Vehicle Safety Solutions

Product Catalog 2015
Brigade has been pioneering the cause of reversing safety since 1976, when we introduced the very first back-up alarm to Europe. We continue to lead the way in vehicle and plant safety, having extended our range to include all-round visibility, pioneering many products and developing and patenting new technology.

We rigorously test all products beyond industry standards to achieve quality and reliability. In fact we are so confident in our products that we can provide two year, three year and in the case of some products, lifetime warranties.

The Brigade group is based in the UK, has subsidiary companies in the USA, Canada, Germany, Italy and The Netherlands, joint ventures in France and South Africa and is in partnership with over 50 specialist distributors worldwide, with current exports across all five continents.

Our wealth of experience has earned us a reputation for expertise. We act as an industry voice and are often called upon in an advisory capacity to sit on both legislative and international committees.

We understand your industry and the problems you face.
Driving Global Safety
Vehicle Safety Solutions

Brigade understands the many and complex safety issues of mobile applications, resulting in a flexible product range offering safety solutions for vehicles and plant. Whether you are operating on- or off-road, vehicle or machine, large or small, we can help.

We strongly believe in a complementary range of passive and active systems to warn and assist the driver whilst protecting workers, pedestrians and cyclists. Not only this, our systems help increase efficiency and decrease vehicle downtime, saving operators thousands of dollars.

In terms of saving lives we believe the status quo is never enough. We are constantly researching the latest and developing technologies to see how they can be used to improve safety for different mobile applications.

Many of our product ranges were initially introduced to the UK, Europe and even the world by Brigade. Several of our products are patented and unique to us.

Accept no imitations.

Camera Monitor Systems
Backeye®
Camera monitor systems can help eliminate driver blind spots to prevent costly damage and ultimately save lives. Brigade’s systems meet a host of on- and off-road health and safety and legislative requirements.

Mobile Digital Recording
Robust and reliable digital recording systems provide high quality video and data records. Ideally suited to large road going vehicles in the freight, waste, bus and coach industries. Add to your camera monitor system for a range of benefits.

Ultrasonic Obstacle Detection
Frontscan® Backscan® Sidescan® Cornerscan™ Steprscan™
Sensor systems inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for road going commercial vehicles regularly operating in confined spaces or manoeuvring at low speeds.

See pages 6-30 See pages 31-33 See pages 34-37
**White Sound Warning Alarms**

*bbs-tek®*

Vital audible safety devices to warn that a vehicle is manoeuvring. Unique to Brigade, White Sound® alarms (bbs-tek®) are the safest in the world and do not cause a noise nuisance. Endorsed by the Noise Abatement Society and PIEK and have been awarded the Quiet Mark. Options include smart alarms, which adjust appropriately to the ambient noise level.

See pages 38-44

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**Radar Obstacle Detection**

*Backsense™*

Robust long range sensor systems designed for harsh conditions. Inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for all machines working in construction, mobile plant and refuse.

See pages 45-47

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**Camera Monitor Systems**

*Backeye® 360*

Intelligent camera monitor system that provides the driver with a bird’s-eye view of the vehicle. Four camera images are processed into a single 360°, real-time picture on the driver’s monitor.

See pages 8-11
Backeye®

All-round visibility for commercial vehicles and mobile plant.

Which range is for you?

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

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

Essential
Entry level reversing solution ideally suited to light commercial vehicles and vans.
### Choosing your camera monitor system

Select from our range of popular complete standard systems featured on pages 21-25 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

<table>
<thead>
<tr>
<th>CAMERAS</th>
<th>MONITORS</th>
<th>ELITE</th>
<th>SELECT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELITE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BE-811C shutter camera</td>
<td>✓</td>
<td>✓ (Shutter module)</td>
<td>AC-007 + SC-1000-ECU</td>
</tr>
<tr>
<td>All other Elite range cameras</td>
<td>✓</td>
<td>✓</td>
<td>AC-007</td>
</tr>
<tr>
<td><strong>SELECT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VBV-711C shutter camera</td>
<td>AC-035</td>
<td>AC-035</td>
<td>AC-035</td>
</tr>
<tr>
<td>All other Select range cameras</td>
<td>AC-006</td>
<td>AC-006</td>
<td>✓</td>
</tr>
</tbody>
</table>

✓ = Compatible

AC-0xx = Compatible with adapter(s) shown

× = Not compatible

**8** = Not compatible

**9** = Compatible

AC-0xx = Compatible with adapter(s) shown
## SELECT 360° CAMERA SYSTEMS

### BN360-000 - Backeye 360 Select system 4483

**Contents**
- 1 x BN360-ECU-10
- 4 x BN360-100C cameras
- 1 x BN360-VBV-L4015 Video-out cable to connect to SELECT range monitor.

**Note:** Monitor and camera cables not included

**Features**
- 360° single image
- Triggered views (rear, left and right)
- 4 x ultra-wide viewing angle cameras (HxV) 185° x 142°
- 1/3.6" CMOS sensor
- TV system: NTSC

**Power**
- Power consumption: 15 Watts
- Current: 1.23 Amps

**Durability & Standards**
- Mechanical vibration: 1G
- Operating temperature: -22 to +167°F
- CE marked
- EMC approved: E
- HALT tested

**Note:** A calibration kit is required for installation.

### SELECT 360° CABLES AND ADAPTERS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN360-L120</td>
<td>66’ camera cable</td>
<td>4493</td>
</tr>
<tr>
<td>BN360-L115</td>
<td>15’ camera cable</td>
<td>4495</td>
</tr>
<tr>
<td>BN360-L110</td>
<td>10’ camera cable</td>
<td>4496</td>
</tr>
<tr>
<td>BN360-L105</td>
<td>16’ camera cable</td>
<td>4498</td>
</tr>
<tr>
<td>BN360-L1025</td>
<td>8’ camera cable</td>
<td>4499</td>
</tr>
<tr>
<td>AC-304</td>
<td>Splitter cable for MDR (1 required per camera)</td>
<td>4738</td>
</tr>
</tbody>
</table>

### OPTIONAL MOUNTING BRACKETS

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN360-100C-BKT01</td>
<td>Adaptable mounting bracket - can be shaped to allow installation on non-vertical surfaces</td>
<td>4649</td>
</tr>
<tr>
<td>BN360-100C-BKT02</td>
<td>Mounting bracket to adjust camera angle</td>
<td>4714</td>
</tr>
<tr>
<td>BE360-CD</td>
<td>Deflector to shield camera from knocks (To be used with BN360-100C-BKT02 Mounting bracket)</td>
<td>4701</td>
</tr>
<tr>
<td>BN360-100C-BKT03</td>
<td>Deflector to shield camera from knocks</td>
<td>4743</td>
</tr>
</tbody>
</table>

### REQUIRED ADDITION FOR ARTICULATED VEHICLES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>BN360-Enclosure</td>
<td>IP66 Enclosure kit to enable ECU to be installed on outside of vehicle</td>
<td>4723</td>
</tr>
</tbody>
</table>

**Note:** Coiled cable kit or wireless connector also required
SELECT RANGE 360° CAMERA MONITOR SYSTEMS

Complete kits including monitor, Select 360 camera system, cables and adapters

SE-7104F-100 - 360 camera monitor system for large rigid vehicles  4618

- 1 x VBV-7104FM - 10.4" monitor
- 1 x BN360-000 360 system
- 1 x BN360-L110 - 33’ camera cable
- 2 x BN360-L115 - 49’ camera cables
- 1 x BN360-L120 - 66’ camera cable
- 1 x BN360-VBV-L4015 - video out cable

SE-770-100 - 360 camera monitor system for large rigid vehicles  4804

- 1 x VBV-770M 7” monitor
- 1 x BN360-000 360 system
- 1 x BN360-L110 - 33’ camera cable
- 2 x BN360-L115 - 49’ camera cables
- 1 x BN360-L120 - 66’ camera cable
- 1 x BN360-VBV-L4015 - video out cable

360° camera systems

4 Cameras
1 Image
0 Blind spots

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

Ultrawide-angle cameras mounted on the front, sides and rear of the vehicle capture the surrounding areas of the vehicle including all blind spots. Simultaneous digital images from these cameras are then processed and ‘video stitched’ resulting in a 360° birds-eye view within a single image. The software also instantly eliminates any fisheye camera distortion delivering a clear, real-time picture on the driver’s monitor.
## ELITE 360° CAMERA SYSTEMS

### ASL360-SV - Backeye 360 Elite

- **Contents**
  - 1 x ASL360-ECU
  - 4 x ASL360-CM2 cameras

**Note**: Monitor, camera cables and adapters NOT included

### Features

- 360° single image
- Flexible blend widths and positioning
- Up to 30 frames per second
- Self-monitoring to eliminate frozen images
- Triggered views
- 4 x ultra-wide viewing angle cameras (HxV) 185 x 180°
- 1/4” CMOS sensor
- TV system: NTSC

### Power

- **Power consumption**:
  - Camera: 0.5 Watts
  - ECU: 5.0 Watts
- **Current**:
  - Camera: 0.04 Amps
  - ECU: 0.4 Amps

