



UTAH COMMUNICATIONS AUTHORITY

KEEPING PUBLIC SAFETY CONNECTED

P25 Cutover Meeting 8-7-2024



Agenda

- Check In
- Review Updated Final Cutover Schedule
- Encryption Behavior and Usage
- Preemption Behavior - Losing Audio
- Emergency Button
- PSAP Equipment and Service Agreement
- Aliases and Serial Numbers
- L3Harris Noise Cancellation Settings
- Non P25 Capable Radios

Agenda (continued)

- Elimination of Lock-Down Channels
- Fleet Map - Talk Groups - Old vs. New
- Backup Radios/Logging Recorders
- BEON
- Site Build Status
- Day of Cutover Process
- Something is Wrong, How Do I Get Help?
- Questions & Answer Session



Final Cutover Schedule

Final Cutover Dates			PSAP Final Cut Visit			Field Programming Staffing				
COUNTY	Final Cutover Start	Final Cutover End	County	PSAP Visit	Date	County	Prg Start	Prg End	Specific Location	
Kane	8/19/2024	8/20/2024	Kane	Kane	8/19/2024	Kane	8/19/2024	8/20/2024	Kane CO SO	
Monitoring Kane	8/21/2024		Monitoring		8/21/2024	Monitoring	8/21/2024			
Garfield	8/22/2024	8/23/2024	Garfield	Garfield	8/22/2024	Garfield	8/22/2024	8/23/2024	Garfield CO SO	
Sevier	8/26/2024	8/27/2024	Sevier	Richfield	8/26/2024	Sevier	8/26/2024	8/27/2024	Richfield Fire	
Piute	8/28/2024		Piute			Piute	8/28/2024			Piute SAR
Wayne	8/28/2024	8/29/2024	Wayne			Wayne	8/28/2024	8/29/2024	Wayne Co SO	
Punchlist	8/30/2024		Punchlist		8/30/2024	Punchlist	8/30/2024			
Punchlist	9/3/2024		Punchlist		9/3/2024	Punchlist	9/3/2024			
San Juan	9/4/2024	9/5/2024	San Juan	Price	9/4/2024	San Juan	9/4/2024	9/5/2024	San Juan EM	
Carbon	9/4/2024	9/5/2024	Carbon			Carbon	9/4/2024	9/5/2024	Price Fire	
Emery	9/6/2024		Emery	Emery	9/6/2024	Emery	9/6/2024			
Grand	9/9/2024	9/10/2024	Grand	Grand	9/9/2024	Grand	9/9/2024	9/10/2024	Grand CO EMS	
Washington	9/11/2024	9/16/2024	Washington	St. George	9/11/2024	Washington	9/11/2024	9/16/2024	TBD	
Iron	9/16/2024	9/17/2024	Iron	Cedar	9/16/2024	Iron	9/16/2024	9/17/2024	IRON SAR	
Beaver	9/18/2024	9/19/2024	Beaver	Beaver	9/18/2024	Beaver	9/18/2024	9/18/2024	Beaver County SO	
							9/19/2024	9/19/2024	Milford EMS	
Millard	9/20/2024		Millard	Millard	9/20/2024	Millard	9/20/2024			
Sanpete	9/23/2024	9/24/2024	Sanpete	Sanpete	9/23/2024	Sanpete	9/23/2024	9/24/2024	Ephraim Fire	
Daggett	9/25/2024	9/26/2024	Daggett	Vernal	9/25/2024	Daggett	9/25/2024	9/26/2024	Daggett CO SO	
Punchlist	9/27/2024		Punchlist			Punchlist	9/27/2024			
Uintah	9/30/2024	10/1/2024	Uintah			Uintah	9/30/2024	10/1/2024	Vernal Uintah Fire	
Duchesne	10/2/2024	10/3/2024	Duchesne			Duchesne	10/2/2024	10/3/2024	Roosevelt Fire/Duchsne Co So	
Summit	10/4/2024	10/7/2024	Summit	Summit	10/4/2024	Summit	10/4/2024		Summit CO SAR	
							10/5/2024	10/7/2024	Summit Public Works	
Wasatch	10/8/2024	10/9/2024	Wasatch	Wasatch	10/8/2024	Wasatch	10/8/2024	10/9/2024	Wasatch Public Works	



Final Cutover Schedule (continued)

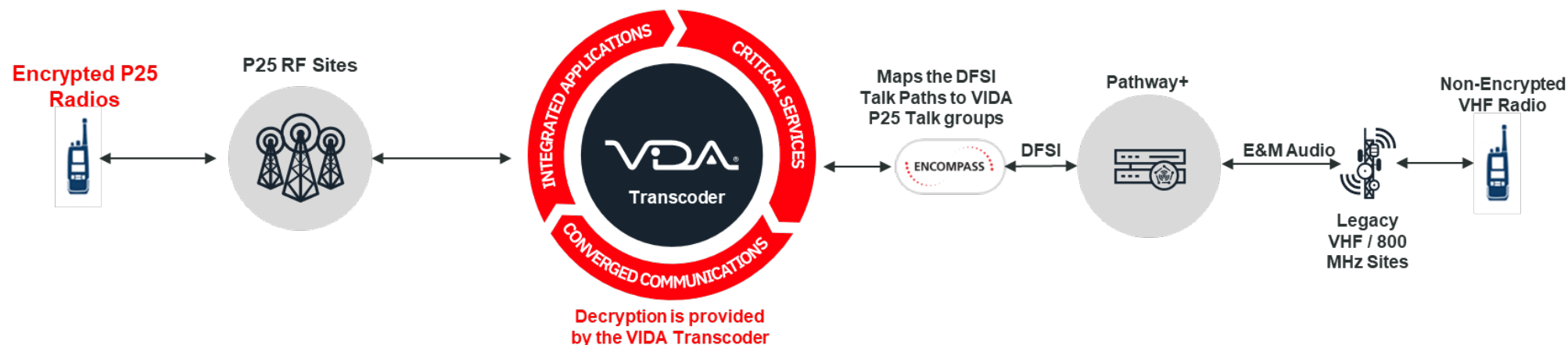
Final Cutover Dates			PSAP Final Cut Visit			Field Programming Staffing			
COUNTY	Final Cutover Start	Final Cutover End	County	PSAP Visit	Date	County	Prg Start	Prg End	Specific Location
Box Elder	10/10/2024	10/11/2024	Box Elder	Box Elder	10/10/2024	Box Elder	10/10/2024	10/10/2024	Box Elder Fire
							10/11/2024	10/11/2024	Tremonton Fire
Tooele	10/14/2024	10/16/2024	Tooele	Tooele	10/14/2024	Tooele	10/14/2024	10/16/2024	Tooele CO Radio Shop
Cache	10/17/2024	10/18/2024	Cache	Logan PD	10/17/2024	Cache	10/17/2024	10/18/2024	Cache Public Works
Rich	10/21/2024	10/22/2024	Rich	Rich	10/21/2024	Rich	10/21/2024	10/22/2024	Mobile
Weber	10/23/2024	10/25/2024	Weber	Weber 911	10/23/2024	Weber	10/23/2024	10/25/2024	Weber County SO SAR
				Weber State PD	No RD Visit		Weber State	10/24/2024	Weber State PD
Morgan	10/25/2024		Morgan				Morgan	10/25/2024	10/25/2024
Davis	10/28/2024	10/31/2024	Davis	Layton	10/28/2024	Davis	10/28/2024	10/28/2024	Layton Fire
				Davis	10/29/2024		10/29/2024	10/30/2025	Davis Co SO
				Bountiful	10/30/2024		10/31/2024	10/31/2024	South Davis Fire
Punchlist	11/1/2024		Punchlist		11/1/2024	Punchlist	11/1/2024		
Juab	11/4/2024	11/5/2024	Juab			Juab	11/4/2024	11/5/2024	Juab CO Fair Grounds
Utah	11/6/2024	11/11/2024	Utah	CU911	11/4/2024	Utah	11/6/2024	11/6/2024	Spanish Fork
							11/7/2024	11/7/2024	UDOT Lehi Shop(Tentativ)
							11/6/2024	11/8/2024	Saratoga Springs
							11/6/2024	11/11/2024	Provo County Shops
							11/8/2024	11/8/2024	BYU Dispatch
11/11/2024	11/11/2024	Springville	11/11/2024	11/11/2024	Springville				
Salt Lake	11/12/2024	11/22/2024	Salt Lake	SLC911	11/12/2024	Salt Lake	11/12/2024	11/14/2024	SLC FIRE Training
							11/14/2024	11/14/2024	UDOT TOC Building
							11/15/2024	11/15/2024	Cottonwood Shed(Tentative)
							11/18/2024	11/18/2024	Murray Shed(Tentative)
							11/19/2024	11/19/2024	West Jordan Shed(Tentative)
							11/20/2024	11/20/2024	Draper Campus(Tentative)
							11/21/2024	11/22/2024	Location
11/21/2024	11/22/2024	DPS Capitol							
11/22/2024	11/22/2024	University of Utah PD							
				SLVECC	11/15/2024				
				DPS Capitol	11/17/2024				
				U of U / AirMed	No RD Visit				

