

Various Aspects of **RepeaterBook.com** and Best Practices For Programming Your Radio

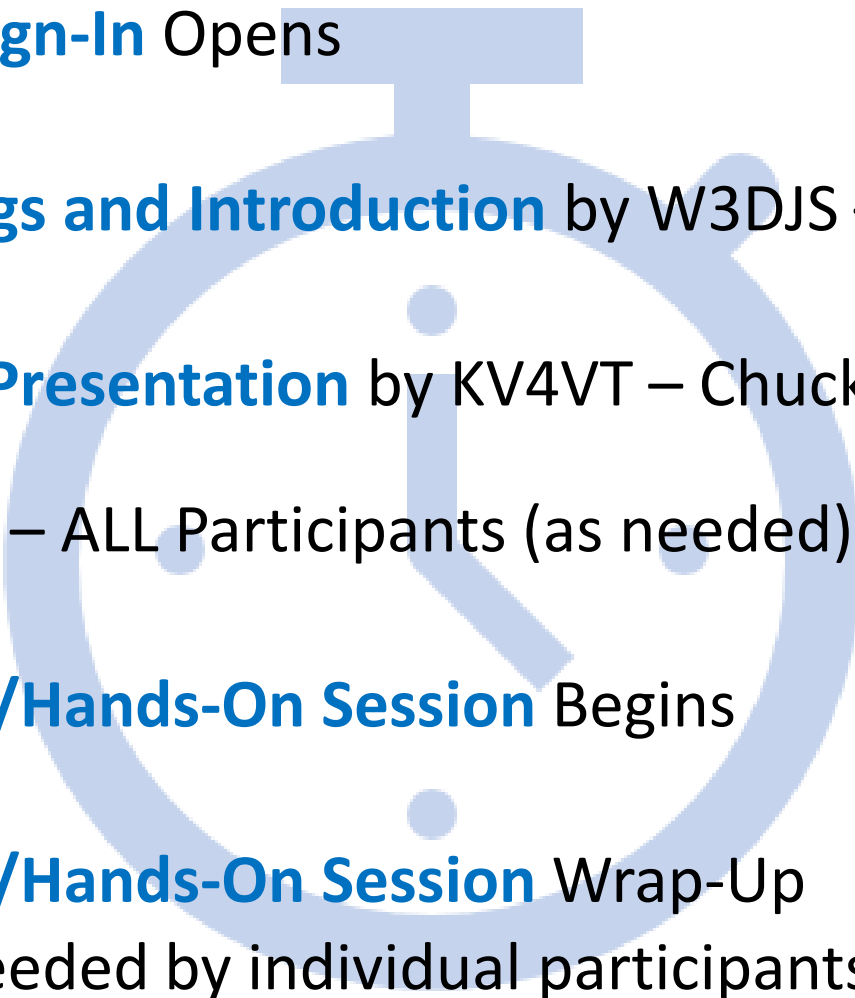
KV4VT – Chuck Adams – GA RB Administrator

GARS Monthly Workshop

7:00 PM Tuesday 15 September 2020

Presented via Zoom.com


Estimated Workshop Timeline

- 
- 6:45 PM **Zoom Sign-In** Opens
- 7:00 PM **Greetings and Introduction** by W3DJS – David Slotter
- 7:05 PM **Kickoff Presentation** by KV4VT – Chuck Adams
- 7:30 PM **Q&A #1** – ALL Participants (as needed)
- 7:45 PM **How-To/Hands-On Session** Begins
- 8:30 PM **How-To/Hands-On Session** Wrap-Up
(or as needed by individual participants)

Suggested Zoom Settings



Please...

- Mute your microphone until you have a verbal comment to add, in order to help reduce ambient and background noise
- Click  in the upper right corner of your Zoom screen and then select:
 - ✓ **Standard**
 - ✓ **Full Screen**

For the best viewing experience for this PowerPoint presentation

Suggested Zoom Settings

Please...

- Use the **Chat** button to submit written questions or comments to the group
- **W3DJS** – Dave Slotter will collect and read them at appropriate points along the way as the workshop ensues

Are we recording this on Zoom now, Dave?

- **Lights! Camera! Action!**

Kickoff Presentation Agenda

- Introduction
- RepeaterBook.com (**RB**) Background & History
- Worldwide **RB** Statistics
- **GA RB** Statistics
- **RB** Database Elements

Kickoff Presentation Agenda

- 
- Searching for Repeaters in **RB**
 - Exporting Repeater Data from **RB**
 - Programming Tools For Your Radio
 - Q&A #1

Introduction

- The primary goal of this workshop is to **brief** all of you here this evening about **RB's** capabilities and to **show** you how **RB** can **best** be used to support the efficient programming of **your** radio

Introduction

- I am the **volunteer** **RB** Administrator for **Georgia**
- I began this role in mid-**March 2020** (~ 6 months ago)
- I only administer **GA** **RB** repeaters
- Nevertheless, I'll be glad to share with you my experiences with **RB** thus far

Introduction

- I am **not compensated** by **RB** to perform this volunteer role
- I have **no financial stakes** in **RB**, or any other systems or services mentioned in this presentation
- I am **not** trying to sell you anything
- **RB** services are always provided **free of charge**

Introduction

- I am providing this presentation at the **invitation** of **GARS**
- This PowerPoint presentation is **incomplete** without the full context provided by the accompanying video and audio commentary

Introduction

Before we go any further:

- Is my **audio** 5-9 for everyone?
- Are my **video** and **PowerPoint** windows clear, legible and **paging** forward smoothly?
- Please let the **Workshop Host – Dave Slotter – W3DJS** know if you are experiencing any Zoom technical problems
- Any questions or concerns thus far?
- If everyone is ready, let's continue!

RB Background & History



RB Background & History

RepeaterBook.com is Amateur Radio's most comprehensive, worldwide, FREE, online repeater directory

- **RB got its start in 2006 as NWHam.com**
- **It was developed by KD6KPC – Garrett Dow – CEO**

RB Background & History

- **RB** began as a regional, database-driven, repeater website focusing on the **Pacific Northwest**
- **RB** started just like most other websites do – just a guy with a **website** – and two **hobbies**:

✓ **Web Design**

✓ **Amateur Radio**

RB Background & History

- **NWHam.com** began to grow outside of the Pacific Northwest and plans to evolve it into the entire **United States** and **Canada** were soon formulated
- The database migrated **eastward** and its name was soon thereafter changed to **RepeaterBook.com**

RB Background & History

- Garrett Dow was subsequently contacted by **VE6SRV – James Ewen – Alberta, Canada**
- James suggested that local **RB Administrators** could help gather and validate the information needed to build the repeater database

RB Background & History

It was believed that local Administrators would:

- Possess **knowledge and insight** beyond the data which was being distributed by the various repeater coordinating councils and ham clubs
- Add **value and accuracy** to the **RB** database

RB Background & History

It was believed that local Administrators would:

- Know the **active repeaters** to include in the database and which ones were actually **ON-AIR** and **OFF-AIR**

This turned out to be a **fantastic idea** and evolved into the model that **RB** has used ever since

RB Background & History

- In **2010**, **RB** began a partnership with **CHIRP**, a very popular radio programming platform
- Today, **CHIRP** users can import **RB** data directly from within the **CHIRP** software if so desired

RB Background & History

- **CHIRP** users can also create even more customized searches from within the **RB** site and then export those results directly to **CHIRP**
- This has all been developed and delivered completely free of charge by **CHIRP** and **RB**

RB Background & History

- In **2014**, **G4HFQ** (G.R. Freeth, a Yaesu programming software developer) certified **RB** data exports for use with **G4HFQ** software
- **RT Systems** exports were soon developed and certified as compatible

RB Background & History

- **RB** data is also used by **off-roaders** using the Rugged Rocks – Rugged Routes GPS platform
- **RB** similarly shares its data with **DSTARinfo.com**

Other Repeater Directories

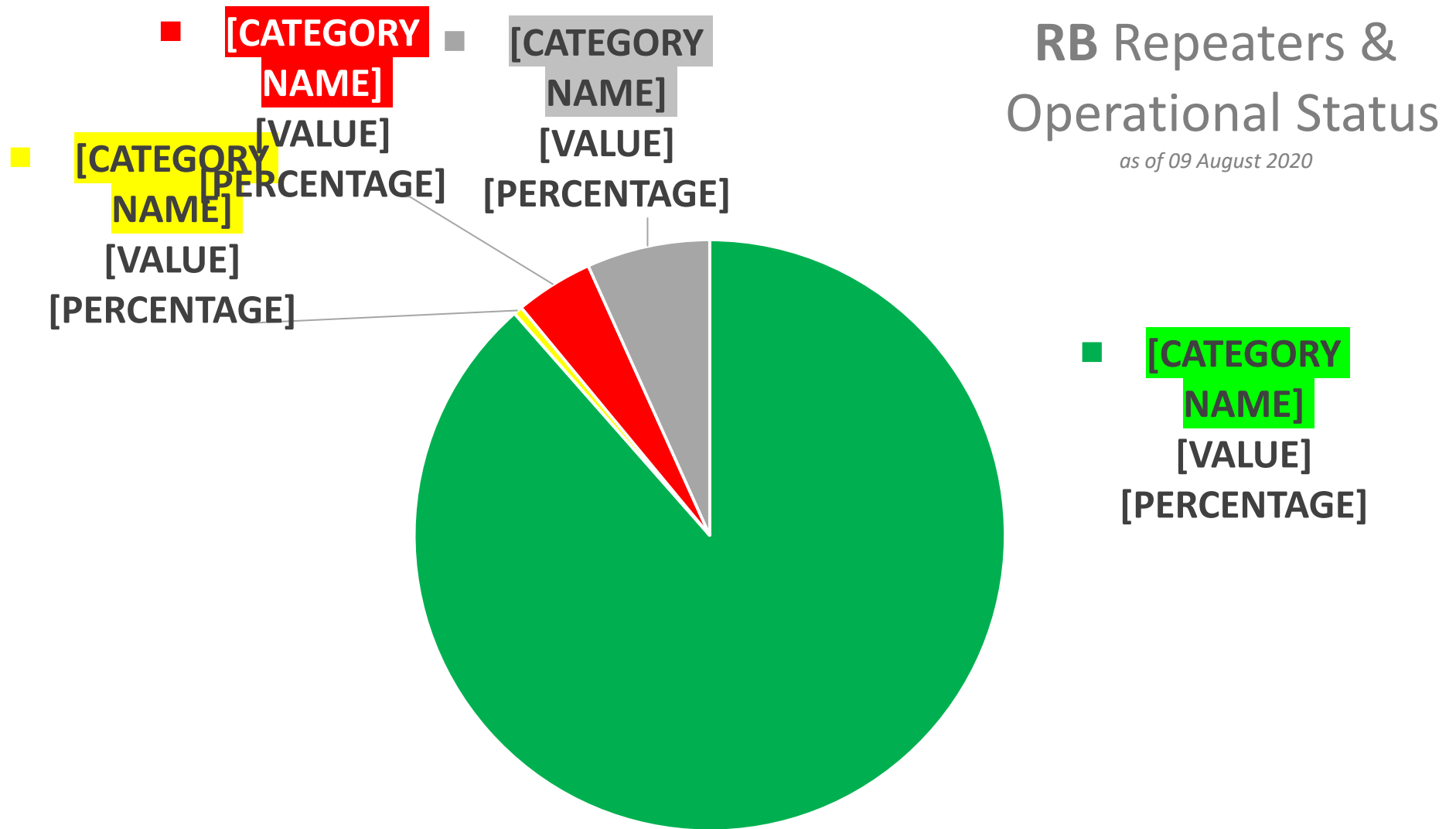
Online Alternatives ?	Key Features
RFinder	Endorsed by ARRL . Also feeds RFinder radio hardware products (subscription fees required for these products/service)
RFSearch	US-focused, part of ArtSci Publications and their printed MapBook product (fee required)
RepeaterMap	Only 331 repeaters, mostly in western US
Many Other Ad Hoc Repeater Databases and Lists	DIY, local, prone to errors/omissions, obsolete, incomplete, abandoned

Are there others I may have missed?
Has anyone used any of these?