### Durability & Standards

- Operating temperature: -40 to +185°F
- CE marked
- EMC approved: E

**Note**: A calibration kit is required for installation. Available to Brigade trained fitters only

### CABLES AND ADAPTERS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASL360-L120</td>
<td>66’ camera cable</td>
<td>4333</td>
</tr>
<tr>
<td>ASL360-L115</td>
<td>49’ camera cable</td>
<td>4334</td>
</tr>
<tr>
<td>ASL360-L110</td>
<td>33’ camera cable</td>
<td>4335</td>
</tr>
<tr>
<td>ASL360-L1025</td>
<td>8’ camera cable</td>
<td>4336</td>
</tr>
<tr>
<td>AC-054</td>
<td>8’ adapter cable to connect ECU to monitor via AC-016 / AC-024 (BNC B to Phono A)</td>
<td>4340</td>
</tr>
<tr>
<td>AC-016</td>
<td>Adapter cable to connect AV/Phono to Elite monitor</td>
<td>2150</td>
</tr>
<tr>
<td>AC-024</td>
<td>Adapter cable to connect AV/Phono to Select monitor</td>
<td>3183</td>
</tr>
</tbody>
</table>

### OPTIONAL MOUNTING BRACKET

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE360-CD</td>
<td>Deflector to shield camera from knocks</td>
<td>4701</td>
</tr>
</tbody>
</table>

### REQUIRED ADDITION FOR ARTICULATED VEHICLES

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<tr>
<th>Code</th>
<th>Description</th>
<th>Part No</th>
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<tr>
<td>BN360-Enclosure</td>
<td>IP66 Enclosure kit to enable ECU to be installed on outside of vehicle</td>
<td>4723</td>
</tr>
</tbody>
</table>

**Note**: Coiled cable kit or wireless connector also required
ELITE RANGE 360º CAMERA MONITOR SYSTEMS

Complete kits including monitor, Elite 360 camera system, cables and adapters

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-970W-000</td>
<td>360 camera monitor system for large rigid vehicles</td>
<td>4341</td>
</tr>
<tr>
<td>• 1 x BE-970WM - 7” waterproof monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-360SV 360 system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L110 - 33’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 2 x ASL-L115 - 49’ camera cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L120 - 66’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-016 - phono adapter cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-054 - adapter cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See individual products for detailed specifications

• 2 year system warranty

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-870L-000</td>
<td>360 camera monitor system for large rigid vehicles</td>
<td>4342</td>
</tr>
<tr>
<td>• 1 x BE-870LM - 7” monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-360SV 360 system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L110 - 33’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 2 x ASL-L115 - 49’ camera cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L120 - 66’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-016 - phono adapter cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-054 - adapter cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See individual products for detailed specifications

• 2 year system warranty

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-770-000</td>
<td>360 camera monitor system for large rigid vehicles</td>
<td>4803</td>
</tr>
<tr>
<td>• 1 x VBV-770M - 7” monitor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-360SV 360 system</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L110 - 33’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 2 x ASL-L115 - 49’ camera cables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x ASL-L120 - 66’ camera cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-024 - phono adapter cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 x AC-054 - adapter cable</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See individual products for detailed specifications

• 2 year system warranty

360º camera systems

To find out more information and to watch a video on Brigade’s Backeye®360, please scan the QR code with your mobile device.
youtube.com/brigademarketing
**BEST SELLER**

**ELITE CAMERA**

Heated camera

**BE-801C**
- Narrow viewing angle: 33 x 25 x 40°
- Power consumption: 4 Watts
- Current: 0.33 Amps
- Mechanical vibration: 20G
- Mechanical shock: 50G
- Operating temperature: -22 to +176°F
- CE marked
- EMC approved: E
- HALT tested
- ISO 13766: 2006 (BE-890C only)

**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

**Durability & Standards**
- Mechanical vibration: 20G
- Mechanical shock: 50G
- Operating temperature: -22 to +176°F
- CE marked
- EMC approved: E
- HALT tested
- ISO 13766: 2006 (BE-890C only)

**BE-811C**
- Narrow viewing angle: 64 x 47 x 78°
- Power consumption: 5 Watts
- Current: 0.4 Amps
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +176°F
- CE marked
- EMC approved: E

**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: 5 Watts
- Current: 0.4 Amps

**Durability & Standards**
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +176°F
- CE marked
- EMC approved: E
- SC-1000-ECU - Shutter camera module may be required to connect to Elite monitors (see intro)

**BE-821C**
- Narrow viewing angle: 101 x 72 x 133°
- Power consumption: 1.5 Watts
- Current: 0.1 Amps
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -4 to +158°F
- CE marked
- EMC approved: E

**Features**
- 1/4” Sony CCD
- TV System: NTSC
- TV Lines: 380

**Durability & Standards**
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -4 to +158°F
- CE marked
- EMC approved: E
- HALT tested

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**Tel:** +1 (260) 766-4343  
**E-mail:** sales@brigade-inc.com  
**www.brigade-inc.com**
## ELITE CAMERA

**DMC-1025 - Digital mini camera (internal use)**  

<table>
<thead>
<tr>
<th>Features</th>
<th>Durability &amp; Standards</th>
</tr>
</thead>
</table>
| • Mirror / Normal view  
• 1/3” Sony CCD  
• TV System: PAL ONLY  
• TV Lines: 520 | • Mechanical vibration: 10G  
• Operating temperature: -4 to +158°F  
• CE marked |
| Power | |
| • Power consumption: 0.84 Watt  
• Current: 0.07Amps | |
| Viewing angle (HxVxD) | 73 x 51 x 89°  
IP66  
Size (WxHxD) | 1.7 x 1.8 x 1.5”  
3 year warranty |

**MD-51 - Mini dome camera (internal use)**  

<table>
<thead>
<tr>
<th>Features</th>
<th>Durability &amp; Standards</th>
</tr>
</thead>
</table>
| • Mirror / Normal view  
• 1/3” Sony CCD  
• TV System: NTSC  
• TV Lines: 520 | • Mechanical vibration: 10G  
• Operating temperature: -4 to +158°F  
• CE marked |
| Power | |
| • Power consumption: 0.84W  
• Current: 0.07 Amps | |
| Viewing angle (HxVxD) | 73 x 51 x 89°  
IP66  
Size (Diameter x H) | 3 x 1”  
3 year warranty |

## OPTIONAL EXTRAS

**MD-50SM - Surface mounting adapter (1.2” deep)**  

**MD-50AM - Angled surface mounting adapter (adds 15°)**
## SELECT CAMERA

### VBV-701C - Waterproof to IP69K, no audio

<table>
<thead>
<tr>
<th>Features</th>
<th>Durability &amp; Standards</th>
</tr>
</thead>
</table>
| • 18 Infrared LEDs for ultra-low light performance  
• 50’ illumination distance  
• Audio  
• Day / Night sensor  
• Mirror view  
• 1/3” Sharp CCD  
• TV System: NTSC  
• TV Lines: 420 | • Mechanical vibration: 10G  
• Mechanical shock: 100G  
• Operating temperature: -4 to +158°F  
• CE marked  
• EMC approved: E  
• HALT tested |
| Power | |
| • Power consumption: 2.4 Watts  
• Current: 0.2 Amps | |

<table>
<thead>
<tr>
<th>Viewing angle (HxVxD)</th>
<th>IP67</th>
</tr>
</thead>
<tbody>
<tr>
<td>92 x 70 x 115°</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size (WxHxD)</th>
<th>2 year warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 x 2.8 x 2.7”</td>
<td></td>
</tr>
</tbody>
</table>

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### VBV-711C - Heated shutter camera

For connection to VBV-770M-S and VBV-750M-S 5-pin Select monitors  
Requires 5-pin 33’ (VBV-L510) or 66’ (VBV-L520) camera cable

### VBV-711C(AC) - Heated shutter camera

Includes 5-pin to 4-pin adapter (AC-035) for connection to other Select monitors

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
<th>Durability &amp; Standards</th>
</tr>
</thead>
</table>
| • 12 Infrared LEDs for ultra-low light performance  
• 33’ illumination distance  
• Shutter  
• Heater  
• Audio  
• Day / Night sensor  
• Mirror / Normal view  
• 1/3” Sharp CCD  
• TV System: NTSC  
• TV Lines: 420 | • Power consumption: 4.6 Watts  
• Current: 0.38 Amps | • Mechanical vibration: 2.8G  
• Operating temperature: -4 to +158°F  
• CE Marked  
• EMC approved: E |

<table>
<thead>
<tr>
<th>Viewing angle (HxVxD)</th>
<th>IP69K</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 x 70 x 110°</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size (WxHxD)</th>
<th>2 year warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.8 x 3.2 x 3.2”</td>
<td></td>
</tr>
</tbody>
</table>

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### VBV-481C - Cylinder camera

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
</tr>
</thead>
</table>
| • 9 LEDs for ultra-low light performance  
• 8m illumination distance  
• Mirror view  
• 1/3” Sharp CCD  
• TV System: NTSC  
• TV Lines: 420 | • Power consumption: 2.3 Watts  
• Current: 0.2 Amps |

