Iridium Global PTT

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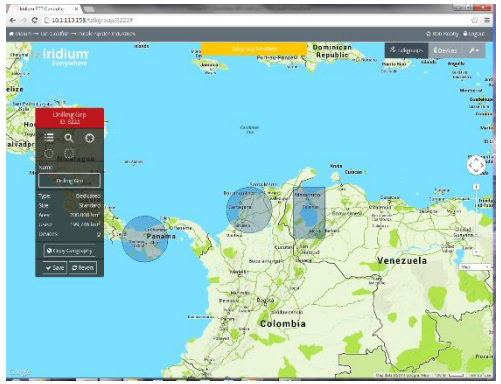
Iridium Global PTT

- Global Push to Talk Voice Service launching in May 2015
- Main features
  - Truly global & secure (AES 256)
  - Low latency (<5s to get channel, <500ms in call
  - Unlimited amount of participants in talkgroups
  - Direct end user management via the Command Center
  - Over the global air provisioning & device control
  - Affordable unlimited airtime plans
  - Interconnectivity with existing PTT via the NI Matrix Iridium PTT



- Hardware
  - 9575 PTT & 9523 PTT core module
  - Docking stations from ASE & Beam
  - NI Matrix
- Beta testing underway

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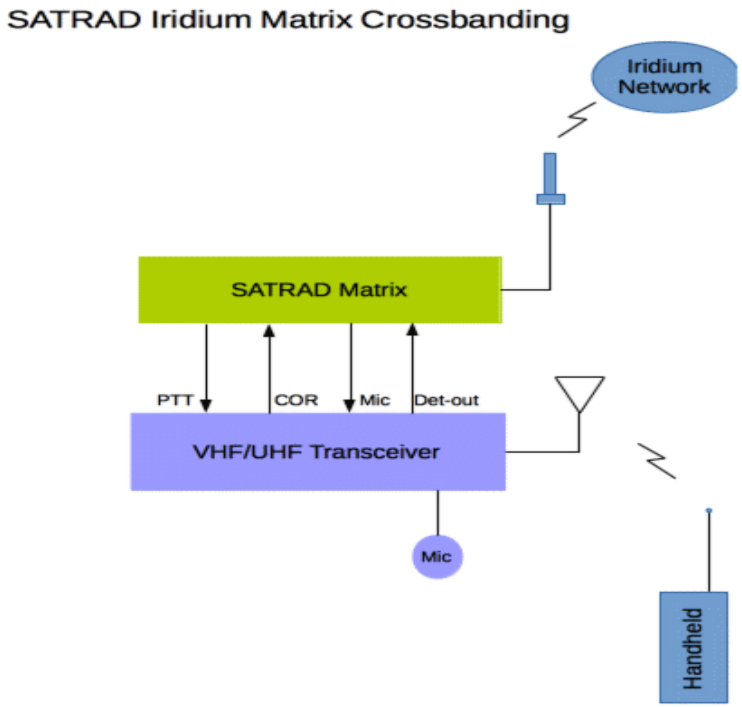
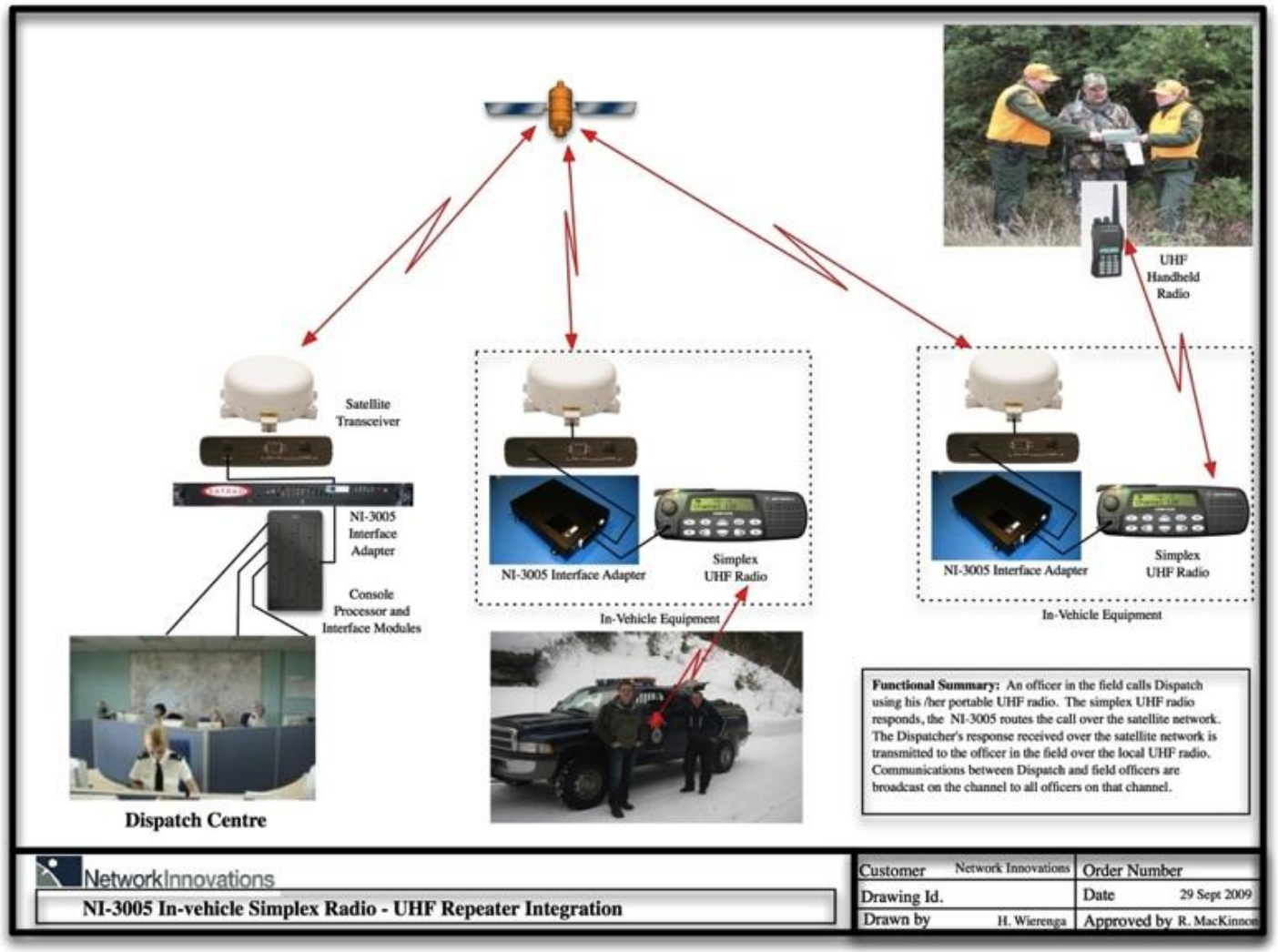
NI Matrix Iridium Global PTT

