SS2022

SS 2022

Safety Systems

IONNIC

Mission Statement

To become the preferred supplier of electrical, lighting and safety solutions for mobile plant and equipment in the mining and services industry.

We will continue to improve and expand our range of products that meet and exceed OEM standards, maintaining the latest technology and innovation available backed by technical support and supply.

CCTV Systems – AHD

Backeye 360 System – AHD 8
Backeye Select Monitors – AHD 10
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What's new in SS2022

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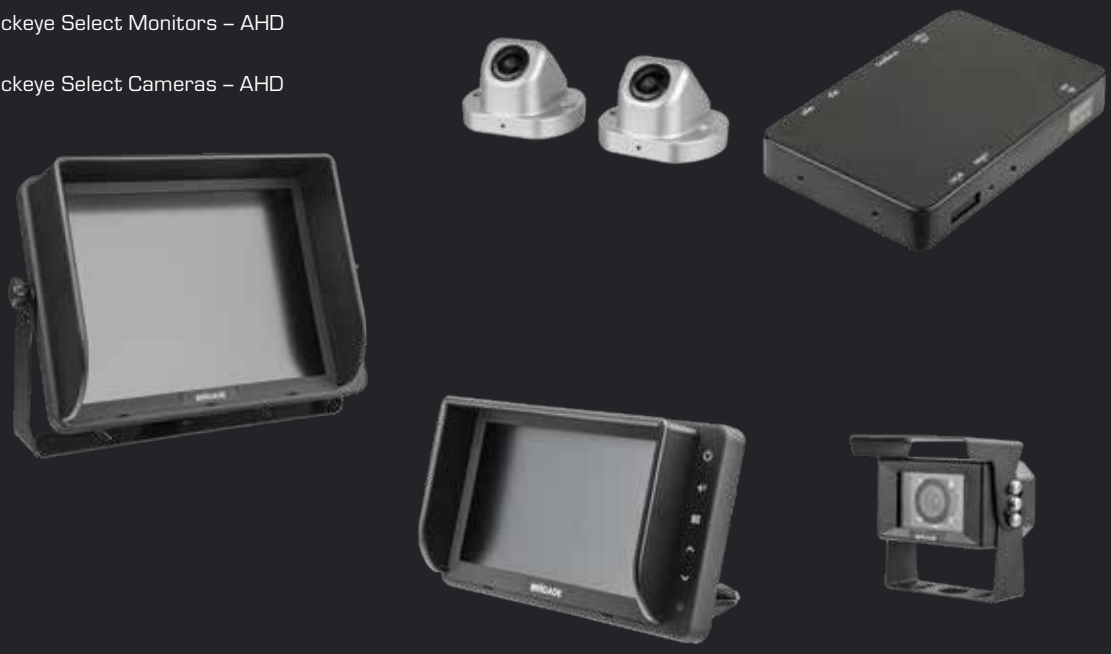

NEW in Obstacle Detection

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What's new in SS2022

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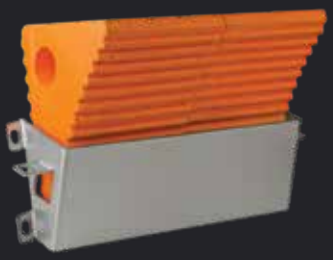
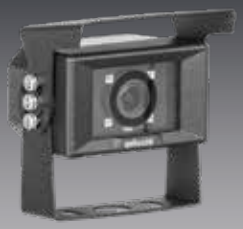




Analogue High Definition

Analogue High Definition (AHD) provides high definition images far superior to Standard Definition and without the image latency caused by digital systems.

AHD

Capacitive Touch Buttons

All AHD Backeye Select Monitors feature capacitive touch buttons. The advantage of capacitive touch buttons versus traditional physical buttons are:

- No moving parts or mechanical components – improved reliability, durability and better ingress protection.
- Thin footprint for sleek, elegant, flexible and compact design.
- Prevent false triggers – only detect conductive contact.
- LED backlight integration.
- Flat surface makes cleaning easier.

CCTV Systems – AHD

Backeye 360 System – AHD 8

Backeye Select Monitors – AHD 10

Backeye Select Cameras – AHD 12

CCTV Systems – AHD

Backeye 360 System – AHD

NEW

AHD

- 360° real-time video output.
- Analogue High Definition.
- Eliminates blind spots.
- Comprehensive view of the surrounding areas in a single image.
- 15 viewing modes including portrait, front/rear focus and lane changing.
- On-screen distance markers on rear view.
- Configurable viewing distance to suit different applications.
- Multi-voltage.
- Compatible with Brigade Mobile Digital Recorders* (Recording 360° image only).
- 5 year warranty.

Voltage :		12–24V
Current Draw :		1.22A
Video System :		AHD 1.0 & NTSC
Max. Camera Inputs :		4
Camera Field of View :		182° Hor. 118° Vert.
Frame Per Second :		30
Max. Combined Resolution :		1280 x 720
Video Outputs :		2
Trigger Inputs :		4
Vibration :		8.5G
EMC :		CE & 'e' marked
Operating Temperature :		-30°C to 75°C
Ingress Protection :	Camera	IP69K

* When used with the MDR, output image is only available in SD.

Backeye 360 Systems are required to be installed & calibrated by an IONNIC trained technician.

Split Screen View

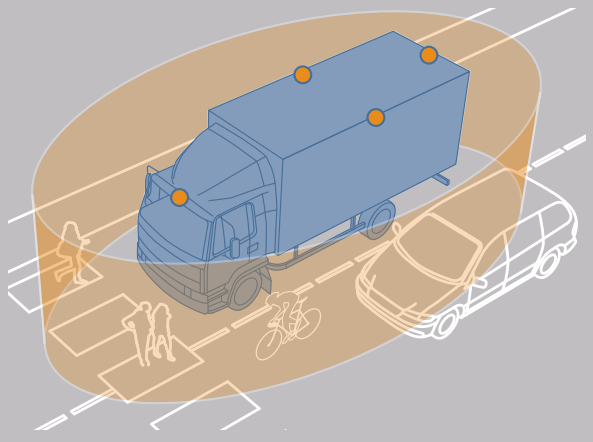
The Backeye 360 System can show 2 images on screen at the same time.

The first is the remarkable 360° view surrounding the vehicle while the second is a view from an individual camera.

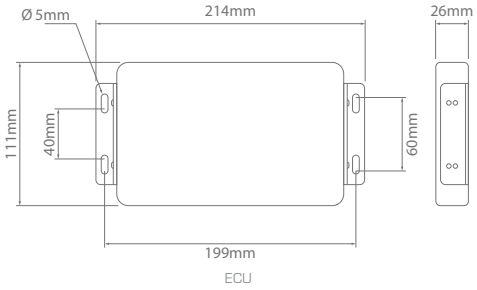
This secondary view is controlled by trigger inputs and can be used to show a side camera when the vehicle turn signal is activated and also to the rear when reverse gear is engaged.

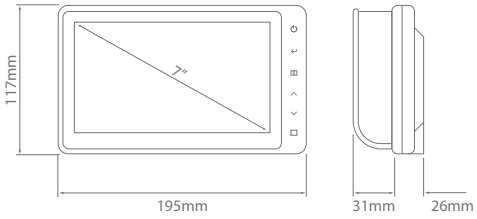
On screen icons show which camera is currently being displayed.

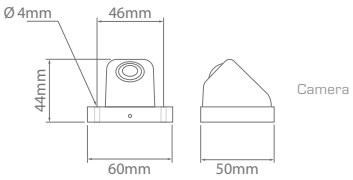
The operator also has the option to manually select which camera is being displayed via the dash mounted remote.

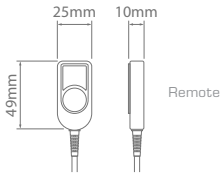


Watch video









Backeye 360 System – AHD – Kit NEW

Part No.	Description	Max. Combined Resolution
BN-770HD-**300**	4 camera kit with 7" Monitor	1280 x 720

When used with MDR, output image is only available in SD, and only 360° image is recorded.

Kit Contents:
1 x ECU Unit
4 x AHD Wide Angle Camera
1 x AHD 7" Monitor
1 x Cable – 20m ECU to Camera
2 x Cable – 15m ECU to Camera
1 x Cable – 10m ECU to Camera
1 x Cable – 5m ECU to Monitor
1 x View Select Controller

BN-360-300

BN360-H3XX

VBV-H405

VBV-770HM

BN360-1000C

BN360-1000C-H1

BN360-CAL-MAT

BN360-CT-01

Backeye 360 System – AHD – Components & Accessories NEW

Part No.	Description
BN-360-**300**	Backeye 360 ECU & 4 x AHD wide angle camera
BN360-**H**305	Cable – 5m ECU to camera
BN360-**H**310	Cable – 10m ECU to camera
BN360-**H**315	Cable – 15m ECU to camera
BN360-**H**320	Cable – 20m ECU to camera
VBV-H405	Cable – 5m ECU to monitor
VBV-770**HM**	Monitor – Backeye Select AHD 7"
BN360-**1000**C	Backeye 360 AHD camera internal with 1m lead
BN360-**1000**C-**H1**	Backeye 360 AHD camera housing
BN360-**CAL**-MAT	Calibration mat, 4 required
BN360-**CT**-01	Calibration tool, SD card included

CCTV Systems – AHD

Backeye Select Monitors – AHD

NEW

AHD

VBV-7104FM

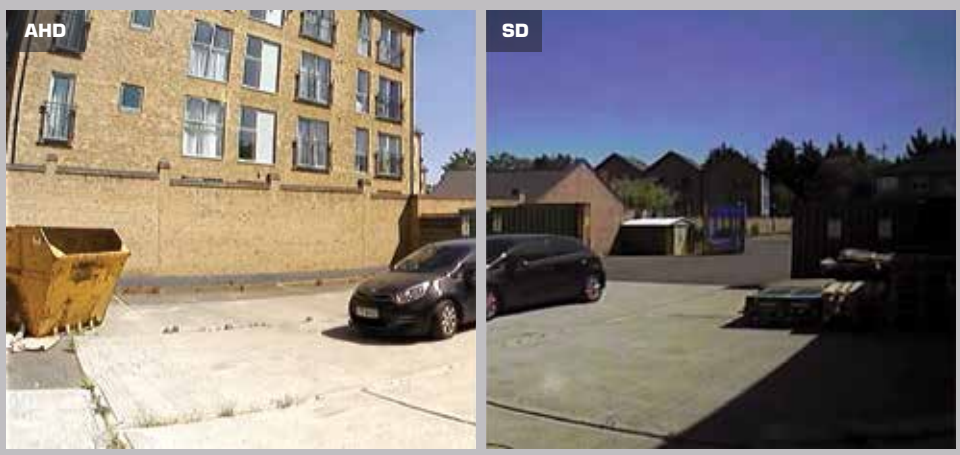
VBV-770HM

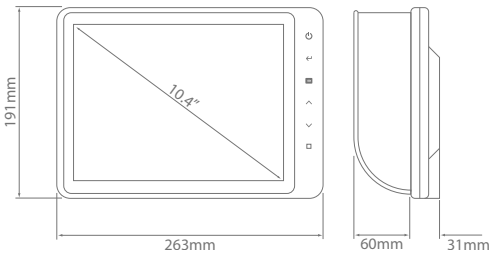
- High-definition, high contrast and wide viewing angle.
- AHD and CVBS compatible.
- Colour LCD with anti-reflective coating.
- Auto-dimming backlight.
- Integrated speaker.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Capacitive touch buttons.
- Detachable sun visor.
- Multi-voltage.
- 3 year warranty.

Voltage :		12–24V
Current Draw :	VBV7104FM	2.6A
	VBV-770HM	0.8A
Video Signal :		NTSC, PAL, AHD 1.0 & AHD 2.0
Audio :		Integrated Speaker / Headphone Jack
Max Brightness :		500cm/m²
Shock :		50G
Vibration :		4G
Operating Temperature :		-30°C to 70°C
Approvals :		CE, ECE R10, RoHS

High Definition

Analogue High Definition (AHD) provides high definition images far superior to Standard Definition and without the image latency caused by digital systems.

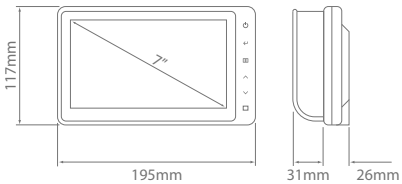




Backeye Select Monitors – AHD – 10.4" NEW

Part No.	Screen Size	Screen Resolution	Contrast Ratio	Camera Inputs	Triggered Activation	Split Screen
VBV-7104**FM**	10.4"	1024 x 768	900:1	4	5	2, 3 & 4

Supplied with detachable sun visor & adjustable mount.



Backeye Select Monitors – AHD – 7" NEW

Part No.	Screen Size	Screen Resolution	Contrast Ratio	Camera Inputs	Triggered Activation	Split Screen
VBV-770**HM**	7"	1024 x 600	700:1	3	3	—

Supplied with detachable sun visor & adjustable mount.

CCTV Systems – AHD

NEW

AHD 1080p

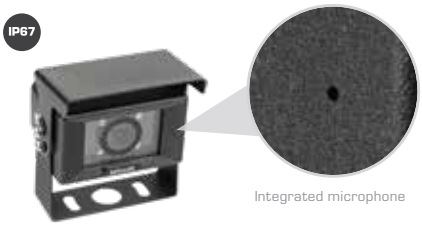
VBV-7101C

- AHD – 1080p.
- Available in PAL and NTSC models.
- Infrared LEDs for ultra-low light performance.
- Day/Night sensor.
- Mirror view.
- Wide angle view.
- Backlight compensation.
- Auto white balance.
- Integrated microphone on VBV-7100C & VBV-7101C.
- Vibration resistant rugged construction.
- Environmentally sealed.
- 3 year warranty.

3Yrs CE ECE R10 RoHS COMPLIANT

Voltage :	12V (supplied via monitor)
Image Sensor :	1/3" Sony® CMOS & Nextchip ISP
Minimum Illumination :	0lx
Body :	Aluminium
Vibration :	8.5G
Approvals :	CE, ECE R10, RoHS
Operating Temperature :	-30°C to 80°C

IP67

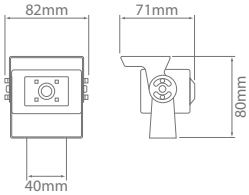


Integrated microphone

VBV-7100C, VBV-7101C

IP69K

VBV-7190C, VBV-7191C



Backeye Select Cameras – AHD 1080p NEW

Part No.	Format	Field of View	TV Lines	Frames per Sec.	Microphone	IP Rating	Illumination Distance (m)
VBV-7100**C**	PAL	110° Hor. 60° Vert.	800	25	Yes	IP67	10
VBV-7190**C**					—	IP69K	
VBV-7101**C**	NTSC	110° Hor. 60° Vert.	800	30	Yes	IP67	10
VBV-7191**C**					—	IP69K	

BRIGADE

Backeye Select Cameras – AHD – Cables NEW

Description	2.5m	5m	10m	20m
AHD cable	**VBV**-H4025	**VBV**-H405	**VBV**-H410	**VBV**-H420

Which Range?

5Yrs

Elite – 5 Year Warranty

Top of the range systems for comprehensive blind spot coverage on large road going, off road vehicles or specialist applications.

3Yrs

Select – 3 Year Warranty

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

1Yr

Essential – 1 Year Warranty

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

Digital Wireless System

Connecting a rear view camera system to a large vehicle or machine can be time consuming and awkward due to the amount of cable to install. Brigade's new wireless system eliminates excess cabling, saving up to two hours fitment time and removes the need for an additional suzi cable.

New digital wireless technology gives almost instantaneous pictures (camera to monitor in less then 200 milliseconds) and is not affected by electrical interference from other vehicles or machine equipment.

The camera image is sent to the monitor via a transmitter and receiver, and once paired, the wireless link is secure.
The system also features an easy re-pairing function, allowing the receiver to be linked to a different transmitter making interchanging trailers possible.

CCTV Systems

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Digital Wireless System	33
Mobile Digital Recorder	34

Backeye 360 System – Digital

BN-770D-200

- Eliminates blind spots.
- Comprehensive view of the surrounding areas in a single image.
- 360° real-time video output.
- Triggered views (rear, left and right).
- Multiple viewing modes including portrait, front/rear focus and lane changing.
- On-screen distance markers on rear view.
- Configurable viewing distance to suit different applications.
- Multi-voltage.
- Compatible with Brigade monitors & Mobile Digital Recorders.
- 5 year warranty.

