

AIR 2.0

QUAKELOGIC

HIGH-PRECISION
INFRASOUND
MONITOR



MADE IN USA

GLOBALLY SOURCED MATERIALS

QUAKELOGIC AIR 2.0 · HIGH-PRECISION INFRASOUND MONITOR

24-BIT DIGITIZER · MINISEED STREAMING · WEB GUI · WI-FI + OPTIONAL ETHERNET · PLUG-AND-PLAY



QuakeLogic AIR 2.0

HIGH-PRECISION INFRASOUND MONITOR · STANDALONE · PLUG-AND-PLAY



AFFORDABLE, POWERFUL, EASY-TO-USE INFRASOUND MONITORING

QuakeLogic AIR 2.0 is a standalone, high-precision infrasound monitoring system built for both home and professional use. Pairing a 24-bit low-noise digitizer with an enhanced high-sensitivity differential pressure sensor, it delivers exceptional clarity in detecting low-frequency atmospheric signals — from environmental phenomena and industrial explosions to low-frequency noise harassment — through a redesigned web-based interface that requires no coding and no technical expertise.

- 24-bit Delta-Sigma digitizer with selectable gain (2-64) delivers wide dynamic range and captures even the faintest infrasonic signals.
- AIR 2.0 modern web GUI: real-time dB(G) waveform monitoring, automatic 24-hour heliplots, and a 7-day spectrogram archive in 12-hour segments.
- Integrated on-board data repository with API access and industry-standard MiniSEED streaming for Earthworm, WinSDR, Swarm, ObsPy, and more.
- Compact IoT design — 410 g, 1.75 W, true plug-and-play — with built-in Wi-Fi and optional wired Ethernet for local or remote deployment.

STANDARD FEATURES »

- 24-bit Delta-Sigma digitizer
- High-sensitivity pressure sensor
- Selectable gain 2-64
- 50 / 100 / 200 SPS
- Digital low/high-pass filters
- AIR 2.0 web-based GUI
- Real-time dB(G) waveforms
- Automatic 24-hour heliplots
- 7-day spectrogram archive
- On-board data repository
- API data access
- MiniSEED streaming
- Earthworm & WinSDR ready
- Built-in Wi-Fi
- Optional wired Ethernet
- NTP timing
- Instant waveform export
- Remote access capability

KEY FEATURES

- 24-bit high-resolution data processor: advanced low-noise digitizer delivering exceptional dynamic range and precision recording for professional infrasound monitoring.
- Enhanced high-sensitivity infrasound sensor detects ultra-low-frequency atmospheric signals with improved sensitivity and stability.
- AIR 2.0 modern web-based GUI: redesigned intuitive interface with simplified navigation and real-time monitoring — no coding required.
- Integrated on-board data repository and API: secure local storage with easy access to historical records and automated retrieval.
- Industry-standard MiniSEED real-time streaming for seamless integration with research, seismic, and monitoring platforms.
- Automatic 24-hour heliplot and spectrogram generation, plus a built-in 7-day spectrogram archive displayed in 12-hour segments.
- Real-time waveform visualization in decibel-G format with responsive display updates and instant waveform export and download.
- Built-in Wi-Fi with optional wired Ethernet, NTP timing, and remote access for local or remote deployment and monitoring.
- Improved system stability and performance: enhanced firmware, optimized processing speed, and reliable long-term operation.

PRODUCT FEATURES

Digitizer & Sensor

24-bit Delta-Sigma ADC (Cirrus Logic CS5532) · 21 effective bits @ 100 SPS · differential pressure infrasound sensor · polarity correction

Acquisition

50 / 100 / 200 samples per second · selectable gain 2, 4, 8, 16, 32, 64 · low-pass, high-pass, and inverse digital filters

Web GUI & Visualization

AIR 2.0 dashboard with live dB(G) waveforms, system status, automatic 24-hour heliplots, and 7-day spectrogram archive

Data & API

On-board repository · MiniSEED continuous data · API retrieval · instant waveform export and download

Software Compatibility

Earthworm and WinSDR on board; MiniSEED works with Jamaseis, WinQuake, Swarm, ObsPy, and other standard tools

Connectivity & Timing

Wi-Fi 802.11 b/g/n · optional Ethernet 10/100 · TCP and UDP transmission · NTP timing

Physical & Power

100 x 100 x 107 mm · ~410 g · IP54 enclosure · 1.75 W consumption · 12V DC adapter or 5V GPIO

For more information about the features, specifications, and available configurations of the QuakeLogic AIR 2.0, please contact QuakeLogic.