<table>
<thead>
<tr>
<th>Viewing angle (HxVxD)</th>
<th>IP67</th>
</tr>
</thead>
<tbody>
<tr>
<td>88 x 64 x 112°</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Size (diameter x length)</th>
<th>2 year warranty</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.4 x 2”</td>
<td></td>
</tr>
</tbody>
</table>

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Tel: +1 (260) 766-4343  
E-mail: sales@brigade-inc.com  
www.brigade-inc.com
Compact flush mount eyeball camera

VBV-301C - Mirror view 4611
VBV-321C - Normal view 4615

**Features**
- Lens swivel adjustment: 35°(Top) x 5°(Bottom) x 8°(Left) x 8°(Right)
- Lens rotation adjustment: ±180°
- 5 infrared LEDs for ultra low-light performance
- 10-20" illumination distance
- Day / Night sensor
- 1/3" Sharp CCD
- TV System: NTSC
- 420 TV lines

**Power**
- Operating voltage: 12 Vdc
- Power consumption: 1.44 Watts
- Current consumption: 0.12 Amps

**Durability & Standards**
- Corrosion resistant: ISO9227 salt spray standard
- Mechanical vibration: 2.84G
- Operating temperature: -4 to +158°F
- CE marked
- EMC approved: E

**Viewing angle (HXVXD)**
102 x 78 x 145°

**IP69K**

**Size (WxHxD)**
2.2 x 1.6 x 2.7"

**2 year warranty**

**OPTIONAL EXTRAS**

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

---

**THERMAL IMAGING CAMERAS**

Brigade is an authorised distributor for Flir™ Thermal imaging Cameras. Please contact us for further information.
## ELITE MONITOR

**BE-970WFM - Waterproof multi-image 7” Digital LCD monitor 3560**

### Features
- 12-24Vdc
- 4 camera inputs
- IP69K
- Size (WxHxD) 7.6 x 4.8 x 1.8”
- 3 year warranty

### Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m²
- Viewing angles: Side 65° x Top 50° x Bottom 60°

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

### Durability & Standards
- Aluminium die cast casing
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +167°F
- CE marked
- EMC approved: E
- ISO 16750
- ISO 13766: 2006
- HALT tested

### Additional Options
- Single
- Split
- Triple
- Quad

## ELITE MONITOR

**BE-970WM - Waterproof 7” Digital LCD monitor 3351**

### Features
- 12-24Vdc
- 2 camera inputs
- IP69K
- Size (WxHxD) 7.6 x 4.8 x 1.8”
- 3 year warranty

### Picture Quality
- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 500cd/m²
- Viewing angles: Side 65° x Top 50° x Bottom 60°

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

### Durability & Standards
- Aluminium die cast casing
- Mechanical vibration: 20G
- Mechanical shock: 100G
- Operating temperature: -40 to +158°F
- CE marked
- EMC approved: E
- ISO 16750
- ISO 13766: 2006
- HALT tested
### ELITE MONITOR

**BE-870LM - 7” Digital LCD monitor**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-24Vdc</td>
<td></td>
</tr>
<tr>
<td>2 camera inputs</td>
<td></td>
</tr>
<tr>
<td>Size (WxHxD)</td>
<td>7.7 x 5 x 1.1”</td>
</tr>
<tr>
<td>3 year warranty</td>
<td></td>
</tr>
</tbody>
</table>

#### Features
- ‘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
- Shutter / Tilt camera compatible
- Audio
- Sun shield
- Auto-dimmer and keypad illumination
- 8 language menus
- Auto-switching PAL / NTSC

#### Picture Quality
- LED backlighting (gives 20,000 hours life)

#### Power
- Power consumption: 10 Watts
- Current: 1 Amp

#### Durability & Standards
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -22 to +158°F
- CE marked
- EMC approved: E

### ELITE MONITOR

**BE-865DDM - Double DIN 6.5” Digital LCD Monitor**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-24Vdc</td>
<td></td>
</tr>
<tr>
<td>4 camera inputs</td>
<td></td>
</tr>
<tr>
<td>Size (WxHxD) Double DIN</td>
<td>7.4 x 4.5 x 4.5”</td>
</tr>
<tr>
<td>3 year warranty</td>
<td></td>
</tr>
</tbody>
</table>

#### Features
- Shutter / Tilt camera compatible
- Backlit touch screen button panel
- ‘Button-lock’ anti tamper feature
- 5 Auto-triggers with option to select 3 triggers for split mode
- Mirror / Normal switching from menu
- On-screen distance and vertical line markers
- Audio
- Speed switch trigger to operate system or determine split screen display
- Sun shield
- Multi-lingual menus
- Audio / video inputs / output
- Auto-switching PAL / NTSC

#### Picture Quality
- LED backlighting (gives 20,000 hours life)

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

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

**BE-856GM - 5.6” Digital LCD monitor**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td>2 Auto-triggers, Mirror / Normal switching from menu, On-screen distance &amp; vertical line markers, Audio, Sun shield, Auto-dimmer, Multi-lingual menus, Auto-switching PAL / NTSC</td>
</tr>
<tr>
<td><strong>Picture Quality</strong></td>
<td>LED backlighting (gives 20,000 hours life), Anti-glare screen, Resolution: 640 x 480, Contrast ratio: 500:1</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>Power consumption: 11 Watts, Current: 0.9 Amps</td>
</tr>
<tr>
<td><strong>Durability &amp; Standards</strong></td>
<td>Mechanical vibration: 10G, Mechanical shock: 50G, Operating temperature: -40 to +158°F, CE marked, EMC approved: e, ISO 13766: 2006, ISO 16750, HALT tested</td>
</tr>
<tr>
<td><strong>Size (WxHxD)</strong></td>
<td>6.7 x 4.5 x 1.3”</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>3 year warranty</td>
</tr>
<tr>
<td><strong>Brightness</strong></td>
<td>350 cd/m²</td>
</tr>
<tr>
<td><strong>Viewing angles</strong></td>
<td>Side 70° x Top 50° x Bottom 70°</td>
</tr>
</tbody>
</table>

### Specifications
- **Model**: BE-856GM
- **Part No**: 3756
- **Screen size**: 5.6”
- **Resolution**: 640 x 480
- **Brightness**: 350 cd/m²
- **Viewing angles**: Side 70° x Top 50° x Bottom 70°

## ESSENTIAL MONITOR

**VBV-243M - 4.3” Digital mirror monitor**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Features</strong></td>
<td>On screen display menu, Digital LCD panel, 1 Auto-trigger, TV system: PAL / NTSC</td>
</tr>
<tr>
<td><strong>Picture Quality</strong></td>
<td>Resolution: 480 x 272, Contrast ratio: 500:1, Brightness: 200 cd/m², Viewing angles: Side 50° x Top 60° x Bottom 55°</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>Power consumption: 4.95 Watts, Current: 0.45 Amps</td>
</tr>
<tr>
<td><strong>Durability &amp; Standards</strong></td>
<td>Vibration rating: 6G, Operating temperature: -4 to +158°F, CE marked</td>
</tr>
<tr>
<td><strong>Size (WxDxH)</strong></td>
<td>10.1 x 3.4 x 0.9”</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>1 year warranty</td>
</tr>
</tbody>
</table>

### Specifications
- **Model**: VBV-243M
- **Part No**: 4070
- **Screen size**: 4.3”
- **Resolution**: 480 x 272
- **Brightness**: 200 cd/m²
- **Viewing angles**: Side 50° x Top 60° x Bottom 55°
- **Power consumption**: 4.95 Watts
- **Current**: 0.45 Amps
- **Durability & Standards**: Vibration rating: 6G, Operating temperature: -4 to +158°F, CE marked
**SELECT MONITOR**

**VBV-7104FM** - Multi-image 10.4"
Digital LCD Monitor

- **Features**
  - ‘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
  - 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: 22 Watts
  - Current: 2 Amps

- **Durability & Standards**
  - Mechanical vibration: 2.83G
  - Operating temperature: -4 to +158°F
  - CE marked
  - EMC approved: E
  - HALT tested

- **Size (WxHxD)**
  10.5 x 7.5 x 1.2"

- **Duration & Standards**
  - Mechanical vibration: 4G
  - Operating temperature: -22 to +158°F
  - CE marked
  - EMC approved: E

- **Power**
  - Power consumption: 25.5 watts
  - Current: 2.1 Amps

- **Durability & Standards**
  - Mechanical vibration: 4G
  - Operating temperature: -22 to +158°F
  - CE marked
  - EMC approved: E

- **Size (WxHxD)**
  10.5 x 7.5 x 1.2"

- **2 year warranty**

**SELECT MONITOR**

**VBV-770FM** - Multi-image 7"
Digital LCD Monitor

- **Features**
  - ‘Button-lock’ anti tamper feature
  - 5 Auto-triggers
  - Configurable trigger delay
  - 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: 25.5 watts
  - Current: 2.1 Amps

- **Durability & Standards**
  - Mechanical vibration: 4G
  - Operating temperature: -22 to +158°F
  - CE marked
  - EMC approved: E

- **Size (WxHxD)**
  7.1 x 4.8 x 1.6"

- **2 year warranty**

**NEW**

**SELECT MONITOR**

**VBV-7104FM** - Multi-image 10.4"
Digital LCD Monitor

- **Features**
  - ‘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
  - Auto-switching PAL / NTSC