RB Worldwide Statistics




RB Worldwide Statistics



RB Worldwide Statistics

Annual Update Stats

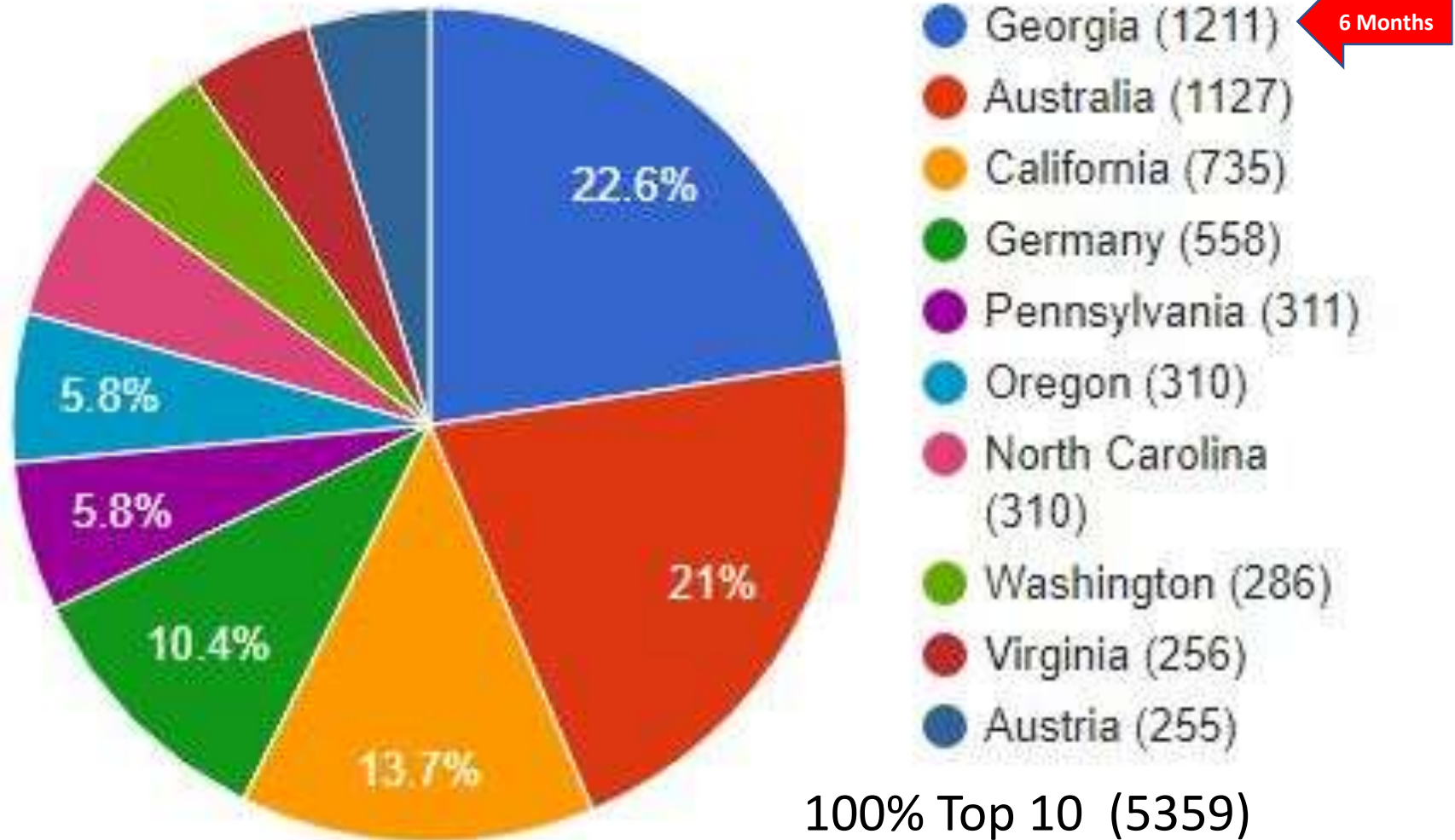
As of 09 August 2020



Total Repeaters Added	941
Total Update Requests	7,672
Total Updates Completed	18,649
Total User Reviews	87
Total Propagation Reports	1,179

RB Worldwide Statistics


Repeater update requests in the past year *as of 09 August 2020*



RB Worldwide Statistics

30 Day Update Stats

As of 09 August 2020

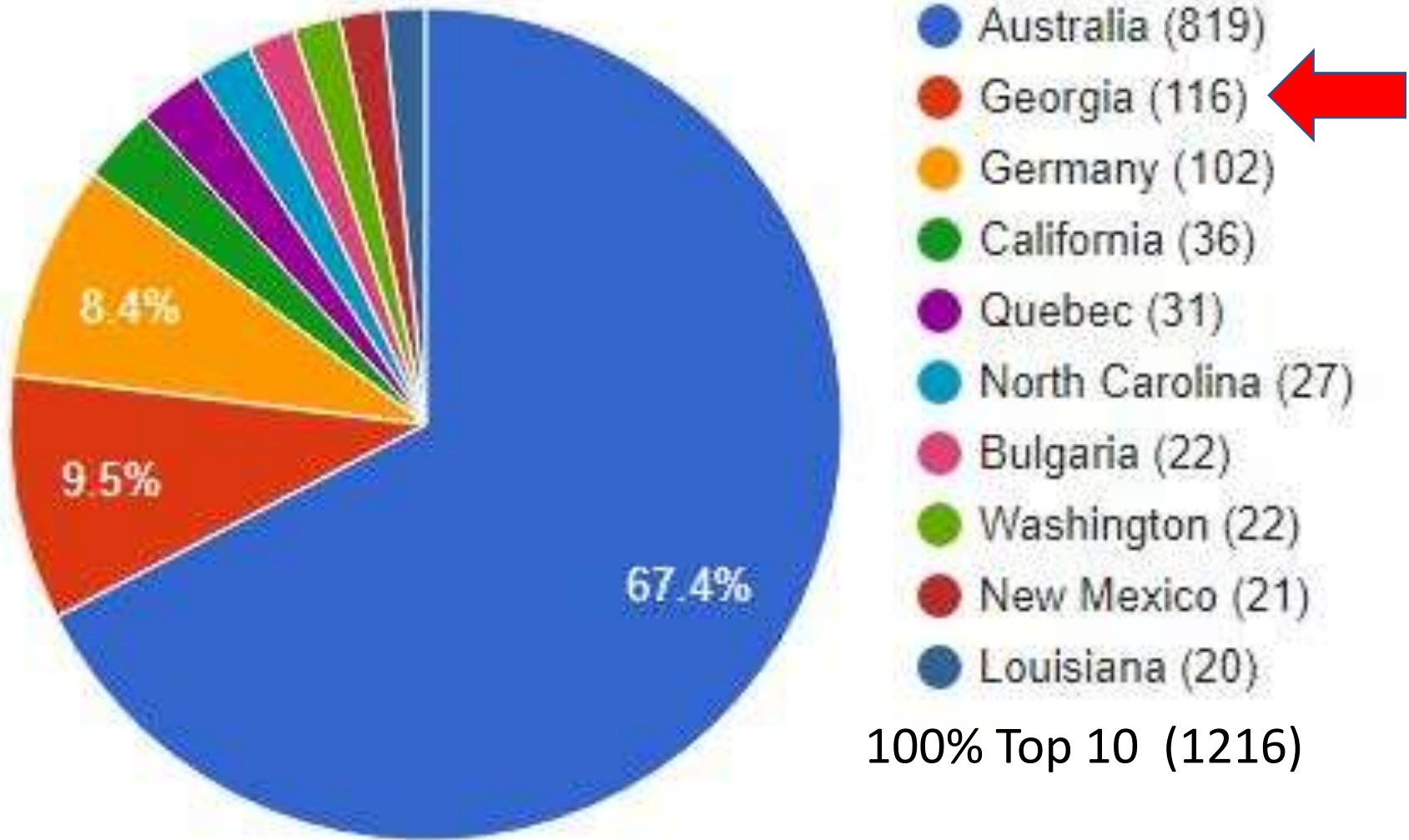


Total Repeaters Added	68
Total Update Requests	631
Total Updates Completed	2,058
Total User Reviews	12
Total Propagation Reports	89

RB Worldwide Statistics

Repeater update requests in past 30 days by state/province

As of 09 August 2020



RB Worldwide Statistics

7 Day Update Stats

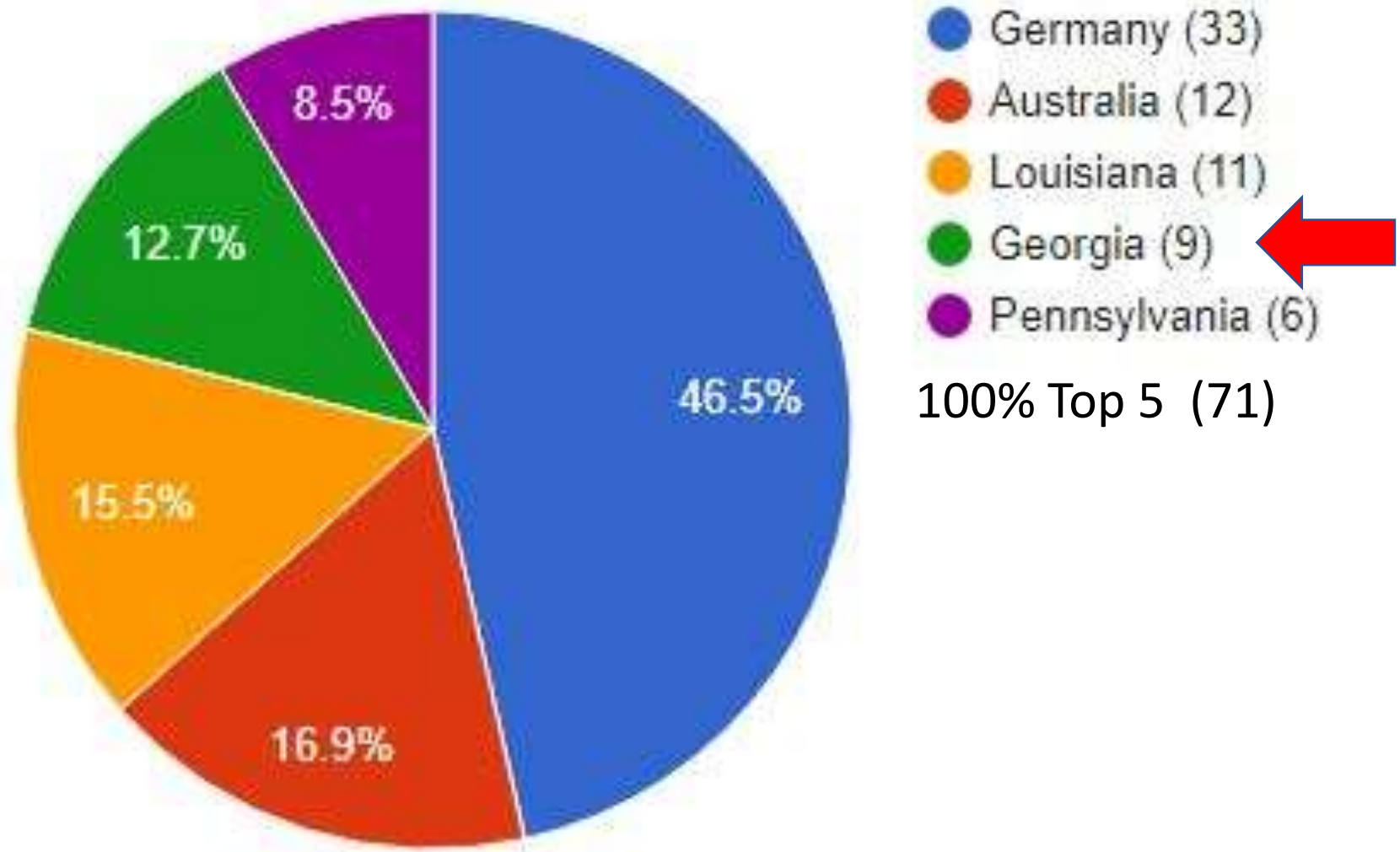
As of 09 August 2020



Total Repeaters Added	10
Total Update Requests	126
Total Updates Completed	239
Total User Reviews	0
Total Propagation Reports	19

