

PRODUCT CATALOGUE

Issue 3



Vehicle CCTV Systems



M3 Multi-Media Monitor



Mobile Digital Recorder



Satellite Navigation



Ultrasonic Reversing Sensors



Pulsed Radar Reversing Sensors



bbs-tek® - White Sound Reversing Alarms



Reversing Alarms (Conventional Tonal)



Warranties

Brigade

Introduction

Brigade is a leading supplier of safety and efficiency products for commercial vehicles, buses, coaches, forklift trucks and mobile plant machinery and is the global market leader in reversing safety products.

Brigade pioneered the introduction of reversing alarms, rear view CCTV systems and rear detection systems in many parts of the world and more recently developed the innovative bbs-tek® white sound reversing alarm that causes less noise nuisance than a traditional tonal alarm and is safer and more effective.

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This catalogue contains the majority of the Brigade product range. If the product you are looking for is not shown, please contact Brigade for details.

Vehicle CCTV - Standard Kits

We know what it takes to build robust CCTV systems that really deliver the performance and reliability that you expect. That goes for both our renowned Professional 800 Series systems with extensive features and long-life warranties, and our 'Value' models that offer outstanding quality and performance at really affordable prices.

Our range affords greater visibility in any direction (rear, side, front and inside) which results in comprehensive coverage of the vehicle to enhance vehicle, passenger and pedestrian safety as well as vehicle security.

Please refer to the vehicle icons to see which products are recommended for your vehicle.



Professional single camera rear view systems for rigid vehicles

SYSTEM BE-870-000

Monitor BE-870EM

- Sun shield
- On-screen display
- LED backlighting for a brighter picture, improved colour definition and double the life
- Fantastic picture quality

Camera BE-800C

- Colour Camera
- Six infrared LED's for ultra-low light performance

Cable BE-L120

- 20 metre cable



WIDESCREEN

Alternative kits with different camera options in place of BE-800C

SYSTEM BE-870-320



BE-302C

- Colour Camera
- Flush mount
- Stay clean lens coating
- Wide field of vision

SYSTEM BE-870-100



BE-810C

- Colour Camera
- Motorised shutter
- Six infrared LED's for ultra-low light performance

SYSTEM BE-856-000

Monitor BE-856EM

- Sun shield
- On-screen display
- LED backlighting for a brighter picture, improved colour definition and double the life
- Fantastic picture quality

Camera BE-800C

- Colour Camera
- Six infrared LED's for ultra-low light performance

Cable BE-L120

- 20 metre cable



5.6"

WIDESCREEN

Alternative kits with different camera options in place of BE-800C

SYSTEM BE-856-320



BE-302C

- Colour Camera
- Flush mount
- Stay clean lens coating
- Wide field of vision

SYSTEM BE-856-100



BE-810C

- Colour Camera
- Motorised shutter
- Six infrared LED's for ultra-low light performance

Vehicle CCTV - Standard Kits



Value single camera rear view systems for rigid vehicles

SYSTEM VBV-770B-000

Monitor VBV-770BM

- Sun shield
- On-screen display
- Anti-glare screen

Camera VBV-700C

- Colour Camera
- Eighteen infrared LED's for ultra-low light performance

Cable VBV-L420

- 20 metre cable

7.0"

Alternative kit with different camera option in place of VBV-700C

SYSTEM VBV-770B-320

BE-302C

- Colour Camera
- Flush mount
- Stay clean lens coating
- Wide field of vision

SYSTEM VBV-750B-000

Monitor VBV-750BM

- Sun shield
- On-screen display
- Anti-glare screen

Camera VBV-700C

- Colour Camera
- Eighteen infrared LED's for ultra-low light performance

Cable VBV-L420

- 20 metre cable

5.0"

Alternative kit with different camera option in place of VBV-700C

SYSTEM VBV-750B-320

BE-302C

- Colour Camera
- Flush mount
- Stay clean lens coating
- Wide field of vision

These are examples of our most popular reversing camera systems. See pages 8-13 for extensive details of all our monitors, cameras, cables and connectors.

See page 28 for warranty details

Vehicle CCTV - Budget Kit



VBV-650B



VBV-650-000 Colour Vehicle CCTV System



A basic rear view single camera/monitor system

COMPLETE SYSTEM VBV-650-000

Monitor

- Built-in speaker
- 1 camera input (no audio)
- 1 A/V input
- No additional control box
- Multi-lingual
- Anti-glare screen
- Mirror/normal image switching

Camera

- 10 LEDs for ultra low-light performance
- Automatic electronic iris

Cable

- 20 metre cable

MONITOR	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
	12-24	5G	100G	0.65	-20°C to +70°C	147 x 109 x 31

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
8 watt	320 x 3 x 234	350:1	400 cd/m ²	50	15	35

CAMERA	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
	10G	100G	96	72	120	1/3" CCD	70 x 44 x 54	No	-20°C to +70°C

Vehicle CCTV - Professional Screen Splitter

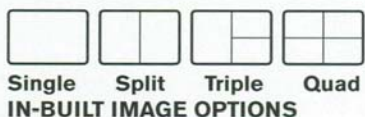


EDM-50

EDM-50 Professional multi-camera module and screen splitter

A highly flexible, heavy duty multi-camera control box that takes up to 4 camera inputs plus AV input and output. Camera selection can be either manual or automatic (5 triggering functions). It provides multiple picture display – single, split, triple and quad.

- Four camera inputs plus AV input/output
- Adjustable dwell time for each camera
- Individual auto triggering for each camera
- Individual audio volume controls
- Manual triggering for each camera
- Mirror/Normal image switch for each camera
- NTSC or PAL compatible
- Auto scanning function



Single Split Triple Quad
IN-BUILT IMAGE OPTIONS

MODEL	VOLTS DC	CURRENT AMPS	SIZE (mm) (WxHxD)	OPERATING TEMPERATURE
EDM-50	10-32	Max 24 Watt	154 x 28 x 105	-10°C to +50°C

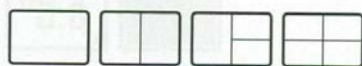
Vehicle CCTV - Monitors - Professional Range

All featured Professional range monitors:

▪ Mirror/Normal switching from menu	▪ HALT tested
▪ 2003/97/EC Approved	▪ Auto-dimmer
▪ LED backlighting for a brighter picture, improved colour definition and double the life	▪ 'Plug and Play' to accept DVD, satellite navigation or other add-ons
▪ Anti-glare screen	▪ Audio
▪ Sun shield	▪ On screen display
▪ CE and EMC approved	



