

SHOUT nano

A low-cost tracker and messaging device for use with the Iridium network.

SHOUT nano is an ultra low-power consumption tracker with free text, data-logging and automated location reporting.



Overview

The SHOUT nano is a handheld, global, two-way satellite messaging and personal tracking device. It utilizes Iridium's short burst data (SBD) service to provide location information determined by a GPS receiver, two-way inbound and outbound status, text messaging, and emergency/alert notifications. The nano measures 4.0" x 2.2" x 0.8" and weighs ~6.5 ounces.

The nano is designed with ultra-low power consumption electronics drawing less than 35 A during sleep. With an internal 1.95 A-Hr rechargeable Li-Ion battery, it can send a position report every hour for up to two months (about 1,200 reports).

The nano is equipped with a high resolution color LCD and onscreen keyboards supporting transmission of free-text, canned messages and a combination of free-text and canned messages. The menu options are displayed as icons for quick access.

The device can periodically wake up from sleep to send its position report to a command center. A 911 button is used for immediate emergency/alert notifications. Data are packaged in either standard or 256-bit AES encrypted format. Data can also be sent in encrypted PECOS formats to include Brevity codes.

Details

Manufacturer:	• NAL Research
Network:	• Iridium
Device Type:	• Handset
Markets:	• Military • Tracking

Technical Specs

Physical Characteristics:

- Dimensions: 4.0" L x 2.2" W x 0.8" D
 - Weight: ~6.5 Oz
 - I/O Interface: USB
 - Cooling: Convection
 - Enclosure: Hard-Anodized Aluminum
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Iridium RF Board:

- Operating Frequency: 1616 to 1626.5 MHz
 - Link Margin Downlink: 13 dB average
 - Link Margin Uplink: 7 dB average
 - Average Power Transmission: 1.0 W
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Environmental:

- Operating Temperature: -40oF to +185oF (-40oC to +85oC)
 - Operating Humidity: < 75% RH
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Feature Set:

- Normal Tracking — programmed to automatically wake up and send a position report at a set interval ranging from continuous to once every seven days.
- Emergency Alert — sends alerts to a designated monitoring center using a 911 button. The monitoring center and the user can then communicate to define further specifics of the emergency.
- Free-Text Messaging — sends free-text via three different sets of onscreen keyboards.
- Canned Text Messaging — sends canned (pre-defined) messages in short codes to save bandwidth instead of the entire message body.
- Waypoint Tracking — sends and /or saves waypoints (interested landmarks) for later retrieval.
- Check-In — allows a quick check-in message to be sent using a single soft key.

Electrical:

- Input Voltage Range: 2.7VDC to 5.5VDC
 - Input Nominal Voltage: 4.0VDC
 - Power consumption during standby: less than 35µA @ 5.0VDC
 - Power Input Type: External DC power or internal battery
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GPS Receiver:

- Receiver Type: 1575.42 MHz (L1), 50-channel, C/A code
- Accuracy: 2.5 m CEP
- Update Rate: 4 Hz
- Start-up Times: < 1 sec hot start, 29 sec warm start and 29 sec cold start
- Sensitivity: 160 dBm