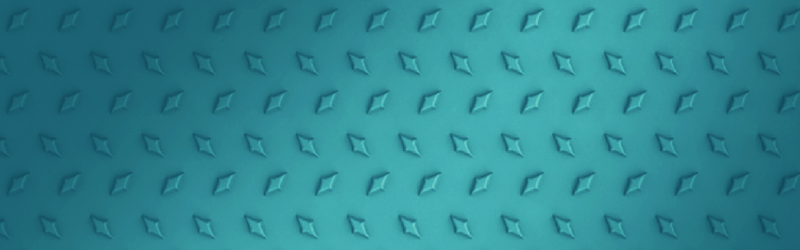
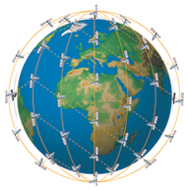
**Iridium PTT Getting Started Guide**





Prepared by Roadpost Inc.

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# Iridium Push to Talk Getting Started Guide

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# Iridium Push to Talk Services

## Pricing Structure

Iridium PTT service pricing is based on 5 variables:

1. The number of talkgroups purchased.
2. The size of the talkgroup(s).
3. The number of minutes selected for each of talkgroup(s).
4. The number of active PTT devices on an account.
5. The airtime usage incurred within a talkgroup.

In order to use the Iridium PTT service, the following is required:

* At least 1 talkgroup.
* 2 Iridium Extreme PTT devices.
* 2 Iridium PTT Monthly Access Services (one is required for each device).

### Talkgroups

#### Talkgroup Sizes

* Talkgroups are represented by the combined surface areas of all locations/ regions requiring PTT service coverage.
* There are 3 size options available:
  + A small talkgroup includes up to 100,000 km2.
  + A medium talkgroup includes up to 300,000 km2.
  + A large talkgroup includes up to 750,000 km2.
* These areas do not necessarily need to be connected. Rather, they are defined by circular or rectangular regions (up to 10) defined on the map that collectively add up to the total surface area for the talkgroup.
* The regions can be updated, moved or deleted at any time, allowing for complete flexibility and management of coverage areas.
* If additional coverage is required after the talkgroup is selected, there is the option to upgrade the talkgroup size at a later date.

#### Talkgroup Airtime

* Within each talkgroup, there are 2 or 3 airtime options available for selection (i.e. 600, 6,000 or unlimited minutes). The chart below outlines available airtime options for each talkgroup size.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Iridium PTT Talkgroup Airtime Options | | | | |
| Talkgroup Size | Talkgroup Coverage Area | Monthly Usage Allowance (Minutes) | | |
| 600 | 6,000 | Unlimited |
| Small | up to 100,000 km2 | ✓ | ✓ | ✓ |
| Medium | up to 300,000 km2 | 🗶 | ✓ | ✓ |
| Large | up to 750,000 km2 | 🗶 | ✓ | ✓ |

* Usage is deducted from the bucket each time a device speaks into the talkgroup.
* Usage is rated (i.e. rounded) in 20 second increments.
* It doesn’t matter who is speaking, as long as their device is assigned to that talkgroup and they are speaking in that talkgroup, it will deduct from the bucket.
* If the usage in the talkgroup exceeds the included usage allowance, overage fees will apply to all additional airtime within that talkgroup until the allowance resets for the next month’s billing period.
* Unlimited plans do not run out of minutes, therefore overage rates do not apply.

### Monthly Access Fees

#### Iridium PTT Monthly Access

* For each device added to an account, a flat rate Iridium PTT Monthly Access Fee applies. This fee covers the cost for each device to connect to the Iridium PTT network and also includes the Iridium Basic Subscription voice plan.
* A device may belong to up to 15 different talkgroups (depending on the amount of talkgroups purchased on the account).

#### Iridium Telephony Services

* Iridium Postpaid services are supported for each device and are included in the Iridium PTT Monthly Fee. Voice minutes must be purchased separately either on a per minute basis or by adding a voice bundle. This service is optional and is not required if the device owner only wishes to leverage the PTT service.
* Telephony services include the use of the SOS button which transmits GPS coordinates to GEOS, a global emergency monitoring centre. Without a voice subscription, the emergency button will not work.
* The user should register with GEOS in order to enable the SOS functionality of the emergency button by visiting the [GEOS Emergency Response Registration Page](https://www.geosalliance.net/geosalert/monitor_iridium.aspx).