WIDESCREEN



Single Split Triple Quad
IN-BUILT IMAGE OPTIONS



WIDESCREEN



BE-870FM TFT LCD flat screen monitor - Multi image options



- Single, split, triple and quad screen functionality
- 4 camera inputs + 1 AV input
- 5 auto-trigger signals
- Multi-lingual menus

MODEL	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
BE-870FM	12-24	15G	100G	1.25	-30°C to +80°C	197 x 135 x 30

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
15 watt	430 x 3 x 234	300:1	450 cd/m ²	60	40	60

BE-870EM TFT LCD flat screen monitor



- 2 camera inputs
- 2 auto-trigger signals

MODEL	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
BE-870EM	12-24	15G	100G	1.25	-30°C to +80°C	197x135x30

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
12 watt	430 x 3 x 234	300:1	450 cd/m ²	60	40	60

BE-856EM TFT LCD flat screen monitor



- 2 camera inputs
- Universal mounting bracket

MODEL	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
BE-856EM	12-24	4G	100G	1	-10°C to +50°C	172x115x30

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
12 watt	320 x 3 x 234	300:1	300 cd/m ²	65	45	65

Vehicle CCTV - Monitors - Value Range

All featured Value series monitors:

▪ Mirror/Normal switching from menu	▪ Auto-dimmer
▪ 2003/97/EC Approved	▪ Audio
▪ Anti-glare screen	▪ 'Plug and Play' to accept DVD, satellite navigation or other add-ons
▪ HALT tested	▪ Sun shield
▪ On-screen display	
▪ CE and EMC approved	

VBV-770BM TFT LCD Flat screen monitor



▪ 3 camera inputs

▪ Multi-lingual menus

MODEL	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
BE-870FM	12-24	10G	100G	1.25	-20°C to +70°C	182 x 122 x 26

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
10 watt	430 x 3 x 234	250:1	450 cd/m ²	60	30	60



VBV-750BM TFT LCD Flat screen monitor



▪ 3 camera inputs

▪ Multi-lingual menus

MODEL	VOLTS	MECHANICAL VIBRATION	MECHANICAL SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)
VBV-750BM	12-24	10G	100G	0.65	-20°C to +70°C	147.6 x 109 x 26.5

POWER CONSUMPTION	RESOLUTION (RGB)	CONTRAST RATIO	BRIGHTNESS	VIEWING ANGLES (°)		
				Side	Top	Bottom
8 watt	320 x 3 x 234	350:1	400 cd/m ²	50	15	35



Vehicle CCTV - Cameras Value Range

VBV-700C



Ultra-low light colour camera fitted with 18 infrared LEDs for a clear picture at night.

- Ultra-low light performance
- 270,000 pixels (320TV lines)
- IP67 Dust/waterproof
- 2003/97/EC approved
- Sun shield
- CE and EMC approved

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
VBV-700C	10G	100G	98	73	120	1/3" CCD	70 x 44 x 54	Yes	-20°C to +70°C

- B/W version (VBV-110C) also available
- IP69K Waterproof version (VBV-790C) also available (no audio)



VBV-700C



Single Camera Connections for Articulated Trucks

Professional Series

MODEL	DESCRIPTION
SK-31E	30m cable + retractable link section and colour coded connectors and unique pin layout to prevent wrong connections BE-L110 10m cable for cab section BE-X020 20m extension cable for trailer section SP-07C 7-Pin bulkhead plug + Pigtail and truck/cab-end connector SP-07T 7-Pin bulkhead plug + Pigtail and trailer-end connector SC-07 retractable cable with 7-Pin sockets
SK-31E-T	Trailer only section of SK-31E and SK-50E: BE-X020 20m extension cable for trailer section SP-7B 7-Pin bulkhead plug + Pigtail and trailer-end connector
SK-30E	As SK-31E but with standard sockets and pin layout
SK-30E-T	Trailer only section of SK-30E: BE-X020 20m extension cable for trailer section SP-07T 7-Pin bulkhead plug + Pigtail and trailer-end connector

Value Series

MODEL	DESCRIPTION
VSK-30E	30m cable + retractable link section and connectors for artic: VBV-L410 10m cable for cab section VBV-L420 20m cable for trailer section VSP-47A 7-Pin bulkhead plug + Pigtail and truck/cab-end connector VSP-47B 7-Pin bulkhead plug + Pigtail and trailer-end connector SC-07-24S retractable cable with type 24S 7-Pin sockets
VSK-30E-T	Trailer only section of VSK-30E and VSK-50E: VBV-L420 20m cable for trailer section VSP-47B 7-Pin bulkhead plug + Pigtail and trailer-end connector
VSK-31E	As VSK-30E but with colour coded connectors with unique pin layout for easier identification
VSK-31E-T	Trailer only section of VSK-31E: VBV-L420 20m cable for trailer section AC-006 adaptor cable (VSP-47B to VBV-L420) VSP-47B 7-Pin bulkhead plug + Pigtail and trailer-end connector

Twin Camera (one on truck, one on trailer) Connections for Trucks with Drawbar Trailers

Professional Series

MODEL	DESCRIPTION
SK-50E	All cables + retractable link section and connectors for twin-camera truck + trailer combination: BE-L115 15m cable for truck BE-X020 20m extension cable for trailer camera BE-X005 5m extension cable for truck camera CS-020 two-way camera selector SP-7A 7-Pin bulkhead plug + Pigtail and truck-rear connector SP-7B 7-Pin bulkhead plug + Pigtail and trailer-front connector SC-7 retractable cable with 7-Pin sockets - unique pin layout
SK-50E-A	All cables + retractable link section and connectors for truck-only section of twin-camera Truck + trailer combination: BE-L115 15m cable for truck BE-X005 5m extension cable for truck camera CS-020 two-way camera selector SP-7A 7-Pin bulkhead plug + Pigtail and truck-rear connector SC-7 retractable cable with 7-Pin sockets - unique pin layout
SK-31E-T	Trailer only section of SK-31E and SK-50E: BE-X020 20m extension cable for trailer section SP-7B 7-Pin bulkhead plug + Pigtail and trailer-end connector

