



DAVESMEN INDIA PVT. LTD
Channelising Resources, Promoting Growth.



SAFETY FIRST WITH DAVESMEN



DAVESMEN INDIA PVT. LTD



Vision

To be recognized as the market leader in heavy-duty and safety products . We are committed to provide state-of-the-art technology, quality products and service excellence.

Mission

DMIPL wants to be a resource point for most of the products in this part of the world such as Tyre Protection Chains, Castings, Reversing Safety Equipments, etc. In simple word it's our Endeavour to be a "Total Mining Solution Company" It should be the manufacturing hub for most products to have easy availability for consumers, valuation for investors and eventually commerce and profits. It should create a healthy environment for consumers to buy and a creative and fair work environment for employees.

Quality Policy

DMIPL deals in tyre protection chain, reversing safety systems, xenon and halogen lights, safemine, casting (GPS and RF based), shots and grits, garden furniture, iron ore and commodities. DMIPL also remanufactures and provides services for various heavy duty equipments (off the road vehicles) and creates a safe mining experience for customers.

DMIPL believes in " Channelising Resources and Promoting Growth". We undertake to regularly measure and evaluate our customer's needs and requirements to provide excellence in both our products and our services.

DMIPL is committed to timely supply products meeting customer requirements and enhance safety scenario in mining activity. DMIPL shall add on products of such nature which can place itself in such businesses uniquely with pride and responsibility.

In-our drive for, and commitment to, continuously improve all our business processes, we undertake to monitor and measure critical indicators within the business processes and to set objective for improvement based on analysis of such measured and monitored data.

DMIPL has developed a system of training in order to groom it's personnel, to actively contribute to the success of business management system. In order to foster an atmosphere of contribution DMIPL will recognize and appropriately reward good performances.

DMIPL is committed to develop, maintain and continually improve it's processes and systems and ensure customer satisfaction. The policy will be reviewed, for both suitability and effectiveness.

Shamit Dave
Managing Director



Why Davemen?

Channelizing Resources Promoting Growth we live by this Ethos. Davemen Products are today reliable quality products which is why we are at the No. 1 Safety Product Company in this part of the world. We go the extra mile to make sure safety is not compromised. Thus we work with market leaders like Brigade, Preco, Erlau, Nordic Lights and other reputed manufactures. Our services is the crown of our dispatch delivery system. We turn up anywhere within 24 Hours of our product dispatched and provide both sales and after sales services to our customer.

OEM Approved

it is our quality of process that distinguishes us from the competition. Reliable, consistent products and controlled development and production procedures have enabled us to reach OEM standards, winning us business across the globe.



Warranty Statement

DMIPL warrants that all products will be covered for manufacturing faults. DMIPL's warranty does not, however, extend to fuses and short circuits.

All products supplied by DMIPL, are supplied and provided on the condition that they cannot be held responsible in the event that they are used for any other purposes than that specified by the manufacturer. DMIPL's warranty, therefore, does not cover misuse, abuse, incorrect fitment and applications.

The customer or purchaser accepts that it is their responsibility to ensure that the product is used in accordance with the manufacturer's instructions.

The commencement date of all warranties is the date of invoice to the purchaser unless otherwise agreed by DMIPL in writing.

Services

The company has attracted a great many high-calibre talents, thus enjoying powerful technical strength.

The field service division is manned by skilled technicians, providing on-site repair services to customers, thereby assisting them in keeping their downtime to an absolute minimum.

If there is demand, a 'man on site' can be assigned to cater specifically to the needs of the customer.

DMIPL Field Services Unit stays ahead of the game with the latest in diagnostic equipment catering for Earth moving equipment.

Company Introduction

Our founder Late Shri Ramesh Chandra Dave incorporated the Group in 1974. He had a very humble beginning. A Technocrat was born in Rajgarh. He did his BSC, AMIE and MIM, he was Awarded Udyog Patra for being "Self Made Industrialist" by the President of India and "Lifetime Achievement Indira Gandhi Award" for his many achievements in his field.

We are a diversified group from Tyre Protection Chain; to Steel Castings to Radar's & Cameras for reversing. We are also actively involved in mining and selling Iron Ore. Our interest is also in Jute and Agri Products.



Product Range

From being a sole selling agent for the world leader in Tyre Protection Chains to exporting various products, our company DMIPL has indeed come a long way. The product we deal with ranges from solar toys to rice to castings to plastics.

With over three decades of experience in manufacturing castings, our name ranks alongside the most reputed casting manufacturers of this country. We deal in:

- Tyre Protection Erlau chains
- Xenon & Halogen Lights
- Anti Skid Erlau chains
- Seat Belt Reminder
- Proximity sensor
- Reversing Safety System
- Casting
- Auto Dipper System
- Iron Ore
- Anti Collision System (Safemine)





WHAT IS A TYRE PROTECTION CHAIN?

A Tyre Protection Chain is a close mesh of high-alloy, drop-forged, steel, wear links which wraps around the tyre to protect the tread and sidewalls.

The flexible nature of the mesh enables the chain to adjust to the tyre as it deforms during the loading or hauling operation.

The chain's highly-efficient, self-cleaning properties prevents the mesh from becoming filled and clogged thus achieving the best possible traction and increasing the loader's productivity.

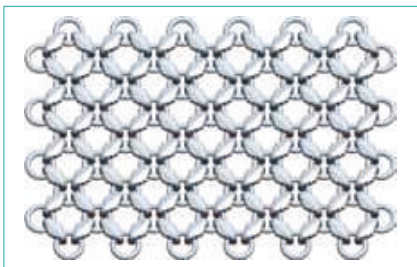
Through 70 years of development in co-operation with owners and operators of wheeled loaders and dump trucks, together with on-going investment in state-of the-art production facilities and quality control labs in Europe and South America, ERLAU has achieved pre-eminence in the tyre protection chain market with a wide range of chains designed to match the challenges of a multiplicity of site conditions.

By protecting tyres from excessive abrasion, punctures and sidewall damage, ERLAU Tyre Protection Chains saves thousands of dollars in tyre replacement costs and assures full loader productivity.

For your confidence, ERLAU experts will be on hand from your initial enquiry, through delivery and installation, routine check-ups and on-call 24/7 for the life of your tyre protection chain.

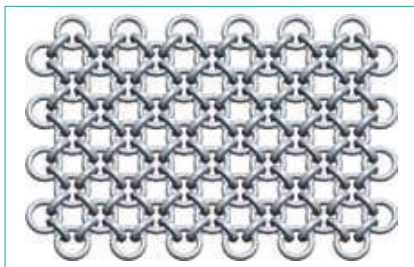


ERLAU SOLUTIONS SAVING TYRES, SAVING TIME, SAVING MONEY



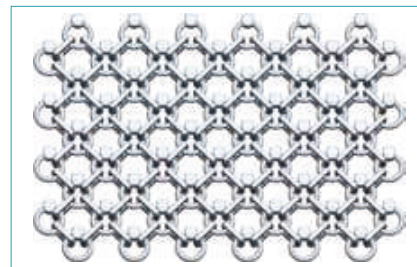
RING-LINK SYSTEM

Drop forged wear links
Tried and tested technology
A wide range of wear links
The right link for your application



RING-RING SYSTEM

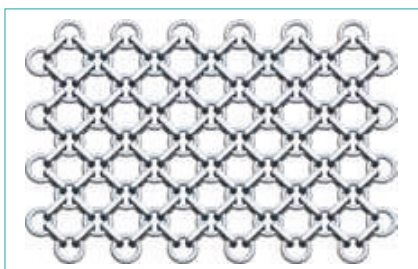
Drop forged wear rings
Perfect tyre protection giving excellent chain
life on very abrasive materials.



RING-LOCKING SYSTEM

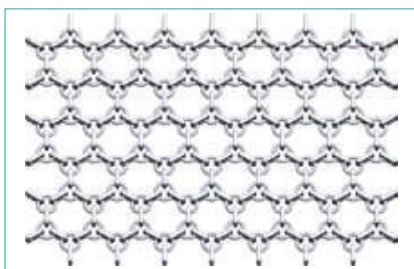
The tyre protection chain specifically
designed for use on hot slag.
Simply unbeatable

3 DIFFERENT CHAIN MESH CONFIGURATIONS PROVIDE PROTECTION – PROTECTION + TRACTION – TRACTION



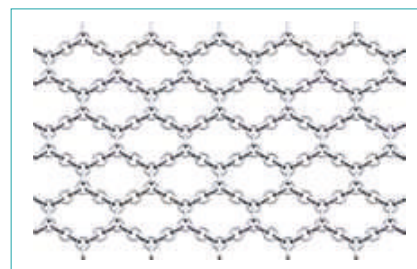
FELS

All-round tyre protection for mining, quarrying,
slag and recycling operations.



GARANT

Greater traction and safety on gradients and wet
or slippery surfaces.



GARANT 10

Greater traction and safety on snow, ice and
slimy surfaces.



IN OPEN PIT OR UNDERGROUND MINES, SHARP-EDGED STONES AND ABRASIVE SURFACES CAN DESTROY TYRES WITHIN A VERY SHORT PERIOD OF TIME.

When it came to laying down the planet's mineral resources Mother Nature could have been a lot more considerate.

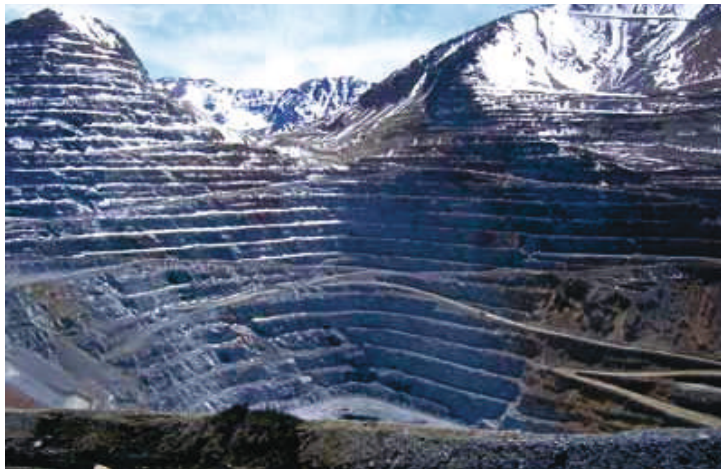
Diamonds in a freezing Artic lake, copper and gold high in the South American Andes, iron ore in the Australian desert, coal seams deep underground and complex deposits are just some of the challenges confronting companies engaged in winning the materials – common and rare – essential to today's living.

In modern mining and quarrying, the man with pick, shovel and pan has been superseded by sophisticated machines that, daily, take giant bites out of the ground and haul them away for crushing and refining. Given the multi-million investments in these machines, optimum productivity is the core requirement and any unscheduled downtime is an unwanted, costly inconvenience.

In open-pit, where wheeled machines are used for stripping, loading, hauling and stockpiling, ultimately, the operation's profitability will depend upon the tyres without which the machine becomes just an immobile complex arrangement of metal components.

Operating in artificially lit galleries, underground mining, tunnelling and caving are among the most demanding and hazardous of activities. Here, tyre protection chains not only save tyres but also provide operator safety.

For mobile, surface operations, miners can select from wide range of ERLAU chains to ensure the right tyre protection and traction safety for their site.



IN QUARRIES, ABRASIVE SURFACES AND SHARP EDGED STONES ARE A GREAT HAZARD FOR TYRES.

Quartz, silica, dolomite, basalt, granite are just some of the causes of excessive tyre wear. Flint, slate and shale-like rocks, or demolition debris can cause punctures and deep sidewall cuts.

“One-minute your loader crowds into the rock fall, the next moment it is slumped, immobile and you are on the phone looking for a temporary fix or a replacement tyre.”

“If yours is a small operation, this could put your entire production on costly standby.”

In these instances, in the cause of operating efficiency, a tyre protection chain, such as ERLAU's RING-LINK or RING-RING system, is required to create a barrier between your tyres and the ground.

The density of the mesh will depend on the exact nature of the work site but it should be self-cleaning and the links specially hardened to resist wear at the points where they interact with the connecting rings.

“ERLAU has the world's widest product range and can supply the ideal tyre protection chain for all types of machine and applications.”





WORKING WITH SMOULDERING HOT SLAG CAN SCORCH TYRES, CAN LEAD TO LOST EQUIPMENT AND RISKS HUMAN LIFE

Steelmaking is one of the toughest environments for men and machines. Pot carriers are used to carry 40 cu m ladles of molten slag to the dumping pit where wheeled loaders transfer the still fiery slag to the recycling point which recovers residual steel for re-smelting and limestone cinder for block-making. Whether liquid or cooling, slag is an unforgiving material subjecting tyres to heavy abrasion from the cinder.

RECYCLING SCRAP METAL AND DEMOLISHED BUILDINGS PLACES ENORMOUS DEMANDS ON LOADER TYRES

Anyone who has visited a demolition site, or a scrap metal re-processor will be acutely aware of the hidden hazards faced daily by the tyres of wheeled loaders.

In demolition, for versatility, a wheeled loader is used to feed the crusher hopper and load the tipper trucks. Every time the loader crowds into the demolition heap there is a risk that a tyre will be pierced by a concealed length of rebar. Similar damage can occur when loading flattened cars into the baler or lifting tangled pieces of scrap metal for smelting.

In each instance a burst tyre can bring production to a standstill while a replacement is found. To avoid unscheduled breaks, it is advisable to invest in a tyre protection chain such as Erlau's RING-RING system which encases the vulnerable tread and sidewall of the tyre with a close impenetrable mesh.

With deadlines to meet, the loader operator can be assured that, having fitted ERLAU TPCs, any delay will not be due to his tyres.



SAFE TRACTION FOR YOUR PRODUCTIVITY

At some sites, where the terrain is slippery because of mud or where trucks have to contend with icy haul roads, poor traction can be a major problem.

Wrestling to control a loaded truck with a mind of its own is exhausting for the operator, can reduce concentration and risks 'losing' the truck with all the collateral damage that may involve.

Where the tyre tread, alone, cannot provide an adequate grip, ERLAU TERRA PLUS traction chains in protection + traction, GARANT mode or full-traction GARANT 10 configuration are essential for the safe operation of the equipment.

Available with link sizes from 11mm to 23mm, TERRA PLUS is suitable for a wide range of applications, including: motor graders, scrapers, mining dump trucks, wheeled loaders, snow ploughs and logging vehicles.





















Already in use in 28 countries, the TERRA PLUS 'Z' shaped, self-cleaning, toothed 'terrier' link offers optimum traction and excellent wear characteristics.





WHICH ERLAU TYRE PROTECTION CHAIN IS BEST FOR YOU

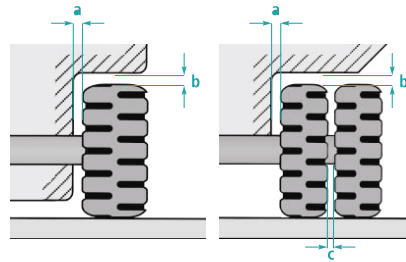
Available with connecting ring diameters from 8 mm to 25 mm, ERLAU offers the widest range of tyre protection chains. Whatever your application, ERLAU offers the best configuration of links and rings for your project.

Ring Diameter	Chain Type		Link Width Link Height	Fels	Mesh Opening	Minimum Clearance	Tyre Size
11 mm		SUPER X11	20 mm 35 mm		54 mm	50 70 85	from 8.25 – 15 to 26.5 – 25
14 mm		DURO X14	22 mm 51 mm		63 mm	60 85 95	from 15.5-25 to 35/65-33
16 mm		ROYAL X16	26 mm 56,5 mm		69 mm	75 100 95	from 20.5-25 to 40/65-39
16 mm		JUMBO PLUS X16	46 mm 56 mm		64 mm	75 100 95	from 20.5-25 to 40/65-39
19 mm		TORO X19	44 mm 60 mm		63 mm	75 100 95	from 12.00-24 to 45/65-45
19 mm		IMPERIAL X19	30 mm 66,5 mm		76 mm	85 120 115	from 23.5-25 to 45/65-45
19 mm		GIGANT PLUS X19	54 mm 68 mm		73 mm	85 120 115	from 23.5-25 to 45/65-45
19 mm		GUARD PLUS X19	35 mm 64 mm		76 mm	85 120 115	from 23.5-25 to 45/65-45
22 mm		CROWN X22	36 mm 76 mm		93 mm	110 150 115	from 45/65-45 and bigger
23 mm		GRANIT PLUS X23	54 mm 80 mm		91 mm	110 150 115	from 45/65-45 and bigger











b (Tread)
















a (Inside sidewall)

These are the minimum clearances required to fit Tyre Protection Chains. (centrifugal forces and possible dirt build-up are taken into consideration). For closer clearances please contact us for guidance.



