



ECCO®

NOISE POLLUTION SOLUTIONS



ECCO®



LIGHTING & SAFETY

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BE SAFE, BUT KEEP THE NOISE DOWN

According to the Bureau of Labor Statistics, about 70 workers die each year in the US due to commercial vehicle reversing accidents. Countless other reversing accidents result in serious injury and expensive damage to vehicles and equipment. Regardless of your industry, protecting workers, the public, and your company assets is both a moral and a legal obligation. This is why installing back-up alarms is so important. Meeting these requirements while minimizing disturbance to neighbors is a delicate balancing act. Alleviate the dilemma quickly and easily with ECCO's extensive line of Noise Pollution Solutions.



WHAT'S YOUR APPLICATION?

On-road or off-road, whatever your vocation, we have a solution for your noise pollution problems.



OFF-ROAD QUICK SELECTION

Large mobile equipment, difficult terrain, dirt, dust, and high noise levels make off-road job sites a challenging environment for workers. The goal is to maximize safety by providing the optimum warning signal while remaining mindful of public nuisance. ECCO offers multiple products ideally suited to specific off-road applications.

HEAVY-DUTY EQUIPMENT

Ideal for mine, quarry, and construction machines and/or environments with high ambient noise.

SA917N	87-112 dB(A))))
EA9070	87-107 dB(A))))
EA7070	107 dB(A))))
EA7020	102 dB(A))))

LIGHT-DUTY CONSTRUCTION

Ideal for medium size off-road vehicles and/or environments with mid-level ambient noise.

EA9724	77-97 dB(A))))
SA931N	82-102 dB(A))))
EA5200	97 dB(A))))



ON-ROAD QUICK SELECTION

From city centers to suburban neighborhoods, delivery, utility, and public service vehicles backing in tight situations may pose a threat to pedestrians. Operators must focus on public safety while minimizing noise nuisance for residents and businesses. ECCO has your back with various solutions to suit a wide variety of on-road vehicles.

ELECTRIC VEHICLES

Ideal for smaller special application electric vehicles (36-80 VDC) and/or environments with mid-level ambient noise.

EA9780	77-97 dB(A))))
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OVER-THE-ROAD

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

SA951	77-97 dB(A))))
EA9724	77-97 dB(A))))
EA5200	97 dB(A))))
EA5050	87 dB(A))))

THE INDUSTRY HAS STANDARDS, AND WE HAVE OURS

Meeting minimum industry standards doesn't always guarantee real-world performance, so at ECCO we choose to go above and beyond. All of our products meet or surpass applicable certifications, and where no standards exist, we develop our own. Because we take safety and quality very seriously, we hold ourselves to The ECCO Standard, a complete set of performance tests that are more stringent than regular industry requirements. Our engineers use The ECCO Standard to design and test our products to withstand the most extreme conditions, ensuring protection against vibration, impact, corrosion, dust, moisture, temperature extremes, and more. The result is a reliable product from us which means more up-time for our customers.



WHY ECCO?

- 48 years of proven quality
- ECCOLIFE™ (of vehicle) warranty for medium and heavy duty models
- IATF/TS 16949 Automotive Grade quality process certification
- SAE certified test processes and documentation support
- Independently certified and registered AMECA facility and test apparatuses
- In-house root cause analysis and quality reporting

LIFE TESTING

IMPACT

ELEVATED TEMP

THERMAL CYCLE

WATER SPRAY

THE ECCO STANDARD

2,000 Hours	3 Drops, 1 Meter (On Concrete)	+185°F (+85°C) For 8 Hours	-40°F (-40°C) to +185°F (+85°C) For 10 Cycles	100 Liters Per Minute At 3 Meters, For 3 Minutes In addition to SAE J994 tests below
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SAE J994

100 Hours	None	+185°F (+85°C) For 4 Hours	-40°F (-40°C) to +185°F (+85°C) For 1 Cycle	1,000 PSI, 10 Sec Sweep, 30 Sec. Drain, for 50 Cycles
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THE ECCO CARE PROMISE

ECCO is known the world over as the premier commercial warning and safety products manufacturer. Our reputation for excellence is rooted in an unwavering commitment to protecting your most important asset—your people. Helping personnel do their jobs safely and efficiently is what drives us to exceed the most rigorous engineering and service standards.

We hold ourselves accountable each day to the ECCO Care Promise—excellent customer service, superior products, the industry's fastest lead times, customizable options and a, no-hassle warranty.



WORLD-CLASS CUSTOMER SERVICE

Respect and relationships are at the root of everything we do at ECCO. Friendly customer service combined with the industry's leading distribution footprint means you can count on us for exceptional support and flexibility during the product selection process and throughout the life of your safety equipment.

