BRIGADE®
Driving Global Safety

Product Catalog
2018

Preventing collisions and saving lives!

North America

Brigade

Brigade Electronics is a market leader in safety devices, with solutions to suit all commercial vehicles and mobile plant. Since 1976 when Brigade introduced the very first reversing alarm to Europe, we have championed the cause of vehicle and plant safety and continue to lead the way, pioneering many products and developing and patenting new technology.
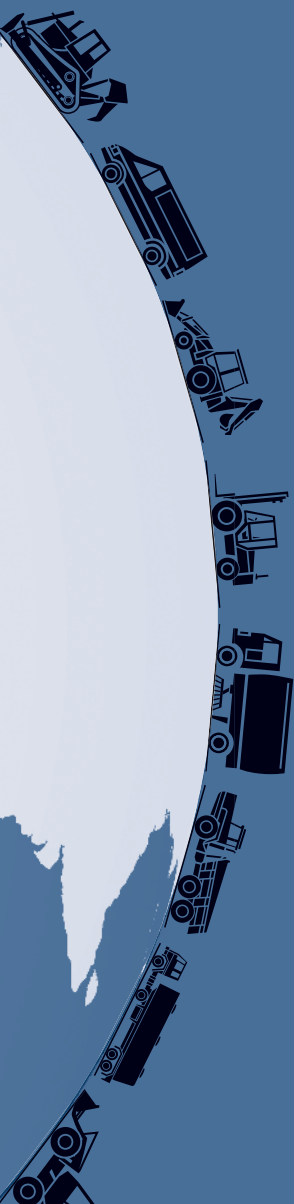
Our wealth of experience has gained us a reputation for expertise within the industry and a knowledge of the problems our customers face. This has led to a complementary range of passive and active systems designed to reduce the risk of collisions and protect workers, pedestrians and cyclists by assisting drivers and minimizing blind-spots. We understand the importance of quality and reliability, so products are rigorously tested before being incorporated into our portfolio.

The Brigade Group is based in the UK with 14 international subsidiaries, joint venture companies and partnerships with a network of approved fitters, mobile engineers and international distributors, all chosen for their high level of service and expertise in vehicle safety.

Contents

Driving Global Safety

Backeye®360°
Camera Systems

Backeye®360 is an intelligent camera monitor system designed to assist low-speed maneuvering by providing the driver with a complete surround view of the vehicle in real time.

Brigade offers a choice of 360° technologies, which work with four ultra wide-angle cameras, each one 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 area including the blind spots of the vehicle or machine.
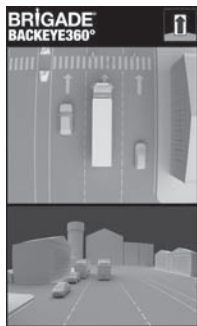
The four live images are simultaneously sent to an electronic control unit (ECU) where they are instantly processed, combined, blended and stitched. The distortion from the wide-angle camera lens is also corrected before delivering a clear, single, smooth, real-time image onto the driver's monitor.

Backeye®360 is compatible with Brigade's MDR recording systems.

Actual Backeye®360 images

360 & mirrored rear view   Full 360 view

Front view & 360   Front cross-traffic & 360

Mirrored left/right view   Full 360 left/right focus
& 360

Backeye®360 BN360-200 monitor view options

Full mirrored left/right view   Full mirrored rear view
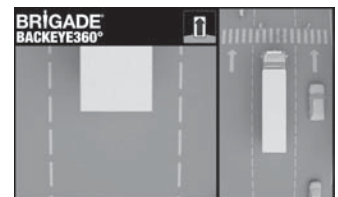
Mirrored rear view & 360   Rear focus & 360

Front view & 360   Front cross-traffic view

Mirrored left/right view & 360   Mirrored left/right view
& left/right focus 360
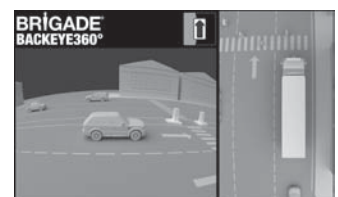
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Backeye®360

BRIGADE®

Which system is for you?

Backeye®360 BN360-200
- Suitable for most vehicle and mobile plant machines
- 19 monitor view options including cross traffic and right/left lane-change assist
- Configuration and views can be tailored to each application
- Speed trigger to show specific view at configured speed
- Custom views and vehicle positioning e.g. 270° views for articulated vehicles
- Portrait and landscape monitor view options including split-screen
- Configurable on-screen parking markers

Backeye® 360

Model	Part No:

360° CAMERA SYSTEM

BN360-200 - Backeye®360 system   5200

- IP69K cameras
- 12-24Vdc
- Size (WxHxD) ECU
  174 x 101 x 30mm
  6.9 x 4 x 1.2 inches
- Size (WxHxD) Camera
  36 x 61 x 46mm
  1.4 x 2.4 x 1.8 inches
- 2 year warranty

Contents
- 1 x ECU
- 4 x BN360-100C cameras
- 1 x Video output cable to connect to SELECT range monitor.
- 1 x set-up/view-select button
- IR receiver & remote control
- 1 x ECU power harness
- 1 x ECU interface harness

Features
- 360° image
- 19 different view modes (max 10 views per chosen configuration group) including:
  - Landscape or portrait configurations
  - Front & rear crossing-traffic
  - Left & right lane changing assist
  - Customizable vehicle position
- 4 pre-defined configuration groups
- Configure & customize set up via monitor and IR remote control
- Left, right, reverse & speed signal triggers
- Configurable on-screen parking markers
- 4 x triggers
- 3 x video outputs
- Ultra-wide viewing angle cameras (HxV) 185° x142°

- 1/3.6" CMOS sensor
- TV system: NTSC & PAL (via switch)

Power
- Power consumption: 8 Watts
- Current: 0.65 Amps

Durability & Standards
- Mechanical vibration: 8.5G
- Mechanical shock: 50G
- Operating temperature:
  -30 to +75°C / -22 to +167°F
- IP30 ECU
- CE marked
- EMC approved: E
- FCC Approved
- IC Approved
- HALT tested

Notes:
- **calibration kit is required for installation.**
- **Monitor and camera extension cables not included**

BN360 CABLES AND ADAPTERS

BN360-L120	20m/66' camera cable	4493
BN360-L115	15m/49' camera cable	4495
BN360-L110	10m/33' camera cable	4496
BN360-L105	5m/16' camera cable	4498
BN360-L1025	2.5m/8' camera cable	4499
AC-305	Splitter cable for MDR (1 required per camera)	4903

MOUNTING BRACKETS

BN360-100C-BKT01	Adaptable mounting bracket Can be shaped to allow installation on non-vertical surfaces	4649
BN360-100C-BKT02	Mounting bracket to adjust camera angle	4714
BE360-CD	Deflector to shield camera from knocks (To be used with BN360-100C-BKT02 Mounting bracket)	4701
BN360-100C-BKT03	Deflector to shield camera from knocks	4743

REQUIRED FOR ARTICULATED VEHICLES

BN360-Enclosure	IP66 Enclosure kit to enable ECU to be installed on outside of vehicle Note: Coiled cable kit or wireless connector also required	4723
SK-15-05	3-camera Backeye®360 cable kit for articulated vehicles	5066

Model   **Part No:**

BN360 360º CAMERA MONITOR SYSTEMS

Complete kits including monitor, Backeye®360 camera system, cables and adapters

SE-7104F-100 - 360 camera monitor system for large rigid vehicles   **5378**

- **1 x VBV-7104FM - 10.4" monitor**
- **1 x BN360-200 360 system**
- **1 x BN360-L110 - 10m/33' camera cable**
- **2 x BN360-L115 - 15m/49' camera cables**
- **1 x BN360-L120 - 20m/66' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

SE-770-100 - 360 camera monitor system for large rigid vehicles   **5379**

- **1 x VBV-770M 7" monitor**
- **1 x BN360-200 360 system**
- **1 x BN360-L110 - 10m/33' camera cable**
- **2 x BN360-L115 - 15m/49' camera cables**
- **1 x BN360-L120 - 20m/66' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

Backeye® Camera Monitor Systems

Which range is for you?

Backeye® Elite
Top of the range systems for comprehensive blind-spot coverage. Suitable for large road-going vehicles, specialized applications, heavy duty off-road machines or where the cab is exposed to the elements.

Backeye® Select
Mid-range systems suitable for medium to large road-going vehicles.

Backeye® Essential
Entry level reversing solution ideally suited to light commercial vehicles and vans.

Backeye® Camera Monitor Systems

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Choosing your Backeye® camera monitor system

Select from our range of popular complete standard systems featured on pages 20-23 or build your own system referring to the camera monitor compatibility chart below, adding cables, adapters and ancillaries to connect and upgrade your system.

Camera/monitor compatibility for building your own system.

			MONITORS			
			ELITE		**SELECT**	
✓ = Compatible ✓ AC-0xx = Compatible with adapter(s) shown ✗ = Not compatible			BE-970WFM / BE-970WM / BE-865DDM / BE-870LM / BE-870FM	BE-856GM	VBV-7104FM / VBV-770FM / VBV-770M / VBV-750M	VBV-770M-S / VBV-750M-S
CAMERAS	**ELITE**	BE-810C shutter camera	✓	✓ SC-1000-ECU	✓ AC-007 + SC-1000-ECU	✗
		All other Elite range cameras	✓	✓	✓ AC-007	✓ AC-007
	SELECT	VBV-710C shutter camera	✓ AC-035 + AC-006	✓ AC-035 + AC-006	✓ AC-035	✓
		All other Select range cameras	✓ AC-006	✓ AC-006	✓	✓
	FLIR	PathFindIR II	✓ AC-016 + AC-065	✓ AC-016 + AC-065	✓ AC-024 + AC-065	✓ AC-024 + AC-065

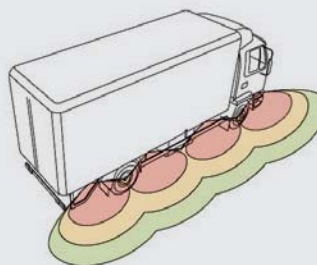## Ultrasonic Detection On-Screen Display Module

- Integration of Brigade's ultrasonic obstacle detection systems and camera monitor systems

- Ultrasonic detection warnings overlaid onto camera image on in-cab monitor

- Reduced driver stress and distractions as all information is in one view

Sensor data and camera image combined

Brigade's ultrasonic proximity sensors minimize both vehicle damage and collisions with pedestrians, cyclists or objects. Perfect for road-going commercial vehicles operating in confined spaces or maneuvering at low speed.

Working in conjunction with a Backeye® camera monitor system and up to two ultrasonic detection systems, the on-screen display module warns the driver of obstacles close to the vehicle by overlaying 3-stage audible and visual ultrasonic data onto the camera image on the monitor.