- **Picture Quality**
  - LED backlighting (gives 20,000 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: 22 Watts
  - Current: 2 Amps

- **Durability & Standards**
  - Mechanical vibration: 2.83G
  - Operating temperature: -4 to +158°F
  - CE marked
  - EMC approved: E
  - HALT tested

- **Size (WxHxD)**
  10.5 x 7.5 x 1.2"

- **2 year warranty**

**SELECT MONITOR**

**VBV-770FM** - Multi-image 7"
Digital LCD Monitor

- **Features**
  - ‘Button-lock’ anti tamper feature
  - 5 Auto-triggers
  - Configurable trigger delay
  - 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: 25.5 watts
  - Current: 2.1 Amps

- **Durability & Standards**
  - Mechanical vibration: 4G
  - Operating temperature: -22 to +158°F
  - CE marked
  - EMC approved: E

- **Size (WxHxD)**
  7.1 x 4.8 x 1.6"

- **2 year warranty**

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### SELECT MONITOR

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBV-770M - 7&quot; Digital LCD monitor</td>
<td>4288</td>
</tr>
<tr>
<td>VBV-770M-S - 7&quot; Digital LCD monitor</td>
<td>4697</td>
</tr>
</tbody>
</table>

Includes 1 5-pin input for connection to VBV-711C shutter camera

#### Features
- 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

#### Power
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles: Side 70° x Top 50° x Bottom 70°

#### Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -22° to +158°F
- CE marked
- EMC approved: E
- HALT tested

#### Dimensions
- Size (WxHxD): 7.7 x 4.6 x 1"
- 2 year warranty

---

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VBV-750M - 5&quot; Digital LCD monitor</td>
<td>4287</td>
</tr>
<tr>
<td>VBV-750M-S - 5&quot; Digital LCD monitor</td>
<td>4710</td>
</tr>
</tbody>
</table>

Includes 1 5-pin input for connection to VBV-711C shutter camera

#### Features
- 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

#### Power
- Contrast ratio: 500:1
- Brightness: 350cd/m²
- Viewing angles: Side 70° x Top 50° x Bottom 70°

#### Durability & Standards
- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -22° to +158°F
- CE marked
- EMC approved: E
- HALT tested

#### Dimensions
- Size (WxHxD): 5.8 x 3.9 x 0.8"
- 2 year warranty
RIGID VEHICLES
ELITE RANGE CAMERA MONITOR SYSTEMS

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

- BE-870LM - 7” monitor
- BE-801C - heated camera
- BE-L120 - 66’ cable

See individual products for detailed specifications

- 3 year system warranty

RIGID VEHICLES
SELECT RANGE CAMERA MONITOR SYSTEMS

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

- VBV-770M - 7” monitor
- VBV-301C - flush-mount camera
- VBV-L420 - 66’ 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” monitor
- VBV-701C - camera
- VBV-L420 - 66’ cable

See individual products for detailed specifications

- 2 year system warranty

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

- VBV-770M-S - 7” monitor
- VBV-711C - shutter camera
- VBV-L520 - 66’ cable

See individual products for detailed specifications

- 2 year system warranty
**RIGID VEHICLES (CONTINUED)**

**SELECT RANGE CAMERA MONITOR SYSTEMS**

**VBV-750-301** - Single flush-mount camera monitor system for rigid vehicles
- VBV-750M - 5” monitor
- VBV-301C - flush-mount camera
- VBV-L420 - 66’ cable

See individual products for detailed specifications
- • 2 year system warranty

**VBV-750-000N** - Single camera monitor system for rigid vehicles
- VBV-750M - 5” monitor
- VBV-701C - camera
- VBV-L420 - 66’ cable

See individual products for detailed specifications
- • 2 year system warranty

**VBV-750-100N** - Single shutter camera monitor system for rigid vehicles
- VBV-750M-S - 5” monitor
- VBV-711C - shutter camera
- VBV-L520 - 66’ cable

See individual products for detailed specifications
- • 2 year system warranty

**RIGID VEHICLES**

**ESSENTIAL RANGE CAMERA MONITOR SYSTEM**

**VBV-650-000N** - Single camera monitor system for rigid vehicles
- VBV-650AM - 5” monitor
- VBV-621C - camera
- VBV-L420 - 66’ cable
- 1 year warranty

- Monitor
  - 12-24Vdc
  - 1 camera input
  - Size (WxHxD)
  - 5.8 x 4.3 x 1.2”

- Camera
  - Viewing angle (HxVxD)
  - 81 x 59 x 106º
  - IP67
  - Size (WxHxD)
  - 2.5 x 2.3 x 2.1”

Tel: +1 (260) 766-4343          E-mail: sales@brigade-inc.com          www.brigade-inc.com
### SMALL RIGID VEHICLES AND VANS
#### SELECT RANGE CAMERA MONITOR SYSTEMS

---

**VBV-770-311 - Single flush-mount camera monitor system for vans**  
- 4783
  - VBV-770M - 7” monitor
  - VBV-301C - flush-mount camera
  - VBV-L410 - 33’ cable
  - See individual products for detailed specifications
  - 2 year system warranty

---

**VBV-770-010N - Single flush-mount camera monitor system for vans**  
- 4694
  - VBV-770M - 7” monitor
  - VBV-701C - camera
  - VBV-L410 - 33’ 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” monitor
  - VBV-301C - flush-mount camera
  - VBV-L410 - 33’ cable
  - See individual products for detailed specifications
  - 2 year system warranty

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**VBV-750-000N - Single camera monitor system for rigid vehicles**  
- 4707
  - VBV-750M - 5” monitor
  - VBV-701C - camera
  - VBV-L410 - 33’ cable
  - See individual products for detailed specifications
  - 2 year system warranty

---

### EXTEND YOUR SYSTEM

Add a front or side camera bundle to any Select range camera monitor kit:

- **VBV-301C-SB - Side view camera bundle (mirror image)**  
  - 4786
  - VBV-301C or VBV-321C flush-mount camera
  - VBV-405 - 16’ cable
  - See individual products for detailed specifications
  - 2 year system warranty

- **VBV-321C-SB - Side or front view camera bundle (normal view)**  
  - 4787
  - VBV-301C or VBV-321C flush-mount camera
  - VBV-405 - 16’ cable
  - See individual products for detailed specifications
  - 2 year system warranty
**WIRELESS CAMERA MONITOR CONNECTION SYSTEM**

**DW-1001-TX - Digital Wireless Transmitter**

**DW-1001-RX - Digital Wireless Receiver**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital technology</td>
<td></td>
</tr>
<tr>
<td>12-24Vdc</td>
<td></td>
</tr>
<tr>
<td>1 camera input</td>
<td></td>
</tr>
<tr>
<td>IP69K (Transmitter)</td>
<td></td>
</tr>
<tr>
<td>Size (WxHxD)</td>
<td>4.4 x 4.4 x 1.2”</td>
</tr>
<tr>
<td>2 year warranty</td>
<td></td>
</tr>
</tbody>
</table>

**Features**
- Image Latency: 200 milliseconds
- Eliminates the need for retractable coiled cables
- Reduces installation time
- Re-pair facility allows for interchangeable trailers
- Compatible with Brigade’s camera monitors
- Triggered by reverse gear
- TV System PAL/NTSC
- Secure connection
- Transmission frequency: 2.4 GHz
- Transmission power: 18 dBm

**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 +158°F
- Mechanical vibration: 6G
- Mechanical shock: 20G
- CE marked
- FCC approved
- IC approved

**ELITE TRUCK/TRAILER CABLE KIT**

**SK-31E - Cable kit for articulated trucks - unique pin layout**

**SK-31E-T - Trailer only version**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK-31E</td>
<td>Cable kit for articulated trucks - unique pin layout</td>
</tr>
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<td>Trailer only version</td>
</tr>
</tbody>
</table>

- **BE-L110** - 10m cable for cab 0803
- **BE-X020** - 20m extension cable for trailer 1143
- **SP-7A** - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout) 1827
- **SP-7B** - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout) 1828
- **SC-7** - Coiled cable with 7-pin plugs (unique pin layout) 1829

**ELITE TRUCK/TRAILER CABLE KIT**

**SK-30E - Cable kit for articulated trucks**

**SK-30E-T - Trailer only version**

<table>
<thead>
<tr>
<th>Part No.</th>
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<tbody>
<tr>
<td>SK-30E</td>
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<tr>
<th>Part No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>SK-30E</td>
<td>Cable kit for articulated trucks</td>
</tr>
<tr>
<td>SK-30E-T</td>
<td>Trailer only version</td>
</tr>
</tbody>
</table>

- **BE-L110** - 10m cable for cab 0803
- **BE-X020** - 20m extension for trailer 1143
- **SP-07C** - 7-pin bulkhead socket for cab & cab-end camera connector 1140
- **SP-07T** - 7-pin bulkhead socket for trailer & trailer-end camera connector 1142
- **SC-07** - Coiled cable with 7-pin plugs 1046

**Tel:** +1 (260) 766-4343  
**E-mail:** sales@brigade-inc.com  
**www.brigade-inc.com**
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

