

IRIDIUM EXTREME

From AST Distribution



Iridium Extreme



- Introducing the newest handheld product from Iridium, on the farthest reaching, global satellite network....

The Iridium Extreme Satellite Phone

With a series of industry firsts...

The First Military-Grade Satellite Phone

The First IP65 Rated Satellite Phone

The First Open Development Platform
for Location Based Services

The First Satellite Phone with a Dedicated, Satellite Emergency
Notification Device (SEND) Compliant SOS Button

Extreme: Phone Design Strategy



- Designed to support Iridium's toughest, highest usage customers of satellite phone communications.
 - Designed for customers who are out in the elements and need the best in reliability with the highest standards for durability and ingress protection. Examples are mining, military, and maritime customer segments.
- Built to enable our partners to offer location based solutions (LBS) to their customers and end-users.
 - Services can monitor end-user location* and access them on demand, to ensure their safety and complete their daily missions.



* monitoring services can be turned off and PIN-protected for those who do not want their location shared.

Extreme: Features



- Primary Features:
- Military-Grade Durability
 - Meets US DoD Military Standards 810F for resistance to:
 - Dust, Shock, Vibration, Blowing Rain (and more)
- Highest Ingress (IP) Rating in the Industry: IP65
 - Sealed for Protection Against Dust and Water
- Open Development Platform for Location Services
 - GPS-Enabled
 - Developer Kit for Short-Burst Data Tracking
 - Programmable Location Service Menus
- Programmable SOS button:
 - This Feature Adheres to Specifications Defined by Search and Rescue Regulating Body (RTCM SEND Committee)



Extreme: Features

- **Additional Features:**
- **Smallest Iridium Phone Ever**
 - Thinner Design - 10% Thinner Than 9555
 - Lightest Weight - 7% Lighter Than 9555
- **In-Hand Ergonomics**
 - Diamond-Tread Rubber Grip
 - Cinched Waist
- **Rugged, High-Gain Antenna**
 - Exceeds Iridium Specs for Signal Gain
 - Reinforced Antenna Cap
 - 40% Thicker Antenna for Increased Durability
 - Top Articulating Design
- **Ease of use**
 - Easy-to-Use Interface (Same 9555 UI)
 - Hard-Capped Keypad
- **Ability to Hear and Be Heard**
 - Top Mounted Speakerphone
 - Wind-Resistant Microphone



Extreme: Product Diagram

- Most attributes of the phone are located in similar locations to the 9555 for consistency

Changes to the phone are:

- SOS Button
- SOS Indicator
- Speakerphone location
- Accessory Connector



Extreme: Durability Specifications



Tests	810 F Method	810F Procedure	810F Test Description
Low Pressure	500.4	II	Decreasing pressure to 15,000 ft. Hold for 1 hr
High Temperature	501.4	I & II	Vary temperatures from 33 to 71C for 7days
Low Temperature	502.4	I & II	Storage temp -45 C for 24 hours plus -10 C operating temp
Temperature Shock	503.4	I	85 C for four hours, -40 C for four hours, 3 cycles
Solar Radiation	505/4	I	Diurnal cycle A1, 3 cycles
Blowing Rain	506.4	I	6 inches per hour, 40 mph wind, 30 minutes per face
Humidity	507.4	I	Varying temperature and humidity levels over 10 days
Salt Fog	509.4	I	48 hours in 35 C salt solution at 5%
Dust	510.4	I	Blowing dust at 900ft/min, 6 hours at 23C, 6 hours at 60C
Vibration	514.5	I, Cat. 8	Aircraft Transport, Lo=0.30, fo=68Hz, 1 hr per axis 15-2000 Hz
Shock	516.5	I, IV	Shock Test for Ground Equipment & 48" drop, 14 drops per radio