Chain Type	Inside sidewall a	Tread b	Distance between c
X11	50 mm	70 mm	85 mm
X14	60 mm	85 mm	95 mm
X16	75 mm	100 mm	95 mm
X19	85 mm	120 mm	115 mm
X22	100 mm	150 mm	115 mm
R69+R69S	75 mm	90 mm	
R71+R71S	85 mm	100 mm	
R75	110 mm	130 mm	

Ring Diameter	Chain Type		Ring Width Ring Height	Spezial	Mesh Opening	Minimum Clearance	Tyre Size
13,2 mm		R69 S	18 mm 56 mm		33 mm	75 90	from 12.00-24 to 35/65-33
14 x 18 mm		R71 S	20 mm 67 mm		41 mm	85 100	from 23.5-25 to 45/65-45
17,5 x 21,5 mm		R75 S	25 mm 82 mm		48 mm	110 130	from 45/65-45 and bigger
20 x 25 mm		R75 S PLUS	28 mm 96 mm		57 mm	130 150	from 45/65-45 and bigger
14 x 18 mm		R71	20 mm 67 mm		83 mm	85 100	from 26.5-25 to 45/65-45

Ring Diameter	Chain Type		Link Width Link Height	GARANT	Mesh Opening	GARANT 10	Mesh Opening	Minimum Clearance	Tyre Size
11 mm		TERRA PLUS X11	20 mm 45 mm		114 mm		176 mm	50 70 85	from 8.25-15 to 26.5-25
14 mm		TERRA PLUS X14	25 mm 49 mm		128 mm		198 mm	60 85 95	from 15.5-25 to 35/65-33
16 mm		TERRA PLUS X16	28 mm 54 mm		133 mm		211 mm	75 100 95	from 20.5-25 to 40/65-39
19 mm		TERRA PLUS X19	30 mm 65 mm		150 mm		239 mm	85 120 115	from 35/65-33 to 40.00-57
22 mm		TERRA PLUS X22	39 mm 76 mm		181 mm		287 mm	100 150 115	from 45/65-45 and bigger



ERLAU INNOVATIONS SAVING TIME AND MONEY

EASYLOCK

Installation of a tyre protection chain requires a set of special Omega rings to 'stitch' the two ends together. Closing these rings involves pins and hammers and the risk of flying metal fragments, squashed thumbs and bad language.

If the pins become corroded, removing the rings requires flame-cutting – a dangerous operation next to tyres.

To save time and money and increase safety, ERLAU, the world-leading Tyre Protection Chain manufacturer, has introduced EASYLOCK – a connecting ring that can be fitted and removed quickly and easily.

EASYLOCK is comprised of an open 'Omega' ring and a locking hasp. Once the ring is passed through the wearlinks, the hasp is pushed over the two prongs and secured by a 90 Degree turn of the integral locking device with an allen key.

EASYLOCK then remains in place until removed in the same simple procedure.

Either delivered with a new set of ERLAU tyre protection chains or available separately, EASYLOCK can be retro-fitted to any 19 mm or 23 mm TPC.



A product is only as good as its support.

CMS CHAIN MONITORING SYSTEM

It is not by chance that ERLAU TPC has come to dominate the world market for Tyre Protection Chains (TPC).

Modern, state of the art production facilities ensure consistent weld integrity and sophisticated alloys create durable, longer-lasting, lighter, energy-saving links.

Expert installation and life-of-chain support optimizes operational chain life delivering TPCs that mine and quarry owners, demolition and recycling concerns, steel makers and foresters have come to rely upon.

Affirming confidence in its technology, ERLAU TPC now offers CMS – the first tyre chain monitoring system.

An embedded RFID device, CMS records the productive history of the TPC including: batch number, test results, installation, maintenance, incidents,

operating hours and much more.

A hand-held SMART READER collects the data from several sets of chains for download and interpretation by the plant manager.





SIDEFLEX[®]

WE WILL HAVE A POTENTIALLY SERIOUS SITUATION OF SHORTAGE OF OTR TIRES



The demand for tires has grown 30 to 40 % in the last year. Cost raises reach 15%.

An evident fact in the mining industry today is that companies are accelerating their development and expansion plans to take advantage of growing commodities prices. Along with that, another fact is clear: the boom of projects could become a threat to industry. The high demand for key equipment, spare parts and supplies is creating a worldwide shortage of these inputs.

The companies are already noticing an increase in costs from this effect and warn that the scenario can impact business growth.



"We're seeing a fairly significant increase in demand for services and mining equipment that are relevant to the activity. Manufacturing time of various products is increasing and there will be problems in the supply chain", said Miguel Angel Duran, President of the Chilean Mining Council.

The shortage could be similar to the one experienced in 2007 and 2008, when heavy machinery manufacturers were surprised to face double demand, which raised costs for certain types of products and delayed production. "We are returning to the peaks of high demand, when there were shortages and rising costs. Therefore, we are carefully observing looking the evolution of this scenario", says the executive.

The issue has been addressed repeatedly in the Supplies Committee of the Mining Council. "There are U.S. \$ 55 billion in the pipeline to develop in the coming years and hopefully this will not put the investment in check," he adds.

Two key pieces in mining operations are: trucks and tires. Both products now have an overdemand.



The number of projects that have been activated since the last quarter, warned us. Until October 2010 there were no problems to meet the requirements, because with the financial international crisis, demand fell in 2009 inventories were stocked for eight to 12 months.

With the higher price of copper and other commodities, mining companies began to plan new purchases and factories cannot increase production in equal measure.

Mining companies that have supply contracts may have their consumption secured, but the others will have difficulties to find suppliers.



SIDEFLEX[®] TO SAVE TIRES IN OPEN-PIT OPERATIONS



The SIDEFLEX[®] is a retrofit device for construction and mining equipment, especially for earthmoving machines. The device is mounted to the wheel hub of utility vehicles as dumb-trucks or wheel-loaders.

While RUD and Erlau chains have been protecting loader tires for 65 years, until now, truck tires have remained vulnerable to sidewall damage from haul road rock debris and accidental impact. Since comprehensive tire protection would slow the trucks and raise fuel consumption to un-acceptable levels, damage limitation. Even so, every day, blowouts continue to destroy expensive tires and delay production. To overcome these problems and to give truck tires the same protection as loader tires, RUD and Erlau designers got together with the operators and, drawing on their many years of experience developing chain-based products, created the SIDEFLEX[®].

The SIDEFLEX[®] is an ingenious device. Easy to fit, SIDEFLEX[®] provides a robust but lightweight shield which deflects rock debris from the tire wall. Field-trialed, tested and, now,

patented, the SIDEFLEX[®] appearance is novel. Protective arms radiate from a central retaining ring and form a shield covering the sidewall. The entire assembly fits firmly within the wheel hub and almost brushes the ground preventing sharp rocks from penetrating the tire-wall.

Definitely distinctive, the lightweight SIDEFLEX[®] is simple, effective and, most importantly, saves tires and improves productivity. The SIDEFLEX[®] is yet another RUD and Erlau innovation set to contribute significantly to the bottom line.

SIDEFLEX[®] components are quick and easy to install onto the wheel assembly.





TIRE SAVER SHIELD™ TO SAVE TIRES IN UNDERGROUND OPERATIONS

Tire Saver Shield™

The Hutchinson Tire Saver Shield™ consists of a heavy duty reinforced elastomeric product. The composition of the Tire Saver Shield™ material guarantees the absolute tearing and puncture resistance especially in a terrain with sharp-edged rocks, etc. The life cycle of the tire is greatly extended by reducing tire sidewall damage.

The Hutchinson Tire Saver Shield™ provides a very efficient protection to the highly stressed tire side walls of construction machines.

Mobility for every condition

The Hutchinson Tire Saver Shield™ guarantees the mobility of vehicles in the most difficult terrains under very tough mission requirements for the wheel. This device can often prevent the tire from running flat (in case of tire damages caused by difficult terrain).

The shape of the Tire Saver Shield™ integrates the milling and vulnerable tire side wall.



The mission can be continued. A change of wheels or tires is therefore not immediately necessary.

Protection against sidewall cuts

The materials were carefully selected to be extremely resistant to tearing and perforation. The Tire Saver Shield™ creates a barrier between the tire side wall and damaging terrain such as rocks and debris, preventing sharp elements from destroying the tire.

Benefits:

- Puncture resistant
- Protects tire walls from cuts and tears damage
- Will not increase operational temperature of side wall
- Easy to install and service
- Adapted on tire geometry
- Assembly possible on any wheel





Why install a camera monitor system in place of mirrors?

- **Wider viewing angle**

A camera has a wide viewing angle which allows the driver to see more than the minimum required Field of View. A driver does not need to physically move to view a broader area as would be necessary with a conventional mirror.

- **No damage to mirrors and improved aerodynamics**

Because of their size and the distance they protrude, mirrors are prone to being hit and broken. A smaller, flush-mounted camera reduces the risk of damage, lowering maintenance costs and vehicle downtime. Replacing mirrors with cameras also improves aerodynamics which contributes to lower fuel consumption.

- **No glare and reduced light reflection**

Low sun and headlights can be dazzling for drivers, creating glare and making it difficult or impossible to define objects in mirrors. A camera system automatically adjusts to the lighting, significantly reducing glare and therefore improving driver visibility by displaying a clear image on the monitor.

- **Better visibility at night**

Night time visibility is one of the key advantages a camera system has over a conventional mirror. Low-light (low lux) capability and auto-image enhancement mean greatly improved visibility in low light conditions and a clear image on the monitor, even in almost total darkness.

- **Better visibility in the rain**

Mirrors are challenging to use in the rain. Not only does the driver need to see the vehicle and surroundings in the mirror, but through an equally wet and sometimes misted window. Water and dirt obscure the view, hugely reducing driver visibility. The camera aperture will focus through water on the lens, maintaining visibility in any type of environment or weather condition.

A heated camera also helps to keep the lens free from moisture.

Backeye®eMirrors

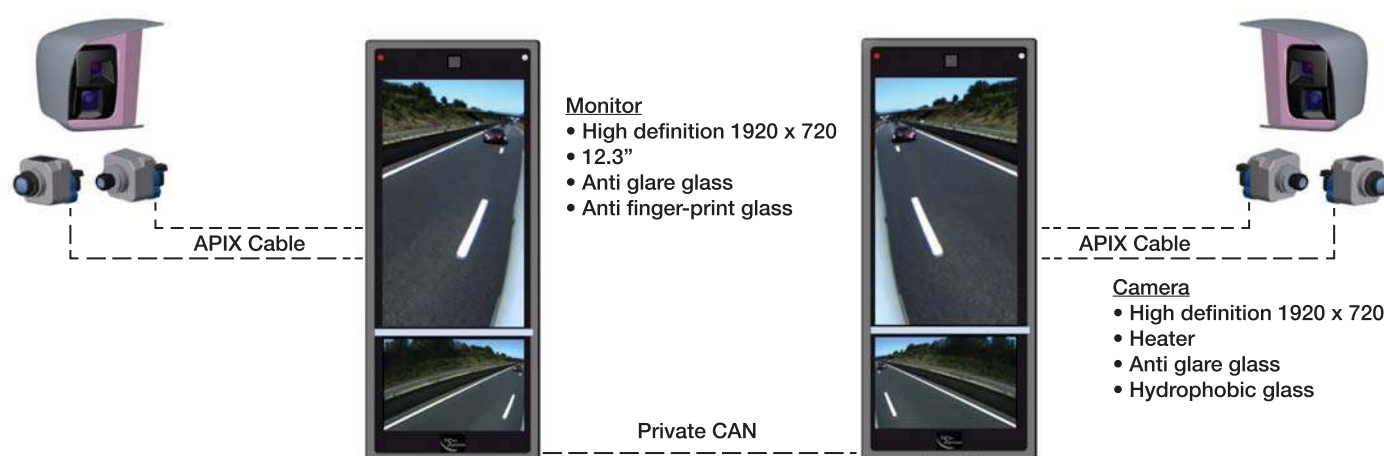
Mirror replacement system

In association with



For a driver, being able to see blind spots around the vehicle is a necessity. Using a camera monitor system for visibility instead of mirrors can offer many benefits.

Replace conventional Class II and Class IV mirrors with high-definition externally mounted side-view cameras and a pair of high definition (HD) monitors typically mounted on the A-frame inside the cab. Installation is best carried out at or by a vehicle manufacturer or bodybuilder as must be homologated, ensuring compliance with Regulation 46 (devices for indirect vision). Unique to each vehicle model which requires homologation by an approved test house in order to comply with the R46 and ISO specifications for indirect vision



Monitor features:

- High Definition (HD)
- Screen layout can be configured to replicate the replaced mirror positions
- Built-in light sensor for automatic screen brightness
- Monitors are linked via a private CAN network for auto-screen balance/brightness and system operating data
- Anti glare and fingerprint glass ensures the image is always clear
- Distance markers

Camera features:

- High Definition (HD)
- Two cameras per side/housing (Class II and Class IV or Class V)
- Cameras mounted in housing, behind heated, anti-glare, hydrophobic treated glass
- Optional integrated lens cleaning with pressurised air or water.



Certification:

- UN ECE Regulation No 46 (R46), regarding devices for indirect vision and their installation. Only camera monitor systems with R46 approval may be installed in place of a compulsory mirror..
- ISO 16505
- ISO 26262

Backeye® 360

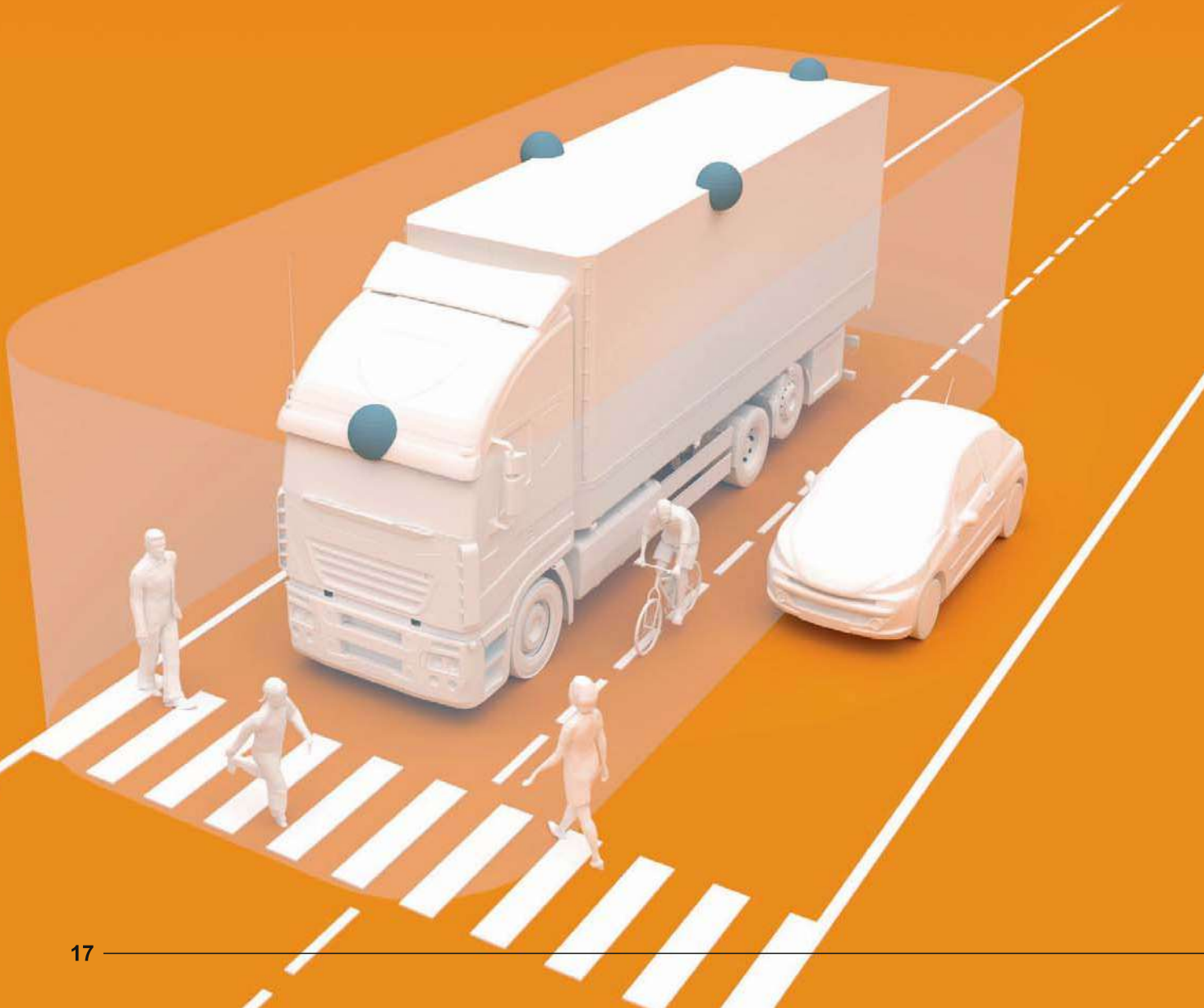
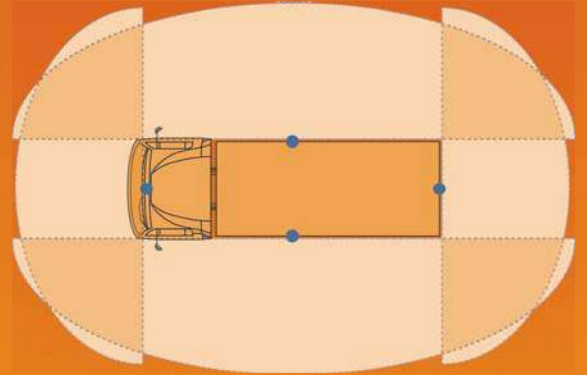
How it works

Backeye®360 works with four ultra wide-angle cameras, each covering one full side of the vehicle with a viewing angle of over 180°.