NI Matrix Iridium Global PTT

- Evolved from the current NI Matrix for MSAT (NI 3005)
- Iridium Global PTT 9523 core module integrated
- To be launched Q2 2015
- Matrix Core offers Interconnectivity with existing PTT networks & tracking
- Matrix Advanced offers customized solutions for interoperability and least cost routing
- Alpha testing in February & Beta testing in March/April



NI Matrix Iridium Global PTT



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Iridium PTT Talkgroups

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Group Communication

Geographic Reach and Diversity	Fast Setup and In-Call Latency	Voice and Data	Unlimited Authorized Participants	Secure Comms
• Anywhere on the Earth • Up to 10 different regions covered per talkgroup	• Button push to talking <5 seconds • Once in call, sub-500ms	• Either type of communication is supported. • Depends on device implementation	• May provision an unlimited number of devices into each talkgroup (>10,000 devices)	• AES-256 encryption is used to ensure the secure provisioning and talkgroup communication.

How is Coverage Provided to Talkgroups?

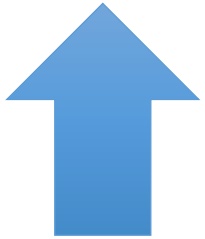
Talkgroups have their coverage defined within the PTT Command Center using circles, squares and rectangles.

The coverage is defined on the ground and not defined by the user based on where beams are or where satellites fly. The coverage is area on the earth.

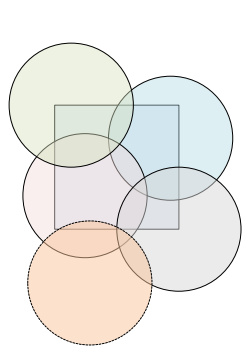
These shapes are covered by channels allocated within one or more beams.

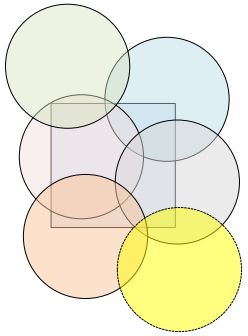
As satellites move North to South or South to North the beams covering the shapes (a.k.a. regions) shift, with leading beams rolling off and trailing beams rolling on.

Additionally, the coverage is provided with many look angles to accommodate many situations including urban canyons, mountainous regions, etc.

