



# Brigade

You're safer with us

Safety Systems  
**Emergency  
Services  
Vehicles**

2024



# Brigade

## Safety in the Emergency Services Industry.

Drivers of emergency services vehicles encounter numerous hazards. Responding rapidly to incidents requires navigating through dense traffic and crowded pedestrian areas at high speeds. The substantial size of these vehicles adds complexity to these challenges.

Furthermore, pedestrians and other vehicles often fail to react promptly to approaching emergency vehicles, increasing the risk of potentially hazardous collisions.



Collisions with people, vehicles and objects when driving at speed



Costly repair damages if a vehicle is involved in a collision



Manoeuvring in residential roads when responding to an incident



Having sufficient recorded evidence in case of a collision

# Brigade

## How Brigade can help you

By working in partnership to understand your safety concerns, Brigade's team strive to bring innovative answers to the marketplace. By making a small investment in Brigade's safety solutions you can achieve clearly defined and measurable benefits as shown below:

- All round vehicle visibility for safer, more efficient operation
- Reduced accidents
- Reduced insurance premiums
- Reduced vehicle downtime due to incidents
- Meet health and safety requirements
- Peace of mind for management and workers
- Strengthen your company's reputation

## Why Brigade?

- Pioneers in Vehicle Safety since 1976
- Brigade is a partner with OEMs specialising in Emergency Service Vehicles
- Brigade equipment is in use across Emergency Service industries around the world
- Rigorous and comprehensive testing ensure Brigade products are of a high standard
- 2,3,5 and lifetime warranties on Brigade products

1 Backeye®360



2 AI360



3 AI Pedestrian Detection Camera



4 Side Camera



5 In-cab Monitor



6 Sidescan®

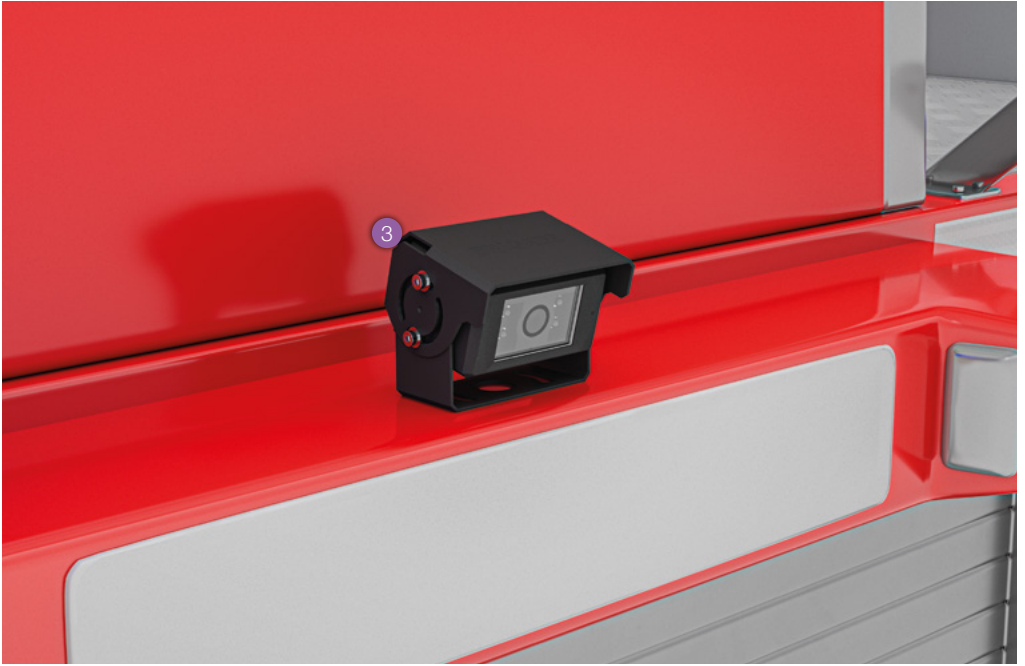


7 Mobile Digital Recording









## Backeye®360

An intelligent camera monitor system designed to assist low-speed manoeuvring by providing the driver with a complete surround view of the vehicle in real-time.