Voltage :		12–24V
Current Draw :		1.23A
Video System :		NTSC
Max. Camera Inputs :		4
Camera Field of View :		185° Hor. 142° Vert.
Frame Per Second :		30
Video Outputs :		2
Trigger Inputs :		3
Vibration :		8.5G
EMC :		CE & 'e' marked
Operating Temperature :		-30°C to 75°C
Ingress Protection :	Camera	IP69K

Split Screen View

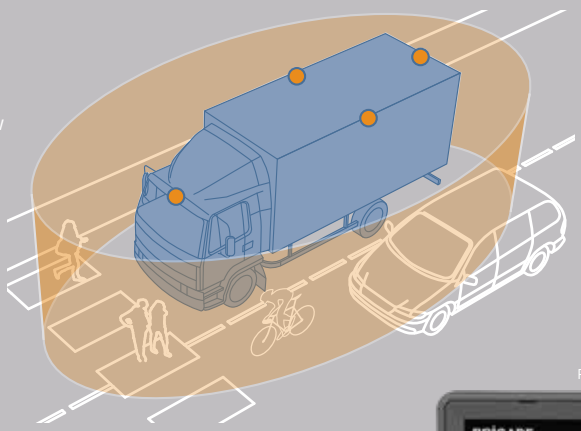
The Backeye 360 Systems show 2 images on screen at all times.

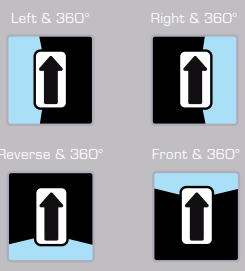
The first is the remarkable 360° view surrounding the vehicle while the second is a view from an individual camera.

This secondary view is controlled by trigger inputs and can be used to show a side camera when the vehicle turn signal is activated and also to the rear when reverse gear is engaged.

On screen icons show which camera is currently being displayed.

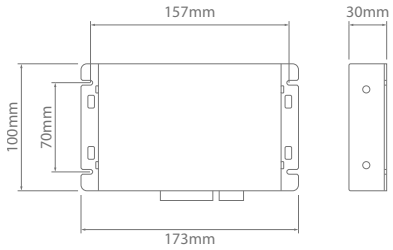
The operator also has the option to manually select which camera is being displayed via the dash mounted remote, the 360° view remains on screen all time.



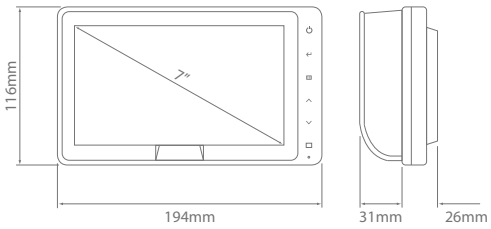


Reverse & 360° View

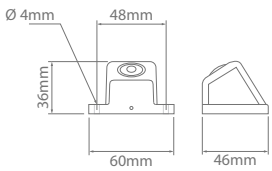
Watch video



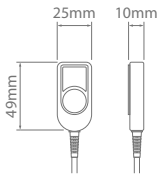
ECU



7" Monitor



Camera



Remote

Backeye 360 System – Digital

Part No.	Description	Max. Combined Resolution
BN-770D-**200**	4 camera kit with 7" monitor	640 x 480
BN-1001-**200**	4 camera kit with 10" monitor	640 x 480
BN-1001-**250**	4 camera kit with HD 10" monitor	1024 x 600

Kit Contents:
1 x ECU Unit
4 x Wide Angle Camera
1 x Monitor
1 x Cable – 20m ECU to Camera
2 x Cable – 15m ECU to Camera
1 x Cable – 10m ECU to Camera
1 x Adaptor – Monitor to RCA Connector
1 x Adaptor – RCA Female to Female
1 x IR Remote Controller
1 x View Select Controller

Backeye 360 Systems are required to be installed & calibrated by an IONNIC trained technician.

CCTV Systems

BN360-200

BN360-100C

BN360-100C-H1

BN360-100C-MK

BN360-L110

BN360-200-RC

VBV-770DM

AC-024

AC-054

AC-059

BN360-CAL-MAT

BN360-CT-01

Backeye 360 System – Digital – Components & Accessories

Part No.	Description
BN360-**200**	Backeye 360 ECU & 4 x wide angle cameras
BN360-**100C**	Backeye 360 camera internal with 1m lead
BN360-**100C**-H1	Backeye 360 camera housing
BN360-**100C**-MK	Backeye 360 camera gasket kit Kit Contents: 4 x Sasket, 8 x Bolt, 8 x Wall Plug
BN360-**L120**	Cable – 20m ECU to camera
BN360-**L115**	Cable – 15m ECU to camera
BN360-**L110**	Cable – 10m ECU to camera
BN360-**L105**	Cable – 5m ECU to camera
BN360-**200**-RC	IR remote control
VBV-770**DM**	Monitor – Backeye Select 7"
AC-024	Adaptor – Connects Backeye Select monitor to RCA camera
AC-054	Adaptor – Connects RCA female to male
AC-059	Adaptor – Connects RCA female to female
BN360-**CAL**-MAT	Calibration mat, 4 required
BN360-**CT**-01	Calibration tool, SD card included

CON2022
Connectors
IONNIC
EWA2021
Electrical
Wiring
Accessories
IONNIC
SS2020
Safety
Systems
IONNIC
ITS2022
IONNIC
Technical
Systems
IONNIC
D2020
DEUTSCH
IONNIC
EL2018
Emergency
Lighting
IONNIC
WL2018
Worklamps
IONNIC
SR2020
Switches
& Relays
IONNIC

CCTV Systems

Backeye Complete Kits

BE-870-000

- Systems include:
  - Colour LCD Monitor
  - Camera
  - Cable
- Elite & Select Systems can be expanded to multiple cameras.
- Elite & Select Systems include audio.
- BE-970W-000 features waterproof monitor & camera.
- Multi-voltage.

12V 24V

Voltage : 12–24V
Cable Length : 20m

See individual products for detailed specifications

IP69K

BE-970W-000

BE-870-000

Capacitive touch buttons

BE-856G-000

Backeye Complete Kits – Elite – Digital

Part No.	Screen Size	Monitor	Camera	Cable	Waterproof Monitor	Waterproof Camera
BE-970W-**000**	7"	BE-970WM	BE-800C	BE-L120	IP69K	IP68
BE-870-**000**	7"	BE-870LM	BE-800C	BE-L120	—	IP68
BE-856G-**000**	5.6"	BE-856GM	BE-800C	BE-L120	—	IP68

Each kit can be expanded to 2 cameras.
Supplied with detachable sun visor & adjustable mount.

Watch video

VBV770D-000

VBV750D-000

Backeye Complete Kits – Select – Digital

Part No.	Screen Size	Monitor	Camera	Cable
VBV770D-**000**	7"	VBV-770DM	VBV-700C	VBV-L420
VBV750D-**000**	5"	VBV-750DM	VBV-700C	VBV-L420

Each kit can be expanded to 3 cameras.
Supplied with detachable sun visor & adjustable mount.

Backeye Complete Kits – Essential – Analogue

Part No.	Screen Size	Monitor	Camera	Cable
VBV-650-**000**	5"	—	—	—

Components not available separately.
Supplied with adjustable monitor mount.

Backeye Elite Monitors – Digital

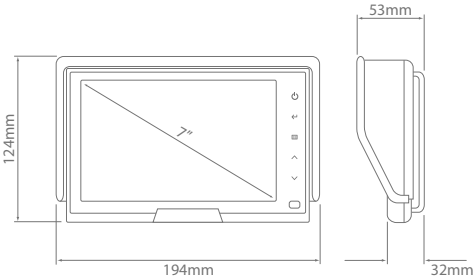
BE-970WM

BE-856GM

- Colour LCD with anti-reflective coating.
- LED backlight with auto dimming.
- Integrated speaker.
- Up to 4 camera inputs.
- Up to 4 way split screen.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Adjustable mount.
- Capacitive touch buttons on waterproof models.
- Multi-voltage.
- 5 Year warranty.

Voltage :		12–24V
Current Draw :		0.9A
	BE-870*XX*	1.0A
Video Signal :		NTSC & PAL
Vibration :	BE-856GM, BE-870*XX*	10G
	BE-970*XX*	20G
Approvals :		CE Marked
EMC :		C-Tick
Operating Temperature :		-40°C to 70°C

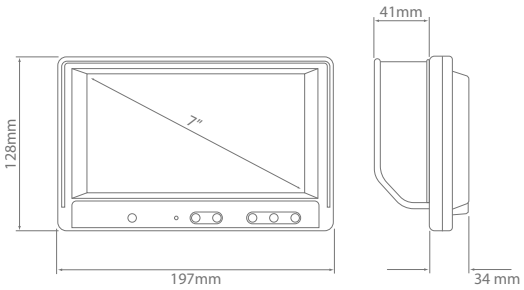
Capacitive touch buttons



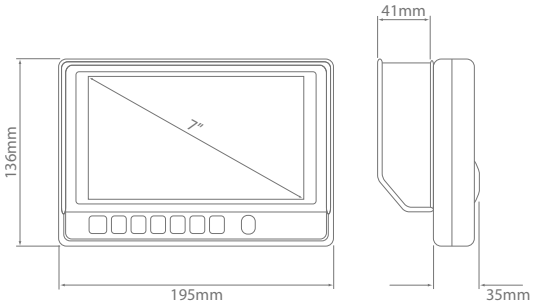
Backeye Elite Monitors – Digital – 7" – Waterproof IP69K

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Inputs	Video Outputs
BE-970WM	7"	800 x 480	2	—	—	—	—
BE-970WFM	7"	800 x 480	4	2, 3 & 4	Yes	1	1

Supplied with detachable sun visor & adjustable mount.



BE-870LM



BE-870FM

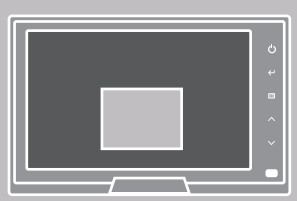
Backeye Elite Monitors – Digital – 7"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Inputs	Video Outputs
BE-870LM	7"	800 x 480	2	—	—	—	—
BE-870FM	7"	800 x 480	4	2, 3 & 4	Yes	1	1

Supplied with detachable sun visor & adjustable mount.

Picture in Picture & Split Screen

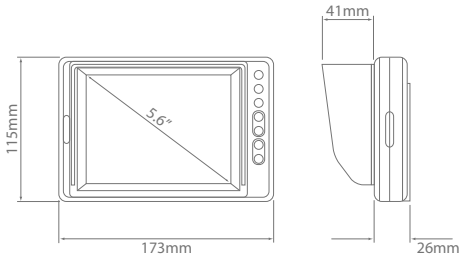
2, 3 & 4 way split screen and picture in picture capability with certain models.



Picture in Picture

Split Screen

CCTV Systems



Backeye Elite Monitors – Digital – 5.6"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Inputs	Video Outputs
BE-856GM	5.6"	640 x 480	2	—	—	—	—

Supplied with detachable sun visor & adjustable mount.

AC-016

AC-020

AC-302

BMM-011

BMM-013

Backeye Elite Monitors – Digital – Accessories

Part No.	Description
AC-016	Adaptor – Allows AV equipment to connect to Backeye Elite monitor
AC-020	Adaptor – Allows Backeye Elite monitor to connect to VBV cable
AC-302	Adaptor – Allows 2 x Backeye Elite monitors to connect to a single Backeye camera
BMM-011	Mount – Heavy duty. Suits BE-970*XX*, BE-870LM & BE-856GM
BMM-013	Mount – Standard duty. Suits BE-970*XX* & BE-870*XX*

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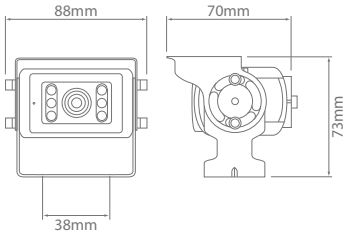
Backeye Elite Cameras – Digital

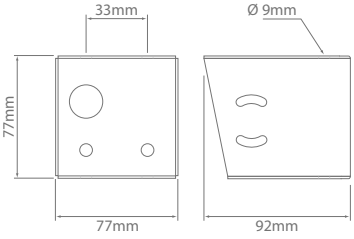
- Infrared LEDs for ultra-low light performance.
- Day/Night sensor – 800 Series.
- Built-in heater.
- Mirror view (excluding BE-890C).
- Wide angle view.
- Vibration resistant rugged construction.
- 800 Series includes audio.
- Environmentally sealed.
- 5 year warranty.

IP68 IP69K 5Yrs CE

Voltage :	12V (supplied via monitor)
Video Signal :	PAL
Image Sensor :	1/3" Sony® CMOS
Minimum Illumination :	0.1lx
Body :	Aluminium
Vibration :	20G
Approvals :	CE Marked
EMC :	C-Tick
Operating Temperature :	-30°C to 70°C



905A32



Backeye Elite Cameras – Digital – Pedestal Mount

Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating	Illumination Distance (m)
BE-800C	109° Hor. 85° Vert.	425	Yes	Yes	IP68	5
BE-800C-**40**	32° Hor. 24° Vert.	425	Yes	Yes	IP68	5
BE-800C-**78**	69° Hor. 51° Vert.	425	Yes	Yes	IP68	5
BE-890C	109° Hor. 85° Vert.	425	No	Yes	IP69K	5

905A32 Protective enclosure

"Eyeball" Surface Mount Cameras

The Backeye Select "Eyeball" cameras are compatible with the Backeye Elite monitors using an adaptor (AC-006) which can be found on page 32.

Backeye Select "Eyeball" cameras can be found on page 31.

Standard Cable

Extension Cable

Backeye Elite – Digital – Cables

Description	3m	5m	10m	15m	20m	25m	30m
Standard cable	—	**BE-L**105	**BE-L**110	**BE-L**115	**BE-L**120	—	**BE-L**130
Extension cable	**BE-X**003	**BE-X**005	**BE-X**010	**BE-X**015	**BE-X**020	**BE-X**025	—

Standard cable used to connect camera to monitor.
Extension cables connect standard cables to monitor.

AC-014

AC-019

AC-302

SC-7

SP-7A

SP-7B

CS-020

Backeye Elite – Digital – Adaptors & Connectors

Part No.	Description
AC-014	Adaptor – Connect Backeye Elite camera to VBV cable
AC-019	Adaptor – Connect Backeye Elite cable to RCA connector (video input)
AC-302	Adaptor – Allows 2 x Backeye Elite monitors to connect to a single Backeye Elite camera Adaptors for use at monitor (in-cabin) end only.
SC-7	Suzi coil for use with SP-7A, SP-7B
SP-7A	Connector – Cab side
SP-7B	Connector – Trailer side
CS-020	Camera diverter – Automatically selects rearmost camera when a trailer is connected
SK-31E	Complete Kit for Articulated Truck Kit contents 1 x BE-L110, 1 x BE-X020, 1 x SP-7A, 1 x SP-7B & 1 x SC-7.

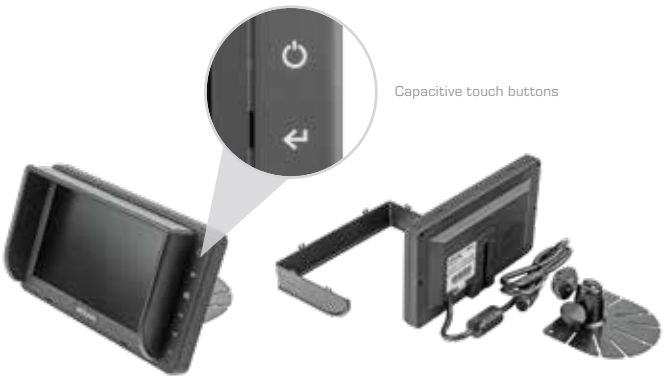
Backeye Select Monitors – Digital

VBV-750FM

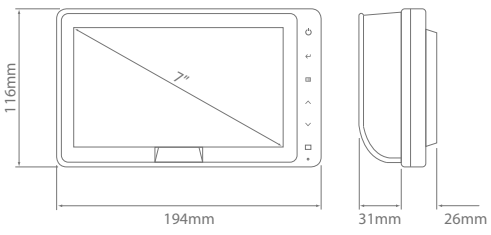
VBV-750DM

- Colour LCD with anti-reflective coating.
- Auto-dimming backlight.
- Integrated speaker.
- Electronic distance markers.
- Mirror or normal views.
- Auto on when reverse gear selected.
- Adjustable mount.
- VBV-770DM supplied with additional mount.
- Capacitive touch buttons on all models.
- Detachable sun visor.
- Multi-voltage.
- 3 Year warranty.