See page 41 for further details

Model		Part No:

ELITE CAMERA

BE-801C	- NTSC	**1905**
BE-800C(40)	- Narrow viewing angle: 33 x 25 x 40° PAL	**1559**
BE-800C(78)	- Narrow viewing angle: 64 x 47 x 78° PAL	**1426**
BE-890C	- Waterproof to IP69K, No audio (PAL)	**2871**
BE-850C	- 12/24Vdc Waterproof to IP69K (PAL)	**4924**

- **Viewing angle (HxVxD)**
  100 x 69 x 133° NTSC
- **IP68**
- **Size (WxHxD)**
  86 x 72 x 80mm
  3.3 x 2.8 x 3.1 inches
- **3 year warranty + optional 2 further years on registration**

Features
- 5 Infrared LEDs for ultra-low light performance
- 5m illumination distance
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: NTSC
- TV lines: 450

Power
- Power consumption: 4 Watts
- Current: 0.33 Amps
  (0.33 - 2.63 Amps BE-850C)

Durability & Standards
- Mechanical vibration: 20G (HALT)
- Mechanical shock: 100G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- FCC Approved
- EMC approved: E
- HALT tested
- ISO 13766: 2006
- BN EN13309
- Corrosion Test - ISO 16750-4

ELITE CAMERA

BE-811C - Heated Shutter camera	**2914**

- **Viewing angle (HxVxD)**
  103 x 71 x 134°
- **IPX9K**
- **Size (WxHxD)**
  123 x 86 x 80mm
  4.8 x 3.3 x 3.2 inches
- **3 year warranty + optional 2 further years on registration**

Features
- 6 Infrared LEDs for ultra-low light performance
- 5m illumination distance
- Shutter
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sony CCD
- TV System: NTSC
- TV Lines: 400

Power
- Power consumption: 7 Watts
- Current: 0.4 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature:
  -40 to +80°C/ -40 to +176°F
- CE Marked
- EMC approved: E

ELITE CAMERA

BE-821C - Mini camera (mirror image) NTSC	**2002**
BE-823C - Mini camera (normal image) NTSC	**5100**

- **Viewing angle (HxVxD)**
  113 x 90 x 136°
- **IP68**
- **Size (WxHxD)**
  47 x 40 x 50mm
  1.8 x 1.6 x 1.7 inches
- **3 year warranty + optional 2 further years on registration**

Features
- 1/4" Sony CCD
- TV System: NTSC
- TV Lines: 800

Power
- Power consumption: 0.9 Watts
- Current: 0.1 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature:
  -20 to +80°C / -4 to +176°F
- CE marked
- FCC approved
- IC approved
- HALT tested

Model   **Part No:**

ELITE CAMERA

DMC-1021 - Mini camera (internal use) NTSC   **5163**

- **Viewing angle (HxVxD)**
  76 x 55 x 98° NTSC
- **IP30**
- **Size (WxHxD)**
  43 x 45 x 37.5mm
  1.7 x 1.8 x 1.5 inches
- **3 year warranty**

Features
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- 1/3" Sony CCD
- TV System: NTSC
- TV Lines: 400 NTSC

Power
- Power consumption: 1.0 Watt
- Current: 0.07 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature:
  -30 to +60°C / -4 to +158°C
- CE marked
- EMC Approved: E
- FCC Approved

ELITE CAMERA

MD-51 - Mini dome camera NTSC   **5164**

- **Viewing angle (HxVxD)**
  69 x 54 x 90° PAL
  76 x 55 x 98° NTSC
- **IP66**
- **Size (Diameter x H)**
  76 x 59.2mm
  3 x 2.3 inches
- **3 year warranty**

Features
- Dome camera with 150° movement
  range in all directions
- Can be used internally or externally
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- 1/3" Sony CCD
- TV System: PAL or NTSC
- TV Lines: 550 PAL / 400 NTSC

Power
- Power consumption: 1 Watt
- Current: 0.07 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock 50G
- Operating temperature:
  -30 to +60°C / -22 to +140°F
- CE marked
- EMC Approved: E
- FCC Approved

OPTIONAL EXTRAS

MD-50SM-30 - Surface mounting adapter (30mm/1.2" deep)   **5003**

MD-50AM-15 - Angled surface mounting adapter (adds 15°)   **5004**

MD-50AM-25 - Angled surface mounting adapter (adds 25°)   **5005**

Backeye® Cameras

Model   Part No:

SELECT CAMERA

VBV-711C - Heated Shutter camera   **2841**

Direct connection to VBV-770DM-S and VBV-750DM-S monitors via
5-pin 10m / 33' (VBV-L510) or 20m / 66' (VBV-L520) camera cable.
Use AC-035 5-pin to 4-pin adapter for connection to other Select monitors

- **Viewing angle (HxVxD)**
  90 x 70 x 110°
- **IP69K**
- **Size (WxHxD)**
  122 x 85 x 82mm
  4.8 x 3.3 x 3.2 inches
- **2 year warranty**

Features
- 12 Infrared LEDs for ultra-low light performance
- 10m / 33' illumination distance
- Shutter
- Heater
- Audio
- Day / Night sensor
- Mirror / Normal view
- 1/3" Sharp CCD
- TV System: NTSC
- TV Lines: 420

Power
- Power consumption: 4.6 Watts
- Current: 0.38 Amps

Durability & Standards
- Mechanical vibration: 2.8G
- Mechanical shock: 50G
- Operating temperature:
  -20 to +70°C / -4 to +158°F
- CE Marked
- EMC approved: E

SELECT CAMERA

VBV-701C   - NTSC   **2575**
VBV-791C   - Waterproof to IP69K, no audio NTSC   **2842**

- **Viewing angle (HxVxD)**
  86 x 72 x 122° NTSC
- **IP67**
- **Size (WxHxD)**
  81 x 77 x 70mm
  3.2 x 3 x 2.8 inches
- **2 year warranty**

Features
- 4 high-power Infrared LEDs for ultra-low light performance
- 7m illumination distance
- Audio
- Day / Night sensor
- Mirror view
- 1/3" Sharp CCD
- TV Lines: 750

Power
- Power consumption: 3 Watts
- Current: 0.2 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 51G
- Operating temperature:
  -30 to +70°C / -22 to +158°F
- CE marked
- EMC approved: E
- FCC Approved

Camera icons

LED — Infrared LEDs for ultra-low-light performance

Day/night sensor

Audio

Heater

Normal/mirror view

Model   Part No:

SELECT CAMERA

VBV-301C - Compact flush-mount eyeball camera - Mirror view - NTSC   **5213**
VBV-321C - Compact flush-mount eyeball camera - Normal view - NTSC   **5217**

- **Viewing angle (HxVxD)**
  111 x 80 x 153° NTSC

- **IP69K**

- **Size (WxHxD)**
  57 x 42 x 70mm
  2.2 x 1.7 x 2.8 inches

- **2 year warranty**

Features
- Lens swivel adjustment: 26° (Top) x
  4° (Bottom) x 4° (Left) x 4° (Right)
- Lens rotation adjustment: ±180°
- 5 high power infrared LEDs for ultra-low
  light performance
- 3 x 4.5m illumination distance
- Day / Night sensor
- Integrated microphone
- 1/3" Sharp CCD
- TV System: NTSC
- TV lines: 600 NTSC

Power
- Power consumption: 2.3 Watts
- Current consumption: 0.16 Amps

Durability & Standards
- Mechanical vibration: 8.5G
- Mechanical shock: 51G
- Operating temperature:
  -30 to +70°C / -22 to +158°F
- CE marked
- EMC approved: E
- FCC approved

OPTIONAL EXTRAS

SM-3XX-25 Surface mounting adapter (25mm / 1" deep)   **4596**

SELECT CAMERA

VBV-481C - Cylinder camera   **2843**

- **Viewing angle (HxVxD)**
  90 x 69 x 117°

- **IP67**

- **Size (Diameter x Length)**
  35 x 50mm
  1.4 x 2 inches

- **2 year warranty**

Features
- 9 LEDs for ultra-low light performance
- 10m / 33' illumination distance
- Mirror view
- 1/3" Sharp CCD
- TV System: NTSC
- TV Lines: 420

Power
- Power consumption: 2.4 Watts
- Current: 0.2 Amps

Durability & Standards
- Mechanical vibration: 10G
- Operating Temperature:
  -30 to +70°C / -22 to +158°F
- EMC approved: E
- CE marked

Model   **Part No:**

ELITE MONITOR

BE-970WFM - Waterproof 7" Quad digital LCD monitor   3560

- **12-24Vdc**
- **IP69K**
- **Size (WxHxD)**
  194 x 124 x 48mm
  7.6 x 4.9 x 1.9 inches
- **3 year warranty + optional 2 further years on registration**

7.0"

Plus additional in-built image options

Features
- 4 camera inputs
- Shutter camera compatible (inputs 1&2)
- Backlit touch screen button panel
- 'Button-lock' anti-tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Speed switch trigger to turn monitor on/off or trigger a split screen
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
- Viewing angles:
  Side 65° x Top 50° x Bottom 60°

Power
- Power consumption: min 28 Watts
- Current: max 2.15 Amps

Durability & Standards
- Aluminum die-cast casing
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature:
  -40 to +75°C / -40 to +167°C
- CE marked
- EMC approved: E
- FCC approved
- ISO 16750
- ISO 20653: 2006
- HALT tested

ELITE MONITOR

BE-970WM - Waterproof 7" Digital LCD monitor   3351

- **12-24Vdc**
- **IP69K**
- **Size (WxHxD)**
  194 x 124 x 48mm
  7.6 x 4.9 x 1.9 inches
- **3 year warranty + optional 2 further years on registration**

7.0"

Features
- 2 Camera inputs
- Shutter camera compatible - both inputs
- Backlit touch screen button panel
- 'Button-lock' anti-tamper feature
- 2 Auto-triggers
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
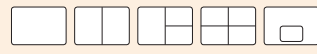- Viewing angles:
  Side 65° x Top 50° x Bottom 60°

Power
- Power consumption: 11 Watts
- Current: 0.9 Amps

Durability & Standards
- Aluminum die-cast casing
- Mechanical vibration: 20G
- Mechanical shock: 100G
- Operating temperature:
  -40 to +70°C / -40 to +158°F
- CE marked
- EMC approved: E
- FCC approved
- ISO 16750
- ISO 13766: 2006
- HALT tested

BRIGADE®

Model	Part No:

ELITE MONITOR

BE-870LM - 7" Digital LCD monitor   2705

- **12-24Vdc**

- **Size (WxHxD)**
  197 x 128 x 34mm
  7.8 x 5 x 1.3 inches

- **3 year warranty + optional 2**
  further years on registration

7.0"

Features
- 2 Camera inputs
- Shutter camera compatible - both inputs
- 'Button-lock' anti tamper feature
- 2 Auto-triggers with configurable trigger-off delays
- Mirror / Normal switching from menu
- On-screen distance and vertical line markers
- Audio
- Sun shield
- Auto-dimmer and keypad illumination
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen

- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 12 Watts
- Current: 1 Amp

Durability & Standards
- Mechanical vibration: 2.5G
- Mechanical shock: 51G
- Operating temperature:
  -30 to +70°C / -22 to +158°F
- CE marked
- EMC approved: E
- FCC approved

ELITE MONITOR

BE-870FM - 7" Digital LCD monitor   2146

- **12-24Vdc**

- **Size (WxHxD)**
  197 x 135 x 30mm
  7.8 x 5.3 x 1.2 inches

- **3 year warranty + optional 2**
  further years on registration

7.0"

Plus additional in-built image options

Features
- 4 camera inputs
- 5 Auto-triggers
- Shutter camera compatible
- 'Button-lock' anti-tamper feature
- Mirror / Normal switching from menu
- On-screen distance & vertical line markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 4000cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 21 Watts
- Current: 1.9 Amps

Durability & Standards
- Mechanical vibration: 6G
- Mechanical shock: 100G
- Operating temperature:
  -40 to +70°C / -40 to +158°F
- CE marked
- EMC approved: E
- HALT tested

Monitor icons

4	Number of camera inputs
5	Number of auto-triggers
🔊	Audio
🔒	'Button-lock' anti-tamper feature
⟋⟍	On-screen distance and vertical line markers
✓	Normal/mirror view - switching from menu

Model   **Part No:**

ELITE MONITOR

BE-865DDM - Double DIN 6.5" Digital LCD Monitor   3935

- 12-24Vdc
- IP69K
- **Size (WxHxD)**
  188 x 116 x 142mm
  7.4 x 4.7 x 5.6 inches
- **3 year warranty + optional 2 further years on registration**

6.5"

Plus additional in-built image options

Features
- 4 camera inputs with independent control
- Shutter camera compatible (all inputs)
- Backlit touch screen button panel
- 'Button-lock' anti-tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On screen distance and vertical line markers
- Audio
- Speed switch trigger to turn monitor on/off or trigger a split screen
- Sun shield
- Multi-lingual menus
- Audio / video inputs / output
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: min 15.4 Watts
- Current: min 1.4 Amps

Durability & Standards
- Mechanical vibration: 6G
- Operating temperature:
  -40 to +70°C / -40 to +158°F
- CE marked
- EMC approved: e
- ISO 16750

ELITE MONITOR

BE-856GM - 5.6" Digital LCD monitor   3756

- 12-24Vdc
- **Size (WxHxD)**
  172 x 115 x 32mm
  6.8 x 4.5 x 1.2 inches
- **3 year warranty + optional 2 further years on registration**

5.6"

Features
- 2 camera inputs
- 2 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance & vertical line markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 640 x 480
- Contrast ratio: 500:1
- Brightness: 350cd/m^2

- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 11 Watts
- Current: 0.9 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature:
  -40 to +70°C / -40 to +158°F
- CE marked
- EMC approved: E
- FCC approved
- ISO 13766: 2006
- ISO 16750
- HALT tested

SELECT MONITOR

VBV-7104FM - 10.4" Digital LCD Monitor 4474

- 12-24Vdc

- **Size (WxHxD)**
  267 x 193 x 30mm
  10.5 x 7.6 x 1.2 inches

- 2 year warranty

10.4"