# Iridium Extreme PTT Hardware

For detailed descriptions and operation instructions, please consult the [Iridium Extreme® PTT User Guide](https://roadpost.box.com/s/zd7wx228yuw240penahe). Below is a high level summary of key device features and functionality.

## Phone Mode

### Iridium Voice Services

The Iridium Extreme® PTT device for Phone Mode services requires an activated Subscriber Identity Module (SIM) card from Roadpost. The SIM card contains service details and memory for storing phone book entries and messages. A SIM card is not required to operate within the PTT Mode of the handset (although activation of PTT services is required).

The user can switch between PTT and Phone modes from the main menu navigation page by pressing the left soft key. Help may be accessed from the main screen by pressing the right soft key.

In Phone Mode, the Iridium Extreme® PTT device will support Iridium telephony services. Supported services include:

* Phone
* Voicemail
* SMS
* Location – using SMS
* SOS – using phone calling and SMS

To access Phone Mode, power on the Iridium Extreme® PTT device by pressing the power button. The first time you use your Iridium Extreme® PTT device, it will power on in Phone Mode. If the device has been previously used and the phone launches into PTT Mode, press Menu and then press the left soft key to switch to Phone.

#### Getting Started in Phone Mode

Hold the phone the same way as any other telephone. Fully extend the antenna then rotate the antenna to either the left or right detent. The antenna should be vertical to the ground and have a clear unobstructed view of the sky.

#### Tips on Efficient Operation

For the phone to operate most efficiently:

1. Keep your phone battery charged to ensure that the phone is ready for use when needed.
2. Fully extend the antenna and rotate top portion of antenna as needed to ensure antenna is pointed directly up while in use.
3. Make sure the antenna has a clear unobstructed view of the sky.
4. Do not touch the antenna unnecessarily when the phone is in use.
5. Contact with the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed.
6. Do not wear the phone on your body while making calls with the headset accessory. Wearing the phone on the body can interfere with proper phone operation, since the antenna requires a clear unobstructed view of the sky to access the Iridium satellite network.
7. Once you complete your call and are finished with the phone, return the antenna to the center upright position and gently retract the antenna before carrying or storing the phone between uses.
8. For backup, keep a written record of all important information stored on the phone.

*Note: Keep all covers fully and securely installed (SOS button cover, headset cover, and bottom accessory connector cover) when not in use. Failure to do so could result in dust and/or moisture being introduced to the unit when the covers are open, which could in turn cause failure of the device.*

#### Placing a Call

Before you place a call:

1. The phone must be powered on.
2. SIM card inserted.
3. Phone is unlocked.
4. Have a clear direct view of the sky.
5. Antenna should be extended and pointed up towards the sky.
6. Must display “Registered”

#### Dial the Number

As you enter a phone number, the digits are displayed on a line that scrolls across the display. When entering a phone number using the dialling pattern of +[countrycode][areacode][phonenumber], the digits are displayed across multiple lines.

1. Enter the number using the key pad. As you begin entering digits, you’ll see Options displayed above the left soft key and Clear displayed above the right soft key.

The phone number must be entered in the international format: + or 00[country code][phone number]. Your Iridium Extreme® PTT device will automatically enter a + for the international access code so the only numbers that are required to dial are the country code, area code, and phone number.

*Note: All Iridium subscriber numbers begin with country code of 8816 unless an alternative access number has been issued by your service provider.*

1. Press the green key to initiate the call.
2. Calling followed by the number you dialled appears on the display.
3. A timer keeps track of the duration of each call.
4. To end the call, press the red key.

