /24fps/25fps/30fps	25fps	30fps
			Sub Stream	Video Encode	H264/H265	H264	H264
				Resolution	D1_N/D1_P/CIF_N/CIF_P	D1_N	D1_N
				Frame Rate (fps)	2fps/6fps/12fps/20fps/25fps /30fps	12fps	12fps
			Audio	Volume	0 - 50	30	30
			OSD Display	AHD Stream	ON/OFF	ON	ON
				Main Stream	ON/OFF	OFF	OFF
				Sub Stream	ON/OFF	OFF	OFF
				Pic Stream	ON/OFF	OFF	OFF
		Alg	OSD Font Size	1X/2X/3X/Off		1x	1x
			PD Alarm In	ON/OFF		OFF	OFF
			Face Mosaic	ON/OFF		OFF	OFF
			Mosaic Size	25/33/50		33	33
			Alarm Out Duration (ms)	0-10000/Auto			
			Single Trigger Line Output Switch	Red	ON/OFF	ON	ON
				Yellow	ON/OFF	ON	ON
				Green	ON/OFF	ON	ON
			Detection Zone Switch	Red	ON/OFF	ON	ON
				Yellow	ON/OFF	ON	ON
				Green	ON/OFF	ON	ON
			Detection Zone Style	Fill/Line/Hide		Fill	Fill
			Alarm Out Mode	High Level/Low Level		High Level	High Level
			Alarm In Mode	High Level/Low Level		High Level	High Level
		System	None				
		Serial Number	-				
		Software Version	-				
		Hardware Version	-				
		UUID	-				

11 Troubleshooting

The symptoms described below do not necessarily mean a failure within the camera. Please check the following items before you initiate a request for support.

Symptoms	Possible Causes/Solutions
No picture, no sound	Check cable connection. Check power supply is within DC 10~32V. The volume is set “0 “ on the monitor.

For more technical tips scan the QR code

For additional Technical support please contact:

technical@brigade-electronics.com

Brigade

www.brigade-electronics.com

Disclaimer

Our products are supplied to serve as situational awareness and/or warning systems and thus as aids to safety. They DO NOT replace the operator's and/or driver's obligation to ensure the safety of the vehicle or machine, the proper and safe operation of the vehicle or machine and nor do they replace your obligations to ensure the safety and suitability of the vehicle or machine.

Please visit the support section of our website to find more information regarding Brigade Warranties:
https://brigade-electronics.com/warranties/

Specifications subject to change.

When used with CVBS camera systems the field of view may be reduced by up to 5 degrees (2.5 degrees each side of centre) for CVBS. AHD 720P and AHD 1080p systems are not affected.