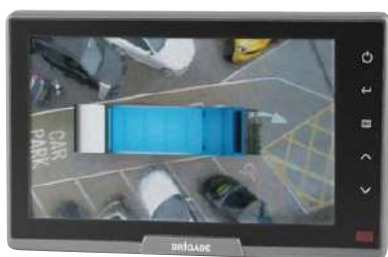
High-mounted on the front, rear and sides, the calibrated cameras capture all of the surrounding area including the blind spots of the vehicle or machine.

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

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



Backeye®360° Camera Monitor Systems



Actual Backeye@360 images

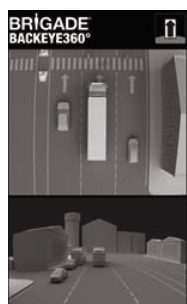
All vehicles have blind spots – areas around the vehicle that are obscured to the driver by bodywork or machinery. When manoeuvring, these blind spots present a significant danger to anything or anyone in the vehicle's path and inhibit the driver's ability to operate the vehicle safely.

Mirrors and single-view cameras can help but, even with this extra assistance, the driver may still not see everything in the vehicle's path.

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

- Eliminates blind spots, improves safety
- Comprehensive view of the surrounding area in a single image
- Reduces collisions with people and objects

Backeye@360 BN360-200 monitor view options



360 & mirrored rear view



Full 360 view



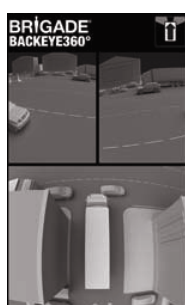
Full left/right view



Full mirrored rear view



Front view & 360



Front cross-traffic & 360



Mirrored rear view & 360



Rear focus & 360



Front view & 360



Front cross-traffic view



Left/right view & 360



Full 360 left/right focus



Left/right view & 360



Left/right view & left/right focus 360

BN360 360° CAMERA MONITOR SYSTEMS

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



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

5378



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

See individual products for detailed specifications and warranties



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

5379



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

See individual products for detailed specifications and warranties



360° CAMERA SYSTEM

BN360-200 - Backeye®360 system

5200



- IP69K cameras
- 12-24Vdc
- Size (WxHxD) ECU
174 x 101 x 30mm
- Size (WxHxD) Camera
36 x 61 x 46mm
- 5 year warranty

MDR
COMPATIBLE

R46
APPROVED*

Contents

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

Features

- 360° image
- 19 different view modes (max 10 views per chosen configuration group) including:
 - Landscape or portrait configurations
 - Front & rear crossing-traffic
 - Left & right lane changing assist
 - Customisable vehicle position
- 4 pre-defined configuration groups
- Configure & customise set up via monitor and IR remote control
- Left, right, reverse & speed signal triggers
- Configurable on-screen parking markers
- 3 x video outputs
- Ultra-wide viewing angle cameras (HxV) 185° x142°
- 1/3.6" CMOS sensor
- TV system: NTSC or PAL via switch on ECU (cameras NTSC only)

Power

- Power consumption: 8 Watts
- Current: 0.65 Amps

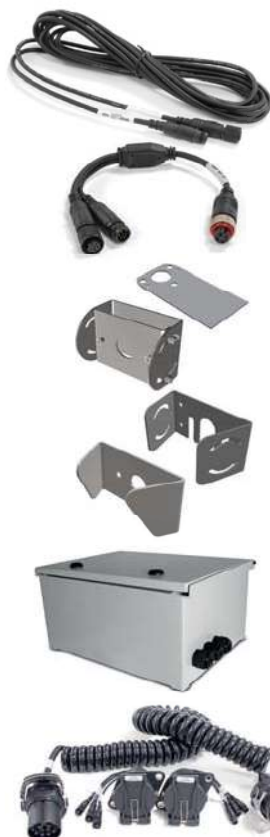
Durability & Standards

- Mechanical vibration: 8.5G
- Mechanical shock: 50G
- Operating temperature: -30 to +75°C
- IP30 ECU
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved
- ISO 20653:2006
- ISO 13766:2006
- EN 13309:2010
- *Camera monitor system R46 approved

NOTES:

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

BN360 CABLES AND ADAPTERS



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

MOUNTING BRACKETS

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

REQUIRED FOR ARTICULATED VEHICLES

BN360-Enclosure	IP66 Enclosure kit to enable ECU to be installed on outside of vehicle	4723
SK-15-05	3-camera Backeye®360 cable kit for articulated vehicles	5066

Backeye® Camera Monitor Systems

A Winning Range

Camera monitor systems are used in a wide range of on and off-road applications to meet a host of health and safety and legislative requirements.

Brigade's camera monitor systems enable drivers and operators to manoeuvre and drive safely. Vehicle-mounted cameras can help the driver to see blind spots by delivering a live feed on the monitor of everything in the camera view, including people or obstacles.

Whether you need an entry-level reversing camera or full-vehicle camera system, we can help. With single-to-multiple camera inputs and auto-triggers, Brigade cameras and monitors will work on any application in any industry.

Brigade's camera monitor systems are compatible with its range of Mobile Digital Recorders (MDR).

ELITE

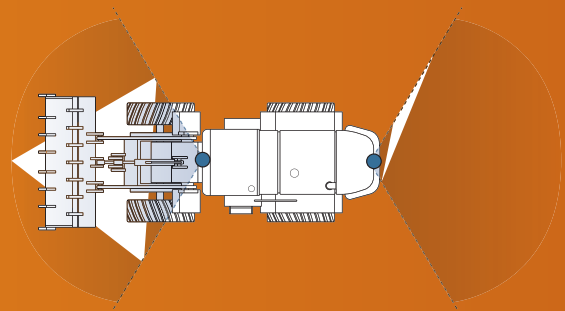
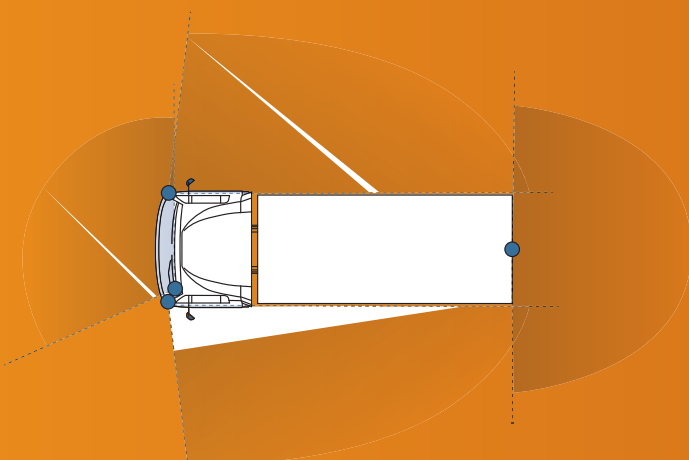
Top of the range systems that are the first choice for Original Equipment Manufacturers (OEMs) and Bodybuilders. Exceptional quality and consistent performance in the harshest conditions. Rigorously tested to higher standards, the superior components and build quality are reflected in the Elite series' 5 year warranty. Ideal for heavy duty applications including N2 and N3 Heavy Goods Vehicles (HGVs), on/off-highway vehicles, agricultural machinery and mobile plant used on Construction, Civil Engineering, Quarry and Mine sites.

SELECT

High quality, reliable, best-selling mid-range systems. First choice in the Aftermarket and popular also with OEMs and Bodybuilders. 3 year warranty. Ideal for medium to large on-highway vehicles and smaller off-highway mobile plant.

ESSENTIAL

Entry level reversing solution for cost-conscious Aftermarket customers. Ideally suited for on-highway applications.



R46 for Indirect Vision

R46 for Indirect Vision

UNECE Regulation No 46 (R46) is a regulation which covers devices for indirect vision and their installation.

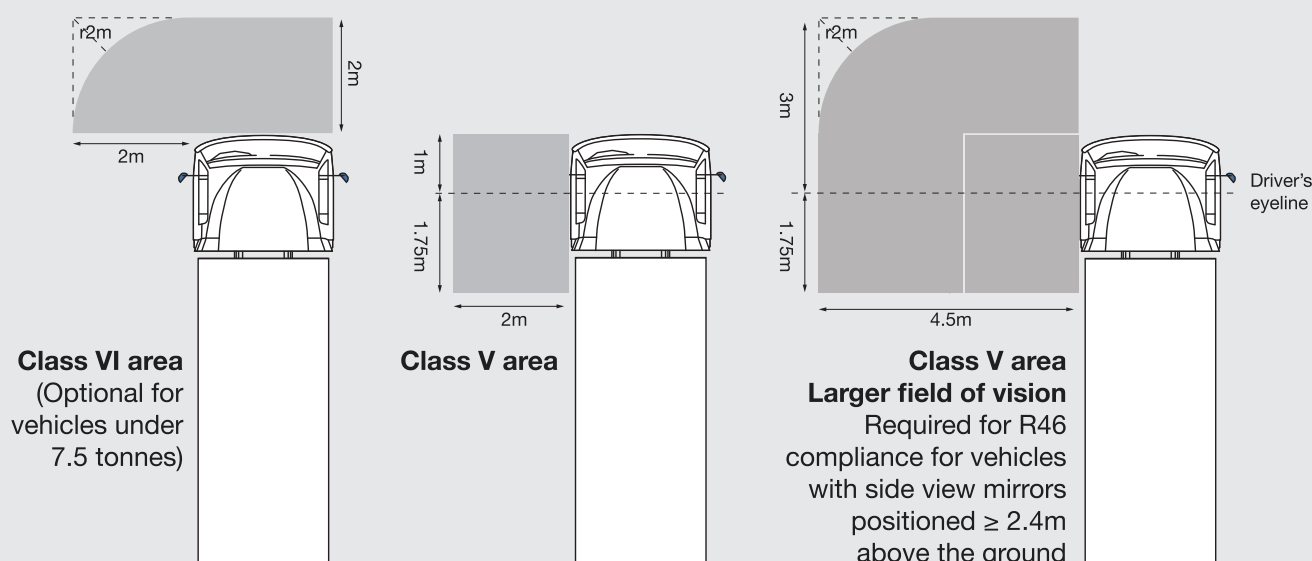
R46 is widely recognised as a mark of exceptional performance, reliability and quality. In order to comply with the R46 regulation, the components of a camera monitor system must reach specified performance standards and be installed within pre-defined guidelines.

The following Brigade camera/monitor combinations are approved to UNECE Regulation No 46 for areas Class V and Class VI. If correctly installed, an R46 approved camera monitor system can replace a conventional mirror.

See brigade-electronics.com/R46 for further information.

Camera/monitor combinations approved to R46			MONITORS		
			ELITE	SELECT	
			BE-870LM	VBV-770M	VBV-7104FM
CAMERAS	ELITE	BE-800C BE-890C BE-850C	✓ plus full and split screen using SS-002 screen splitter	x	x
	SELECT	VBV-300C VBV-320C	✓ plus full and split screen using SS-002 screen splitter	✓ plus full and split screen using SS-002 screen splitter	Single, split and quad screen
		VBV-700C VBV-790C	x	✓ plus full and split screen using SS-002 screen splitter	Single, split and quad screen
	360	BN360-200	x	✓ Full screen and standard split screen	✓ Standard 360 view in both landscape and portrait on single, split and quad screens. Full 360 view in portrait on single, split and quad screens.

European Directives 2003/97/EC and 2007/38/EC (Class areas V and VI) for vehicles over 3.5 tonnes to be retrofitted with devices in order to improve the driver's field of vision and increase vehicle safety.



Camera/monitor compatibility

<div> <div>✓ = Compatible</div> <div>✓ AC-035 = Compatible with adapter(s) shown</div> <div>✗ = Not compatible</div> </div>			MONITORS			
			ELITE		SELECT	
			BE-970WFM BE-970WM BE-865DDM BE-870LM BE-870FM	BE-856GM	VBV-7104FM VBV-770FM VBV-770M VBV-750M	VBV-770M-S VBV-750M-S
CAMERAS	ELITE	BE-810C Shutter	✓	✓ SC-1000-ECU	✓ AC-007 & SC-1000-ECU	✗
		All other Elite cameras	✓	✓	✓ AC-007	✓ AC-007
	SELECT	VBV-710C Shutter	✓ AC-035 & AC-006	✓ AC-035 & AC-006	✓ AC-035	✓
		All other Select cameras	✓ AC-006	✓ AC-006	✓	✓

Camera icons



Infrared LEDs for ultra-low-light performance



Day/night sensor



Audio



Heater



Normal/mirror view

WDR

Wide Dynamic Range

DWDR

Digital Wide Dynamic Range

Monitor icons



Number of camera inputs



Number of auto-triggers



Audio



'Button-lock' anti-tamper feature



On-screen distance and vertical line markers



Normal/mirror view - switching from menu

Cable icons

(Black = solid/pins)



Male connector Select



Female connector Select



Male screw fit connector Elite



Female screw fit connector Elite



Male push fit connector Elite



Female push fit connector Elite



Male shutter connector Select



Female shutter connector Select



Male Backeye®360 connector



Female Backeye®360 connector

Backeye® Camera Monitor Systems

Which range is for you?

Backeye® Elite

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



Backeye® Select

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



Backeye® Essential

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



Camera/monitor compatibility for building your own system.

Select your system from our range of popular standard kits or build your own, referring to the camera monitor compatibility chart below, adding cables and ancillaries to complete your system.

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



Backeye® Camera Monitor Systems

Active Detection & Warning Integrated On-screen display

Backscan® & Sidescan® Ultrasonic Detection and On-Screen Display. See page 44



Backsense® Radar Detection and On-Screen Display. See page 48



- Integration of Brigade's obstacle detection systems and camera monitor systems
- Ultrasonic OR radar detection warnings overlaid onto camera image and displayed on in-cab monitor
- Reduces driver stress and distractions as all information is in one view

Sensor data and camera image combined

Brigade's obstacle detection systems minimise both vehicle damage and collisions by informing the driver of the distance between vehicle and objects, whether moving or stationary. Ideal for vehicles and machines manoeuvring at low speed.

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

What is WDR?

Wide Dynamic Range (WDR) automatically balances lighting in a camera image for improved detail in highlights and shadows.

This is particularly useful when working in environments where lighting quickly changes, for example; reversing into a dark loading bay on a sunny day. The transition from bright light to shadow will cause cameras that do not feature WDR to fail to pick up fine details. Areas of the picture will be bright and other areas extremely dark.

WDR Cameras balance lighting so no areas are under or over exposed, improving clarity and detail in the image.