Encryption

- P25 system is able to be encrypted
- Encryption is seamless to the radio user if the radio has been keyed properly
- Keyed radios can play encrypted and unencrypted calls without user interaction
- Unkeyed radios can only play unencrypted calls
- Dispatch choose whether a channel is encrypted or not
- When dispatch patches an encrypted channel with an unencrypted channel the patch is demoted to unencrypted

Encryption Behavior

1. Encryption is the responsibility of each device and is not set by the P25 system
2. The receiving device either has the proper key to decrypt the audio or it doesn't

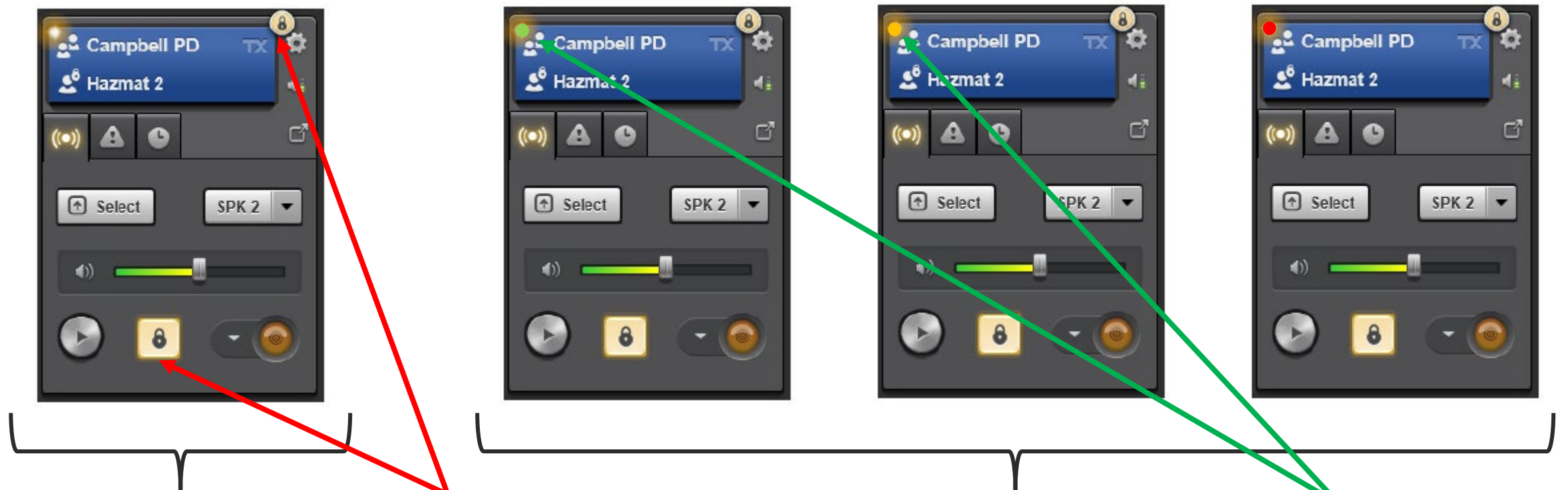


Week of Cutover – Channels will effectively be unencrypted as they are decrypted and sent in the clear to the Legacy 800MHz Moto System




After Cutover – Selected channels will be encrypted per Fleet Map design

Exception: When an encrypted channel is patched to a VHF channel, the audio is decrypted and transmitted over VHF

Console Encryption



Transmit Encryption (Selectable)

-  Encrypted
-  Clear(Unencrypted)
-  Grayed Out (Key Not Loaded)

Only changes the encryption mode for the Console

Receive Encryption

-  Unencrypted Call
 -  Encrypted Call Decoded Successfully
 -  Encrypted Call Unable to Decode
- Audio Is Heard
- Audio Is Not Heard/Garbled

Preemption Behavior

- Consoles are programmed to pre-empt or interrupt an in-progress call on a particular talk group.
- The P25 system will declare one caller to be the winner and one to be the loser. All radios in the system will hear the winner, but Symphony will hear both the winner and loser.
- Logging recorder does not record “losing” audio
- The “losing” audio will be recorded by the symphony console and is available under the call history with a specific icon.

