

ART turnkey bat monitoring solution

Environmental considerations are vital to wind development projects, which is why ART offers integrated solutions to support your broader monitoring campaigns.

ART have teamed up with Wildlife Acoustics to develop our turnkey bat acoustic monitoring system which provides reliable, real-time data on bat activity – a critical factor in wind farm fauna studies. Bats are a protected species, and accurate measurement of their frequency, behaviour, and presence is essential for project approvals and environmental compliance.

Costs can also be reduced by implementing a bat monitoring solution from the first day that your met mast is installed. The ART bat mic solution incorporates rugged, all-weather ultrasonic microphones by Wildlife Acoustics, capable of detecting bat echolocation in real time. These sonic signals are captured and analysed by a SMART controller, which is installed at the base of the mast in a secure enclosure.

The SMART gateway can either have an independent 4G/satellite communication service or share the met mast communications system to save costs. The SMART controller is accessible via a web browser interface, allowing authorised users to download recordings, view activity summaries, and manage system settings and configuration remotely from anywhere.

ART will apply a default configuration at installation of the system, which should then be adjusted by the client's appointed ecologist. The ecologist is responsible for configuring the logger and microphones according to the target species and

monitoring objectives – this can be done either locally or remotely.

During installation, ART will provide the ecologist with all relevant installation details (including microphone height and orientation) and issue individual login credentials for remote access for the ecologist to configure the system according to the operational requirements.

ART have engineered custom-designed microphone brackets to suit our met mast. Up to three microphones can be installed at heights of your choice, typically above 50 metres and up to 160 metres. Power for the turnkey bat monitoring solution is independently supplied by a solar-powered battery system.

FEATURES

- ✓ All-weather ultrasonic microphones – up to three per met mast.
- ✓ Remote access via SMART web interface.
- ✓ SMART gateway can use independent comms or met mast comms.
- ✓ Configurable by client-appointed ecologist for site-specific monitoring.
- ✓ Bat solution is independently powered by solar/battery.
- ✓ Flexible installation options.

ART's turnkey bat monitoring solution is a valuable addition to new met mast builds, enabling you to fast-track your bat fauna studies with no extra engineering or mobilisation costs. The system can also be retrofitted to existing met masts at any time. In addition, ART offers installation of alternative structures, including rope and pulley systems for bat monitoring.



ART's in-house capabilities, allow us to design, supply and install this and other custom solutions. As environmental regulations tighten and the industry moves toward more holistic assessments, bat monitoring is no longer optional – it is a must.



Technical specifications

| FEATURE | DESCRIPTION |
|-----------------------------|--|
| Kaleidoscope Pro technology | Real-time analysis Detection of bat echolocation pulses Adaptive audio-based triggering Analysis and scrubbing of false trigger signals Call feature extraction Bat species auto-ID Audio file compression |
| Power | Auto boot up on power Auto reboot and resume if power is interrupted |
| Capacity | 1 SMART MIC-1 up to 500kHz sample rate 2 SMART MIC-1 up to 384kHz sample rate 3 SMART MIC-1 up to 256kHz sample rate |
| Storage | Internal 64GB SSD drive – upgradeable to 1TB External USB drive can also be connected |
| Memory | 4GB RAM (expandable to 8GB) |
| CPU | 2-core Intel Atom x5-E930 Upgradeable to 4-core x7-E950 |

About us

ART designs, manufactures, installs, and maintains turnkey infrastructure solutions for wind resource assessments, as well as for the broader renewables, resources and communications industries.

ART

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