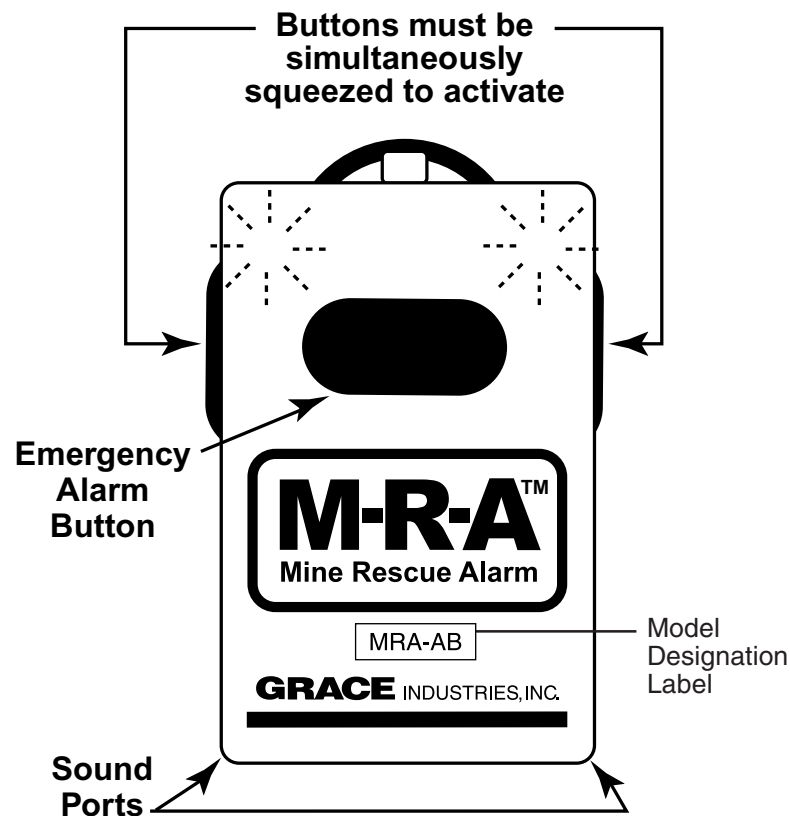
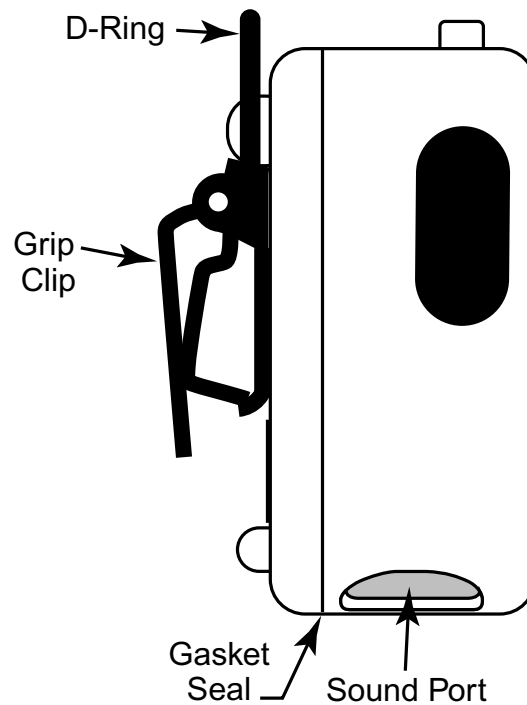


