

AIRMAR TECHNOLOGY CORPORATION

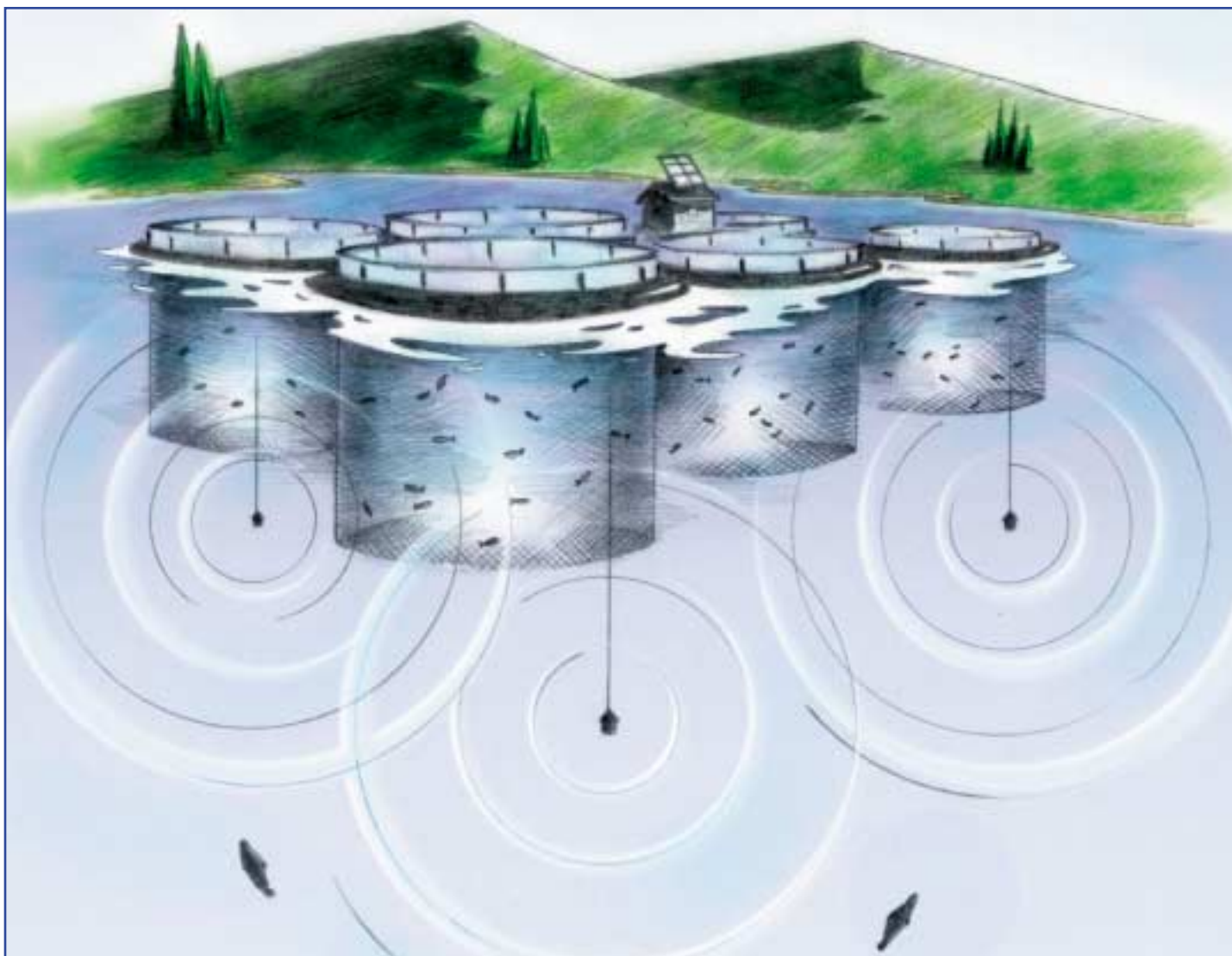
# dB PLUS II™

ACOUSTIC DETERRENT SYSTEM

U.S. Patent No. 5,610,876; Norwegian Patent No. 304001; European Patent No. EP 0 706 317 131

Your Best Protection  
Against Seal Losses





**Airmar's dB Plus II™** acoustic deterrent system has proven to be an extremely effective method of controlling seal predation ever since its introduction in 1993. Our innovative approach of combining a high powered transmitter with four underwater projectors creates an acoustic barrier that causes significant discomfort to any approaching seal.