Standard camera



WDR camera



NEW DWDR

ELITE CAMERA



BE-900C	- Integrated fisheye correction - PAL	5277
BE-990C	- Integrated fisheye correction - PAL - No audio	5279
BE-901C	- Integrated fisheye correction - NTSC	5278
BE-991C	- Integrated fisheye correction - NTSC - No audio	5280

- Viewing angle (HxVxD)
96 X 64 X 110° PAL
100 X 65 X 106° NTSC

- IP69K/ IP68

- Size (WxHxD)
86 x 72 x 80mm

- 5 year warranty



DWDR

Features

- Integrated image correction for wide viewing angle (fisheye) lens distortion
- Digital Wide Dynamic Range for improved detail in shadows and highlights
- 5 Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Heater
- Microphone (BE-900c & BE-901C)
- Mirror / Normal view
- Automatic white balance
- Sony CMOS sensor
- TV lines: PAL: 400 NTSC: 350

Power

- Power consumption: 4.5 Watts
- Current: 0.36 Amps

Durability & Standards

- Mechanical vibration: 8.5G
- Mechanical shock: 51G
- Operating temperature: -40 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- ISO 20653:2006
- ISO 16750-4

NEW WDR

ELITE CAMERA



BE-800C	- PAL	1623
BE-801C	- NTSC	1905
BE-800C(40)	- Narrow viewing angle: 32 x 24 x 41° PAL	1559
BE-801C(40)	- Narrow viewing angle: 33 x 25 x 42° NTSC	2085
BE-800C(78)	- Narrow viewing angle: 69 x 51 x 92° PAL	1426
BE-801C(78)	- Narrow viewing angle: 71 x 52 x 94° NTSC	2084
BE-890C	- Waterproof to IP69K, No microphone, PAL	2871
BE-891C	- Waterproof to IP69K, No microphone, NTSC	5427
BE-850C	- 12/24Vdc, waterproof to IP69K, PAL	4924

- Viewing angle (HxVxD)
102 x 76 x 132° PAL
108 x 80 x 136° NTSC

- IP68

- Size (WxHxD)
86 x 72 x 80mm

- 5 year warranty



R46 WDR
APPROVED*

Features

- Wide Dynamic Range for improved detail in shadows and highlights
- 5 Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Heater
- Microphone
- Mirror / Normal view
- Automatic white balance
- Sony CMOS sensor
- TV lines: 600

Power

- Power consumption: 4.5 Watts
- Current: 0.33 Amps
(0.37 - 2.63 Amps BE-850C)

Durability & Standards

- Mechanical vibration: 20G (HALT)
- Mechanical shock: 100G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved
- HALT tested
- ISO 13766:2006
- ISO 20653:2006
- ISO 16750-4
- EN13309:2010
- *Camera monitor system R46 approved BE-800C, BE-890C & BE-850C only

NEW **WDR** ELITE CAMERA



BE-810C - Shutter camera

1242

- Viewing angle (HxVxD)
103 x 71 x 134°
- IP68 / IP69K
- Size (WxHxD)
123 x 86 x 80mm
- 5 year warranty



WDR

Features

- Wide Dynamic Range for improved detail in shadows and highlights
- 5 Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Automatic shutter
- Heater
- Microphone
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- Sony CMOS sensor
- TV System: PAL
- TV Lines: 450

Power

- Power consumption: 5.4 Watts
- Current: 0.45 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +70°C
- CE Marked
- E-Marked: UNECE R10 compliant
- FCC approved
- IC approved
- ISO 13766:2006
- EN 13309:2010

ELITE CAMERA



- BE-820C - Mini camera (mirror image) PAL
- BE-821C - Mini camera (mirror image) NTSC
- BE-822C - Mini camera (normal image) PAL
- BE-823C - Mini camera (normal image) NTSC

1927

2002

2151

5100

- Viewing angle (HxVxD)
115 x 92 x 140° PAL
113 x 90 x 136° NTSC
- IP68
- Size (WxHxD)
47 x 40 x 50mm
- 5 year warranty

Features

- Backlight compensation
- Automatic white balance
- 1/4" Sony CCD
- TV System: PAL or NTSC
- TV Lines: 600

Power

- Power consumption: 0.9 Watts
- Current: 0.1 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +80°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved (NTSC models only)
- IC approved (NTSC models only)
- HALT tested
- ISO 20653:2006

Camera icons



Infrared LEDs for ultra-low-light performance



Day/night sensor



Audio



Heater



Normal/mirror view

WDR Wide Dynamic Range

DWDR Digital Wide Dynamic Range

Cable icons



Female connector



Male connector

What is AHD?

An Analogue High Definition (AHD) camera monitor system is an analogue system that supports High Definition video resolutions. The resolution of HD & AHD systems is measured in pixels per square inch (p). AHD 1.0 supports 720p HD resolution and AHD 2.0 supports 1080p HD resolution.

What about PAL and NTSC formats?

HD cameras operating at 25Hz (25frames per second) are compatible with PAL format (so we call them PAL). HD cameras operating at 30Hz (30 frames per second) are compatible with NTSC format (so we call them NTSC).

What should I consider when choosing between AHD and traditional CVBS systems?

There are many factors to consider when choosing between AHD and traditional CVBS, including compatibility with other systems and bandwidth/memory capacity if connecting to a mobile digital recorder. (AHD systems will use more bandwidth for transmission and will take up more memory for the same time period). For the best HD quality results, all parts of the system should be AHD.



AHD camera image



Traditional CVBS camera image

Compatibility with existing traditional CVBS systems:

- Brigade HD cables can be used instead of traditional CVBS cables for all Brigade SELECT camera monitor systems.
- Brigade HD cameras can be used with our MDR-500 series Mobile Digital Recorders (MDR),
- Brigade's traditional CVBS cameras can be used with our new HD monitors (camera image will not be HD).
- Brigade's traditional CVBS monitors are not compatible with HD cameras.

Model

Part No:

NEW

AHD 7" MONITOR

SELECT

VBV-770HM - 7" High Definition LCD monitor

5611



- 12-24Vdc
- Size (WxHxD)
196 x 118 x 26mm
- 3 year warranty



AHD

Features

- AHD and CVBS compatible
- High-definition, high contrast, wide view angle
- 3 camera inputs
- 3 Auto-triggers
- Mirror / Normal switching from menu
- 'Button lock' anti-tamper feature
- On-screen distance markers
- Audio
- Sun shield
- Auto-dimmer
- Multi-lingual menus
- Auto-switching AHD 1.0 / AHD 2.0 / PAL / NTSC

Picture Quality

- LED backlighting (gives 20,000 hours life)

- Anti-glare screen
- Resolution: 1024 x 600
- Contrast ratio: 700:1
- Brightness: 500cd/m²
- Viewing angles:
Side 85° x Top 85° x Bottom 85°

Power

- Power consumption: 10 Watts
- Current: 0.8 Amps

Durability & Standards

- Mechanical vibration: 4G
- Mechanical shock: 51G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- HALT tested
- FCC approved
- IC approved

Model

Part No:

NEW

AHD CAMERA 1080p

SELECT



VBV-7100C - High definition (1080p-PAL)	5466
VBV-7101C - High definition (1080p-NTSC)	5467
VBV-7190C - No audio. High definition (1080p-PAL)	5470
VBV-7191C - No audio. High definition (1080p-NTSC)	5471

- Viewing angle (HxVxD)
110° x 60° x 127°

- IP69K

- Size (WxHxD)
81 x 77 x 70mm

- 3 year warranty



AHD

Features

- 4 high-power Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Microphone
- Mirror view
- * Backlight compensation
- Automatic white balance
- Sony CMOS 1/3" & Nextchip ISP
- TV System: AHD 1.0 (1080p)
- TV Lines: 800

Power

- Power consumption: 3 Watts
- Current: 0.2 Amps

Durability & Standards

- Mechanical vibration: 8.5G
- Mechanical shock: 51G
- Operating temperature: -30 to +80°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved
- IC approved

NEW

AHD CAMERA 720p

SELECT



VBV-7000C - High definition (720p-PAL)	5464
VBV-7001C - High definition (720p-NTSC)	5465
VBV-7090C - No audio. IP69K High definition (720p-PAL)	5468
VBV-7091C - No audio. IP69K High definition (720p-NTSC)	5469

- Viewing angle (HxVxD)
107° x 64° x 126°

- IP67

- Size (WxHxD)
81 x 77 x 70mm

- 3 year warranty



AHD

Features

- 4 high-power Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Microphone
- Mirror view
- * Backlight compensation
- Automatic white balance
- Sony CMOS 1/3" & Nextchip ISP
- TV System: AHD 1.0 (720p)
- TV Lines: 600

Power

- Power consumption: 3 Watts
- Current: 0.2 Amps

Durability & Standards

- Mechanical vibration: 8.5G
- Mechanical shock: 51G
- Operating temperature: -30 to +80°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved
- IC approved



SELECT CAMERA



VBV-700C	- PAL	1379
VBV-701C	- NTSC	2575
VBV-790C	- Waterproof to IP69K, no audio PAL	2724
VBV-791C	- Waterproof to IP69K, no audio NTSC	2842

- Viewing angle (HxVxD)
88 x 68 x 115° PAL
86 x 72 x 122° NTSC

- IP67

- Size (WxHxD)
81 x 77 x 70mm

- 3 year warranty



R46
APPROVED*

Features

- 4 high-power Infrared LEDs for ultra-low light performance
- Day / Night sensor
- Microphone
- Mirror view
- * Backlight compensation
- Automatic white balance
- 1/3" Sharp CCD
- TV Lines: 620 PAL / 750 NTSC

Power

- Power consumption: 3 Watts
- Current: 0.2 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 51G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved
- HALT tested
- *Camera monitor system R46 approved VBV-700C & VBV-790C only

UPDATED

SELECT CAMERA



VBV-710C - Shutter camera	2808
Direct connection to VBV-770M-S and VBV-750M-S monitors via 5-pin 10m (VBV-L510) or 20m (VBV-L520) camera cable.	

- Viewing angle (HxVxD)
98 x 73 x 108°

- IP68 / IP69K

- Size (WxHxD)
122 x 85 x 82mm

- 3 year warranty



Features

- 4 high power infrared LEDs for ultra-low light performance
- Day / Night sensor
- Automatic Shutter
- Heater
- Microphone
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- 1/3" Sharp CCD
- TV System: PAL
- TV Lines: 580

Power

- Max Power consumption: 6 Watts
- Max Current: 0.5 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature: -30 to +70°C
- CE Marked
- E-Marked: UNECE R10 compliant

UPDATED

SELECT CAMERA



VBV-485C - Cylinder camera PAL	2199
VBV-481C - Cylinder camera NTSC	2843

- Viewing angle (HxVxD)
91 x 77 x 123° PAL
96 x 71 x 126° NTSC

- IP69K/IP68

- Size (Diameter x Length)
35 x 50mm

- 3 year warranty



Features

- 9 LEDs for ultra-low light performance
- Day/night sensor
- Mirror view
- Backlight compensation
- Auto white balance
- 1/3" Sharp CCD
- TV Lines: 680 PAL
800 NTSC

Power

- Power consumption: 1.9 Watts
- Current: 0.2 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating Temperature: -30 to +70°C
- E-Marked: UNECE R10 compliant
- CE marked
- FCC approved VBV-481C only
- IC approved VBV-481C only

UPDATED**SELECT CAMERA**

MD-50 - Mini dome camera PAL
MD-51 - Mini dome camera NTSC

4909
5164

- Viewing angle (HxVxD)
68 x 38 x 80°
- IP68
- Size (Diameter x H)
76 x 60mm
- 3 year warranty

**Features**

- Dome camera with 150° movement range in all directions
- Can be used internally or externally
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- CMOS - 1/3" ON-Semiconductor
- ISP - Nextchip
- TV System: PAL or NTSC
- TV Lines: 600

Power

- Power consumption: 1 Watt
- Current: 0.07 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock 51G
- Operating temperature: -30 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved

NEW**AHD**
720p**SELECT CAMERA**

MD-60 - High definition mini dome camera (720p-25fps)
MD-61 - High definition mini dome camera (720p-30fps)

5305
5306

- Viewing angle (HxVxD)
68° x 38° x 80°
- IP68
- Size (Diameter x H)
76 x 59.5 mm
- 3 year warranty

**AHD****Features**

- Dome camera with 150° movement range in all directions
- Can be used internally or externally
- Mirror / Normal view
- Backlight compensation
- Automatic white balance
- High quality ON-Semiconductor image sensor
- High quality Nextchip image signal processor
- TV System: AHD 1.0 (720p)
- TV Lines: 900

Power

- Power consumption: 1 Watt
- Current: 0.55 Amps

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock 51G
- Operating temperature: -30 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved

OPTIONAL EXTRAS

MD-50SM-30 - Surface mounting adapter (30mm deep)

5003

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

5004

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

5005

SELECT CAMERA

VBV-300C - Compact flush-mount eyeball camera - Mirror view - PAL **5211**
VBV-301C - Compact flush-mount eyeball camera - Mirror view - NTSC **5213**
VBV-320C - Compact flush-mount eyeball camera - Normal view - PAL **5215**
VBV-321C - Compact flush-mount eyeball camera - Normal view - NTSC **5217**

- Viewing angle (HxVxD)
110 x 82 x 152° PAL
111 x 80 x 153° NTSC
- IP69K
- Size (WxHxD)
57 x 42 x 70mm
- 3 year warranty

**R46**
APPROVED***Features**

- 5 high power infrared LEDs for ultra-low light performance
- Day / Night sensor
- Lens swivel adjustment: 26° (Top) x 4° (Bottom) x 4° (Left) x 4° (Right)
- Lens rotation adjustment: ±180°
- Microphone
- Backlight compensation
- Automatic white balance
- 1/3" Sharp CCD
- TV System: PAL or NTSC
- TV lines: 780 PAL, 600 NTSC

Power

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

Durability & Standards

- Mechanical vibration: 8.5G
- Mechanical shock: 51G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved
- *Camera monitor system R46 approved VBV-300C & VBV-320C only

OPTIONAL EXTRAS

SM-3XX-25 Surface mounting adapter (25mm deep)

4596



THERMAL IMAGING CAMERA

PF-30N-500 - PathFindIR II with automatic detection 30Hz

334-0050-00

PF-075N-540 - PathFindIR II with automatic detection 7.5Hz

334-0054-00

- 12Vdc
- Viewing angle (HxV)
24 x 18°
- IP69 (Camera)
- Size (WxHxD)
Camera: 60 x 86 x 82mm
ECU: 148 x 110 x 24mm
- 1 year warranty



Contents

- Camera, ECU, camera to ECU cable and power cable

Features

- Automatic detection and alerts of pedestrians and animals
- Produces a clear image, even in total darkness.
- See through smoke, dust and light fog
- Automatic heater element
- See past the glare of oncoming headlights
- Sees up to 4 times further than vehicle headlights

Image

- 320 x 240 Uncooled Microbolometer
- Spectral range: 8 - 14µm
- Image Frequency: 7.5/30Hz (NTSC)

Power

- Power consumption: 6 Watts

Durability & Standards

- IP69
- Operating Temperature: -40 to 80°C



THERMAL IMAGING CAMERA

PF-30N-520 - PathFindIR II 30Hz

334-0052-00

PF-075N-560 - PathFindIR II 7.5Hz

334-0056-00

- 12Vdc
- Viewing angle (HxV)
24 x 18°
- IP69 (Camera)
- Size (WxHxD)
Camera: 60 x 86 x 82mm
ECU: 148 x 110 x 24mm
- 1 year warranty



Contents

- Camera, ECU, camera to ECU cable and power cable

Features

- Produces a clear image, even in total darkness.
- See through smoke, dust and light fog
- Automatic heater element
- See past the glare of oncoming headlights
- Sees up to 4 times further than vehicle headlights

Image

- 320 x 240 Uncooled Microbolometer
- Spectral range: 8 - 14µm
- Image Frequency: 7.5/30Hz (NTSC)

Power

- Power consumption: 6 Watts

Durability & Standards

- IP69
- Operating Temperature: -40 to 80°C



OPTIONAL EXTRAS

PFM-0001 PathFindIR II mounting bracket

4692

Camera icons



Infrared LEDs for ultra-low-light performance



Day/night sensor



Audio



Heater



Normal/mirror view



Analogue High Definition

Cable icons



Female connector



Male connector

CAREYE® AI Turn Assist



Advanced Driver Assistance Systems (ADAS) with Artificial Intelligence

CAREYE® Safety Angle Turning Assistant is an award-winning advanced driver assistant system (ADAS) which uses artificial intelligence (AI) to accurately evaluate the images from cameras fitted to a vehicle and can calculate the future course of motion of nearby people or objects. Based on this data, the system reliably and accurately warns the driver in real time of a possible collision before it occurs.

The Features of CAREYE® ADAS Safety Angle Turning Assistant



Minimise False Positive Warnings

CAREYE® is an Advanced Driver Assistance System (ADAS) which uses AI to calculate movement and direction to dramatically reduce false warnings.



Suitable for all Types of Vehicles

CAREYE® (ADAS) can be used on all types of commercial vehicles, rigid and articulated, including buses, lorries, special and emergency vehicles.



Advanced Detection

CAREYE® (ADAS) detects moving objects, like bicycles, up to 4 meters in the second row behind parked cars as specified by UN ECE R151.



Fully Operational in Difficult Conditions

CAREYE® (ADAS) is fully operational in low level light (2 x 20 lux ambient lighting) and works in difficult weather conditions

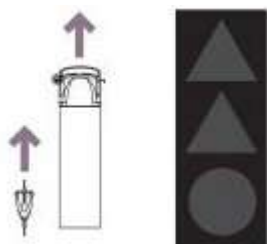


Ability to Classify the Objects

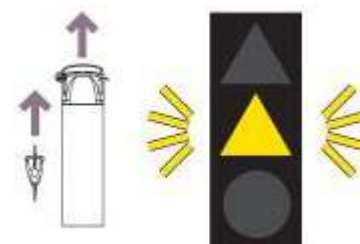
CAREYE® (ADAS) has the ability to classify the objects using Artificial Intelligence.