Backeye®360 technology works with four ultra-wide-angle cameras each covering one full side of the vehicle with a viewing angle of over 180°. High-mounted on the front, rear, and sides, the calibrated cameras capture all of the surrounding areas including the blind spots of the vehicle or machine.

The four live images are simultaneously sent to an electronic control unit (ECU) where they are instantly processed, combined, blended, and stitched. The distortion from the wide-angle camera lens is also corrected before delivering a clear, single, smooth, real-time image onto the driver's monitor.



### Eliminate Blind Spots

The calibrated cameras capture all vehicle blind spots.



### Real-time Views

Live pictures shown on the monitor without time lag.



### Custom Views

Monitor views can be tailored to the work environment of the vehicle.



### Configurable Setup

Backeye®360 will work on most vehicles, large or small.

A



### BN360-300 AHD 360° Camera System

Part Number: 5800A

- 4 camera system
- 720p HD 360° bird's eye image
- 15 different monitor view modes
- Compatible with Brigade's mobile recording systems

B

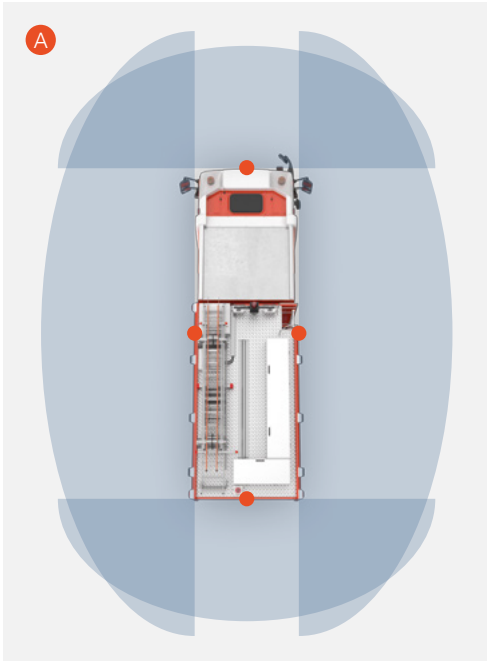


### VBV-770HFM 7" AHD Monitor

Part Number: 7204

- AHD and CVBS Compatible
- Configurable viewing options including quad/split screen
- High-definition, high contrast, wide view angle
- 4 camera inputs
- 5 Auto-triggers





## AI Intelligent Detection

AI Cameras are a new generation of active blind-spot detection systems.

Using Artificial Intelligence, the cameras detect and recognise the human form within the pre-defined detection zone and reliably warn the driver visually and/or audibly before a possible collision occurs. Image processing is built-in to the camera, meaning no other hardware is required



### Pedestrian Detection

Uses AI to recognise and alert the driver to vulnerable road users all around the vehicle.



1080p

### High-Definition Image

The 1080p camera delivers clear and sharp images, improving driver visibility.



### Brigade Compatible

Interfaces with all Brigade HD monitors and MDR recorders.



### Quick Installation & Set-up

Saves time on site.



### Efficient Alerts

Instant audible and visual alerts via the on-screen display when a vulnerable road user is detected.

A



### VBV-2220C AI-D04 Front-facing AI Camera – normal view

Part Number: 7321

- High-Definition AHD 1080p
- Recognises and alerts the driver to people in the front blind-spot
- Front on road: Maximum 1.4m(L) x 3.3m(W)
- Zero seconds boot time when using Brigade adaptor cable