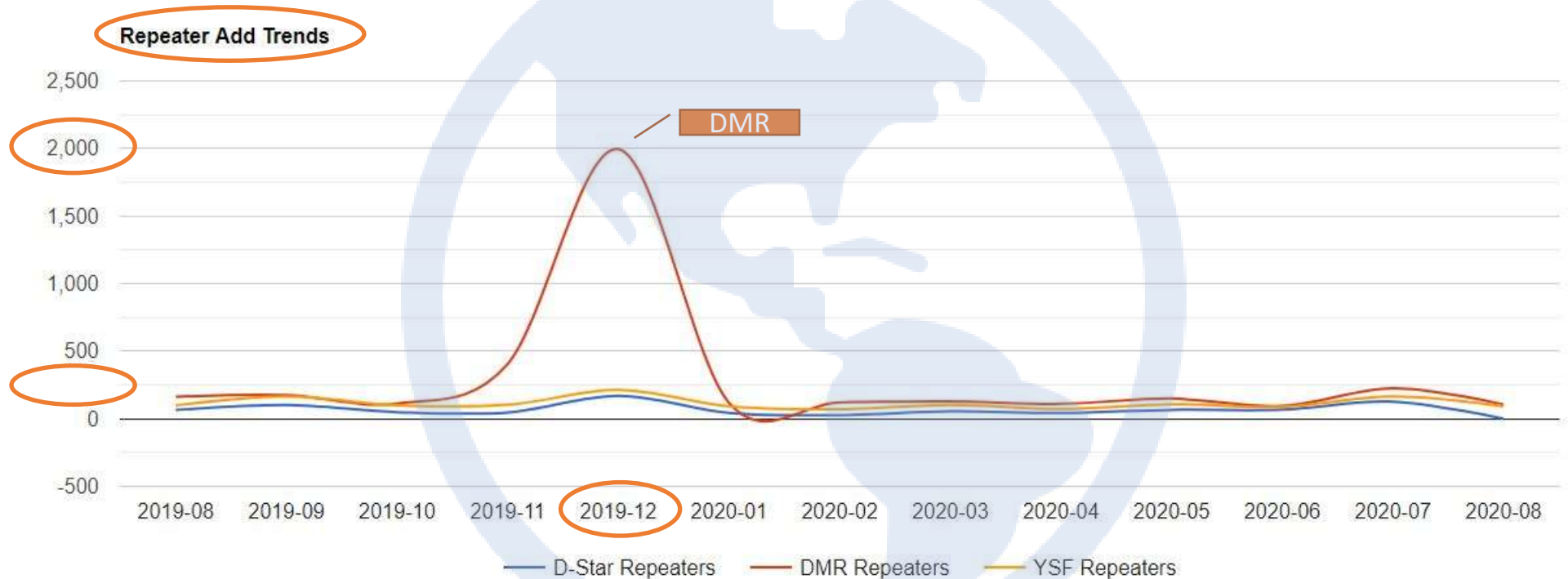
RB Worldwide Statistics

Repeater update requests in past 7 days *as of 09 August 2020*



RB Worldwide Statistics

As of 09 August 2020



RB Worldwide Statistics

As of 09 August 2020



Total D-Star Repeaters: 2,306

Total DMR Repeaters: 3,201

Total YSF Repeaters: 2,374

GA RB Statistics

As of 09 August 2020

Status	Total	Percentage
ON-AIR:	402	69%
TESTING:	14	2%
OFF-AIR:	172	29%
UNKNOWN:	0	0%
ACTIVE	588	100%

← 6 Months

GA RB Statistics

Drill-Down by Band and Mode *(as of 09 August 2020):*

BAND	ON-AIR	TESTING	OFF-AIR	TOTAL
10M	1	2	2	5
6M	5	2	16	23
2M	187	4	40	231
1.25M	25	3	18	46
70CM	166	3	86	255
33CM	6	0	8	14
23CM	12	0	2	14
TOTAL	402	14	172	588
2M + 70CM	353	7	126	486
FM (Approx)	285	12	160	457
D-STAR	55	0	7	62
YSF	31	1	1	33
DMR	26	1	4	31
APCO P-25	4	0	0	4
GMRS	1	0	0	1

GA RB Statistics



Georgia's Regional Economic Commissions

GA RB Statistics

RB Can Also Search by County or By Region (Multiple Counties)

Georgia's 12 Regions and 159 Counties																					
Georgia Region Number, Abbreviation & Name	Short Region Name for Programming Ham Radio Memory Banks	Georgia Counties in Each Region																			
1 NWGR Northwest Georgia Region	01-NW GA	Bartow	Catoosa	Chattooga	Dade	Fannin	Floyd	Gilmer	Gordon	Haralson	Murray	Paulding	Pickens	Polk	Walker	Whitfield					15
2 GMR Georgia Mountains Region	02-GA Mountains	Banks	Dawson	Forsyth	Franklin	Habersham	Hall	Hart	Lumpkin	Rabun	Stephens	Towns	Union								12
3 AR Atlanta Region	03-Atlanta Reg	Cherokee	Clayton	Cobb	DeKalb	Douglas	Fayette	Fulton	Gwinnett	Henry	Rockdale										10
4 TRR Three Rivers Region	04-Three Rivers	Butts	Carroll	Coweta	Heard	Lamar	Meriwether	Pike	Spalding	Troup	Upson	White									11
5 NEGR Northeast Georgia Region	05-NE GA	Barrow	Clarke	Elbert	Greene	Jackson	Jasper	Madison	Morgan	Newton	Oconee	Oglethorpe	Walton								12
6 MGR Middle Georgia Region	06-Middle GA	Baldwin	Bibb	Crawford	Houston	Jones	Monroe	Peach	Pulaski	Putnam	Twiggs	Wilkinson									11
7 CSRAR Central Savannah River Area Region	07-Savannah Riv	Burke	Columbia	Glascok	Hancock	Jefferson	Jenkins	Lincoln	McDuffie	Richmond	Taliaferro	Warren	Washington	Wilkes							13
8 RVR River Valley Region	08-River Valley	Clay	Crisp	Chattahoochee	Dooley	Quitman	Harris	Macon	Marion	Muscogee	Randolph	Schley	Stewart	Sumter	Talbot	Taylor	Webster				16
9 HOGAR Heart of Georgia Altamaha Region	09-Heart of GA	Appling	Bleckley	Candler	Dodge	Emanuel	Evans	Jeff Davis	Johnson	Laurens	Montgomery	Tattnall	Telfair	Toombs	Treutlen	Wayne	Wheeler	Wilcox			17
10 SWGR Southwest Georgia Region	10-SW GA	Baker	Calhoun	Colquitt	Decatur	Dougherty	Early	Grady	Lee	Miller	Mitchell	Seminole	Terrell	Thomas	Worth						14
11 SGR Southern Georgia Region	11-Southern GA	Atkinson	Bacon	Ben Hill	Berrien	Brantley	Brooks	Charleton	Clinch	Coffee	Cook	Echols	Irwin	Lanier	Lowndes	Pierce	Tift	Turner	Ware		18
12 CGR Coastal Georgia Region	12-Coastal GA	Bryan	Bulloch	Camden	Chatham	Effingham	Glynn	Liberty	Long	McIntosh	Screven										10
																					159

ARES Uses Ten (10) GA Regions

Repeaters Included In RB

Amateur Radio Repeater Bands (US):

- **HF** – 10M, 6M
- **VHF** – 2M, 1.25M
- **UHF** – 70CM, 33CM, 23CM

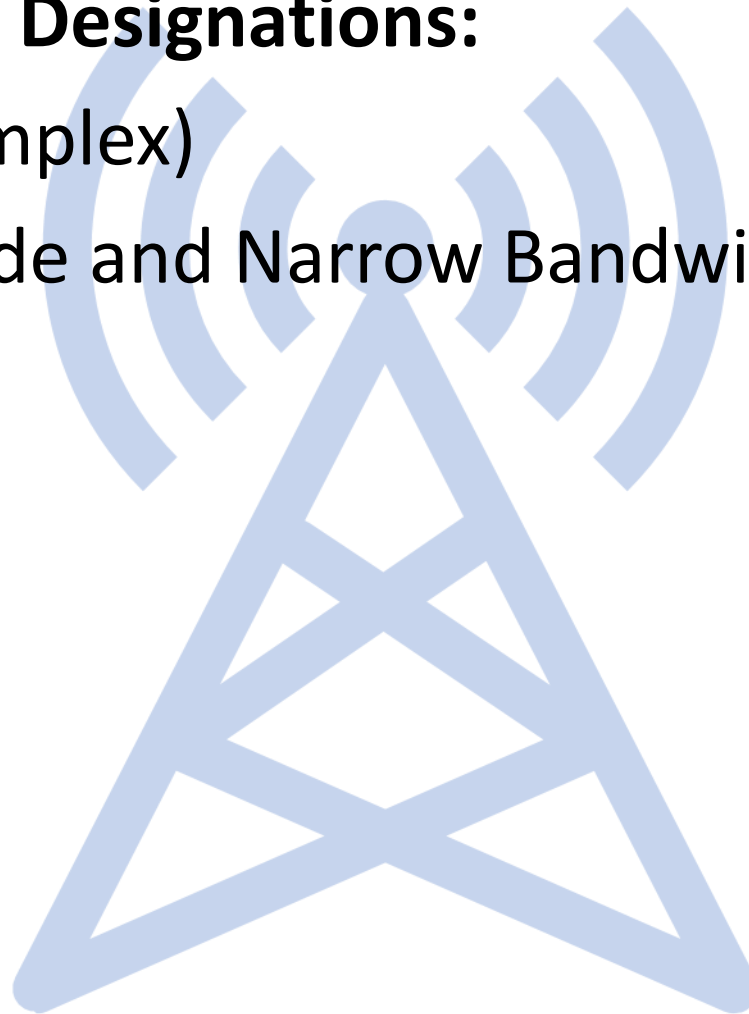
GMRS Repeater Band:

- **UHF** – 70CM

Repeaters Included In **RB**

Operating Mode Designations:

- Duplex (and Simplex)
- FM Analog (Wide and Narrow Bandwidth)
- D-STAR
- YSF C4FM
- DMR
- NXDN
- Tetra
- GMRS