Voltage :	12–24V
Current Draw :	0.18A @ 28V
Video Signal :	NTSC & PAL
Audio :	Integrated Speaker / Headphone Jack
Shock :	50G
Vibration :	4G
Operating Temperature :	-30°C to 70°C
Approvals :	RoHS, CE, HALT, WEEE



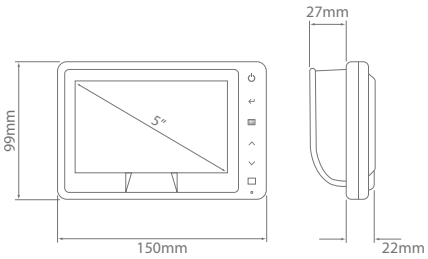
Capacitive touch buttons



Backeye Select Monitors – Digital – 7"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Input	AV Output
VBV-770FM	7"	800 x 480	4	2, 3 & 4	Yes	—	—
VBV-770DM	7"	800 x 480	3	—	—	1	—

Supplied with detachable sun visor & adjustable mount.



Backeye Select Monitors – Digital – 5"

Part No.	Screen Size	Screen Resolution	Camera Inputs	Split Screen	Picture in Picture	AV Input	AV Output
VBV-750**DM**	5"	800 x 480	3	—	—	—	—

Supplied with detachable sun visor & adjustable mount.

Backeye Select Monitor – Digital – Accessory

Part No.	Description
BMM-015	Mount – Standard duty. Suits Backeye Select Monitors

Backeye Select Cameras – Digital

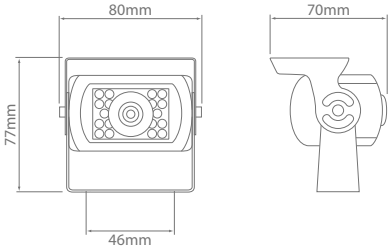
VBV-485C

VBV-700C

VBV-300C

- Infrared LEDs for ultra-low light performance.
- Day/Night sensor.
- Mirror view.
- Wide angle view.
- Vibration resistant rugged construction.
- "Eyeball" surface mount features a multi-adjustable lens.
- VBV-485C supplied with angled spacers for mounting on sloping surfaces.
- Environmentally sealed.
- 3 year warranty.

Voltage :	12V (supplied via monitor)
Video Signal :	PAL
Image Sensor :	1/3" Sharp® CCD
Minimum Illumination :	0.1lx
Body :	Aluminium
Vibration :	10G
Surface Mount	8.5G
Approvals :	CE Marked
EMC :	C-Tick
Operating Temperature :	-30°C to 70°C



Backeye Select Cameras – Digital – Pedestal Mount

Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-700C	88° Hor. 68° Vert.	620	Yes	—	IP67

Surface Mount "Eyeball"

The Backeye Select VBV-300 series surface mount cameras give a clear view of blind spots that normally exist when using conventional mirrors.

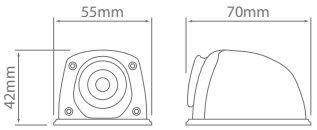
Compact and robust with an all aluminium body the VBV-300 series are designed to be mounted where conventional pedestal cameras would be too large.

Rotate lens up to 180°

Vertically and horizontally adjustable

The adjustable, ball-and-socket lens enables installation in virtually any position on a vehicle or mobile plant and the camera is available in both mirror and normal view to allow the driver or operator to have the most appropriate view for a given manoeuvre.

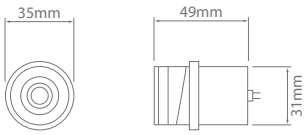
- Swivel lens adjustment to fine tune the field of view.
- Lens rotation adjustment ± 180° enables installation regardless of surface orientation.



Compatible with Select and Elite range monitors.*
**Requires AC-006 adaptor found on* page 32.

Backeye Select Cameras – Digital – Surface Mount "Eyeball"

Part No.	Description	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-300**C**	Mirror View	110° Hor. 82° Vert.	780	Yes	—	IP69K
VBV-320**C**	Normal View	110° Hor. 82° Vert.	780	Yes	—	IP69K



Backeye Select Cameras – Digital – Flush Mount

Part No.	Field of View	TV Lines	Microphone	Heater	IP Rating
VBV-485C	90° Hor. 69° Vert.	680	—	—	IP68, IP69K

CCTV Systems

VBV-L420

Backeye Select – Digital – Cables

Description	2.5m	5m	10m	20m	30m
Standard cable	**VBV**-L4025	**VBV**-L405	**VBV**-L410	**VBV**-L420	**VBV**-L430

AC-007

AC-006

AC-024

AC-24-12-001

AC-24-12-007

VSP-47A

SC-07-24S

VSP-47B

VCS-020

Backeye Select – Digital – Adaptors & Connections

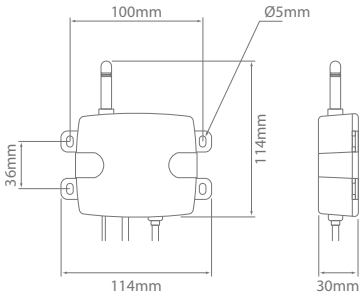
Part No.	Description
AC-006	Adaptor – Connect Backeye Select cables to BE monitors
AC-007	Adaptor – Connect Backeye Elite cables to VBV monitors
AC-024	Adaptor – Connect Backeye Select monitors to RCA cameras Adaptors for use at monitor (in-cabin) end only.
AC-24-**12**-001	Adaptor – Connect Backeye Select cameras to BE monitors, built-in 24–12V reducer
AC-24-**12**-007	Adaptor – Connect Backeye Select cameras to IVECONNECT, built-in 24–12V reducer
SC-07-**24S**	Suzi coil for use with VSP-47A, VSP-47B
VSP-47A	Connector – Cab side
VSP-47B	Connector – Trailer side
VCS-020	Camera Diverter – Automatically selects rearmost camera when a trailer is connected
VSK-30E	Complete Kit for Articulated Truck Kit contents: 1 x VBV-L410, 1 x VBV-L420, 1 x VSP-47A, 1 x VSP-47B & 1 x SC-07-24S.

Digital Wireless System

- Wireless connectivity for digital CCTV systems.
- Reduces installation time.
- Eliminates the need for additional suzi coils on articulated vehicles.
- 're-pair' facility allows for interchangeable trailers.
- Supplied with adaptors to suit the Elite range of cameras & monitors.
- Transmitter environmentally sealed – IP69K.
- Digital technology.
- 3 year warranty.

DW-1000RX

Voltage :		12–24V
Current Draw :		0.22A
Latency :		200ms
Body :		ABS & Polycarbonate
Vibration :		6G
Approvals :		CE Marked
EMC :		C-Tick
Operating Temperature :		-40°C to 70°C
Ingress Protection :	Transmitter	IP69K

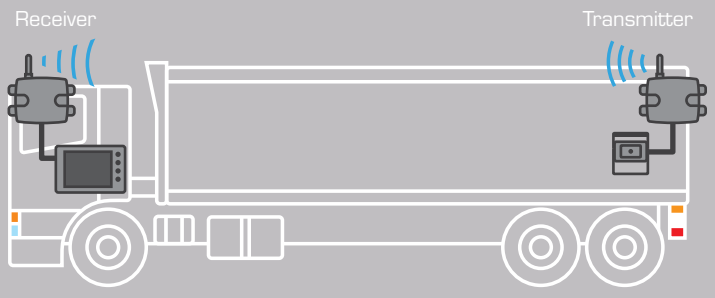


Cable Free Connection

Connecting a rear view camera system to a large vehicle or machine can be time consuming and awkward due to the amount of cable to install. Brigade's new wireless system eliminates excess cabling, saving up to two hours fitment time and removes the need for an additional suzi coil.

New digital wireless technology gives almost instantaneous pictures (camera to monitor in less then 200 milliseconds) and is not affected by electrical interference from other vehicles or machine equipment.

The camera image is sent to the monitor via a transmitter and receiver, and once paired, the wireless link is secure. The system also features an easy re-pairing function, allowing the receiver to be linked to a different transmitter making interchanging trailers possible.



Digital Wireless System

Part No.	Description
DW-1000TX	Transmitter – camera side
DW-1000RX	Receiver – monitor side

Not compatible with AHD systems.

Mobile Digital Recorder

- Full HD video capability.
- 4 camera inputs & up to 4 way split screen.
- Up to 1862 hours recording time.
- Mirror recording onto hard disk and SD card.
- 8 configurable trigger inputs. eg G-Force, motion detection, voltage and video signal loss.
- GPS location tracking, speed detection with time sync.
- Multiple recording quality settings.
- MDR Dashboard software allows full control over recorded information allowing clips and footage to be saved individually.
- Durable metal construction suitable for physically demanding applications.
- Lockable and removable hard disk.
- Save & load all settings onto supplied SD card for easy configuration of multiple units.
- Fast on-site, PC or TV playback capabilities.
- 3 year warranty.

Voltage :	12–24V
Current Draw :	5A @ 12V
Video System :	NTSC/PAL/AHD
Compression :	H.264/ADPCM
Frames Per Second :	NTSC 1-30
	PAL 1-25
Max. Resolution :	1920 x 1080 FHD
Audio/Video Inputs :	4
Mirror Recording :	Yes
Network Connection :	Ethernet
Approvals :	CE, 'e' mark, RoHS2, FCC, WEEE
Hard Disk Capacity :	2.5" 1TB SATA HDD
Interface :	USB 3.0, RS485
Sensor Inputs/Outputs :	8 Inputs, 2 Outputs
Operating Temperature :	-40°C to 70°C

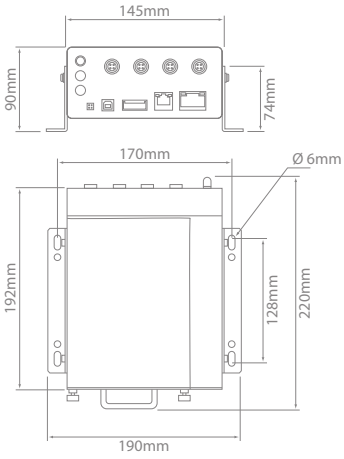
Why Install a Mobile Digital Recorder?

- Prevent false insurance claims such as 'crash for cash' scams
- 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
- Encourages driver best practice, so less vehicle damage and accidents
- Enables more effective driver training
- Vandalism deterrent
- Can help to lower insurance premiums
- Peace of mind for passengers and drivers

MDR Dashboard

MDR Dashboard software is supplied as part of the base kit. This simple to use PC program features standard video playback controls as well as options to save single image jpg's and video files in popular formats.

MDR Dashboard can also synchronise with virtual globe programs such as Google™ Earth Plus, allowing you to automatically follow the journey as the video plays.



Lockable and removable hard disk

Mobile Digital Recorder

Part No.	Description	Channels	Hard Disk Capacity
MDR-504-**1000**	MDR including GPS receiver & software	4	1TB

MDR-400-GPS

MDR-MOUSE-01

MDR-400-RP01

AC-306

AC-307

Mobile Digital Recorder – Accessories

Part No.	Description
MDR-400-**GPS**	GPS antenna – 5m cable
MDR-MOUSE-**01**	Mouse – 1.4m cable
MDR-400-**RP01**	Remote status & interface panel with panic button – 6m cable
AC-306	Adapter – Connect 1 Select camera to MDR and monitor
AC-307	Adapter – Connect 1 Elite camera to MDR and monitor

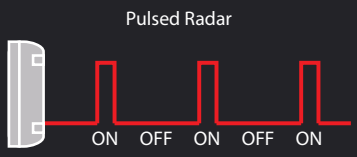
Backsense Radar

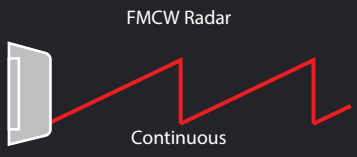
Backsense® radar systems use a patented Frequency Modulated Continuous Wave (FMCW) radar technology.

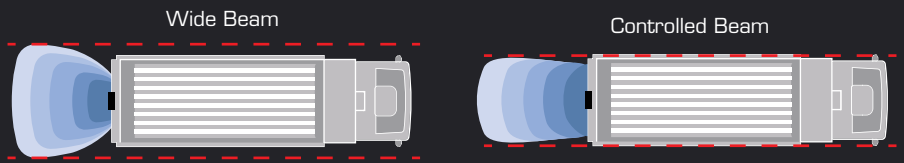
Backsense® radar transmits a continuously varying frequency signal which gives a unique time stamp to each instance of the wave. The returning wave is then referenced against this without having to stop transmitting unlike pulsed radar.

The advantages of FMCW over competitor pulsed radar are FMCW has better detection at long distance and greater resistance to electromagnetic noise.

Backsense® radar also controls the radar beam pattern, so the spread of the beam can be restricted to the width of the plant for the length of the detection area, to minimise false alerts on a busy site.







Ultrasonic

Ultrasonic sensors generate pulsed high frequency sound waves.

If there is an object in the path of these pulses, they will be reflected back to the sensor as an echo.

By measuring the time difference between the pulse being transmitted and the echo being received, it is possible to determine how far away the object is from the sensor.

Obstacle Detection

Backsense Radar 38

Backsense Network Radar 40

Ultrasonic 44

Obstacle Detection

Backsense Radar

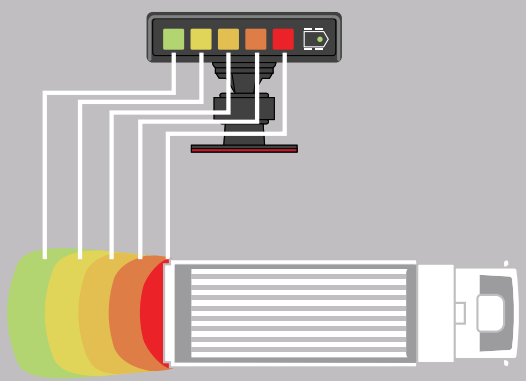
- Detects multiple moving and stationary objects.
- High frequency continuous wave provides increased reliability & low false alarm rates.
- Effective through non-metallic surfaces e.g. plastic & fibreglass.
- BS-8000 model has adjustable detection range – 30m to 3m.
- Self-diagnostic function.
- Rugged cable system withstands harsh environmental conditions.
- In-cab 5 stage audible & visual alert.
- Auxiliary output to activate additional items, e.g. cameras, alarms etc.
- Transient, short circuit, overcharge & reverse polarity protection.
- Epoxy filled for maximum vibration resistance.
- Environmentally sealed sensor – IP69K.
- Sensor can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

Voltage :		12–24V
Current Draw :		0.8A
Radar Frequency :		24.068GHz to 24.218GHz
Auxiliary Output :		0.5A
Weight :	Sensor	0.7kg
	Display	0.3kg
Vibration :		8.3G
Shock :		100G
EMC :		CE & 'e' marked
Approvals :		ISO 16750/13766, EN13309 & FCC
Operating Temperature :		-40°C to 85°C
Ingress Protection :	Sensor	IP69K

In-Cab Audible & Visual Display

When an object is detected, the in-cab display LEDs illuminate and an audible alert will sound.

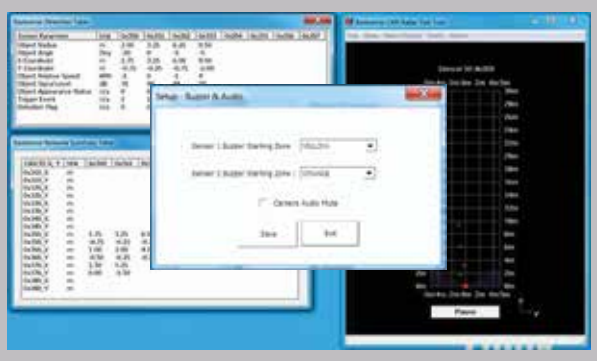
Each LED represents approximately 1/5 of the detection distance.