“Losing” Audio

History

UCA

All Calls

Time Site ID

HISTORY

Radio Calls Phone Calls

1 call selected

Search All Calls Show Inbound Show Outbound Show Hidden Calls

Drag a column header here to group by that column

...	CALLER	CALLEE	START TIME	END TIME	SITE	CALL TYPE	SPEAKER	MUTED	SELECT	LOSING AUDIO	ENCRY
	r10s159u1con	64001TUL	11:57:01	11:57:03		Voice	2				
	r10s159u1con	64001TUL	11:56:59	11:56:59		Voice	2				
<input checked="" type="checkbox"/>	U9980003	64001TUL	11:56:57	11:57:05	30-10	Voice	2			•	
	r10s159u1con	64001TUL	11:56:42	11:56:46		Voice	2				
<input checked="" type="checkbox"/>	U9980003	64001TUL	11:56:40	11:56:47	30-10	Voice	2			•	
	U9980003	64001TUL	11:56:33	11:56:34	30-10	Voice	2				
	r10s159u1con	64001TUL	11:55:02	11:55:06		Voice	2				
<input checked="" type="checkbox"/>	U9980003	64001TUL	11:54:59	11:55:07	30-10	Voice	2			•	
	r10s159u1con	64001TUL	11:54:49	11:54:51		Voice	2				
<input checked="" type="checkbox"/>	U9980003	64001TUL	11:54:48	11:54:52	30-10	Voice	2			•	





Details CallBack

1/1 U9980003, 64001TUL 0:0/0:6

CALLER U9980003
 CALLEE 64001TUL
 START Today, 11:56:57
 END Today, 11:57:05

P25 - Emergency Button (10-33)

- Motorola and L3H have different philosophies/behavior when clearing emergencies

Manufacturer	Model	Behavior
L3H	Symphony Console (PSAPs and Some Dispatch Centers) 	<ul style="list-style-type: none"> • Declare Emergency • Clear Emergency
Motorola	Scout Console (Some Dispatch Centers) 	<ul style="list-style-type: none"> • No Declare Emergency • No Clear Emergency
L3H	Radios 	<ul style="list-style-type: none"> • Declare Emergency • Menu Clear • Hold Down the E-button Clear • Turn Off Radio Clear
Motorola	Radios 	<ul style="list-style-type: none"> • Declare Emergency • Hold Down the E-button Clear • Turn Off Radio Clear

****Potential Issue**** – Motorola Radio in field, Motorola Scout Console at a Dispatch center, radios must be specifically programmed to clear emergencies for the talk groups the dispatch center manages

PSAP Agreement

- Purpose
- Consoles
 - Ownership
 - Allocation
 - Peripherals
- Support
 - Included vs. Additional Support
- VHF Resources/Pathway + Gateways
 - Ownership



Aliases and Serial Numbers

- Alias Delivery to PSAP Consoles
 - Potential for Delay in PSAP Data
 - Information Gathering
 - Updating
- Radio shuffling
 - ID accuracy/inaccuracy
 - Added agency radios



L3Harris Noise Cancellation

The new Harris radios have a feature that does noise cancellation and echo reduction voice announcement, these features seem to be causing low audio transmissions. The radios are programmed for you to be able to turn these features off from the radio maintenance. Turning these features to Disabled seems to be fixing the audio issue most have seemed to express.

To adjust these audio settings, you can do the following.

From the Radio Screen:

- Press the center button between the arrows
 - o scroll over to the gear
 - select gear with center button between the two arrows.
- Scroll up/down to Audio Settings
 - o Scroll to Noise Cancellation
 - Adjust to Disabled by selecting the center button between the two arrows changing to Disabled.

Repeat this action for the Voice Announcement

- Scroll up/down to Audio Settings
 - o Scroll to Voice Announcement
 - Adjust to Disabled by selecting the center button between the two arrows changing to Disabled.



Non P25 Capable Radios

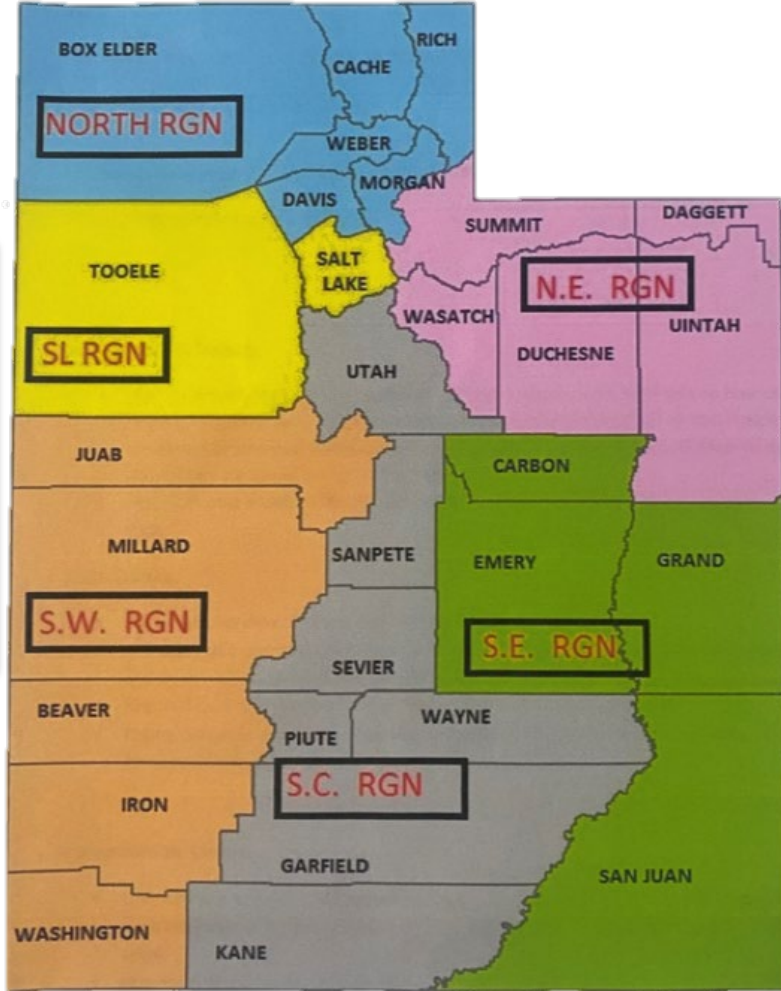
- All radios must be P25 Phase I or II compatible
[Utah Communications Authority \(uca911.org\)](http://uca911.org)
- UCA does not update or upgrade radios to P25
- Agencies must assure that their radios have been upgraded
 - Each radio is different
 - Each radio must be checked
 - Agencies must work with their vendor prior to cutover to update as needed
- Any radio on the day of programming that is not P25 compatible will **NOT** be programmed.