## Location Based Services, SOS Button & GEOS Emergency Monitoring Services

The Iridium Extreme® PTT device GPS and Location-Based Service features allow you to view, send, or restrict your location information. There are four main components to set up and use these features:

* ***Location Options Setup Menu:*** located in the device main menu in the setup section while in Phone Mode, Location Options is where you customize your GPS, emergency, message, and format options.
* ***Programmable SOS button:*** this red button is located on the top of the phone, under a protective cover. By removing the cover and pressing the red button you can send your location information to your designated contact in the event of an emergency.
* ***Location Convenience Key:*** located on the right side of the phone, you can press this key to view your location and share it via SMS to either a pre-programmed “Quick GPS” contact or a new message contact.
* ***Online portal integration with Roadpost’s GeoPro Portal:*** enables the transmission of the phone’s location information on a scheduled interval via short-burst data (SBD) to Roadpost’s GeoPro Portal for online tracking, messaging and SOS management.

*Note: Standard usage fees apply for sharing location via messaging or placing a phone call via the programmable SOS button.*

**WARNING:** SOS, tracking and messaging functions only work while in **Phone Mode** and not in PTT Mode. Switch to Phone Mode to send SOS, SMS or tracking messages. Valid SIM, Airtime subscription and proper SOS set-up required for SOS to function. Failure to satisfy these conditions will prevent SOS from functioning, which could prevent or delay an emergency response and result in serious injury or death.

### Location Options Setup Menu

The Location Options Setup Menu enables you to set up the following options:

* ***GPS Options:*** Enable/disable GPS on your handset; determine how frequently the GPS is updated when enabled; and lock your GPS settings.
* ***Portal Options:*** Register/De-register with portal provider; check your portal status.
* ***Emergency Options:*** Set up Emergency Recipients; determine Emergency Actions; configure Emergency settings; and enter/cancel Emergency Mode; GEOS Service use/do not use.
* ***Message Options:***Set up the recipient and frequency of your auto GPS location update message.
* ***Format:*** Configure the format of GPS location information.
* ***Current Location:*** View and update your current GPS location.

### Setting Emergency Options

#### Programmable SOS Button

* The Emergency Options menu items are used to personalize your settings for the programmable SOS button located on the top of your phone.
* The programmable SOS button gives you the ability to flip open the protective SOS button cover, press the red key located underneath, and initiate a message and/or phone call to your dedicated contact. This contact could be a family member, commercial safety service, safety office, or supported public emergency number (e.g., 911 in U.S. or 000 in Australia).

*Note: 911 dialling services does not work within Canada. It is highly recommended that you program the emergency number in your device address book for the local authorities in your area.*

#### GEOS

* Iridium has contracted GEOS Travel Safety Group to provide an emergency response coordination service for your Iridium Extreme® PTT device.
* Upon power-up of your phone you will be presented with the option of using this service by having the SOS button call and message to a destination automatically programmed for you in the phone through the menus.
* You will also be prompted to register for service by visiting [www.geosalliance.com/iridium](http://www.geosalliance.com/iridium) to review and accept the terms of use and enter your emergency contact information.
* Registration, programming, and a valid Iridium subscription is required for this service. Additional information on this service can be found on [www.iridium.com](http://www.iridium.com) in the Iridium Extreme® PTT device section by viewing the emergency service section.
* To view or modify your settings, navigate to Setup, Location Options, followed by Emergency Options and then down to GEOS Service (the last menu option after “Call Recipient”). From this menu option you will have the option to “Use” or “Not Use”. If you select “Use”, you will be prompted to “Please confirm you have registered at www.geosalliance.com/iridium”. You will need to register and then your phone will be pre-programmed to send your location with an emergency message to GEOS and will initiate a phone call to the GEOS response coordination center. Standard airtime charges will apply for emergency mode messages and/or calls to GEOS.

#### Programming the SOS Button Not Using GEOS

* If you select to “Not Use” GEOS, then you will need to program your emergency “Call Recipient” and “Message Recipient” information in order for the SOS button to initiate contact with those dedicated contacts.
* To view or modify your settings, navigate to Setup, Location Options, followed by Emergency Option. .

#### Other GEOS Services

In addition to the peace of mind delivered through the included Emergency Response service, GEOS also offers optional add-on Membership Benefits to enhance your safety and security worldwide including GEOS Search and Rescue (SAR) and GEOS MEDIVAC™ Plus service.