Plus additional in-built image options

Features
- 4 camera inputs
- 'Button-lock' anti-tamper feature
- 5 Auto-triggers
- Configurable trigger delay
- Mirror / Normal switching from menu
- On-screen distance markers
- Built-in speaker
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 30,000 hours life)
- Anti-glare screen
- Resolution: 1024 x 768
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles:
  Side 70° x Top 60° x Bottom 60°

Power
- Power consumption: 31 Watts
- Current: 2.8 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 50G
- Operating temperature:
  -20 to +70°C / -4 to +158°F
- CE marked
- EMC approved: E
- HALT tested

SELECT MONITOR

VBV-770FM - 7" Digital LCD monitor 4982

- 12-24Vdc

- **Size (WxHxD)**
  182 x 122 x 27mm
  7.2 x 4.8 x 1 inch

- 2 year warranty

7.0"

Plus additional in-built image options

Features
- 4 camera inputs
- 'Button-lock' anti-tamper feature
- 5 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance markers
- Audio
- Sun shield
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 27 watts
- Current: 2.2 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 50G
- Operating temperature:
  -30 to +70°C / -4 to +158°F
- CE marked
- EMC approved: E

Backeye® Monitors

Model		Part No:

SELECT MONITOR

VBV-770M -   **7" Digital LCD monitor**   **4288**
VBV-770M-S -   **7" Digital LCD monitor**   **4697**
Includes 1 x 5-pin input for connection to VBV-710C shutter camera

- 12-24Vdc

- Size (WxHxD)
  196 x 118 x 26mm
  7.7 x 4.6 x 1 inches

- 2 year warranty

7.0"

Features
- 3 camera inputs
- 3 Auto-triggers
- Mirror / Normal switching from menu
- 'Button lock' anti-tamper feature
- On-screen distance markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 18 Watts
- Current: 1.5 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature:
  -30 to +70°C / -4 to +158°F
- CE marked
- EMC approved: E
- HALT tested

SELECT MONITOR

VBV-750M -   **5" Digital LCD monitor**   **4287**
VBV-750M-S -   **5" Digital LCD monitor**   **4710**
Includes 1 5-pin input for connection to VBV-710C shutter camera

- 12-24Vdc

- Size (WxHxD)
  149.5 x 99 x 22mm
  5.9 x 3.9 x 0.8 inches

- 2 year warranty

5.0"

Features
- 3 camera inputs
- 3 Auto-triggers
- Mirror / Normal switching from menu
- On-screen distance markers
- 'Button lock' anti-tamper feature
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching PAL / NTSC

Picture Quality
- LED backlighting
  (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480

- Contrast ratio: 500:1
- Brightness: 350cd/m^2
- Viewing angles:
  Side 70° x Top 50° x Bottom 70°

Power
- Power consumption: 11.5 Watts
- Current: 0.95 Amps

Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature:
  -30 to +70°C / -4 to +158°F
- CE marked
- EMC approved: E
- HALT tested

Model   **Part No:**

ESSENTIAL MONITOR

VBV-243M - 4.3" Digital Mirror monitor   5323

• 12-24Vdc

• Size (WxDxH)
  280 x 92 x 30.5mm
  11 x 3.6 x 1.2 inches

• 1 year warranty

4.3"

Features
• On screen multilingual display menu
• Digital LCD panel
• 2 Auto-trigger
• Auto dimmer
• Illuminated keypad
• On-screen distance markers
• TV system: PAL / NTSC

Picture Quality
• Resolution: 480 x 272
• Contrast ratio: 600:1
• Brightness: 1000cd/m^2
• Viewing angles:
  Side 65° x Top 60° x Bottom 50°

Power
• Power consumption: 6.6 Watts
• Current: 0.53 Amps

Durability & Standards
• Vibration rating: 6G
• Operating temperature:
  -20 to +70°C / -4 to +158°F
• CE marked
• FCC approved

RIGID VEHICLES
ELITE RANGE CAMERA MONITOR SYSTEM

BE-870L-000N - Single camera monitor system for rigid vehicles   3131

• **BE-870LM - 7" TFT LCD color monitor**

• **BE-801C - Color ultra-low-light camera**

• **BE-L120 - 20m / 66' camera cable**

See individual products for detailed specifications

• **3 year system warranty**

RIGID VEHICLES
ESSENTIAL RANGE CAMERA MONITOR SYSTEM

VBV-650-000N - Single Camera Rear View Systems for Large Rigid Vehicles;   4766
eg Trucks, Buses, Dump Trucks, etc

• **VBV-650M - 5" TFT LCD colour monitor**

• **VBV-621C - Color ultra-low-light CMOS camera, NTSC format**

• **VBV-L420 - 20m / 66' camera cable**

• **1 year warranty**

5.0"   **1**

Monitor
• 12-24Vdc
• 1 camera input
• Size (WxHxD)
  148 x 110 x 30.2mm
  5.8 x 4.3 x 1.2 inches

Camera
• Viewing angle (HxVxD)
  81 x 59 x 106°
• IP67
• Size (WxHxD)
  64.5 x 59 x 55mm
  2.5 x 2.3 x 2.2 inches

Model   **Part No:**

RIGID VEHICLES
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-301 - Single camera monitor system for rigid vehicles   **4779**

- VBV-770M - 7" TFT LCD color monitor
- VBV-301C - color flush-mount camera, NTSC format
- VBV-L420 - 20m / 66' camera cable

See individual products for detailed specifications

- 2 year system warranty

VBV-770-000N - Single camera monitor system for rigid vehicles   **4693**

- VBV-770M - 7" TFT LCD color monitor
- VBV-701C - NTSC color ultra-low-light camera
- VBV-L420 - 20m / 66' camera cable

See individual products for detailed specifications

- 2 year system warranty

VBV-750-301 - Single camera monitor system for rigid vehicles   **4778**

- VBV-750M - 5" TFT LCD color monitor
- VBV-301C - color flush-mount camera, NTSC format
- VBV-L420 - 20m / 66' camera cable

See individual products for detailed specifications

- 2 year system warranty

VBV-750-000N - Single camera monitor system for rigid vehicles   **4706**

- VBV-750M - 5" TFT LCD color monitor
- VBV-701C - color ultra-low-light camera, NTSC format
- VBV-L420 - 20m / 66' camera cable

See individual products for detailed specifications

- 2 year system warranty

VBV-750-100N - Single camera monitor system for rigid vehicles   **4709**

- VBV-750M - 5" TFT LCD color monitor
- VBV-711C - color ultra-low-light shutter camera, NTSC format
- VBV-L520 - 20m / 66' camera cable

See individual products for detailed specifications

- 2 year system warranty

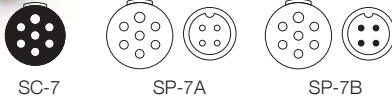**Model**   **Part No:**

SMALL RIGID VEHICLES AND VANS
SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-311 - Single flush-mount camera monitor system for small rigid   **4783**
                and vans

- **VBV-770M - 7" TFT LCD color Monitor**
- **VBV-301C color flush-mount camera, NTSC Format**
- **VBV-L410 - 10m / 33' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-010N - Single camera monitor system for small rigid and vans   **4694**

- **VBV-770M - 7" TFT LCD color monitor**
- **VBV-701C color ultra-low-light camera, NTSC format**
- **VBV-L410 - 10m / 33' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-100N - Single shutter camera monitor system for rigid vehicles   **4770A**

- **VBV-770M - 7" TFT LCD color monitor**
- **VBV-711C color Ultra-low-light shutter camera, NTSC format**
- **VBV-L520 20m / 66' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-311 - Single flush-mount camera monitor system for rigid vehicles   **4782**

- **VBV-750M - 5" TFT LCD color monitor**
- **VBV-301C color flush-mount camera, NTSC format**
- **VBV-L410 - 10m / 33' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-750-010N - Single camera monitor system for vans   **4707**

- **VBV-750M - 5" TFT LCD color monitor**
- **VBV-701C color ultra-low-light camera, NTSC format**
- **VBV-L410 - 10m / 33' camera cable**

See individual products for detailed specifications

- **2 year system warranty**

Model	Part No:

VBV-750-910 - Single camera monitor system for vans   4220

- **VBV-750M - 5" color monitor**
- **VBV-791C - color camera**
- **VBV-L420 - 10m / 33' cable**

See individual products for detailed specifications

- **2 year system warranty**

VBV-770-910 - Single camera monitor system for vans   4221

- **VBV-750M - 5" color monitor**
- **VBV-791C - IP69K color camera**
- **VBV-L420 - 10m / 33' cable**

See individual products for detailed specifications

- **2 year system warranty**

BRIGADE®

Model   **Part No:**

ELITE TRUCK/TRAILER CABLE KIT

SK-31E - Cable kit for articulated trucks - unique pin layout   **1830**
Inclusive of SK-31E-T - Trailer only kit

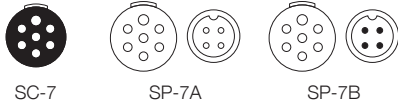|	
• BE-L110 - 10m/33' cable for cab **0803**	**SK-31E-T - Trailer only kit** **1886**
• SP-7A - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout) **1827**	• BE-X020 - 20m/66' extension cable for trailer **1143**
• SC-7 - Coiled cable with 7-pin plugs (unique pin layout) **1829**	• SP-7B - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout) **1828**

SC-7   SP-7A   SP-7B

ELITE TRUCK/TRAILER CABLE KIT

SK-30E - Cable kit for articulated trucks   **1144**
Inclusive of SK-30E-T - Trailer only kit

• BE-L110 - 10m/33' cable for cab **0803**	**SK-30E-T - Trailer only kit** **1885**
• SP-07C - 7-pin bulkhead socket for cab & cab-end camera connector **1140**	• BE-X020 - 20m/66' extension cable for trailer **1143**
• SC-07 - Coiled cable with 7-pin plugs **1046**	• SP-07T - 7-pin bulkhead socket for trailer & trailer-end camera connector **1142**

SC-07   SP-07C   SP-07T

ELITE TRUCK/TRAILER CABLE KIT

SK-15-01 - Three camera cable kit for articulated trucks   **3427**

• SP-15A-01 - 15-pin bulkhead socket for cab & 3 cab-end camera connectors **3423**	• SP-15B-01 - 15-pin bulkhead socket for trailer & 3 trailer-end camera connectors **3422**
	• SC-15-01 - Coiled shielded cable with 15-pin plugs **3268**

SP-15A-01   SP-15A-01   SC-15-01

Model   **Part No:**

ELITE TRUCK/TRAILER CABLE KIT

SK-15-04 - Single camera & single buzzer Ultrasonic Detection   **3997**
System (new generation) cable kit for articulated trucks

- **SP-15A-04 - 15-pin bulkhead**   **3955**
  socket for cab & cab-end
  camera connector plus stripped wires and
  display/buzzer connection for Ultrasonics

- **SP-15B-04 - 15-pin bulkhead**   **3956**
  socket for trailer & trailer-end camera
  connector plus stripped wires and display/
  buzzer connection for Ultrasonics

- **SC-15-01 - Coiled shielded**   **3268**
  cable with 15-pin plugs

SP-15A-04   SP-15B-04

SC-15-01

ELITE TRUCK/DRAWBAR TRAILER CABLE KIT

SK-50E - Twin camera cable kit with unique pin layout
for truck with drawbar trailer   **1570**
Inclusive of SK-50E-A Truck only kit and SK-31E-T trailer only kit

SK-50E-A - Truck only kit   **1879**

- **BE-L115 - 15m/49' cable for truck**   **0802**
- **BE-X005 - 5m/16' extension cable**
  for truck camera   **2099**
- **CS-020 - Two-way camera selector**   **1571**
- **SP-7A - 7-pin bulkhead socket for**
  trailer & trailer-end camera connector
  (unique pin layout)   **1827**
- **SC-7 - Coiled cable with 7-pin plugs**
  (unique pin layout)   **1829**

SK-31E-T - Trailer only kit   **1886**

- **BE-X020 - 20m/66' extension cable**
  FOR trailer camera   **1143**
- **SP-7B - 7-pin bulkhead socket for**
  cab & cab-end camera connector
  (unique pin layout)   **1828**

SP-7A   SC-7   SP-7B

WIRELESS CAMERA MONITOR CONNECTION SYSTEM

DW-1001-TX - Digital Wireless Transmitter   **4282**
DW-1001-RX - Digital Wireless Receiver   **4283**

- **Digital technology**
- **12-24Vdc**
- **1 camera input**
- **IP69K (Transmitter)**
- **Size (WxHxD)**
  113 x 114 x 31mm
  4.4 x 4.8 x 1.2 inches
- **2 year warranty**