Value Series

MODEL	DESCRIPTION
VSK-50E	All cables + retractable link section and connectors for twin-camera truck + trailer combination: VBV-L420 20m cables (2) VBV-L405 5m cable for truck camera VCS-020 two-way camera selector VSP-47A 7-Pin bulkhead plug + Pigtail and truck-rear connector VSP-47B 7-Pin bulkhead plug + Pigtail and trailer-front connector SC-07-24S retractable cable with 7-Pin sockets
VSK-50E-A	All cables + retractable link section and connectors for truck-only section of twin-camera truck + trailer combination: VBV-L420 20m cable for truck VBV-L405 5m cable for truck camera VCS-020 two-way camera selector VSP-47A 7-Pin bulkhead plug + Pigtail and truck-rear connector SC-07-24S retractable cable with 7-Pin sockets
VSK-30E-T	Trailer only section of VSK-30E and VSK-50E: VBV-L420 20m cable for trailer section VSP-47B 7-Pin bulkhead plug + Pigtail and trailer-end connector



PLC-1000 Pulse Power Line Communication System

Removes the need to fit Suzie connectors and cables

The camera is connected to the reversing light circuit at the back of the trailer via the PLC transmitter. The monitor is connected to the reversing light circuit in the cab via the PLC receiver box.



- Saves cable fitting time
- Removes risk of incorrect socket plug connections.
- Waterproof IP68 (transmitter)
- Size (mm) w x d x h 160 x 65 x 25
- CE and EMC approved
- No need for additional susie cables
- Power input 12-24 Vdc
- Power Output 12 Vdc (for camera)
- Power Consumption 80mA @ 24Vdc

MODEL	DESCRIPTION
PLC-1000	PLC - Transmitter and Receiver
PLC-1000T	PLC Transmitter only
PLC-1000R	PLC Receiver only

Please note: PLC-1000 cannot be used with ADR or petroleum tanker vehicles; cannot be used in conjunction with CAN body bus or body multiplex systems; will not function with shutter or tilting lens cameras; any audio signal will not function; CCTV system will not function as a rear view mirror.

See page 28 for warranty details

See page 28 for warranty details

Vehicle CCTV - Cameras - Professional Range

All featured professional range cameras:

▪ CE and EMC approved	▪ Sony CCD
▪ Infra-red LED range of 10m +	▪ Robust casing for outstanding protection from dust and water

BE-800C - Heater



Top-of-the-range colour camera with six infrared LEDs for ultra-low light performance. Delivers fantastic picture quality.

- 320,000 pixels (330TV lines)
- 2003/97/EC approved
- IP68 Dust/waterproof

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
BE-800C	15G	100G	104	78	130	1/3" CCD	69 x 43 x 61	Yes	-30°C to +80°C

- B/W version (BE-200C) also available
- Waterproof version to IP69K (BE-890C) also available (no audio)



BE-800C



BE-810C - Shutter & heater



Top-of-the-range shutter camera with six infrared LEDs for ultra-low light performance. Delivers fantastic picture quality. Keeps lens clean when not in operation.

- Clutch driven shutter
- IP68 Dust/waterproof
- 320,000 pixels (330TV lines)
- 2003/97/EC approved

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
BE-810C	5G	100G	104	78	130	1/3" CCD	110 x 85 x 75	Yes	-20°C to +70°C

- B/W version (BE-210C) also available



BE-810C



MD-50 - Mini-Dome



Compact, discreet dome camera for fitment to ceiling or wall.

- Easy installation
- Surface, angled or flush mount options
- Ultra-low power consumption
- 320,000 pixels (330TV lines)
- 3.6m lens
- IP66 Dust/waterproof

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
MD-50	5G	100G	79	69	94	1/3" CCD	76 dia x 26	No	-10°C to +55°C

MODEL	DESCRIPTION
MD-50	Mini dome camera
MD-50SM	Surface mounting adaptor (raises housing 20mm off surface to allow for single cable hole in surface)
MD-50AM	Angled surface mounting adaptor (adds approx. 15 degrees to the vertical/horizontal view)



MD-50



MD-50AM angled & MD-50SM surface mounting adaptor



DMC-1025



DMC-1025 - Digital Mini-Camera



- 320,000 pixels (330TV lines)
- For internal use only

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
DMC-1025	5G	100G	79	69	94	1/4" CCD	42 x 45 x 32	No	-20°C to +50°C



BE-300 series



BE-300 Series – Compact, flush mount fitting – front view, side view, rear view, internal view

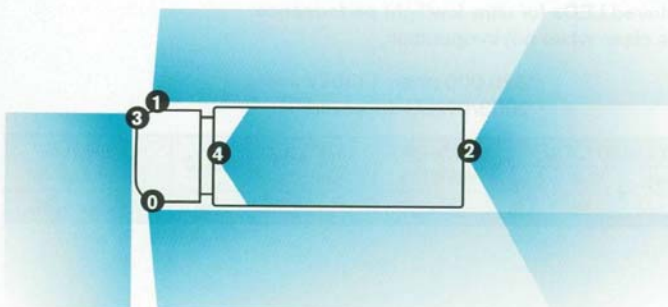


Compact cameras for all-round visibility and safety. Flush mounted to the vehicle.

The 300 Series easily tackles the problem of blind spots and offers a comprehensive solution to all-round visibility.

- Wide field of vision
- Stay clean lens coating
- IP68 Dust/waterproof
- Flush mount for improved aesthetics
- 290,000 pixels (380 TV lines)
- 2003/97/EC approved

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
BE-300C series	10G	100G	97	73	125	1/3" CCD	45 x 41 x 61	No	-30°C to +80°C



MODEL VARIATIONS		
0	BE-300C	Left side view (low mount)
1	BE-301C	Right side view (low mount)
2	BE302C	Rear view (high mount)
3	BE-303C	Front view (also high side mount)
4	BE-304C	Internal view (ceiling mount)



BE-500C



BE-500C - Single Bolt Micro Camera



A compact, wide angle, easy to fit camera for front, rear and internal fitting.

The 500 Series easily tackles the problem of blind spots and offers a comprehensive solution to all-round visibility.