HARDWARE CONFIGURATION

COMPONENT	CONFIGURATION
Sensor	High-sensitivity differential pressure infrasound sensor
ADC	24-bit Delta-Sigma, Cirrus Logic CS5532
Sample Rates	50 / 100 / 200 samples per second
Selectable Gain	2, 4, 8, 16, 32, 64
Single-Board Computer	Raspberry Pi Zero 2W / Zero W compatible
Storage	MicroSD 8 GB (included) for OS and data
Connectivity	Wi-Fi 802.11 b/g/n; Ethernet 10/100 (wired version)
Versions	Wi-Fi only, or Wi-Fi + Ethernet (wired)
Power	12V/2.1A DC adapter or 5V via GPIO; 1.75 W consumption
Enclosure	IP54, 100 x 100 x 107 mm, ~410 g

SOFTWARE & FUNCTIONALITY (INCLUDED)

SPECIFICATION	VALUE
Operating System	Linux BBshark 5.10.63+ (Raspberry Pi OS based)
Web Interface	AIR 2.0 GUI: live dB(G) monitor, settings, status, logs
Visualization	Automatic 24-hour heliplots; 7-day spectrogram archive
Data Format	MiniSEED continuous streaming and storage
Data Access	On-board repository, API retrieval, instant export
On-Board Software	Earthworm, WinSDR
Client Platforms	Windows, Linux, macOS (browser-based)

APPLICATION AREAS

NOISE HARASSMENT INVESTIGATIONS

Continuous, timestamped MiniSEED records and automatic plots document low-frequency noise for evidence and mitigation.

DISASTER WARNING

Detection of infrasonic signatures associated with natural hazards for early-warning and situational awareness.

INDUSTRIAL EXPLOSIONS

Detect and document explosions and blast events with calibrated, wide-dynamic-range infrasound recordings.

ATMOSPHERIC & GEOPHYSICAL RESEARCH

Study atmospheric and geophysical processes with research-grade data compatible with standard scientific tools.

ENVIRONMENTAL MONITORING

Long-term observation of environmental low-frequency phenomena with automated daily visualization.

EDUCATION & CITIZEN SCIENCE

Plug-and-play operation and a no-coding web interface make AIR 2.0 ideal for classrooms and home scientists.

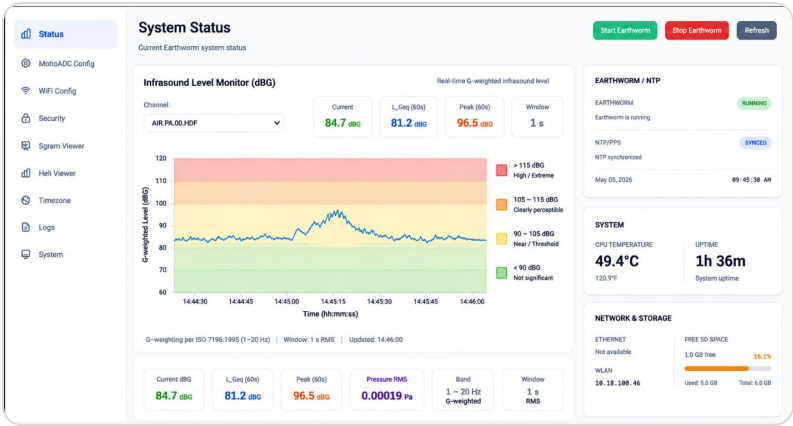
TECHNICAL SPECIFICATIONS

SPECIFICATION	DESCRIPTION
Product Type	Standalone infrasound monitoring system
Sensor	Differential pressure infrasound sensor
Analog Input Channels	1 (CH1)
ADC	Delta-Sigma, 24 bits, Cirrus Logic CS5532
Resolution	21 effective bits @ 100 SPS
Clip Level	±8,388,608 counts @ 24 bits
Sample Rates	50, 100, 200 SPS
Selectable Gain	2, 4, 8, 16, 32, 64
Digital Filters	Low-pass 0.01–24 Hz; high-pass 0.02–49 Hz; inverse 0.5 Hz
Polarity Correction	Yes
Single-Board Computer	Raspberry Pi Zero 2W / Zero W compatible
Storage	MicroSD 8 GB (included), OS and data
Timing	NTP (Network Time Protocol)
Data Transmission	TCP, UDP