# Mine Rescue Alarm™ Model AB FEATURES & LABELING

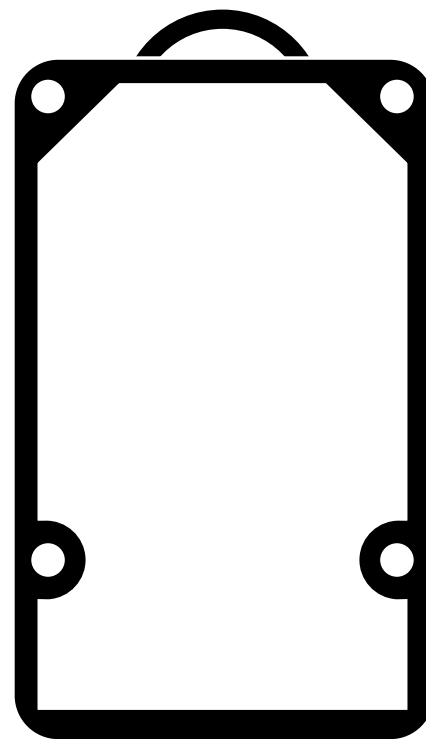
Front View



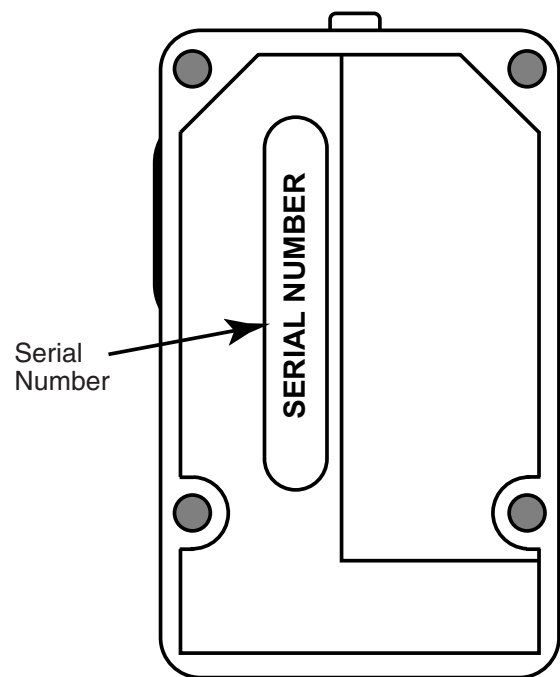
Side View



Inside Back Cover



Battery Chamber View



Bottom View

MSHA Compliance Label



## WARRANTY

Grace Industries, Incorporated warrants your MRA™ AB to be free from defects in workmanship and materials for a period of one year from the date of purchase. This warranty is valid only when the returned MRA™ AB is accompanied by a sales slip or other proof of purchase that states the date and location of purchase. Grace Industries, Inc. will not repair or replace any merchandise that has been damaged because of accident, misuse or abuse of the MRA™ AB while in possession or control of the consumer. This warranty is void if any attempt to repair or replace parts were made or attempted by other than qualified Grace Industries, Inc. personnel. This warranty is void if any of the sealed compartments are opened or tampered with. Send all returned merchandise prepaid and accompanied by proof of purchase to: Grace Industries, Inc., Repair Division, 305 Bend Hill Road, Fredonia, PA 16124. Customer is responsible for return shipping. Grace Industries, Inc. shall not be liable for any direct, incidental or consequential loss or damage arising out of the failure of the device to operate.

The sole and exclusive remedy under all guarantees or warranties, expressed or implied is strictly limited to repair or replacement as herein provided. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF FITNESS AND MERCHANTABILITY, ARE HEREBY LIMITED IN DURATION TO A PERIOD ENDING ONE (1) YEAR FROM THE DATE OF PURCHASE. The warranty and liability set forth in the prior paragraphs are in lieu of all other warranties, expressed or implied, in law or in fact, including implied warranties of merchantability and fitness for a particular purpose. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

NOTE: The information contained in this booklet is believed to be accurate and reliable. Grace Industries, Inc. provides this information as a guide only.



# Mine Rescue Alarm™ Model AB Audio Beacon 72 Hour Alarm USER'S INFORMATION

Only To Be Removed By End User



MADE IN USA

**GRACE**  
INDUSTRIES, INC.  
*Solutions for Life Safety*

Grace Industries, Inc.  
305 Bend Hill Road, Fredonia, PA 16124  
724-962-9231 • FAX 724-962-3611

# Mine Rescue Alarm™ Model AB Audio Beacon 72 Hour Alarm

**An Audible and Visual Beacon that will stay in alarm for 72 hours.**

The MRA™AB Model is the ideal choice where the potential for a protracted emergency exists and the lack of motion feature is not desired. When an emergency occurs, the wearer simply pushes the Alarm Button, causing the device to sound its alarm for up to 72 continuous hours. Other AB Models can be stored in each **Cache** where they can be activated and dropped to establish a “bread-crumbs” trail for rescue personnel to follow. In addition to the loud, audible alarm, ultra-bright LEDs will pulse and strobe, giving rescue personnel a visual beacon to track in low-light conditions.

This lightweight alarm can be worn by miners, maintenance personnel, inspectors or anyone who enters a mine and may become trapped for an extended period of time and need to summon help.