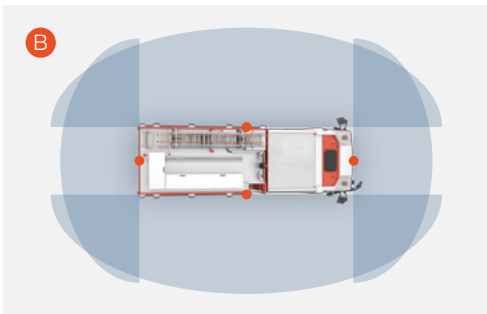
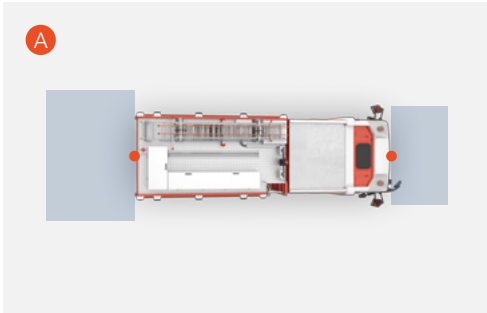
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### VBV-360-1000 High Definition Backeye®360 system with Artificial Intelligence

Part Number: 7524

- 4 camera 360° system
- Automatic Calibration
- High-Definition AHD 1080P
- Bespoke vehicle overlays for on screen customisation



## Camera Monitor Systems

Camera systems are a vast improvement on the many mirrors needed to view emergency service vehicle blind spots. Mirrors themselves create further blind spots and 'information overload' for drivers who don't know where to look first. This is particularly difficult for emergency service vehicle drivers as they need to be always alert and aware of their surroundings, especially when driving through busy urban areas where there are many pedestrians and vehicles on the road.

Monitors allow multiple camera images to be viewed on a single monitor with dedicated views triggered by, for example, reverse gear. Cameras provide a wider angle of view than mirrors and are less likely to be damaged, while built-in LEDs offer superior visibility in low light conditions.



### Eliminate Blind Spots

Calibrated cameras capture all areas including the blind spots.



### Real-time Views

Live pictures shown on the monitor without time lag.



### Wide Angle Views

Wider angle of view than mirrors and are less likely to be damaged.



### Recordable

Record individual camera feeds in high definition to a mobile recorder.

A



### VBV-3100C HD flush-mount eyeball side camera (1080p-PAL)

Part Number: 5454

- 5 high power infrared LEDs for ultra-low light performance
- Day/night sensor
- Microphone
- Mirror image view
- Lens rotation adjustment.

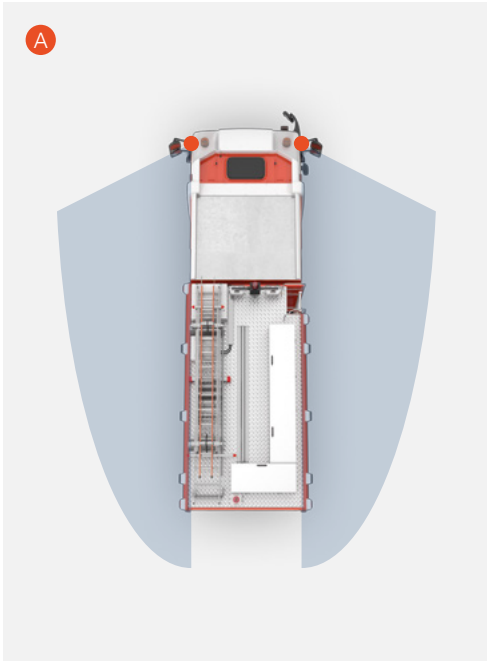
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### VBV-770HFM 7" AHD Monitor

Part Number: 7204

- AHD and CVBS Compatible
- Configurable viewing options including quad/split screen
- High-definition, high contrast, wide view angle
- 4 camera inputs
- 5 Auto-triggers



## Ultrasonic Detection Systems

Brigade's ultrasonic proximity sensors minimise both vehicle damage and collisions with objects and pedestrians.

Perfect for emergency vehicles operating or manoeuvring in busy environments. The detection system alerts the driver of obstacles close to the vehicle, whether moving or stationary. An audible and/or visual in-cab warning informs of distance while an optional external speaking alarm can be added to alert pedestrians that the vehicle is turning.