Features
- Image Latency: 200 milliseconds
- No need for retractable coiled cables
- Reduces installation time
- Re-pair facility allows for interchangeable trailers
- Triggered by reverse gear
- TV System NTSC
- Secure connection

Power
- Maximum Current Amps:
  TX: 0.85 RX: 0.17
- Power consumption:
  TX: 9.8 Watts   RX: 2.2 Watts

Durability & Standards
- Operating temperature:
  -40 to +70°C / -40 to +158°F
- Mechanical vibration: 6G
- Mechanical shock: 20G
- CE marked
- EMC approved: E
- FCC approved

AC-006 & AC-007 adapter cables are
required to connect to Select range
camera and monitor

Transmitter   Receiver   12/24Vdc

SELECT TRUCK/TRAILER CABLE KIT

VSK-31E - Cable kit for articulated trucks - unique pin layout   **2539**
Inclusive of VSK-31E-T - Trailer only kit

• VBV-L410 - 10m/33' cable for cab 1386	**VSK-31E-T - Trailer only kit** **2543**
• SP-7A - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout) 1827	• VBV-L420 - 20m/66' cable for trailer 1380
• AC-014 - Adapter cable 2094	• AC-006 - Adapter cable 1983
• SC-7 - Coiled cable with 7-pin plugs (unique pin layout) 1829	• SP-7B - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout) 1828

SC-7   SP-7A   SP-7B

SELECT TRUCK/TRAILER CABLE KIT

VSK-30E - Cable kit for articulated trucks   **2538**
Inclusive of SK-30E-T - Trailer only kit
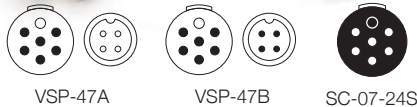
• VBV-L410 - 10m/33' cable for cab 1386	**VSK-30E-T - Trailer only kit** **2542**
• VSP-47A - 7-pin bulkhead socket for cab & cab-end camera connector 1847	• VBV-L420 - 20m/66' extension cable for trailer 1380
• SC-07-24S - Coiled cable with type 24S 7-pin plugs 1227	• VSP-47B - 7-pin bulkhead socket for trailer & trailer-end camera connector 1846

VSP-47A   VSP-47B   SC-07-24S

SELECT TRUCK/TRAILER CABLE KIT

VSK-305E - Cable kit for articulated trucks - Shutter camera   **3871**

• VBV-L510 10m/33' cable for cab 3663	• VSP-57B 7-pin bulkhead socket for trailer & trailer-end camera connector 3870
• VBV-L520 20m/66' cable for trailer 3664	
• VSP-57A 7-pin bulkhead socket for cab & cab-end camera connector 3869	• SC-07-24S - Coiled cable with type 24S 7-pin plugs 1227

VSP-57A   SC-07-24S

SELECT TRUCK/TRAILER CABLE KIT

SK-15-05 - 3-camera Backeye®360 cable kit for articulated vehicles   **5066**

• SP-15A-05 - 15-pin bulkhead socket for cab & cab-end connector plus 3x connections for Backeye®360 Select 5064	• SC-15-01 Coiled shielded cable with 15-pin plugs 3268
• SP-15B-05 15-pin bulkhead socket for trailer & trailer-end connector plus 3x connections for Backeye®360 Select 5065	

SP-15A-05   SC-15-01

Model   **Part No:**

SELECT TRUCK/ DRAWBAR TRAILER CABLE KIT

VSK-50E - Twin camera cable kit for truck with drawbar trailer   **2540**
Inclusive of VSK-50E-A Truck only kit and VSK-30E-T Trailer only kit
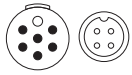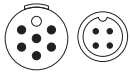
VSK-50E-A - Truck only kit	**2541**	**VSK-30E-T - Trailer only kit**	**2542**
• VBV-L420 - 20m/66' cable for truck	1380	• VBV-L420 - 20m/66' cable for trailer	1380
• VBV-L405 - 5m/16' camera cable for truck camera	1499	• VSP-47B - 7-pin camera bulkhead socket for trailer	1846
• VCS-020 - Two-way camera selector	1844		
• 1 x VSP-47A - 7-pin camera bulkhead socket for truck rear	1847		
• SC-07-24S - Coiled cable with 7-pin sockets	1227		

VSP-47A   VSP-47B   SC-07-24S

SELECT TRUCK/DRAWBAR TRAILER CABLE KIT

VSK-505E - Twin shutter camera cable kit for truck with drawbar trailer   **4005**
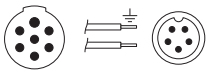
• VBV-L420 - 20m/66' cable for truck	1380	• VSP-57A 7-Pin bulkhead socket for cab & cab-end camera connector	3869
• VBV-L520 - 20m/66' camera cable for truck camera	3664	• VSP-57B 7-pin bulkhead socket for trailer & trailer-end camera connector	3870
• VBV-L505 - 5m/16' camera cable for cab	4001	• SC-07-24S - Coiled cable with 7-pin plugs	1227
• VCS-020 - Two-way camera selector	1844		
• 2 x AC-035 - 5-pin to 4-pin shutter camera adapter	3702		

VSP-57A   SC-07-24S

Model   **Part No:**

BRIGADE CAMERA MONITOR ADAPTERS

Model	Part No:
AC-006 - Connects Select camera (not shutter) to Elite cable	1983
AC-007 - Connects Select monitor to Elite cable	1984
AC-014 - Connects Elite camera to Select cable	2094
AC-014(5M) - Connects Elite camera to Select cable, 5m long	5049
AC-020 - Connects Elite monitor to Select cable	2590
AC-035 - 5-pin to 4-pin Select shutter camera adapter	3702
AC-055(5M) - 5-pin to 4-pin Select cable, 5m long	4267
AC-305 - Splitter cable connects 1 x BN360 camera to MDR & ECU	4903
AC-306 - Splitter cable connects 1 x Select camera to MDR & monitor	4904
AC-307 - Splitter cable connects 1 x Elite camera to MDR & Monitor	4905

MISCELLANEOUS CAMERA MONITOR ADAPTERS

Model	Part No:
AC-056 - Connects Select camera to Orlaco monitor	4401
AC-062 - Connects Elite camera to Orlaco monitor	4691
AC-063 - Connects Elite camera to Orlaco monitor, screw fit	4925
AC-066 - Connects Orlaco camera to Elite monitor	5027
AC-067 - Connects Orlaco camera to Select monitor	5028
AC-24-12(009) - In-line 24/12Vdc converter - Select camera to Mekra 507405 monitor	4926
AC-308 - Splitter cable to connect MDR to Mekra 507405 CMS	4949

Model	Part No:

OEM CAMERA MONITOR ADAPTERS

AC-041 - Connects Elite camera to John Deere 7-pin amp output — **4245**

AC-042 - Connects Select camera to John Deere 7-pin amp output — **4246**

AC-044 - Connects Elite camera to Molex M12 (Fendt) — **4279**

AC-045 - Connects Select camera to Molex M12 (Fendt) — **4280**

AC-068 - Connects Select camera to MAN Harman unit — **5234**

AC-069 - Connects Select camera to MAN/Scania Harman unit without camera prep. — **5318**

AC-24-12(002) - In-line 24/12Vdc converter - Elite camera to Daimler monitor — **4266**

AC-24-12(004) - In-line 24/12Vdc converter - Select camera to MAN MMT HSD — **4281**

AC-24-12(006) - In-line 24/12Vdc converter - Select camera to Volvo FH(4) & FM(4) — **4719**

AC-24-12(007) - In-line 24/12Vdc converter - Select camera to Iveco connect system — **4762**

AC-24-12(008) - In-line 24/12Vdc converter - Select camera to Mercedes sprinter — **4763**

A further range of OEM-specific adapters to connect Brigade cameras to factory-fit monitors is available

GENERAL CAMERA MONITOR ADAPTERS

AC-016 - Connects AV to Camera input of Elite monitor — **2150**

AC-019 - Connects Elite camera to male phono (video only) — **2589**

AC-021 - Connects BNC/FLIR PathFindIR camera to Elite cable — **2704**

AC-024 - Connects AV to Select monitor — **3183**
(video & audio input, 12Vdc output)

AC-028 - Connects AV to Select cable — **3335**

AC-064 - Connects Elite camera to BNC adapter cable — **4948**

ELITE CAMERA CABLES

Model		Part No:
BE-L130	- 30m / 98' cable	0800
BE-L120	- 20m / 66' cable	0801
BE-L115	- 15m / 49' cable	0802
BE-L112	- 12m / 39' cable	3008
BE-L110	- 10m / 33' cable	0803
BE-L108	- 8m / 26' cable	3007
BE-L105	- 5m / 16' cable	0804
BE-L101	- 1m / 3.3' cable	5042
BE-L1003	- 0.3m / 1' cable	2797

ELITE CAMERA EXTENSION CABLES

Model	Part No:
BE-X025 - 25m / 82' extension cable	1907
BE-X020 - 20m / 66' extension cable	1143
BE-X015 - 15m / 49' extension cable	2101
BE-X010 - 10m / 33' extension cable	2100
BE-X005 - 5m / 16' extension cable	2099
BE-X003 - 3m / 10' extension cable	0805

SELECT CAMERA CABLES

Model	Part No:
VBV-L430 - 30m / 98' cable	2108
VBV-L420 - 20m / 66' cable	1380
VBV-L415 - 15m / 49' cable	3150
VBV-L412 - 12m / 39' cable	3106
VBV-L410 - 10m / 33' cable	1386
VBV-L407 - 7m / 23' cable	3151
VBV-L406 - 6m / 20' cable	3152
VBV-L405 - 5m /16' cable	1499
VBV-L403 - 3m / 10' cable	4977
VBV-L4025 - 2.5m / 8' cable	1554
VBV-XM003 - 3m / 10' cable	4193
VBV-L520 - 20m / 66' 5-pin shutter camera cable	3664
VBV-L510 - 10m / 33' 5-pin shutter camera cable	3663
VBV-L505 - 5m / 16' 5-pin shutter camera cable	4001

Model	Part No:

CAMERA MONITOR SYSTEM ANCILLARIES

SS-002 - Twin camera screen splitter — 3044

- **12-24Vdc**
- **2 camera inputs**
- **Size (WxHxD)**
  147 x 37 x 78mm
  5.7 x 1.5 x 3 inches
- **2 year warranty**

Single   Split   In-built image options

Features
- Offers split-screen option for monitors without in-built functionality
- 3 auto-triggers for each camera
- Shutter camera compatible
- TV System: NTSC
- Manual Mirror/Normal switching - choose from horizontal normal/mirror or vertical normal/flip
- Short circuit protection on camera inputs
- Reverse polarity protected
- Compatible with Brigade's camera monitors (adapters required for Elite)

Power
- Power Consumption: 8.4 Watts
- Current: 0.7 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature: -30 to +70°C / -22 to +158°F
- CE marked
- EMC approved: E
- FCC approved

CAMERA MONITOR SYSTEM ANCILLARIES

EDM-50 - Multi-camera module and screen splitter — 2152

- **12-24Vdc**
- **4 camera inputs**
- **Size (WxHxD)**
  154 x 28 x 105mm
  6 x 1.1 x 4.1 inches
- **2 year warranty**

Single   Split   Triple   Quad   Picture in picture
Plus additional in-built image options

Features
- Shutter camera compatible (inputs 1,2&3)
- AV input to accept DVD, sat nav or other add-ons
- 5 manual or auto-triggers for each camera
- On screen distance markers
- Mirror / Normal image switch for each camera
- Selectable camera audio
- Auto-scanning function
- Compatible across Brigade camera monitor range (adapters required for Select series)

Power
- Power consumption: 20 Watts
- Current: 2 Amps

Durability & Standards
- Mechanical vibration: 5G
- Operating temperature: -25 to +70°C / -13 to +158°F
- CE marked
- EMC approved: E
- FCC approved

CAMERA MONITOR SYSTEM ANCILLARIES

VCS-020 - Two-way camera switcher (Select range) — 1844

- **Allows a 2nd Select range camera to be connected to a Select range monitor**
- **2nd camera view selected by trigger wire**
- **Full screen view only**

CAMERA MONITOR SYSTEM ANCILLARIES

CS-020 - Two-way camera switcher (Elite range) — 1571

- **Allows a 2nd Select range camera to be connected to a Select range monitor**
- **2nd camera view selected by trigger wire**
- **Full screen view only**

Model   **Part No:**

CAMERA MONITOR SYSTEM ANCILLARIES

LS-60-A - Speed switch   4851

- **12-24Vdc**

- **Auto-triggers safety equipment at the designated speed**

- **Size (WxHxD) 44 x 16 x 64mm 1.7 x 0.6 x 2.5"**

- **2 year warranty**

Features
- Normally closed - safety device on by default, turning off at designated speed
- 10 speed threshold settings
- Compact size
- Easy to install and set up
- Short circuit protection on camera inputs
- Reverse polarity protected
- Compatible with Brigade products

Power
- Power consumption: 21.6 Watts
- Max current: 1.8 Amps
- Switch Output max. current: 1.2 Amps

Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature: -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- FCC approved

Note: A relay is required if connected to a device that is higher than 1.2 Amps

CAMERA MONITOR SYSTEM ANCILLARIES

SC-1000-ECU - Shutter camera module   3666

- **Allows BE-801C shutter camera to function on non-shutter enabled inputs on Elite range monitors (using Elite range cables).**

Use AC-007 adapter to connect to Select monitor.