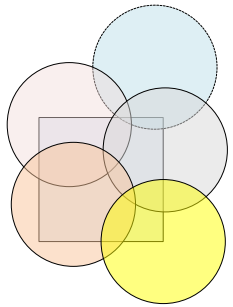


South to North
Satellite Movement



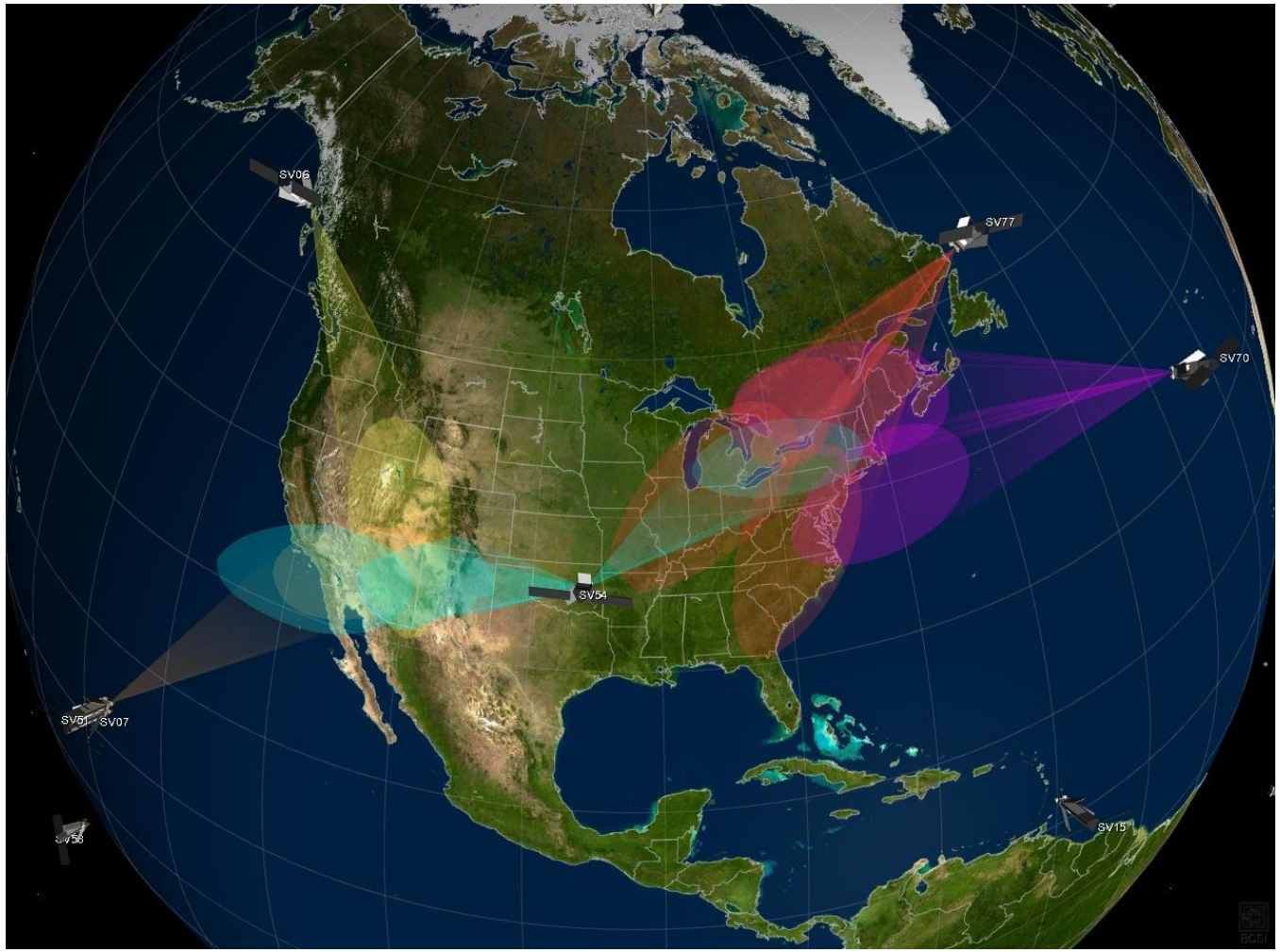


Trailing Beam



Leading Beam

Coverage Example – Arizona, Ontario, DC



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Small Talkgroup: Up to 100,000 km^2

One Region

Three Regions

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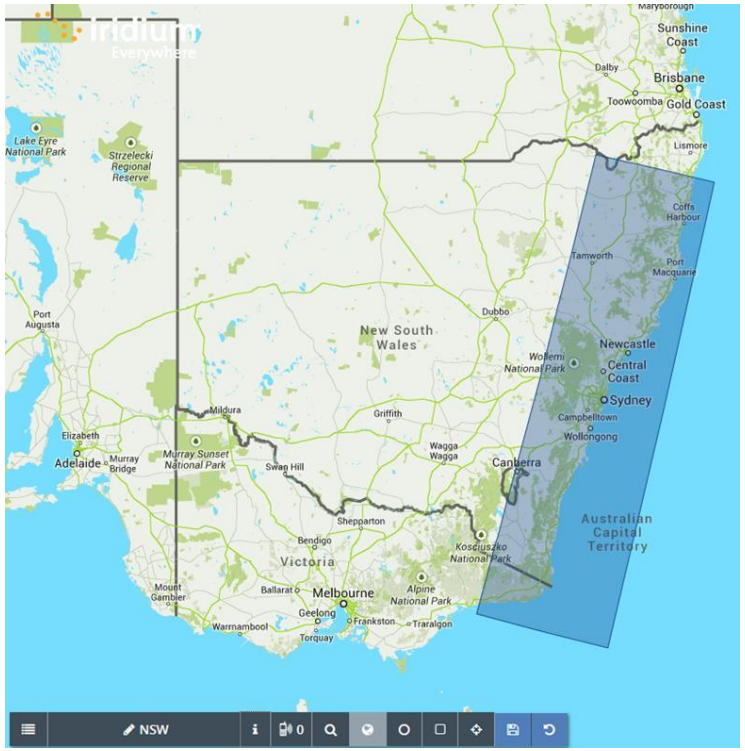
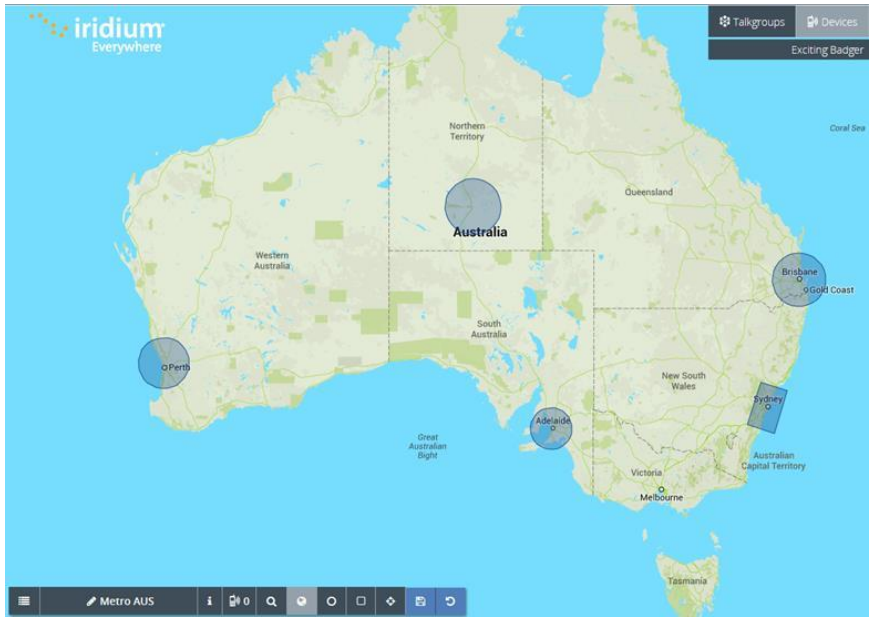
Medium Talkgroup: Up to 300,000 km^2