- Excellent low light performance
- 160° wide angle viewing (diagonal)
- IP68 Dust/waterproof
- Can be fitted to horizontal or vertical surfaces
- 270,000 pixels (380 TV lines)
- 2003/97/EC approved

MODEL	MECHANICAL VIBRATION	MECHANICAL SHOCK	VIEWING ANGLE (°)			PICK-UP ELEMENT	SIZE (mm) (WxHxD)	AUDIO	OPERATING TEMPERATURE
			Hor	Vert	Diag				
BE-502HC*	10G	100G	120	89	160	1/4" CCD	30 x 36 x 21	No	-30°C to +70°C
BE-502VC*	10G	100G	120	89	160	1/4" CCD	30 x 36 x 21	No	-30°C to +70°C
BE-503HC*	10G	100G	120	89	160	1/4" CCD	30 x 36 x 21	No	-30°C to +70°C
BE-503VC*	10G	100G	120	89	160	1/4" CCD	30 x 36 x 21	No	-30°C to +70°C

*502 = Mirror 503 = Normal HC = Horizontal Mount VC = Vertical Mount

M3 Multi-Media TFT Touch Screen Monitor



A space saving, in-cab communications and entertainment centre including reversing camera input.

Long distance truck drivers, coach and motorhome drivers often have limited cab space in which to fit all the technology required for communications, entertainment and reversing safety. This is where the M3 multi media monitor from Brigade Electronics can be invaluable.

You need a safe to operate telephone system, satellite navigation to guide you, a multi-station FM/AM radio tuner and a reversing camera system for added safety. You also require a CD player and the ability to 'plug-in' your iPod, play a DVD, or view/play information on an SD card. The Brigade M3 can provide all these functions in one integrated touch screen unit that will fit neatly into your existing dashboard via the Double-DIN slot.

- Motorised flip down screen reveals DVD/CD aperture and SD card slot
- RDS FM/AM radio tuner with 48 channel presets
- DVD/ CD playback compatible with /MP3/MPEG/ JPEG/SD file formats
- Remote control
- Reversing camera input
- High powered built in amplifier
- CE and EMC approved
- 2 x video output for additional slave monitor connections
- Anti-theft start-up code
- Compatible with a wide range of Bluetooth enabled phones
- Auxiliary A/V device input connection
- iPod connectivity
- Easy double-DIN slot mounting



Touch Screen Operation



MODEL	VOLTS	VIBRATION	SHOCK	CURRENT AMPS	OPERATING TEMPERATURE	SIZE (mm) (WxHxD)	POWER CONSUMPTION	RESOLUTION (RGB)
M3	10.5-16	1G	10G	1.8	-20°C to +65°C	178 x 160 x 100	24W	480 x 3 x 234



Double Din Mounting



1 reversing camera input. choose from the following compatible cameras:



Multi-camera options are possible using the EDM-50. See page 6 for details



Motorised Flip Down Screen

Vehicle CCTV - Low Speed Trigger Module and Cables

Low speed trigger module

Designed to meet recent legislation. Automatically switches on or off at given speed.



Trigger Module

MODEL	DESCRIPTION
LS-20	24Vdc, Low speed trigger module, 0-20 mph (0-32 kph) adjustable

Cables for Professional 800 Series, 300 Series, Dome & Mini Cameras

MODEL	DESCRIPTION
BE-L130	30m camera cable
BE-L120	20m camera cable
BE-L115	15m camera cable
BE-L110	10m camera cable
BE-L105	5m camera cable
BE-L1003	30cm camera cable
BE-LX003	3m extension cable
BE-X005	5m extension cable
BE-X010	10m extension cable
BE-X015	15m extension cable
BE-X020	20m extension cable
BE-X025	25m extension cable
BE-XM005F	5m monitor extension cable for BE870FM (blue plugs)
BE-XM005E	5m monitor extension cable for BE870EM & BE856EM (black plugs)



Camera cable



3m extension cable

Cables for Value Series

MODEL	DESCRIPTION
VBV-L430	30m camera or extension cable
VBV-L420	20m camera or extension cable
VBV-L410	10m camera or extension cable
VBV-L405	5m camera or extension cable
VBV-L4025	2.5m camera or extension cable
VBV-L402PC	2m Y-Piece cable for 12Vdc power and camera cable connection to monitor
VBV-L403PC	3m Y-Piece cable for 12Vdc power and camera cable connection to monitor



Camera or extension cable

Backeye CCTV Adaptor Cables

MODEL	DESCRIPTION
AC-006	Connect Value camera to professional cable
AC-007	Connect Value monitor to professional cable
AC-012	Connect x2 professional monitors to professional cable
AC-014	Connect professional camera to value cable
AC-020	Connect professional monitor to value cable
AC-021	Connect PathFindr camera to professional cable



AC-021

Surveillance & security • False claim & frivolous lawsuit defence • Theft & vandalism deterrent

The MDR-304 is a purpose-built robust and reliable low-cost 4 channel digital video recording system that provides high-quality video and data records for the demanding truck, bus and PSV markets. Can be used in conjunction with Brigade's cameras and monitors.

An optional GPS sensor adds a record of location and speed, and eMap software can be used to track the vehicle's route.

Video and audio recordings are stored on a removable hard disk that can be connected to a PC via USB interface. Alternatively the recordings can be stored on an SD card.



MDR-304-160
MDR-304-120
MDR-304-80

MDR-304-160/120/80 Mobile Digital Video Recorder kits



- Low cost, feature rich system
- 4 Camera inputs
- 3 trigger/alarm inputs, 2 trigger/alarm outputs
- Removable central caddy with integral 160GB, 120GB, or 80GB hard disk
- GPS option for location, route and speed data
- Lockable keypad and central caddy
- High quality images from real time recording
- Up to 25 frames per second per channel recording
- Easy to use via 'DVD style' front panel
- Example recording duration - 180 hours (160GB hard disk, standard resolution @ 5fps)
- 'Black box' recorder for accident and incident evidence
- CE and EMC approved

MODEL	SIZE (mm) (WxHxD)	MECHANICAL VIBRATION	CURRENT AMPS	OPERATING TEMPERATURE	HARD DRIVE (Gb)	VOLTS DC
MDR-304-160	178 x 173 x 50	1.25G (Random) / 0.8G (Sine)	1.0	0 - 45°C (32 - 113°F)	160	12
MDR-304-120	178 x 173 x 50	1.25G (Random) / 0.8G (Sine)	1.0	0 - 45°C (32 - 113°F)	120	12
MDR-304-80	178 x 173 x 50	1.25G (Random) / 0.8G (Sine)	1.0	0 - 45°C (32 - 113°F)	80	12
PV12s-A	24Vdc to 12Vdc dual output voltage dropper					12/24