ELITE TRUCK/TRAILER CABLE KIT

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

- SP-15A-04 - 15-pin bulkhead socket for cab & cab-end camera connector plus stripped wires and display/buzzer connection for Ultrasonics 3955
- SP-15B-04 - 15-pin bulkhead socket for trailer & trailer-end camera connector plus stripped wires and display/buzzer connection for Ultrasonics 3956
- SC-15-01 - Coiled shielded cable with 15-pin plugs 3268

ELITE TRUCK/TRAILER CABLE KIT

SK-31E - Cable kit for articulated trucks - unique pin layout 1830
SK-31E-T - Trailer only version 1886

- BE-L110 - 10m cable for cab 0803
- BE-X020 - 20m extension cable for trailer 1143
- SP-7A - 7-pin bulkhead socket for cab & cab-end camera connector (unique pin layout) 1827
- SP-7B - 7-pin bulkhead socket for trailer & trailer-end camera connector (unique pin layout) 1828
- SC-7 - Coiled cable with 7-pin plugs (unique pin layout) 1829
## SELECT TRUCK/TRAILER CABLE KIT

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSK-30E</td>
<td>2538</td>
</tr>
<tr>
<td>VSK-30E-T</td>
<td>2542</td>
</tr>
</tbody>
</table>

### VBV-L Models

- **VBV-L430** - 98’ cable 2108
- **VBV-L420** - 66’ cable 1380
- **VBV-L415** - 49’ cable 3150
- **VBV-L412** - 39’ cable 3106
- **VBV-L410** - 33’ cable 1386
- **VBV-L405** - 16’ cable 1499
- **VBV-L4025** - 8’ cable 1554
- **VBV-L520** - 66’ 5-pin shutter camera cable 3664
- **VBV-L510** - 33’ 5-pin shutter camera cable 3663
- **VBV-L505** - 16’ 5-pin shutter camera cable 4001

### SELECT CAMERA CABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE-L130</td>
<td>0800</td>
</tr>
<tr>
<td>BE-L120</td>
<td>0801</td>
</tr>
<tr>
<td>BE-L115</td>
<td>0802</td>
</tr>
<tr>
<td>BE-L110</td>
<td>0803</td>
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<tr>
<td>BE-L105</td>
<td>0804</td>
</tr>
<tr>
<td>BE-L1003</td>
<td>2797</td>
</tr>
</tbody>
</table>

### ELITE CAMERA CABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE-X025</td>
<td>1907</td>
</tr>
<tr>
<td>BE-X020</td>
<td>1143</td>
</tr>
<tr>
<td>BE-X015</td>
<td>2101</td>
</tr>
<tr>
<td>BE-X010</td>
<td>2100</td>
</tr>
<tr>
<td>BE-X005</td>
<td>2099</td>
</tr>
<tr>
<td>BE-X003</td>
<td>0805</td>
</tr>
</tbody>
</table>

### ELITE CAMERA EXTENSION CABLE

<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>VSK-30E-T</td>
<td>2542</td>
</tr>
</tbody>
</table>

### SELECT TRUCK/TRAILER CABLE KIT

- **VSP-47A** - 7-pin bulkhead socket for cab & cab-end camera connector 1847
- **VSP-47B** - 7-pin bulkhead socket for trailer & trailer-end camera connector 1846
- **SC-07-24S** - Coiled cable with type 24S 7-pin plugs 1227

---

Tel: +1 (260) 766-4343  
E-mail: sales@brigade-inc.com  
www.brigade-inc.com
<table>
<thead>
<tr>
<th>Model Part No:</th>
<th>Description</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-006</td>
<td>Connects Select series camera to Elite series cable</td>
<td>1983</td>
</tr>
<tr>
<td>AC-007</td>
<td>Connects Select series monitor to Elite series cable</td>
<td>1984</td>
</tr>
<tr>
<td>AC-014</td>
<td>Connects Extreme or Elite series camera to Select series cable</td>
<td>2094</td>
</tr>
<tr>
<td>AC-016</td>
<td>Connects AV to Camera input of Elite monitor</td>
<td>2150</td>
</tr>
<tr>
<td>AC-019</td>
<td>Connects Elite camera to male phono (video only)</td>
<td>2589</td>
</tr>
<tr>
<td>AC-020</td>
<td>Connects Extreme or Elite series monitor to Select series cable</td>
<td>2590</td>
</tr>
<tr>
<td>AC-024</td>
<td>Connects phono to Select monitor</td>
<td>3183</td>
</tr>
<tr>
<td>AC-035</td>
<td>5-pin to 4-pin shutter camera adapter</td>
<td>3702</td>
</tr>
<tr>
<td>AC-041</td>
<td>Connects Elite camera to John Deere 7 pin amp output</td>
<td>4245</td>
</tr>
<tr>
<td>AC-042</td>
<td>Connects Select camera to John Deere 7 pin amp output</td>
<td>4246</td>
</tr>
<tr>
<td>AC-044</td>
<td>Connects Elite camera to Molex M12 (Fendt)</td>
<td>4279</td>
</tr>
<tr>
<td>AC-045</td>
<td>Connects Select camera to Molex M12 (Fendt)</td>
<td>4280</td>
</tr>
<tr>
<td>AC-056</td>
<td>Connects Select camera to Orlaco monitor</td>
<td>4401</td>
</tr>
<tr>
<td>AC-062</td>
<td>Connects Elite camera to Orlaco monitor</td>
<td>4691</td>
</tr>
</tbody>
</table>
### CAMERA MONITOR ADAPTER CABLES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-24-12(001)</td>
<td>in-line 24/12v converter - Select camera to Elite monitor</td>
<td>4235</td>
</tr>
<tr>
<td>AC-24-12(002)</td>
<td>in-line 24/12v converter - Elite camera to Fakra monitor</td>
<td>4266</td>
</tr>
<tr>
<td>AC-24-12(003)</td>
<td>in-line 24/12v converter - 2 x Select cameras to M12 5-pin +power</td>
<td>4301</td>
</tr>
<tr>
<td>AC-24-12(005)</td>
<td>in-line 24/12v converter - Select camera to M12 5-pin</td>
<td>4323</td>
</tr>
<tr>
<td>AC-24-12(006)</td>
<td>in-line regulator - Select camera to Volvo connector</td>
<td>4719</td>
</tr>
</tbody>
</table>

### OEM CAMERA MONITOR ADAPTER CABLES

A further range of OEM specific adapters to connect Brigade cameras to factory fit monitors is available - Please contact us for details

### CAMERA MONITOR SYSTEM ANCILLARIES

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>12-24Vdc</td>
<td></td>
</tr>
<tr>
<td>4 camera inputs</td>
<td></td>
</tr>
<tr>
<td>Size (WxHxD)</td>
<td>6 x 1.1 x 4.1&quot;</td>
</tr>
<tr>
<td>2 year warranty</td>
<td></td>
</tr>
</tbody>
</table>

**Features**
- Shutter camera compatible
- Tilt camera compatible
- 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

**Durability & Standards**
- Mechanical vibration: 5G
- Operating temperature: -13 to +158°F
- CE marked
- EMC approved: e

**Picture in picture**

- Single
- Split
- Triple
- Quad

Plus Additional In-built Image Options

---

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**CAMERA MONITOR SYSTEM ANCILLARIES**

**SS-002 - Twin camera screen splitter**

**Features**
- Offers split screen option for monitors without in-built functionality
- 3 auto-triggers for each camera
- TV System: PAL / NTSC
- Manual Mirror / Normal switching
- Compatible across Brigade camera monitor range (adapters required for Elite series)

**Power**
- Power Consumption: 10.8 Watts

**Durability & Standards**
- Mechanical vibration: 10G
- Operating temperature: -40 to +158°F
- EMC approved: e

<table>
<thead>
<tr>
<th>Single</th>
<th>Split</th>
</tr>
</thead>
</table>

**LS-20-A - Low speed trigger module (normally closed)**

**Features**
- Simple to change triggering speed using DIP switch
- Normally closed - safety device on by default, turning off at designated speed
- Compatible with Brigade camera monitor systems

**Power**
- Power consumption: 0.1 Watts
- Current: 0.05 Amps

**Durability & Standards**
- Mechanical vibration: 10G
- Operating temperature: -40 to +158°F
- CE marked

**SC-1000-ECU - Shutter camera module**

**Features**
- Allows BE-811C shutter camera to function with any Elite range monitor (using Elite range cables).
- Use AC-007 adapter to connect to Select or Essential range monitor.
- CE marked
- EMC approved: e

<table>
<thead>
<tr>
<th>12-24Vdc</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 camera inputs</td>
</tr>
<tr>
<td>Size (WxHxD) 5.8 x 1.4 x 3”</td>
</tr>
<tr>
<td>2 year warranty</td>
</tr>
</tbody>
</table>

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**CAMERA MONITOR SYSTEM ANCILLARIES**

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**CAMERA MONITOR SYSTEM ANCILLARIES**

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**CAMERA MONITOR SYSTEM ANCILLARIES**
By recording footage from vehicle mounted cameras, mobile digital recording provides 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.