Extreme: Durability Specifications



- **IP65 Rating: Dust-Proof and Protected Against Jet-Water**

IP65	IP65
	8 – Protected Against Immersion beyond 1 m
	7 - Protected Against Immersion up to 1 m
6 – Dust Proof	6 – Protected Against Strong Jet-Water
5 – Dust Protected	5 – Protected Against Jet-Water
4 – Protected Against Foreign Bodies 1 mm and larger	4 – Protected Against Splash Water
3 – Protected Against Foreign Bodies 2.5 mm and larger	3 – Protected Against Spray Water
2 – Protected Against Foreign Bodies 12 mm and larger	2 – Protected Against Water Drips at 15° Angle
1 – Protected Against Foreign Bodies 50 mm and larger	1 – Protected Against Dripping Water

Product Changes to Support Military-Grade Design



- **Adapters and Connector Covers:**
 - Two adapters included to allow the connection of accessories for charging, data connectivity, and external antenna use.
 - Designed to support the assembly of the sealed and ruggedised Extreme and to allow use of accessories from previous Iridium phones.
 - If the adapters become damaged, they can be replaced with a new adapter instead of having to repair your entire phone.
 - Can be used in many different situations including:
 - Charging while the phone is standing up or laying flat
 - Phone calling while the phone is connected to an external antenna or charger
 - Connected to a laptop for data connectivity while the phone is standing up either with or without an external antenna
 - **Adapter and Cover Tips:**
 - Leave your antenna adapter attached to your charger for easy access.
 - To install the adapter: Open connector cover and place it to the back. Attach adapter.
 - To remove the adapter: Press side clips and remove adapter. Replace connector cover.



standard



external antenna

Product Changes to Support Military-Grade Design



- **Antenna:**

- The Extreme antenna is designed to prevent water and dust intrusion and requires greater force to extend and retract in order to maintain a proper seal.
- Once extended, ensure that the top antenna element is oriented directly up in order to provide the most optimal connection to the Iridium network.
- **Antenna Tips:**
 - For a speakerphone call, this orientation is straight.
 - For a right-handed call held to your ear, the antenna must be turned left.
 - For a left-handed call held to your ear, the antenna must be turned right.
 - After the call is completed, ensure the antenna is returned to the upright position and then stow the antenna.

Extreme



9555



Product Changes to Support Military-Grade Design



- **Speakerphone:**
 - Built-in speakerphone, located on the top of the phone to provide for an improved “hands-free” experience.
 - To maintain a dust-proof and jet-water spray-resistant seal, the speakerphone has a protective liner located beneath the speaker cover.
 - This liner impacts the sound quality and volume the speakerphone.
 - **Speakerphone Tips**
 - In order to obtain the loudest volume from the Extreme phone, use the top volume key and adjust the volume to the highest setting.
 - At the highest setting, you will obtain the loudest volume but you may notice some distortion from the protective liner.
 - To reduce the distortion, adjust the volume down one or two levels for the optimal clarity.

Product Changes to Support Military-Grade Design

- Battery:
 - New D-ring latch to lock-down battery to phone for proper seal.
 - To remove battery, rotate D-ring 90 degrees counter-clockwise and pull.
 - To insert battery, align D-ring in same vertical orientation, insert, and then rotate D-ring 90 degrees clockwise.
 - Battery now has rubber gasket located on protruded area of battery. This gasket is treated with a silicone gel to assist with the seal and proper installation.
 - This gasket creates an water and dust-resistant seal when pressed down in the #3 area to protect the internal circuitry.
 - Important Tips for Installation:
 - After the battery is properly attached, the center of the battery must be pressed down to create the seal and ensure the battery contacts are aligned.



Extreme: Satellite Emergency Notification Device (SEND) Features

- Radio Technical Commission for Maritime Services (RTCM) formed the SEND Committee
 - Committee Consists of Industry and Search and Rescue
 - Responsible for Regulating Devices like EPIRBs and PLBs
- Extreme SOS Button is SEND Compliant!
 - Category 2 / Class 3 SEND Design
 - Dedicated Distress Control with SOS Label and Cover
 - One-Handed Operation of SOS Button
 - Visual Indication of SOS Activation and Messages Sent
 - 20 Second Countdown Timer for Distress Alert Initiation to Reduce False Alarms
 - Emergency Message with Location Sent Every 5 Minutes
 - Emergency Mode Maintained if Batteries Switched
 - Cancellation of SOS Sends Notification