SPECIFICATION	DESCRIPTION
Connectivity	Wi-Fi 802.11 b/g/n; Ethernet 10/100 (wired version)
Operating System	Linux BBshark 5.10.63+ (Raspberry Pi OS based)
On-Board Software	Earthworm, WinSDR
Data Format	MiniSEED continuous data
Web Interface	AIR 2.0 GUI: dB(G) monitor, heliplot and waveform plots, settings, status, logs
Spectrogram Archive	7 days, displayed in 12-hour segments
Compatibility	Jamaseis, WinSDR, WinQuake, Swarm, ObsPy, and other MiniSEED tools
Client Platforms	Windows, Linux, macOS
Dimensions	3.9 x 3.9 x 4.2 in (100 x 100 x 107 mm), without feet
Weight	~0.9 lb (410 g)
Enclosure Rating	IP54
Power	12V/2.1A DC adapter or 5V GPIO; 1.75 W run-time
Operating Temperature	32°F to +113°F (0°C to +45°C) case-limited; internal components -4°F to +158°F (-20°C to +70°C)
Country of Origin	Made in USA

AIR 2.0 WEB-BASED SOFTWARE (INCLUDED)

Every AIR 2.0 ships with the redesigned web-based interface – accessible from any browser on Windows, Linux, or macOS, with no coding required. Live monitoring, system health, automatic visualization, and data export are all built in and available locally or remotely over the network.

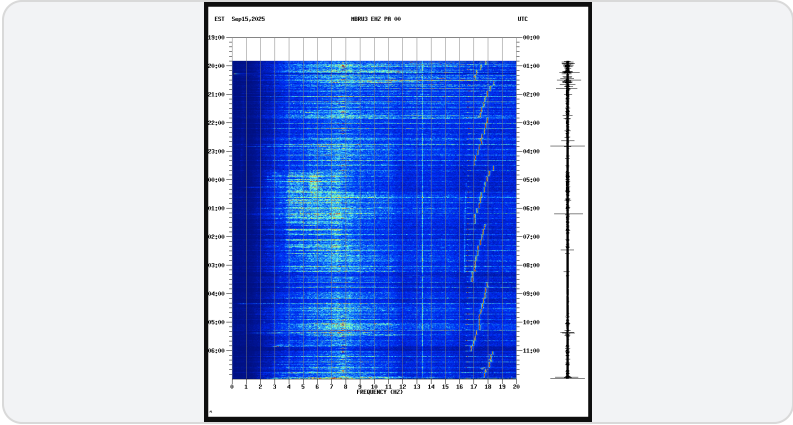
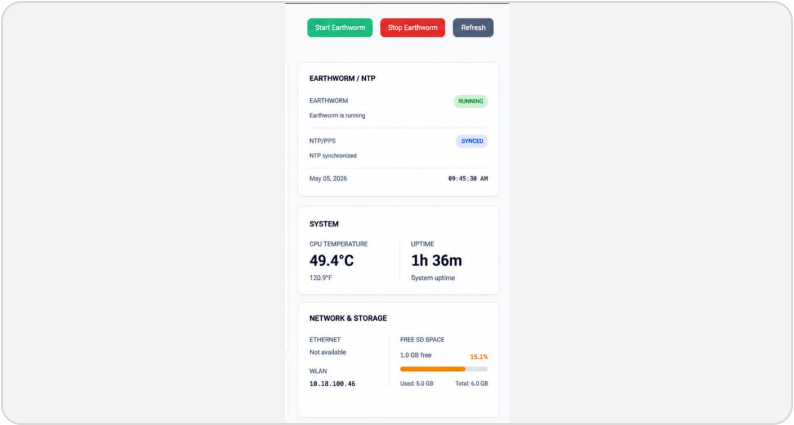


LIVE dB(G) INFRASOUND MONITOR

The real-time Infrasound Level Monitor tracks current, L_{eq} , and peak G-weighted levels(per ISO 7196) with color-coded significance bands from "not significant" to "high / extreme," plus pressure RMS in Pascals over the 1–20 Hz band.