**"W**hilst we believe that no system is 100% effective, the Airmar dB Plus II™ is by far the most effective we have ever seen. We now have 12 systems protecting our sites."

*Colin McRaid,  
Lighthouse of Scotland*

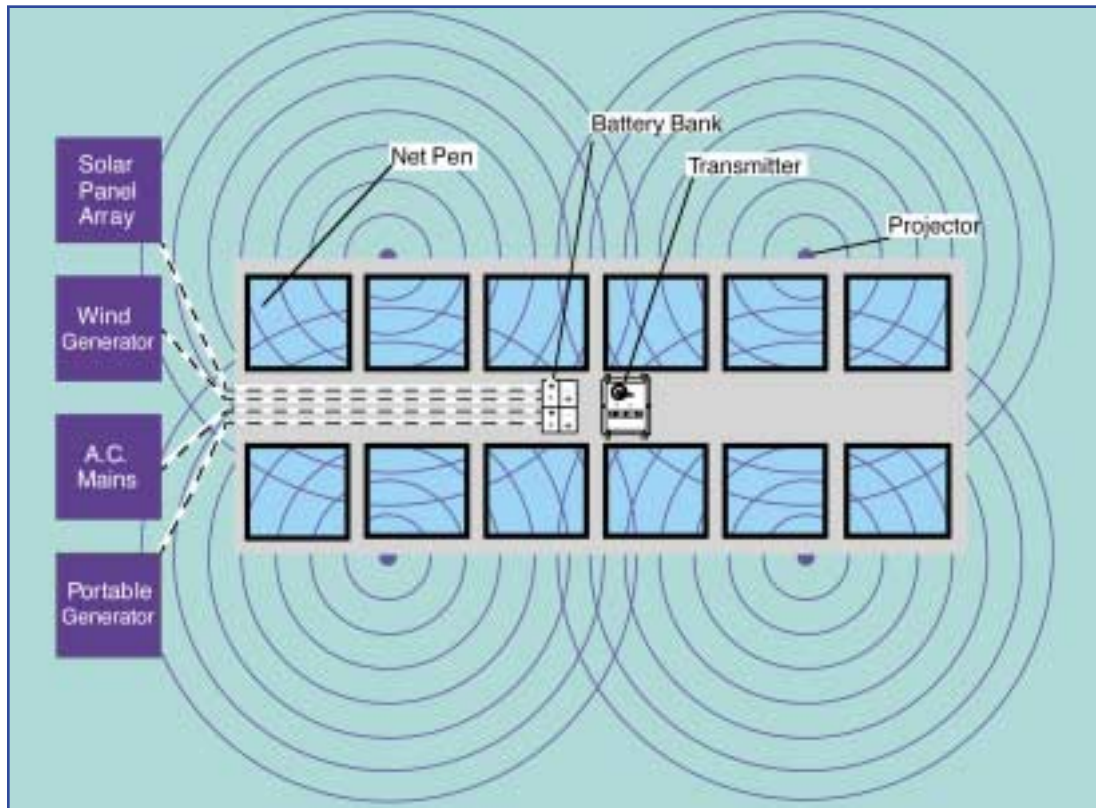
The dB Plus II™ deterrent has become the system of choice in North America with over two hundred

currently in use. To many, the dB Plus II™ system has become the cornerstone of their seal exclusion program.

**"A**s an insurance broker I cannot stress enough how important loss prevention is to my clients. With predation losses presently at 50% of all insured losses in the Bay of Fundy, a fish farmer cannot afford to be without Airmar protection."

*R. Terry Trecartin, President,  
Mitchell, McConnell, Daniels,  
Insurance Brokers, Limited,  
St. Johns, New Brunswick,  
Canada*

Take advantage of the latest seal deterrent technology from the world leader in acoustic sensor design. Experience the benefits of eliminating seal attacks with no physical damage, reduced stress, and increased fish growth rates.



## OPTIMUM PERFORMANCE

The key to optimum performance is proper selection and maintenance of batteries and a reliable power source. In remote locations, a wind generator or regulated 4-panel solar array is the recommended power supply. Locations with shore power should utilize AC mains with a 24 Volt battery charger.