Extreme: Included Accessories

- Extreme kit includes more accessories than any other competitive product.
 - Phone can be used “out-of-the box” in most situations and locations.
 - Travel charger with international adapters
 - Car charger
 - Leather case
 - USB data cable
 - User guides
 - CD-ROM with software
 - Auxiliary antenna adapter
 - Magnetic vehicle mount antenna with 5' cable
- The Extreme will remain compatible with the same 9555/9505A chargers, auxiliary antenna, and USB data cable via two included adapters.



Menu and Location Options

- The Extreme menu is similar to the 9555 with the addition of “Location Options”. Location Options allows the user to customise their GPS and LBS-related settings. To access this menu, go to Menu > Setup > Location Options.



- The following settings are available in the Location Options menu:
 - GPS Options: Enable/disable GPS on your handset; determine how frequently the GPS is updated when enabled; and lock your GPS settings.
 - Emergency Options: Set up Emergency Recipients; determine Emergency Actions (call/message); configure Emergency settings (beep); and enter/cancel Emergency Mode (activated with SOS button).
 - Message Options: Set up the recipient and frequency of your auto GPS location update message (regular update or quick GPS)
 - Format: Configure the format of GPS location information (position / altitude).
 - Current Location: View and update your current GPS location (activate with side key).

Extreme: Location Based Service Options



The Extreme provides two options for sending GPS location information.

Option #1: SMS

- Included with SIM telephony plan
- Supported capabilities:
 - Configured in handset menu
 - Quick GPS
 - Scheduled Updates
 - SOS button
 - Sends link to Iridium.com map
- SMS Delivery:
 - Send to SMS or Email address

Option #2: SBD

- Requires provisioning of IMEI/SBD
- Billed monthly access fee with bundled usage and overage charge.
- Supported capabilities:
 - All Option #1 PLUS online portal integration, including:
 - Tracking: show location history
 - Scheduled check-ins
 - Geofencing
 - Canned or freeform messages
 - Update on-demand with device ping
 - Social networking integration capability
- SBD Delivery:
 - Send to portal provider

*All prices shown are wholesale pricing

Extreme: SMS location (new message or quick GPS)

- How to send your location via SMS
- Press side convenience key
- View location
- Share location:
 - New message – enables you to add text and address to new contact.
 - Quick GPS – send to a preconfigured list of contacts.
- Message sent via SMS and standard rates apply



From: 881631569984@msg.iridium.com [mailto:881631569984@msg.iridium.com]

Sent: Thursday, June 09, 2011 11:23 PM

To: Josh Miner

Subject: SMS from 881631569984@msg.iridium.com

Lat+39.049916 Lon-77.345783 Alt +88 m (2s ago) 10-Jun-2011 03:22:03 UTC <http://map.iridium.com/m?lat=38.923925&lon=-77.222884> iridium office

- Message format:
- Link to Google map on Iridium.com included in the message (see next page)
- Text entered in by the user appears in message (e.g. iridium office)

Extreme: SMS location (new message or quick GPS)

- Link to Google map on Iridium.com
 - <http://map.iridium.com/m?lat=38.923925&lon=-77.222884>

(Standard View)



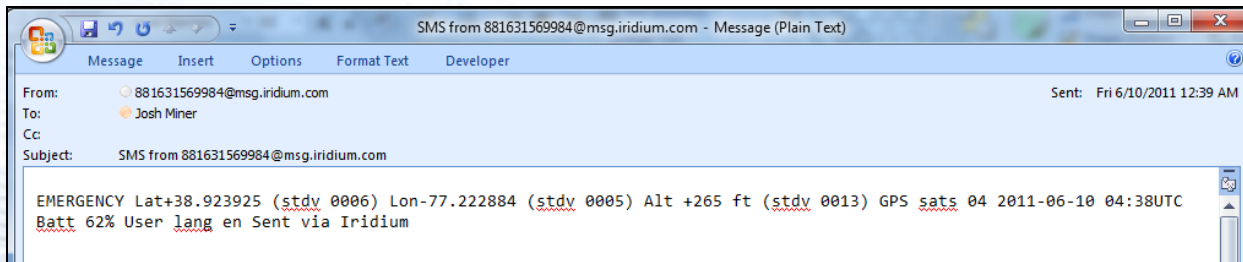
(Zoom In View)