CAREYE® Signals

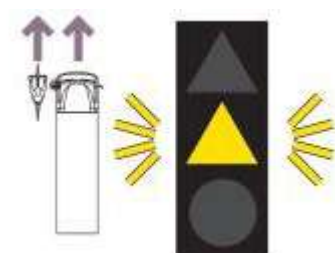
1. An approaching object has been detected



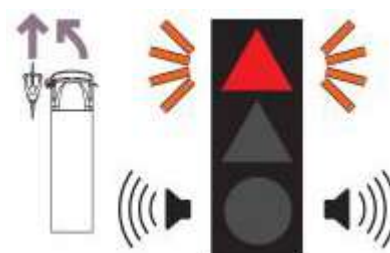
2. A moving object has been detected beside the vehicle



3. A moving object has been detected in the danger zone but not on course of collision



4. Collision predicted



ELITE MONITOR

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

3560



- 12-24Vdc
- IP69K
- Size (WxHxD)
194 x 124 x 48mm
- 5 year warranty



Plus additional in-built image options

Features

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

Picture Quality

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

Power

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

Durability & Standards

- Aluminium die-cast casing
- Mechanical vibration: 10G
- Mechanical shock: 100G
- Operating temperature: -40 to +75°C
- CE marked
- E-Marked: UNECE R10 compliant
- ISO 16750
- ISO 20653: 2006
- HALT tested

ELITE MONITOR

BE-970WM - Waterproof 7" Digital LCD monitor

3351



- 12-24Vdc
- IP69K
- Size (WxHxD)
194 x 124 x 48mm
- 5 year warranty



Features

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

Picture Quality

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

Power

- Power consumption: 11 Watts
- Current: 0.9 Amps

Durability & Standards

- Aluminium die-cast casing
- Mechanical vibration: 20G
- Mechanical shock: 100G
- Operating temperature: -40 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- ISO 16750
- ISO 13766: 2006
- HALT tested

ELITE MONITOR

BE-870LM - 7" Digital LCD monitor

2705



- 12-24Vdc
- Size (WxHxD)
197 x 128 x 34mm
- 5 year warranty



R46
APPROVED*

Features

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

Picture Quality

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

- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 400cd/m²
- Viewing angles:
Side 70° x Top 50° x Bottom 70°

Power

- Power consumption: 12 Watts
- Current: 1 Amp

Durability & Standards

- Mechanical vibration: 2.5G
- Mechanical shock: 51G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- *Camera monitor system R46 approved



SELECT MONITOR

VBV-7104FM - 10.4" Digital LCD Monitor

4474



- 12-24Vdc
- Size (WxHxD)
267 x 193 x 30mm
- 3 year warranty

10.4"



Plus additional in-built image options

Features

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

Picture Quality

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

Power

- Power consumption: 31 Watts
- Current: 2.8 Amps

Durability & Standards

- Mechanical vibration: 4G
- Mechanical shock: 50G
- Operating temperature: -20 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- HALT tested
- *Camera monitor system R46 approved

SELECT MONITOR

VBV-770M - 7" Digital LCD monitor

4288

VBV-770M-S - 7" Digital LCD monitor

4697

Includes 1 x 5-pin input for connection to VBV-710C shutter camera



- 12-24Vdc
- Size (WxHxD)
196 x 118 x 26mm
- 3 year warranty

7.0"



Features

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

Power

- Power consumption: 18 Watts
- Current: 1.5 Amps

Durability & Standards

- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- HALT tested
- *Camera monitor system R46 approved VBV-770M only

Picture Quality

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

SELECT MONITOR

VBV-750M - 5" Digital LCD monitor

4287

VBV-750M-S - 5" Digital LCD monitor

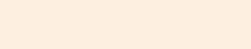
4710

Includes 1 x 5-pin input for connection to VBV-710C shutter camera



- 12-24Vdc
- Size (WxHxD)
149.5 x 99 x 22mm
- 3 year warranty

5.0"



Features

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

Picture Quality

- LED backlighting (gives 20,000 hours life)
- Anti-glare screen
- Resolution: 800 x 480
- Contrast ratio: 500:1
- Brightness: 350cd/m²
- Viewing angles:
Side 70° x Top 50° x Bottom 70°

Power

- Power consumption: 11.5 Watts
- Current: 0.95 Amps

Durability & Standards

- Mechanical vibration: 4G
- Mechanical shock: 100G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- HALT tested



RIGID VEHICLES ESSENTIAL RANGE CAMERA MONITOR SYSTEM

VBV-650-000 - Single camera monitor system for rigid vehicles

4765



- VBV-650M - 5" monitor
- VBV-620C - camera
- VBV-L420 - 20m cable
- 1 year warranty



Monitor

- 12-24Vdc
- 1 camera input
- Size (WxHxD)
149.5 x 99 x 30.2mm

Camera

- Viewing angle (HxVxD)
81 x 59 x 106°
- IP67
- Size (WxHxD)
64.5 x 59 x 55mm

SMALL RIGID VEHICLES AND VANS SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-310 - Single flush-mount camera monitor system for vans

4781



- VBV-770M - 7" monitor
- VBV-300C - flush-mount camera
- VBV-L410 - 10m cable

See individual products for
detailed specifications and
warranties

R46
APPROVED

VBV-750-310 - Single flush-mount camera monitor system for vans

4780



- VBV-750M - 5" monitor
- VBV-300C - flush-mount camera
- VBV-L410 - 10m cable

See individual products for
detailed specifications and
warranties

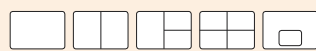
SELECT MONITOR



VBV-770FM - 7" Digital LCD monitor

4982

- 12-24Vdc
- Size (WxHxD)
182 x 122 x 27mm
- 3 year warranty



Plus additional in-built image options

Features

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

Picture Quality

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

Power

- Power consumption: 27 watts
- Current: 2.2 Amps

Durability & Standards

- Mechanical vibration: 4G
- Mechanical shock: 50G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant



ESSENTIAL MONITOR



VBV-243M - 4.3" Digital Mirror monitor

5323

- 12-24Vdc
- Size (WxDxH)
280 x 92 x 30.5mm
- 1 year warranty



Features

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

Picture Quality

- Resolution: 480 x 272
- Contrast ratio: 600:1
- Brightness: 1000cd/m²

- Viewing angles:
Side 65° x Top 60° x Bottom 50°

Power

- Power consumption: 6.6 Watts
- Current: 0.53 Amps

Durability & Standards

- Vibration rating: 6G
- Operating temperature: -20 to +70°C
- CE marked
- FCC approved



Monitor icons

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

Cable icons

- Female connector
- Male connector

RIGID VEHICLES

ELITE RANGE CAMERA MONITOR SYSTEMS

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

3231



- BE-870LM - 7" monitor
- BE-800C - heated camera
- BE-L120 - 20m cable

See individual products for detailed specifications and warranties

R46
APPROVED

BE-870L-100 - Single shutter camera monitor system for rigid vehicles

4032



- BE-870LM - 7" monitor
- BE-810C - heated shutter camera
- BE-L120 - 20m cable

See individual products for detailed specifications and warranties

BE-856G-000 - Single camera monitor system for rigid vehicles

4012



- BE-856GM - 5.6" monitor
- BE-800C - heated camera
- BE-L120 - 20m cable

See individual products for detailed specifications and warranties



RIGID VEHICLES SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-300 - Single flush-mount camera monitor system for rigid vehicles

4777



- VBV-770M - 7" monitor
- VBV-300C - flush-mount camera
- VBV-L420 - 20m cable

See individual products for detailed specifications and warranties

R46
APPROVED

VBV-770-000 - Single camera monitor system for rigid vehicles

4692



- VBV-770M - 7" monitor
- VBV-700C - camera
- VBV-L420 - 20m cable

See individual products for detailed specifications and warranties

R46
APPROVED

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

4695



- VBV-770M-S - 7" monitor
- VBV-710C - shutter camera
- VBV-L520 - 20m cable

See individual products for detailed specifications and warranties

VBV-750-300 - Single flush-mount camera monitor system for rigid vehicles

4776



- VBV-750M - 5" monitor
- VBV-300C - flush-mount camera
- VBV-L420 - 20m cable

See individual products for detailed specifications and warranties

VBV-750-000 - Single camera monitor system for rigid vehicles

4705



- VBV-750M - 5" monitor
- VBV-700C - camera
- VBV-L420 - 20m cable

See individual products for detailed specifications and warranties

VBV-750-100 - Single shutter camera monitor system for rigid vehicles

4708


























- VBV-750M-S - 5" monitor
- VBV-710C - shutter camera
- VBV-L520 - 20m cable
















See individual products for detailed specifications and warranties



BRIGADE CAMERA MONITOR ADAPTERS

	 	AC-006 - Connects Select camera (not shutter) to Elite cable	1983
	 	AC-007 - Connects Select monitor to Elite cable	1984
	 	AC-014 - Connects Elite camera to Select cable	2094
	 	AC-014(5M) - Connects Elite camera to Select cable, 5m long	5049
	 	AC-020 - Connects Elite monitor to Select cable	2590
	 	AC-035 - 5-pin to 4-pin Select shutter camera adapter	3702
	 	AC-055(5M) - 5-pin to 4-pin Select cable, 5m long	4267
	  	AC-305 - Splitter cable connects 1 x BN360 camera to MDR & ECU	4903
	  	AC-306 - Splitter cable connects 1 x Select camera to MDR & monitor	4904
	  	AC-307 - Splitter cable connects 1 x Elite camera to MDR & Monitor	4905

MISCELLANEOUS CAMERA MONITOR ADAPTERS

	 	AC-056 - Connects Select camera to Orlaco monitor	4401
	 	AC-062 - Connects Elite camera to Orlaco monitor	4691
	 	AC-063 - Connects Elite camera to Orlaco monitor, screw fit	4925
	 	AC-066 - Connects Orlaco camera to Elite monitor	5027
	 	AC-067 - Connects Orlaco camera to Select monitor	5028
	 	AC-24-12(009) - In-line 24/12Vdc converter - Select camera to Mekra 507405 monitor	4926
	  	AC-308 - Splitter cable to connect MDR to Mekra 507405 CMS	4949

OEM CAMERA MONITOR ADAPTERS

		AC-041 - Connects Elite camera to John Deere 7-pin amp output	4245
		AC-042 - Connects Select camera to John Deere 7-pin amp output	4246
		AC-044 - Connects Select camera to Molex M12 (Fendt)	4279
		AC-045 - Connects Elite camera to Molex M12 (Fendt)	4280
		AC-068 - Connects Select camera to MAN Harman unit	5234
		AC-069 - Connects Select camera to MAN/Scania Harman unit without camera prep.	5318
		AC-24-12(002) - In-line 24/12Vdc converter - Elite camera to Daimler monitor	4266
		AC-24-12(004) - In-line 24/12Vdc converter - Select camera to MAN MMT HSD	4281
		AC-24-12(006) - In-line 24/12Vdc converter - Select camera to Volvo FH(4) & FM(4)	4719
		AC-24-12(007) - In-line 24/12Vdc converter - Select camera to Iveco connect system	4762
		AC-24-12(008) - In-line 24/12Vdc converter - Select camera to Mercedes sprinter	4763

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

GENERAL CAMERA MONITOR ADAPTERS

		AC-016 - Connects AV to Camera input of Elite monitor	2150
		AC-019 - Connects Elite camera to male phono (video only)	2589
		AC-021 - Connects BNC/FLIR PathFindIR camera to Elite cable	2704
		AC-024 - Connects AV to Select monitor (video & audio input, 12Vdc output)	3183
		AC-028 - Connects AV to Select cable	3335
		AC-064 - Connects Elite camera to BNC adapter cable	4948

ARTICULATED VEHICLES

SELECT RANGE CAMERA MONITOR SYSTEMS

VBV-770-001DW - Single wireless camera monitor system for articulated vehicles

4843



• VBV-770M - 7" monitor	4288
• VBV-700C - camera	1379
• VBV-L420 - 20m cable	1380
• DW-1000-TX - digital wireless transmitter	4043
• DW-1000-RX - digital wireless receiver	4044
• AC-006 - camera adapter	1983
• AC-007 - monitor adapter	1984

See individual products for detailed specifications and warranties

VBV-770-001 - Single camera monitor system for articulated vehicles

4767



• VBV-770M - 7" monitor	4288	• SC-07-24S - Coiled cable with type 24S 7-pin plugs	1227
• VBV-700C - camera	1379	• VBV-L420 - 20m extension cable for trailer	1380
• VBV-410 - 10m cable for cab	1386	• VSP-47B - 7-pin bulkhead socket for trailer & trailer-end camera connector	1846
• VSP-47A - 7-pin bulkhead socket for cab & cab-end camera connector	1847		

See individual products for detailed specifications and warranties

VBV-770-101 - Single shutter camera monitor system for articulated vehicles

4772



• VBV-770M-S - 7" monitor	4697	• VSP-57B 7-pin bulkhead socket for trailer & trailer-end camera connector	3870
• VBV-710C - shutter camera	2808	• SC-07-24S - Coiled cable with 7-pin sockets	1227
• VBV-L510 - 10m cable for cab	3663		
• VBV-L520 - 20m cable for trailer	3664		
• VSP-57A 7-pin bulkhead socket for cab & cab-end camera connector	3869		

See individual products for detailed specifications and warranties



ELITE CAMERA CABLES



BE-L130	- 30 metre cable	0800
BE-L120	- 20 metre cable	0801
BE-L115	- 15 metre cable	0802
BE-L112	- 12 metre cable	3008
BE-L110	- 10 metre cable	0803
BE-L108	- 8 metre cable	3007
BE-L105	- 5 metre cable	0804
BE-L101	- 1 metre cable	5042
BE-L1003	- 0.3 metre cable	2797

ELITE CAMERA EXTENSION CABLES



BE-X025	- 25 metre extension cable	1907
BE-X020	- 20 metre extension cable	1143
BE-X015	- 15 metre extension cable	2101
BE-X010	- 10 metre extension cable	2100
BE-X005	- 5 metre extension cable	2099
BE-X003	- 3 metre extension cable	0805

SELECT CAMERA CABLES



VBV-L430	- 30 metre cable	2108
VBV-L420	- 20 metre cable	1380
VBV-L415	- 15 metre cable	3150
VBV-L412	- 12 metre cable	3106
VBV-L410	- 10 metre cable	1386
VBV-L407	- 7 metre cable	3151
VBV-L406	- 6 metre cable	3152
VBV-L405	- 5 metre cable	1499
VBV-L403	- 3 metre cable	4977
VBV-L4025	- 2.5 metre cable	1554
VBV-L520	- 20 metre 5-pin shutter camera cable	3664
VBV-L510	- 10 metre 5-pin shutter camera cable	3663
VBV-L505	- 5 metre 5-pin shutter camera cable	4001

Cable icons



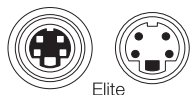
Female connector



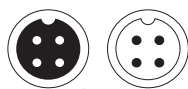
Male connector

UPDATED

DIGITAL WIRELESS CONNECTION SYSTEM



Elite



Select

DW-1000-TX - Digital Wireless Transmitter

4043

DW-1000-RX - Digital Wireless Receiver

4044

- Digital technology
- 12-24Vdc
- 1 camera input
- IP69K (Transmitter)
- Size (WxHxD)
113 x 114 x 31mm
- 3 year warranty

Features

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

Power

- Maximum Current Amps:
TX: 0.85 RX: 0.17

- Power consumption:
TX: 9.8 Watts RX: 2.2 Watts

Durability & Standards

- Operating temperature:
-40 to +70°C
- Mechanical vibration: 6G
- Mechanical shock: 20G
- CE marked
- E-Marked: UNECE R10 compliant

Includes connectors/adapters for both Elite and Select range cameras and monitors

CAMERA MONITOR SYSTEM ANCILLARIES



Elite



Select



CS-020 - Two-way camera selector (Elite range connectors)

1571

VCS-020 - Two-way camera switcher (Select range connectors)

1844

- Allows a 2nd camera to be connected to a monitor
- 2nd camera view selected by trigger wire
- Full screen view only
- 3 year warranty

CAMERA MONITOR SYSTEM ANCILLARIES

LS-60-A - Speed switch

4851



- 12-24Vdc
- Auto-triggers safety equipment at the designated speed
- Size (WxHxD)
44 x 16 x 64mm
- 3 year warranty

Features

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

Power

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

Durability & Standards

- Mechanical vibration: 10G
- Mechanical shock: 50G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant

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

MDR

Mobile Digital Recording

Providing your witness

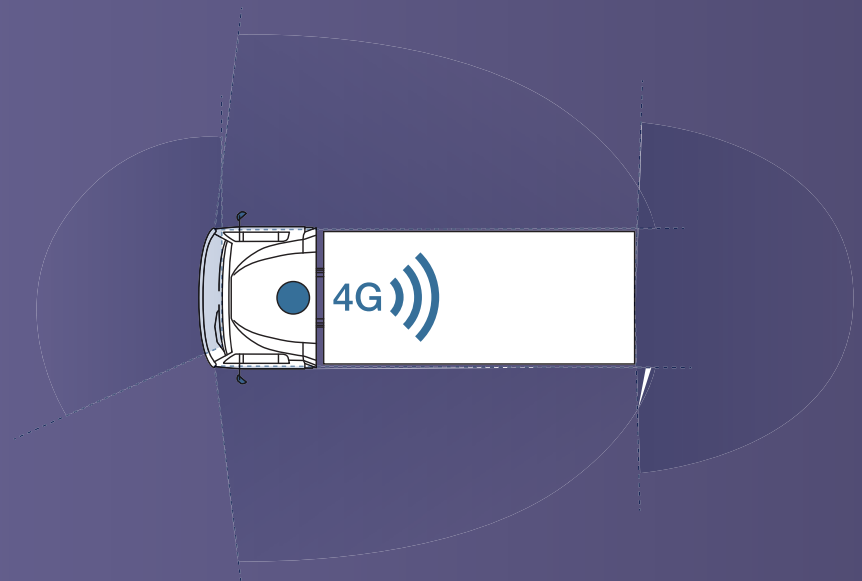
Brigade's Mobile Digital Recording (MDR) systems are now capable of capturing vehicle data and footage from up to 16 vehicle-mounted cameras. The MDR range includes models with 4G and WiFi connectivity capabilities, allowing data to be accessed from the recorder without having to physically go to the vehicle.