Adapter Cables - Required with all 300 Series Recorders

MODEL	DESCRIPTION
AC-301	VALUE Series 6-pin-to-4 pin Y-piece Splitter Cable
AC-302	PROFESSIONAL 800 Series 6-pin-to-4-pin Y-piece Splitter Cable

300 Series Options

MODEL	DESCRIPTION
RC-300-030	Remote control with 3m cable
RC-300-060	Remote control with 6m cable
GPS-6015-024	GPS receiver (speed & location data) with 2.4m cable
GPS-6015-050	GPS receiver (speed & location data) with 5.0m cable



Remote Control

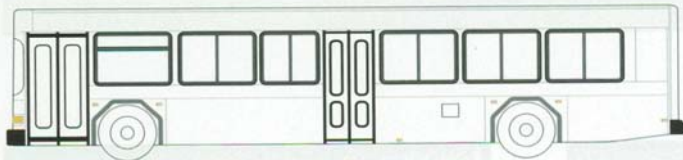
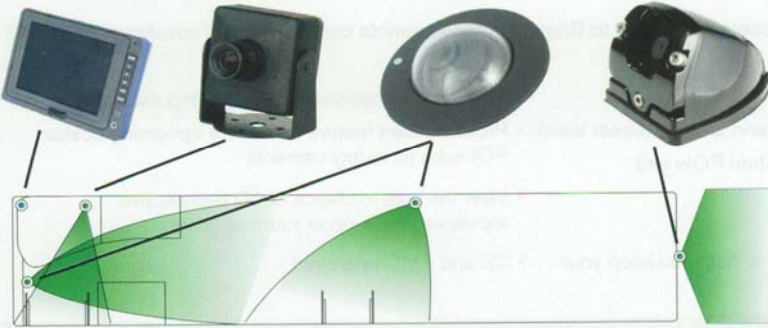
300 Series Components

MODEL	DESCRIPTION
MDR-304	Docking Station
MCU-304-160	Removable Central Caddy with integrated 160Gb hard disk drive
MCU-304-120	Removable Central Caddy with integrated 120Gb hard disk drive
MCU-304-80	Removable Central Caddy with integrated 80Gb hard disk drive
PV-05	Power supply for removable caddy, 100-240Vac to 5Vdc Adapter

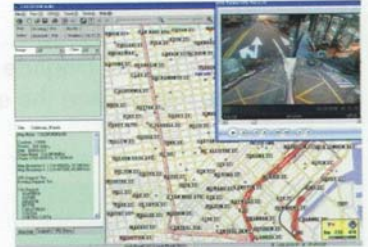
Mobile Digital Video Recording Systems

How to make up a typical kit

1. Decide how many and what model Brigade cameras (reversing, dome, mini or flush mount) you want to fit.
2. Select hard disk size 160GB, 120GB or 80GB.
3. Select appropriate cable for each camera. You will need 1 x AC-301 or AC-302 adapter cable (see previous page) and 1 x camera cable (see page 13) for each camera.
4. Options:
 - a) Remote Controller.
 - b) GPS-sensor to add location and speed data.
 - c) Various cables for special configuration.



Example of camera locations connected to MDR-304



view actual footage and realtime mapping live on a PC



MDR-304



Example of system

Navigation

Add navigation to your Brigade CCTV system to provide travel/route information. On engaging reverse gear the rear view camera image will replace the satellite navigation information on screen.



GSN-002

GSN-002 Navigation Computer with pre-loaded detailed European maps. Powered by Garmin

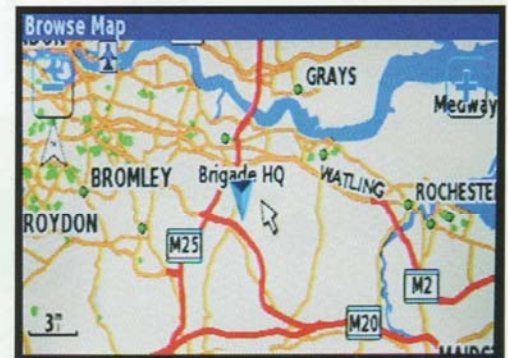


A remote black box unit designed to be connected to any Brigade CCTV monitor to provide route information, points of interest and mapping with a spoken text voice prompt that can announce streets by name.

Includes wiring harness with cable to connect to Brigade monitor, remote control, external speaker, GPS Surf 3 antenna.

- 12 parallel channel GPS
- Preloaded maps for the UK and Europe (street level)
- SD card slot for loading custom POIs and additional map data
- Composite video output
- Announces streets by name to help you keep your eyes on the road
- Arrange destinations to minimise trip distance
- Proximity alert feature to warn of upcoming custom POI such as safety cameras
- View the map in choice of 3D perspective, top-down, track-up or north-up view
- CE and EMC approved

MODEL	VOLTS DC	CURRENT AMPS	SIZE (mm) (WxHxD)	OPERATING TEMPERATURE
GSN-002	12-24	1.0	113 x 30 x 120	-20°C to +60°C



Garmin Satellite Navigation images

Backscan obstacle detection

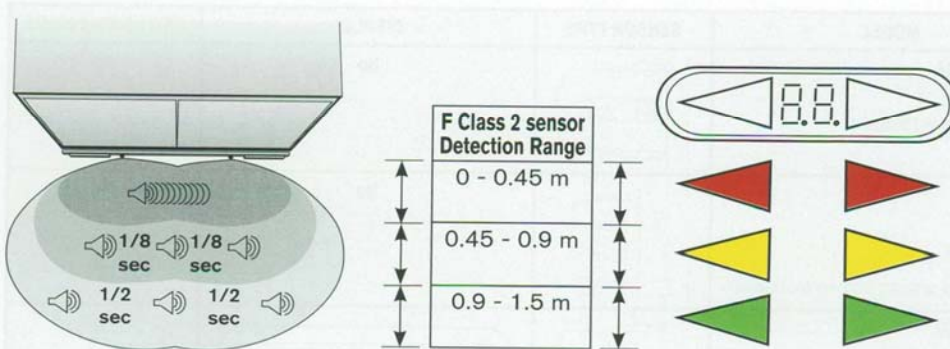
Reversing and parking in confined spaces can be tricky and hazardous. Using proven ultrasonic technology BACKSCAN informs the driver of the distance between the vehicle and a person or obstacle at the rear. As soon as reverse gear is engaged BACKSCAN starts scanning to the rear of the vehicle and a three stage warning is given to the driver.