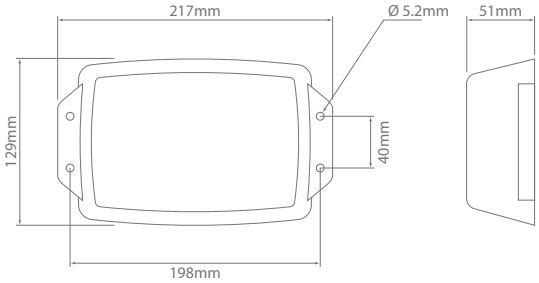
Configurable

BS-8000 is supplied with easy to use PC software for setting the following parameters:

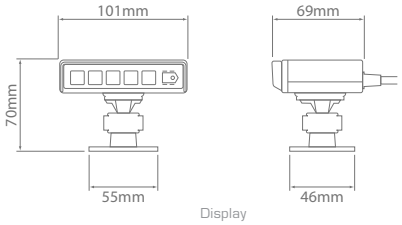
- Detection zone length & width
- Blind area mapping
- Buzzer starting zone
- Trigger output length



Obstacle Detection



Sensor



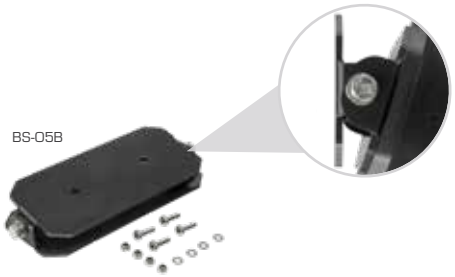
Display

Watch video

Backsense Radar – Kits

Part No.	Type	Detection Distance (m)	Detection Width (m)	Detection Zones
BS-7030	Fixed Range	3	2.5	5 x 0.6m
BS-7045	Fixed Range	4.5	3.5	5 x 0.9m
BS-7060	Fixed Range	6	4.5	5 x 1.2m
BS-8000	Configurable	3 – 30	2 – 10	Configurable

Kit Contents:
1 x Sensor unit
1 x Audio/visual display
1 x 9m Cable (sensor to display)
Sensor & display mounting hardware
Installation & operation manual
BS-8000 kit contains Software CD and USB Cable



Extension Cable

Display

Sensor

Backsense Radar – Accessories & Spare Parts

Part No.	Description
BS-05B	Adjustable sensor bracket Supplied with bolts, washers and nylock nuts.
BS-05DCX	Extension Cable – 5m
BS-09DCX	Extension Cable – 9m
BS-7030**D**	Display – 3m range
BS-7045**D**	Display – 4.5m range
BS-7060**D**	Display – 6m range
BS-8000**D**	Display – Configurable range
BS-70*XX***S**	Sensor – Fixed range. Replace '*XX*' with 30, 45 or 60 corresponding to detection range of 3m, 4.5m and 6m
BS-8000**S**	Sensor – Configurable range

Obstacle Detection

Backsense Network Radar

NEW

BS-9001-OSD

Monitor is not included in the kit

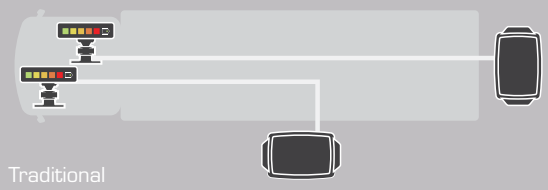
12V 24V | 3Yrs | IP69K | CE

- Overlay detection data for up to 2 radar sensors on a single monitor.
- Compiles with CAN 2.0A Base Frame Format.
- Detects multiple moving and stationary objects.
- High frequency continuous wave provides increased reliability & low false alarm rates.
- Adjustable detection range up to 30m.
- 3 trigger inputs used for activating components such as alarms and beacons.
- Environmentally sealed sensor – IP69K
- Sensor can be steam & pressure cleaned.
- Multi-voltage.
- 3 year warranty.

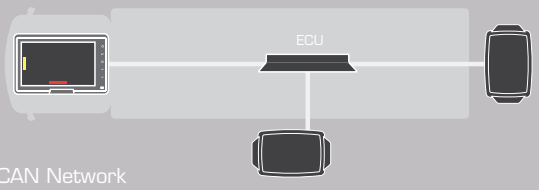
Voltage :		12–24V
Current Draw :		0.4A
Radar Frequency :		24.05GHz to 24.25GHz
Weight :	Radar Sensor	0.7kg
Vibration :		8.3G
Shock :		100G
EMC :		CE & 'e' marked
Approvals :		ISO 16750/13766, EN13309 & FCC
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP69K

Backsense Network Radar

Brigade's Backsense® Network Radar is the next generation of radar-based obstacle detection.
Due to the number of complex blind spots on a vehicle, a single radar cannot always provide the detection required. On top of this, multiple in-cab displays for multiple radars can be more of a distraction than a benefit.
Aimed at OEM and specialist applications, Brigade's Network Radar with OSD kit allows you to connect and link 2 sensors to cover large, sometimes complex blind spot zones around a vehicle or machine.



Traditional



CAN Network

On-Screen Display

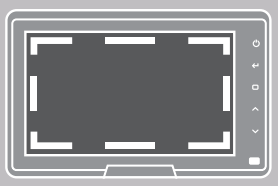
Multiple radars with individual in-cab displays can cause confusion and also be a challenge to install. Brigade's latest innovation, the Backsense® OSD (On-screen Display) ECU allows for the use of 2 Backsense® Network Radar units to be combined with any Brigade Backeye® camera system.

Radar detection data is overlaid transparently* along the edge of the monitor so as not to obscure the camera image with the audible warning via the monitor speakers.

*Transparency level can be adjusted via software.

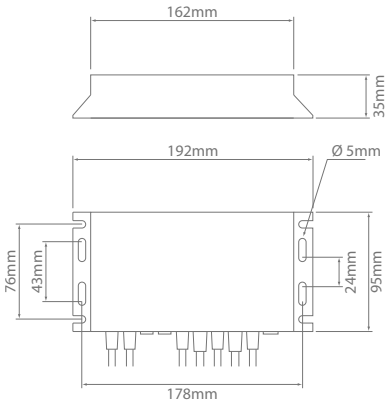
When an object is detected in the YELLOW zone, the associated on-screen indicator will turn yellow and a pulsed audible alert is played through the monitor's speaker.)))))))))

When object is detected in RED zone, the associated on-screen indicator will turn red and a constant audible alert is played through the monitor's speaker.))))))))))))

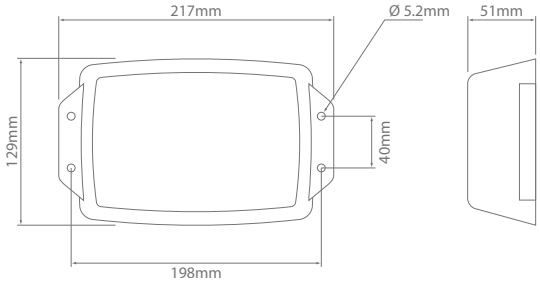


Each radar sensors detection notification can be assigned to one of eight predefined positions overlaid around the edge of a monitor.

Watch video



ECU

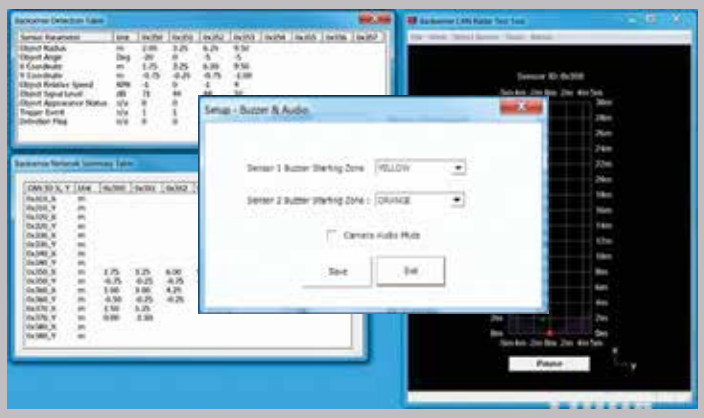


Sensor

Configurable

Backsense® Network Radar with OSD kit is supplied with easy to use PC software for setting the following parameters :

- Detection zone length & width.
- Blind area mapping.
- Buzzer starting zone.
- Trigger output length.



Backsense Network Radar – OSD Kit NEW

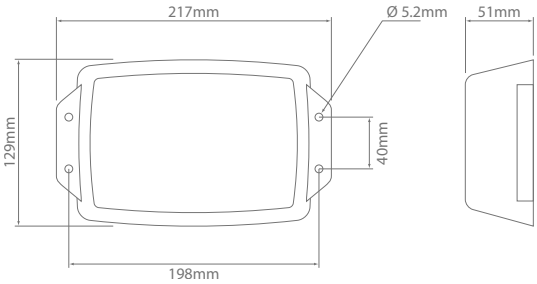
Part No.	Detection Distance (m)	Detection Width (m)	Camera Inputs	Trigger Inputs	Outputs*
BS-9001-**OSD**	3 – 30	2 – 10	2	3	3 x 0.5A

Supports up to 2 Backsense® Network Radars.
Compatible with Brigade Backeye systems, including Backeye 360 and Brigade Digital Mobile Recorders.
*1 x output for alarm use only.

Kit contents:
1 x BS-9000 Sensor Unit
1 x OSD ECU
3 x Network Y Cable
2 x CAN Bus Terminator
1 x 9m Extension Cable
1 x Network Power Input Cable
Sensor Mounting Hardware

Manual & software available on IONNIC website

Obstacle Detection

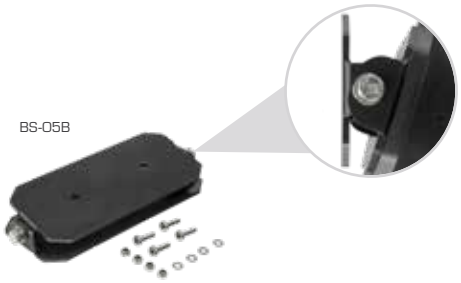


BS-9000 CAN Integration

The Backsense® Network Radar Sensor (BS-9000) can be integrated into a Controller Area Network (CAN) and configured to interact and display sensor data on existing components and screens.

Backsense Network Radar – Sensor NEW

Part No.	Description	CAN	Baud Rate	Detection Distance (m)	Detection Width (m)
BS-9000	Single network radar sensor unit	SAE J1939	500K	3 – 30	2 – 10



BS-00NYC

BS-00NT

BS-02PIC

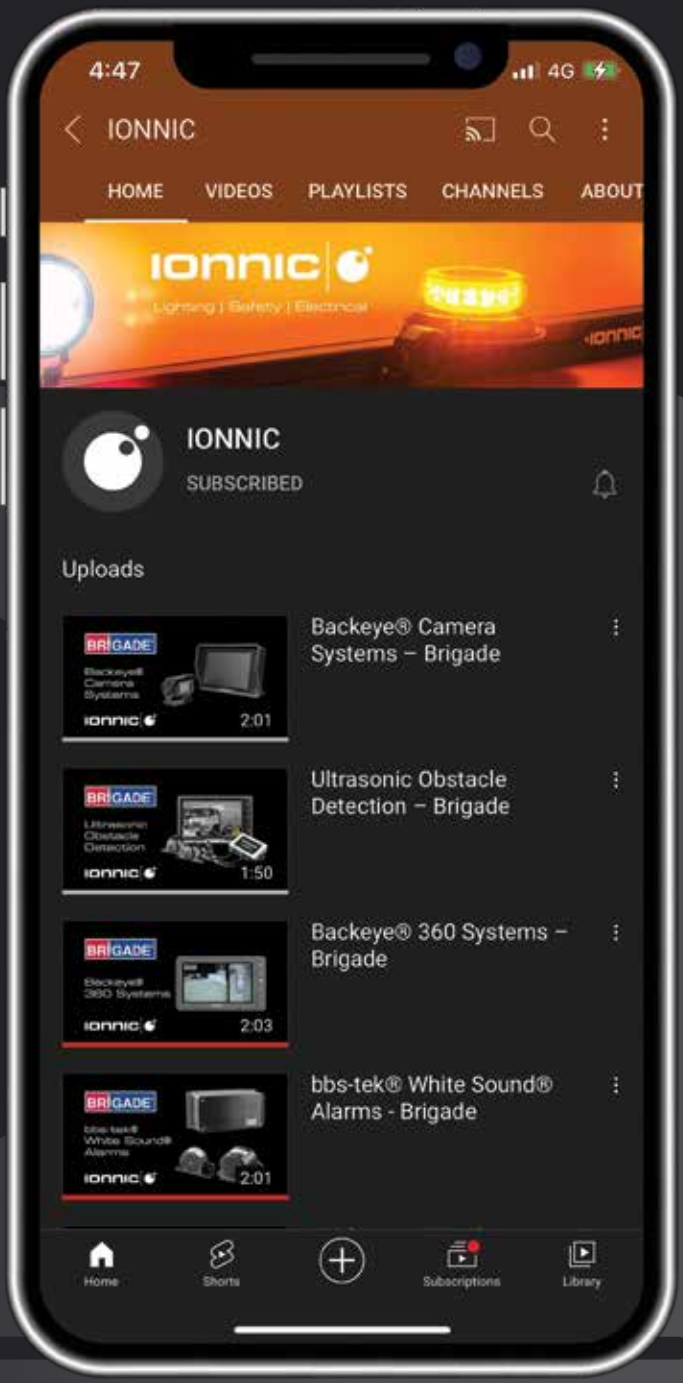
Backsense Network Radar – Accessories NEW

Part No.	Description
BS-05B	Adjustable sensor bracket Supplied with bolts, washers and nylock nuts.
BS-05DCX	Extension cable – 5m
BS-09DCX	Extension cable – 9m
BS-00NYC	Network 'Y' cable
BS-00NT	120 Ohm CAN bus terminator
BS-02PIC	Network power input cable – 2m

IONNIC YouTube Channel

Product videos, configuration tutorials and more

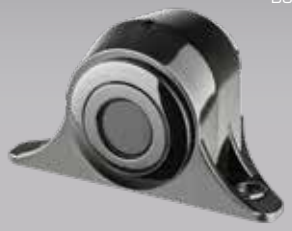
SUBSCRIBE



Obstacle Detection

Ultrasonic

BS-4000W

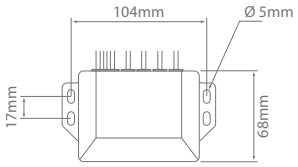


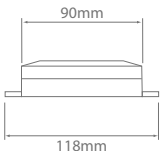
12V 24V · 3Yrs · CE · RoHS COMPLIANT

Watch video

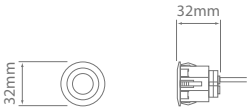
- Obstacle detection rate under 200 milliseconds.
- Adjustable max. detection distance via dip switch.
- Backscan includes in-cab visual display.
- OSD module overlays detection data for up to 2 Ultrasonic sensors on a single monitor.
- 3 stage warning zones.
- Environment Learning Mode prevents false alarms.
- Multiple sensor mount types included.
- Backscan incorporates 50cm compensation range for inboard mounted sensors (selectable via dip switch).
- One trigger output.
- Self diagnostic function.
- Sensors & ECU environmentally sealed.
- Multi-voltage.
- 3 year warranty.

Voltage :		12–24V
Current Draw :		0.2A
Approvals :		RoHS, CE & 'e' marked
Operating Temp :		-30°C to 80°C
Ingress Protection :	Sensors	IP68
	ECU	IP69K

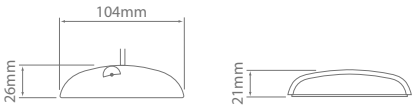




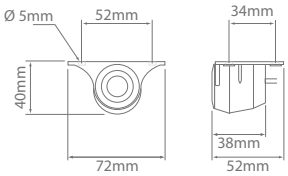
ECU



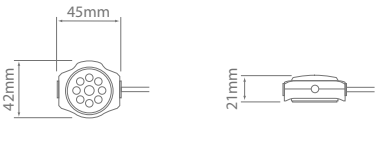
Sensor
Mounting Ø 28mm



Display
(Supplied with Ultrasonic – Backscan only)



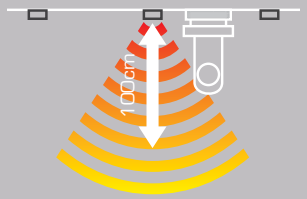
Sensor
Pendant Mount Housing



Buzzer

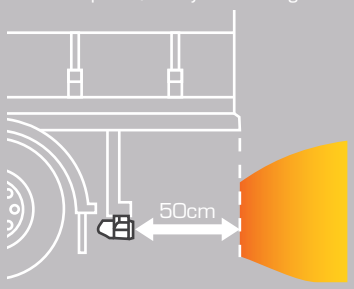
Environment Learning

Environment Learning Mode prevents false alarms from tow-hooks and other ancillary fixed equipment that intrudes into the first 100cm of the detection zone.



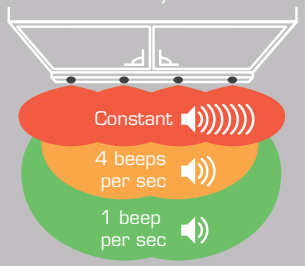
50cm Compensation

50 centimetre compensation for installation to vehicles with in-board bumpers / tray over hang.



Warning Zone

The frequency of the signal changes according to the distance from sensors to the object.



