

BACKALARM® • bbs-tek® • Self-Adjusting BACKALARM® • NIGHTSHIFT™ • BACKCHAT® • WARNING ALARM

REVERSING ALARMS



BRIGADE®
REVERSE IN SAFETY!

The Reversing Hazard

A 1996-97 University report into reversing accidents in transport fleets found that one quarter (25 per cent) of all fatalities involving vehicles at work occurred while the vehicle was reversing.

Over 90 per cent of these reversing accidents occurred off the road – in loading bays, private roads and drives, bus and lorry parks, docks, warehouses and construction or other sites.

Government statistics in many European countries exclude off-road accidents and, therefore, understate the total number of reversing accidents by more than ten times.

Road trucks and vans cause the greatest number of such accidents, with vans becoming an increasingly dangerous category. This is not only because they are growing in number but also because no special licence or training is required to drive a van and they are generally driven by less experienced, more accident-prone younger drivers. Their rear windows are often blacked out and their normal work with high frequency deliveries/collections in high pedestrian-density areas make vans a major hazard.

“Nearly a quarter of all deaths involving vehicles at work occur while the vehicle is reversing. Many more accidents do not result in injury but cause costly damage to vehicles, equipment and premises. Most of these accidents happen at low speeds and could be prevented by taking some simple safety precautions.”

The Basics of Sound – What is a Decibel?

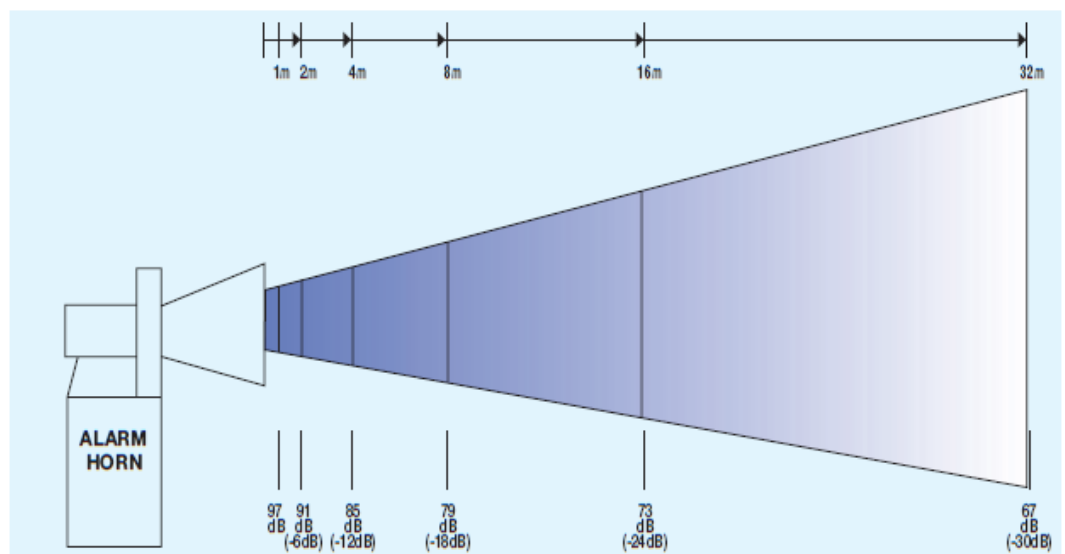
As the human ear detects sound on such an enormous dynamic range, it is more convenient to measure sound levels on a log scale – the decibel (dB). The “threshold of audibility” is defined as 0dB, and the “threshold of pain” is around 130dB. On this scale, daytime background (ambient) noise in the countryside is about 45dB(A) and the background noise in a busy high street is about 65dB(A). A pneumatic ‘jack-hammer’ generates around 100/110 dB(A) @ 1m.

Four factors should be taken into account when deciding how loud an audible warning should be.

1. DIN 33404 defines 10dB as the minimum difference for unequivocal audibility.
2. Sound volume falls by 6dB for every doubling in distance from a point source². See diagram for example of a reversing bleeper producing 97dB @ 1m (ie: a reading of 97dB measured 1m from the alarm).
3. The human ear does not detect all frequencies equally. The A weighted decibel measurement allows for the non-uniform frequency response of the ear, and most audible warning alarm manufacturers quote performance figures in dB(A) @ 1m.
4. Each 10dB increase in output is equivalent to a perceived doubling of volume³.