- **Current: 2 Amps**
- **CE marked**
- **EMC approved: E**

WIRELESS CAMERA MONITOR CONNECTION SYSTEM

DW-1001-TX - Digital Wireless Transmitter   4282
DW-1001-RX - Digital Wireless Receiver   4283

- **Digital technology**

- **12-24Vdc**

- **1 camera input**

- **IP69K (Transmitter)**

- **Size (WxHxD) 113 x 114 x 31mm 4.4 x 4.8 x 1.2 inches**

- **2 year warranty**

Features
- Image Latency: 200 milliseconds
- No need for retractable coiled cables
- Reduces installation time
- Re-pair facility allows for interchangeable trailers
- Triggered by reverse gear
- TV System NTSC
- Secure connection

Power
- Maximum Current Amps: TX: 0.85 RX: 0.17
- Power consumption: TX: 9.8 Watts   RX: 2.2 Watts

Durability & Standards
- Operating temperature: -40 to +70°C / -40 to +158°F
- Mechanical vibration: 6G
- Mechanical shock: 20G
- CE marked
- EMC approved: E
- FCC approved

AC-006 & AC-007 adapter cables are required to connect to Select range camera and monitor

Transmitter   Receiver

12/24Vdc

Mobile Digital Recording

By capturing footage from vehicle mounted cameras, mobile digital recorders provide an accurate witness, giving irrefutable evidence in the case of false claims, crash for cash incidents or vandalism. Disproving these claims means companies can make major cost savings, whilst importantly supporting their drivers, who are often the subject of increased scrutiny.

Which system is for you?

Brigade's **NEW** 500 series Mobile Digital Recorders include four-channel models with a 500Gb hard drive and eight channel, 1TB models. Both four and eight-channel vehicle recorders include models with WiFi and/or 4G connectivity capabilities*, allowing data to be accessed from the recorder without physically having to go to the recorder.

• Records from up to eight cameras simultaneously
• Built-in GPS for recording speed and location
• G-sensor provides impact, accelerating and braking data
• Wi-Fi and 4G connectivity capabilities
• Supports Analogue High Definition (AHD) cameras

WiFi & 4G

Brigade's new range of digital recorders include models with WiFi and/or 4G connectivity capabilities. Wirelessly connecting an MDR to a secure server can save many man-hours, as data can be obtained from the recorder without needing to access the vehicle.

*In order to set up and use the WiFi and/or 4G MDR models, IT infrastructure, services and dedicated hardware such as servers will be required.

Model   **Part No:**

MOBILE DIGITAL RECORDER

MDR-508-1000	- 8 channel 1TB hard disk recorder	5126
MDR-508GW-1000	- 8 channel 1TB hard disk recorder with WiFi and 4G	5127
MDR-508G-1000	- 8 channel 1TB hard disk recorder with 4G	5128
MDR-508W-1000	- 8 channel 1TB hard disk recorder with WiFi	5129

- **9-32Vdc**

- **8 camera inputs - Supports ADH High definition cameras**

- **8 trigger/alarm inputs**

- **Lockable and interchangeable Hard Drive Unit - upgradeable to 2TB**

- **Fast, easily downloadable recordings and data**

- **Size (WxHxD) 224 x 85 x 221mm 8.8 x 3.3 x 8.7 inches**

- **3 year warranty**

Main Contents
- Mobile Digital Recorder with 2.5" 1TB SATA HDD
- Wired Mouse
- Input / Output Cable
- Power Cable
- GPS Antenna
- 4G Antenna (G and GW models)
- Wi-Fi Antenna (W and GW models)
- USB A to B Cable (3.0)
- Security Key
- Bracket and Fixings

Features
- Remotely access MDR units using wireless (WiFi models only) and/or Mobile network (4G models only)
- Mobile apps for remote view (WiFi/4G models only)
- Geo-fencing (WiFi/4G models only)
- Mobile Standards: 2G/3G/4G
- Audio (cameras must have microphones)
- Robust aluminum housing
- Anti-vibration mounting allows for installation at any angle
- Built-in GPS
- Internal G-sensor and built-in buzzer
- Up to 1862 hours recording
- Recordings saved to hard disk (protected by non-visible digital watermark) and in-built Mirror recording onto SD card
- Recording modes: normal, alarm and timer (all watermarked)
- Configurable alarm trigger settings (speed, G-force, motion detection, video loss, voltage)
- Record images prior to alarm activation and after vehicle switched off

- MDR-Dashboard (full player) and MDR-Player (portable) with Google and MS Bing maps (English only)
- Search by date, time or triggered events
- Multi-level password protected access
- Hard drive unit directly pluggable to PC via USB port
- 8 x trigger Inputs, 2x trigger outputs and 1x12V power output
- Built-in HDD heater
- MDR Control using USB Mouse or IR remote control
- USB 3.0 connection
- TV System: PAL/NTSC/AHD
- Compatible with Brigade's vehicle CCTV camera monitor systems and Backeye®360 systems

Image and Audio Quality
- High quality H.264 image compression
- ADPCM - audio compression
- Choice of 8 low to high resolution settings
- Record at between 1 and 25 frames per second, per channel

Power
- Max power consumption: 80 Watts
- Current: 6.6 Amps

Durability & Standards
- Mechanical vibration: 1G
- Mechanical shock: 51G
- Operating temperature: -40 to +70°C / -40 to +158°F
- EMC approved: E
- CE marked
- FCC approved
- IC approved
- RoHS2 Compliant

4G/Wi-Fi UPGRADES FOR MDR-508-1000

MDR-508GW-EXP-0	Wi-Fi & 4G Expansion Module for MDR-508-1000	5309
	SD card not included	
MDR-508G-EXP-0	4G Expansion Module for MDR-508-1000	5310
	SD card not included	
MDR-508W-EXP-0	Wi-Fi Expansion Module for MDR-508-1000	5311
	SD card not included	

Model		Part No:

MOBILE DIGITAL RECORDER

MDR-504-500	- 4 channel 500GB hard disk recorder	5122
MDR-504GW-500	- 4 channel 500GB hard disk recorder with WiFi and 4G	5123
MDR-504G-500	- 4 channel 500GB hard disk recorder with 4G	5124
MDR-504W-500	- 4 channel 500GB hard disk recorder with WiFi	5125

- 9-32Vdc

- 4 camera inputs - Supports ADH High definition cameras

- 8 trigger/alarm inputs

- Lockable and interchangeable Hard Drive Unit - upgradeable to 2TB

- Fast, easily downloadable recordings and data

- Size (WxHxD)
  190 x 75 x 222mm
  7.5 x 3 x 8.7 inches

- 3 year warranty

Main Contents
- Mobile Digital Recorder with 2.5" 500GB SATA HDD
- Wired Mouse
- Input / Output Cable
- Power Cable
- GPS Antenna
- 4G Antenna (G and GW models)
- Wi-Fi Antenna (W and GW models)
- USB A to B Cable (3.0)
- Security Key
- Bracket and Fixings

Features
- Remotely access MDR units using wireless (WiFi models only) and/or Mobile network (4G models only)
- Mobile apps for remote view (WiFi/4G models only)
- Geo-fencing (WiFi/4G models only)
- Mobile Standards: 2G/3G/4G
- Audio (cameras must have microphones)
- Robust aluminum housing
- Anti-vibration mounting allows for installation at any angle
- Built-in GPS
- Internal G-sensor and built-in buzzer
- Up to 1862 hours recording
- Recordings saved to hard disk (protected by non-visible digital watermark) and in-built Mirror recording onto SD card
- Recording modes: normal, alarm and timer (all watermarked)
- Configurable alarm trigger settings (speed, G-force, motion detection, video loss, voltage)
- Record images prior to alarm activation and after vehicle switched off

- MDR-Dashboard (full player) and MDR-Player (portable) with Google and MS Bing maps (English only)
- Search by date, time or triggered events
- Multi-level password protected access
- Hard drive unit directly pluggable to PC via USB port
- 8 x trigger Inputs, 2x trigger outputs and 1x12V power output
- Built-in HDD heater
- MDR Control using USB Mouse or IR remote control
- USB 3.0 connection
- TV System: PAL/NTSC/AHD
- Compatible with Brigade's vehicle CCTV camera monitor systems and Backeye®360 systems

Image and Audio Quality
- High quality H.264 image compression
- ADPCM - audio compression
- Choice of 8 low to high resolution settings
- Record at between 1 and 25 frames per second, per channel

Power
- Max power consumption: 60 Watts
- Current: 5 Amps

Durability & Standards
- Mechanical vibration: 1G
- Mechanical shock: 51G
- Operating temperature: -40 to +70°C / -40 to +158°F
- EMC approved: E
- CE marked
- FCC approved
- IC approved
- RoHS2 Compliant

500 SERIES MOBILE DIGITAL RECORDER ACCESSORIES

AC-306	Connects 1 x Select camera to MDR and monitor	4904
AC-307	Connects 1 x Elite camera to MDR and monitor	4905
MDR-RP01	Remote status & interface panel with panic button	4872
MDR-06RPC	6m cable for Remote status & interface panel	4873
MDR-GS-02	External G-sensor	4988
MDR-03GSC	3m G-sensor cable	4874
MDR-500-500-MCU	Caddy unit with 500GB HDD	5132
MDR-500-1000-MCU	Caddy unit with 1TB HDD	5157
MDR-500-2000-MCU	Caddy unit with 2TB HDD	5330
SD-32GB-IND	32GB industrial grade Class 10 SD card	4875
SD-64GB-IND	64GB industrial grade Class 10 SD card	4876
MDR-FPB32-01	External SD Mirror-recorder in fireproof housing	4896
	with 32GB industrial grade Class 10 SD card	

Model   **Part No:**

EVENT DATA RECORDER

EDR-101-008 - Event Data Recorder   **4505**

- **12-24Vdc**
- **1 in-built camera**
- **1 external camera input**
- **1 video output**
- **Fast, easily downloadable recordings and data**
- **Size (WxHxD)**
  85 x 49.5 x 25.5mm
  3.3 x 1.9 x 1 inches
- **1 year warranty**

Contents:
- 1x Recorder
- 1x GPS Antenna
- 1x Power cable
- 1x Mounting Bracket & adhesive pad
- 1x 8Gb Micro SD card
- 1x Micro SD to SD adapter

Features
- High definition video capture for clear incident recording
- 112° wide-angle camera lens
- 4 recording modes:
  - Normal
  - Event - shock sensor enables 10 seconds before and after an event to be recorded
  - Parking - movement engages event recording as above
  - Emergency - driver presses the function button
- Up to 4 hours recording on supplied micro SD card (supports up to 32Gb)
- Simultaneous normal and event recording
- Continuous recording with automatic overwriting of oldest data

- Audio function for additional event information
- GPS module for locating tracking
- Viewing software allows two cameras to be viewed, alongside speed, G-force levels and location
- Software allows still images (jpeg) to be created with embedded date and time

Picture Quality
- CMOS sensor
- Video resolution:
  HD + VGA 1280 x 720 pixels
- MPEG4 image compression allows high quality image resolution
- Choice of recorded image quality – low to high resolution
- Fast frame rate, 30 frames per second, for smooth images

Durability & Standards
- Mechanical vibration: 2.5G
- Operating temperature:
  -10 to +60 °C / +14 to +140°F
- CE self DofC

OPTIONAL EXTRAS

EDR-101-LOCK	**SD card security lock**	**4517**
EDR-142C	**Micro camera (5m / 16.4' built-in cable)**	**4514**
EDR-101-VC	**Video out cable**	**4511**
EDR-101-CPC	**Cigar lighter power cable**	**4510**

Ultrasonic Obstacle Detection

Sensor systems to inform driver of obstacles within close proximity, whether moving or stationary. Perfect for road going commercial vehicles regularly operating in confined spaces or maneuvering at low speeds.