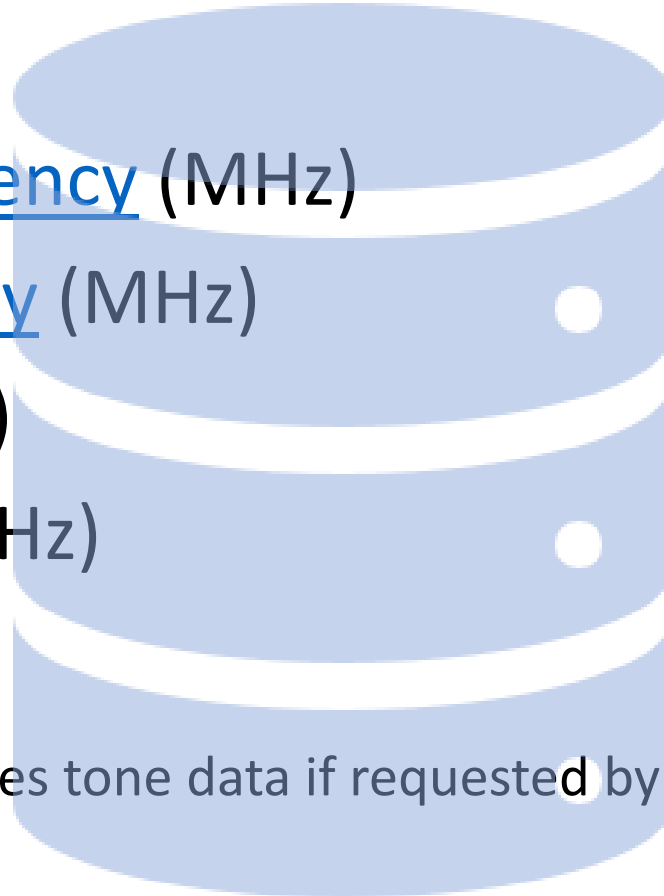
Repeaters And Radio Services **NOT** Included In **RB**

- Federal, State, County, Municipal
- Police, Law Enforcement, Military
- Aircraft, Navigation
- Commercial, Transportation, Utility
- Marine, Scientific/Research
- Satellite Repeaters or Transponders
- APRS Repeaters
- Personal or Temporary Hotspots

RB Database Elements

Clickable Links To The Online RB Wiki Are [Underlined](#):

- [Downlink Frequency](#) (MHz)
- [Uplink Frequency](#) (MHz)
- [Offset](#) (+/– MHz)
- [Downlink Tone](#) (Hz)
- [Uplink Tone](#) (Hz)
- [Tone Locking](#) (hides tone data if requested by Trustee)



RB Database Elements

- [Location](#) (*city, town, municipality, suburb, or community within which the repeater is **physically** located*)
- [Landmark](#) (prominent geographic or man-made feature, i.e. mountain, lake, river, radio/TV/water/fire tower, church, school, Walmart, etc.)
- [County](#) (*or sub-geographical in other countries*)
- [State/Province](#)
- [Country](#)
- Coordinates (*longitude & latitude in digital degrees -- DD*)
- Grid Square (i.e. EM73xw)

RB Database Elements

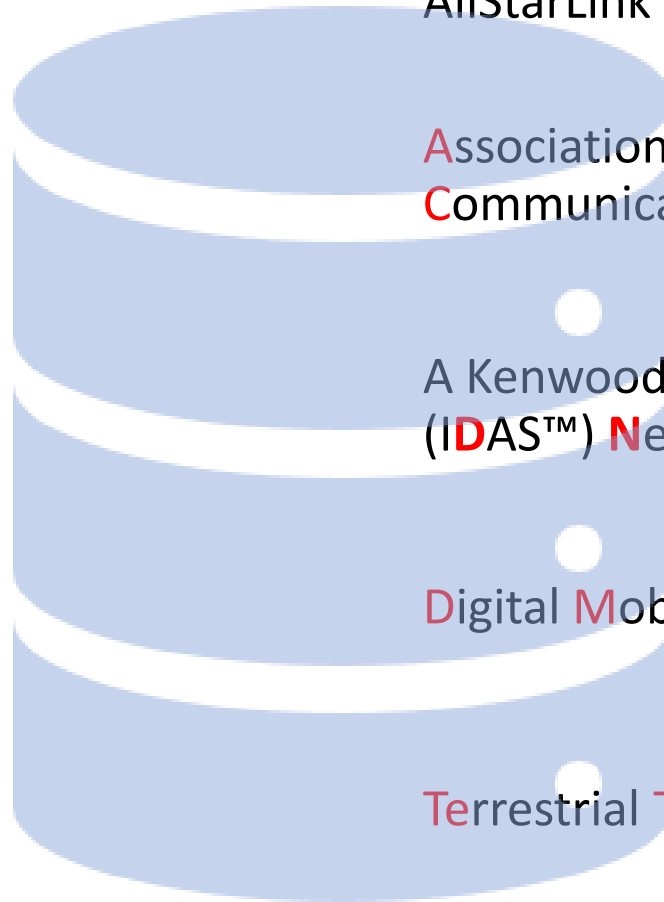
- Call Sign
- Use (*Open, Closed, or Private*)
- Operational Status (ON-AIR, TESTING, OFF-AIR, UNKNOWN)
- Sponsor (*Owner, Trustee/Individual, Local Ham Club, Emergency Group, etc.*)
- Affiliate (*Other Nearby/Prominent Ham Club, Emergency/User Group, etc.*)
- ARES (Amateur Radio Emergency Service – ARRL)
- RACES (Radio Amateur Civil Emergency Service – governmental)
- SKYWARN (assists the US NWS – National Weather Service)
- CANWARN (CANadian Weather Amateur Radio Network)

RB Database Elements

- Features (i.e. Emergency Power, Weather Alerting, Phone Patch)
- Repeater Linking (Methods include RF, IRLP, EchoLink, AllStar, etc.)
- IRLP (Internet Radio Linking Project – Canadian)
- EchoLink
- WIRES (Wide-Coverage Internet Repeater Enhancement System)
- D-STAR (Digital Smart Technologies for Amateur Radio)

RB Database Elements

- [AllStar](#) A repeater linking system using AllStarLink software
- [APCO P-25](#) Association of Public-Safety Communications Officials – Project 25
- [NXDN](#) A Kenwood (NextEdge™) and Icom (IDAS™) Network Joint Venture
- [DMR](#) Digital Mobile Radio (Motorola)
- [Tetra](#) Terrestrial Trunked Radio
- [Yaesu System Fusion](#) (YSF C4FM -- Continuous Four Frequency Modulation Digital Protocol)



RB Database Elements

- Amateur Television (*ATV*)
- Analog Bandwidth (*25 KHz, 12.5 KHz, 6.25 KHz*)
- Coverage Description (*N,S,E,W, **boundary** cities, counties, regions, major roads, mountains, etc.*)
- Coverage Radius (**Approximate miles** – used in **RB** Coverage Map for the **coverage circle calculation**)
- Propagation Reports
- Audio Feed (Website address for audio feed **IF** so configured)

RB Database Elements

- Repeater Images (Site Pictures, Coverage Maps, etc.)
- Repeater Record Custodian
- Record Lock
- Coordination (i.e. SERA – Southeastern Repeater Association)
- **Entity/Trustee Name and Email Address**
- **Associated Entity/Trustee Website Name, and URL Address** (*QRZ listing if nothing else is available*)
- Notes (any other important/relevant/interesting/miscellaneous details)

RB Database Elements

In summary, the **RB** database is:

- Specialized in storing and reporting repeater information
- Wide, deep, and well-designed for it's intended purposes
- Professionally managed and maintained
- Supported by strong query and reporting tools that can effectively access and control the data

GA RB Repeater Portfolio

- 402+ **ON-AIR** repeaters
- Spread across **12** Economic Regions
- **159** Counties
- Over **535** Municipalities
- Serving over **18,700** licensed **GA** amateur radio operators
- In **scores** of ham radio clubs throughout GA's **59,425** square mile



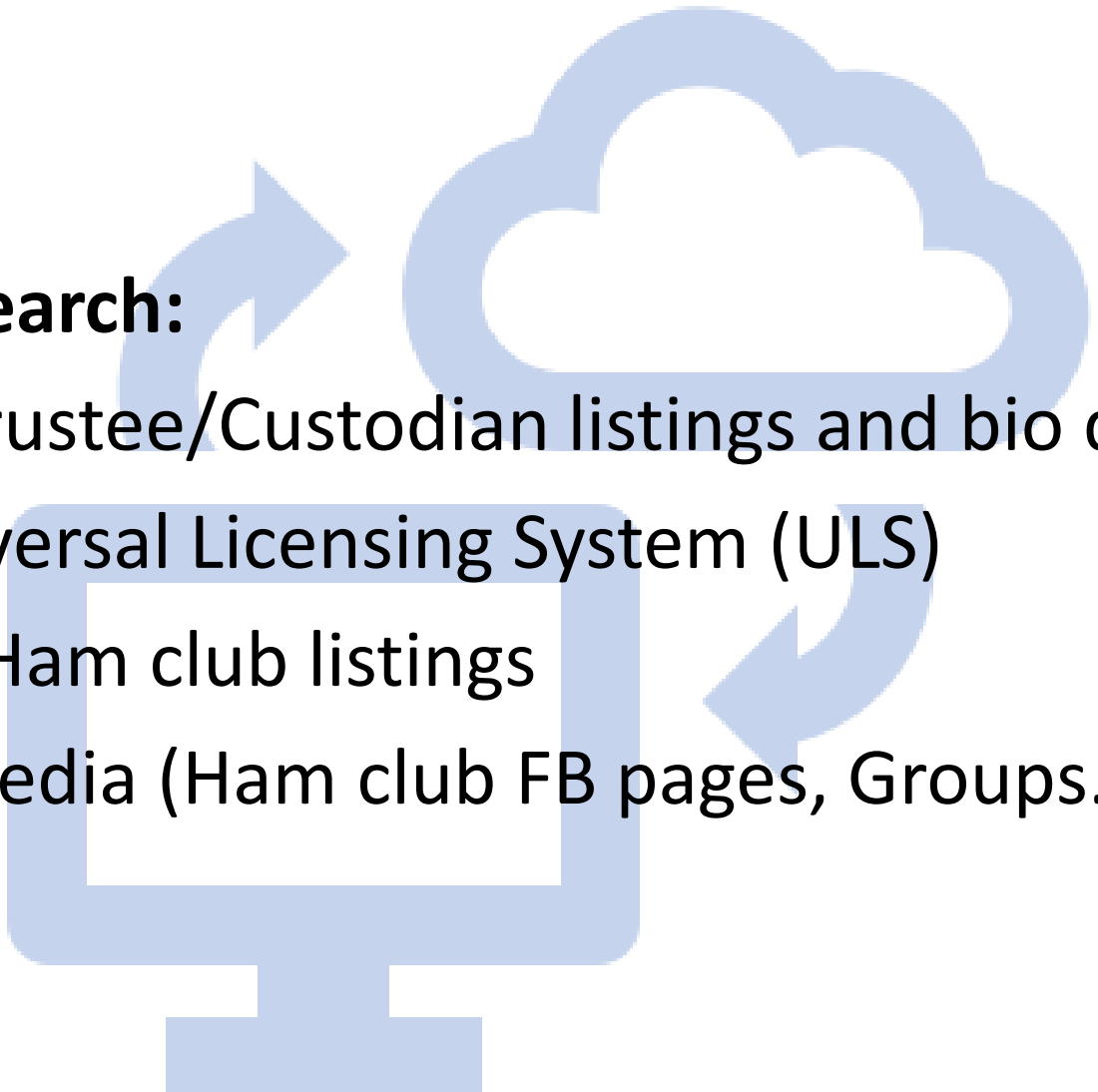
Primary Sources of **GA RB** Data

Online Research:

1. Repeater coordinating council websites (i.e. **SERA**)
2. Ham club websites and their numerous/ad hoc repeater lists (with a wide variety of data **age** and **accuracy**)
3. **QRZ** – Ham club callsign listings and bio data

Primary Sources of **GA RB** Data

Online Research:

4. **QRZ** – Trustee/Custodian listings and bio data
 5. **FCC** Universal Licensing System (ULS)
 6. **ARRL** – Ham club listings
 7. Social media (Ham club FB pages, Groups.io, etc.)
- 

Primary Sources of **GA RB** Data

Direct Reporting from Trustees, Custodians, Managers, Club Members and Users:

8. Submit Update Requests to **GA RB** via **RB** website
9. Send emails directly to **GA RB** Administrator in response to outreach emails

Primary Sources of **GA RB** Data

GA RB Administrator:

- 10. Maintains situational awareness/insight from daily exposure to (and travel within) the **GA** repeater coverage area
- 11. Recruits and leads the **GA RB VRO Team** (Volunteer Repeater Observers – See Appendices to learn more!)