NEW REGIONAL CALL TALK GROUPS



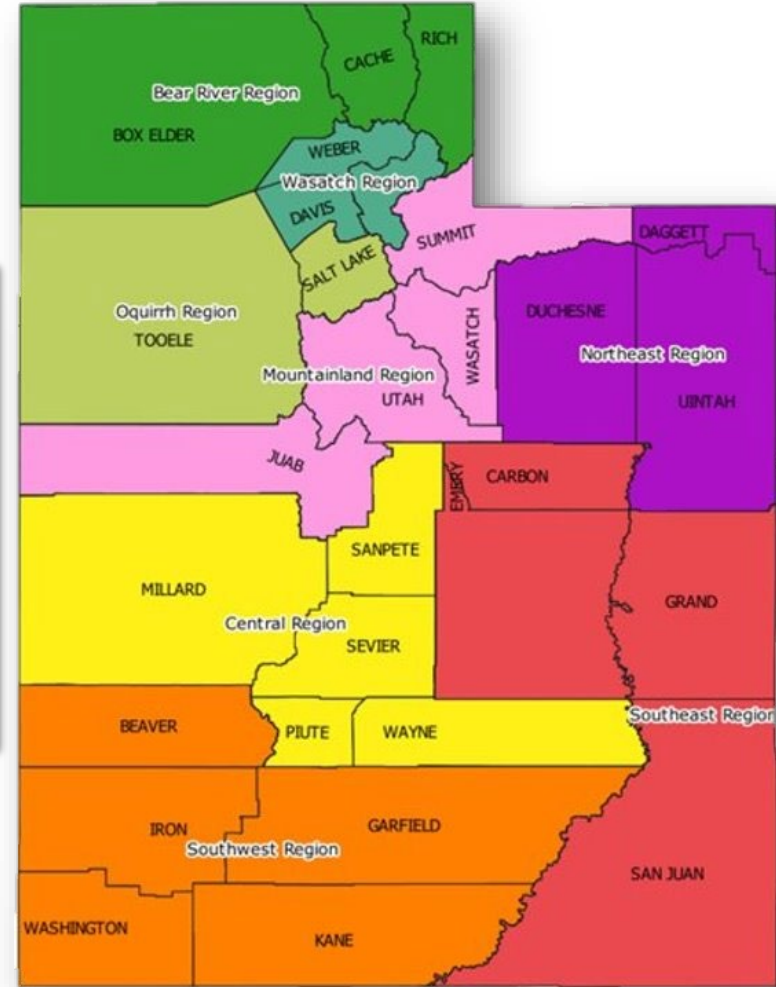
Old Regional

- NORTH RGN
- SL RGN
- NE RGN
- SW RGN
- NE RGN
- SE RGN
- SC RGN



New Call

- BEAR RIVER
- WASATCH
- OQUIRRH
- NORTHEAST
- MOUNTAINLAND
- CENTRAL
- SOUTHEAST
- SOUTHWEST



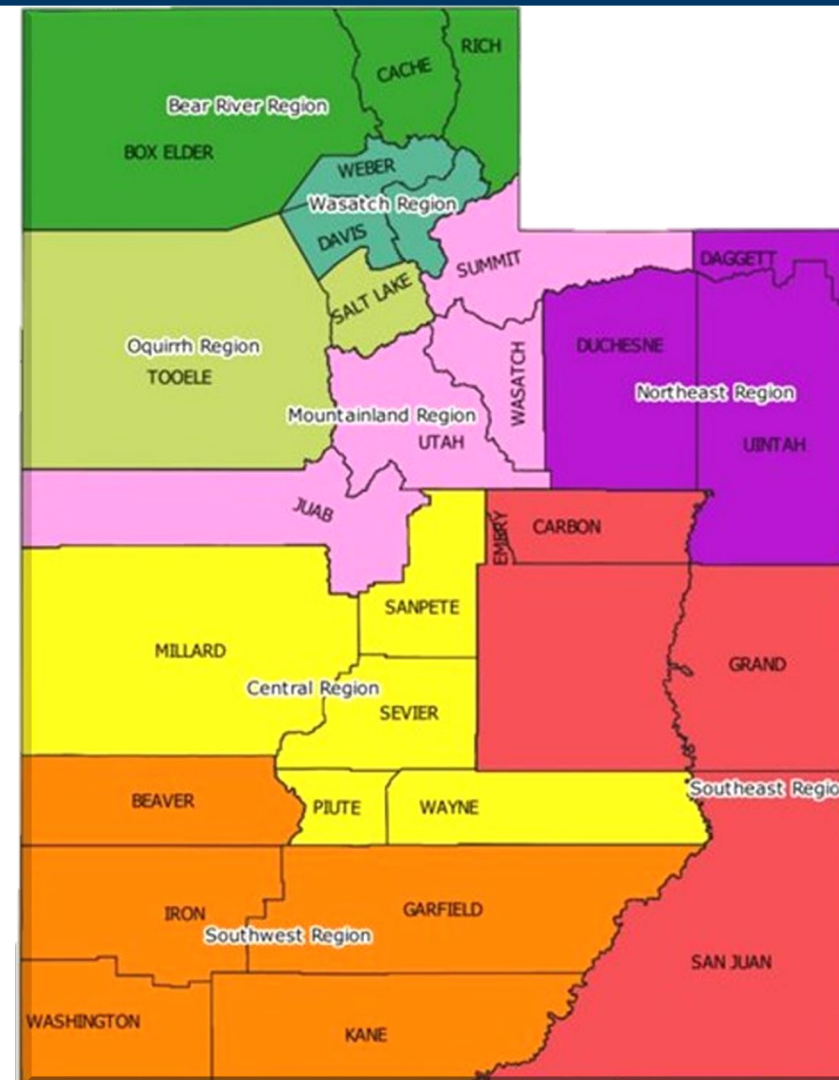
Call Talk Groups

These are Regionalized Talk Groups designated for agencies to interoperate with each other on a temporary basis.

An example of this would be if an EMS in one county needs to talk to a PD from a different county.

Another example would be a local event that doesn't need to be handled on a main dispatch Talk Group.

This should be coordinated via dispatch.