QUALITY PRODUCTS

ECCO products are engineered to perform in rugged, real-world conditions. Industries across the globe know they can rely on us to help keep workers safe and value the ease of installation, operation, and maintenance.

SHORT LEAD TIMES

When you're ready to go to work, so is ECCO. Order what you need today and mount it tomorrow. No backorders and no additional wait for custom builds. Your safety and productivity are our priority.

EASY CUSTOMIZATION

One size rarely fits all, especially when lives are on the line. That's why we deliver customizable safety solutions, from configurable lightbars to options and accessories that fit your specific vehicles and work sites.



ECCO stands behind our products. Our, no-hassle warranty is the best in the business. We take pride in successfully addressing customer concerns even after a warranty has expired. Our comprehensive warranty policy inspires trust and confidence, and has helped make the ECCO name synonymous with safety. Visit eccoeshg.com for product warranty details.

THE ECCO CARE PROMISE ENSURES

that our products and our people perform to a higher standard—so that you can, too. Look to ECCO for reliability when you need it most. View our online catalog.



WHAT ARE THE OPTIONS?

There are several decisions to be made when selecting a back-up alarm.

First, you can choose between a tonal alarm and a multi-frequency alarm. Industry experts have suggested either can provide an effective warning and each has its merits as described on the next page.

Second, you must choose an alarm with the appropriate sound pressure level (SPL). OSHA requires a reverse alarm to be audible above the surrounding noise level. If you know the ambient noise level and it remains reasonably constant then the appropriate fixed dB alarm can be selected, whether tonal or multi-frequency. The key is complying with the requirements of OSHA while selecting the lowest SPL alarm possible so as not to create a noise nuisance.

Fortunately, ECCO pioneered another solution — the Smart Alarm®, available in either tonal or multi-frequency. Smart Alarms monitor ambient noise automatically and adjust their output to 5dB above that, satisfying OSHA's requirements. Perfect for worksites with inconsistent noise or varying noise levels.

TONAL VS MULTI-FREQUENCY

So what's the difference?

Tonal alarms emit sound at a single predominant frequency resulting in the familiar 'beep-beep' warning signal that we've all grown accustomed to. Conversely, multi-frequency alarms emit sound at multiple frequencies within a narrow band resulting in a 'shhh-shhh' warning sound. There is no scientific evidence to prove either sound is more effective than the other in a reversing vehicle application. However, there are several points of view that should be considered when choosing between the two.

BEEP TONAL

The beep-beep sound is a familiar signal that is readily understood as a danger signal.

The sound is more piercing and therefore less likely to be masked by ambient noise such as vehicle engines.

SHHH MULTI-FREQUENCY

Shhh-shhh is a newer sound that has been introduced as a warning signal.

The sound is perceived to be more directional.

The sound is perceived to dissipate more quickly outside the danger zone behind the vehicle.



77-97

SMART ALARM®

82-102

87-107

87-112

97-112

LIGHT DUTY

SA951

12-48V

LIGHT DUTY

SA950

12-24V

MEDIUM DUTY

SA901N

12-24V

HEAVY DUTY

SA914N

12-24V | OEM MOUNT

HEAVY DUTY

SA920

12-24V

LIGHT DUTY

SA955

12-24V | GROMMET

HEAVY DUTY

SA907N

12-24V

HEAVY DUTY

SA917N

12-24V

MEDIUM DUTY

SA931N

12-48V

HEAVY DUTY

SA940

12-24V | GROMMET

TONAL

FIXED dB(A)

87

97

102

107

112

SWITCHABLE

LIGHT DUTY

505

12-24V

LIGHT DUTY

210

12V

LIGHT DUTY

530

12-24V

LIGHT DUTY

575

12-24V

HEAVY DUTY

450

12-36V

HEAVY DUTY

840N

12-36V | 97/112

LIGHT DUTY

580

12-80V

LIGHT DUTY

510

12V

MEDIUM DUTY

630N

12-36V

HEAVY DUTY

850N

12-36V

HEAVY DUTY

777

12-24V | 97/107/112

LIGHT DUTY

520

12-24V

HEAVY DUTY

830N

12-36V

HEAVY DUTY

876N

12-36V | OEM MOUNT

LIGHT DUTY

585

12-48V

MEDIUM DUTY

610N

12-36V

MULTI-FREQUENCY

SMART ALARM®

77-97

87-107

HEAVY DUTY

EA9724

12-24V

HEAVY DUTY

EA9070

12-24V

HEAVY DUTY

EA9780

36-80V

FIXED dB(A)

87

97

102

107

LIGHT DUTY

EA5050

12-24V

LIGHT DUTY

EA5200

12-24V

HEAVY DUTY

EA7020

12-24V

HEAVY DUTY

EA7070

12-24V

MEDIUM DUTY

EA6100

12-24V

SMART ALARM®

LISTENS ADJUSTS REACTS

HOW SMART ALARMS ADJUST TO THE ENVIRONMENT

Listens. Adjusts. Reacts.