DSM (Dynamic Scanning Memory) is included in all systems. This unique and patented feature prevents 'false alarms' from tow-hooks and other ancillary equipment that intrudes into the first 40cm of each sensor's detection zone.

F-Class - Two Sensor Budget Systems, 1.5m range



- Flush mount sensors
- Dynamic Scanning Memory
- Up to 1.5m Detection Range
- Buzzer with 3 stage distance audible warnings
- Visual Display with 3 stage distance warnings (opt)
- Fully waterproof sensors (IP68)
- Operating temperature: Buzzer & Display -20°C to +60°C
- Operating temperature: ECU & Sensors -20°C to +80°C
- RoHS compliant
- 12-24 Vdc
- 22mm dia mounting hole
- CE and EMC approved



F class 2 sensor ECU



Warning buzzer with 2.5m cable



optional display with 2.5m cable



KMMA sensor



KB sensor

MODEL	SENSOR TYPE	DISPLAY
BS-200F-KMMA Not suitable for metal bumpers		No
BS-200F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork		No
BS-210F-KMMA Not suitable for metal bumpers		
BS-210F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork		



F class 4 sensor ECU



Warning buzzer with 2.5m cable



Optional display with 2.5m cable



KMMA sensor

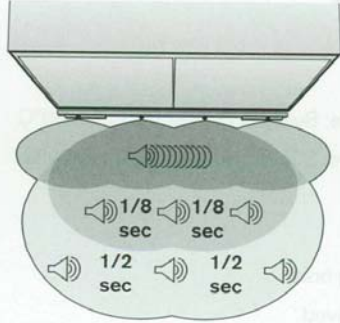


KB sensor

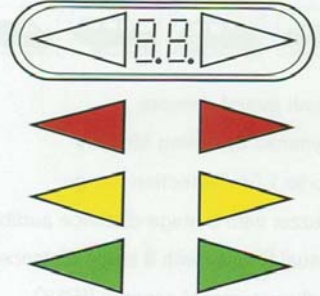
F-Class - Four Sensor Budget Systems, 1.5m range



- Flush mount sensors
- Dynamic Scanning Memory
- Up to 1.5m Detection Range
- Buzzer with 3 stage distance audible warnings
- Visual Display with 3 stage distance warnings (opt)
- Fully waterproof sensors (IP68)
- Operating temperature: Buzzer & Display -20°C to +60°C
- Operating temperature: ECU & Sensors -20°C to +80°C
- RoHS compliant
- 12-24 Vdc
- 22mm dia mounting hole
- CE and EMC approved



F Class 4 sensor Detection Range	
0 - 0.45 m	
0.45 - 0.9 m	inner sensors only
0.9 - 1.5 m	inner sensors only

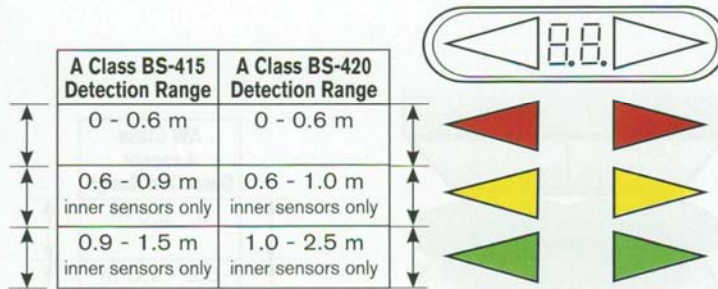
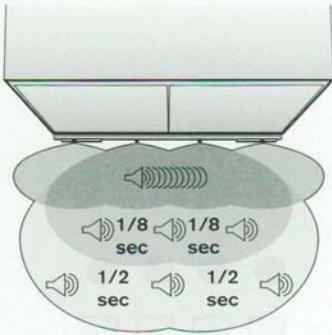


MODEL	SENSOR TYPE	DISPLAY	EXTENSION CABLES
BS-400F-KMMA Not suitable for metal bumpers		No	No
BS-400F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork		No	No
BS-410F-KMMA Not suitable for metal bumpers			No
BS-410F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork			No
BS-415F-KMMA Not suitable for metal bumpers		No	10m Extension to Buzzer
BS-415F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork		No	10m Extension to Buzzer
BS-420F-KMMA Not suitable for metal bumpers			10m Extension to Buzzer 10m Extension to Display
BS-420F-KB 7° upward angle Suitable for metal or plastic bumpers and bodywork			10m Extension to Buzzer 10m Extension to Display

A-Class - Professional Four Sensor Systems



- Dynamic Scanning Memory
- 1.5 or 2.5m Detection Range
- Buzzer with 3 stage distance audible warnings
- Display with 3 stage distance warnings (opt)
- Fully waterproof sensors (IP68)
- Operating temperature: Buzzer & Display -20°C to +60°C
- Operating temperature: ECU & Sensors -20°C to +80°C
- CE and EMC approved
- RoHS compliant
- Interchangeable sensors
- 12-24 Vdc
- Self diagnostic function
- 22 mm mounting hole or under slung sensors



A class ECU



Warning buzzer with 2.5m cable



Optional display with 2.5m cable



KMP Sensor

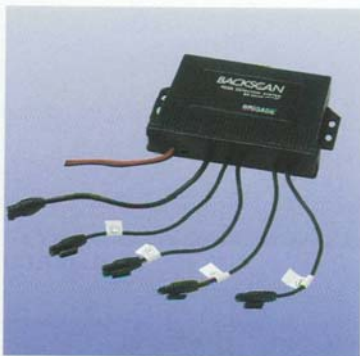


KBP Sensor



KXP Sensor

MODEL	SENSOR TYPE	DISPLAY	EXTENSION CABLES
BS-415A-KMP Inbuilt PCB for instant interchangeability Not suitable for metal bumpers 1.5m Range		No	10m extension to buzzer
BS-415A-KBP 7° upward angle Inbuilt PCB for instant interchangeability Suitable for metal bumpers 1.5m Range		No	10m extension to buzzer
BS-415A-KXP Underslung sensor with inbuilt PCB for instant interchangeability 1.5m Range		No	10m extension to buzzer
BS-420A-KMP Inbuilt PCB for instant interchangeability Not suitable for metal bumpers 2.5m Range			10m Extension to Buzzer 10m Extension to Display
BS-420A-KBP 7° upward angle Inbuilt PCB for instant interchangeability Suitable for metal bumpers 2.5m Range			10m Extension to Buzzer 10m Extension to Display
BS-420A-KXP Underslung sensor with inbuilt PCB for instant interchangeability 2.5m Range			10m Extension to Buzzer 10m Extension to Display