One Region



Five Regions

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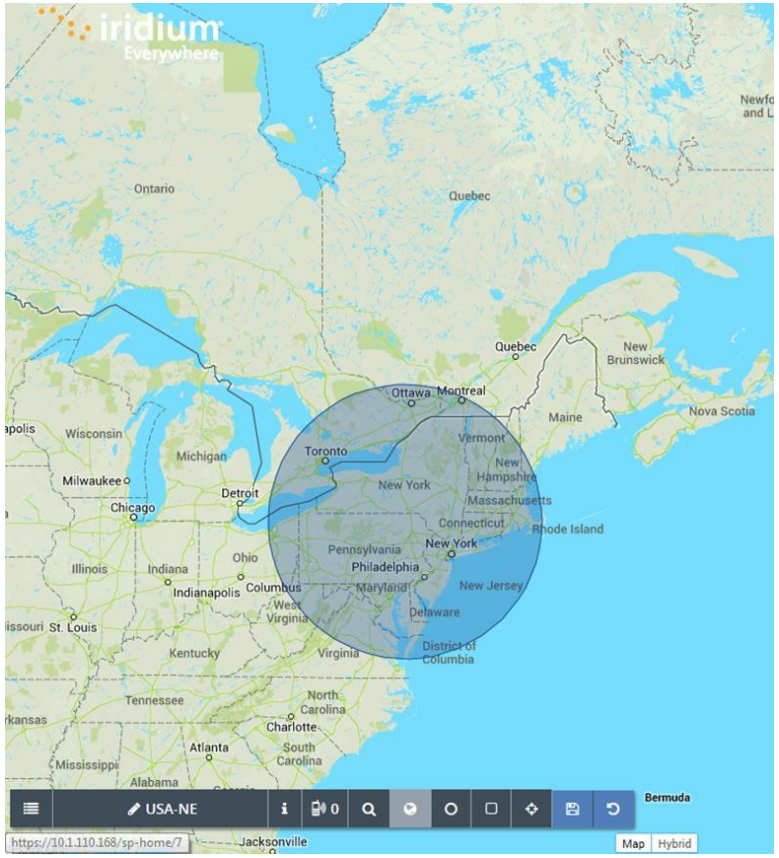
Large Talkgroup: Up to 750,000 km^2



One Region

Ten Regions

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Iridium PTT Management

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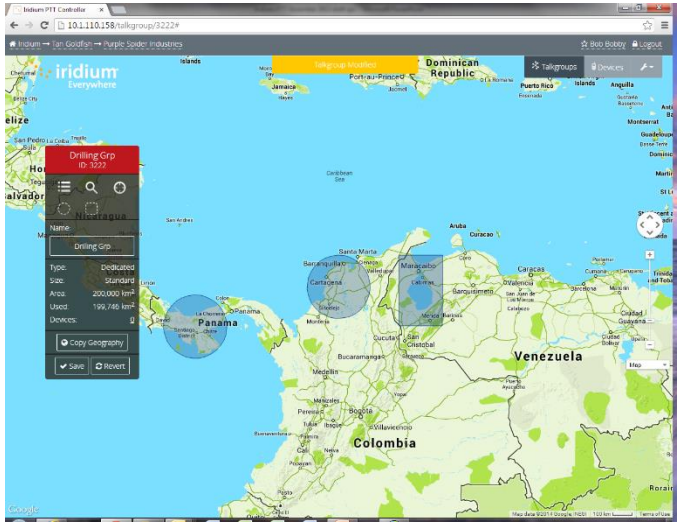
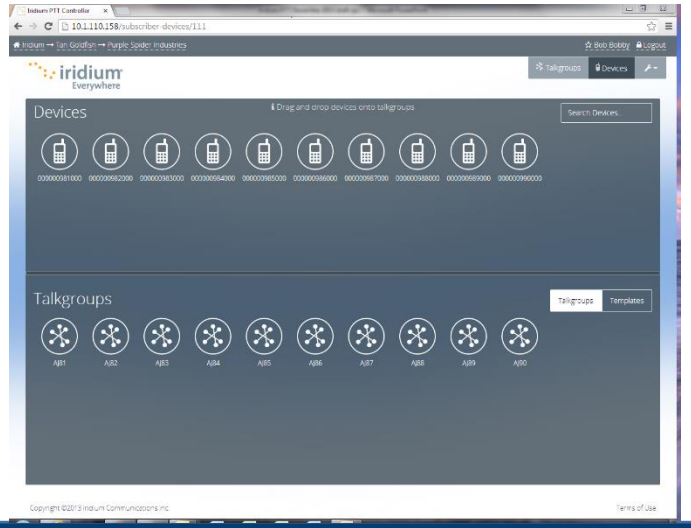
Service Management

Centralized Controls	Direct Management	Over the Air Provisioning	Device Controls	Simple graphical interface
• All service coordination is performed using a single interface.	• End user organizations may control their own service and device parameters.	• Talkgroup areas are changed in seconds. • Changes to device membership is made available within seconds.	• Devices may be suspended or blacklisted within seconds.	• Google maps utilizes in geo displays • Easy drag and drop controls.

The Iridium PTT Command Center





Geographic definition of each talkgroup

- Google Maps interface
- Talk groups are defined by a maximum size of 2.5 M Sq Km
- From one to 10 different geographic areas may be included in a single talkgroup
- Areas are defined on the map by creating circles and rectangles over the area you want to create a group

Subscriber Equipment

- Assign equipment to talk groups through a drag and drop
- Up to 15 talkgroups may be assigned to each Subscriber Equipment

