

# 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.



bbs-tek alarms are covered by the following patents:

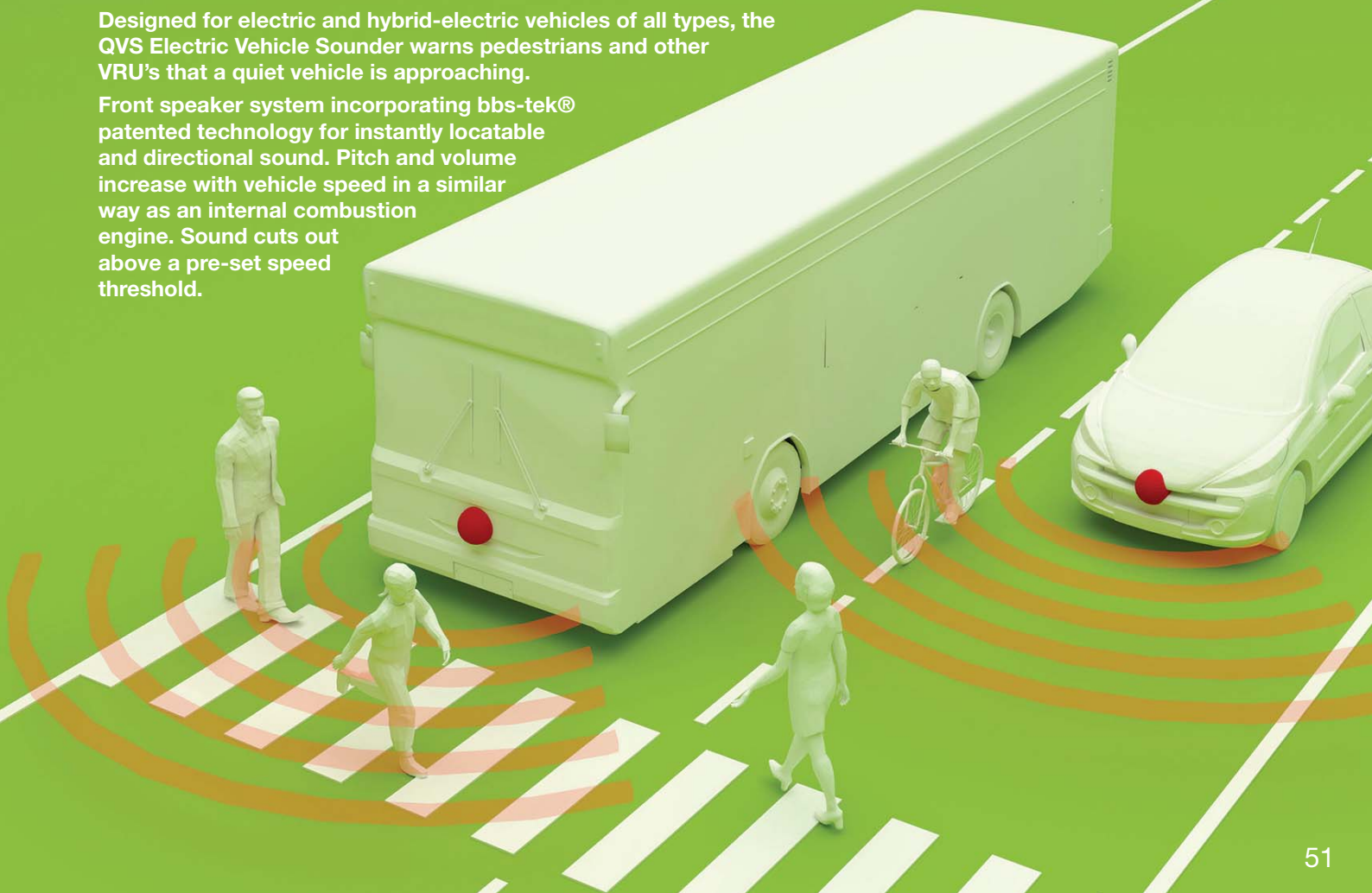
- AU2007200517
- EP1289798B2
- CN100488807C
- JP4798474B2
- NZ522190
- GB2345392C
- USRE44912



## 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.



Model

Part No:

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](http://www.brigade-electronics.com/qvs)



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