AW class ECU - Waterproof



AW class display with 2.5m cable



KMP Sensor



KBP Sensor

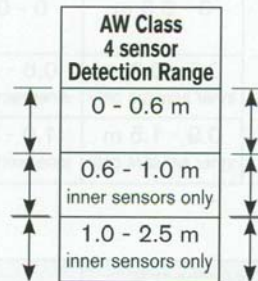
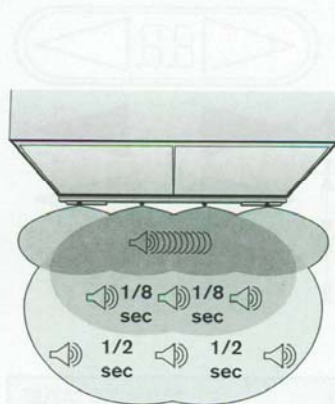


KXP Sensor

AW-Class - Professional Four Sensor Systems with waterproof control box.



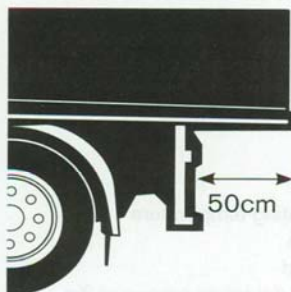
- Dynamic Scanning Memory
- Up to 2.5m Detection Range
- 3 stage distance audio warning
- 4-row coloured LED + digital readout visual distance warning
- Fully waterproof control box (IP68)
- Fully waterproof sensors (IP68)
- Operating temperature: Buzzer & Display -20°C to +60°C
- Operating temperature: ECU & Sensors -20°C to +80°C
- CE and EMC approved
- RoHS compliant
- 12-24 Vdc
- Self diagnostic function
- 22mm dia mounting hole or under slung sensors
- Interchangeable sensors



MODEL	SENSOR TYPE	DISPLAY	EXTENSION CABLES
BS-430AW-KMP Inbuilt PCB for instant interchangeability. Not suitable for metal bumpers. 2.5m Range.			15m extension to display
BS-430AW-KBP 7° upward angle. Inbuilt PCB for instant interchangeability. Suitable for metal bumpers. 2.5m Range.			15m extension to display
BS-430AW-KXP Underslung sensor with inbuilt PCB for instant interchangeability. 2.5m Range.			15m extension to display

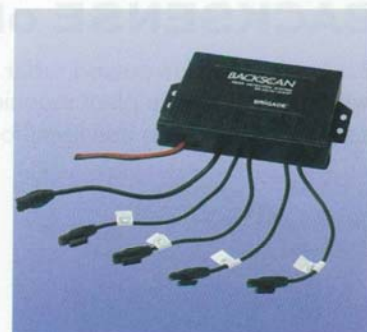
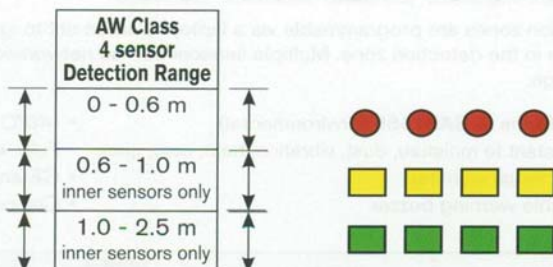
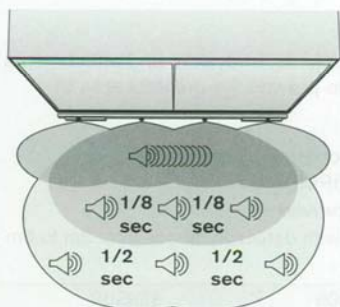
Ultrasonic Reversing Sensor Systems

AW-Class - Professional Four Sensor Systems with waterproof control box and +50cm warnings



To compensate for fitting sensors in-board of rear of vehicle, all warnings are given 50cm further from the sensors than indicated on the audio visual display

- 0.5m compensation range for sensors fitted in-board of rear of vehicle.
- Dynamic Scanning Memory
- Up to 2.5m Detection Range
- 3 stage distance audio warning
- 4-row coloured LED + digital readout visual distance warning
- Fully waterproof control box (IP68)
- Fully waterproof sensors (IP68)
- Operating temperature: Buzzer & Display -20°C to +60°C
- Operating temperature: ECU & Sensors -20°C to +80°C
- CE and EMC approved
- RoHS compliant
- 12-24 Vdc
- Self diagnostic function
- 22mm dia mounting hole or under slung sensors
- Interchangeable sensors



AW class ECU - Waterproof



AW class display with 2.5m cable



KMP Sensor



KBP Sensor



KXP Sensor

MODEL	SENSOR TYPE	DISPLAY	EXTENSION CABLES
BS-435AW-KMP Inbuilt PCB for instant interchangeability. Not suitable for metal bumpers. 2.5m Range plus 0.5m compensation range for sensors fitted in-board of rear of vehicle.			15m extension to display
BS-435AW-KBP 7° upward angle. Inbuilt PCB for instant interchangeability. Suitable for metal bumpers. 2.5m Range plus 0.5m compensation range for sensors fitted in-board of rear of vehicle.			15m extension to display
BS-435AW-KXP Underslung sensor with inbuilt PCB for instant interchangeability. 2.5m Range plus 0.5m compensation range for sensors fitted in-board of rear of vehicle.			15m extension to display

BACKSENSE obstacle detection

Backsense utilises pulsed radar technology to detect people and objects at long range which makes it ideal for construction vehicles and mobile plant machinery. The ability to program the sensing area of the heavy duty system, eg: to ignore bin lift mechanisms, makes this ideal for refuse collection vehicles.