The GEOS Emergency Response Service, GEOS Search and Rescue (SAR) Membership and the

GEOS MEDIVAC™ Plus are services offered and provided exclusively by GEOS, and not by Iridium which is a separate, unrelated company. Neither GEOS, Roadpost nor Iridium will pay the cost of rescue efforts in the event that the Iridium Extreme® PTT device user fails to register and contract separately with GEOS for SAR and/or GEOS MEDIVAC™. Any issues, terms and conditions and limitations of liability related to your Iridium Extreme® PTT device are outlined in the [Iridium Extreme® PTT User Guide](https://roadpost.box.com/s/zd7wx228yuw240penahe). The use of the GEOS Emergency Response service requires agreement to GEOS’s emergency monitoring terms & conditions, registration with GEOS on [www.geosalliance.com/iridium](http://www.geosalliance.com/iridium), programming of your Iridium Extreme® PTT device, a valid subscription, network service availability, proper orientation and use of the phone, and standard usage fees that will apply.

*Note: the operation of the SOS button feature is limited by any conditions affecting the GPS signal strength and GPS service availability.*

**WARNING:** You must configure the Emergency Mode in order for the SOS button to send an emergency message to a designated Call Recipient and Message Recipient. Failure to configure the SOS button will result in no message being sent when the SOS button is pressed. This could prevent or delay an emergency response and result in serious injury or death.

## Push to Talk Mode Operation

The Iridium Extreme® PTT device provides access to the world’s largest push-to-talk network, powered by Iridium. This section covers the setup and use of push-to-talk service with your Iridium Extreme® PTT device.

While in Push-to-Talk mode, you will be able to access the push-to-talk service. To access phone services such as phone calling, SOS, SMS, voicemail and location-based services, you must switch to Phone Mode as use of phone-based services is not supported in Push-to-Talk mode.

Iridium Push-to-Talk Service enables communities of users to connect instantly, anywhere in the world. It is built on three key elements:

* Iridium Push-to-Talk Service enables communities of users to communicate within defined geographic areas. Access requires monthly device and talkgroup service subscriptions.
* Iridium Push-to-Talk Command Center provides a web-based interface for managing subscriber access to available talkgroups and definition of regional coverage for Iridium Push-to-Talk Service. This is managed by a designated administrator(s) within your organization or by Roadpost.
* Iridium Push-to-Talk Devices provide talkgroup access and coverage based on Iridium Push-to-Talk Service and enable individual users to communicate with defined talkgroups based on Iridium

These devices include the Iridium Extreme® PTT device and other 3rd party devices that are

Iridium Push-to-Talk capable.

Once your Iridium Push-to-Talk Service is provisioned and Iridium Push-to-Talk Command Center settings are properly configured, your Iridium Extreme® PTT device can communicate with other devices.

### Tips for Efficient Operation

1. In order to maintain your network connection to transmit and receive push-to-talk conversations, you must ensure that you orient your antenna up towards the open sky while minimizing any obstructions that could impede your connection. During handheld use, you must extend the antenna in order to maximize reception and transmission power.
2. For handheld use on the move, it is recommended that you use a shoulder-mounted holster to consistently elevate the antenna with an omni-directional view of the open sky. During in-vehicle or in-building use, your device must be used in conjunction with an external Iridium antenna oriented with the open sky or with a docking station (or device orientation) that maintains your GPS reception.
3. Following successful registration with the network, you will utilize the device status screen and observe the tones that will indicate when you are granted the floor to speak or able to receive push-to-talk communications.
4. Audio will default to the Speaker and you can increase or decrease the volume to enhance clarity. When you need a quieter experience, you can enable your device’s built-in Receiver (earpiece) or plug in a wired headset.
5. When using the Iridium Extreme® PTT device with the Speaker Enabled, remove it from any holster accessory and hold it upright and at a minimum of 15 centimeters (6 inches) from your mouth.
6. To start a push-to-talk call, push and hold the Push-to-Talk (PTT) Button on the right side of your device and continue to hold the button until you are granted the floor to talk. Initially, you will hear a series of connecting tones that will beep on one second intervals, followed by either a Talk Tone (three notes ascending in rapid succession) or a Reject Tone (two notes descending in rapid succession) that will occur if the service is busy or unavailable (a corresponding message will be displayed on the screen when this occurs).
7. After receiving the Talk Tone, continue holding the PTT Button and be sure to keep the button pressed the whole time you are speaking and to release it when you are not. You will have up to 20 seconds to speak during each transmission before the floor becomes open for others to speak. Speak loudly and clearly while projecting your voice towards the microphone located on the bottom front of your Iridium Extreme® PTT device.
8. In between push-to-talk conversations, it is critical that you continue to maintain an antenna position that is oriented towards the open sky so you are included in new PTT sessions and may respond accordingly.
9. Additional details on the proper use of the Iridium Extreme® PTT device and service are outlined in the [Iridium Extreme® PTT User Guide](https://roadpost.box.com/s/zd7wx228yuw240penahe) are critical to optimizing the user experience.