- False claim prevention
- Protection for drivers who may be wrongly accused
- Provides irrefutable evidence in the case of accidents and legal proceedings
- Useful in reducing shrinkage and catching perpetrators
- Driver training and best practice
- Peace of mind for passengers and drivers
MOBILE DIGITAL RECORDER

MDR-304A-500 - 500GB hard disk with improved data download speed

Features
• Black box recorder with docking station and anti-vibration mounting
• Removable central caddy with integral hard disk and lockable keypad
• Up to 780 hours recording (based on 6 frames per second and standard image quality)
• Recording can be triggered by motion detection even when vehicle inactive
• Record images prior to alarm activation and after vehicle turned off
• Easy to use via ‘DVD’ style front panel
• Video and audio recordings saved on hard disk
• Download data to PC 10x faster than previous model via high speed USB 2.0 interface. Alternatively save data to removable SDHC card
• Simple to use HDD viewer software enables search of recorded video and export of critical moments to AVI video or static JPEG files
• 2 trigger / alarm outputs to trigger other devices
• Compatible with Brigade camera monitor systems
• Optional GPS sensor to record location, route and speed data
• Optional G sensor to record X, Y and Z impact data in the event of an accident
• Manually selectable PAL / NTSC

Picture Quality
• MPEG4 image compression allows high quality image resolution
• Choice of recorded image quality – low to high resolution
• Record at between 2 and 30 frames per second per channel

Durability & Standards
• Mechanical vibration: 2G
• Mechanical Shock: 15G
• Operating temperature: -4 to +122°F
• EMC approved: e

12-24Vdc
4 camera inputs
4 trigger/alarm inputs
Lockable central caddy
Fast, easily downloadable recordings and data
Size (WxHxD)
7 x 2 x 6.8”
3 year warranty

OPTIONAL EXTRAS

AC-301 Connects Select camera to MDR & monitor
AC-302 Connects Elite/Extreme camera to MDR & monitor
AC-006 Connects Select series camera cable to MDR
RC-300-060 Remote control with 20’ cable
GPS-6015-050 GPS receiver (speed & location data) with 16’ cable
GS-6016-030 G sensor with 9’ cable
MOBILE DIGITAL RECORDER

EDR-101-008 - Event Data recorder

Contents:
• 1x Recorder
• 1x GPS Antenna
• 1 x power cable
• 1x Mounting Bracket & adhesive pad
• 1x 8GB Micro SD card
• 1x Micro SD to SD adaptor
• 1x Software CD
• 1x user manual

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: 14 to 122°F
• CE self DoC

OPTIONAL EXTRAS

EDR-101-LOCK SD card security lock

EDR-142C Micro camera

EDR-101-VC V-out cable

EDR-101-CPC Cigar lighter power cable
ultrasonic obstacle detection

Sensor systems inform driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for road going commercial vehicles regularly operating in confined spaces or manoeuvring at low speeds.

Which system do you need?

**Sidescan®**
4 sensor system fitted to side of vehicle increasing safety when turning or low speed manoeuvring. 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, whilst minimising 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. Minimises the risk of damage to the vehicle cab whilst manoeuvring at low speed.

**Frontscan®**
4 sensor system fitted to front of vehicle improving safety when manoeuvring 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. Minimises the risk of damage to the vehicle cab from otherwise unseen objects.
SIDESCAN® ULTRASONIC DETECTION SYSTEM

SS-4000W - Sidescan sensor system

Contents
- 4 x sensors
- Buzzer
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 33' buzzer cable
- 4 x 15' sensor cables
- 2 x 8' extension cables
- 2 year warranty

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 3’ of the detection zone
- Self-diagnostic function

Durability & Standards
- Operating temperature: -40 to +176ºF
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

ADDITIONS FOR ARTICULATED VEHICLES

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SK-15-04</td>
<td>Truck/trailer camera/sensor cable kit - see p25</td>
<td>3997</td>
</tr>
<tr>
<td>SK-UDS-05</td>
<td>Truck/trailer sensor only cable kit (required)</td>
<td>4219</td>
</tr>
<tr>
<td>UDS-10BC</td>
<td>33’ display cable (required)</td>
<td>3716</td>
</tr>
<tr>
<td>SS-4000W</td>
<td>Additional Sidescan sensor system for cab (optional)</td>
<td>3711</td>
</tr>
</tbody>
</table>

RECOMMENDED EXTRA

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>LS-20-A</td>
<td>Low speed speed trigger module (enables sensors below designated speed)</td>
<td>3177</td>
</tr>
<tr>
<td>TS-001ECU</td>
<td>Turn indicator trigger for system activation</td>
<td>1362</td>
</tr>
</tbody>
</table>

OPTIONAL EXTRA

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Description</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS-BC-08</td>
<td>Backchat speaking alarm with side turn warning for cyclists/pedestrians</td>
<td>1334</td>
</tr>
<tr>
<td>TCO-47-01</td>
<td>Latched auto-reset Backalarm cut-out (dash mount)</td>
<td>4752</td>
</tr>
</tbody>
</table>
BACKSCAN® ULTRASONIC DETECTION SYSTEM

BS-4000W - Backscan reversing sensor system

• 4 sensor system
• 12-24 Volts
• 8' detection range - outer sensors 8/2' (selectable via dip switch)
• Graduated visual and audible distance warning display
• Underslung and flush-mount fixings included
• 1.6" 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
• 49' display cable
• 4 x 8' 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 3' of the detection zone
• Self-diagnostic function
• 1 x Trigger output

Durability & Standards
• Operating temperature: -40 to +176ºF
• Waterproof sensors to IP68
• Waterproof control box to IP69K
• CE marked
• EMC approved: E

• 5' detection range model also available - Please contact us for details

REQUIRED ADDITIONS FOR ARTICULATED VEHICLES

| SK-15-04 | Truck/trailer camera/sensor cable kit - see p25 |
| SK-UDS-05 | Truck/trailer sensor only cable kit |
| UDS-10BC | 33' Buzzer/display cable |

3997 4219 3716

OPTIONAL EXTRA

| UDS-RELAY-24 | Trigger-out diode protected relay 24v |
| UDS-RELAY-12 | Trigger-out diode protected relay 12v |

4215 4216
**CORNERSCAN™ ULTRASONIC DETECTION SYSTEM**

**CS-3000 - Cornerscan sensor system**

- 3 sensor system
- 12-24 Volts
- 2/3' 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
- 8’ buzzer cable
- 3 x 8’ sensor cables

**Features**
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 3’ of the detection zone
- Self-diagnostic function

**Durability & Standards**
- Operating temperature: -40 to +176ºF
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

**RECOMMENDED EXTRA**

**LS-20-A**
Low speed trigger module
(enables sensors below designated speed)

**ST-2000 - Stepscan sensor system**

- 2 sensor system
- 12-24 Volts
- 2/3’ 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
- 8’ buzzer cable
- 2 x 8’ sensor cables

**Features**
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from ancillary equipment that intrudes in the first 3’ of the detection zone
- Self-diagnostic function

**Durability & Standards**
- Operating temperature: -40 to +176ºF
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E
FRONTSCAN® ULTRASONIC DETECTION SYSTEM

FS-4000W - Frontscan sensor system

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
- 8' buzzer cable
- 4 x 8' sensor cables

Features
- Obstacles detected in under 200 milliseconds
- Environment Learning Mode prevents false alarms from tow-hooks

Durability & Standards
- Operating temperature: -40 to +176°F
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- EMC approved: E

RECOMMENDED EXTRA

LS-20-A Low speed trigger module (enables sensors below designated speed) 3177

OPTIONAL EXTRA

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

EXTENSION CABLES

UDS-2.5BC - Buzzer/display extension cable 8’ 3717
UDS-10BC - Buzzer/display extension cable 33’ 3716
UDS-15BC - Buzzer/display extension cable 49’ 3746
UDS-2.5SC - Sensor extension cable 8’ 3719
UDS-4.5SC - Sensor extension cable 15’ 3720
Vital safety devices needed to warn workers and pedestrians that a vehicle is manoeuvring. 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.

**Vehicle specific**
Petrol tanker (ADR) and electric forklift (High Voltage) options available.
back-up and warning alarms

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® smart back-up alarms
Continually adjust to 5-10 decibels above ambient so ideal in varying noise level environments.

bbs-tek® back-up alarms

Backchat®
Speaking warning alarms that reproduce real speech with unrivalled quality and clarity.

Bespoke speaking alarms
Define your own message as required.

Nightshift® speaking alarms
Include built-in alarm cut-out for night-time use.