TAC Talk Groups

- BEAR RIVER**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

- WASATCH FRONT**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

- OQUIRRH**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

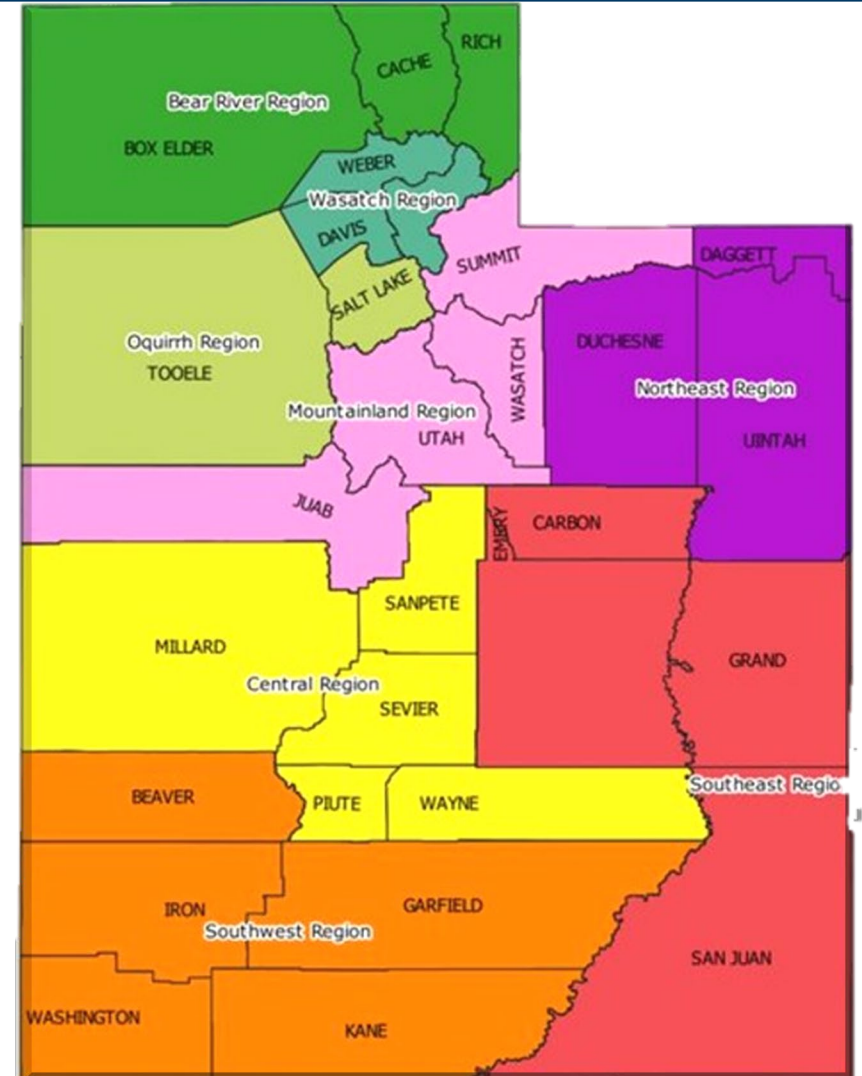
- MOUNTAINLAND**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

- NORTHEAST**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

- CENTRAL**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

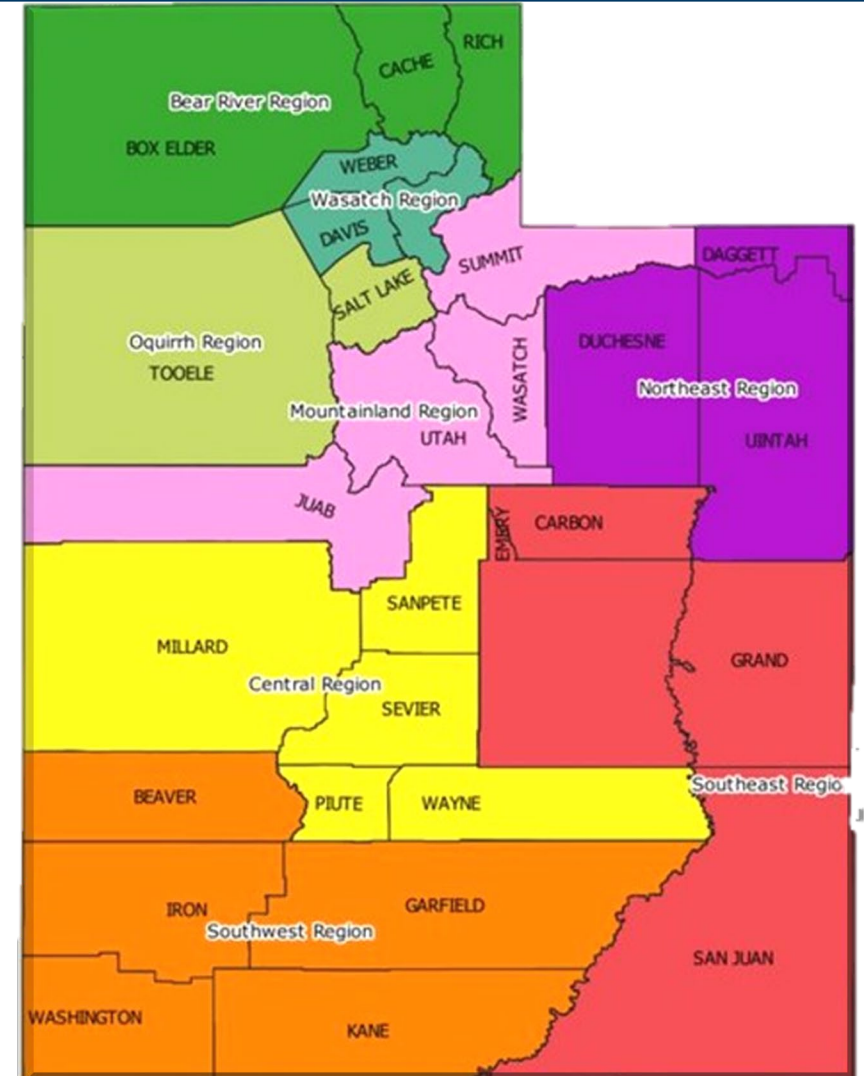
- SOUTHWEST**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5

- SOUTHEAST**
- TAC 1
 - TAC2
 - TAC3
 - TAC4
 - TAC5



Other Talk Group Changes

- EVENTS- COUNTY INTEROPERABILITY
- OPS – PSAP or AGENCY INTEROPERABILITY
- LAW – PSAP or AGENCY SPECIFIC
- FIRE – PSAP or AGENCY SPECIFIC
- C2C – AGENCY and DISCIPLINE SPECIFIC
- SPECIALTY – AGENCY SPECIFIC
 - SWAT
 - DRUG
 - NARC
 - TASKFORCE



Elimination of lockdown channels

- P25 radios avoid the use of any site that has disconnected from the radio core and will prefer any core connected sites within range
- P25 sites that disconnect from the radio core still continue to trunk locally
- P25 Simulcast Sites are programmed to go dark when disconnected from the radio core with one exception Sardine Simulcast
- Lockdown channels are not needed for areas where there is redundant coverage, and areas where there is not redundant coverage there is only one site available. Radios will affiliate with that site as a last-ditch effort regardless of whether it is connected to the radio core




Backup Radios

- 4 Options Presented in January
- Melanie Crittenden collected decision
- Backup Solution Should be Installed by PSAP prior to Cutover
- If needed UCA will program Backup/Logging Recorder Radios as the final step in Cutover


Option 1
(UCA/L3H/Radio Owner Supported)
Use VHF/800 Conv resources attached to the UCA network

- UCA network is the "Backup"
 - UCA is adding a 2nd connection to the radio core if your PSAP doesn't already have one
- Tone Remote and Relay Keying are supported (mountain top radios over T1 lines)
- Channel Steering – Channels are selectable via a [drop down](#) menu on the console screen
- Motorola, Kenwood and other 4 wire radios can interface to the Pathway+
- It is pointless to connect a backup only radio via option 1




Option 2
(L3H/Radio Owner Supported)
Advanced Radio Backup – "ABR" connected to back of console

- L3 Harris XL Mobile Radios **Only**
- P25 Channels **ARE** selectable from console screen, restores P25 dispatching for the console
- VHF/800 Conv channels are **NOT** selectable from the console screen
- WORKAROUND: Locate a mobile radio and/or display head at the console position
 - Today
 - Switch the channel to VHF/800 Conv on the display head
 - Channel drop down menu stops working
 - Key radio with headset or desk mic
 - Switch back to a P25 channel when done using VHF/800
 - The console resumes normal operation
 - Tomorrow - ?