Maintenance of GA RB Data

Outboard (PC/Outlook-Based) GA RB Trustee Database

- Keyed on each individual repeater **Trustee**
- Includes all available Trustee and Custodian **contact details**
- Full portfolio of **GA** repeaters for which they are directly **accountable**

Maintenance of **GA RB** Data

Outboard (PC/Outlook-Based) GA RB Trustee Database

- Serves as a research repository for data validation & outreach by **GA RB** Administrator
- **GA RB** email outreach campaign (**450+** sent out thus far)

Maintenance of GA RB Data

Outboard (PC/Outlook-Based) GA RB Trustee Database

- **GA** ham radio club database is currently under construction (~100+ clubs in GA)

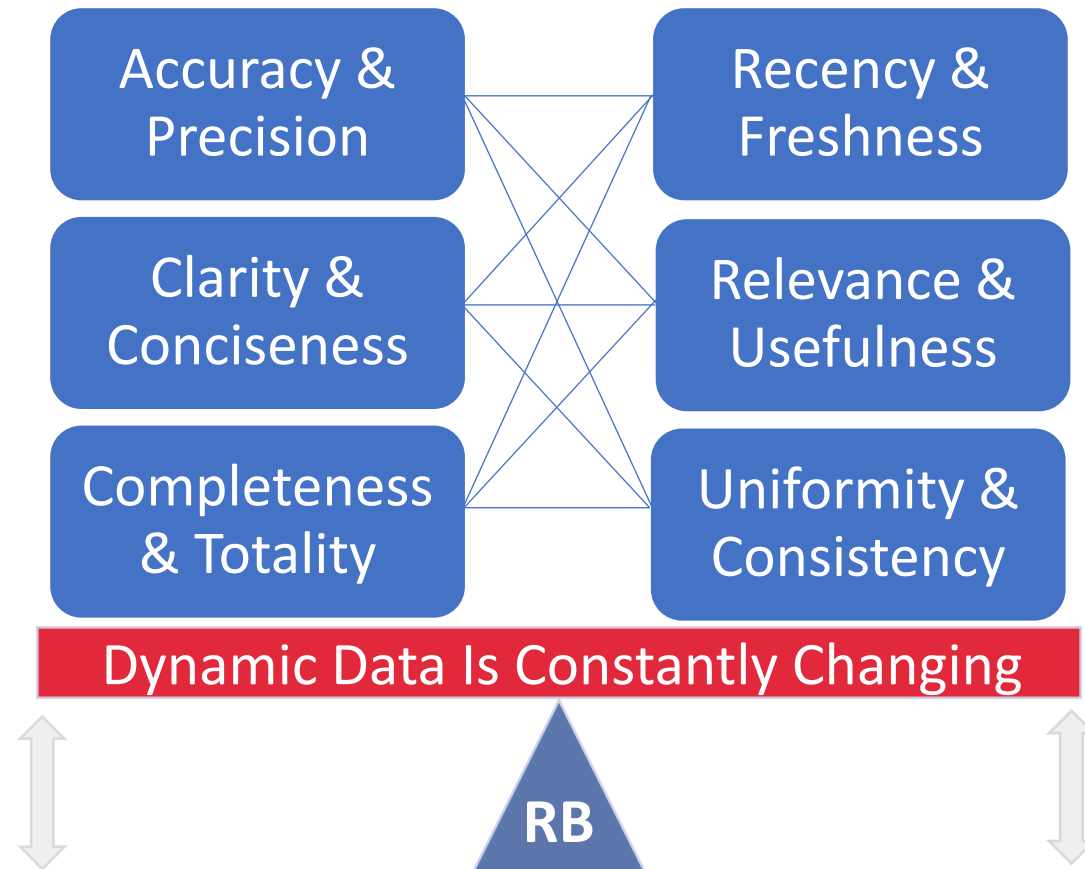
Maintenance of GA RB Data

Repeater Data “Freshness” Is Vital

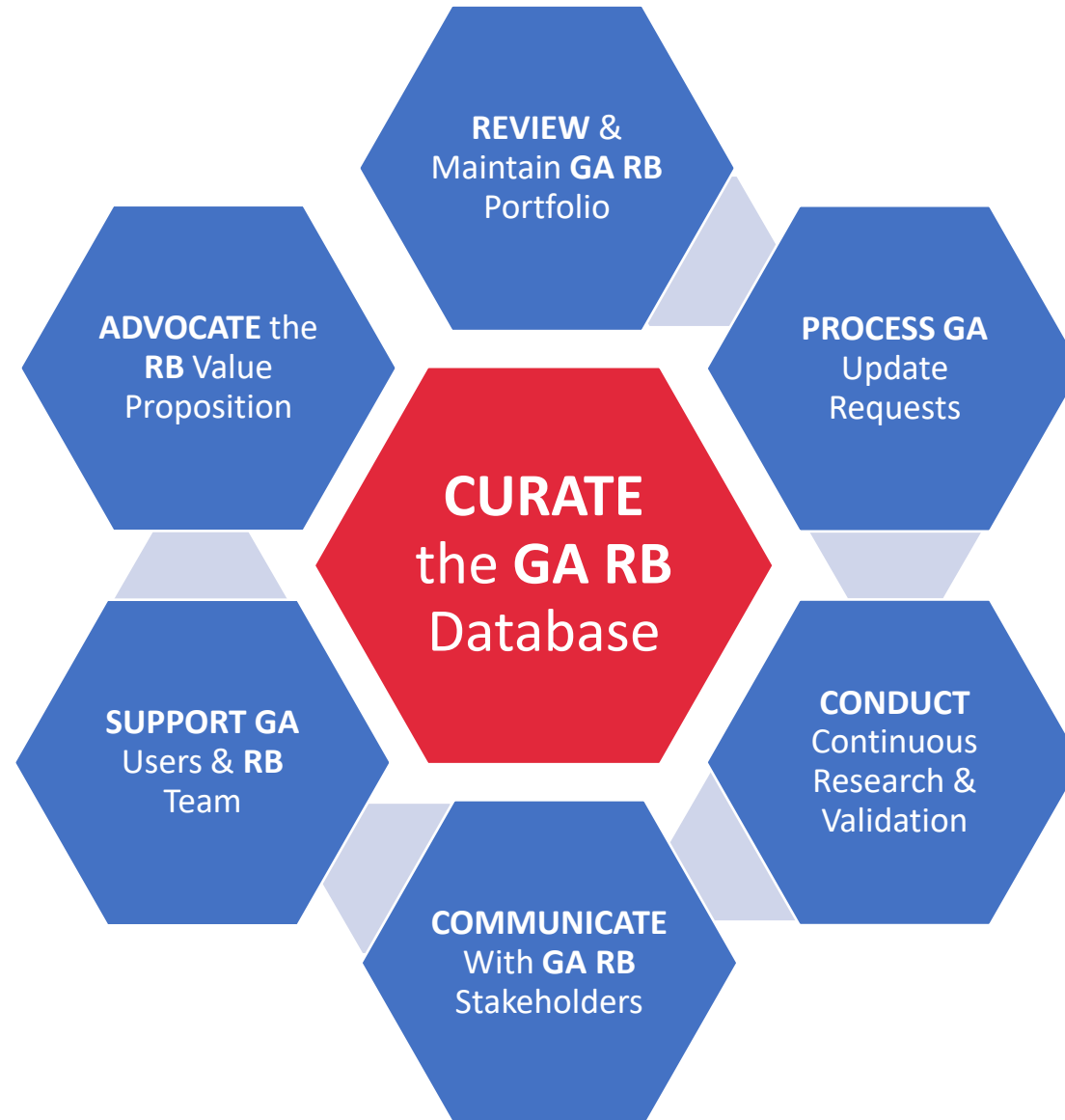
- **RB** generates 1, 3, 6, 12, and 24-month data aging reports
- **RB** audit goal: **24-month maximum** aging
- **GA RB** audit goal: **6-month or better** aging
- Maintenance is a **continuous** review and validation process

Maintenance of **GA RB** Data

RB Data Must Strike A Fine Balance Between:



GA RB Administrator Functions



Any Questions So Far?

Any specific:

- Questions?
- Comments
- Concerns?
- Desired demos?

Dave, let's put a pin in these before we proceed!

How-To/Hands-On Session Agenda

On-Screen Demo of:

- Searching For **Your** Repeaters within **RB**
- Exporting Repeater Data From **RB** to **Your** Programming Tool
- Programming Your Radio
- Q&A #2
- Special Problems And Follow-Up (as needed)

Searching For Your Repeaters in **RB**

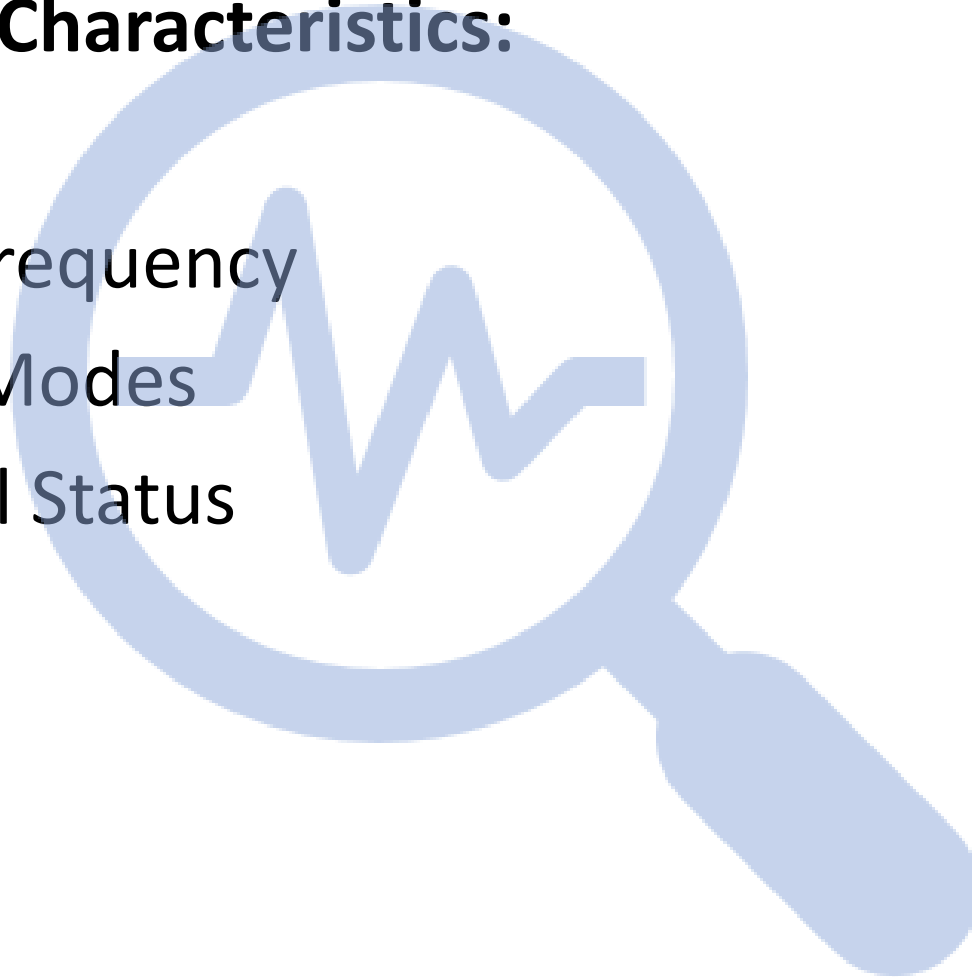
By Geographic Characteristics:

- Country
- State
- Region (multiple Counties)
- County
- City, Town or Municipality
- Proximity in miles radius from your location
- Travel Search (proximity to designated major roads)

Searching For Your Repeaters in **RB**

By Repeater Characteristics:

- Call Sign
- Downlink Frequency
- Operating Modes
- Operational Status
- Affiliations
- Functions
- Key Words



Assessing Your Radio Programming Tool Options

Determining Factors For Selecting a Tool:

- Your specific radio make and model
- The availability of programming tools designed to support your radio

Assessing Your Radio Programming Tool Options

Determining Factors For Selecting a Tool:

- In most cases, you will have a choice as to which programming tool you can select and use for your radio (so make it a good one)
- In a few cases (i.e. off-brand radios) you may NOT have a tool choice alternative

Assessing Your Radio Programming Tool Options

Determining Factors For Selecting a Tool:

- Radio memory storage capacity, data “grouping/organizing/indexing” functions, and their inherent capabilities/limitations
- Methods of selecting or scanning repeaters programmed into your radio’s memory
- Your **personal use-case**, goals, and objectives

Assessing Your Radio Programming Tool Options

Workshop **Targeting:**

- What specific make and model of radio are you currently programming for repeaters?
- What specific radio programming tool(s) are you currently using?
- What programming problems or issues have you encountered thus far with your configuration?