### Getting Started in PTT Mode

Follow these steps to enter PTT Mode if the Iridium Extreme® PTT device is in Phone Mode:

1. Press the left soft key, labeled Menu.
2. Press the left soft key, labeled Select.
3. Wait for the device to switch to PTT.
4. The transition to PTT Mode takes approximately 10 seconds. A “PTT” designation will appear at the top center of the screen when the transition is complete and the device will identify your Home

*Note: If the Home Talkgroup is active when you switch to PTT Mode, your device will enter the talkgroup automatically and the screen will display the LISTENING or OPEN status.*

### Using PTT Mode

There are two basic operating states in PTT Mode:

* ***PTT Home State***, which allows you to listen for activity on one talkgroup. You may select or re-select this Home Talkgroup at any time.
* ***PTT Scan State***, which allows you to listen for activity on any of the talkgroups for which your device is provisioned. The scan operation samples the audio of the active talkgroup for a preselected period of time and then plays audio for the next active talkgroup until all of the active talkgroups have been sampled. When this process is complete, the cycle repeats. Newly active talkgroups are then added to your scan list and new inactive talkgroups are removed from the scan list.

### Initiating a Talkgroup Session

* If a talkgroup for which your device is provisioned is not active, you may start a new session by pressing and holding the PTT Button while the target talkgroup is the Home Talkgroup. By doing this, you are requesting to have the floor for that talkgroup.
* Your display shifts from IDLE to TALKING and the Talk Tone (a series of three ascending notes in rapid succession) is played.
* If you are not granted the floor (e.g., if someone else just requested that the same talkgroup be started), your screen displays the text “Request Denied” and plays the Reject Tone (two notes descending in rapid succession).
* Once the talkgroup floor is granted, audio from your TALKING device is transmitted to all participants on the talkgroup session. Press and hold the PTT Button while you are speaking to continue the transmission to others on the talkgroup.

### Requesting the Floor and Speaking in an Active Talkgroup Session

If a talkgroup is active and you are not the talker (e.g., your device is LISTENING or OPEN), you may request the floor by pressing and holding the PTT Button while the target talkgroup is the Home Talkgroup.

* Your display shifts from IDLE to TALKING and the Talk Tone (a series of three ascending notes in rapid succession) is played.
* If you are not granted the floor (e.g., if someone else is talking on the target talkgroup, or someone else just requested the floor for the target talkgroup), the device displays the text “Request Denied” and plays the Reject Tone (two notes descending in rapid succession).
* Once the talkgroup floor is granted, audio from your TALKING device is transmitted to all participants on the talkgroup session. Press and hold the PTT Button while you are speaking to continue the transmission to others on the talkgroup.

### Releasing the Floor on an Active Talkgroup Session

* You must release the PTT Button when you are finished talking to stop the audio from your device from being transmitted to the other active participants on the talkgroup session. This releases the floor, changes the display on your device from TALKING to OPEN and causes the Release Tone (two ascending notes in rapid succession) to be played.
* The displays on the other devices participating on the talkgroup session then shift from LISTENING to OPEN and the Release Tone is played to notify them that they may now request the floor by pressing the PTT Button.