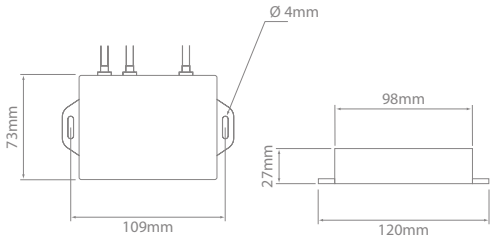
BRIGADE

On-Screen Display

Ultrasonic OSD (On-Screen Display) Module allows for the use of up to 2 Ultrasonic Obstacle Detection systems to be combined with any Brigade Backeye® camera system.

Detection data is overlaid transparently along the edges of the monitor, with its 3-stage audible and visual warning ensuring the driver is aware if any obstacle is in the danger zone.

NEW

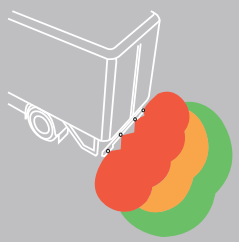


Ultrasonic – On-Screen Display Module NEW

Part No.	Camera Input	Trigger Input	Ultrasonic Detection System Input	Ultrasonic Detection System Output
UDS-OSD20-**ECU**	2	2	2	2

2 year warranty.

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.



Ultrasonic – Backscan supplied with a graduated visual and audible warning display.

Ultrasonic – Backscan

Part No.	Max. Detection Distance (m) Outer	Inner
BS-4000**W**	2.5/0.6*	2.5

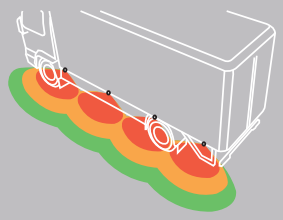
*Outer sensors only, detection range adjustable via dip switch.

Kit contents:
4 x Sensor
1 x Display
1 x ECU
4 x 0° Sensor Bracket
4 x 11° Sensor Bracket
4 x Pendant Mount Housing
4 x Sensor Harness – 2.5m
1 x Display Harness – 15m

Obstacle Detection

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.

SS-4100W features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.



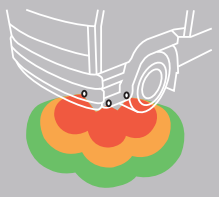
Ultrasonic – Sidescan

Part No.	Max. Detection Distance (m)
SS-4100W	1.0/1.5

Kit contents:
4 x Sensor
1 x Buzzer
1 x ECU
4 x 0° Sensor Bracket
4 x 11° Sensor Bracket
4 x Pendant Mount Housing
4 x Sensor Harness – 4.5m
1 x Buzzer Harness – 10m
2 x Extension Cable – 2.5m

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.

CS-3100 features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.



Ultrasonic – Cornerscan

Part No.	Max. Detection Distance (m)
CS-3100	0.6/1.0

Kit contents:
3 x Sensor
1 x Buzzer
1 x ECU
3 x 11° Sensor Bracket
3 x 18° Sensor Bracket
3 x 26° Sensor Bracket
3 x Sensor Harness – 2.5m
1 x Buzzer Harness – 2.5m

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.

Ultrasonic – Frontscan

Part No.	Max. Detection Distance (m) Outer	Inner
FS-4000W	2.5/0.6	2.1/1.0

Kit contents:
4 x Sensor
1 x Buzzer
1 x ECU
4 x 11° Sensor Bracket
4 x 18° Sensor Bracket
4 x 26° Sensor Bracket
4 x Sensor Harness – 2.5m
1 x Buzzer Harness – 2.5m

Obstacle Detection

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.

ST-2100 features mute function that silences the buzzer after 4 seconds if there is no movement from a detected object or vehicle.

Ultrasonic – Stepscan

Part No.	Max. Detection Distance (m)
ST-2100	0.6/1.0

Kit contents:
2 x Sensor
1 x Buzzer
1 x ECU
2 x 11° Sensor Bracket
2 x 18° Sensor Bracket
2 x 26° Sensor Bracket
2 x Sensor Harness – 2.5m
1 x Buzzer Harness – 2.5m

UDS-000HSS

UDS-00SM

0° Sensor Bracket

5° Sensor Bracket

11° Sensor Bracket

18° Sensor Bracket

26° Sensor Bracket

UDS-4.5SC

Buzzer Extension Cable

Ultrasonic – Spare Parts NEW

Part No.	Description	
UDS-000**HSS**	Sensor – suits Backscan & Frontscan	
UDS-00**SM**	Pendant Mount Housing, use in conjunction with Sensor Bracket	
UDS-00**SSK**	Sensor Bracket Kit	Kit contents: 4 x 0° & 4 x 11° bracket
UDS-05**SS**	Sensor Bracket Kit	Kit contents: 2 x 5° bracket
UDS-11**SS**	Sensor Bracket Kit	Kit contents: 2 x 11° bracket
UDS-18**SS**	Sensor Bracket Kit	Kit contents: 2 x 18° bracket
UDS-26**SS**	Sensor Bracket Kit	Kit contents: 2 x 26° bracket
UDS-4.5**SC**	Sensor Extension Cable – 4.5m	
UDS-2.5**BC**	Buzzer Extension Cable – 2.5m	
UDS-10**BC**	Buzzer Extension Cable – 10m	
UDS-15**BC**	Buzzer Extension Cable – 15m	

White Sound
shh...shh
not bleep...bleep

The bbs-tek® reversing alarms use multi-frequency white sound, AKA broadband sound instead of the traditional single frequency sound of a conventional tonal alarm. The sound dissipates much quicker, is directional and is localised in the danger zone, resulting in an enormous reduction in noise nuisance and complaints.

Operators involved in all types of physical movement from conventional road transport including trucks and RCV's, buses and low-loaders to off-road applications including quarry vehicles, forklifts, earthmoving equipment and agricultural vehicles, are already experiencing the unique benefits of the bbs-tek® reversing alarm system.

Not only are noise nuisance and complaints considerably reduced, but the unique localisation feature of the bbs-tek® reversing alarm means that in busy environments you can tell instantly where the sound is coming from and, therefore, which vehicle is reversing.

This makes the bbs-tek® reversing alarms much safer when used in areas that have several vehicles moving.

- **Eliminates noise nuisance and complaints.**

  White sound is easy on the ear and dissipates at twice the rate of conventional alarms, creating a better work site and less environmental disturbance.

- **Locatable.**

  With bbs-tek® reversing alarms it is much easier to tell which vehicle is reversing toward you within a noisy environment.

- **Directional.**

  The sound is concentrated within the danger zone, increasing people's response to the alarm and diminishing the chance of it being ignored.

Sounder Units

Not all reversing alarms are built the same. Each model in the Brigade range uses a different type of sounder unit appropriate for it's application.

Driver

Ideal option for high sound pressure level (SPL) models. The Driver sounder unit incorporates a large magnet and voice coil for superior output. Brigade Driver models are tough, durable and fully waterproof (IP68), so units can be steam-cleaned and pressure washed. Excellent sound quality.

Conventional Cone Speaker

A good option for medium and low SPL models, subject to design and materials used. *Not suitable for high SPL models over 102 dB(A) due to cone speaker over stress.* Brigade's cone speakers are tough, durable and fully waterproof (IP68), so can be stream-cleaned, pressure washed and offer long life in extreme conditions. Great sound quality, even under extremes of temperature and other adverse conditions.

Lifetime Warranty

LIFE TIME

bbs-tek® reversing alarms are so robust they have a lifetime warranty that covers the alarm for the life of the vehicle.

White Sound Reversing Alarms

bbs-tek Self-Adjusting 50

bbs-tek Fixed Volume 52

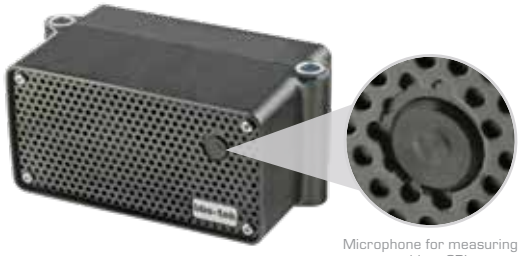
White Sound Reversing Alarms

bbs-tek Self-Adjusting

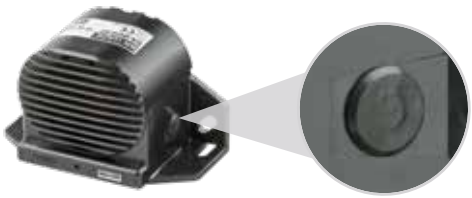
BBS107SA

- Unique multi-frequency white sound.
- Continuously self-adjusts to 5–10dB above ambient sound pressure levels.
- Eliminates noise nuisance complaints.
- Sound confined to the danger zone.
- Instantly locatable sound.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

Body :	Heavy Duty Medium Duty	Glass Reinforced Nylon AES
Cable Length :		1m
Vibration :		10G
EMC :		CE, C-Tick & 'e' marked
Standards :		Conforms to SAE J994 environmental
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68



Microphone for measuring ambient SPL



Microphone for measuring ambient SPL

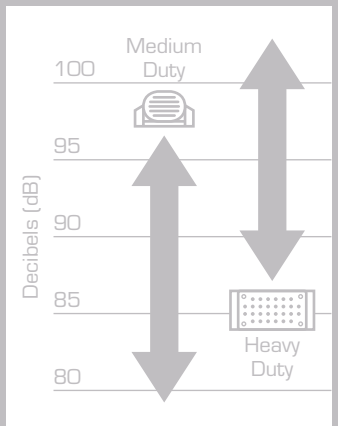
bbs-tek® Self-Adjusting

Take the guess work out of choosing the best sound pressure level (SPL) for your application.

Ideal for vehicles or machinery working in areas with widely differing ambient noise levels, where a fixed-volume reversing alarm will be either too quiet in loud environments (very hazardous), or too noisy in quiet environments (irritating and a nuisance).

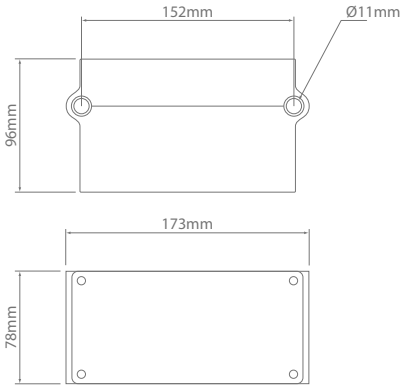
Brigade bbs-tek® self-adjusting reversing alarms utilise a small hidden and highly robust microphone to measure ambient SPL. They then self-adjust their own SPL, up or down, to maintain an output of just 5–10dB louder than the surrounding environment.

Loud enough to be heard, but not so loud as to cause a nuisance.



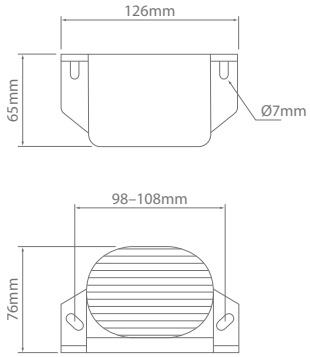
White Sound Reversing Alarms

Watch Video



bbs-tek Self-Adjusting – Heavy Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS107**SA**	12–24	87 – 107	Multi	1.0	Driver



bbs-tek Self-Adjusting – Medium Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS97**SA**	12–24	77 – 97	Multi	1.0	Speaker
BBS97**SA**HV	36–80	77 – 97	Multi	0.15	Speaker

White Sound Reversing Alarms

bbs-tek Fixed Volume

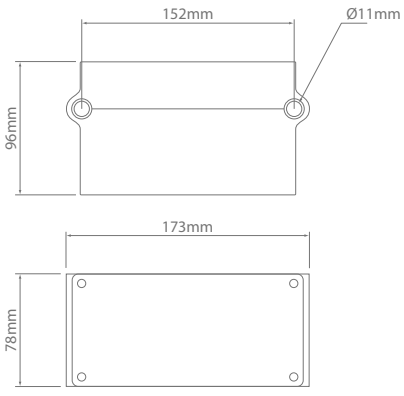
BBS92HV

- Unique multi-frequency white sound.
- Eliminates noise nuisance complaints.
- Sound confined to the danger zone.
- Instantly locatable sound.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

IP68 LIFE TIME CE

Body :	Heavy Duty	Glass Reinforced Nylon
	Medium Duty	AES
Cable Length :		1m
Vibration :		10G
EMC :		CE, C-Tick & 'e' marked
Standards :		Conforms to SAE J994 environmental
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68

12V 24V



White Sound
shh...shh
not bleep...bleep

The bbs-tek® constant tone speaker uses multi-frequency white sound instead of the traditional single frequency sound. White Sound dissipates much quicker, is directional, and is localised in the danger zone, resulting in an enormous reduction in noise nuisance and complaints.

The unique localisation feature of the bbs-tek® White Sound means that in busy environments you can tell instantly where the sound is coming from and, therefore, the direction of possible danger.

This makes bbs-tek® White Sound® much safer when used in areas that have several vehicles moving.

bbs-tek Fixed Volume – Heavy Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS102	12–24	102	Multi	1.0	Driver
BBS107	12–24	107	Multi	1.0	Driver

White Sound Reversing Alarms

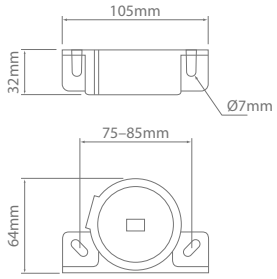


Fig 1

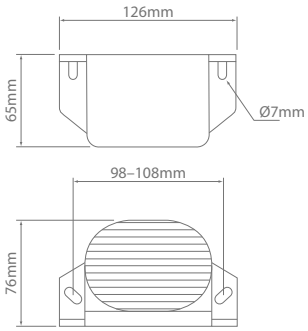
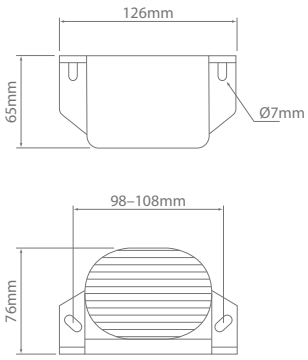


Fig 2

bbs-tek Fixed Volume – Medium Duty

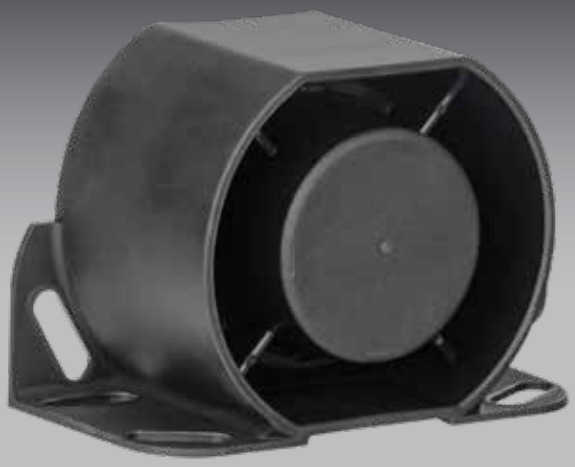
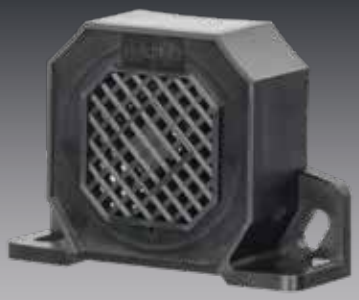
Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Fig
BBS82	12–24	82	Multi	0.2	Speaker	1
BBS87	12–24	87	Multi	0.2	Speaker	1
BBS92	12–24	92	Multi	0.2	Speaker	1
BBS97	12–24	97	Multi	0.2	Speaker	1
BBS82**HV**	36–80	82	Multi	0.15	Speaker	2
BBS92**HV**	36–80	92	Multi	0.15	Speaker	2



bbs-tek Fixed Volume – Medium Duty – Tanker Specification

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
BBS92**ADR**	12–24	92	Multi	0.3	Speaker

Tanker specification features 460mm cable with armoured conduit.

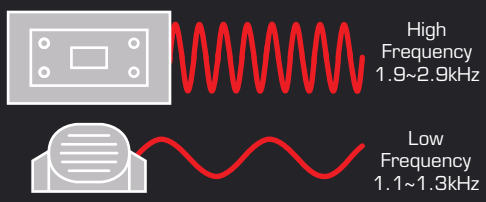



Tonal Alarms

The traditional reversing alarm 'bleep, bleep, bleep' sound is also known as a 'Tonal' alarm.

Tonal alarms operate at one fixed frequency (kHz).

The frequency output is different for each model and can be important in the effectiveness of the alarm in differing workplace environments.



Self Cleaning Ports

Reversing alarms can be used in hostile environments and suffer from debris, water and dust ingress.

Brigade Heavy Duty reversing alarm models use a double reflex horn and patented self-cleansing Pressure Port System™.

This feature uses pressure created by the dome speaker to pump mud, dust and water out of the sound chamber. The result is an increased reliability when used in hostile environments.