SYSTEM STATUS & HEALTH AT A GLANCE

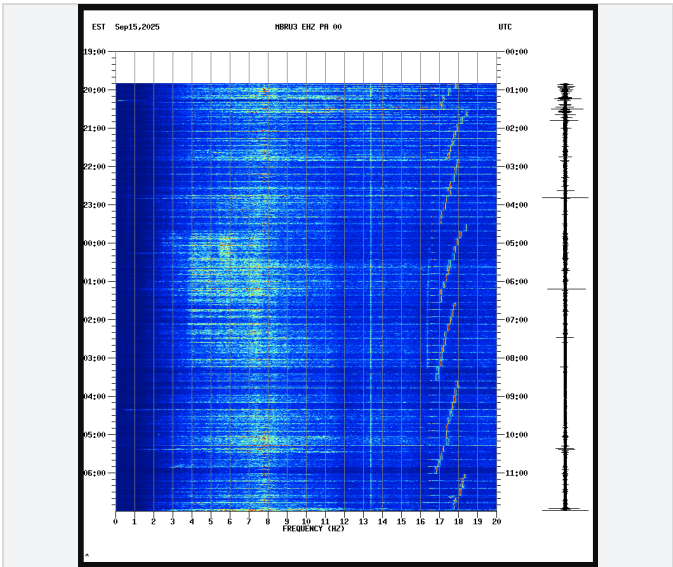
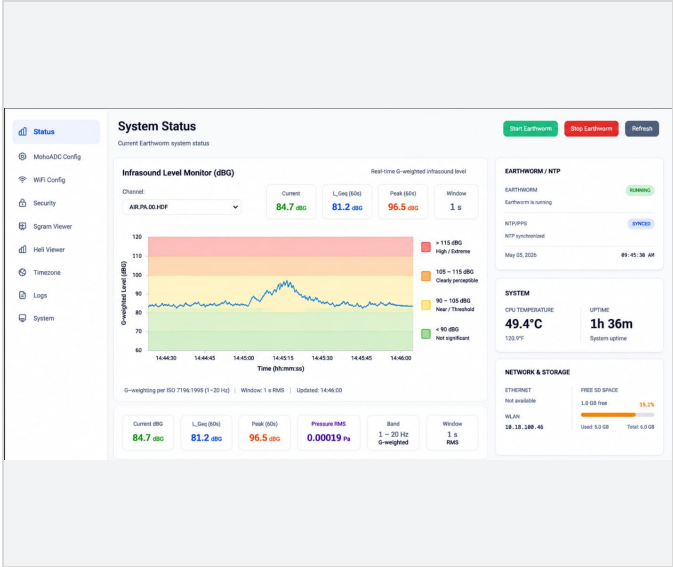
The dashboard reports Earthworm runtime, NTP synchronization, CPU temperature, uptime, network state, and SD storage – so acquisition health is visible before it becomes a data gap, at home or at a remote site.



AUTOMATIC HELILOTS & 7-DAY SPECTROGRAM ARCHIVE

AIR 2.0 continuously generates 24-hour heliplots and spectrograms without user input, and keeps a rolling 7-day archive in 12-hour segments – making it easy to review recent infrasound activity and pinpoint noise events at a glance.

PRODUCT GALLERY — COMPACT HARDWARE & AIR 2.0 SOFTWARE



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About QuakeLogic:

QuakeLogic Inc. is a California-based engineering and technology company providing innovative, reliable, high-quality solutions to customers worldwide.

Our Commitment

We are committed to quality, innovation, and customer satisfaction – building lasting partnerships through reliable solutions and dependable support.

Scan to View Product:**MADE IN USA**

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