Vehicle intercom
Two-way communication system provides clear, reliable communication between the driver and others not in the cab.
### WHITE SOUND® SMART REVERSING ALARM

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 12-24 Volts</td>
<td>- Current: Max 1 Amp</td>
<td>- Mechanical vibration: 10G</td>
</tr>
<tr>
<td>- IP68</td>
<td></td>
<td>- Operating temperature: -40 to +185°F</td>
</tr>
<tr>
<td>- Size (WxHxD) 6.7 x 3.1 x 3.7”</td>
<td></td>
<td>- CE marked</td>
</tr>
<tr>
<td>- Lifetime warranty</td>
<td></td>
<td>- SAE J994</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td>- OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
</tr>
<tr>
<td>- Alarm continually adjusts to 5-10dB above ambient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Multi frequency broadband sound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Instantly locatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sound confined to danger area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Eliminates noise nuisance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sounder unit: Driver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hole centers: 6”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WHITE SOUND® BACK-UP ALARM

**SA-BBS-97 - Self adjusting - medium duty - 77-97 Decibels**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 12-24 Volts</td>
<td>- Current: Max 1 Amp</td>
<td>- Mechanical vibration: 10G</td>
</tr>
<tr>
<td>- 36-80 Volts (HV)</td>
<td></td>
<td>- Operating temperature: -40 to +85°F</td>
</tr>
<tr>
<td>- IP68</td>
<td></td>
<td>- CE marked</td>
</tr>
<tr>
<td>- Size (WxHxD) 5 x 3 x 2.5”</td>
<td></td>
<td>- SAE J994</td>
</tr>
<tr>
<td>- Lifetime warranty</td>
<td></td>
<td>- OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Alarm continually adjusts to 5-10dB above ambient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Multi frequency white sound alarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Instantly locatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sound confined to danger area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Eliminates noise nuisance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sounder unit: Driver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hole centers: 3.8-4.2”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SA-BBS-97HV - Self adjusting - electric forklift - 77-97 Decibels**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 12-24 Volts</td>
<td>- Current: Max 1 Amp</td>
<td>- Mechanical vibration: 10G</td>
</tr>
<tr>
<td>- 36-80 Volts (HV)</td>
<td></td>
<td>- Operating temperature: -40 to +85°F</td>
</tr>
<tr>
<td>- IP68</td>
<td></td>
<td>- CE marked</td>
</tr>
<tr>
<td>- Size (WxHxD) 5 x 3 x 2.5”</td>
<td></td>
<td>- SAE J994</td>
</tr>
<tr>
<td>- Lifetime warranty</td>
<td></td>
<td>- OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Alarm continually adjusts to 5-10dB above ambient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Multi frequency white sound alarm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Instantly locatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sound confined to danger area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Eliminates noise nuisance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sounder unit: Driver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hole centers: 3.8-4.2”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### WHITE SOUND® BACK-UP ALARM

**BBS-107 - Heavy duty - 107 Decibels**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 12-24 Volts</td>
<td>- Current: Max 1 Amp</td>
<td>- Mechanical vibration: 10G</td>
</tr>
<tr>
<td>- IP68</td>
<td></td>
<td>- Operating temperature: -40 to +815°F</td>
</tr>
<tr>
<td>- Size (WxHxD) 6.7 x 3.1 x 3.7”</td>
<td></td>
<td>- CE marked</td>
</tr>
<tr>
<td>- Lifetime warranty</td>
<td></td>
<td>- SAE J994</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td>- OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
</tr>
<tr>
<td>- Multi frequency broadband sound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Instantly locatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sound confined to danger area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Eliminates noise nuisance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sounder unit: Driver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hole centers: 6”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**BBS-102 - Heavy duty - 102 Decibels**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 12-24 Volts</td>
<td>- Current: Max 1 Amp</td>
<td>- Mechanical vibration: 10G</td>
</tr>
<tr>
<td>- IP68</td>
<td></td>
<td>- Operating temperature: -40 to +815°F</td>
</tr>
<tr>
<td>- Size (WxHxD) 6.7 x 3.1 x 3.7”</td>
<td></td>
<td>- CE marked</td>
</tr>
<tr>
<td>- Lifetime warranty</td>
<td></td>
<td>- SAE J994</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
<td>- OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
</tr>
<tr>
<td>- Multi frequency broadband sound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Instantly locatable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sound confined to danger area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Eliminates noise nuisance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Sounder unit: Driver</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Hole centers: 6”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Model Part No:**

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

SA-BBS-97 - Self adjusting - medium duty - 77-97 Decibels

SA-BBS-97HV - Self adjusting - electric forklift - 77-97 Decibels

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**White Sound®**

**White Sound® Smart Reversing Alarm**

**White Sound® Back-Up Alarm**

---

**Contact Information:**

Tel: +1 (260) 766-4343          E-mail: sales@brigade-inc.com          www.brigade-inc.com
<table>
<thead>
<tr>
<th>Model</th>
<th>Part No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHITE SOUND® BACK-UP ALARM</td>
<td></td>
</tr>
<tr>
<td>BBS-92HV - Electric forklift - 92 Decibels</td>
<td>1402</td>
</tr>
<tr>
<td>BBS-82HV - Electric forklift - 82 Decibels</td>
<td>1322</td>
</tr>
<tr>
<td>BBS-92ADR - Petrol tanker - 92 Decibels</td>
<td>2165</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
</tr>
<tr>
<td>• Multi frequency broadband sound</td>
<td></td>
</tr>
<tr>
<td>• Instantly locatable</td>
<td></td>
</tr>
<tr>
<td>• Sound confined to danger area</td>
<td></td>
</tr>
<tr>
<td>• Eliminates noise nuisance</td>
<td></td>
</tr>
<tr>
<td>• Sounder unit: Speaker</td>
<td></td>
</tr>
<tr>
<td>• Hole centers: 3.8-4.2”</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td></td>
</tr>
<tr>
<td>• Current: Max 0.3 Amps</td>
<td></td>
</tr>
<tr>
<td><strong>Durability &amp; standards</strong></td>
<td></td>
</tr>
<tr>
<td>• Mechanical vibration: 10G</td>
<td></td>
</tr>
<tr>
<td>• Operating temperature: -40 to +180°F</td>
<td></td>
</tr>
<tr>
<td>• CE marked</td>
<td></td>
</tr>
<tr>
<td>• EMC approved: e</td>
<td></td>
</tr>
<tr>
<td>• SAE J994</td>
<td></td>
</tr>
<tr>
<td>• OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
<td></td>
</tr>
<tr>
<td><strong>Size (WxHxD)</strong></td>
<td></td>
</tr>
<tr>
<td>5 x 3 x 2.5”</td>
<td></td>
</tr>
<tr>
<td><strong>Lifetime warranty</strong></td>
<td></td>
</tr>
<tr>
<td><strong>BEST SELLER</strong></td>
<td></td>
</tr>
<tr>
<td>BBS-97 - Medium duty - 97 Decibels</td>
<td>0935</td>
</tr>
<tr>
<td>BBS-92 - Medium duty - 92 Decibels</td>
<td>0934</td>
</tr>
<tr>
<td>BBS-87 - Medium duty - 87 Decibels</td>
<td>0897</td>
</tr>
<tr>
<td>BBS-82 - Medium duty - 82 Decibels</td>
<td>0896</td>
</tr>
<tr>
<td>BBS-77 - Medium duty - 77 Decibels</td>
<td>1397</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
</tr>
<tr>
<td>• Multi frequency broadband sound</td>
<td></td>
</tr>
<tr>
<td>• Instantly locatable</td>
<td></td>
</tr>
<tr>
<td>• Sound confined to danger area</td>
<td></td>
</tr>
<tr>
<td>• Eliminates noise nuisance</td>
<td></td>
</tr>
<tr>
<td>• Sounder unit: Speaker</td>
<td></td>
</tr>
<tr>
<td>• Hole centers: 3”</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td></td>
</tr>
<tr>
<td>• Current: Max 0.5 Amps</td>
<td></td>
</tr>
<tr>
<td><strong>Durability &amp; standards</strong></td>
<td></td>
</tr>
<tr>
<td>• Mechanical vibration: 10G</td>
<td></td>
</tr>
<tr>
<td>• Operating temperature: -40 to +180°F</td>
<td></td>
</tr>
<tr>
<td>• CE marked</td>
<td></td>
</tr>
<tr>
<td>• EMC approved: e</td>
<td></td>
</tr>
<tr>
<td>• SAE J994</td>
<td></td>
</tr>
<tr>
<td>• OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
<td></td>
</tr>
<tr>
<td><strong>Size (WxHxD)</strong></td>
<td></td>
</tr>
<tr>
<td>4.1 x 2.6 x 1.5” (BBS-97/92)</td>
<td></td>
</tr>
<tr>
<td>4.1 x 2.6 x 1.3” (BBS-87/82/77)</td>
<td></td>
</tr>
<tr>
<td><strong>Lifetime warranty</strong></td>
<td></td>
</tr>
<tr>
<td><strong>WHITE SOUND® BACK-UP ALARM</strong></td>
<td></td>
</tr>
<tr>
<td>BBS-97GM - Medium duty - Grommet mount - 97 Decibels</td>
<td>3989</td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td></td>
</tr>
<tr>
<td>• Multi frequency broadband sound</td>
<td></td>
</tr>
<tr>
<td>• Instantly locatable</td>
<td></td>
</tr>
<tr>
<td>• Sound confined to danger area</td>
<td></td>
</tr>
<tr>
<td>• Eliminates noise nuisance</td>
<td></td>
</tr>
<tr>
<td>• Sounder unit: Speaker</td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td></td>
</tr>
<tr>
<td>• Current: Max 0.5 Amps</td>
<td></td>
</tr>
<tr>
<td><strong>Durability &amp; standards</strong></td>
<td></td>
</tr>
<tr>
<td>• Mechanical vibration: 10G</td>
<td></td>
</tr>
<tr>
<td>• Operating temperature: -40 to +180°F</td>
<td></td>
</tr>
<tr>
<td>• CE marked</td>
<td></td>
</tr>
<tr>
<td>• EMC approved: e</td>
<td></td>
</tr>
<tr>
<td>• SAE J994</td>
<td></td>
</tr>
<tr>
<td>• OSHA &amp; MSHA compliant (providing appropriate unit correctly installed)</td>
<td></td>
</tr>
</tbody>
</table>
## SPEAKING ALARM