To take full advantage of the benefits of 4G connectivity, Brigade provide Marshal, a fully managed service for 4G enabled systems so that operators do not have to set up and maintain their own servers and manage SIMs and mobile data.

New IP Cameras and Network Expansion Modules mean that up to 6 cameras can be connected to our 4-channel MDR and up to 16 cameras can be connected to our 8-channel MDR.

MDRs are compatible with all Brigade Backeye® camera monitor systems, including Backeye®360.

MDRs are compatible with Brigade's Backeye® camera monitor systems, IP cameras and Backeye®360 - BN360-200.



MARSHAL

MDR 4G Hosted Service

The MDR range includes models with 4G connectivity capabilities, allowing data to be accessed from the recorder without having to physically go to the vehicle.

In order to take full advantage of the benefits of 4G connectivity, Brigade now provide Marshal, a fully managed service for 4G enabled systems so that operators do not have to set up and maintain their own servers and manage SIMs and mobile data.



MARSHAL
Cloud Service from Brigade

Benefits of having remote access to the MDR can include:

- **Playback of historical footage and metadata from MDR or server** - Metadata includes: GPS location, speed, G-force, events and alarms.
- **Vehicle tracking** - Includes: GPS location, speed and alarms. Dual-screen support with dedicated location map.
- **Live view of vehicle cameras and metadata** - Metadata includes: GPS location, speed and alarms. Up to 64 cameras can be viewed from multiple MDRs on one screen.
- **Download footage**
 - **Scheduled:** one-off download to the server that will commence once vehicle is online.
 - **Automatic:** Pre-alarm and post-alarm footage (e.g. 30 seconds) will automatically save to the server.
 - **Manual:** Download historical footage from the MDR to local storage.
- **Geo-fencing** - Easily set up geographical boundaries to know when your vehicle enters and/or leaves areas.



Vehicle Tracking on MDR Dashboard
PC software and MDR App



Example of 4-channel playback
MDR Dashboard PC software

All Marshal packages include

- 4G connection
- Competitively-priced 12 month contract, rolling thereafter
- SIM card
- Remote access to MDR via secure cloud server
- Technical helpline and online tutorials
- Access to data via MDR Apps for iOS and Android systems
- Access to data via MDR Dashboard PC software: Windows OS required (minimum Windows 7)

At the time of print, 4G Hosted Services only available in selected countries.

Model

Part No:

MOBILE DIGITAL RECORDER

MDR-508-2000	- 8 channel 2TB hard disk recorder	5577
MDR-508-1000	- 8 channel 1TB hard disk recorder	5126
 	MDR-508GW-2000 - 8 channel 2TB hard disk recorder with WiFi and 4G	5585
	MDR-508GW-1000 - 8 channel 1TB hard disk recorder with WiFi and 4G	5127
	MDR-508G-2000 - 8 channel 2TB hard disk recorder with 4G	5583
	MDR-508G-1000 - 8 channel 1TB hard disk recorder with 4G	5128
	MDR-508W-2000 - 8 channel 2TB hard disk recorder with WiFi	5579
	MDR-508W-1000 - 8 channel 1TB hard disk recorder with WiFi	5129



- 9-32Vdc
- 8 camera inputs - Supports AHD High definition cameras
- 8 trigger/alarm inputs
- Lockable and interchangeable Hard Drive Unit
- Fast, easily downloadable recordings and data
- Size (WxHxD)
224 x 85 x 221mm
- 3 year warranty

Main Contents

- Mobile Digital Recorder with 2.5" SATA HDD caddy unit
- Wired Mouse
- 64Gb industrial grade Class 10 SD card
- Input / Output Cable
- Power Cable
- GPS Antenna
- 4G Antenna (G and GW models)
- Wi-Fi Antenna (W and GW models)
- USB A to B Cable (3.0)
- Security Key
- Bracket and Fixings

Features

- Remotely access MDR units using wireless (WiFi models only) and/or Mobile network (4G models only)
- Mobile apps for remote view (WiFi/4G models only)
- Geo-fencing (WiFi/4G models only)
- Mobile Standards: 2G/3G/4G
- Audio (cameras must have microphones)
- Robust aluminum housing
- Anti-vibration mounting allows for installation at any angle
- Built-in GPS
- Internal G-sensor and built-in buzzer
- Recordings saved to hard disk (protected by non-visible digital watermark) and in-built Mirror recording onto 64Gb SD card
- Recording modes: normal, alarm and timer (all watermarked)
- Configurable alarm trigger settings (speed, G-force, motion detection, video loss, voltage)
- Record images prior to alarm activation and after vehicle switched off

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

Image and Audio Quality

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

Power

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

Durability & Standards

- Mechanical vibration: 1G
- Mechanical shock: 51G
- Operating temperature: -40 to +70°C
- E-Marked: UNECE R10 compliant
- CE marked
- FCC approved
- IC approved
- RoHS2 Compliant

OPTIONAL EXTRA

Expand the channel capability of the MDR with the addition of an Expansion Module and IP cameras:

See pages 52-53

IP-EM4 - Expansion Module adds 4 channels to MDR-508 = 12 channels

IP-EM8 - Expansion Module adds 8 channels to MDR-508 = 16 channels



Model

Part No:

500 SERIES MOBILE DIGITAL RECORDER ACCESSORIES



AC-305 - Splitter cable connects 1 x Backeye®360 BN360-200 camera to MDR & ECU

4903

AC-306- Connects 1 x Select camera to MDR and monitor

4904

AC-307- Connects 1 x Elite camera to MDR and monitor

4905



MDR-RP01- Remote status & interface panel with panic button

4872



MDR-06RPC- 6m cable for Remote status & interface panel

4873

MDR-GS-02- External G-sensor

4988

MDR-03GSC- 3m G-sensor cable

4874



MDR-508GW-EXP-0 - **Wi-Fi & 4G upgrade Expansion Module**
For MDR-508 models only. SD card not included

5309

MDR-508G-EXP-0 - **4G upgrade Expansion Module**
For MDR-508 models only. SD card not included

5310

MDR-508W-EXP-0 - **Wi-Fi upgrade Expansion Module**
For MDR-508 models only. SD card not included

5311



MDR-500-500-MCU - **Caddy unit with 500GB HDD**

5132

MDR-500-1000-MCU - **Caddy unit with 1TB HDD**

5157

MDR-500-2000-MCU - **Caddy unit with 2TB HDD**

5330

SD-32GB-IND - **32GB industrial grade Class 10 SD card**

4875

SD-64GB-IND - **64GB industrial grade Class 10 SD card**

4876



MDR-FPB32-01 - **External SD Mirror-recorder in fireproof housing**
with 32GB industrial grade Class 10 SD card

4896

Mobile Digital Recorders

Model

Part No:

MOBILE DIGITAL RECORDER

MDR-504-2000	- 4 channel 2TB hard disk recorder	5563
MDR-504-1000	- 4 channel 1TB hard disk recorder	5561
  MDR-504GW-2000	- 4 channel 2TB hard disk recorder with WiFi and 4G	5575
MDR-504GW-1000	- 4 channel 1TB hard disk recorder with WiFi and 4G	5573
 MDR-504G-2000	- 4 channel 2TB hard disk recorder with 4G	5571
MDR-504G-1000	- 4 channel 1TB hard disk recorder with 4G	5569
 MDR-504W-2000	- 4 channel 2TB hard disk recorder with WiFi	5567
MDR-504W-1000	- 4 channel 1TB hard disk recorder with WiFi	5565



- 9-32Vdc
- 4 camera inputs - Supports AHD High definition cameras
- 8 trigger/alarm inputs
- Lockable and interchangeable Hard Drive Unit
- Fast, easily downloadable recordings and data
- Size (WxHxD)
190 x 75 x 222mm
- 3 year warranty

Main Contents

- Mobile Digital Recorder with 2.5" SATA HDD caddy unit
- Wired Mouse
- 32Gb industrial grade Class 10 SD card
- Input / Output Cable
- Power Cable
- GPS Antenna
- 4G Antenna (G and GW models)
- Wi-Fi Antenna (W and GW models)
- USB A to B Cable (3.0)
- Security Key
- Bracket and Fixings

Features

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

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

Image and Audio Quality

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

Power

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

Durability & Standards

- Mechanical vibration: 1G
- Mechanical shock: 51G
- Operating temperature: -40 to +70°C
- E-Marked: UNECE R10 compliant
- CE marked
- FCC approved
- IC approved
- RoHS2 Compliant

OPTIONAL EXTRA

Expand the channel capability of the MDR with the addition of an Expansion Module and IP cameras:

See pages 52-53



IP-EM4 - Expansion Module adds 2 channels to MDR-504 = 6 channels

Ultrasonic Detection On-Screen Display Module

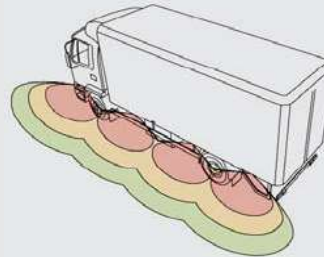


- Integration of Brigade's ultrasonic obstacle detection systems and Backeye® camera monitor systems
- Ultrasonic detection warnings overlaid onto camera image on in-cab monitor
- Reduced driver stress and distractions as all information is in one view

Sensor data and camera image combined

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

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



ULTRASONIC ON-SCREEN DISPLAY MODULE

UDS-OSD20-ECU - On-screen display module PAL

5099

UDS-OSD21-ECU - On-screen display module NTSC

5347



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

Contents

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

Features

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

Durability & Standards

- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +70°C +22 to +158°F
- IP30
- Dimensions: 74 x 118 x 28 mm (WxDxH) 2.9 x 4.6 x 1.1"
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved

Power

- Power consumption: 1.7 Watts
- Current: 140mA

Ultrasonic Object Detection

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

Which system is for you?

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

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

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

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

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





FRONTSCAN® ULTRASONIC DETECTION SYSTEM

FS-4000W - Front sensor system

3747



- 4 sensor system
- 12-24Vdc
- 2.0m/1.0m detection range - outer sensors can be reduced to 0.6m (selectable via dip switches)
- Audible distance warning
- Flush-mount
- 3 year warranty

Contents

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

Features

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

the detection zone

- Self-diagnostic function
- 1 x Trigger output

Durability & Standards

- Operating temperature: -30 to +80°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- E-Marked: UNECE R10 compliant

Power

- Power consumption: 2.4 Watts
- Current: 200mA



RECOMMENDED EXTRA

LS-60-A

Low speed trigger module

Enables sensors below designated speed

4851



OPTIONAL EXTRA

UDS-RELAY-24

Trigger-out diode protected relay 24Vdc

4215

UDS-RELAY-12

Trigger-out diode protected relay 12Vdc

4216

To power a device switched by the output trigger

CORNERSCAN® ULTRASONIC DETECTION SYSTEM

CS-3100 - Corner sensor system with mute function

5261



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

Contents

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

Features

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

from ancillary equipment within the first 100cm of the detection zone

- Self-diagnostic function

Durability & Standards

- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved

Power

- Power consumption: 2.4 Watts
- Current: 2 Amps



RECOMMENDED EXTRA

LS-60-A

Low speed trigger module

(enables sensors below designated speed)

4851



EXTENSION CABLES

UDS-2.5BC - Buzzer/display extension cable 2.5m

3717

UDS-10BC - Buzzer/display extension cable 10m

3716

UDS-15BC - Buzzer/display extension cable 15m

3746

UDS-2.5SC - Sensor extension cable 2.5m

3719

UDS-4.5SC - Sensor extension cable 4.5m

3720

UDS-7.0SC - Sensor extension cable 7.0m

5623

Radar Object Detection

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

Which model is for you?

Programmable

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



Fixed

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



Network

Aimed at OEM and specialist application markets, Brigade's Network Radar allows you to connect and link up to 8 sensors to cover large, sometimes complex blind spot zones around the vehicle or machine. The system provides object detection in CAN (Controller Area Network) message format which may be processed to display data on control panels/displays on the vehicle or used to control aspects of the machine.



FMCW technology

Backsense® heavy-duty radar sensor systems are designed for heavy-duty machines to detect people and objects in blind spots. They detect stationary and moving objects, providing the driver with in-cab visual and audible warnings - alerting the operator whose attention cannot be focused on all danger areas.

Backsense® radar uses Frequency Modulated Continuous Wave (FMCW) technology, transmitting a continuously varying radar frequency signal with unique time stamps to each instance of the wave. The time of the returning wave is referenced to the stamp without the radar needing to pause transmitting. This gives more accurate detection than alternative radar products using Pulsed Radar technology that transmit a burst of radar and listen for the returning wave.

Radar Models

- Backsense® systems are available with fixed and programmable detection ranges and a programmable model with an IP69K in-cab display. Bespoke detection areas can be programmed to calibrate-out fixed objects or bodywork.
- Backsense® Network radar allows you to link up to eight radar sensors. The system provides object detection in CAN message format which may be processed to display data on control panels/ displays on the vehicle or used to control aspects of the machine.
- Backsense® on-screen display works in conjunction with Backeye® camera monitor systems and up to two radar sensors. It warns the driver of objects in the danger zone by overlaying 5-stage audible and visual radar data onto the camera image on the monitor.