Over the air provisioning to subscriber equipment

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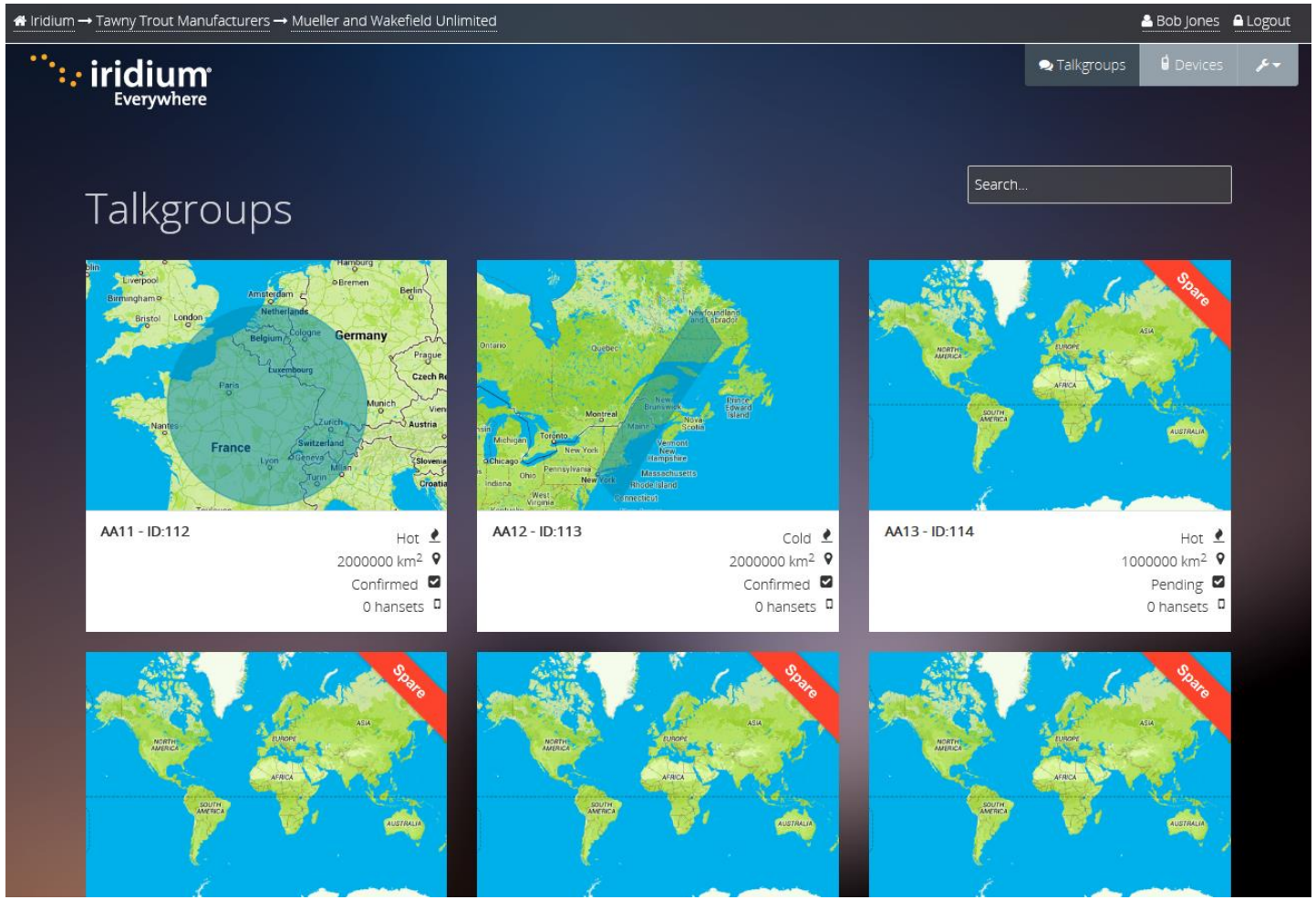
Command Center – Talkgroup Summary



Note: The color treatments and brand representation are not final

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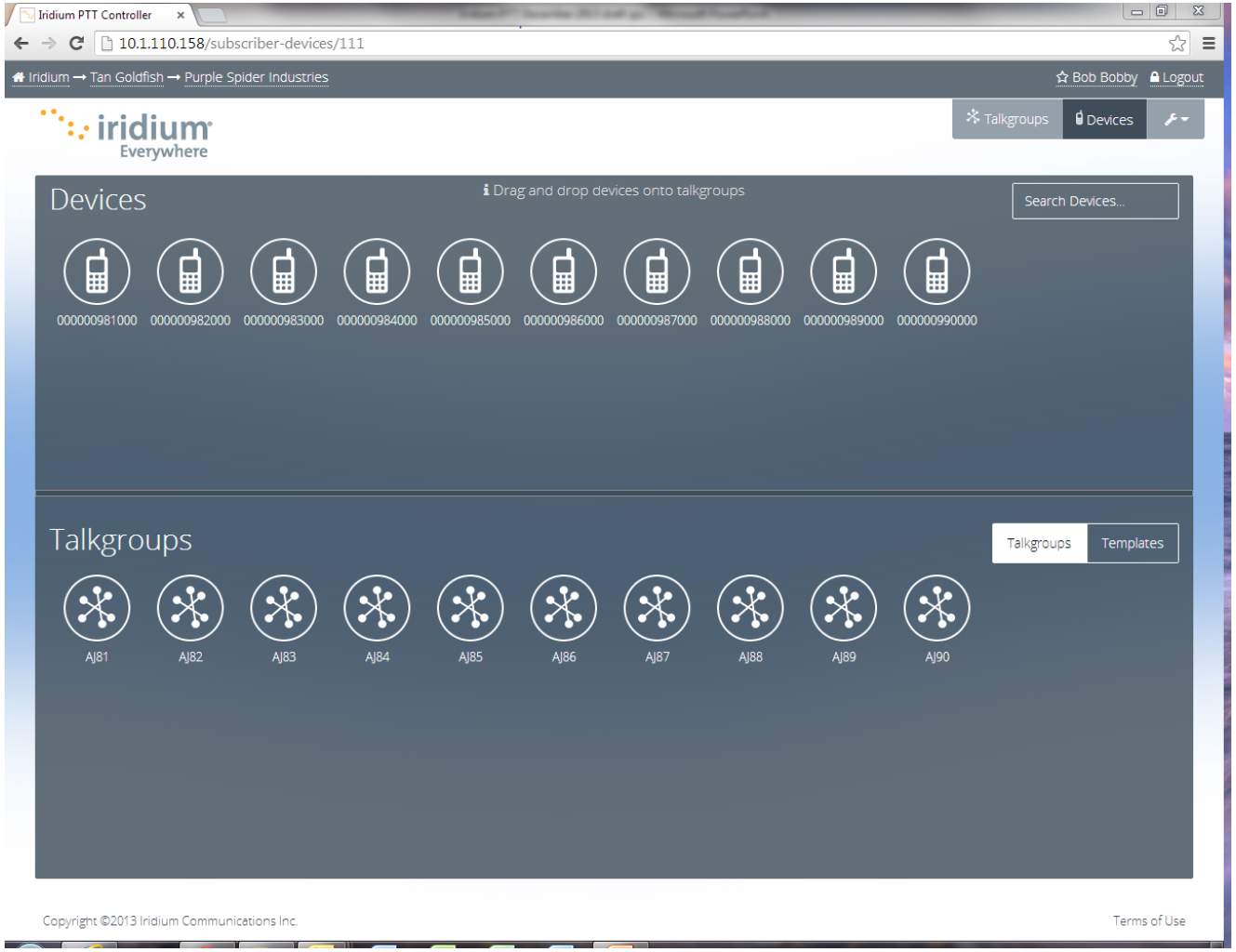
Command Center -- Device/TG Mgmt



