

BAT DETERRENT SYSTEMS

Create positive space for bats.



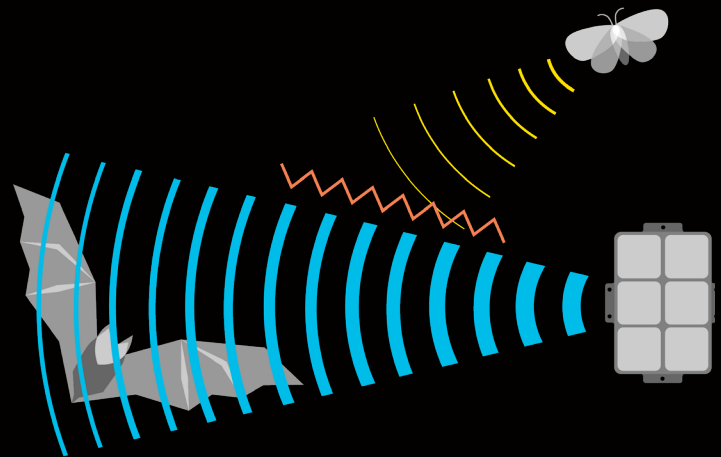
NRGSystems®

As bat populations across the globe continue to decline, the need to protect these animals is vital. NRG Systems' Bat Deterrent Systems allow wind plant operators to support bat conservation while producing more renewable energy more of the time. By preventing unnecessary bat fatalities at wind turbines, we are creating a safer environment for all.

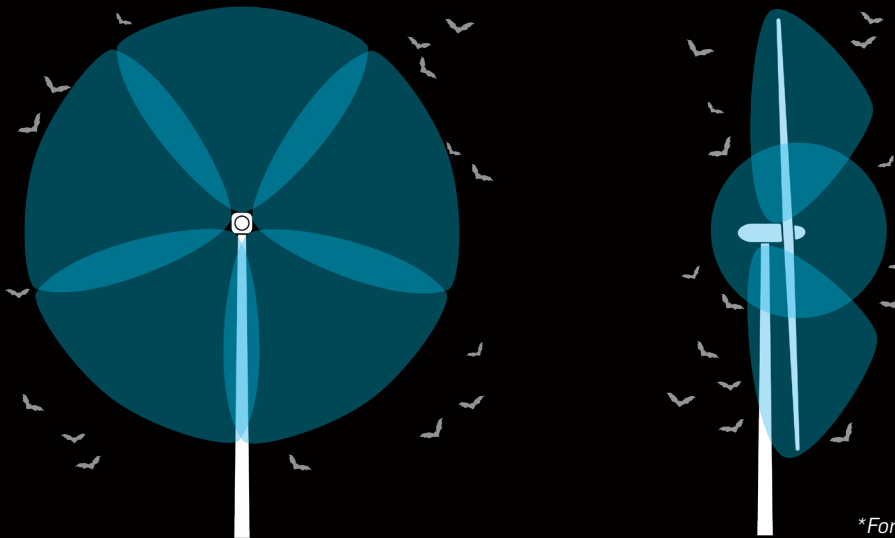
HOW IT WORKS:

The Bat Deterrent Systems emit an ultrasonic acoustic field in the same range as bats' natural calling frequencies.

When a bat enters the airspace where the deterrent units are operating, the ultrasound from the deterrent units (blue) will be louder than the echo return the bat is listening for (yellow). This effectively "jams" the bat's ability to hear its own return. If the bat cannot hear the echoes, it is unable to successfully forage and orient itself, so it chooses airspace without the ultrasonic noise and away from the turbine's rotor swept zone.