Sounder Units

Not all reversing alarms are built the same. Each model in the Brigade range uses a different type of sounder unit appropriate for it's application.

Dome Speaker

Ideal option for high sound pressure level (SPL) models. The Dome Speaker utilises a large magnet, voice coil with a conventional Cone Speaker mated to an acoustically designed true-horn. This generates high SPL with superb sound quality from a relatively small unit.

Brigades Dome Speakers are tough, durable, and guaranteed waterproof (IP68), so can be steam-cleaned and pressure washed. Working life and sound quality are unimpaired by extremes of temperature and other adverse conditions.

Conventional Cone Speaker

A good option for medium and low SPL models, subject to design and materials used. *Not suitable for high SPL models over 102 dB(A) due to cone speaker over stress.*

Brigade's cone speakers are tough, durable and fully waterproof (IP68), so can be stream-cleaned, pressure washed and offer long life in extreme conditions. Great sound quality, even under extremes of temperature and other adverse conditions.

Tonal Reversing Alarms

Tonal Self-Adjusting 56

Tonal Manual-Adjusting 58

Tonal Fixed Volume 59

Economy Fixed Volume 60

Tonal Reversing Alarms

Tonal Self-Adjusting

SA800

SA400

- Continuously self-adjusts to 5–10dB above ambient sound pressure levels.
- Frequency optimised for construction equipment in heavy duty models.
- Patented 'Dome Speaker' technology.
- TE DEUTSCH connector on IDC model.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

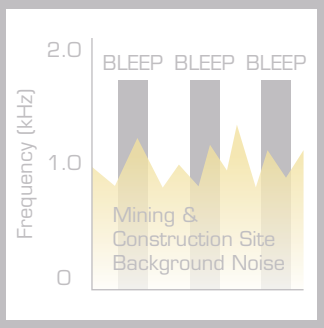
Voltage :		12–24V
Body :	SA400	AES
	SA800, SA917	Glass Reinforced Nylon
Vibration :		10G
EMC :		CE, C-Tick & 'e' marked
Standards :		Conforms to SAE J994 environmental
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68

Frequency for HD Models

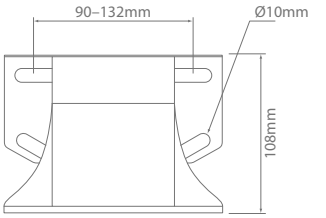
A 'Heavy Duty' tonal reversing alarm doesn't just mean it is built to withstand the rigours of a harsh environment, it must also perform at it's best for the task at hand.

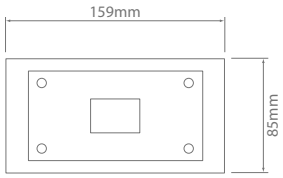
Carefully optimised frequency characteristics make the Heavy Duty range clearly audible under the typical working conditions found in mining, construction and urban/highway environments.

Heavy Duty models use a frequency of 1.9kHz, optimised for construction equipment, as lower frequencies are likely to be masked by construction site noise, which is typically around 1.0kHz.

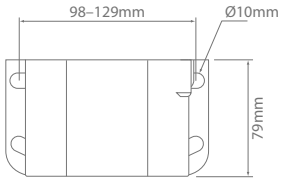


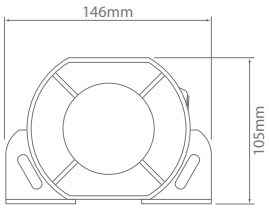
Tonal Reversing Alarms





SA800, SA800IDC



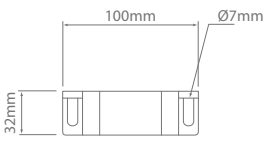


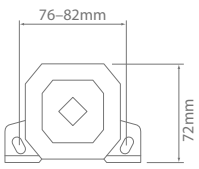
SA917

Tonal Self-Adjusting – Heavy Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Self Cleaning Port	Cable Length (mm)
SA800	87 – 112	1.9	0.3	Dome Speaker	•	300
SA800**IDC**	87 – 112	1.9	0.3	Dome Speaker	•	135
SA917	87 – 112	0.7 – 2.8	0.6	Speaker	—	150

SA917 is not a Brigade product.





Tonal Self-Adjusting – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Self Cleaning Port	Cable Length (mm)
SA400	87 – 102	1.25	0.2	Speaker	—	1000

Tonal Reversing Alarms

Tonal Manual-Adjusting

- Mute function.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

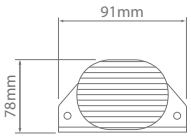
Voltage :	12–24V
Body :	AES
Vibration :	10G
EMC :	CE, C-Tick & 'e' marked
Standards :	Conforms to SAE J994 environmental
Operating Temperature :	-40°C to 60°C
Ingress Protection :	IP68

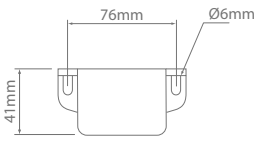
Self-Adjusting vs Manual-Adjusting

Self-Adjusting reversing alarms utilise a small hidden and highly robust microphone to measure ambient SPL. They then self-adjust their own SPL, up or down, to maintain an output of just 5–10dB louder than the surrounding environment.

Manual-Adjusting reversing alarms temporarily mute the output when the operator double engages reverse gear. The alarm will reset automatically once reverse gear is disengaged.

Check with local regulations for suitability of this type of alarm in regards to applicable laws / regulations.





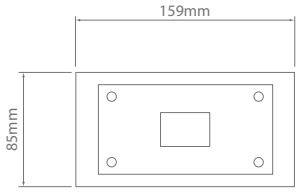
Tonal Manual-Adjusting – Medium Duty

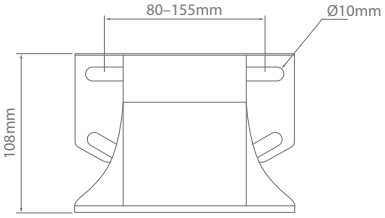
Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA32**NS**	0 – 90	1.1	0.2	Speaker	1000

Tonal Reversing Alarms

- Frequency optimised for construction equipment in heavy duty models.
- 'Dome Speaker' technology.
- Self cleaning port in heavy duty models.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- Lifetime warranty.

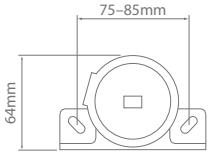
Voltage : 12–24V
Body : Heavy Duty Glass Reinforced Nylon
Medium Duty AES
Vibration : 10G
EMC : CE, C-Tick & 'e' marked
Standards : Conforms to SAE J994 environmental
Operating Temperature : -40°C to 85°C
Ingress Protection : IP68

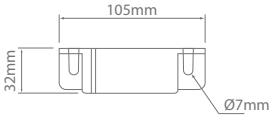




Tonal Fixed Volume – Heavy Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA890	112	1.9	0.5	Dome Speaker	300





Tonal Fixed Volume – Medium Duty

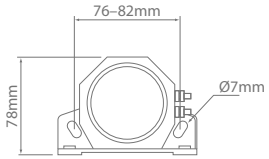
Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit	Cable Length (mm)
BA560	97	1.25	0.2	Speaker	1000
BA570	102	1.25	0.3	Speaker	1000

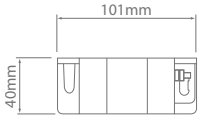
Tonal Reversing Alarms

Economy Fixed Volume

- Ideal for price conscious applications.
- Environmentally sealed – IP67
- Epoxy filled for maximum vibration resistance.
- Multi-voltage.
- 2 year warranty.

Voltage :	12–80V
Body :	AES
Vibration :	10G
EMC :	CE & 'e' marked
Operating Temperature :	-40°C to 60°C
Ingress Protection :	IP67



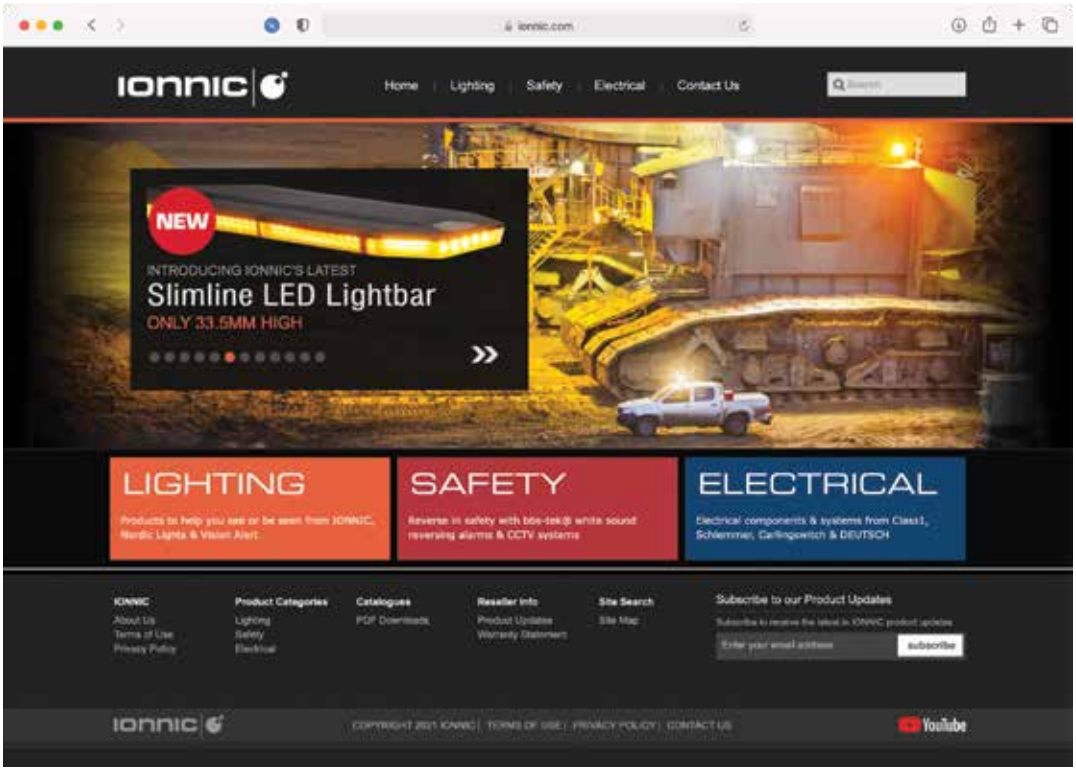


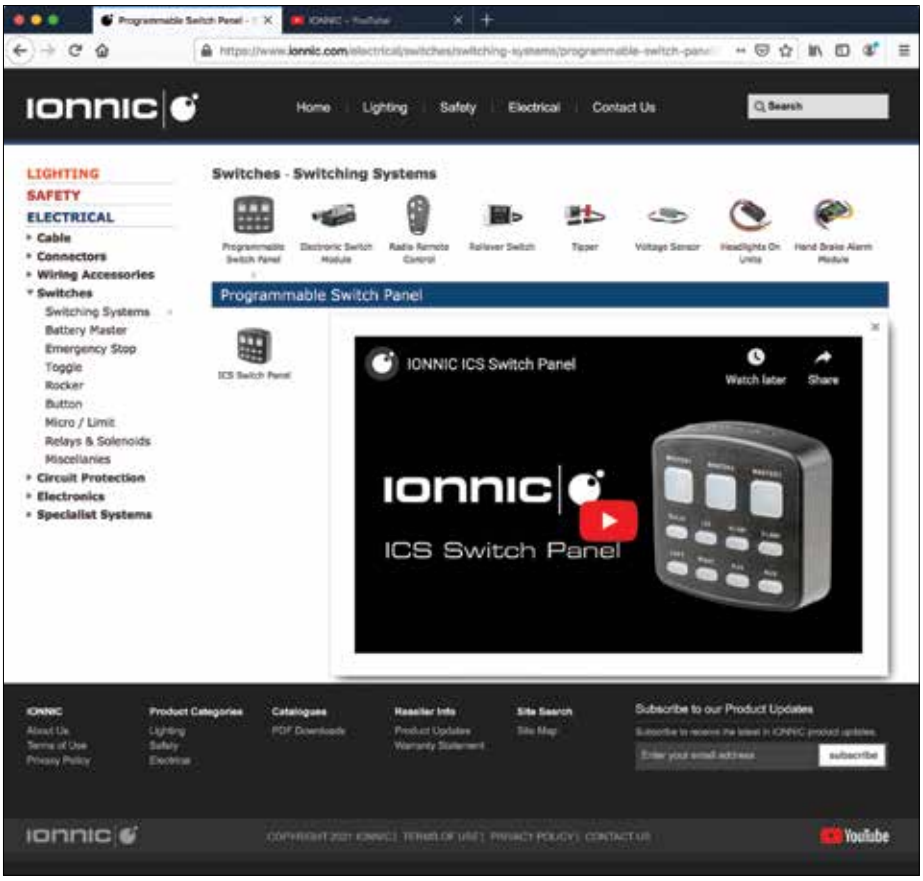
Economy Fixed Volume – Medium Duty

Part No.	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
585-1	97	1.3	0.1	Speaker

ionnic.com

Visit website





Check out videos on a range of products

The IONNIC website – for all the most up to date products and info

Ambulance
Ambulance

Alarms, Horns & Buzzers

Speaking Turn Alarms 64

Disc & Scroll Horns 66

Warning Buzzers 68

Speaking Turn Alarms

NEW

SS-BCL01

SS-BC-08

12V 24V | IP67 | 2Yrs | ECE R10

- Real speaking message – "SSH, SSH, CAUTION, TRUCK TURNING LEFT".
- SS-BCL01-KIT equipped with LED signal light for additional visual warning.
- Multi-voltage.
- Environmentally sealed – IP67.
- 2 year warranty.

Voltage :		12–24V
Volume :		90dB(A)
Speaker Body :		AES
Lens :		Polycarbonate
Bracket :		Powder Coated Aluminium
EMC :		ECE R10
Approvals :	Speaker	CE & 'e' marked
Ingress Protection :		IP67

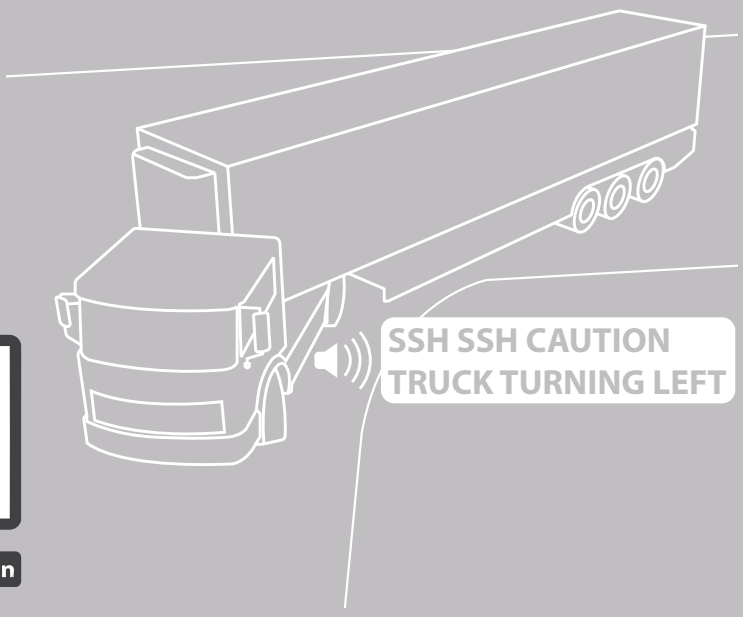
Turn Signal Alarms

Larger vehicles by their very nature have blind spots that make it extremely difficult for a driver to see smaller vehicles such as motorbikes, cyclists and even pedestrians - a major and increasing source of injury and fatalities are trucks turning left.

Speaking Turn Alarms are designed to provide an effective solution for the left turn blind spot hazard. The alarm operates when the vehicle's left side indicator is activated playing a speaking message, making cyclists and pedestrians aware they are potentially in the danger zone of the left turning vehicle beside them.

The SS-BCL01-KIT includes a high intensity LED light to increase safety and awareness even in scenarios where cyclists, pedestrians or site workers are using headphones or hearing protectors.