Which system is for you?

Sidescan® - 4 sensor system fitted to side of vehicle increasing safety when turning or low speed maneuvering. Particularly relevant for near side blind spot where cyclists or pedestrians can otherwise go undetected.

Backscan® - 4 sensor system fitted to rear of vehicle as an invaluable aid to safe reversing. Gives greater protection to pedestrians and workers, while minimizing damage to vehicle and other objects.

Cornerscan™ - 3 sensor system fitted to near side corner of vehicle cab detects objects in front near side blind spot. Minimizes the risk of damage to the vehicle cab whilst maneuvering at low speed.

Frontscan® - 4 sensor system fitted to front of vehicle improving safety when maneuvering at low speed. Particularly relevant for front blind spot on high cabs where low objects or pedestrians can be hidden.

Stepscan™ - 2 sensor system fitted to near side cab step giving awareness to the driver of objects to the side when turning and reversing. Minimizes the risk of damage to the vehicle cab from otherwise unseen objects.

Model   **Part No:**

BACKSCAN® ULTRASONIC DETECTION SYSTEM

BS-4000W - Rear reversing sensor system   **3744**

- **4 sensor system**
- **12-24Vdc**
- **2.5m (8.2') detection range - outer sensors 2.5m/0.6m (8.2/2') (selectable via dip switch)**
- **Graduated visual and audible distance warning display**
- **Underslung and flush-mount fixings included**
- **50cm (1.2') compensation range for sensors fitted inboard of vehicle rear (selectable via dip switch)**
- **2 year warranty**

Contents
- 4 x sensors
- Visual and audible display
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 15m (49') display cable
- 4 x 2.5m (8.2') sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from tow-hooks and other ancillary equipment that intrudes in the first 100cm (3.3') of the detection zone
- Self-diagnostic function
- 1 x Trigger output

Durability & Standards
- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature:
  -30 to +80°C
  -22 to +176°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E
- FCC approved

Power
- Power consumption: 2.4 Watts
- Current: 200mA

REQUIRED ADDITIONS FOR ARTICULATED VEHICLES

SK-15-04	**Truck/trailer camera/sensor cable kit**	**3997**
SK-UDS-05	**Truck/trailer sensor only cable kit**	**4219**
UDS-10BC	**10m (33') Buzzer/display cable**	**3716**

OPTIONAL EXTRA

UDS-RELAY-24	**Trigger-out diode protected relay 24Vdc**	**4215**
UDS-RELAY-12	**Trigger-out diode protected relay 12Vdc**	**4216**

Model		Part No:

SIDESCAN® ULTRASONIC DETECTION SYSTEM

SS-4100W -	Side sensor system with mute function	5257
SS-4000W-000 -	Side sensor system with mute function, low speed trigger module and turn indicator sensor kit	5344

Includes LS-60-A low speed trigger module and TS-001ECU turn indicator sensor

- **4 sensor system**
- **12-24Vdc**
- **1.0/1.5m (3.2/4.9') detection range - (selectable via dip switch)**
- **Audible distance warning**
- **Underslung and flush-mount fixings included**
- **2 levels of sensitivity - (selectable via dip switch)**
- **2 year warranty**

Contents
- 4 x sensors
- Buzzer
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 10m (3.2') buzzer cable
- 4 x 4.5m (14.7') sensor cables
- 2 x 2.5m (8.2') extension cables

Features
- Obstacles detected in under 200 milliseconds
- Buzzer with audible distance warning, LED & adjustable volume control
- Buzzer will silence after 4 seconds if there is no movement from detected object or vehicle
- Environment Learning Mode

prevents false alarms from ancillary equipment that intrudes in the first 100cm (3.2') of the detection zone
- Self-diagnostic function

Durability & Standards
- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80°C -22 to +176°F
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E
- FCC approved

Power
- Power consumption: 2.4 Watts
- Current: 200mA

ADDITIONS FOR ARTICULATED VEHICLES

SK-15-04	Truck/trailer camera/sensor cable kit	3997
SK-UDS-05	Truck/trailer sensor only cable kit (required)	4219
UDS-10BC	10m (33') display cable (required)	3716
SS-4000W	Additional Sidescan sensor system for cab (optional)	3711

RECOMMENDED EXTRA

LS-60-A	Low speed trigger module enables sensors below designated speed	4851
TS-001ECU	Turn indicator trigger for system activation	1362

OPTIONAL EXTRA

BC-01(B)	Bespoke single message speaking alarm warning for cyclists/pedestrians Note: TS-001ECU Turn indicator trigger is required	0079
TCO-47-01	Latched auto-reset Backalarm cut-out (dash mount)	4752

Model   **Part No:**

FRONTSCAN® ULTRASONIC DETECTION SYSTEM

FS-4000W - Front sensor system   **3747**

- **4 sensor system**
- **12-24Vdc**
- **2.1m/1.0m (6.8'/3.2') detection range - outer sensors can be reduced to 0.6m (2') (selectable via dip switches)**
- **Audible distance warning**
- **Flush-mount**
- **2 year warranty**

Contents
- 4 x sensors
- Buzzer
- 4 x 11° flush mount fixings
- 4 x 18° flush mount fixings
- 4 x 26° flush mount fixings
- Waterproof control box
- 2.5m (8.2') buzzer cable
- 4 x 2.5m (8.2') sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from tow-hooks and other ancillary equipment that intrudes in the first 100cm

(3') of the detection zone
- Self-diagnostic function
- 1 x Trigger output

Durability & Standards
- Operating temperature: -30 to +80°C -22 to +176°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

Power
- Power consumption: 2.4 Watts
- Current: 200mA

RECOMMENDED EXTRA

LS-60-A   **Low speed trigger module**   **4851**
                (enables sensors below designated speed)

OPTIONAL EXTRA

UDS-RELAY-24   **Trigger-out diode protected relay 24Vdc**   **4215**
UDS-RELAY-12   **Trigger-out diode protected relay 12Vdc**   **4216**

CORNERSCAN® ULTRASONIC DETECTION SYSTEM

CS-3100 - Corner sensor system with mute function   **5261**

- **3 sensor system**
- **12-24Vdc**
- **0.6/1.0m (2/4') detection range - (selectable via dip switch)**
- **Audible distance warning**
- **Flush-mount**
- **2 levels of sensitivity - (selectable via dip switch)**
- **2 year warranty**

Contents
- 3 x sensors
- Buzzer
- 3 x 11° flush mount fixings
- 3 x 18° flush mount fixings
- 3 x 26° flush mount fixings
- Waterproof control box
- 2.5m (8.2') buzzer cable
- 3 x 2.5m (8.2') sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Buzzer with audible distance warning, LED & adjustable volume control
- Buzzer will silence after 4 seconds if there is no movement from detected object or vehicle

- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 100cm (3') of the detection zone
- Self-diagnostic function

Durability & Standards
- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80°C -22 to +176°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E
- FCC approved

RECOMMENDED EXTRA

LS-60-A   **Low speed trigger module**   **4851**
                (enables sensors below designated speed)

Model   **Part No:**

STEPSCAN™ ULTRASONIC DETECTION SYSTEM

ST-2100 -	**Step sensor system with mute function**	**5262**
ST-2100-60-A -	**Step sensor system with mute function and low speed trigger module**	**5345**
	Includes UDS-4.5SC 4.5m extension cable	

- **2 sensor system**
- **12-24Vdc**
- **0.6/1.0m (2/3.2') detection range - (selectable via dip switch)**
- **Audible distance warning**
- **Flush-mount**
- **2 levels of sensitivity - (selectable via dip switch)**
- **2 year warranty**

Contents
- 2 x sensors
- Buzzer
- 2 x 11° flush mount fixings
- 2 x 18° flush mount fixings
- 2 x 26° flush mount fixings
- Waterproof control box
- 2.5m (8.2') buzzer cable
- 2 x 2.5m (8.2') sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Buzzer with audible distance warning, LED & adjustable volume control
- Buzzer will silence after 4 seconds if there is no movement from detected object or vehicle
- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 100cm (3.2') of the detection zone
- Self-diagnostic function

Durability & Standards
- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80ºC -22 to +176ºC
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E
- FCC approved

Power
- Power consumption: 2.4 Watts
- Current: 200mA

RECOMMENDED EXTRA

LS-60-A	**Low speed trigger module**	**4851**
	enables sensors below designated speed	

EXTENSION CABLES

UDS-2.5BC - Buzzer/display extension cable 2.5m/8.2'	**3717**
UDS-10BC - Buzzer/display extension cable 10m/33'	**3716**
UDS-15BC - Buzzer/display extension cable 15m/49'	**3746**
UDS-2.5SC - Sensor extension cable 2.5m/8.2'	**3719**
UDS-4.5SC - Sensor extension cable 4.5m/14.7'	**3720**

Model   **Part No:**

ULTRASONIC ON-SCREEN DISPLAY MODULE

UDS-OSD20-ECU -	On-screen display module PAL	5099
UDS-OSD21-ECU -	On-screen display module NTSC	5347

- **Allows 3-stage audible and visual Ultrasonic data to be overlaid onto camera image on vehicle monitor**
- **12-24Vdc**
- **2 camera inputs**
- **2 trigger inputs**
- **2 UDS inputs**
- **2 UDS outputs**
- **2 year warranty**

Contents
- OSD ECU
- Power cable
- Splitter cable
- Trigger cable

Features
- Overlay on monitor of vehicle icon and detection data from up to 2 x ultrasonic detection systems
- Compatible with 1x Sidescan® Frontscan® and Backscan®
- UDS overlay will appear on a black background if no cameras installed
- Graphics can be overlaid left or right on the monitor
- Audible warning via monitor
- Ultrasonic system fault displayed on monitor
- Compatible with MDR

Durability & Standards
- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +70ºC +22 to +158°F
- IP30
- Dimensions: 74 x 118 x 28 mm (WxDxH) 2.9 x 4.6 x 1.1 inches
- CE marked
- EMC approved: E
- FCC Approved
- IC Approved

Power
- Power consumption: 1.7 Watts
- Current: 140mA

Ultrasonic Detection On-Screen Display Module

- **Integration of Brigade's ultrasonic obstacle detection systems and Backeye® camera monitor systems**

- **Ultrasonic detection warnings overlaid onto camera image on in-cab monitor**

- **Reduced driver stress and distractions as all information is in one view**

Sensor data and camera image combined

Brigade's ultrasonic proximity sensors minimize both vehicle damage and collisions with pedestrians, cyclists or objects. Perfect for road-going commercial vehicles operating in confined spaces or maneuvering at low speed.

Working in conjunction with a Backeye® camera monitor system and up to two ultrasonic detection systems, the on-screen display module warns the driver of obstacles close to the vehicle by overlaying 3-stage audible and visual ultrasonic data onto the camera image on the monitor.

Radar Obstacle Detection

Informs driver of distance between vehicle and obstacles, whether moving or stationary.

Which model is for you?

Programmable
Top of the range programmable system allowing bespoke detection areas up to 30m / 98.4ft in length and 10m / 32.8ft in width, with the ability to calibrate out fixed objects or bodywork.

Fixed
Fixed detection length and width. Ideal on machines where no calibration is required. Detection range of up to 6 meters / 19.6 feet.

CAN-bus Network Radar
Highly configurable CAN-bus interfaced radar system for up to 8 radar sensors, each with a unique CAN ID and range of up to 30m/98.4ft in length and 10m/32.8ft in width.

