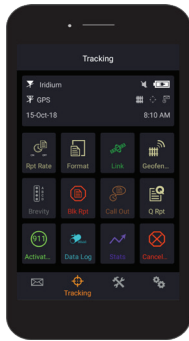## NAL SHOUT ns Body-Worn Iridium® Tracker
NAL SHOUT nsx Body-Worn Iridium® Tracker

SHOUT nsx (extended life)

SHOUT ns

Key Features:

- Low-cost, body-worn tracker and messaging device
- Programmed for either DoD or commercial Iridium gateway
- Ultra-low power consumption
- Automatic location reports (~480 reports (ns), ~1,600 reports (nsx))
- iOS / Android app for added capabilities
- ATAK compatibility options available
- 911 alert switch
- Bluetooth connectivity
- Free-text, canned messages, or combined free-text and canned messages via smart phone
- Data logging (waypoints and tracking reports)
- 256-bit AES encryption
- Real-time, pole-to-pole coverage
- Weighs ~3 ounces (ns) / ~4.6 ounces (nsx)
- Volume of 3.0" x 1.8" x 0.7" (ns)
- Volume of 4.7" x 1.8" x 0.7" (nsx)
- Internal rechargeable battery using AC adapter, USB port, or solar charger
- Integrated motion sensor
- USB Micro-B interface
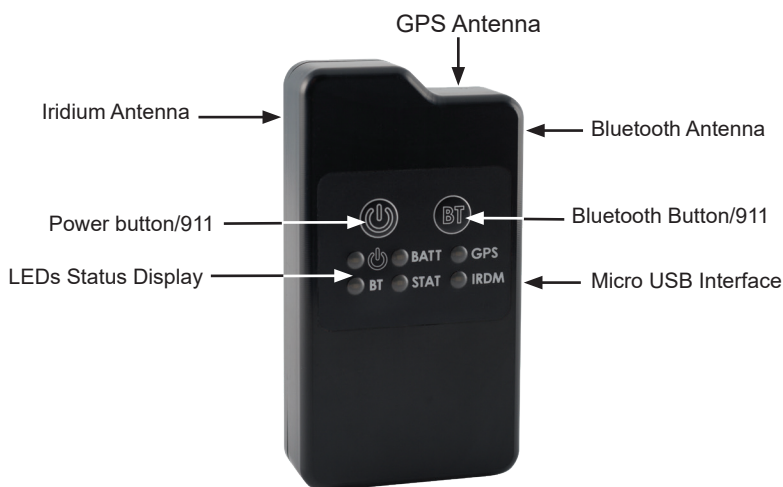- 72-channel GPS receiver with -160 dBm sensitivity

General Description

The SHOUT ns is the "no screen" version of the SHOUT ts. It is a body-worn tracker/messaging device weighing less than 3 ounces and is 60% smaller than the SHOUT ts in volume. Both the Iridium and GPS antennas are embedded inside the enclosure. The SHOUT ns' operating parameters are set by computer via a USB port or smartphone app. The SHOUT ns can also be connected to a smart phone via Bluetooth for two-way messaging and parameter settings. The SHOUT nsx provides all the functionality of the SHOUT ns with a larger battery to provided extended usage.

The SHOUT ns and nsx can send reports every 1 minute up to a user defined limit. The ns and nsx support transmission of messages; or positions and a combination of free-text and canned messages via a smart phone. The devices can periodically wake up from sleep to send its position report to a command center. A 911 activation sequence is used for immediate emergency/alert notifications. Data is packaged in either standard plain text or 256-bit AES encrypted format. Data can also be sent in encrypted PECOS formats to include Brevity codes.

The SHOUT ns offers a variety of services including:

- 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 following completion of a 911 activation sequence. The monitoring center and the user can then communicate to define further specifics of the emergency.
- Free-Text Messaging — sends free-text via four different sets of on-screen keyboards on the connected device.
- Canned Text Messaging — sends canned messages on the connected device in short codes instead of the entire message to save bandwidth.
- SHOUT Application Software - provides the same functionality as other NAL SHOUT devices with displays using your smartphone's Bluetooth link. Functionality provided includes text messaging, managing tracking parameters such as reporting rate, reporting format, geofencing, diagnostic utilities and configuring the SHOUT ns.

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iridium®

NAL Research Corporation
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www.nalresearch.com

- GPS Antenna
- Iridium Antenna
- Bluetooth Antenna
- Power button/911
- Bluetooth Button/911
- LEDs Status Display
- Micro USB Interface

Specifications: SHOUT ns

Mechanical

Dimensions :	3.0" L x 1.8" W x 0.7" D
Weight:	~3 ounces
I/O Interface:	USB Micro-B
Cooling:	Convection
Enclosure:	Plastic

Electrical

Input Voltage Range:	2.7VDC to 5.5VDC
Input Nominal Voltage:	4.0VDC
Power Consumption during Standby:	Less than 110µA @ 3.7VDC
Power Input Type:	External DC power, or internal Li-Ion CR123A rechargeable battery

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

GPS Receiver

Receiver Type:	1575.42 MHz (L1), 72 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

Environmental

Operating Temperature:	-4ºF to +140ºF (-20ºC to +60ºC)
Operating Humidity:	< 75% RH
Ingress Protection:	IP67 Rated

Specifications: SHOUT nsx

Mechanical

Dimensions :	4.7" L x 1.8" W x 0.7" D
Weight:	~4.6 ounces
I/O Interface:	USB Micro-B
Cooling:	Convection
Enclosure:	Plastic

Electrical

Input Voltage Range:	2.7VDC to 5.5VDC
Input Nominal Voltage:	4.0VDC
Power Consumption during Standby:	Less than 110µA @ 3.7VDC
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