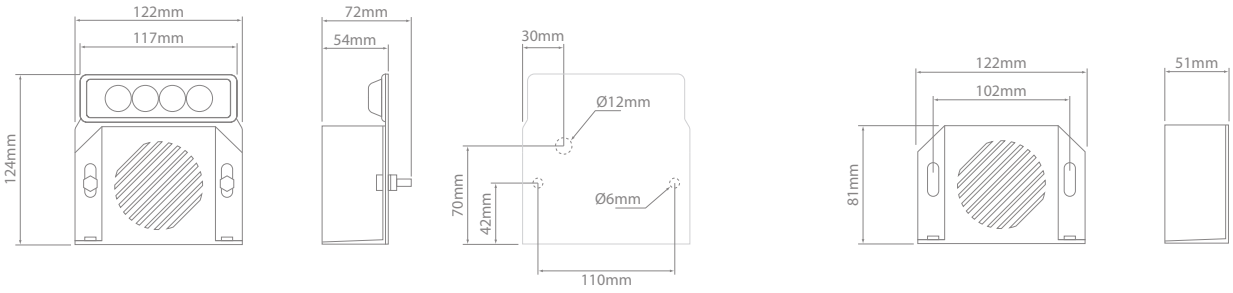
Scan to listen



BRIGADE

SS-BCL01-KIT

SS-BC-08-KIT



Mounting Dimensions

Speaking Turn Alarms – Kits NEW

Part No.	Description	LED	Cable Length (mm)
SS-BCL**01**-KIT	Speaker Unit & Turn Signal Module with LED Signal Light	Amber	300
SS-BC**08**-KIT	Speaker Unit & Turn Signal Module	—	450

Supplied with mounting hardware.

SS-BCL01

SS-BC-08

TS01

Speaking Turn Alarms – Components NEW

Part No.	Description
SS-BCL**01**	Speaker Unit with LED Signal Light
SS-BC-**08**	Speaker Unit
TS01	Turn Signal Module, required when connecting alarm directly to vehicle indicator circuit

Alarms, Horns & Buzzers

Disc & Scroll Horns

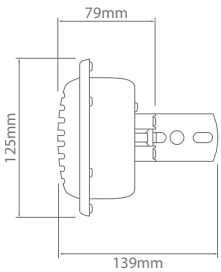
D2H24

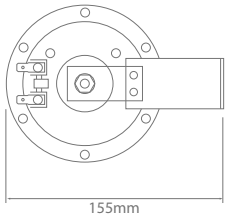
SY100

S2H12

- High & low frequencies.
- Twin terminals.
- Dual mounting bracket.
- 12 or 24V models for Disc Horns.
- Heavy Duty model ideal for truck, bus & mining applications.

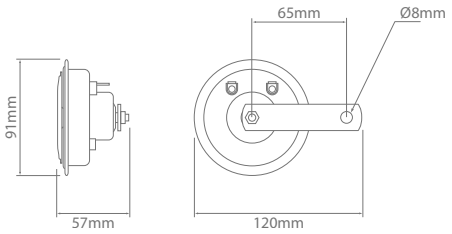
Terminal Size : 6.3mm Blade





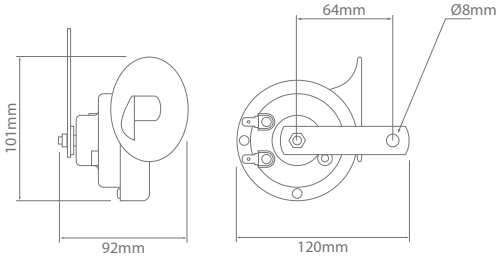
Disc Horn – Heavy Duty

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz
SY100	12	120	395
SY101	24	120	395



Disc Horn

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz	Frequency
D2H12	12	110	420	High
D2H24	24	110	420	High
D2L12	12	110	335	Low
D2L24	24	110	335	Low
D212KIT	12	Kit contents: 1 x D2H12 & 1 x D2L12		
D224KIT	24	Kit contents: 1 x D2H24 & 1 x D2L24		



Scroll Horn

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – Hz	Frequency
S2H12	12	110	505	High
S2L12	12	110	425	Low

Alarms, Horns & Buzzers

Warning Buzzers

B657

B12

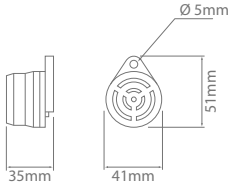
B122

- Models available from 6 to 28 volt.
- Surface or panel mounts.
- Up to 85dB(A) output.
- Continuous or pulsed output from B657.
- B567 epoxy filled for vibration resistance.

Terminal Size :	B12, B24	6.3mm
	B657	6.6mm
Cable Length :	B122	120mm

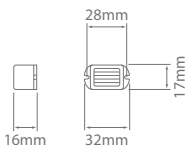
B12

B24



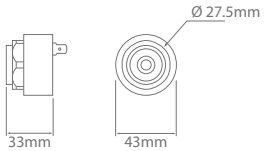
B122

9V
15V



B657

6V
28V



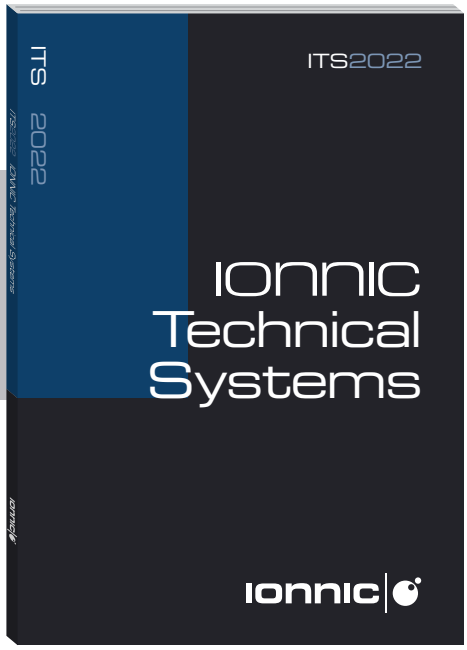
Warning Buzzers

Part No.	Voltage	SPL – dB(A) @ 1m	Frequency – kHz	Current Draw (A)	Sounder Unit
B12	12	85	350	0.01	Piezo
B24	24	85	350	0.02	Piezo
B122	9–15	75 @ 20cm	400	0.5	Mechanical
B657	6–28	85	2900	0.18	Piezo

Catalogues

- Display / HMI
- I/O Controllers
- Governors
- Auxiliary Controllers
- Accessories

To get your copy visit ionnic.com



Electrical

- DT Series
- DTM Series
- DTP Series
- DTHD Series
- HD10 Series
- HD30/HDP20 Series
- DRC Series
- Contacts & Plugs
- Deutsch Connector Tools

To get your copy visit ionnic.com

CHING MARS ELECTRONIC SIREN EA-100T
HORN
MANUAL
RADIO
WAIL
YELP
SIREN
OFF

Sirens & Intercoms

Siren Amplifiers & PA 72

Siren Speakers 74

Motorised Sirens 75

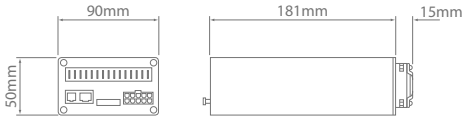
BACKCHAT Intercom 76

Siren Amplifiers & PA

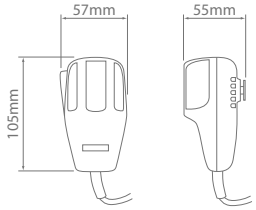
SA500-12

- Up to 5 tones available.
- Horn activated tone changing on 100W models.
- Public address on all models.
- Radio re-broadcast on selected models.
- Softstart on Remote Head units.
- 12 & 24V models.

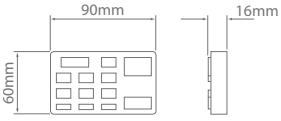
Control up to 8 individual lighting functions. Program the ALERT key to activate any combination of lights with a siren tone.



ECU



Microphone



Control Pad

Siren Amplifier & PA – Remote Head with Control Pad – 100 Watt

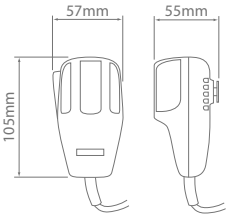
Part No.	Voltage
809-001	12
809-002	24

Features

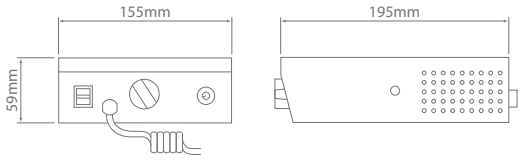
- Public Address
- Radio Re-Broadcast
- Park Kill
- Horn Ring Cycler
- Manual Setting
- Soft Start Siren
- Manual Wail
- Control Pad with 8 x lighting control

Tones

- Wail
- Yelp
- Hi-Low
- Phaser
- Air Horn



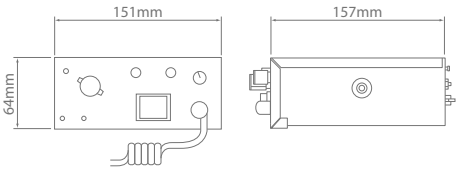
Microphone



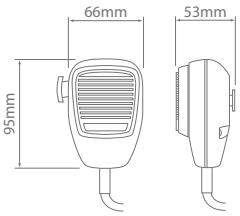
ECU

Siren Amplifier & PA – 60 Watt

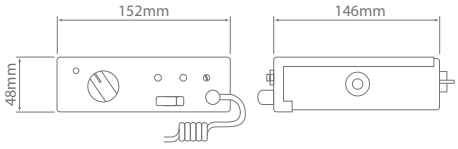
Part No.	Voltage	Features	Tones
EA1001/12V	12	• Public Address	• Wail • Phaser • Yelp • Air Horn • Hi-Low



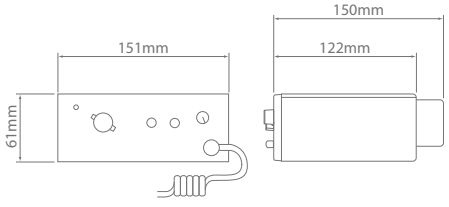
SA500-12



Microphone



SS670



ECU

SS700-24

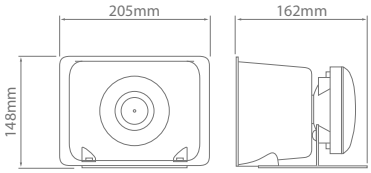
Siren Amplifier & PA – 100 Watt

Part No.	Voltage	Features	Tones
SA500-**12**	12	• Public Address • Radio Re-Broadcast • Auxiliary Input • Park Kill • Horn Ring Cycler • Manual & Alert Settings	• Wail • Phaser • Yelp • Air Horn
SS670	12		
SS700-**24**	24		

Siren Speakers

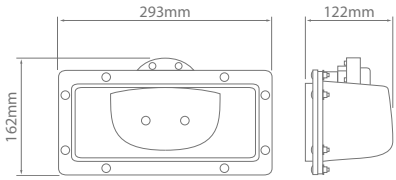
TC100H

- Universal or panel mount models.
- Polycarbonate cones – TC100H.
- Full cast alloy model – SH3015.
- Suitable for use with all IONNIC amplifiers.



Siren Speakers – Polycarbonate

Part No.	Watts	Impedance (Ohm)	Weight (kg)
TC100H	100	11	3.0

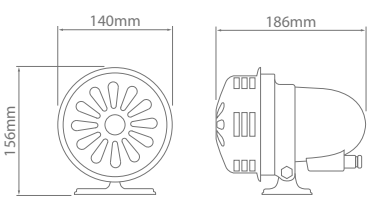


Siren Speakers – Alloy

Part No.	Watts	Impedance (Ohm)	Weight (kg)
SH3015	100	5	4.2

- Motor driven.
- Polycarbonate construction.
- Double insulated.
- 12 & 24V models.

Duty Circle :	Continuous
Sound Output :	114dB @ 1m
Frequency :	820Hz
Body :	Polycarbonate
Weight :	1.5kg
Approvals :	CE, C-Tick
Operating Temperature :	-40°C to 40°C
Ingress Protection :	IP43



Motorised Siren

Part No.	Voltage	Current Rating (A)
SIR450**1210**	12	9.5
SIR450**2410**	24	5.0

BACKCHAT Intercom

BCVI-2

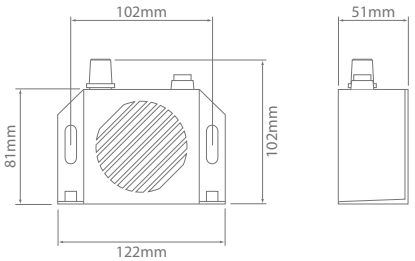
- Voice activated or push to talk models.
- 3 way communication using Duplex kit + Slave.
- Solid state, spark free electronics.
- Environmentally sealed – IP68.
- Epoxy filled for maximum vibration resistance.
- Can be steam & pressure cleaned.
- Multi-voltage.
- 2 year warranty.

Voltage :		12–24V
Current Draw :		0.5A
Volume Control :		80–95dB(A)
Body :		AES
Harness :		25m
Weight :	Master	0.3kg
	Slave	0.27kg
EMC :		CE, ECE R10, FCC & 'e' marked
Operating Temperature :		-40°C to 85°C
Ingress Protection :		IP68

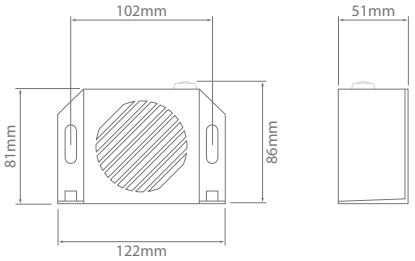
BCVI

BCVI-2

Master



Slave



BACKCHAT Intercom

Part No.	Description
BCVI	Simplex Kit – Master Unit with Voice Activated Slave Unit
BCVI-2	Duplex Kit – Master Unit with Push-to-talk Slave Unit
BCVI-SLAVE	Slave Unit – Voice Activated
BCVI-2-SLAVE	Slave Unit – Push to Talk

Laser Engraving

Permanently engrave your company's logo on to almost any surface.

Laser engraving is a process where the laser beam physically removes the surface of the material to expose a cavity that reveals an image at eye level.

- Ideal for applications where the mark must be permanent e.g. anti-counterfeiting, serialisation.
- Mark any shape including text and barcodes.
- Incredible precision.
- Most metals and many non-metal materials.

Applications:

Date Codes & Batch Codes

Promotional Symbols/ Icons

Primary GTIN Barcodes

Two Dimensional Codes

IONNIC Services

Engraving

- Large range of colour combinations including metallic finishes.
- Materials available for use with backlighting.
- UV stabilised for interior & exterior use.
- Optional adhesive back.
- Ideal for:
  - Safety signage
  - Control panels
  - Product tags
  - Name plates

ENG-STARTERISO
45 x 20mm

ENG-BATTISO
45 x 20mm

ENG-STARTER
40 x 10mm

ENG-BATTERY
40 x 10mm

Custom Engraving

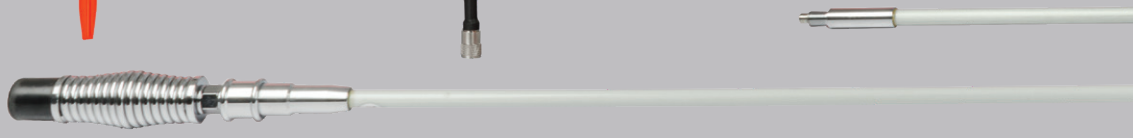
Custom engraving is available for the creation of control panels and name plates up to a maximum size of 500mm x 380mm.

Choose from a large range of colours with some materials suitable for use with backlighting.

For further information ask your local reseller or enquire online at ionnic.com.

ION04

Voyager
First Aid Kit



Mining Safety Accessories

Wheel Chocks 80

Reflective Warning Triangles 81

Reflective Flags 82

First Aid Kit 83

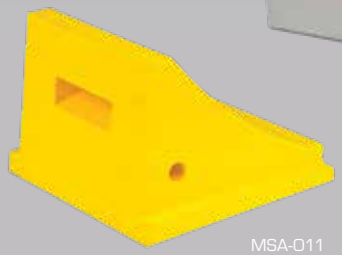
Fire Extinguishers 84

UHF CB Radios 86

Mining Safety Accessories

Wheel Chocks

NEW



- Variety of sizes.
- Slip resistant.
- One-piece construction.
- Stainless steel holders.
- Rubber strap for increased security.

Wheel Chock :	MSA-004	Polyurethane Rubber
Chock Holder :		Stainless Steel

MSA-001

MSA-004

MSA-002

STRAP480MM

MSA-003

MSA-111

MSA-113

MSA-112

MSA-114

Wheel Chocks NEW

Part No.	Description	Suits	Dimensions (mm)
MSA-001	Wheel chock, Orange	—	H160 x W140 x D225
MSA-004	Wheel chock, Black	—	H100 x W120 x D200
MSA-002	Wheel chock holder. Stainless steel	MSA-001, MSA-004	W300
STRAP480**MM**	Rubber strap	MSA-002	L480
MSA-003	Wheel chock holder. Stainless steel	MSA-001, MSA-004	W150
MSA-111	Wheel chock, Yellow	—	H150 x W200 x D210
MSA-113	Wheel chock holder. Stainless steel, includes rubber strap	MSA-111	W260
MSA-112	Wheel chock, Yellow	—	H200 x W220 x D340
MSA-114	Wheel chock holder. Stainless steel, includes rubber strap	MSA-112	W270

- Folding mechanism for easy storage.
- Weighted bases for stability.
- Storage case included.
- Case holder supplied with rubber strap for extra security.