Model   **Part No:**

PROGRAMMABLE BACKSENSE® OBSTACLE DETECTION

BS-8000 - Programmable detection range   4530
Sensor, AV display, 9m /29.5' cable

- **12-24Vdc**

- **Detection length:**
  3 to 30m / 10 to 98'

- **Detection width:**
  2 to 10m / 6.5 to 33'

- **Rugged design for harsh**
  environmental conditions

- **Sensor size (WxHxD)**
  217 x 129 x 50mm
  8.5 x 5 x 1.9 inches

- **IP69K sensor**

- **2 year warranty**

Features
- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- Programmable:
  Detection area
  Blind zones - system ignores fixed objects
  Trigger activation
  Buzzer
- 5 stage audible and visual distance warning display
- Resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power
- Current: 0.8 Amps
- Power consumption: 8 Watts

Durability & Standards
- Mechanical shock: 100G
- Mechanical vibration: 8.3G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- BS EN 13309: 2010
- ISO13766: 2006

FIXED BACKSENSE® OBSTACLE DETECTION

BS-7030 - 3m/10' detection range, 2.5m/8' width   4527
Sensor, AV display, 9m / 29.5' cable
BS-7045 - 4.5m/15' detection range, 3.5m/11' width   4528
Sensor, AV display, 9m/29.5' cable
BS-7060 - 6m/20' detection range, 4.5m/15' width   4529
Sensor, AV display, 9m / 29.5' cable

- **12-24Vdc**

- **Maximum detection range**
  of 6m /19.6

- **Rugged design for harsh**
  environmental conditions

- **Sensor size (WxHxD)**
  217 x 129 x 50mm
  8.5 x 5 x 1.9 inches

- **IP69K sensor**

- **2 year warranty**

Features
- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- 5 stage audible and visual distance warning display
- Resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power
- Current: 0.8 Amps
- Power consumption: 8 Watts

Durability & Standards
- Mechanical shock: 100G
- Mechanical vibration: 8.3G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- BS EN 13309: 2010
- ISO13766: 2006

EXTENSION CABLES

BS-05DCX -   **5m/16' extension cable**   4550
BS-09DCX -   **9m/30' extension cable**   4551
BS-25DCSX - **25m/82' extension cable (display end connector supplied loose)**   4975

OPTIONAL EXTRAS

BKT-017   **- Adjustable radar bracket**   4676
with 105mm / 4.1" depth bracket mounting arms
BKT-018   **- Low-profile adjustable radar bracket**   4758

Backsense® Radar obstacle detection

Model	Part No:

NETWORK BACKSENSE® OBSTACLE DETECTION

BS-9000 - Backsense® CAN object detection radar　　　　**5266**

- **12-24 Vdc**
- **Detection length:
  up to 30m / 98'**
- **Detection width:
  up to 10m / 33'**
- **Sensor size (WxHxD)
  217 x 129 x 50mm
  8.5 x 5 x 1.9 inches**
- **IP69K sensor**
- **2 year warranty**

Contents
- 1 x radar
- Fixings

Features
- Frequency modulated continuous wave (FMCW) radar technology
- Network up to 8 sensors
- Extremely rugged design for severe weather conditions and all terrains
- Communication via CAN Gateway
- Configurable CAN ID
- Complies with CAN2.0A Base Frame Format
- Separate CAN message & ID for each object detected (up to 8 closest objects per sensor)

Power
- Current: 0.4 Amps
- Power consumption: 4 Watts

Durability & Standards
- Mechanical shock: 100G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- BS EN 13309: 2010
- ISO13766: 2006

EXTENSION CABLES

BS-02DCX - 2m/6.6' extension cable	**5272**
BS-05DCX - 5m/16' extension cable	**4550**
BS-09DCX - 9m/30' extension cable	**4551**
BS-25DCSX - 25m/82' extension cable (Display end connector supplied loose)	**4975**

NETWORK ACCESSORIES

BS-00NYC - Network Y Cable	**5270**
BS-02PIC - Network power input cable	**5271**
BS-00NT - 120 Ohms Network Terminator	**5291**

OPTIONAL EXTRAS

BKT-017 - Adjustable radar bracket with 105mm / 4.1" depth bracket mounting arms	**4676**
BKT-018 - Low-profile adjustable radar bracket	**4758**

Reversing & Warning Alarms

BRIGADE®

Reversing & Warning Alarms

Vital safety devices needed to warn workers and pedestrians that a vehicle is maneuvering. Our range includes bbs-tek® white sound® alarms; smart alarms which adjust to the ambient noise level; and speaking alarms, which provide a real speech warning of imminent danger.

Which alarm is for you?

Heavy duty
For plant, quarry and construction machines or environments with high ambient noise.

Medium duty
Ideal for commercial road going vehicles and environments with mid-level ambient noise.

Q QUIET MARK
noise abatement society approved

bbs-tek® white sound®
The safest alarms in the world due to their instant locatability and directional sound. The multi-frequency alarms are only heard in the danger zone, thus eliminating noise nuisance for local residents.

bbs-tek® reversing alarms

Model	Part No:

WHITE SOUND® SMART BACK-UP ALARM

SA-BBS-107 - Self-adjusting heavy-duty - 87-107 Decibels   **1400**

- **12-24Vdc**
- **IP68**
- **Size (WxHxD)**
  172 x 79 x 95mm
  6.7 x 3.1 x 3.7 inches
- **Lifetime warranty**

Features
- Alarm continually adjusts to 5-10dB above ambient
- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centers: 153mm / 6"

Power
- Current: Max 1 Amp

Durability & standards
- Mechanical vibration: 10G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- SAE J994

WHITE SOUND® SMART BACK-UP ALARM

SA-BBS-97 -   Self adjusting - medium duty - 77-97 Decibels   **1399**
SA-BBS-97HV - Self adjusting - electric forklift - 77-97 Decibels   **1398**

- **12-24Vdc**
- **36-80Vdc (HV)**
- **IP68**
- **Size (WxHxD)**
  127 x 76 x 65mm
  5 x 3 x 2.5 inches
- **Lifetime warranty**

Features
- Alarm continually adjusts to 5-10dB above ambient
- Multi-frequency white sound alarm
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centers: 98-108mm / 3.8-4.2"

Power
- Current: Max 1 Amp

Durability & standards
- Mechanical vibration: 10G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- SAE J994
- NAS/PIEK approved for night-time delivery

WHITE SOUND® BACK-UP ALARM

BBS-107 - Heavy duty - 107 Decibels   **0899**
BBS-102 - Heavy duty - 102 Decibels   **0898**

- **12-24Vdc**
- **IP68**
- **Size (WxHxD)**
  172 x 79 x 95mm
  6.8 x 3.1 x 3.7"
- **Lifetime warranty**

Features
- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centers: 153mm / 6"

Power
- Current: Max 1 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- SAE J994

Model	Part No:

WHITE SOUND® BACK-UP ALARM

BBS-97 - Medium duty - 97 Decibels	**0935**
BBS-92 - Medium duty - 92 Decibels	**0934**
BBS-87 - Medium duty - 87 Decibels	**0897**
BBS-82 - Medium duty - 82 Decibels	**0896**

bbs tek®

- **12-24Vdc**
- **IP68**
- **Size (WxHxD)**
  (BBS-97/92)
  105 x 65 x 37mm
  4.1 x 2.5 x 1.5 inches
  (BBS-87/82)
  105 x 65 x 32mm
  4.1 x 2.5 x 1.3 inches
- **Lifetime warranty**

Features
- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centers: 76mm / 3"

Power
- Current: Max 0.5 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: E
- SAE J994
- NAS/PIEK approved for night-time
  delivery (BBS-82)

WHITE SOUND® BACK-UP ALARM

BBS-92HV - Electric forklift - 92 Decibels	**1402**
BBS-82HV - Electric forklift - 82 Decibels	**1322**
BBS-92ADR - Fuel tanker - 92 Decibels	**2165**

ADR version

bbs tek®

- **12-24Vdc**
- **36-80Vdc (HV)**
- **IP68**
- **Size (WxHxD)**
  127 x 76 x 65mm
  5 x 3 x 2.5 inches
- **Lifetime warranty**

Features
- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centers: 98-108mm / 3.8-4.2"

Power
- Current: Max 0.3 Amps

Durability & standards
- Mechanical vibration: 10G
- Operating temperature:
  -40 to +85°C / -40 to +185°F
- CE marked
- EMC approved: e
- SAE J994

bbs tek® alarms are covered by the following patents:
AU2007200517
EP1289798B2
CN100488807C
JP4798474B2
NZ522190
GB2345392C
USRE44912

Speaking alarms

Model	Part No:

SPEAKING ALARM

BC-01HP - Single reversing message - 110 Decibels — 0665
BC-01HP(B) - Bespoke single message - 110 Decibels — 1199

- 12-24Vdc
- IP68
- Size (WxHxD)
  116 x 115 x 117.5mm
  4.5 x 4.5 x 4.7 inches
- 2 year warranty

Features
- Real speech alarm
* BC-01HP message "Ssh! Stand well clear, vehicle reversing..."
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

NIGHTSHIFT® SPEAKING ALARM

BC-01(NS) -   Single reversing message - Nightshift - 90 or 0 Decibels — 0378
BC-01(NS-B) - Bespoke single message - Nightshift - 90 or 0 Decibels — 1198

- 12-24Vdc
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
  4.8 x 3.3 x 2 inches
- 2 year warranty

Features
- Real speech alarm
* BC-01(NS) message "Ssh! Stand well clear, vehicle reversing..."
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Double engage reverse to cut-out or reduce sound
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

SPEAKING ALARM

BC-01 -   Single reversing message - 90 Decibels — 0077
BC-01(B) - Bespoke single message - 90 Decibels — 0079
BC-02(B) - Bespoke dual message - 90 Decibels — 0083

- 12-24Vdc
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
  4.8 x 3.3 x 2 inches
- 2 year warranty

Features
- Real speech alarm
* BC-01 message "Ssh! Stand well clear, vehicle reversing..."
- Bespoke message up to 8 seconds, under 4 seconds for best speech quality
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

Model   **Part No:**

SPEAKING HANDBRAKE WARNING ALARM

BC-01(H/Brake) -   Single message - 2 wire - 90 Decibels   **0849**
BC-01(4W)(H/Brake) - Single message 4 wire - 90 Decibels   **1715**

2 wire version

- 12-24Vdc
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
  4.8 x 3.3 x 2 inches
- 2 year warranty

Features
- Real speech alarm
* Message "Bleep! Handbrake not applied…"
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

SPEAKING SIDE TURN WARNING ALARM

SS-BC-08 - Single side-turn message - 90 Decibels   **1334**

- 12-24Vdc
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
  4.8 x 3.3 x 2 inches
- 2 year warranty

Features
- Real speech alarm
* Message "Ssh! Caution. Truck turning left…"
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

Note: TS-001ECU Turn indicator trigger is required   1362

SPEAKING ATTACK ALARM

BC-AA(BUS) - Single bus specific message - 110 Decibels   **0064**
BC-AA(B) -   Single bespoke message - 110 Decibels   **1465**

- 12-24Vdc
- IP68
- Size (WxHxD)
  116 x 115 x 117.5mm
  4.5 x 4.5 x 4.7 inches
- 2 year warranty

Features
- Real speech alarm
- Activated by panic button, repeats continuously until deactivated by hidden switch
- Sounder unit: Speaker
- Hole centers: 48mm / 1.9"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked
- EMC approved: E

Model   **Part No:**

VEHICLE INTERCOM

BC-VI -   Normally open channel rear to cab; button press cab to rear   **0815**
BC-VI-2 - Normally closed channel; button press communication   **0875**

- 12-24Vdc
- IP68
- Size (WxHxD)
  122 x 84 x 50mm
  4.8 x 3.3 x 2 inches
- 2 year warranty

Features
- Two-way communication system
- Master unit volume control: 80-95dB
- Includes master unit, slave unit and 25m cable
- Sounder unit: Speaker
- Hole centers: 102mm / 4"

Power
- Current: 0.5 Amps

Durability & standards
- CE marked

ALARM ANCILLARIES

TCO-47 - Timed auto-reset Backalarm cut-out (dash mount)   **0663**

- 12-24Vdc
- 2 year warranty

Features
- Single touch timed relay
- Allows driver to cut-out alarm if reversing between the hours of 11.30pm-7.00am
- Auto-resets after 3-4 mins delay

Durability and Standards
- CE marked
- EMC approved

ALARM ANCILLARIES

TCO-47-01 - Latched Side-turn alarm cut-out (dash mount)   **4752**

- 12-24Vdc
- 2 year warranty

Features
- Single touch timed relay
- Allows driver to cut-out alarm between the hours of 11.30pm-7.00am
- Resets by switch or ignition

Durability and Standards
- CE marked
- EMC approved

ALARM ANCILLARIES
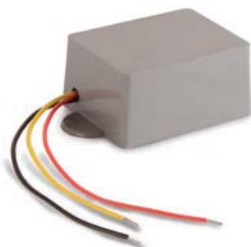
NS-2 - Nightshift Backalarm cut-out switch   **0334**
NS-3 - Nightshift Backalarm cut-out switch (auto gearbox)   **0974**

- 12-24Vdc
- IP68
- 2 year warranty

Features
- Double engage reverse to cut-out alarm
- Resets when reverse gear disengaged (longer time delay for NS-3)
- No wiring necessary to cab

Durability and Standards
- CE marked
- EMC approved

Warranties

BRIGADE®

Peace of mind from Brigade

The quality of our product range is the cornerstone on which the continuing relationship with our customers is built. To reflect our confidence in the reliability of our products, some have a lifetime warranty. Many others have a 3 year warranty and the rest have a 2 or 1 year warranty. The following quick reference chart indicates the warranty available on Brigade products.