SIDESCAN® ULTRASONIC DETECTION SYSTEM

SS-4100W -	Side sensor system with mute function	5257
SS-4100W-000 -	Side sensor system with mute function, low speed trigger module and turn indicator sensor kit	5344
Includes LS-60-A low speed trigger module and TS-001ECU turn indicator sensor		



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

Contents

- 4 x sensors
- Buzzer
- 4 x 0° flush mount fixings
- 4 x 11° flush mount fixings
- 4 x underslung fixings
- Waterproof control box
- 10m buzzer cable
- 4 x 4.5m sensor cables
- 2 x 2.5m extension cables

Features

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

Durability & Standards

- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved

Power

- Power consumption: 2.4 Watts
- Current: 200mA

BACKSCAN® ULTRASONIC DETECTION SYSTEM

BS-4000W -	Rear reversing sensor system	3744
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- 4 sensor system
- 12-24Vdc
- 2.5m detection range - outer sensors 2.5m/0.6m (selectable via dip switch)
- Graduated visual and audible distance warning display
- Underslung and flush-mount fixings included
- 50cm compensation range for sensors fitted inboard of vehicle rear (selectable via dip switch)
- 3 year warranty

Contents

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

Features

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

Durability & Standards

- Mechanical vibration: 5G
- Mechanical shock: 10G
- Operating temperature: -30 to +80°C
- Waterproof sensors to IP68
- Waterproof control box to IP69K
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved

Power

- Power consumption: 2.4 Watts
- Current: 200mA



ADDITIONS FOR ARTICULATED VEHICLES

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

OPTIONAL EXTRA

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

To power a device switched by the output trigger

Backsense® Radar Object Detection

Model

Part No:

NEW

IP69K PROGRAMMABLE BACKSENSE® OBJECT DETECTION SYSTEM

BS-9000-WD - Waterproof display - Programmable detection range

5713



- 9-32Vdc
- Detection length: up to 30m (minimum programmable distance 0-3m)
- Detection width: 2m to 10m
- Rugged design for harsh environmental conditions
- Sensor size (WxHxD) 217 x 129 x 50mm
- Display size without bracket (WxHxD) 118 x 97 x 55 mm
- IP69K sensor
- IP69K display
- 3 year warranty

Contents

- 1 x BS-9000 Radar sensor
- 1 x IP69K audible and visual display with mounting bracket
- 1 x 9m extension cable
- 1 x Network Y Cable
- 1 x Network terminator
- 1 x Mini USB cable

Features

- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- 2nd trigger output for optional external alarm
- Programmable:
 - Detection area
 - Blind zones - system ignores fixed objects
 - Trigger activation
 - Buzzer
- 5 stage audible and visual distance warning display

- 3 set volume levels (maximum 95dB) with volume lock
- AMPS hole pattern for alternative mounting with industry-standard bracket
- Resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power

- Current: 0.9 Amps
- Power consumption: 8 Watts

Durability & Standards

- Mechanical shock- sensor: 100G
- Mechanical shock- display: 50G
- Mechanical vibration: 8.3G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- BS EN 13309: 2010
- ISO13766: 2006

Configuration Software

- *Available via Brigade website or USB (purchased separately)

OPTIONAL EXTRAS

CT-470 - Constant tone external alarm - 102dB

1346

*BS-WD-USB - USB -programming software, port driver and operating guide

5637

PROGRAMMABLE BACKSENSE® OBJECT DETECTION SYSTEM

BS-8000 - Standard display - Programmable detection range

4530



- 9-32Vdc
- Detection length: up to 30m (minimum programmable distance 0-3m)
- Detection width: 2 to 10m
- Rugged design for harsh environmental conditions
- Sensor size (WxHxD) 217 x 129 x 50mm
- Display size with bracket 101 x 71 x 70mm (WxHxD)
- IP69K sensor
- 3 year warranty

Contents

- 1 x Configurable radar sensor
- 1 x Audible and visual display with USB socket and mounting bracket
- 1 x 9m extension cable
- 1 x Mini USB cable
- 1 x Software CD

Features

- Frequency modulated continuous wave (FMCW) radar technology
- Effectively detects stationary, moving and multiple objects
- 1 activation input
- 1 trigger output
- Programmable:
 - Detection area
 - Blind zones - system ignores fixed objects
 - Trigger activation
 - Buzzer

- 5 stage adjustable audible and visual distance warning display
- Sensor resistant to water, moisture, dust, vibration, heat, cold, mud and glare

Power

- Current: 0.8 Amps
- Power consumption: 8 Watts

Durability & Standards

- Mechanical shock: 100G
- Mechanical vibration: 8.3G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- BS EN 13309: 2010
- ISO13766: 2006

Backsense® Radar On-Screen Display



- Integration of Brigade's Backsense® radar detection and Backeye® camera monitor systems
- Up to 2 Radar detection warnings overlaid onto camera image on in-cab monitor
- Reduced driver stress and distractions as all information is in one place



Radar sensor data and camera image combined

Brigade's Radar sensors minimise both vehicle damage and collisions by informing the driver of the distance between vehicle and obstacles, whether moving or stationary. Ideal for vehicles and machines manoeuvring at low speed.

Working in conjunction with a Backeye® camera monitor system and up to two Backsense® Network radar detection systems, the on-screen display module warns the driver of obstacles in the danger zone by overlaying 5-stage audible and visual radar data onto the camera image on the monitor.

NEW

BACKSENSE® RADAR ON-SCREEN DISPLAY KIT

BS-9001-OSD - Radar sensor & On-screen display module

5658



- Allows 5-stage audible and visual radar data to be overlayed onto camera images on in-cab monitor
- 12-24Vdc
- Detection length: up to 30m (minimum programmable distance 3m)
- Detection width: 2 to 10m
- Sensor size (WxHxD) 217 x 129 x 50mm
- OSD ECU size (WxHxD) 195 x 120 x 35mm
- 2 camera inputs
- 2 BS-9000 Backsense® inputs
- 3 trigger inputs
- 3 trigger outputs
- 3 year warranty

Contents

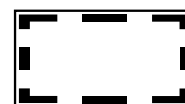
- 1 x OSD Radar ECU
- 1 x BS-9000 Backsense® radar sensor
- 1 x Power cable
- 1 x Extension cable 9m
- 3 x Network Y-cable
- 2 x CANBUS terminator

Features

- Overlay on monitor of detection data from up to 2 BS-9000 radar sensors
- Each radar can be shown in one of 8 positions around the monitor/vehicle
- Compatible with Backsense® BS-9000 Network radar sensors only
- Programmable:
 - Detection area
 - Blind zones - system ignores fixed objects
 - Overlay transparency level
- Radar system fault displayed on monitor
- USB connection for configuration via PC
- Compatible with MDR, Backeye®360 & Elite range camera monitor systems (Select range via adapters)
- Audible warning via monitor or optional internal buzzer
- Supports external warning alarm

Durability & Standards

- Operating temperature: -40 to +85°C
- OSD: IP30
- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved



To not obstruct camera views, each radar can be shown in one of eight positions around the edge of the monitor

Camera monitor system not included

TO ADD AN ADDITIONAL RADAR SENSOR

1 x BS-9000	- Network Radar sensor	5266
1 x BS-00NYC	- Network Y Cable	5270
1 x Extension cable:		
BS-05DCX	- 5m extension cable	4550
BS-09DCX	- 9m extension cable	4551
BS-25DCSX	- 25m extension cable (Female end connector supplied loose)	4975



Model

Part No:

FIXED BACKSENSE® OBJECT DETECTION SYSTEMS



BS-7030 - 3m detection range, 2.5m width Sensor, AV display, 9m cable	4527
BS-7045 - 4.5m detection range, 3.5m width Sensor, AV display, 9m cable	4528
BS-7060 - 6m detection range, 4.5m width Sensor, AV display, 9m cable	4529

- 12-24Vdc
- Maximum detection range of 6m
- Rugged design for harsh environmental conditions
- Sensor size (WxHxD)
217 x 129 x 50mm
- IP69K sensor
- 3 year warranty

Features

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

Power

- Current: 0.8 Amps
- Power consumption: 8 Watts

Durability & Standards

- Mechanical shock: 100G
- Mechanical vibration: 8.3G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- BS EN 13309: 2010
- ISO13766: 2006

BACKSENSE® RADAR OBJECT DETECTION ACCESSORIES



BS-02DCX - 2m extension cable	5272
BS-05DCX - 5m extension cable	4550
BS-09DCX - 9m extension cable	4551
BS-25DCSX - 25m extension cable (Female end connector supplied loose)	4975
BS-00NYC - Network Y Cable for 9000 series radar	5270
BS-02PIC - Network power input cable for 9000 series radar	5271
BS-00NT - 120 Ohms Network Terminator for 9000 series radar	5291
BKT-017 - Adjustable radar bracket with 105mm depth bracket mounting arms	4676
BKT-018 - Low-profile adjustable radar bracket	4758

EXTENSION CABLES

BS-05DCX - 5m extension cable	4550
BS-09DCX - 9m extension cable	4551
BS-25DCSX - 25m extension cable (Female end connector supplied loose)	4975

OPTIONAL EXTRAS

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

NEW

NETWORK BACKSENSE® OBJECT DETECTION



BS-9000 - Backsense® CAN object detection radar

5266

- 12-24 Vdc
- Detection length: up to 30m
- Detection width: up to 10m
- Sensor size (WxHxD) 217 x 129 x 50mm
- IP69K sensor
- 3 year warranty

Contents

- 1 x Network radar
- Fixings

Features

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

Power

- Current: 0.4 Amps
- Power consumption; 4 Watts

Durability & Standards

- Mechanical shock: 100G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- BS EN 13309: 2010
- ISO13766: 2006



EXTENSION CABLES

BS-02DCX	- 2m extension cable	5272
BS-05DCX	- 5m extension cable	4550
BS-09DCX	- 9m extension cable	4551
BS-25DCSX	- 25m extension cable (Female end connector supplied loose)	4975



NETWORK ACCESSORIES

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



OPTIONAL EXTRAS

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

Warning Alarms

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

Which alarm is for you?

Heavy duty

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



Medium duty

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



bbs-tek® white sound®

The safest alarms in the world due to their instant locatability and directional sound. The multi-frequency alarms are only heard in the danger zone, thus eliminating noise nuisance for local residents. bbs-tek® alarms are endorsed by PIEK and the Noise Abatement Society and have been awarded the Quiet Mark.



alarms are covered
by the following patents:

AU2007200517

EP1289798B2

CN100488807C

JP4798474B2

NZ522190

GB2345392C

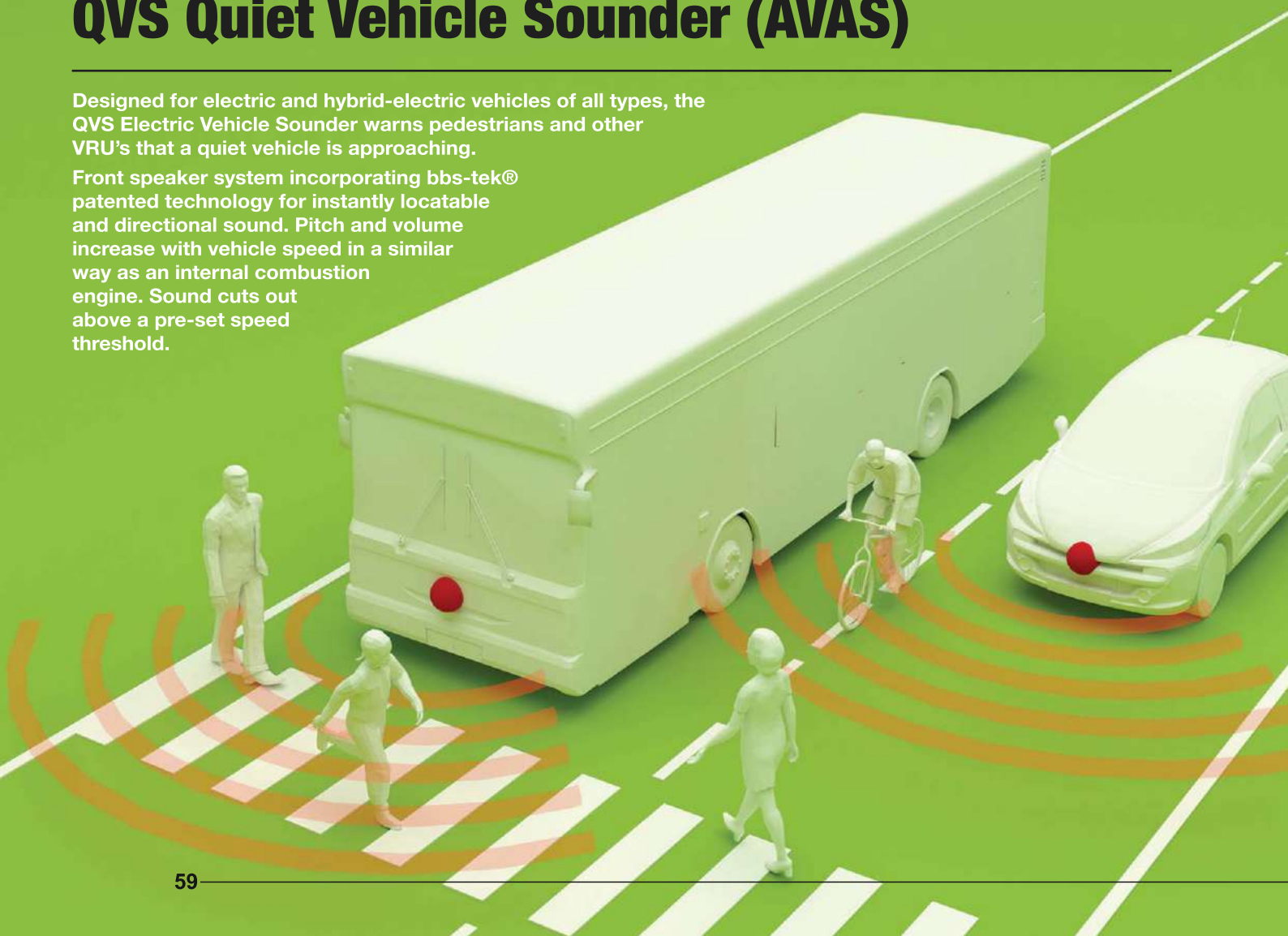
USRE44912



QVS Quiet Vehicle Sounder (AVAS)

Designed for electric and hybrid-electric vehicles of all types, the QVS Electric Vehicle Sounder warns pedestrians and other VRU's that a quiet vehicle is approaching.

Front speaker system incorporating bbs-tek® patented technology for instantly locatable and directional sound. Pitch and volume increase with vehicle speed in a similar way as an internal combustion engine. Sound cuts out above a pre-set speed threshold.



NEW

QVS QUIET VEHICLE SOUNDER (AVAS)

QVS-001-75 - Quiet Vehicle Sounder

5385



- 12-24Vdc
- IP68 Speaker
- IP30 ECU
- Size Speaker (WxHxD)
120 x 135 x 120mm
- Size ECU (WxHxD)
93 x 26 x 185mm
- 2 year warranty



Contents

- 1 x speaker
- 1 x ECU

Features

- Warns pedestrians and other VRU's that a quiet vehicle is approaching
- Combined multi-frequency bbs-tek® technology and tonal sounds
 - Multi-frequency sound
 - Directional and locatable - The sound is only heard in the hazard zone.
- Front speaker system
- Pitch and volume increase with vehicle speed to mimic an internal combustion engine
- Operational below speeds of 20MPH
- Front sounder operational when ignition activated (silenced when parking brake applied)
- Uses Tachograph speed signal**
- Sounder unit: Speaker

Power

- Current: Max 0.1 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -30 to +70°C
- CE marked
- E-Marked: UNECE R10 compliant
- FCC approved
- IC Marked
- UNECE R138 compliant*
- 49 CFR Part 571 and 585 Federal Motor Vehicle Safety Standards compliant*

* QVS helps achieve compliance for the vehicle.

** If your vehicle is not equipped with a Tachograph, please contact us for alternative installation methods

QVS Quiet Vehicle Sounder (AVAS)

- Warns pedestrians and other VRU's that a quiet vehicle is approaching.
- Incorporating bbs-tek® technology - Multi-frequency, directional and instantly locatable sound which is only heard in the hazard zone.
- Front speaker system.
- Pitch and volume increase with vehicle speed in a similar way as an internal combustion engine.
- Sound cuts out above a pre-set speed threshold.
- Designed for electric and hybrid-electric vehicles of all types.

Sound is an important contributor to road safety yet electric vehicles are almost silent; they are only audible once they have built up some speed. Studies by the Guide Dogs charity concluded that electric vehicles pose a danger to vulnerable road users (VRU) and increase the risk of incidents with pedestrians by up to 40%.

In order to protect VRU's, standards in both the US and EU have been introduced to ensure minimum sound requirements for electric vehicles. Sound generators will need to be fitted to make the engines "sound similar" to vehicles with combustion engines when travelling at low speed.

