



LIFE SUPPORT
INTERNATIONAL

NAL SHOUT Hand-Helds Product Overview

SOLUTIONS₊SURVIVAL



Life Support International (LSI) has the privilege of representing NAL Research Corporation as their Global Distributor of NAL products.

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• **Overarching NAL Device Attributes:**

- Global Personnel and Equipment Tracking
- Global Asset Tracking
- Global 2-way comms in remote locations
- Global Distress alerting with GNSS location

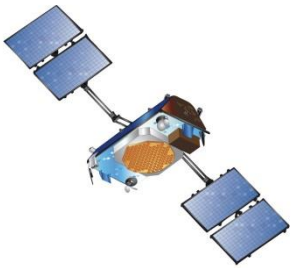
Iridium System Overview



- The world's largest commercial satellite constellation
- Uniquely sophisticated architecture of 66 cross-linked Low-Earth Orbit (LEO) satellites
 - Delivers high-quality mobile voice and data coverage over the globe
 - Includes oceans, airways and polar regions
- Each Iridium NEXT satellite is linked up to four others – two in the same orbital plane and one in each adjacent plane
 - Creates a dynamic mesh network that routes traffic among satellites to ensure a continuous connection, everywhere
- In-space redundancies across the network are combined with a secure, dedicated ground infrastructure
 - This unique configuration will allow services to continue to remain unaffected by natural disasters – including hurricanes, tsunamis and earthquakes that can cripple terrestrial infrastructure

Iridium Constellation Details

- 66 Low-Earth Orbit (LEO) Satellites:
 - The large number of fast-moving satellites with multiple overlapping spot beams minimizes missed connections and dropped calls.
 - The LEO orbit also provides a shorter transmission path with less signal attenuation.
- 15 spares (9 in-orbit, 6 on-ground):
 - In-orbit spares can be quickly repositioned and activated, as needed.
- Unique LEO constellation:
 - With a 476 miles (780 km) orbit, the proximity of Iridium's LEO network means pole-to-pole coverage, shorter transmission path, stronger signals, lower latency and shorter registration time than with GEO satellites.
 - The network is considered a meshed constellation of interconnected, cross-linked satellites so that each satellite "talks" with the other nearby satellites in front, behind and in adjacent orbits.
- Global, pole-to-pole coverage:
 - Each Iridium satellite is linked to up to four others creating a dynamic network that routes traffic among satellites to ensure global coverage, even when traditional local systems are unavailable.



NAL Handheld Products



SHOUT ts/tw



SHOUT 3G
(2G/3G/4G/LTE)



SHOUT ns



SHOUT sp
Iridium Phone Android
(SHOUT ts/Voice/PTT)

SHOUT ts (SHOUT tw*)

- ✓ Pocket-size, self-contained low-cost, satellite tracker
- ✓ Programmed for either DoD or commercial Iridium gateway
- ✓ High resolution color touchscreen
- ✓ Menu options are displayed as icons for quick access
- ✓ Ultra-low power consumption
- ✓ Automatic location reports (>1500 reports per charge)
- ✓ Data logging (waypoints and tracking reports)
- ✓ Free-text, canned messages or combination of both
- ✓ Encryption both transmit/receive
- ✓ Two-way SDB communications (10-byte or 30-byte formats)
- ✓ Guarded 911 alert switch
- ✓ Complete global coverage

Dimensions (LxWxD):	4.3" x 2.3" x 0.9" (104 x 58 x 23 mm)
Weight:	7.5 oz (209 g)
Enclosure:	Hard-anodized aluminum
Power Input:	External DC power or internal battery
Transmission Power:	1.0 W
Encryption:	AES 256-bit on transmit & receive
GPS Receiver Type:	1575.42 MHz (L1), 50-channel, C/A code, -160 dBm
GPS Accuracy:	2.5 m CEP
Start-up Times:	< 1 sec hot start, 29 sec cold start
Operating Temp:	40°F to +185°F (40°C to +85°C)

* SHOUT tw version is IP-67 waterproof (1 meter depth – salt or fresh water)