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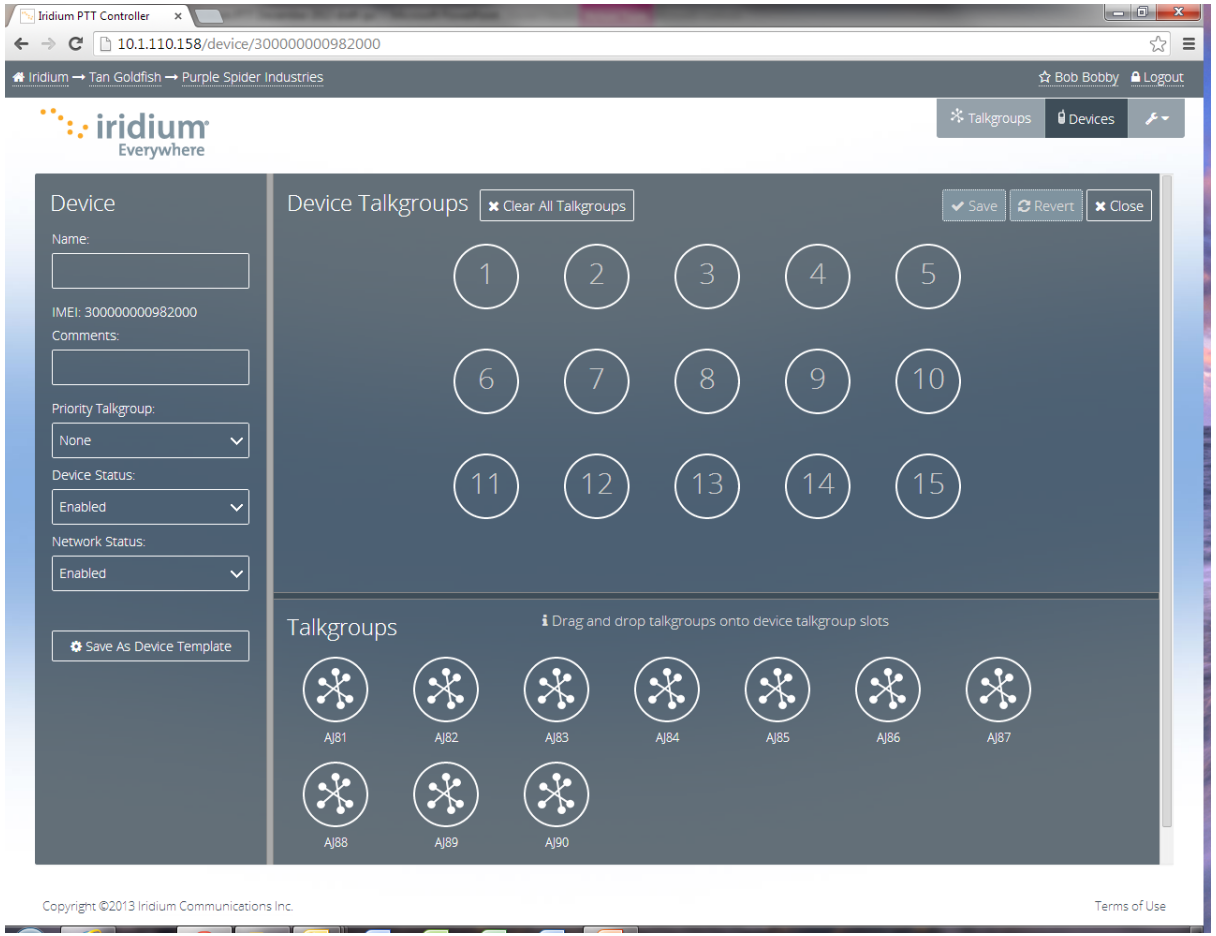
Command Center - Device Detail



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Device Features

Talker and Talkgroup name	Talkgroup Membership	Listener Priority Talkgroup	Talkgroup Monitoring	Global Provisioning
• Talkgroup and talker names may be assigned. • Control of names is within the controller.	• Each device may be a member of up to 15 talkgroups.	• Each device may be assigned a Priority TG that pre-empts all other traffic when active.	• Each device is informed of activities on all talkgroup to which it is a member.	• Device provisioning updates are applied anywhere on the planet regardless of talkgroup areas.

Iridium Extreme® PTT

The Iridium Extreme® PTT is a dual-mode device that supports both the current Iridium Extreme® capabilities (Voice, CSD, SMS, SBD, LBS) AND PTT.

It is a new handset that will be sold alongside the Iridium Extreme®.