Since 2010, Brigade has been involved in the QRTV (Quiet Road Transport Vehicles) working group to establish requirements for the standard. We have developed a multi-frequency Quiet Vehicle Sounder, integrating our patented bbs-tek® technology. This gives greater directional information to the ear allowing the VRU to instantly locate where the sound is coming from and to take evasive action.

www.brigade-electronics.com/qvs



If your vehicle is not equipped with a Tachograph, please contact us for alternative installation methods



ADR version

bbs
tek

WHITE SOUND® REVERSING ALARM

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

- 12-24Vdc
- 36-80Vdc (HV)
- IP68
- Size (WxHxD)
127 x 76 x 65mm
- Lifetime warranty

Features

- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centres (mm): 98-108

Power

- Current: Max 0.3 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994

NIGHTSHIFT® SPEAKING ALARM



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

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

Features

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

Power

- Current: 0.5 Amps

Durability & standards

- CE marked
- E-Marked: UNECE R10 compliant

SPEAKING ALARM



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

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

Features

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

Power

- Current: 0.5 Amps

Durability & standards

- CE marked
- E-Marked: UNECE R10 compliant

WHITE SOUND® SMART REVERSING ALARM



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

1400

- 12-24Vdc
- IP68
- Size (WxHxD)
172 x 79 x 95mm
- Lifetime warranty

Features

- Alarm continually adjusts to 5-10dB above ambient
- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 153

Power

- Current: Max 1 Amp

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994

WHITE SOUND® SMART REVERSING ALARM



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

1399

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

1398

- 12-24Vdc
- 36-80Vdc (HV)
- IP68
- Size (WxHxD)
127 x 76 x 65mm
- Lifetime warranty

Features

- Alarm continually adjusts to 5-10dB above ambient
- Multi-frequency white sound alarm
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 98-108

Power

- Current: Max 1 Amp

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994
- NAS/PIEK approved for night-time delivery

WHITE SOUND® REVERSING ALARM



BBS-107 - Heavy duty - 107 Decibels

0899

BBS-102 - Heavy duty - 102 Decibels

0898

- 12-24Vdc
- IP68
- Size (WxHxD)
172 x 79 x 95mm
- Lifetime warranty

Features

- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Driver
- Hole centres (mm): 153

Power

- Current: Max 1 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994

WHITE SOUND® REVERSING ALARM



BBS-97 - Medium duty - 97 Decibels

0935

BBS-92 - Medium duty - 92 Decibels

0934

BBS-87 - Medium duty - 87 Decibels

0897

BBS-82 - Medium duty - 82 Decibels

0896

- 12-24Vdc
- IP68
- Size (WxHxD)
105x65x37mm (BBS-97/92)
105x65x32mm (BBS-87/82/77)
- Lifetime warranty

Features

- Multi-frequency broadband sound
- Instantly locatable
- Sound confined to danger area
- Eliminates noise nuisance
- Sounder unit: Speaker
- Hole centres (mm): 76

Power

- Current: Max 0.5 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994
- NAS/PIEK approved for night-time delivery (BBS-82 only)



SPEAKING ATTACK ALARM

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

0064
1465

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

Features

- Real speech alarm
- BC-AA(BUS) message "This bus is under attack, please dial 999"
- Activated by panic button, repeats continuously until deactivated by hidden switch
- Sounder unit: Speaker
- Hole centres (mm): 48

Power

- Current: 0.5 Amps

Durability & standards

- CE marked
- E-Marked: UNECE R10 compliant



SPEAKING ALARM

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

0665
1199

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

Features

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

Power

- Current: 0.5 Amps

Durability & standards

- CE marked
- E-Marked: UNECE R10 compliant



VEHICLE INTERCOM

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

0815
0875

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

Features

- Two-way communication system
- Master unit volume control: 80-95dB
- Includes master unit, slave unit and 25m cable
- Sounder unit: Speaker
- Hole centres (mm): 102

Power

- Current: 0.5 Amps

Durability & standards

- CE marked
- E-Marked: UNECE R10 compliant
- FCC Approved
- IC Approved



INCLINOMETER

FEATURES

- Dual axis measurement, range : $\pm 45^\circ$
- Solid state MEMS sensor
- RS232 full duplex communication (TTL level)
UART output available on request)
- Low cost
- Zero offset position can be easily programmed and stored
- Programmable frequency response between 0.125 abd 32Hz
- On board temperature sensor
- Small size, 46x43.6x13.5mm
- Sealed to IP67



TECHNICAL SPECIFICATIONS

Input voltage	Minimum 9V; maximum 36V
Power consumption (W)	Maximum 2W (165mA @ 12V) - includes dual axis tilt sensor
Warning relay output	Normally open or normally closed, 36V max, 1A max, internally fused
Alarm relay output	Normally open or normally closed, 36V max, 1A max, internally fused
Maximum tilt	-90 to 90 degrees, recommended use - 60 to 60 degrees
Maximum tilt	-90 to 90 degrees, recommended use - 60 to 60 degrees
Accuracy	1 degree from 0 to 30 degrees, 2 degrees from 30 - 60 degrees
Refresh rate	10 updates per second
Frequency response	10Hz to 0.1Hz, user settable
Communications protocol	Always on RS485 - differential
Operating temperature	-20°C to +55°C
Storage temperature	-40°C to +85°C
Humidity	5% to 95% R.H. non condensing at 60°C
CE Compliance	ETSI EN 301489 - 1 V1.9.2 (2011-09) ETSI EN 301489 - 19 V1.2.1 (2002-11) ETS 300487: 1996+A1: 1997 EN 60950 - 1: 2006+ A11: 2009 + A1: 2010+A12: 2011



DMI SR 400

SPECIFICATIONS

Part Number :	DMI SR 400
Mounting System :	Bracket Dash Mount
Input Voltage :	9-36V
Power Consumption :	Less Than 1W
Dimensions (Display Unit) :	70mm (width)X 50mm (height) X 18mm (depth)
Operating Temperature :	-40 To 85 Degrees

FEATURES

- Pitch and Roll measurement
- Configurable warning and alarm levels
- Full colour display
- Internal buzzer
- Password protected menu
- Rugged mounting system
- Multi Voltage



TYRE PRESSURE MONITORING SYSTEM



TPMS ULTRA

System Comprises

- In Car Unit
- Sensor
- Ultra App*
- Large Bore / Standard Bore T-valve
- Sensor Protective Casing

*Compatible with Android 4.3 and above as well as iOS7.1 or later with at least Bluetooth 4.0



IN CAR UNIT

- Readings display unit for the prime mover
- Monitors up to 22 sensors
- Facilitates sensor pairing
- Signal booster



ULTRA SENSOR

Tire pressure / temperature sensing



ULTRA APP

For Smart Devices on iOS 7.1 and Android 4.3 or later



BATTERY CUT OFF SWITCH



DMI Single Pole 1011

PARAMETERS:

Operating temperature : -40°C~85°C
 IP Protection : IP65
 Minimum Insulation Resistance : 100M ohm/500V
 Di-Electric with standing voltage :1000V/1Min
 Max. Contact drop at Max. load : 150mV at rated load
 Operating Voltage range : Upto 32V
 Rating Continuous : 24V 300Amps
 Rating Intermittent : 24V 2000Amps
 Rating In rush : 24V 2500Amps
 Tolerance : ≤10,±0.3mm; >10≤120,±1mm
 Unit : mm

Vibration IEC 60068-2-34 or GB/ T2423.11,10~500Hz,
 Random vibration test for 8 hours in each of the 3
 mutually perpendicular axes. 25Gs @ Z axes, 12.5Gs @ X/Y axes.

Salt Spray IEC 60068-2-11 or GB/T 2423.17, 48 hrs.
 Fire and Smoke IEC 60695-11-10 or GB/T 2408 HB
 Dust/Waterproof IEC 60529 or GB4208, IP 67
 Chemical Splash Gasoline, Diesel, Motor Oil, Brake Fluid Ammonia, Armor All
 UV Protection ASTM G155-05a, cycle 11, 300 hr
 Xenon Arc, 1.4W/(m²·nm), wavelength 420 nm.



DMI-283 Beacon

Colours Available:

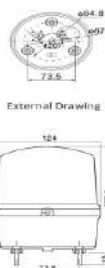


Features:

Approval : ECE R10 Approved
 Voltage : 12v-24v
 Warranty : 10 Months Warranty
 Output : 30 SMD LED
 Patterns : Flash Pattern
 Fixing : 1 Bolt, 3 Bolt, Mag

X - A - Amber / G - Green
 Y - 1 - 1 bolt / 3 - 3 bolt / M - Mag

Dimensions:
 122mm x 112mm



DMI-121 LED Beacon

Technical Specification				
Model	Voltage	Current	Flashes Per Min	Color
DMI 121	DC12V	0.090A	60-80/ Per Min	Red
DMI 121	DC24V	0.080A		Yellow
DMI 121	AC110V	0.042A		Green
DMI 121	AC220V	0.021A		Blue

DMI-456 LED Beacon



Specifications

LEDS	: 36pcs SMD 2835
Voltage	: 10-36V DC
Beam Color	: Amber
Fixed Way	: Magnet & Sucked base type
Waterproof	: IP65
Flashing Patterns	: Single flash (quickly), Single flash (slowly), Double Flashes, Quad Flashes, Cycle Flash

LED FLS-1122

Colours Available:     Dual color available on all versions



Features:

Approval : ECE R10/R65 Approved
(ECE R10 Only for Red, White, Green)

Voltage : 12v/24vIP
Rating : 1P67
Output : 5W LEDs
Patterns : 26 Flash Patterns
Inc. synchronisation wire

Part numbers:

DMI -6H - 6 head
DMI -12H' - 12 head 2 row

Dimension:

6 head - 120mm x 31mm x 14mm
12 head - 120mm x 52mm x 14mm

DMI-232 LED Beacon



Features:

Approval: ECE R10
Voltage: 10-110v
IP Rating: IP66
Warranty: 2 Year Warranty
Output: 18 SMD
Patterns: 1 Flash Patterns
Fixing: Mag, Bolt, Flexi Din

Part number: DMI 232 Beacon

X = base type
Y = colour



Traffic Flasher



Model No.	
Size	Diameter 12cm, Length 33cm
Material	Frame- ABS, Shell- PC
LED's	8 pc
Solar Panel	5V/500 mAh
Battery	3.2 V
Working Mode	Solar + Cell Option
Visibility	200 mtr.
Water Proof	IP 68
Function	Flash
Back up	50 hours

Safety Line Lamp



Features:

Approval : ECE R10 Approved
Voltage : 9-80v
Output : 3w*2 LEDs

Red Line Product

Part Numbers:
DMI-FLT621-R RED
DMI-FLT621-B BLUE





AUTO DIPPER, SEAT BELT



SAFE I AUTO DIPPER

- Rated voltage: 12 volt
- Rated device current 100 mAmp/ 60 mAmp
- Current Switching cap 20 Amp.
(240tt bulbs at 12 volt and 480 watt bulbs at 24 volt)
- Manual override for High to Low beam shift.
- Switch back time after the two vehicles cross each other =0.9 sec.
(As per SAE J565 standard it is permitted up to 2 seconds)
- Dipping distance adjustable as per SAE J565.
- Light sensitivity 1 lux (approx.)



2 POINTS ORANGE RETRACTABLE SEAT BELT

Color	: 1150mm
Sewing Label	: E13
Buckle	: Metal Buckle With 3 Wires
Buckle Length	: 152mm
Webbing Material	: Polyester
Webbing Width	: 47mm
Webbing Thickness	: 1.1mm



3 POINTS ORANGE ELR SEAT BELT

Color	: Orange
Length	: 2850mm
Sewing Label	: E13
Buckle	: Steel Rope Buckle With 3 Wires
Buckle: Length	: 310 Mm
Webbing Material	: Polyester
Webbing Width	: 47mm
Webbing Thickness	: 1.1mm



DMI- MK 222

DSM (Driver Safety & Monitoring) with Deep-Learning technology can support real-time data and video transmission as well as drowsiness / attention warning



Compact & Separate Camera

3CH

AI camera for Driver safety & Monitoring

It is a compact driver safety and monitoring system that can be installed in general passenger cars / Vans / Small Trucks by detaching the IR camera from the main body. The driver's face and drowsiness are recognized regardless of various driving environments and facial accessories. In addition, HD cameras and deep learning algorithms are applied to enhance performance. Using various interfaces, photos and videos transmission available through telematics devices (GPS Tracker, Router, and MDVR). It supports a smartphone app to check recorded video via Wi-Fi, 2nd camera (HD Level TVI interface), and integration with ADAS through Ethernet to DDAS-9N.



Features

- Driver Drowsiness and Attention Warning standard applied in Europe
- HD resolution 3ch record (for DSM, 2nd camera, and ADAS)
- Max. 128GB SD Card available (Free Format Support)
- Seat-belt Reminder
- Integration with FMS device via RS232/Ethernet/Wi-Fi Interface
- Plays videos on Smartphone APP through Wi-Fi connection

Smart phone App



[DSM Camera]



[Control box]

CAMERA

Size	48.6mm x 40.6mm x 40.7mm
DSM Camera	88° 720p 30fps (HD/TVI interface)
2nd IR Camera	116° 720p 30fps
Recording Mode	Normal Recording Event Recording : DSM, G-sensor events
Memory	Micro SD Card up to 128GB
CONNECTIVITY	
Wi-Fi	IEEE 802.11 b/g/n (2.4GHz)
USB	USB2.0 specification, C-type connector
RS-232	1Mbps
CAN	2.0A/B
Ethernet	RGMII PHY interface, 10/100Mbps



DMI- MK- 555

Technical Specification

- Model Number : DMI
- Product Size : 95×90×35
- Weight: 400 Gms
- Analog Image Output In NTSC
- Rs232 Communications
- Working Time : 24 Hours, Day And Night
- Rated Power : 7w
- Sensitivity Setting High/low Two Levels
- Alarm Activation Speed Setting
- Automatic Vehicle Location System (AVL) Support
- Camera : High-sensitive Night Vision Camera
- Memory : SD Memory card up to 128GB

Power

- Voltage : 8V to 32 V
- Current : 100mA in 12V car, and 60mA in 24V
- Operating Voltage : +9V ~ +36V
- Rated Power : 4W
- Max Power : 5W
- Operating Temperature Range : -20°C~ 70°C
- Storage Temperature Range : -30°C~ 85°C
- Working Humidity : 0 ~ 90 RH%±5%

Davesmen FMS Alerts While



Drowsiness



Distraction



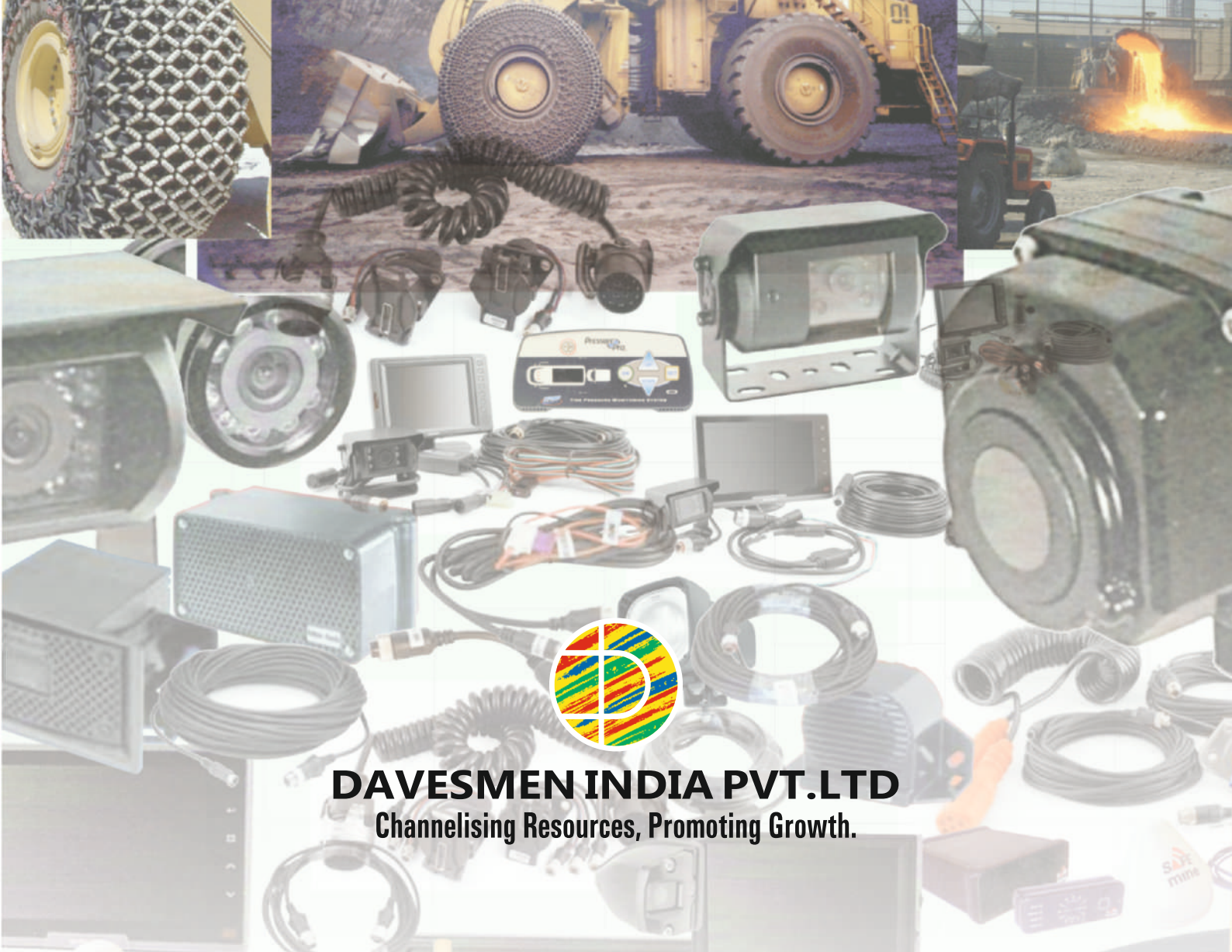
Smoking



Yawning



Using phone



DAVESMEN INDIA PVT.LTD

Channelising Resources, Promoting Growth.



Tyre Protection Chain

Anti-collision System

Seat Belt Reminder

Reversing Safety Equipment

Tyre Pressure Monitoring
System (TPMS)

Auto Dipper

LED Beacon

Proximity Sensor

Xenon & LED Lights

Battery cut-off Switch

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Ph No.: + 91-3340629386 / +91-33-35527003

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