Option 3
(L3H/Radio Owner Supported)
Mobile Radio connected to back of console

- Motorola, Kenwood and other 4 wire radios can interface to the back of the console
- Switch is flipped on the front side of the console from Auto to Manual to use backup radio
- Console Headset, Desk Mic, Speakers will then key the radio
- Console screen cannot control the channel of the radio
- The rest of the console is disabled while using the backup radio
- Console resumes normal operation when the switch is flipped back to auto



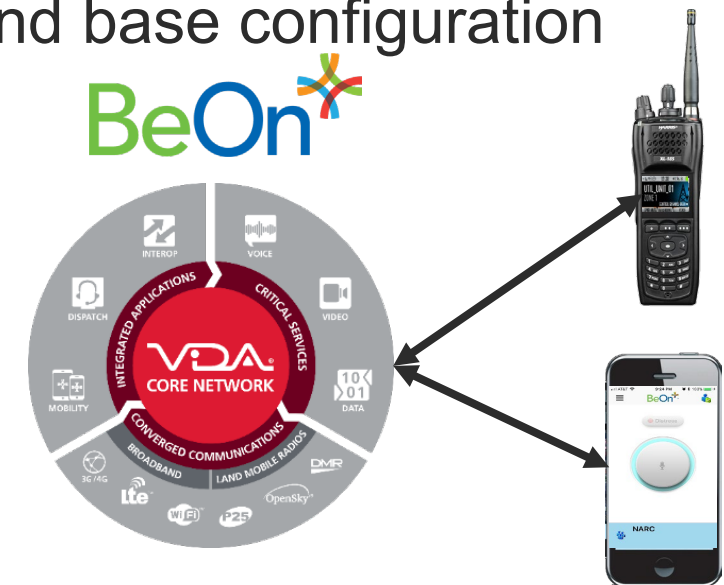
Option 4
(Radio Owner Supported)
Stand alone multiband radio located at console position

- Not connected in any way to the console
- Use a mobile radio or display head located at the console position to access P25 and VHF/800 Conventional channels
- Motorola or Kenwood P25 radios can be used.
- Separate speaker and mic needed for stand alone radio



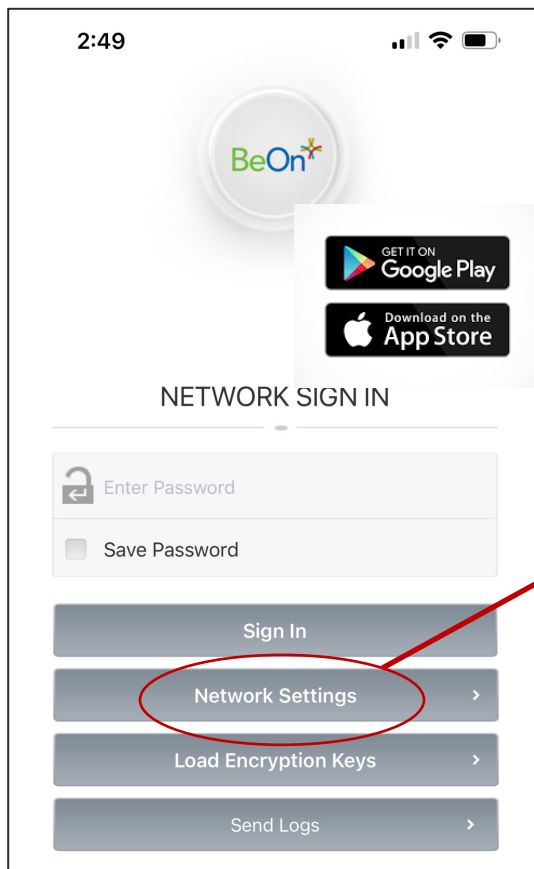
BeOn

- BeOn Phone/PC
 - UCA Previously Collected User Information
 - User IDs and Passwords are planned to be available at time of cutover in your area
- BeOn Radio
 - LTE/WiFi requires additional programming beyond base configuration
 - BeOn Programming Support Available Q1 2025



BeOn Phone Configuration

- 1** Download BeOn PTT APP
- Android, iPhone - App Store
 - Windows – See UCA



- 2** Credentials at Demo Desk
- Today - Test Credentials
 - Today - Sign up for permanent account

Paper Slip

Alias: UCA_BeOn_AC1

User ID: 10 998 82

WACN: 599335

LAS1:

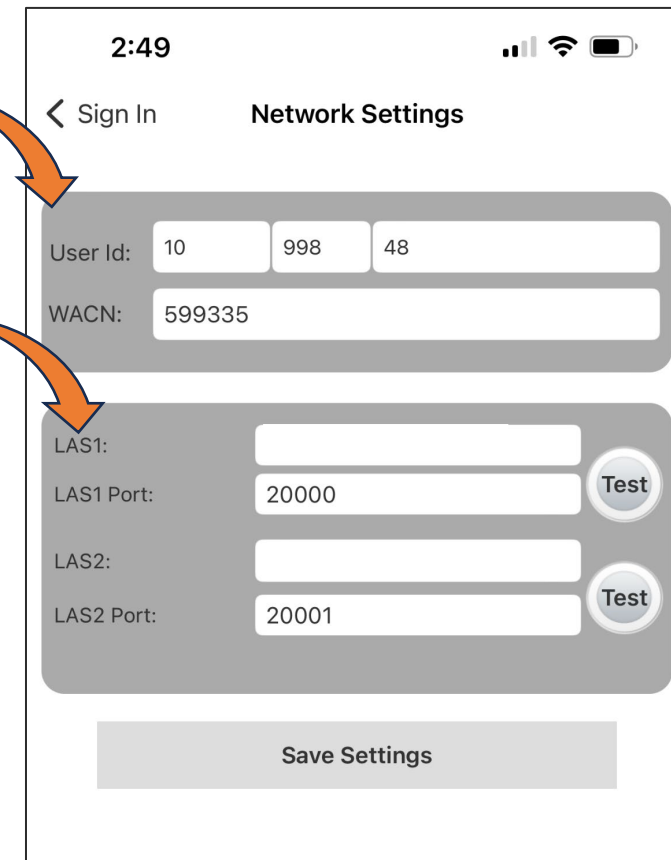
LAS1 PORT: 20000

LAS2:

LAS2 PORT: 20001

WILL BE DISABLED BEFORE FINAL CUTOVER

- 3** Configure Application
- Enter data from paper slip into Network Settings



2:49

Sign In Network Settings

User Id: 10 998 48

WACN: 599335

LAS1: Test

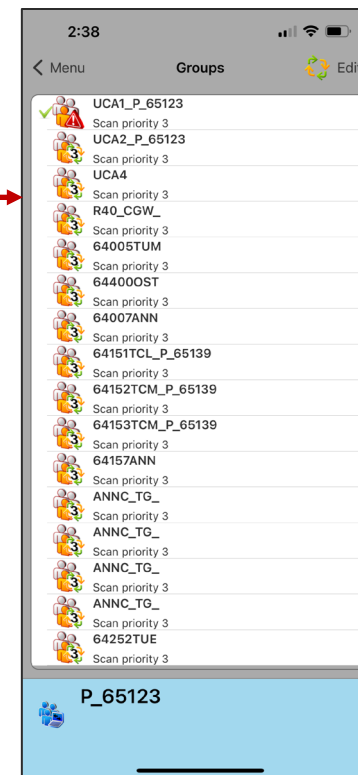
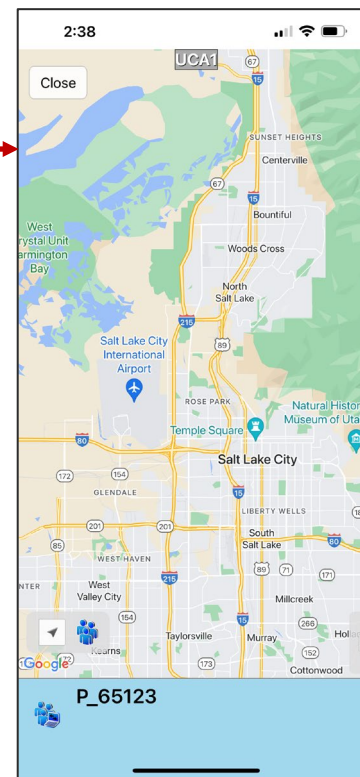
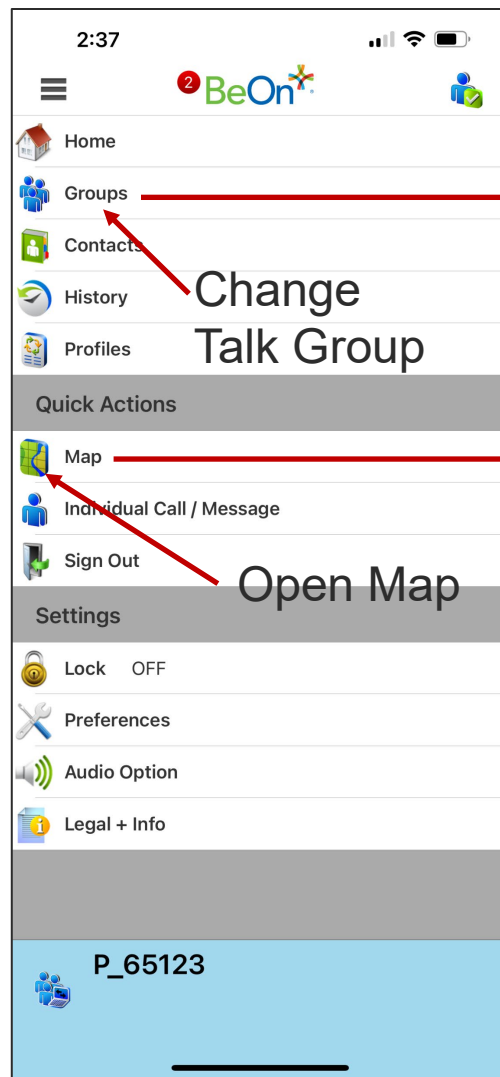
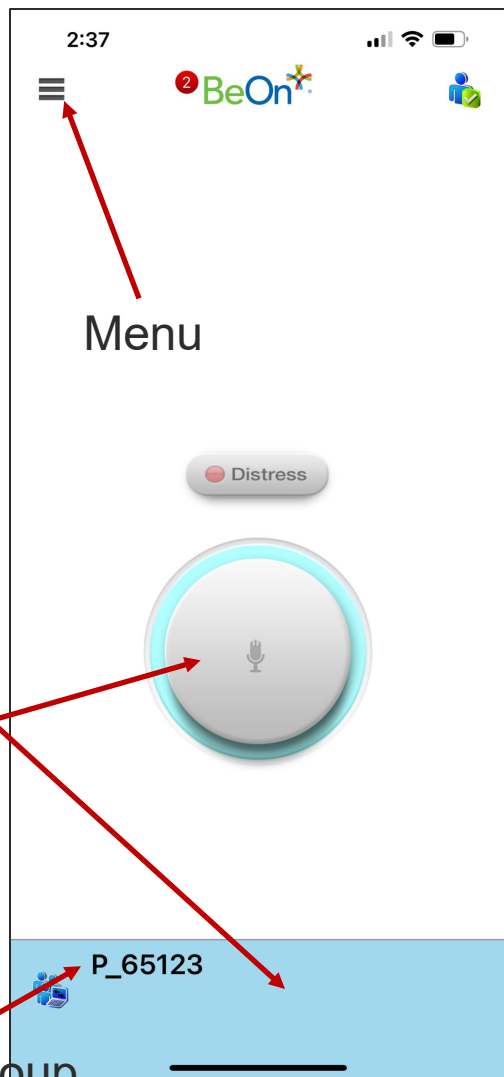
LAS1 Port: 20000

LAS2: Test

LAS2 Port: 20001

Save Settings

BeOn Phone Use Overview



Expansion Sites – 23 of 25 Completed



- Argyle – Duchesne
- Book Cliffs – Grand
- Brian Head – Iron
- Castle Gate – Carbon
- Cedar Mesa – San Juan
- Cole Mountain Ranch – Sevier
- Copper Ridge – Garfield
- Dugway – Tooele
- East Park – Daggett
- Emery Moore – Emery
- Goslin – Daggett
- Hanksville – Wayne
- Horn – Emery
- Ibapah – Tooele
- Liberty – Weber
- Mountain Home – Beaver
- Navajo Mtn Clinic – San Juan
- Price – Carbon
- Roosevelt Hill – Duchesne
- Rudd's Roost – Iron
- Top of Rocks – Garfield
- Salina Rodeo Grounds – Sevier
- South Creek – Garfield

Expansion Sites – At a Glance 2024



Expansion Sites – Cont.