- The Telephony side of the phone is SIM-based (SBD is the exception) while the PTT side is IMEI based.
- Hardware Enhancements:
  - Faceplate color (black)
  - PTT marking (below screen)
  - improved speaker and PTT button
- Firmware Changes:
  - PTT firmware
  - Switch to Phone/Switch to PTT
  - Reduced set of languages (EN, FR, ES)
  - SOS/Phone operational in Phone Mode only

This device is hardware and radio identical to the Iridium Extreme® and both devices use the same certifications (FCC, IC, etc.).

Due to changes in the deep layers of the phone, it is not possible to reflash Iridium Extreme® (non-PTT) devices.

Dual Mode Device

Services within the device are activated individually and it is possible to operate the device as a Phone Only or PTT Only device.

The phone side is driven by a SIM card and related service subscription.

The PTT side is driven by the device's IMEI.

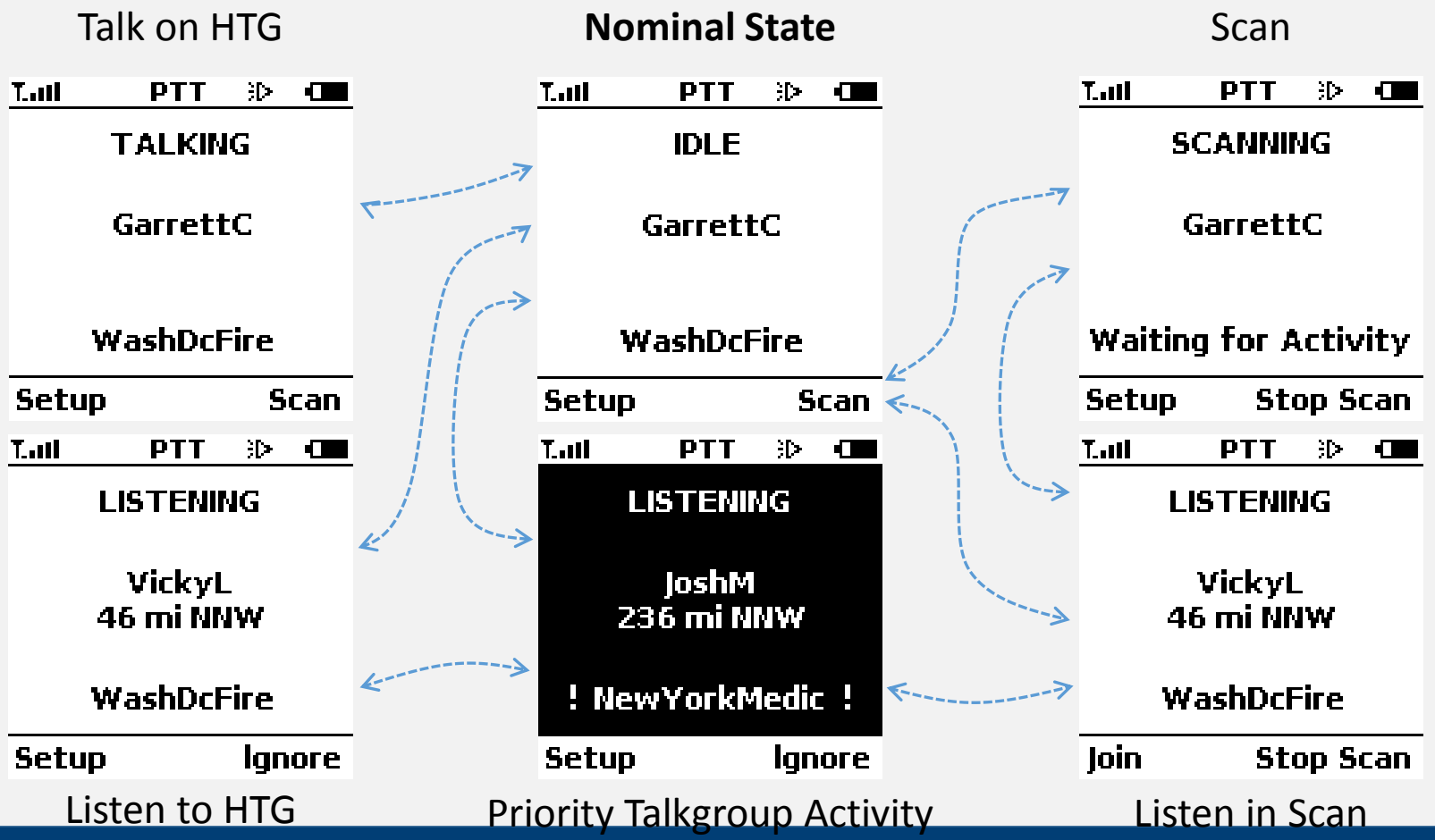
To switch between the two sides of the device, the user selects the first choice in the menu – "Switch to Phone" or "Switch to PTT."

The transition from Phone to PTT is approximately 10 seconds while the transition from PTT to Phone is about 20 seconds.

When in one side of the device, activity that occurs on the other side will not be known to the device user.

- When in PTT mode, any calls into the Phone will be sent automatically to voicemail.
- When in the Phone mode, any PTT activity will go on without notification to the device user.