### Listening to a Talkgroup Session

If you wish to listen to a talkgroup session, the device must have that talkgroup as the Home Talkgroup. When the talkgroup becomes active and members of the talkgroup speak, the audio is played and the device displays LISTENING.

### Scanning Talkgroup Activity

Press the right soft key, labeled Scan, (when displayed) to move into Scan State to scan the audio of active talkgroups for which your device is provisioned. Scan State provides information about the activity of those talkgroups and plays the audio. Only audio for talkgroups that are actively communicating is sampled while in Scan State. You will hear a single distinctive tone indicating the talkgroup change.

### Using SOS

* If you attempt to press the SOS button while in PTT Mode, you will receive the following notification: “WARNING! Must go to Phone Mode for SOS.”
* Press the left soft key, labeled Phone, to switch to Phone Mode. While transitioning, you will be prompted to “Press SOS again when in Phone Mode”. You must press the SOS button again in Phone Mode to successfully initiate an SOS call.
* Press SOS again when in Phone Mode.
* An active SIM card and airtime subscription is required for Phone Mode and SOS use. In the U.S. and Australia only, if you do not have an active SIM card and airtime subscription, pressing the SOS button while in Phone Mode will cause the phone to dial 112 that will connect to the appropriate emergency response center (911 or 112) but there will be no GEOS emergency service provided, and no notification will be sent with the user’s location. Outside of the U.S. and Australia (in Canada for example), if you do not have an active SIM card and airtime subscription, the phone will not connect to an emergency response center and no message will be sent when the SOS button is pressed.

Be sure to complete a thorough review of the [Iridium Extreme® PTT User Guide](https://roadpost.box.com/s/zd7wx228yuw240penahe) for further instructions.

# Iridium Push to Talk Command Centre

## Command Centre Overview

The Iridium PTT Command Centre is an online tool that supports real-time configuration and management of talkgroups and devices.

The command centre allows administrators to:

* Create, view and manage talkgroup coverage regions.
* Add devices to talkgroups.
* Remove devices from talkgroups.
* View and edit device details.
* Share talkgroups with other Iridium PTT customers.

URL: <https://ptt.iridium.com>

Login is emailed automatically to the administrator upon account creation.

For detailed instructions on how to use the command centre, please refer to the [Iridium PTT Command Centre User Guide](file:///C:\Users\amurray\Box%20Sync\Product%20Management\Partners\Iridium\Iridium%20PTT\Iridium%20PTT%20Marketing\Iridium%20PTT%20Sales%20Sheet%20-%20DRAFT%20-%20AM%20Edits.docx).

## Talkgroup Configurations

Upon first time login, purchased talkgroups will be displayed on the main page of the Command Centre. From here, administrators can select the talkgroup they wish to configure. Talkgroups that have not been configured will be presented as “Incomplete”. All talkgroups must be configured prior to use.

To configure a talkgroup, simply click on it. Key configuration components include:

* Naming the talkgroup.
* Drawing the talkgroup coverage areas with either the circle or rectangular shapes.
* Adding devices to the talkgroup.

## Viewing & Editing Device Details

The Devices screen will display all available devices by IMEI or friendly name, whether it is being used in a talkgroup or not, and all available talkgroups.

Administrators can also update the device name, view the IMEI and assign it to up to 15 different talkgroups (depending on the amount of talkgroups purchased as outlined in the pricing section above).

Priority talkgroups can also be defined which ensures the device switches to the talkgroup automatically whenever someone speaks.

## Sharing Talkgroups

In the event you would like to share an active Talkgroup outside of your organization, you can do so by simply obtaining the Share Code from the organization you would like to share with and adding the Share Code to the desired Talkgroup.

When sharing a talkgroup you will be required to define:

* Start Date
* End Date
* Maximum Amount of Devices

A “Shared” talkgroup is one that you have shared with another Subscriber Organization so they may have access to communicate with the other talkgroup members. A “Shared with you” talkgroup is owned and shared by another Subscriber Organization so you can communicate with that organization’s talkgroup members.

A talkgroup share can be modified or deleted at any time outside of the previously defined start date, end date and maximum devices.