- Option to program “Regular Updates” on scheduled interval

Extreme: SMS SOS Emergency

- Emergency Mode message and call must be pre-programmed
- To initiate Emergency Mode:
 - Open SOS protective cover
 - Press red emergency button
 - Screen will state “Entering Emergency Mode” with a countdown timer and option to cancel
 - Instructions provided to customer to “Deploy the antenna and make sure it is oriented towards the sky”
 - Phone will send a message, and/or initiate a call to pre-programmed numbers (option to specify one or both)
 - Emergency SMS message will be sent every 5 minutes in the following format with indication of status on the SOS LED



- Contents of the message:
 - EMERGENCY, Lat/Long/Altitude, Accuracy, # Sats, Time/Date, Battery %, Language
 - Option to cancel from main screen that will send a cancellation SMS message

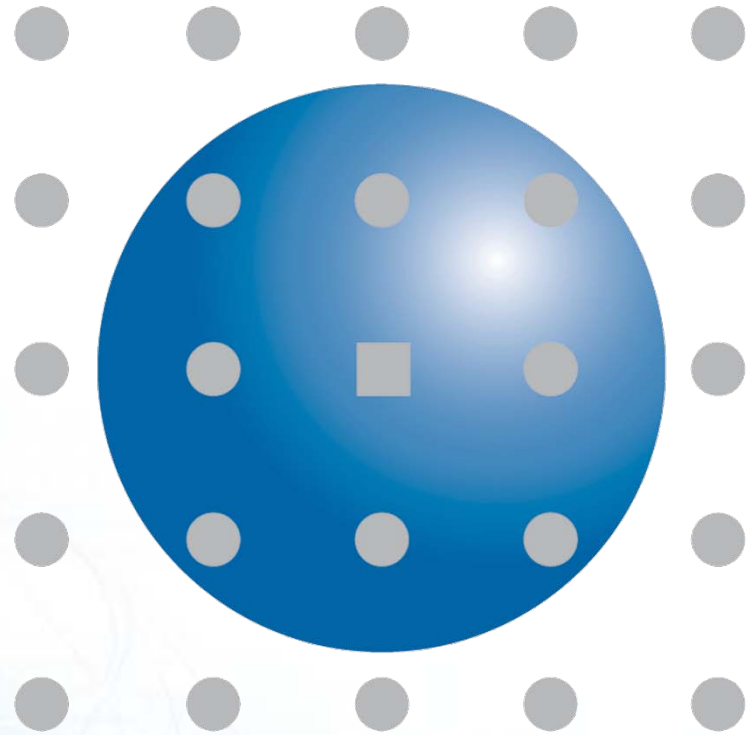


Extreme: Competitive Phone Comparison



The Extreme is Iridium's most rugged satellite phone on the market and is the first to offer GPS and a location development platform for partners.

Device Name	Extreme	IsatPhone Pro	Thuraya XT
Durability Specifications	MIL-STD 810F (Dust, Shock, Vibration, Blowing Rain)		IK 03 (Shock)
Ingress Protection	IP65 (Dust Proof, Jet Water Resistant)	IP54 (Dust Resistant, Splash Resistant)	IP54 (Dust Resistant, Splash Resistant)
GPS-enabled	•	•	•
View/Send GPS as SMS	•	•	•
Development Platform for SBD Location Service	•		
Programmable SOS Button with Cover	•		
Speakerphone	•	•	
Size	14 x 6 x 2.7 cm	17 x 5.4 x 3.9 cm	12.8 x 5.3 x 2.7 cm
Weight	247 grams	279 grams	193 grams



www.satcomms.com