### Alerts Driver Of Hazards

Alerts the driver to an object within the detection area.



### Driver Aid

Gives greater protection as it alerts the driver to vulnerable road users around the vehicle.



### Minimises Damages

Minimises damage to vehicle, property and other objects.



### Installation

Underside and flush-mount fixing included for installation to any vehicle.

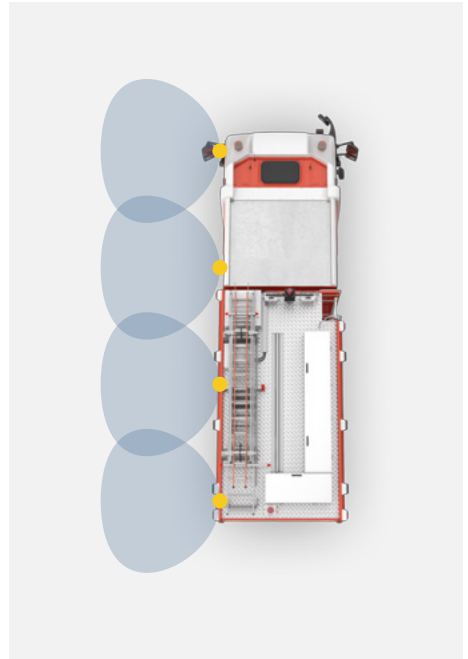
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### SS-4100W Sidescan® Side sensor system with mute function

Part Number: 5257

- Four sensor system
- 12-24Vdc
- Audible distance warning
- Two levels of sensitivity (selectable via dip switch)





## Mobile Recording

Incidents involving vehicles are time-consuming issues to resolve. By having recorded footage where there are conflicting reports of actual events or by being able to prove a stage accident, companies can make major cost savings, while importantly, supporting their drivers who are often the subject of increased scrutiny after an incident.

Brigade's MDR-600 series models are robust devices capable of recording video from up to 12 analogue AHD and 1080P IP cameras, along with other meta data such as location and speed. With 4G connectivity, live video or recordings can be accessed remotely while the vehicle is out on the road, along with its location.



### Record Multiple Cameras

Records up to 12 cameras simultaneously.



### Location and Speed

Built-in GPS so that you can track a vehicle's speed and location.\*



### G-Sensors

G-Sensor provides impact data alongside accelerating and braking.



### AHD and Recordable

AHD Compatible with Backeye®360 Recordable.



### 4G Connectivity

View live video, recordings and other data while the vehicle is on the road.\*

*\*Subscription required*



### MDR-641-1 Mobile Digital Recorder

Part Number: 7068

- Recordings protected by non-visible watermark
- Can connect up to four analogue and one IP camera
- Compatible with Brigade's camera monitor systems
- 1TB hard drive

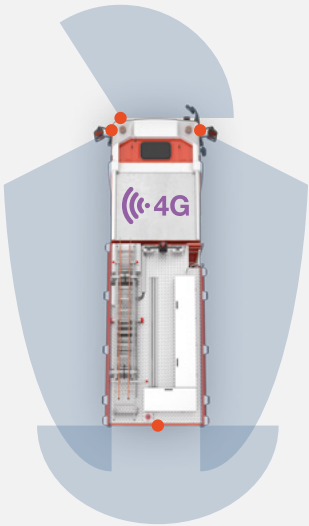
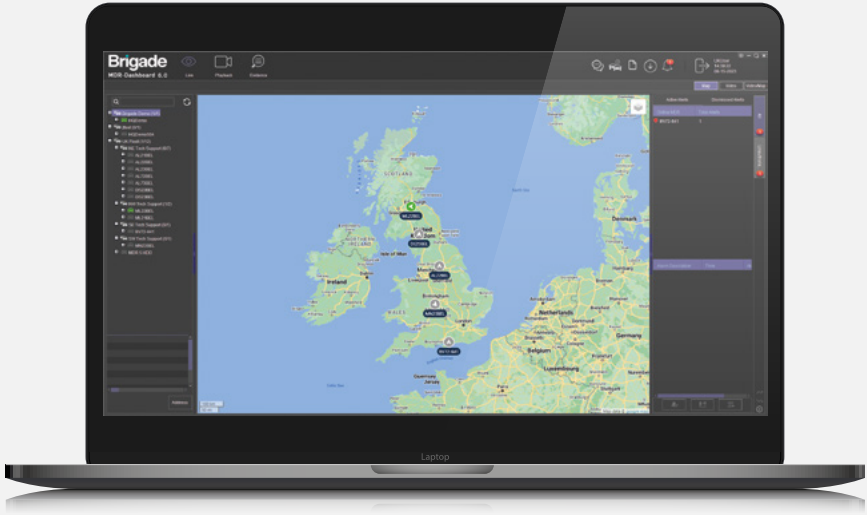