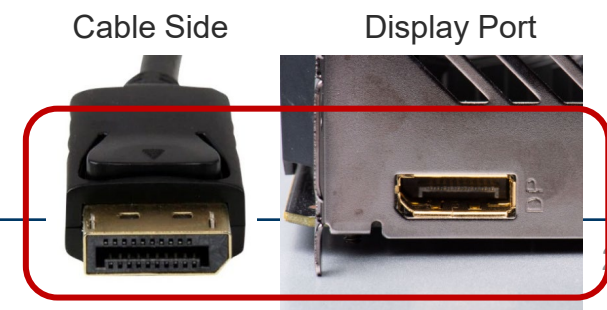


- Only two sites remain and are scheduled to be completed by cutover
 - Notch Peak in Millard County
 - Robin’s Lake in Sevier County



Day of cutover process

1. Interop gateway connects primary talk groups between P25 and Legacy 800 trunked radio
 - Testing Day Prior
 - UCA will activate programming IDs from Soft Cut
2. PSAP Start Time 8:00am
 - Daily Standup 8:00-8:15am
 - *PSAP* IT/Radio Staff need to be present on day of cutover
3. Programming at field location commences (generally 8:00am, however check schedule)
4. New consoles are brought online
 - UCA is providing initial set of Monitors, Keyboards, Mice
 - *PSAP* If you are using PSAP owned monitors then it's the responsibility of the PSAP to have cables or adapters to connect to a Display Port onsite at cutover
5. Some dispatchers move to Symphony Consoles
 - Radio Arbitration/Call Director will move with each position being transitioned to Symphony
6. VHF Resources Roll to P25 System
7. Remaining dispatchers move to Symphony consoles
8. Legacy Consoles are Boxed up and set aside
 - *PSAP* Need a person present responsible for packing up legacy console
9. UCA Programs Backup Radios and Recorder Radios
 - *PSAP* Change Naming in Local Recorder (vendor/PSAP)
 - Connection to Recorder (Vendor/PSAP)
 - Statewide Recorder only Primary Law and Fire
10. End of Day Meeting 4:00-4:30pm



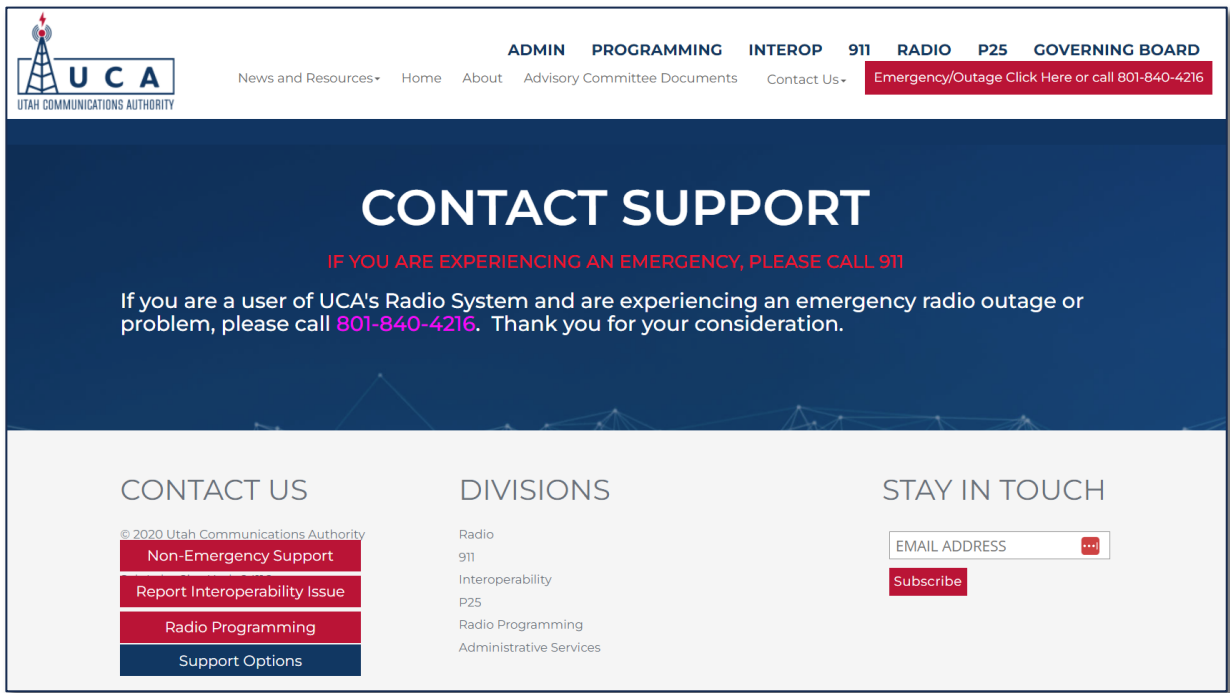
Something is wrong, How do I get help?

- If you experience a problem, there are two ways to get support. DO NOT reach out to UCA management. Any issues MUST go through these two channels to be properly logged and dispatched.

1. For **24/7 URGENT** Issues:
Call **801-840-4216** to reach the UCA on-call technician.

OR

2. For **NON-URGENT** issues go to the UCA support page at:
www.uca911.org/Page-on-Call-Tech
and report the issue through the online form.

A screenshot of the UCA website's 'CONTACT SUPPORT' page. The page has a dark blue header with the UCA logo on the left and navigation links (ADMIN, PROGRAMMING, INTEROP, 911, RADIO, P25, GOVERNING BOARD) on the right. A red banner in the top right corner reads 'Emergency/Outage Click Here or call 801-840-4216'. The main content area is dark blue with the title 'CONTACT SUPPORT' in white. Below the title, a red line of text says 'IF YOU ARE EXPERIENCING AN EMERGENCY, PLEASE CALL 911'. A white text block follows: 'If you are a user of UCA's Radio System and are experiencing an emergency radio outage or problem, please call 801-840-4216. Thank you for your consideration.' The bottom section is light gray and contains three columns: 'CONTACT US' with buttons for 'Non-Emergency Support', 'Report Interoperability Issue', 'Radio Programming', and 'Support Options'; 'DIVISIONS' with a list of Radio, 911, Interoperability, P25, Radio Programming, and Administrative Services; and 'STAY IN TOUCH' with an email address input field and a 'Subscribe' button.

What's Next & Questions?

- Requesting 30-minute meeting individually with your PSAP
 - **Who:** UCA + Chiefs + PSAP leadership
 - **When:** See invite from Melanie Crittenden
 - **Topics:**
 - PSAP Specific Talk Groups
 - PSAP Specific VHF Channels and Progress
 - PSAP Specific Remaining Items
 - Advanced Backup Radio Configuration
 - Recorders
 - Punchlist
 - Belt Clips
 - Additional Foot pedals
- Questions?