SHOUT 3G

- ✓ Pocket-size, self-contained low-cost, satellite tracker with cellular access
- ✓ Added Cellular (2G/3G/4G/LTE) capability
- ✓ Programmed for either DoD or commercial Iridium gateway
- ✓ High resolution color touchscreen
- ✓ Menu options are displayed as icons for quick access
- ✓ Ultra-low power consumption
- ✓ Automatic location reports (>1500 reports per charge)
- ✓ Data logging (waypoints and tracking reports)
- ✓ Free-text, canned messages or combination of both
- ✓ Encryption both transmit/receive
- ✓ Two-way SDB communications (10-byte or 30-byte formats)
- ✓ Guarded 911 alert switch
- ✓ Complete global coverage

Dimensions (LxWxD):	4.3" x 2.3" x 0.9" (104 x 58 x 23 mm)
Weight:	7.5 oz (209 g)
Enclosure:	Hard-anodized aluminum
Power Input:	External DC power or internal battery
Transmission Power:	1.0 W
Encryption:	AES 256-bit on transmit & receive
GPS Receiver Type:	1575.42 MHz (L1), 50-channel, C/A code, -160 dBm
GPS Accuracy:	2.5 m CEP
Start-up Times:	< 1 sec hot start, 29 sec cold start
Operating Temp:	40°F to +185°F (40°C to +85°C)



SHOUT ns

- ✓ Low-cost, body-worn tracker and messaging device
- ✓ Programmed for either DoD or commercial Iridium gateway
- ✓ Ultra-low power consumption
- ✓ Automatic location reports (>600 reports per charge)
- ✓ Sequenced emergency alert switch
- ✓ Bluetooth connectivity to smart phone – Android and iOS
- ✓ Free-text, canned messages, or combined via smart phone
- ✓ Data logging (waypoints and tracking reports)
- ✓ Encryption for transmit and receive
- ✓ Real-time, pole-to-pole coverage
- ✓ Internal rechargeable battery using AC adapter, USB port, or solar charger
- ✓ Integrated motion sensor

Dimensions (LxWxD):	3.0" x 1.8" x 0.7" (76 x 46 x 18 mm)
Weight:	3 oz (85 g)
Enclosure:	High performance engineered polymer
Power Input:	External DC power or internal battery
Battery:	Lithium Ion (Iridium) / Lithium 5-yr battery (C-S)
Transmission Power:	1.0 W (Iridium) / 5.0 W (Cospas-Sarsat)
Encryption:	AES 256-bit on transmit & receive
GPS Receiver Type:	1575.42 MHz (L1), 50-channel, C/A code, -160 dBm
GPS Accuracy:	2.5 m CEP (Iridium)
Operating Temp:	-4°F to +140°F (-20°C to +60°C)
Waterproof:	IP67 (1 meter depth – salt or fresh water)



SHOUT sp

- ✓ Hand-carried satellite smartphone tracker and messaging device
- ✓ Android Operating System 6.0
- ✓ Iridium Satellite and Cellular Connectivity
- ✓ Programmed for either DoD or Commercial Iridium Gateway
- ✓ Wi-Fi Connectivity a/b/g/n
- ✓ Bluetooth 4.0 low-energy connectivity
- ✓ Guarded emergency alert switch
- ✓ High-resolution touchscreen
- ✓ Camera with LED flash
- ✓ Micro USB interface
- ✓ 3.5mm headset jack
- ✓ Ruggedized & waterproof (IP 67)
- ✓ Free-text, canned messages, or combined free-text and canned messages
- ✓ Data logging (waypoints and tracking reports)
- ✓ Geo-fencing
- ✓ Internal rechargeable battery
- ✓ Compatible Airtime Service(s): SBD, SMS, Voice

Dimensions: 4.9" L x 2.7" W x 0.9" D
Weight: ~12 oz
I/O Interface: Micro USB, Micro SIM reader, 3.5mm headset jack
Cooling: Convection
Enclosure: Hard-Anodized Aluminum (EMI Shielded)
Cellular Transceiver Type: u-blox LISA-u230, 3.75G
Supported Cellular Bands: UPTS/HSPA: 2100, 1900, 1700, 900, 850, 800 MHz
GSM/GPRS/EDGE: quad band – 850/900/1800/1900 MHz



Point of Contact

For questions and additional information please contact:

PAUL STEWARD

Life Support International (LSI)

+1-703-785-5695

paul@lifesupportintl.com