## Operating Instructions

Always test the unit prior to use. Simply press button on the front surface of the unit and it will go into a loud Alarm that can be heard one half mile or greater. The alarm will sound for 15 seconds, then go off for 25 seconds, then sound for 15 seconds again, etc. until turned off. The audio alarm will be accompanied by 4 rapid pulse and strobe red LEDs. This sound is easily recognized and provides an audio beacon that permits pinpointing the exact location of where the person is down. The ultra-bright LEDs provide a visual beacon for rescuers to readily see in low-light or smoky conditions. To turn the unit off, press both side buttons simultaneously.

## Battery Installation and Replacement



To reduce the risk of ignition of a flammable atmosphere, battery must only be changed in an area known to be non-flammable. To change the battery, remove the four screws securing the back. Remove the back cover, disconnect and dispose of the spent battery and connect the new battery. Replace the back cover and gently tighten all four screws using a crisscross pattern for even gasket pressure ensuring a good seal. **Do not over tighten screws.**

**WARNING!!** Always use a specified 9 volt alkaline battery. The Duracell MN1604 or PC1604 are recommended for optimum performance, as other batteries may not provide the same operating life. Replacing the battery twice per year is recommended unless indicated sooner by the Low Battery Alarm. To check for low battery, MRA™AB must be turned on for at least one minute to detect battery status. Grace Industries, Inc. assumes no liability for mechanical, electrical or other types of battery failure. Substitution of components may impair MSHA Certification.

Failure to ensure that MRA™AB is fully operational prior to use may expose the user to serious injury or loss of life. Although the MRA™AB is a durable product, there is no inherent guarantee against MRA™AB failure. Even the best MRA™AB cannot compensate for abuse or the lack of a MRA™AB training and maintenance program.

Although the MRA™AB can be checked for proper operation, most performance properties of the MRA™AB cannot be tested by the end user in the field.

## Maintenance

The MRA™AB requires minimum maintenance and will provide years of service.

### Please Observe The Following Guidelines

- At the end of each use, clean unit with a damp cloth and warm water. **Do not** use cleaning solvents.
- Inspect unit for signs of physical damage.
- Store the MRA™AB in a dry, well-ventilated area consistent with battery manufacturer requirements. Duracell's recommended storage conditions are: 50°F (10°C) to 77°F (25°C) at no more than 65 percent relative humidity.
- Units contaminated by chemical or radio active materials must be disposed of or decontaminated in accordance with all applicable regulatory standards.
- Replace battery every 6 months or sooner if indicated by the low battery alarm.
- **Do not** mark or apply paint to case.

## Safety Certifications

M-R-A™AB design meets the requirements of Title 30 Code of Federal Regulations, Part 18 and is approved as permissible for use in gassy underground mines.

**MSHA Approval No. 18-A080004-0**

## Specifications

**Dimensions:** 2-1/8" wide by 3-1/8" high by 1-5/8" deep

**Weight:** seven ounces with battery

**Alarm Audio Output:** 98+ dBA @ 10 feet

### Visual / Audio Mode Display:

- OFF** - No LED display, No audio
  - a series of de-escalating, loud, attention getting audio tones
- ON** - yellow alternating LED display
  - a series of escalating, loud, attention getting audio tones
- Alarm** - Rapid Pulse and Strobe LEDs accompanied by rapidly modulated, loud (98dBA) audio signal. Audio greater than 80dBA will occur after the 72 hour alarm period.
  - yellow alternating LED display is replaced by the rapid pulsing of four Red LEDs
  - accompanied by a rapidly modulated, loud (98+ dBA ) audio signal
  - the alarm signal is between 1,000 and 2,000 Hertz and cycles at 5.2 seconds on and .75 seconds off as an aid for determining direction when personnel need assistance

### Activation

- all electronic switching

**On** - unit may be turned **ON** by simultaneously pressing both side buttons when the unit is in the **OFF** mode

**Alarm** - unit may be placed into Alarm by pressing the button on the front of the device

**OFF** - unit may be turned off from any mode by simultaneously pressing both side buttons

**Case:** rugged, high temp., impact resistant, translucent, Orange polycarbonate. Entire case glows when in Alarm mode

**Methods of Attachment:** rugged Grip Clip and D-ring for versatility in attaching to gear

**Sound Discernability:** 6 dBA against given background noise

**Battery:** 9 volt Duracell MN1604 or PC1604 recommended

**Battery Life:** 72 hours in the **Alarm** mode

**Product Life:** Approx. 3 to 7 years or longer depending on fitness for use. Fitness for use is best determined by the end user through a proper inspection and maintenance program. Product should be retired from service when damaged or determined unfit for use.