Assessing Your Radio Programming Tool Options

Workshop **Targeting:**

- What is **your** current repeater programming data source?
- What have **your** experiences with using **RB** been like thus far (good or bad)?
- Please feel free to speak frankly here
- I'm looking for constructive input to guide future **RB** efforts here in **GA**

Dave, let's put a pin in these before we proceed

Assessing Your Radio Programming Tool Options

Please be aware:

- Programming tools are convenient and can serve as an important supplement to your understanding of your radio's operation
- Nevertheless, a full understanding your radio's basic functions, features, and limitations is **essential** to getting most out of it

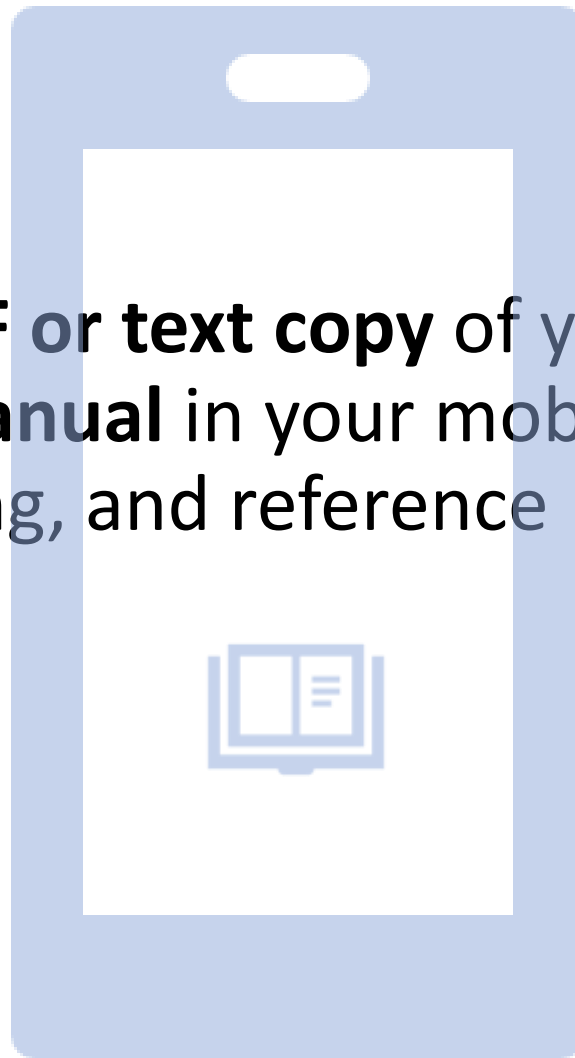
Assessing Your Radio Programming Tool Options

Please be aware:

- Knowing how to **manually** enter, adjust, or correct a repeater entry is important – particularly while traveling or operating in the field **away** from your programming tools

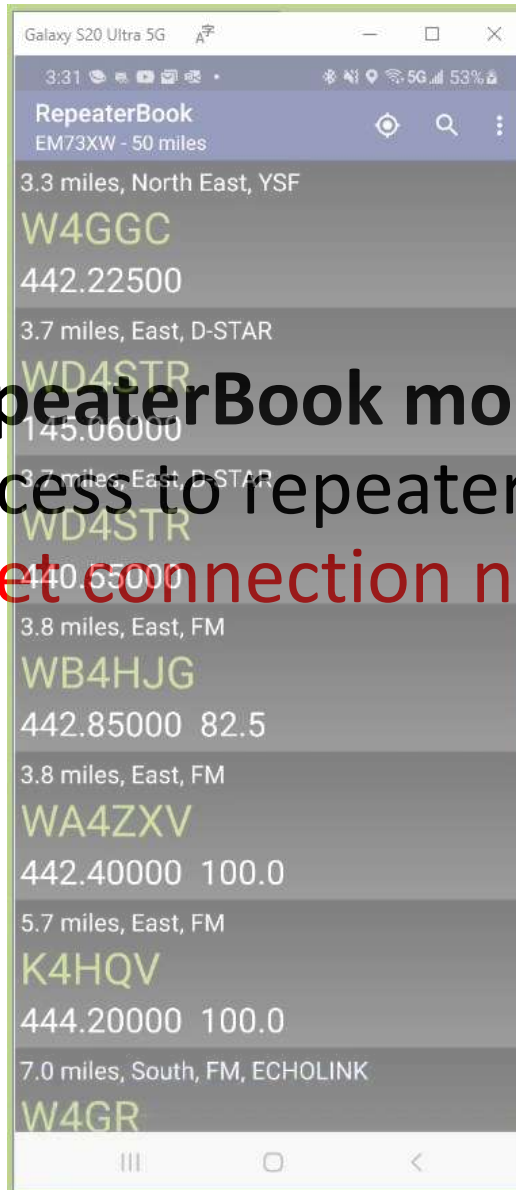
Assessing Your Radio Programming Tool Options

- **Tip 1:** Keep a **PDF or text copy** of your radio's complete **user manual** in your mobile phone for easy retrieval, searching, and reference



Assessing Your Radio Programming Tool Options

- **Tip 2:** Keep the **RepeaterBook** mobile app on your phone for quick access to repeater information
(continuous internet connection not required!)

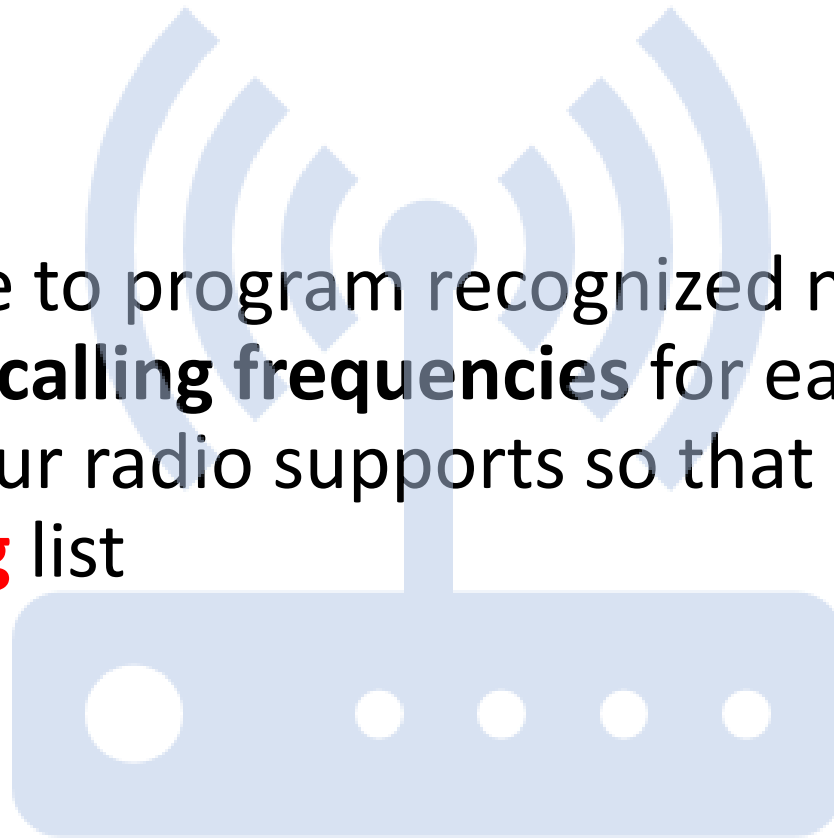


Assessing Your Radio Programming Tool Options

- **Tip 3:** Keep a **printed copy** of relevant portions of your user manual in the glove compartment of your car and/or in your Go Box/Kit

Assessing Your Radio Programming Tool Options

- **Tip 4:** Be sure to program recognized national and local **simplex calling frequencies** for each **band** and **mode** that your radio supports so that they will be in your **scanning** list

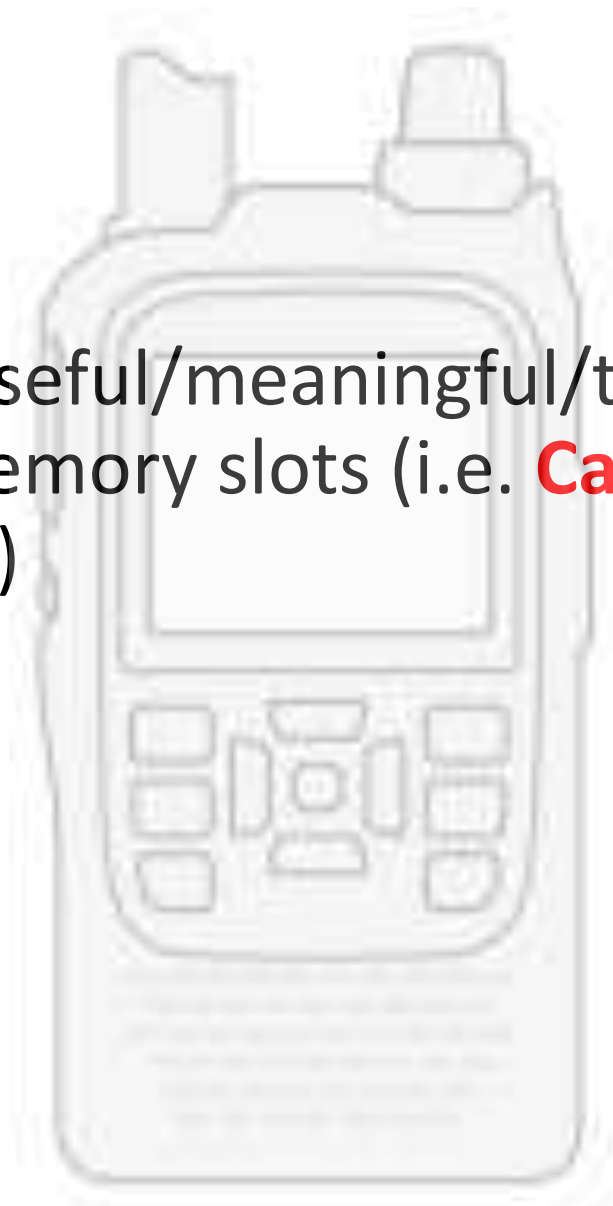


Assessing Your Radio Programming Tool Options

- **Tip 5:** Program as many repeaters as possible (i.e. multi-regional or all-of-Georgia) into your radio and then use your radio's "grouping/organizing/indexing" functions to help you efficiently navigate and scan among them all