Notes:

1. Background noise is measured as a general level and therefore should be at a distance from all noise sources such that an ‘average’ level is received (and no one source dominates).
2. A point source is defined as a source which is small in relation to the distance from the receiver (e.g. a reversing alarm).
3. This is a subjective measure – using real subjects. A measured increase of 3dB is just noticeable whereas an increase of 10dB is judged by most people as a doubling of loudness.



Not all Reversing Bleepers are made the same!

There are five main types of sounder.

NEW!! Dome Speaker: Our unique and patented Dome Speaker/horn design is the best option for high sound pressure level (SPL) models. The Dome Speaker draws upon the strongest features of the Driver (large magnet and voice-coil) and conventional Cone Speaker (small structure and low cost) mated with an acoustically designed true-horn, to focus a powerful sound beam and boost it by 12 decibels. This generates high SPL with superb sound quality from a relatively small unit operating well within working tolerances. Brigade's Dome Speakers are tough, durable, and guaranteed waterproof (IP68), so can be steam-cleaned and pressure-washed. Working life and sound quality are unimpaired by extremes of temperature and other adverse conditions.

Driver: A good option for high SPL models. Tough, durable, and fully waterproof (IP68), so units can be steam-cleaned and pressure-washed. Good sound quality.

Conventional Cone Speaker: A good option for medium and low SPL models, subject to design and materials used. Not suitable for high SPL models over 102dB(A) due to Cone Speaker overstress. Brigade's Cone Speakers are tough, durable, and fully waterproof (IP68), so can be steam-cleaned and pressure-washed. Long life in extreme conditions. Great sound quality, even under extremes of temperature and other adverse conditions.

Piezo: Most budget and light duty alarms use piezo sounders. Good for light duty applications, but not so tough or reliable as a good quality speaker. SPL may reduce in low temperatures. High frequency, piercing sound, which may be irritating and painful at higher SPLs. Water resistant.

Electro-Mechanical: Very low cost, but creates high electro-magnetic interference. Will fail European Electro-Magnetic Compatibility (EMC) tests. Not recommended therefore.

Night Silent and Night Reduction options

All Brigade Reversing Alarms can be 'cut-out' within the restricted hours of use (11.30pm – 7.00am in the UK) simply by connecting the negative wire from the Reversing Alarm to the positive terminal of the side/rear lights.

However, we strongly discourage this method of cut-out because side/rear lights are generally ON in poor light and bad weather conditions – rendering the Reversing Alarm inoperative and the vehicle thus in an unsafe condition for reversing.

Lifetime Warranty

All new BACKALARMS come with the Brigade Lifetime Warranty. The units are so robust they have a 'no quibble', 'fuss-free' lifetime warranty that covers the alarm for the life of the vehicle.

Model

Part No:

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
6.7 x 3.1 x 3.7 inches
- Lifetime warranty

Features

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

Power

- Current: Max 1 Amp

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C / -40 to +185°F
- CE marked
- 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
5 x 3 x 2.5 inches
- Lifetime warranty

Features

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

Power

- Current: Max 1 Amp

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C / -40 to +185°F
- CE marked
- 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
6.8 x 3.1 x 3.7 inches
- Lifetime warranty

Features

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

Power

- Current: Max 1 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature: -40 to +85°C / -40 to +185°F
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994

Model

Part No:

WHITE SOUND® REVERSING ALARM



noise abatement society

bbs
tek

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)
105 x 65 x 37mm
4.1 x 2.5 x 1.5 inches
(BBS-97/92)
105 x 65 x 32mm
4.1 x 2.5 x 1.3 inches
(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 centers: 76mm / 3"

Power

- Current: Max 0.5 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature:
-40 to +85°C / -40 to +185°F
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994
- NAS/PIEK approved for night-time delivery (BBS-82 only)



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
5 x 3 x 2.5 inches
- Lifetime warranty

Features

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

Power

- Current: Max 0.3 Amps

Durability & standards

- Mechanical vibration: 10G
- Operating temperature:
-40 to +85°C / -40 to +185°F
- CE marked
- E-Marked: UNECE R10 compliant
- SAE J994

Available in Canada from:



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