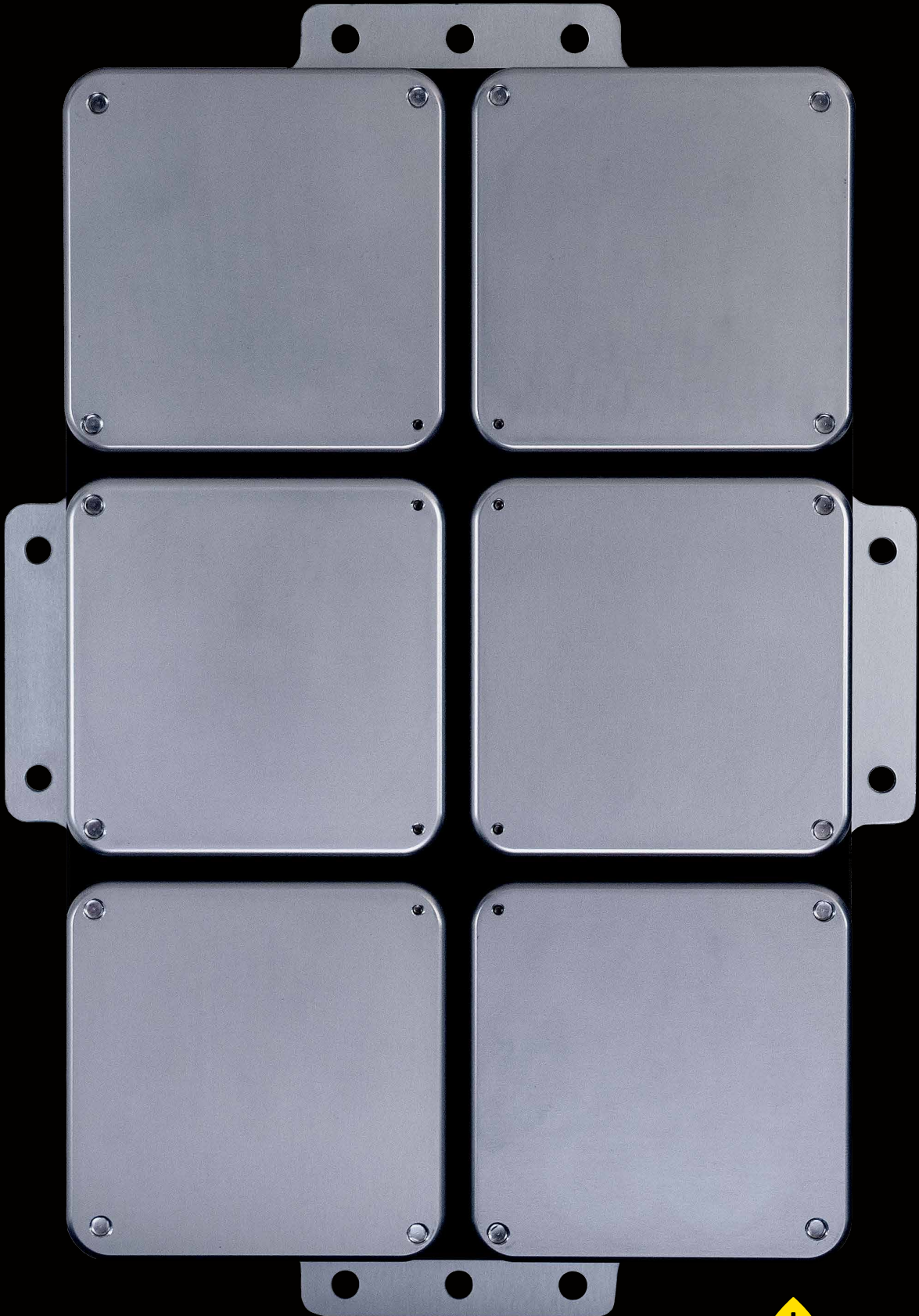


MULTIPLE UNITS MOUNTED TO THE NACELLE COVER THE ROTOR SWEEP AREA



**For illustration purposes only.*

Variations in how ultrasound is absorbed by the atmosphere cause high frequencies to have a shorter effective range than lower frequencies.



SYSTEM SPECIFICATIONS

Frequency Range	20kHz - 50kHz
Power	5 BDU System – 125W
System Control	Discrete input or Modbus TCP or Modbus RTU or configurable automated schedule
Temperature Range	Operating: 0°C to 50°C; Non-operating: -30°C to 70°C
Warranty	2 year limited warranty*
Design Life	10 years
Certifications	CE (IEC 61010-1)
System Monitoring	Modbus TCP, Modbus RTU and/or optional web-based monitoring service
System Diagnostics	Automated Built-In Testing (BIT) with resolution down to an individual subarray

**2 calendar years of typical wind farm bat mitigation*



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For more information:

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ISO 9001:2015 Certified
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