### MDR-644-1 Mobile Digital Recorder

Part Number: 6570

- Records from up to 12 cameras simultaneously using external PON Switch
- Can connect up to four analogue and four IP cameras
- Mirror recording onto SD Card
- Built-in G-sensor





\*Blue area shows camera viewing area





## Brigade supports the Emergency Services industry with high-quality safety solutions

Here at Brigade, we are proud to support a wide variety of industries across the globe by enhancing their on and off-road vehicle safety to prevent collisions and save lives. We recently helped a company in the United States in the Emergency Services industry by fitting our Backeye®360 Cameras to their fire trucks to ensure all round visibility when maneuvering.

### Reducing the risk of expensive damage

It is essential that fire truck drivers have maximum visibility for both high-speed driving and low speed maneuvering as they carry out their life saving work. Which is why Buck Creek Township Fire Department chose Brigade's Backeye®360 cameras to enhance the safety credentials of the fire departments vehicles, protecting not just the fire crews, but other road users in their vicinity.

Serving a 36 square mile area, providing fire and emergency medical services for its community, Buck Creek Township Fire Department calls come from a wide variety of settings including rural residential properties, huge warehouses and industrial sites totaling an average of 1200 medical and fire calls annually. The department's firefighters and medical responders are also on call to travel further afield when required, such as in September 2019 when a crew was deployed to South Carolina to assist rescue efforts in the wake of Hurricane Dorian.

The ladder truck, which is part of the department's fleet of emergency vehicles, has a unique set of safety considerations. With its wide turning radius due to a long wheelbase, it runs the risk of going off-road as



it turns, with the potential to strike other vehicles or objects in its path. Additionally, the ladder truck has outriggers that project from the side of the vehicle once it is parked – it is essential that the driver can accurately assess the space around the truck to ensure that the outriggers can adequately extend. Firefighters need to have a complete view of the space around their trucks. However, even with the expert use of mirrors, blind spots cannot be eliminated completely. Time is also a factor as research has shown that in the time it takes to scan four mirrors, assess, and then react to hazards, a vehicle could travel as far as 33 feet even at speeds as low as 3mph. Thankfully, with 360° camera technology, it is possible to eliminate this problem entirely.

Buck Creek Township Fire Department contacted Brigade to discuss the installation of Backeye®360 on its ladder truck. The Backeye®360 provides a real-time surround view of the ladder in a single image. This eliminates blind spots and saves the driver from having to process information from several monitors or mirrors in quick succession, making it much easier to spot and assess possible hazards, such as objects and people.

Brandon Wilch, firefighter and paramedic at Buck Creek Township Fire Department commented “The idea for our ladder truck was to have the ‘overhead view’ that the 360 system provides to help avoid going off-road or striking objects. We also wanted the availability to see our outrigger locations before parking the truck”.

Brandon continued “We feel that having the camera systems installed onto these two trucks has helped reduce collisions with objects and increased the safety of our crews while operating the apparatus...Fire and EMS apparatus are backed into bays, into driveways, at scenes when trying to accomplish placement. Having the system gives us an additional level of situational awareness while navigating our trucks”.

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