## FEATURES

- Maximum Coverage:  
System provides up to 3,000 square meters of protection.
- Standard system has four underwater sound projectors to create overlapping sound fields.
- Self-diagnostic lights on front panel indicate battery status and transmitting mode.
  - Normal mode operates when the battery voltage is above 22 VDC.
  - Power save mode is automatically activated when the battery voltage drops below 22 VDC. It extends time between pulses without decreasing sound output. Power consumption is reduced by 50%.
- Shut down mode is activated whenever the battery voltage drops below 20 VDC.
- Audible "Insufficient Power" alarm sounds when the transmitter shuts down.
- Four independent power amplifiers for measured system reliability.
- Transmitter power switch is lockable in the "Off" position, preventing accidental activation when divers are in the water.
- High visibility nylon cover for transmitter to warn that a diver is in the water.
- Unique "Soft-start" feature with 70 second ramp up to full power when transmitter is first switched on. This feature provides warning to divers and eliminates chance of hearing loss in seals and sea lions.
- External triggering capability allows system to be activated when predators are detected.
- Sound projectors are designed to withstand the harsh marine environment:
  - Provided with weather proof connectors allowing ease of installation and repositioning.
  - Cable can be lengthened or shortened with minimal loss of performance.
  - High visibility cable jacket with excellent abrasion resistance.

## SPECIFICATIONS

- System supply voltage: 24 VDC
- Output power: 1.8 kW RMS pulse power output per transmitter
- Audible "Insufficient Power" alarm: 97 dB
- Standard cable length: 60 m (200')
- Power consumption:
  - 1.7 Amps at 100% power
  - 0.9 Amps in Power Save mode is factory pre-set for 50% reduction
- System coverage:  
3,000 square meters for typical aquaculture application

*Note: This may vary for different species and sites.*

## OPTIONS

- Power splitters allow the dB PLUS II™ system to use up to eight sound projectors
- Customized transducer cable length up to 150 m (500')
- Cable splice kit

## WARRANTY

- The dB PLUS II™ system is backed by a full 12 month U.S. Manufacturer's Limited Warranty covering defects in manufacture.

*Note: Breach of transmitter box seal voids warranty.*

- This system is designed to deter seals. Effectiveness with other species or with hearing impaired seals is neither insured nor implied.

## SAFETY NOTES

To ensure safe operating practices, the transmitter cover label carries the following warnings for divers and operators:

### **DANGER:**

Temporary or permanent hearing loss may result from underwater exposure to high intensity sound generated by this equipment. This transmitter's "ON-OFF" switch must be locked in the "OFF" position whenever a person is underwater and within 150 meters of a transducer.

### **NOTICE TO DIVERS:**

This transmitter's "ON-OFF" switch must be locked in the "OFF" position and the diver's safety cover put in place over the transmitter box before entering the water. If the system is switched on accidentally, immediately surface at the normal ascent rate.

## Innovation

is a tradition at Airmar.  
With 24 U.S.  
and International patents,  
Airmar is at the forefront  
of marine acoustic technology.  
We are particularly proud  
of the strong product support  
we provide our customers  
after the system is delivered.

# GILLNET PINGER

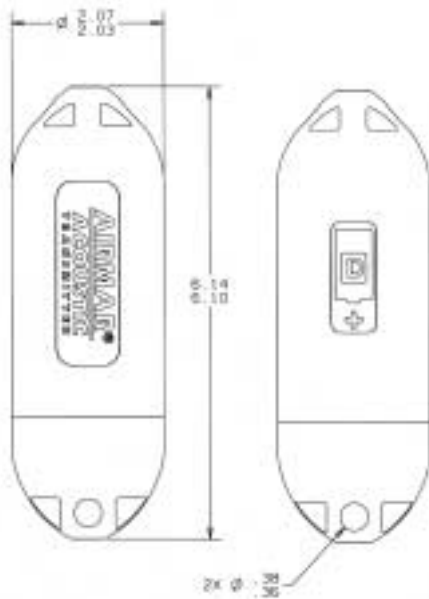
Designed in cooperation with industry & leading researchers!



## Gillnet Pinger

### 10kHz Acoustic Transmitter

- Over one year of continuous operation from a single "D" cell alkaline battery
- Designed to withstand depths of over 150 fathoms
- Weighs just .9 pounds with battery
- Housing constructed from impact resistant plastic alloy for durability
- Competitively priced
- Compact size



#### Operating Specifications:

Frequency:	10kHz
Duration:	300ms
Repeat Interval:	4s
Sound Level:	132dB (1uPa <sub>rms</sub> @ 1m)
Battery Life:	At least 1 year
Power Source:	1 D-Cell Alkaline Battery