9575 PTT Interface Activity Detail



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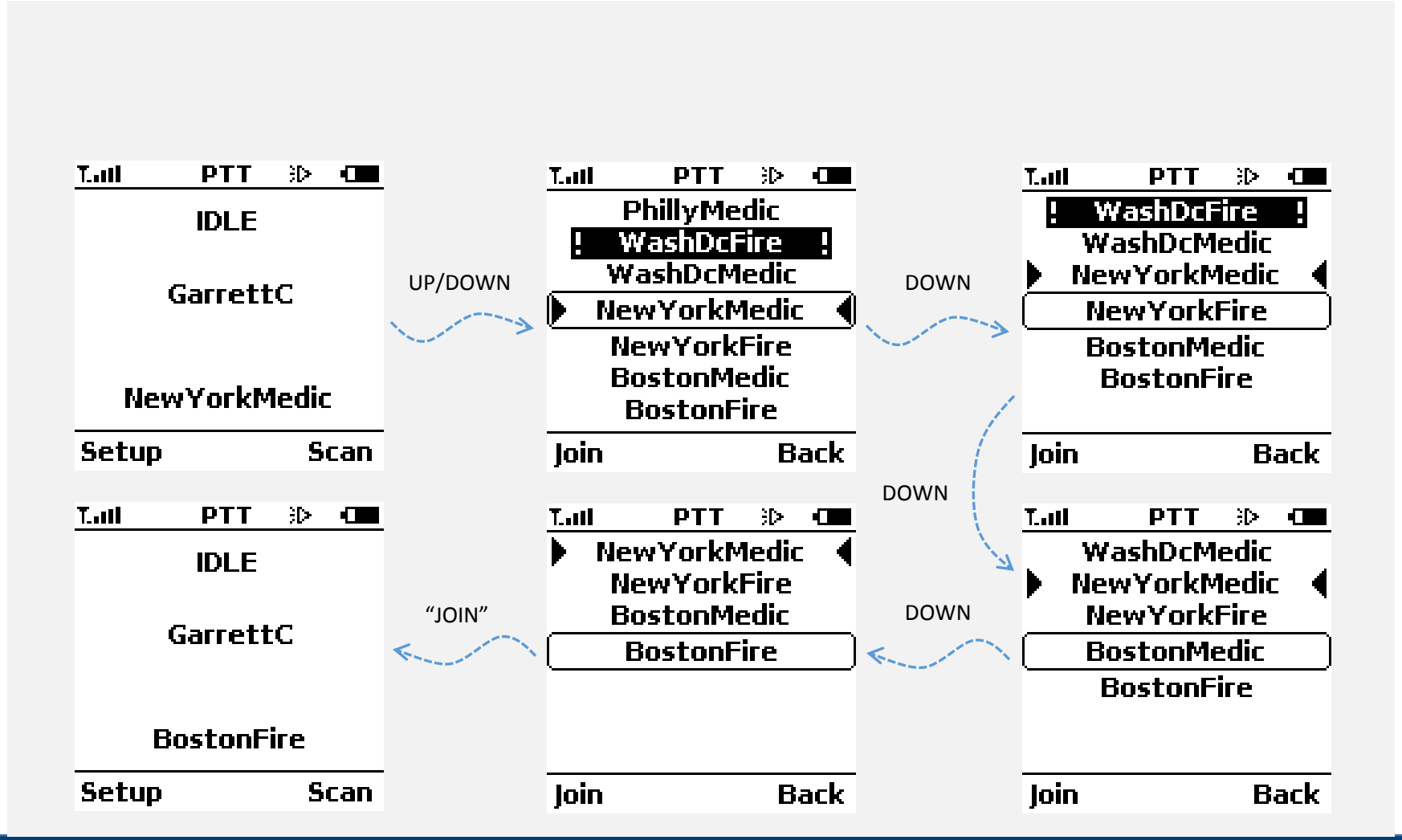
9575 PTT Home Talkgroup Selection



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PTT Menu

In the Setup Menu, the user may perform several different types of activities:

- Switch to Phone – By selecting this choice and confirming, the device will switch from operating as a PTT device to operation as a Phone.
- Refresh Talkgroups – This selection requests that the provisioning information for the device be refreshed, especially the list of talkgroups within which the device is authorized to participate.

PTT Menu (2)

PTT Options

- Talkgroup Timer – The PTT service limits each talker to a maximum of 20 seconds of talk time. If desired the device user may enable, through this menu choice, the Floor Grant Timer that displays the time remaining for the current talk period. The choices are Enabled and Disabled and the default is Disabled.
- Location Sharing – The choices are Enabled and Disabled with the default being Enabled.
- Scan Period– The user may determine how long each active talkgroup is sampled when in Scan Mode. The choices are 5 (factory default), 10 and 15 seconds.
- Distance Format – miles, kilometers
- Auto Keypad Lock – Enabled, Disabled

PTT Menu (3)

Keypad Tones – DTMF Tones, Single Tone, No Tone

Language – English, French or Spanish

Backlight – Off, 5, 10, 15, 20, 30 seconds

Contrast – Using the up and down navigation buttons you may increase or decrease the screen contrast.

Volumes and Tones – The user is given access to the volume settings and may change them here. The experience is the same as when the up or down volume key (left side of the phone) is depressed .

Auto Keypad Lock – Through this menu choice, the user may change between two modes of operation – Auto Keypad Lock On or Off. When the keypad lock is on, the keypad will lock automatically after the unlocked keypad has not been used for 35 seconds.

Iridium PTT Accesories

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PTT Docking Station & PTT Bag Dock

applied satellite engineering

PTT Bag Dock

- Battery powered docking station with external antennas, PTT palm mic and car stereo integration
- Charges the 9575 PTT and dock at same time with iridium wall charger or 12v vehicle charger.
- 12 hour use for both dock and handset
- Intelligent circuits monitor the 9575p and bring dock to life when the phone power is detected
- External antennas keep the PTT connection always online
- Car stereo integration enhances sound

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Drive Docks Extreme – PTT Docking Station

Key Features / Benefits

- Holds 9575 handset securely
- Full Duplex Hands-free Communications
- Inbuilt Bluetooth*
- Charges 9575 handset ready for use
- Integrated antenna connectors
- Supports external GPS antenna connection*
- Mute button*
- Loud ring indication

Location Based Services / SOS*

- Inbuilt GPS Antenna Coupling to support External GPS Antenna
- Supports 9575 Extreme Tracking / SOS
- Manual Track Position on Dock
- Supports External Alert I/O input

Privacy Handset

- Supports optional Beam Privacy handset and other PTT

** Items supported in NON PTT Mode Only*

VOICE

Hands Free

DATA*

Bluetooth*

GPS*

TRACK*

SOS*

PTT corded & cordless solutions