Smart Alarms self-adjust to varying environmental noise by continually listening and reacting to ambient sound levels adjusting their output to 5 dB(A) above to ensure their sound is audible without creating a nuisance.

It's the smartest way to ensure OSHA compliance and eliminate noise complaints. Choose from tonal and multi-frequency models.



Listens
0.4 Seconds



Sounds
0.5 Seconds



Shuts Down
0.1 Seconds



**Cycle
Repeats**



SMART ALARM® MULTI-FREQUENCY SURFACE MOUNT



MODEL	TYPE	VOLTS	DECIBELS	AMPS	WARRANTY	DUTY RATING
EA9724	Smart, Multi-Frequency	12-24	77-97	0.7	ECCOLIFE	Heavy
EA9780	Smart, Multi-Frequency	36-80	77-97	0.8	ECCOLIFE	Heavy
EA9070	Smart, Multi-Frequency	12-24	87-107	0.9	ECCOLIFE	Heavy

SMART ALARM® TONAL SURFACE / GROMMET MOUNT



MODEL	TYPE	VOLTS	DECIBELS	AMPS	WARRANTY	DUTY RATING
SA951	Smart	12-48	77-97	0.2	2 Year	Light
SA931N	Smart	12-48	82-102	0.2	ECCOLIFE	Medium
SA950	Smart	12-24	82-102	0.4	2 Year	Light
SA955	Smart, Grommet	12-24	82-102	0.4	2 Year	Light
SA901N	Smart	12-24	82-107	0.3	ECCOLIFE	Medium
SA907N	Smart	12-24	82-107	0.5	ECCOLIFE	Heavy
SA914N	Smart, OEM Mounting	12-24	87-112	1.5	ECCOLIFE	Heavy
SA917N	Smart	12-24	87-112	1.5	ECCOLIFE	Heavy
SA940	Smart, Grommet	12-24	87-112	0.6	ECCOLIFE	Heavy
SA920	Smart	12-24	97-112	0.6	2 Year	Heavy

DESIGN FEATURES

- World's first self-adjusting back-up alarm, constantly measuring ambient noise and adjusting their sound level, creating a volume that is safe without being annoying or contributing to noise pollution
- Smart Alarms eliminate the need for constant manual adjustment and help prevent intentional alarm disconnection
- Sealed in epoxy for protection against dust, moisture, and vibration



FEWER COMMERCIAL INTERRUPTIONS

Commercial vehicle noise pollution is a growing problem, especially in residential areas and densely populated or confined locations. ECCO's multi-frequency alarms use a range of sound frequencies within a narrow band to emit a warning signal that is perceived to be more directional and to dissipate quicker than a tonal alarm. Keep the peace while complying with OSHA safety standards.

Fit the best and forget the rest.

ECCO has remained the global market leader in back-up alarms for over 47 years and has more knowledge and experience in the field than any other company. For decades our products and expertise have made us the choice of the world's most prominent OE vehicle manufacturers. We offer an unparalleled range of alarms to suit any application, and all of our alarms feature encapsulated electronics that provide enhanced protection against dust, moisture, and vibration damage. Many of our alarms are so robust they come with an ECCOLIFE™ warranty, guaranteeing the alarm for the life of the vehicle.



SMART ALARM® MULTI-FREQUENCY SURFACE MOUNT



MODEL	TYPE	VOLTS	DECIBELS	AMPS	WARRANTY	DUTY RATING
EA9724	Smart, Multi-Frequency	12-24	77-97	0.7	ECCOLIFE	Heavy
EA9780	Smart, Multi-Frequency	36-80	77-97	0.8	ECCOLIFE	Heavy
EA9070	Smart, Multi-Frequency	12-24	87-107	0.9	ECCOLIFE	Heavy

FIXED DB(A) MULTI-FREQUENCY SURFACE MOUNT



MODEL	TYPE	VOLTS	DECIBELS	AMPS	WARRANTY	DUTY RATING
EA5050	Multi-Frequency	12-24	87	0.4	2 Year	Light
EA5200	Multi-Frequency	12-24	97	1.0	2 Year	Light
EA6100	Multi-Frequency	12-24	97	0.7	ECCOLIFE	Medium
EA7020	Multi-Frequency	12-24	102	0.6	ECCOLIFE	Heavy
EA7070	Multi-Frequency	12-24	107	0.8	ECCOLIFE	Heavy

DESIGN FEATURES

- Emits sound at multiple frequencies attenuated above 4000Hz
- Warning signal is more directional and perceived to dissipate quicker than pure tone
- Smart Alarm models adjust output to 5dB above surrounding noise
- Sealed in epoxy for protection against dust, moisture, and vibration



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