NEW

Case Holder : Stainless Steel

MSA-021

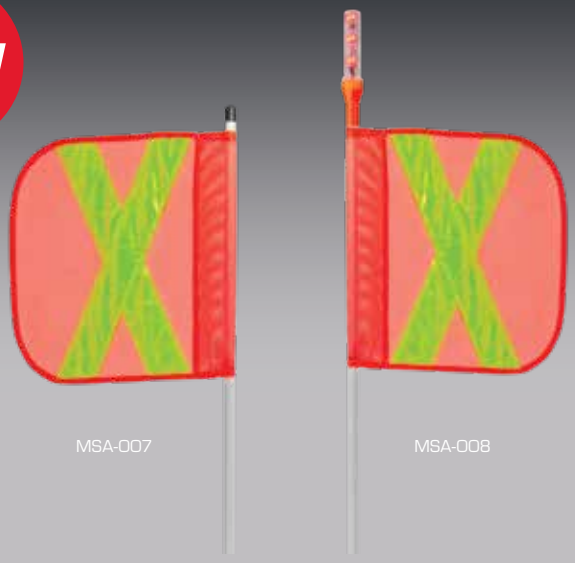
MSA-022

Reflective Warning Triangles NEW

Part No.	Description
MSA-021	Reflective warning triangle x 3. 440mm side length. Storage case
MSA-022	Triangle storage case holder. Stainless steel, Includes rubber strap

Reflective Flags

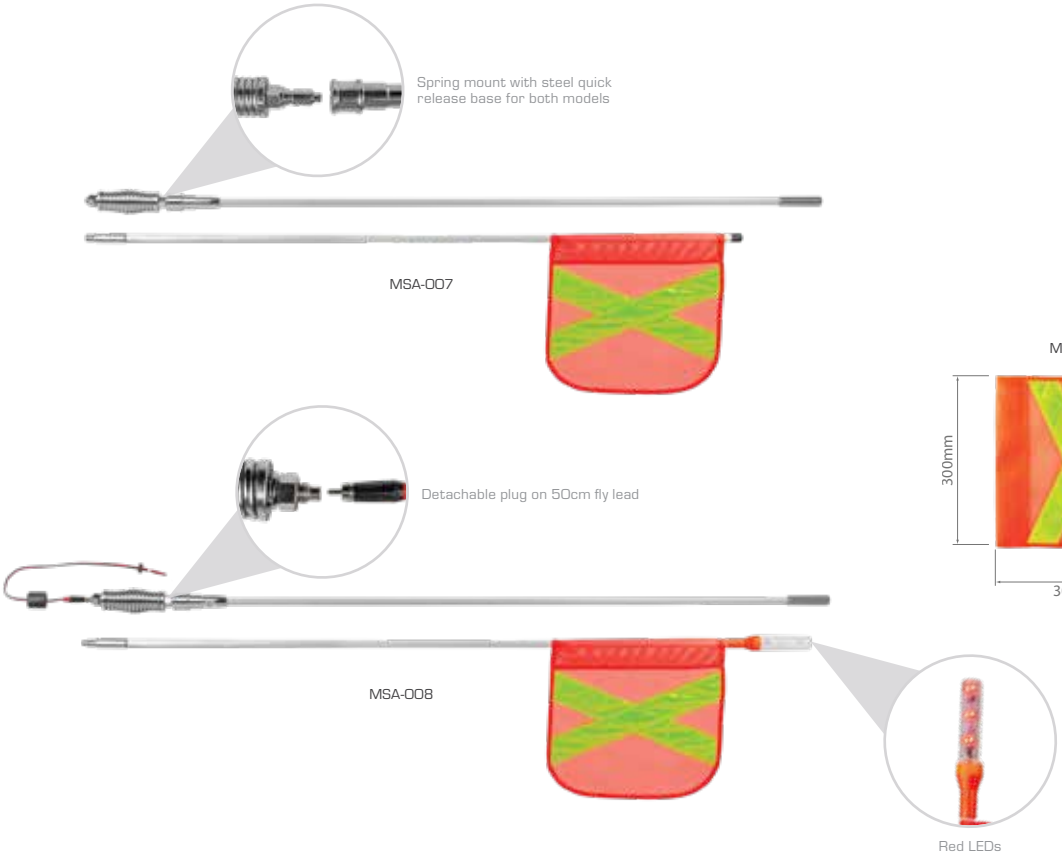
NEW



MSA-007 MSA-008

- Reflective flag available with LED warning light.
- Spring mount with steel quick release base.
- Detachable pole for easy storage.
- Made from sturdy and UV stablised nylon.
- Available as flag only.

Voltage :	MSA-008	12–24V
Material :	Flag	Nylon
	Pole	Polycarbonate
	Base	Stainless Steel



Reflective Flags NEW

Part No.	Description
MSA-007	2 piece, spring base. 2.5m total length
MSA-008	2 piece, spring base. 2.56m total length. LED illumination – Red. 12–24V
MSA-009	Flag only

- 32 pieces first aid kit.
- TGA approved.
- Water resistant carry bag with handle.
- Separate compartments for easy access.
- Ideal for treating minor injuries in the field.

NEW

Approval : TGA, comply with AS 2675-1983
ISO13485

First Aid Kit NEW

Part No.	Description
MSA-046	Portable first aid kit. 32 piece, TGA approved, complies with AS 2675-1983

Kit contents:

- 3 x Gauze swabs – 7.5cm x 7.5cm
- 3 x Cleansing wipe
- 10 x Plastic plaster – 72 x 19mm
- 1 x Disposable face shield
- 1 x Microporous Paper Tape – 2.5cm x 5m
- 1 x Nitrile powder free gloves
- 2 x Low adherent dressing – 10cm x 10cm
- 1 x Wound dressing – #14
- 1 x Conforming Bandage – 5cm x 4m
- 1 x Conforming Bandage – 7.5cm x 4m
- 1 x Triangular bandage – 110 x 110 x 155cm
- 3 x Safety pin
- 1 x Scissor – 10cm
- 1 x Plastic tweezer – 12cm
- 1 x Notebook & pen
- 1 x Amputated parts bags

Mining Safety Accessories

Fire Extinguishers

NEW

MSA-033

MSA-034

MSA-031

MSA-032

- Dry chemical powder fire extinguishers – ABE.
- Variety of sizes available.
- Models including protective UV bags.
- Heavy duty mounting brackets for mobile plant installation.
- Suitable for Class A, B and E applications.

Agent Type : ABE Powder
Approvals : AS/NZS 1841.1
AS/NZS 1841.5
AS/NZS 1850

MSA-030

MSA-039

MSA-040

MSA-033

MSA-031

MSA-035

Fire Extinguishers NEW

Part No.	Size (kg)	Hose	Protective UV Bag	Standard Duty Mounting Bracket	Max. Range (m)	Discharge Time (sec.)
MSA-030	1.0	—	•	•	3	9
MSA-039	1.0	•	—	•	3	9
MSA-040	1.5	•	—	•	4	9
MSA-033	2.5	•	—	•	5	8
MSA-031	4.5	•	•	—	5	18
MSA-035	9.0	•	•	—	5	26

ABE Fire Extinguisher Applications

Powder ABE Fire Extinguishers are suitable for the following fire types:

Class A

Paper, textiles, wood, most plastics and rubber

Class B

Flammable & combustible liquids

Class E

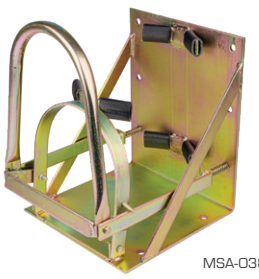
Electrically energized equipment

MSA-034

MSA-032

MSA-036

MSA-037



MSA-038

Fire Extinguisher Mounting Brackets NEW

Part No.	Style	Material	Suit
MSA-034	Heavy Duty	Powder Coated Steel	MSA-033
MSA-032	Canon	Powder Coated Steel	MSA-031
MSA-036	Heavy Duty	Powder Coated Steel	MSA-035
MSA-037	Canon	Powder Coated Steel	MSA-035
MSA-038	Over-centre	Zinc-plated Steel	MSA-035

Mining Safety Accessories

UHF CB Radios

NEW

GME-XRS370C

- Comply to AS/NZS 4365 radio-communication standards.
- Digital signal processing.
- Over voltage & reverse polarity protected.
- XRS series features OLED display on speaker microphone.
- TX series incorporates LCD screen on receiver.
- GME-TX4610 environmentally sealed to IP67 on both receiver and microphone.
- GME-TX4610 can be fitted into standard DIN size slot.
- 5 year warranty.
- Most products made in Australia.

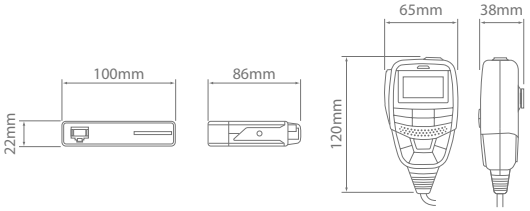
5Yrs

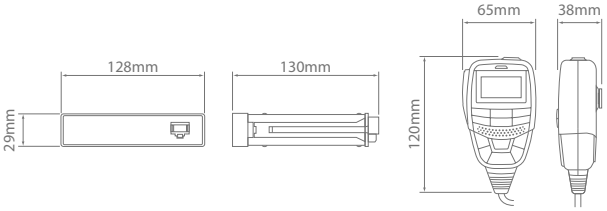
Operating Temperature : -10°C to 60°C

OLED display on speaker microphone

GME-XRS330C

GME-XRS370C





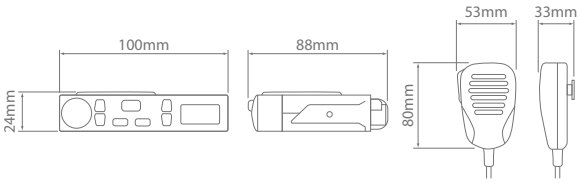
UHF CB Radios – Fixed Mount – XRS Series NEW

Part No.	Enclosure	Voltage	No. of Channels	Radio Frequency Output (W)	Bluetooth Connectivity	In-Built Speaker	Customisable Buttons	Memory Channel
GME-XRS**330C**	ABS	10–16	80	5	•	—	•	•
GME-XRS**370C**	Die-cast	10–16	80	5	•	•	•	•

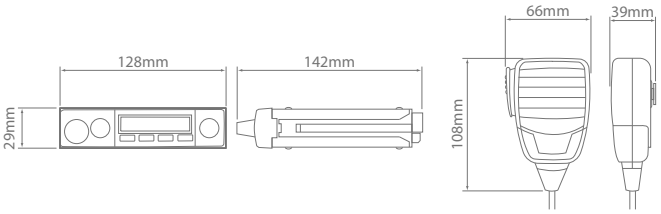
Register via app for additional 1 year warranty, available on both IOS & Android.

Mining Safety Accessories

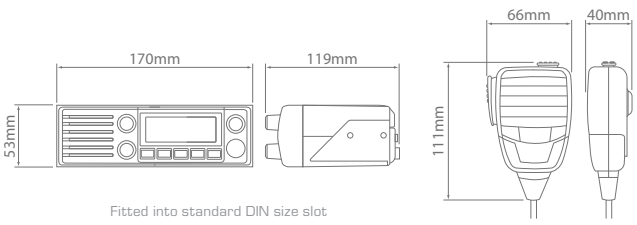
GME-TX3100



GME-TX3500S

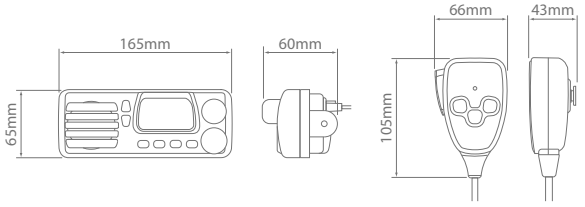


GME-TX4500S



Fitted into standard DIN size slot

GME-TX4610



UHF CB Radios – Fixed Mount – TX Series NEW

Part No.	Enclosure	Voltage	No. of Channels	Radio Frequency Output (W)	Bluetooth Connectivity	In-Built Speaker	Customisable Buttons	Memory Channel
GME-TX**3100**	ABS	10–15	80	5	—	•	—	—
GME-TX**3500S**	Die-cast	10–16	80	5	—	—	—	—
GME-TX**4500S**	Die-cast	10–16	80	5	—	•	—	—
GME-TX**4610**	ABS	10–15	80+19*	5	—	•	—	—

*Receiver only.

Mining Safety Accessories

GME-XRS330CTP

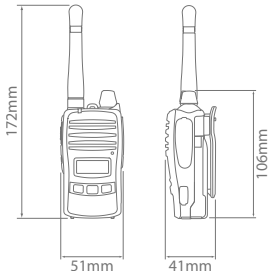
GME-TX3500SVP

UHF CB Radios – Fixed Mount – Kits NEW

Part No.	Kit Contents:	
GME-XRS**330**CTP	1 x Radio & microphone (GME-XR330C) 1 x Ground independent antenna – 64cm (GME-AE4018)	1 x Microphone extension adapter with 1.8m cable 1 x Elevated feed spring base with 4.5m cable
GME-TX**3500**SVP	1 x Radio & microphone (GME-TX3500S) 1 x Ground independent antenna – 15cm (GME-AE4002) 1 x Ground independent antenna – 64cm (GME-AE4018) 1 x Stainless steel spring base (GME-AS001)	1 x PL259 Adapter (GME-PL259) 1 x Elevated feed base with 4.5m cable (GME-ABL002) 1 x Stainless steel L mounting bracket (GME-MB407SS) 1 x Stainless steel bullbar mounting bracket

GME-TX677

GME-TX677TP



GME-TX677QP

UHF CB Radios – Handheld NEW

Part No.	Description	No. of Channels	Radio Frequency Output* (W)	Max. Battery Life (hr)
GME-TX677	Single unit	80	2 / 0.5	14
GME-TX677**TP**	Twin pack with dual battery charger	80	2 / 0.5	14
GME-TX677**QP**	Quad pack with chargers and protective case	80	2 / 0.5	14

*Radio frequency output switchable.

Mining Safety Accessories

UHF CB Radios – Accessories NEW

Part No.	Description
GME-AE**4002**	Antenna – 2.1dBi. 150mm. 5/16" x 26 TPI thread. Stainless steel
GME-AE**4013**	Antenna – 2.1dBi, 280mm. 5/8" x 24 UNEF thread. Stainless steel
GME-CD51-**68**-70	Antenna – 4dBi. 360mm. 9mm thread. Copper
GME-AE**4018**	Antenna – 6.6dBi. 640mm. 5/16" x 26 thread. Fiberglass
GME-AE**4705B**	Antenna – 6.6dBi. 1200mm. FME connector. Heavy duty spring base. 4.5m lead. Fiberglass radome
GME-AE**4705B**TP	Twin antenna kit – 6.6 & 2.1dBi. 1200 & 465mm, FME connector. Heavy duty spring base. 4.5m lead
GME-AE**5002**	Antenna kit – On glass, 2.1dBi. 210mm Kit contents: 1 x antenna whip assembly, 1 x coupling box, 1 x RG174 cable with FME connector, 1 x PL259 plug
GME-AE**5003**	Antenna kit – On glass, 2.5dBi Kit contents: 1 x on glass antenna, 1 x 3m double shield coax cable, 1 x RG174 cable with FME connector, 1 x PL259 plug
GME-AB**001**	Antenna base – 5/16" TPI thread. Universal fit
GME-ABL**001**	Antenna base – 5/16" TPI thread. PL259 connector. 4.5m cable
GME-ABL**002**	Antenna base – elevated feed. 4.5m cable
GME-AS**001**	Antenna base – spring. Stainless steel. Suits GME-ABL002
GME-ABL**005**	Antenna base – fold down style. 5/8" UNEF thread. PL259 connector. 4.5m cable
GME-PL259	Plug – PL259 with reducer to suit RG58C/U cable
GME-MB403**SS**	Antenna mounting bracket – universal, stainless steel
GME-MB407**SS**	Antenna mounting bracket – bonnet/boot mount. Stainless steel
GME-MB411**SS**	Antenna mounting bracket – mirror mount. Stainless steel
GME-VC2S	Voltage converter – 18–32V input, 13.6V output. Reverse polarity & over temperature protected

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General Information

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