LIFETIME

Lifetime Warranty (covers product for the life of vehicle)

bbs-tek® reversing alarms (all models featured in this catalogue)

Self-adjusting Backalarms (SA-range)

5 YEAR

5 Year Warranty

Selected Elite camera monitor products are eligible for a free extended warranty of an additional two years, taking the total warranty to five years.

In order to take advantage of the additional two year warranty, each qualifying Elite CMS product will need to be registered on the Brigade website:

brigade-electronics.com/extendedwarranty

Offer excludes onsite warranty and is an extension of the standard three year warranty on selected Elite products.

Exclusions apply; see T&C for further details.

3 YEAR

3 Year Warranty

Elite CMS range (all monitors and cameras with a BE prefix)

MDR digital recorders

2 YEAR

2 Year Warranty

All products aside those specifically listed

1 YEAR

1 Year Warranty

Essential camera monitor range

EDR digital recorder

Warranty Terms and Conditions

Brigade warrants all goods to be free from defect in material and workmanship in normal use provided that they have been installed and operated in accordance with the instructions supplied. The commencement date of all warranties is the date of delivery to the purchaser unless otherwise agreed in writing by Brigade. The period during which the warranty applies is stated above. Brigade make no other warranty, express or implied, with respect to the goods, their marketability, quality or fitness for any particular use or purpose. In particular, but without prejudice to the general provisions of the conditions of sale, no responsibility is assumed for incidental or consequential loss by reason of any warranty express or implied.

Full details of Brigade's Terms and Conditions are contained in the Price List.

Brigade Electronics Group Plc reserves the right to change terms, conditions and specifications shown in this catalogue at any time.

Alarms	Camera Monitors	Ultrasonic Sensors	Digital Recording	Radar Sensors

Alarms	Camera Monitors	Ultrasonic Sensors	Digital Recording	Radar Sensors

Glossary

Amp
Unit of electric current.

Approved for indirect vision
Product meets directives (e.g. 2003/97/EC, 2007/38/EU) or standards (e.g. Regulation 46) regarding its use on vehicles for indirect vision e.g. giving visibility in otherwise blind spots.

Auto-trigger
Enables automatic triggering of an action i.e. display of rear camera view when reverse gear engaged.

A/V input/output
Communication connection between electronic devices.
> **Input**
> Receives audio/visual signals such as from DVD or satellite navigation.
> **Output**
> Sends audio/visual signals to other devices such as to mobile digital recorder.

Brightness
Brightness of the picture displayed on a monitor, measured in candelas per square meter (cd/m^2). Higher the measure the brighter the picture.

CCD (Charged-Coupled Device)
A tiny photocell used in cameras to convert light into a digital signal.

Contrast
Light intensity ratio of a display device between darkest and lightest color produced.

CE mark
Confirmation that a product is in conformity with the essential requirements of any applicable directives e.g. 2004/108/EC (relating to Electromagnetic Compatibility).

Decibel (dB)
Unit of measure of the pressure (intensity) of sound. The higher the rating the more intense the sound.

EMC (Electro-magnetic compatibility)
A test to determine the unwanted effects of electromagnetic interference.
> **E**
> Complies to United Nations Commission for Europe (UN ECE) standards e.g. ECE 10.03
> **e**
> Complies to Council of the European Union standards e.g. 2006/28/EC, 2009/19/EC

FCC mark
Certification for electromagnetic interference on products manufactured or sold in the United States which comply with the Federal Communications Commission.

Frequency
Number of times a sound source vibrates per unit of time, measured in hertz (Hz). The higher the rating the higher the pitch.

GPS (Global Positioning System)
Global satellite system providing positioning and timing services to worldwide users on a continuous basis.

HALT (Highly Accelerated Life Test)
A comprehensive stress test applied to electronic equipment to identify design weakness.

IC (Industry Canada)
Certification for electromagnetic interference on products manufactured or sold in Canada which comply with the Bureau of Innovation, Science & Economic Development

Illumination distance (camera)
Distance a camera with infrared LEDs can see in ultra-low light conditions, measured in meters.

IP## (Ingress Protection)
An international classification for the sealing of electrical equipment against the intrusion of solid objects (digit 1) and liquids (digit 2). Higher the rating the better protection in each case.

ISO 13766:2006
Specific standard for earthmoving equipment, includes requirements for some additional tests that are not covered in the tests for 'E' or 'e' under EMC.

ISO 15008:2003
Standard relating to the specifications and compliance procedures for in-vehicle visual presentation i.e. in relation to monitors.

ISO 16750
Standard providing guidance regarding environmental conditions commonly encountered by electrical and electronic systems installed in vehicles.

LCD (Liquid Crystal Display)
Thin, flat display device made up of any number of color or monochrome pixels i.e. monitor screen.

LED (Light Emitting Diode (camera))
Emits infrared light for high efficiency and performance in ultra-low light.

LED (Light Emitting Diode (monitor))
Used to backlight the monitor display for crisp images and superior image quality.

Mechanical shock
Level of sudden acceleration or deceleration, such as impact or being dropped, to which product will still perform. Measured in gravitational force (G).

Mechanical vibration
Level of continuous or repetitive motion, such as engine vibration, to which product will still perform. Measured in gravitational force (G).

NAS-PIEK
The standard for quiet delivery vehicles in the UK, certified by the Noise Abatement Society.

NTSC (National Television Systems Committee)
TV color encoding standard.

PAL (Phase Alternating Line)
TV color encoding standard.

Resolution (RGB)
Number of pixels used to display an image. Measured in Width x 3 channels (Red, Green, Blue) x Height.

SAE J994
Performance testing for electrically operated reversing alarms primarily intended for use on off-road, self-propelled construction and industrial machines.

SD Card
Small portable memory card to store digital data.

Sounder unit
Unit which produces the sound of an alarm.

TV Lines
Number of horizontal lines used to create an image.

USB port
Communication connection between electronic devices i.e. to download data from mobile digital recorder.

Viewing angles (camera)
The maximum angle of vision.

Viewing angles (monitor)
The maximum angle at which an image can be successfully viewed. Measured from the center point on the monitor.

Watt
A measure of the electrical power needed to drive a product.

WiFi
A facility allowing devices to communicate wirelessly. A wireless network creates a small, localized area within which your devices can receive signal.

4G
A cellular data service available from mobile network providers.

Driving Global Safety

BRIGADE®

Brigade is committed to making roads and worksites safer for all. From our humble beginnings in the UK, we now have a network of overseas subsidiaries, joint venture companies and partnerships with over 80 approved international distributors, all chosen for their high level of service and expertise in vehicle safety.

Whether you operate an international, multi-vehicle fleet or a small business in a remote corner of the globe, Brigade has a local specialist to help with your safety requirements.

We can provide a solution for a specific problem or offer friendly advice and support if you are new to vehicle safety systems.

Wherever you are in the world, large road-going vehicles and mobile plant continue to be a danger. Thankfully, Health & Safety culture is gradually improving to help combat these dangers, but whatever the local obligation, there is no excuse for compromising on safety. Stay safe, fit Brigade.
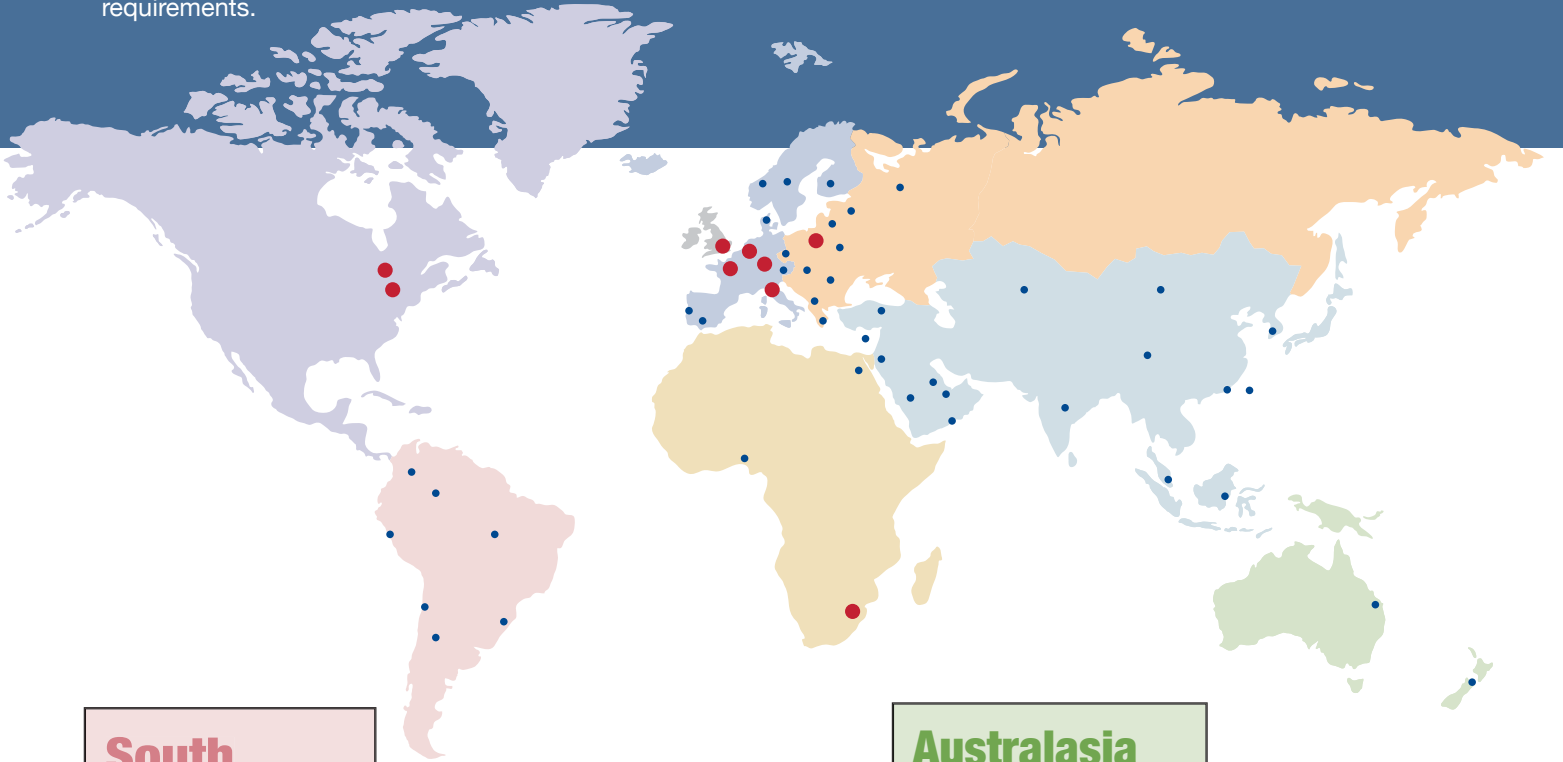
South America
- National Distributors in Brazil, Chile, Argentina, Peru, Bolivia, Colombia

North America
- Subsidiaries in USA and Canada
- National Distributors in Mexico.

Asia
- National Distributors in India, Pakistan, Mongolia, Hong Kong/China, Indonesia

Africa
- Joint venture company in South Africa that also covers Congo, Zimbabwe, Angola and Zambia
- National Distributors in Egypt, UAE, Oman, Israel

West Europe
- Subsidiaries in Germany, Italy France and Benelux
- National Distributors in Austria, Denmark, Finland, Norway, Portugal, Spain, Sweden

Australasia
- National Distributors in Australia, New Zealand

East Europe
- Subsidiary in Poland
- National Distributors in Bulgaria, Czech Republic, Greece, Hungary, Baltic States, Romania, Russia, Serbia, Slovenia, Turkey, Kazakhstan

United Kingdom
- Brigade Electronics Group Plc
- Subsidiary in UK
- Brigade Service Partners:
  These are experienced, accredited technicians who provide service and support for anyone who has purchased our products. Operating from over 20 regional sites nationwide, each with fully equipped workshops and a team of engineers providing extensive parts availability, support and advice.
- Nationwide network of approved fitters, mobile engineers and over 150 distributors

MS FOSTER

SERVING THE TRANSPORTATION INDUSTRY