Standard sensor



Audio/visual display



Heavy duty sensor

Backsense – standard systems



- Conforms to SAE1455 (environmental)
- Resistant to moisture, dust, vibration, heat, cold, glare
- LED visual warning
- Audible warning buzzer
- -40°C to +85°C operating temperature
- Fully waterproof (IP68)
- CE and EMC approved
- Choice of models with detection ranges of 3m, 4.5m or 6m

MODEL	VOLTS DC	POWER CONSUMPTION	DETECTION RANGE	SENSOR SIZE (cm)
BS-1030	12-24	4W@12V	3.0m	13.3 (Dia)
BS-1045	12-24	4W@12V	4.5m	13.3 (Dia)
BS-1060	12-24	4W@12V	6.0m	13.3 (Dia)

Backsense – heavy duty systems



Detection zones are programmable via a laptop. Can be set to ignore fixed objects, bodywork and attachments that are in the detection zone. Multiple sensors can be networked together to provide the greatest area of coverage.

- Conforms to SAE1455 (environmental)
- Resistant to moisture, dust, vibration, heat, cold, glare
- LED visual warning
- Audible warning buzzer
- -40°C to +85°C operating temperature
- Fully waterproof (IP68)
- CE and EMC approved
- Choice of models with detection ranges from 3m to 8m

MODEL	VOLTS DC	POWER CONSUMPTION	DETECTION RANGE	SENSOR SIZE (cm)
BSHD-2060	12-24	200mA	6.0m	187x192x61
BSHD-2080	12-24	200mA	8.0m	187x192x61
BSHD-20100	12-24	200mA	10.0m	187x192x61

Service tool for programming Heavy Duty systems

MODEL	DESCRIPTION
BSHD-ST01	Service tool for Heavy Duty Backsense

Extension Cables

MODEL	DESCRIPTION
BS-L150	1.5m standard backsense extension cable
BS-L300	3.0m standard Backsense extension cable
BS-L450	4.5m standard Backsense extension cable
BS-L750	7.5m standard Backsense extension cable
BSHD-L150	1.5m heavy duty Backsense extension cable
BSHD-L300	3.0m heavy duty Backsense extension cable
BSHD-L450	4.5m heavy duty Backsense extension cable
BSHD-L750	7.5m heavy duty Backsense extension cable

White Sound Reversing Alarms



Alerting, locatable, and no noise nuisance

Reversing alarms are vital for safety, yet conventional tonal (beeping) alarms can cause noise nuisance and irritation – and confusion as to the danger's approach direction. Worse, tonal alarms may be ignored because their 'false' alarms are heard well outside the danger zone; People 'tune them out' due to habituation.

The solution to this problem is the bbs-tek® 'white sound' (multi-frequency) reversing alarm, which emits a unique "shh...shh...shh..." sound. Using lower sound pressure levels, the white sound alarm creates greater and more immediate listener response because it is so unlike any other man-made sound. And, uniquely, it is instantly sound-source locatable which, instead of head-spinning and confusion, triggers correct and immediate evasive action.

White sound's superior directivity beams the sound within the danger zone with reduced sideways spillage; and it dissipates faster too so it is acceptable to site-workers and local households.

Multi-frequency sound provides a vital safety benefit for the hearing-impaired. Most impairment occurs only in certain frequency band(s) rather than the entire frequency spectrum. Should a hearing-impaired frequency band cover a tonal alarm's narrow frequency band then the alarm will be unheard whereas a multi-frequency sound will still be heard in the hearing-unimpaired frequencies.

Sound, like music, can be very sweet. Noise, by definition, is offensive to the ear. Tonal alarms are always noisy.....

All featured bbs-tek® alarms:

▪ Tough, durable, guaranteed dust, waterproof (IP68)	▪ Can be steam-cleaned and pressure-hosed
▪ Conform to SAE J994 environmental standards	▪ CE and EMC approved
▪ Solid-state, spark-free electronics	▪ Multi-Frequency
▪ Epoxy-sealed against mud, water and vibration	▪ NAS/Piek certificate for 'Silent Approach' night time delivery scheme (models up to 82dB)

bbs-tek® Smart Self Adjusting Models

Takes the guesswork out of sound level selection. Ideal for vehicles or machines working in areas with widely differing ambient noise levels, where a fixed-volume alarm will be either too quiet in loud environments or too noisy in quiet environments.

- Digital Sound Sampling
- Listening profile matched to worksite noise
- Continuous self-adjustment
- Maintains alarm level at 5-10dB above ambient

Heavy Duty



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
SA-BBS-107	12-24	87-107	1.0	Driver	173 x 79 x 95	153	Multi



SA-BBS-107

Medium Duty



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
SA-BBS-97	12-24	77-97	1.0	Driver	127x65x76	98-108	Multi



SA-BBS-97

bbs-tek® - Fixed Volume Models

Heavy Duty



BBS-107
BBS-102



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
BBS-107	12-24	107	1.0	Driver	172 x 79 x 95	153	Multi
BBS-102	12-24	102	1.0	Driver	172 x 79 x 95	153	Multi

Medium Duty



BBS-97
BBS-92
BBS-92 (ADR)
BBS-87HV
BBS-82HV



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
BBS-97	12-24	97	0.3	Speaker	127 x 76 x 65	98-108	Multi
BBS-92	12-24	92	0.3	Speaker	127 x 76 x 65	98-108	Multi
BBS-87	12-24	87	0.5	Speaker	91 x 55 x 45	76	Multi
BBS-82	12-24	82	0.5	Speaker	91 x 55 x 45	76	Multi

Petrol Tanker - Medium Duty



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
BBS-92(ADR)	12-24	92	0.3	Speaker	127 x 76 x 65	98-108	Multi

Electric Forklift Truck - Medium Duty



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
BBS-87HV	36-80	87	0.15	Speaker	127x76x65	98-108	Multi
BBS-82HV	36-80	82	0.15	Speaker	127x76x65	98-108	Multi



BBS-87
BBS-82
BBS-77
BBS-72
BBS-67
BBS-62

Movement Indicators - Medium Duty



MODEL	VOLTS DC	SOUND LEVEL dB(A)@1m	CURRENT AMPS	SOUNDER UNIT	SIZE (mm) (WxHxD)	HOLE CENTRE (mm)	FREQUENCY KHz
BBS-77	12-24	77	0.1	Speaker	91x55x45	76	Multi
BBS-72	12-24	72	0.1	Speaker	91x55x45	76	Multi
BBS-67	12-24	67	0.1	Speaker	91x55x45	76	Multi
BBS-62	12-24	62	0.1	Speaker	91x55x45	76	Multi



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