**BC-01HP(B) - Bespoke single message - 110 Decibels**

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
</table>
| - 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 (inches): 4 |
| - Current: 0.5 Amps |
| - CE marked  
  - EMC approved: e |

- 12-24 Volts  
- IP68  
- Size (WxHxD) 4.5 x 4.5 x 4.7 inches  
- 2 year warranty

---

## NIGHTSHIFT® SPEAKING ALARM

**BC-01(NS-B) - Bespoke single message - Nightshift - 90 or 0 Decibels**

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
</table>
| - Real speech alarm  
  - BC-01(NS) message “Bleep! 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: 4” |
| - Current: 0.5 Amps |
| - CE marked  
  - EMC approved: e |

- 12-24 Volts  
- IP68  
- Size (WxHxD) 4.8 x 3.3 x 2”  
- 2 year warranty

---

## SPEAKING ALARM

**BC-01(B) - Bespoke single message - 90 Decibels**

**BC-02(B) - Bespoke dual message - 90 Decibels**

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
<th>Durability &amp; standards</th>
</tr>
</thead>
</table>
| - Real speech alarm  
  - Bespoke message up to 8 seconds, under 4 seconds for best speech quality  
  - Sounder unit: Speaker  
  - Hole centers: 4” |
| - Current: 0.5 Amps |
| - CE marked  
  - EMC approved: e |

- 12-24 Volts  
- IP68  
- Size (WxHxD) 4.8 x 3.3 x 2”  
- 2 year warranty
### SPEAKING SIDE TURN WARNING ALARM

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

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 12-24 Volts</td>
<td>• Current: 0.5 Amps</td>
</tr>
<tr>
<td>• IP68</td>
<td>• Durability &amp; standards</td>
</tr>
<tr>
<td>• Size (WxHxD) 4.8 x 3.3 x 2&quot;</td>
<td>• CE marked</td>
</tr>
<tr>
<td>• 2 year warranty</td>
<td>• EMC approved: e</td>
</tr>
</tbody>
</table>

**Features**
- Real speech alarm
- Message "Ssh! Caution. Truck turning left..."
- Sounder unit: Speaker
- Hole centers: 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(B) - Single bespoke message - 110 Decibels**

<table>
<thead>
<tr>
<th>Features</th>
<th>Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 12-24 Volts</td>
<td>• Current: 0.5 Amps</td>
</tr>
<tr>
<td>• IP68</td>
<td>• Durability &amp; standards</td>
</tr>
<tr>
<td>• Size (WxHxD) 4.5 x 4.5 x 4.7&quot;</td>
<td>• CE marked</td>
</tr>
<tr>
<td>• 2 year warranty</td>
<td>• EMC approved: e</td>
</tr>
</tbody>
</table>

**Features**
- Real speech alarm
- Activated by panic button, repeats continuously until deactivated by hidden switch
- Sounder unit: Speaker
- Hole centers: 2"

**Power**
- Current: 0.5 Amps

**Durability & standards**
- CE marked
- EMC approved: e
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

- 12-24 Volts
- IP68
- Size (WxHxD) 4.8 x 3.3 x 2"
- 2 year warranty

Features
- 12-24 Volts
- IP68
- Size (WxHxD) 4.8 x 3.3 x 2"
- 2 year warranty

Power
- Current: 0.5 Amps

Durability & Standards
- CE marked

ALARM ANCILLARIES

TCO-47 - Timed auto-reset Backalarm cut-out (dash mount) 0663
TCO-47-01 - Latched auto-reset Backalarm cut-out (dash mount) 4752

- 12-24 Volts
- 2 year warranty

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

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 gear box) 0974

- 12-24 Volts
- IP68
- 2 year warranty

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

Durability and Standards
- CE marked
- EMC approved
radar obstacle detection

Backsense®

Robust, long-range, continuous wave radar sensor systems designed for harsh conditions. Informs driver of distance between vehicle and any obstacles, whether moving or stationary. Perfect for all machines working in construction, mobile plant and refuse.

Choosing your model

Programmable
Top of the range programmable system allowing bespoke detection areas up to 100' in length and 33' 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 20'.

Available Brochure
**PROGRAMMABLE BACKSENSE OBSTACLE DETECTION**

**BS-8000 - Programmable detection range**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model Part No:</td>
<td>BS-8000 - Programmable detection range 4530</td>
</tr>
<tr>
<td>Sensor, AV display, 30’ cable</td>
<td></td>
</tr>
<tr>
<td><strong>Features</strong></td>
<td>• Frequency modulated continuous wave (FMCW) radar technology</td>
</tr>
<tr>
<td></td>
<td>• Effectively detects stationary, moving and multiple objects</td>
</tr>
<tr>
<td></td>
<td>• 1 activation input</td>
</tr>
<tr>
<td></td>
<td>• 1 trigger output</td>
</tr>
<tr>
<td></td>
<td>• Programmable: Detection area, Blind zones - system ignores fixed objects, Trigger activation point</td>
</tr>
<tr>
<td></td>
<td>• 5 stage audible and visual distance warning display</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>• Current: 0.6 Amps</td>
</tr>
<tr>
<td><strong>Durability &amp; Standards</strong></td>
<td>• Mechanical shock: 100G</td>
</tr>
<tr>
<td></td>
<td>• Operating temperature: -40 to +185°F</td>
</tr>
<tr>
<td></td>
<td>• CE marked</td>
</tr>
<tr>
<td></td>
<td>• EMC approved: E</td>
</tr>
<tr>
<td></td>
<td>• BS EN 13309: 2010</td>
</tr>
<tr>
<td></td>
<td>• ISO13766: 2006</td>
</tr>
<tr>
<td><strong>Detection length</strong>:</td>
<td>1.2 to 98’</td>
</tr>
<tr>
<td><strong>Detection width</strong>:</td>
<td>6.5 to 33’</td>
</tr>
<tr>
<td><strong>Rugged design for harsh environmental conditions</strong></td>
<td></td>
</tr>
<tr>
<td><strong>In-cab display</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sensor size (WxHxD)</strong></td>
<td>9.3 x 5 x 2’</td>
</tr>
<tr>
<td><strong>IP69K sensor</strong></td>
<td></td>
</tr>
<tr>
<td><strong>2 year warranty</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Resistance to water, moisture, dust, vibration, heat, cold, mud and glare</strong></td>
<td></td>
</tr>
</tbody>
</table>

**EXTENSION CABLES**

<table>
<thead>
<tr>
<th>Model Part No.</th>
<th>BS-05DCX - 16’ extension cable 4550</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BS-09DCX - 30’ extension cable 4551</td>
</tr>
</tbody>
</table>

**OPTIONAL EXTRAS**

<table>
<thead>
<tr>
<th>Model Part No.</th>
<th>BKT-017 - Adjustable radar bracket 4676</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>with 4” depth bracket mounting arms</td>
</tr>
</tbody>
</table>
## Fixed Backsense Obstacle Detection

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Part No</th>
</tr>
</thead>
<tbody>
<tr>
<td>BS-7030</td>
<td>10' detection range, 8' width Sensor, AV display, 30' cable</td>
<td>4527</td>
</tr>
<tr>
<td>BS-7045</td>
<td>15' detection range, 11' width Sensor, AV display, 30' cable</td>
<td>4528</td>
</tr>
<tr>
<td>BS-7060</td>
<td>20' detection range, 15' width Sensor, AV display, 30' cable</td>
<td>4529</td>
</tr>
</tbody>
</table>

### 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: 0.6 Amps

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

### Extension Cables
- BS-05DCX - 16' extension cable | 4550
- BS-09DCX - 30' extension cable | 4551

### Optional Extras
- BKT-017 - Adjustable radar bracket with 4" deep bracket mounting arms | 4676
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) with regard to 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 metre (cd/m²). 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 colour 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
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 (UNECE) standards e.g. ECE 10.03

- **e**
  Complies to Council of the European Union standards e.g. 2006/28/EC, 2009/19/EC

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

**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 colour 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 colour encoding standard.

**PAL (Phase Alternating Line)**
TV colour 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 centre point on the monitor.

**Watt**
A measure of the power needed to drive a product.
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 Warranty (covers the alarm for the life of the vehicle)**
- bbs-tek® reversing alarms (all models featured in this catalogue)
- Self-adjusting Backalarms (SA range)

**3 Year Warranty**
- Elite CMS range (all monitors and cameras with a BE prefix)
- MDR digital recorder

**2 Year Warranty**
- All other products.

**1 Year Warranty**
- Essential camera monitor system.
- 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.

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