Assessing Your Radio Programming Tool Options

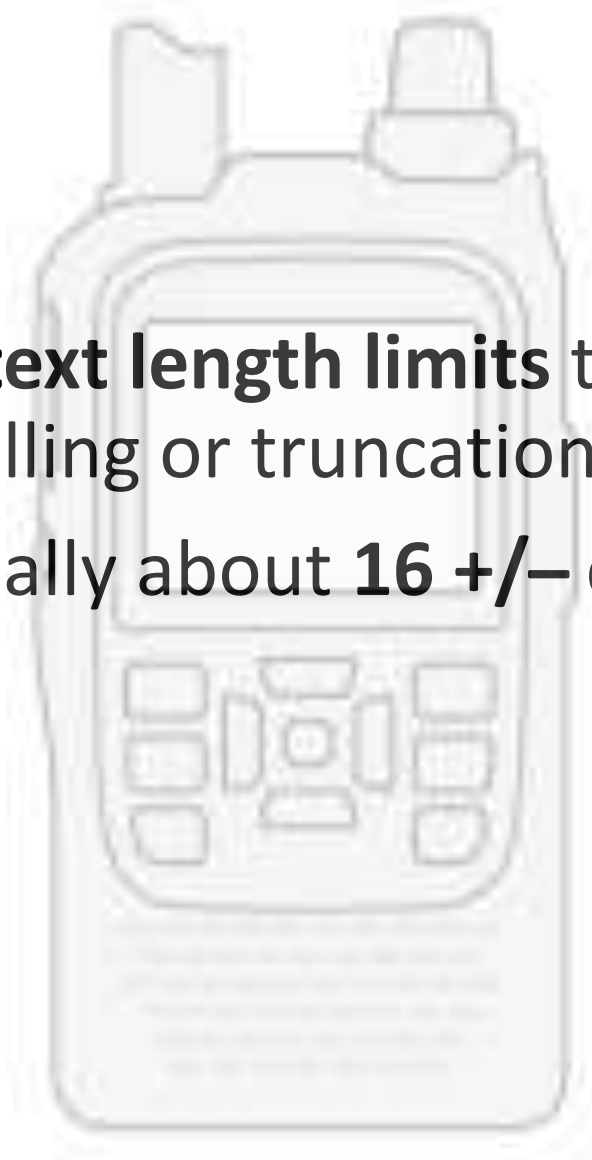
- **Tip 6:** Program useful/meaningful/terse **descriptors** of your repeater memory slots (i.e. **Call Sign>City: W4GR>Norcross**)



Assessing Your Radio Programming Tool Options

Tip 6:

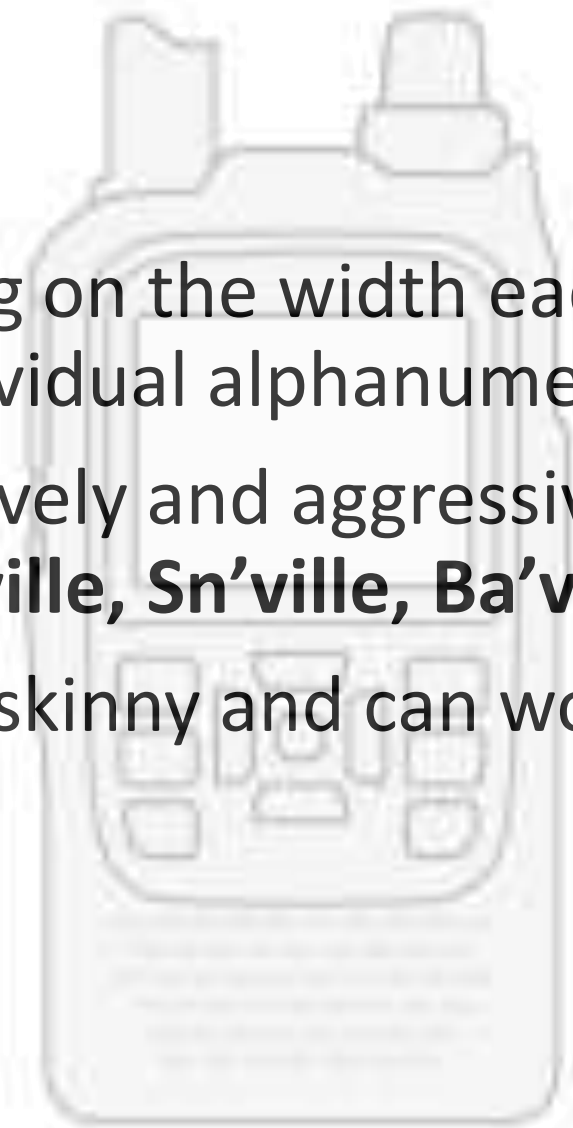
- Be aware of the **text length limits** to avoid unnecessary scrolling or truncation of descriptors
- This limit is normally about **16 +/- characters maximum**



Assessing Your Radio Programming Tool Options

Tip 6:

- YMMV depending on the width each radio brand assigns to its individual alphanumeric characters
- Abbreviate creatively and aggressively where necessary (i.e. **L'ville, Sn'ville, Ba'ville,**
- Apostrophes are skinny and can work wonders!



Assessing Your Radio Programming Tool Options

Do you have any other useful radio programming tips that you wish to share?

Exporting Repeater Data From **RB**

USE STIPULATIONS:

- **RB** readily supports **export** of its valuable repeater data into many different and useful file formats – **however...**
- You must use exported repeater data **ONLY** within the **limits of RB's Terms of Service**

Exporting Repeater Data From **RB**

USE STIPULATIONS:

- You must be **registered and in good standing** with **RB** to export data
- You may export **RB** repeater data as long as you use the data **ONLY** for your own personal activities and **without commercial application or financial gain**

Exporting Repeater Data From **RB**

USE STIPULATIONS:

- The data you export may not be **redistributed** in any form without permission from **RB**
- All **RB** data export events are **logged and monitored** to prevent unauthorized distribution or abuse of **RB** data

RB Data Export File Formats

Popular Radio Programming Software:

1. **RT Systems** (many radio brands and makes – and it's a **GA-based** company!)
2. **CHIRP** (many radio brands and makes – and it's free!)
3. **G4HFQ** (Yaesu radios exclusively)
4. **CSV** (**C**omma **S**eparated **V**alues) file
5. **XLS** (via CSV – MS **Excel** or other compatible spreadsheet programs)

RB Data Export File Formats

6. **ICOM** CS-5100 (Programming Software for the Icom ID-5100)
7. **Kenwood** MCP (D710/V71 Radio Programming Software)
8. **Anytone** 868/878 Programming Software
9. **RadioMobile** Repeater Coverage Software
10. **KML** (**K**eyhole **M**arkup **L**anguage – Google Earth)

RB Data Export File Formats

- 11. GPX (**GPS** Exchange File)
- 12. Travel Plus (CSV or TPE Format)
- 13. UI-View Overlay
- 14. Uniden Sentinel Software

Programming Your Radio

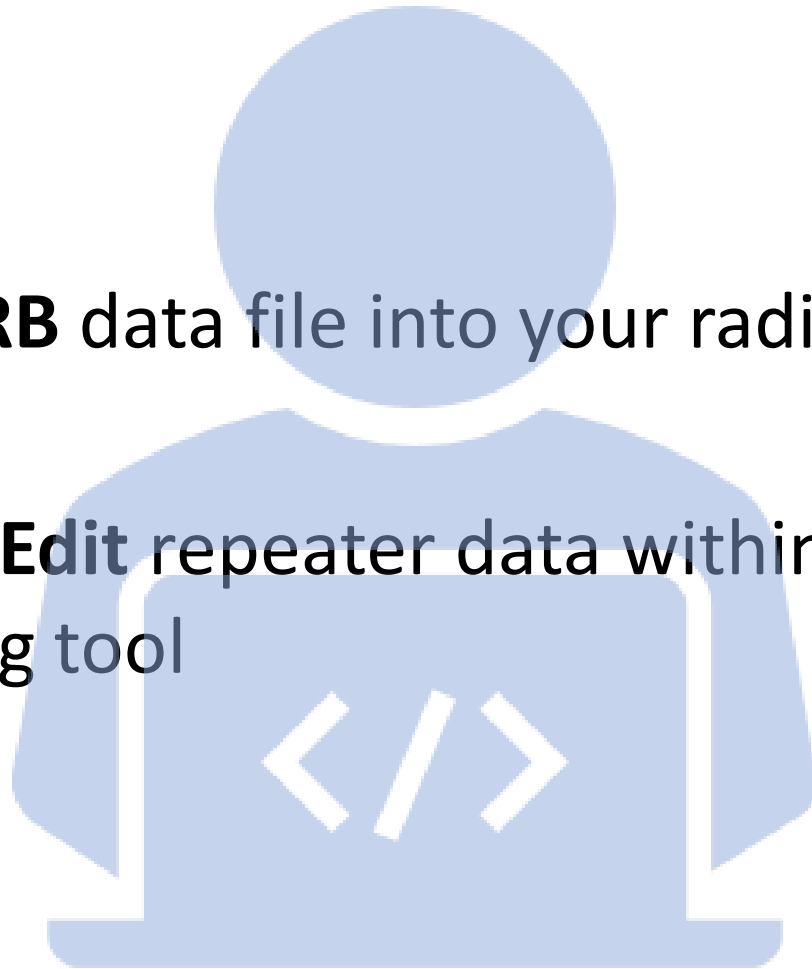
Major Steps:

1. **Search** properly for your repeaters in **RB** to refine your repeater list by:
 - **Locations** desired (state, region, county, city, proximity, etc.)
 - **Frequency bands** supported by your radio (2M, 70CM, etc.)
 - **Modes** supported by your radio (FM, D-STAR, YSF, etc.)
2. **Export** repeater data from **RB** in the appropriate data file format

Programming Your Radio

Major Steps:

3. **Import** the **RB** data file into your radio programming tool
4. **Review and Edit** repeater data within the programming tool



Programming Your Radio

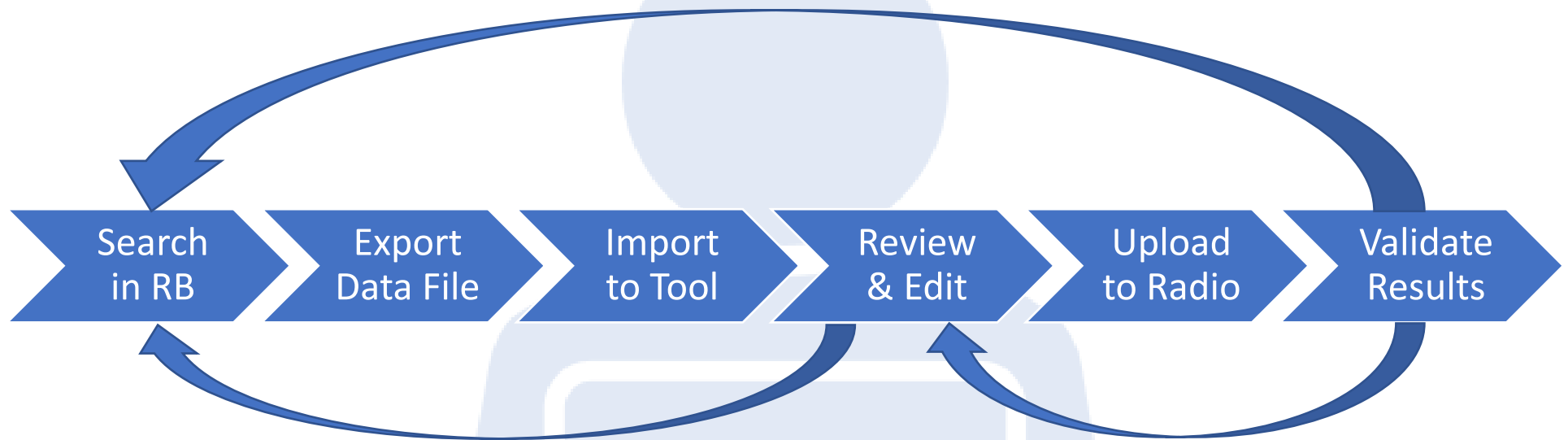
Major Steps:

5. Upload this **personalized/refined** repeater data into your radio
6. **Validate** your programming results on the air



Programming Your Radio

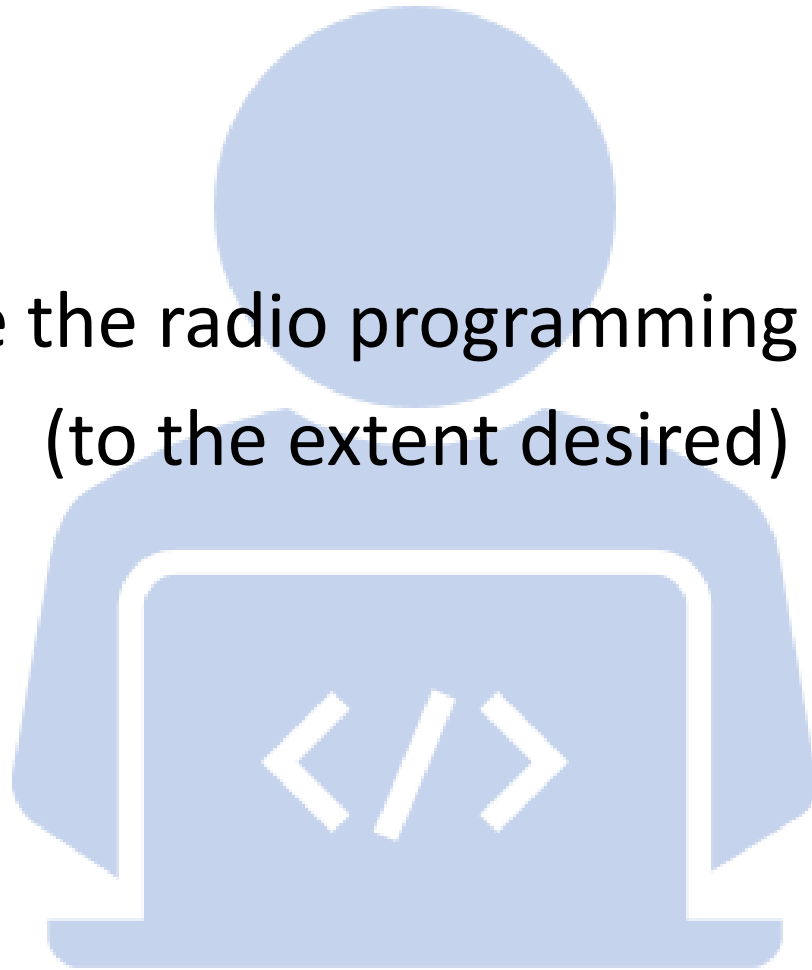
An Iterative and Continuous Improvement Process



Helps You Maintain The Accuracy, Completeness, Relevance, And Recency Of Your Radio's Programming

Programming Your Radio

Demonstrate the radio programming process in **RB**
(to the extent desired)



RB Mobile Application

RB Mobile Application

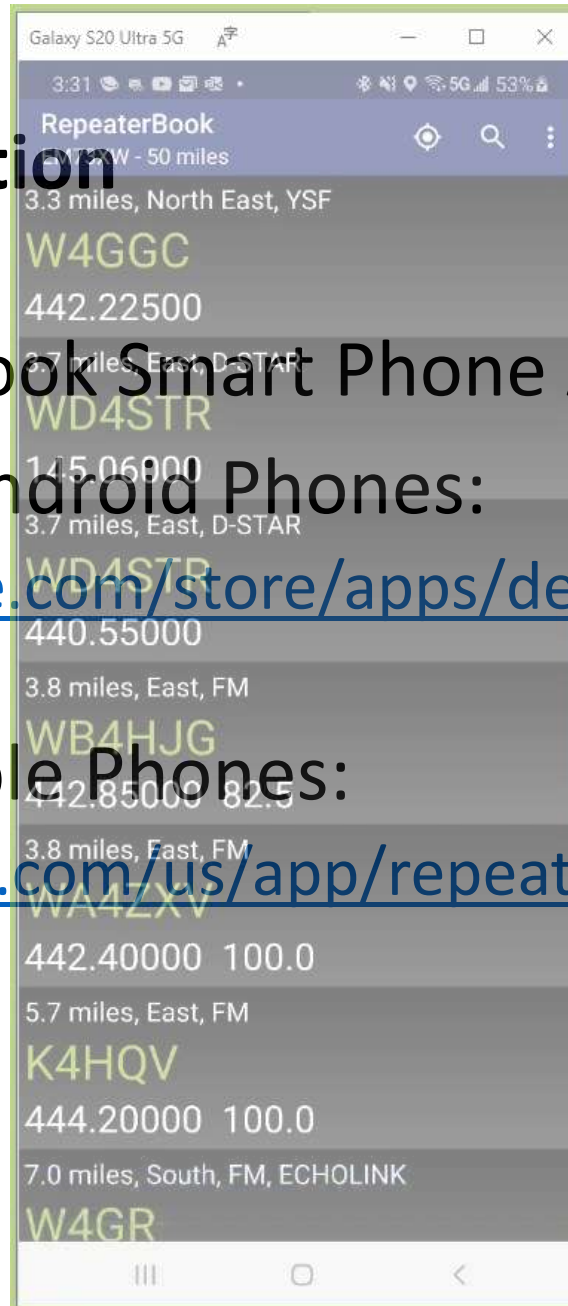
Get the RepeaterBook Smart Phone Application (free):

- Google Play for Android Phones:

<https://play.google.com/store/apps/details?id=com.zbm2.repeaterbook>

- App Store for Apple Phones:

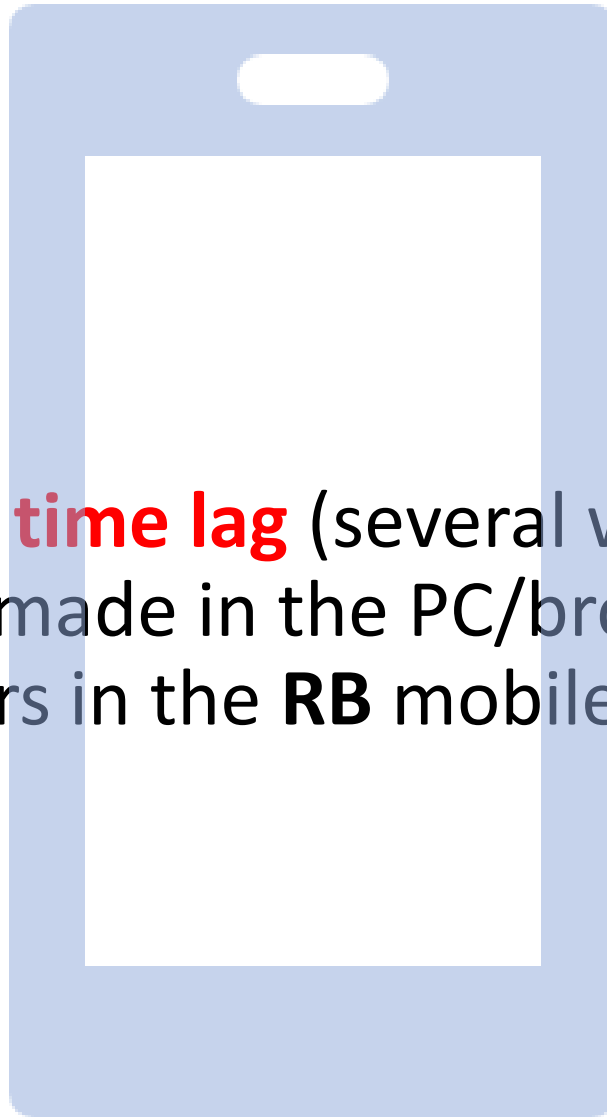
<https://apps.apple.com/us/app/repeaterbook/id606820166>



RB Mobile Application

PLEASE NOTE:

There is an **update time lag** (several weeks) between when updates are made in the PC/browser **RB** database and when it appears in the **RB** mobile app database



Questions Thus Far?



GA RB Accomplishments

Within 6 months we have:

1. Performed **1,200+** updates to the **GA RB** database
2. Sent out **450+** emails to **GA** Trustees/Custodians to confirm repeater status and **RB** listing accuracy
3. Resolved the operational status (as either **ON-AIR**, **TESTING**, **OFF-AIR**, or **ARCHIVE**) of **150+ GA** repeaters formerly classified as **UNKNOWN**

GA RB Accomplishments

Within 6 months we have:

4. Built an extensive, outboard, Outlook-based **GA RB** Trustee Database
5. Established and reinforced internal process controls to further ensure the integrity, quality, and reliability of **GA RB** data

GA RB Accomplishments

Within 6 months we have:

- 6. Reduced errors/omissions/duplicates significantly
- 7. Resolved several chronic state boarder/repeater location disputes (primarily with TN & SC)
- 8. Initiated and assembled a **GA RB VRO** Team (see Appendices to learn more!)

Lessons Learned Thus Far



Lessons Learned Thus Far

Plenty of Good News:

- There are many well-managed repeaters throughout **GA**
- Most repeater Trustees/Custodians/Managers are generally supportive of **RB** initiatives and try to help whenever they can or when they are asked to do so
- Many are active in maintaining the accuracy of their **RB** listings

Lessons Learned Thus Far

Plenty of Good News:

- There are numerous active ham clubs in **GA** (100+) many of which sponsor/fund **GA** repeaters
- Overall, the **RB** operating/business model appears to be working well
- **GA** repeaters appear to be well represented and properly served by **RB**

Lessons Learned Thus Far

Concerns About Trustee/Custodian/Manager Roles:

- Limited visibility of email addresses (~only 75%)
- Low response rate to outreach emails (~only 10%)
- Repeater coordination with **SERA** (~only 75%)
- Membership in **SERA** (~only 50%)
- Registration in **RB** (~only 50%)
- Sporadic feedback about **RB** listings

Lessons Learned Thus Far

Concerns About GA RB Outreach Effectiveness:

- Most (~90%) of **GA RB** email inquiries thus far have apparently either been:
 - Filtered to Junk/Spam email folders and were thus rendered mostly invisible
 - Ignored and/or deleted (**I blame the filters!**)
- A **USPS** physical, “**snail mail**” campaign will be necessary since the email campaign has had such limited responses thus far (~only 10%)

Lessons Learned Thus Far

Strange/Surprising Cases – Topics for Another Day:

- Time and Effort Required to Resolve Numerous Conflicting Data Sources
- “Paper Repeaters”
- Missing and Overstated Repeater Coverage Data
- Missing and Silent Key Trustees
- Silence of the Repeaters (Where is Everyone?)
- Cycling/Malfunctioning/Abused Repeaters

Why Register With **RB**?



RB Offers
a Compelling Constellation
of Advantages and Benefits
for Ham Repeater Users

Why Register With RB?

Primary Benefits and Advantages of Being Registered With RepeaterBook.com	<i>With No Registration</i>	<i>With RB Registration</i>	<i>With Repeater Trustee or Custodian Designation in RB</i>
1. AWARENESS – Maintain visibility into your city, county, regional and state repeater portfolio	YES	YES	YES
2. MANAGEMENT – Ensure that your repeater listings (and those of others in your community) are accurate, complete, and well-maintained	YES	YES	YES
3. INSIGHT – Stay up-to-date on developing repeater trends and technologies in your city, county, region, state, nation and around the world	YES	YES	YES
4. CONNECTIVITY – Export repeater programming data directly to RT Systems, CHIRP, G4HFQ, Excel and many other radio programming tools		YES	YES

Why Register With RB?

Primary Benefits and Advantages of Being Registered With RepeaterBook.com	<i>With No Registration</i>	<i>With RB Registration</i>	<i>With Repeater Trustee or Custodian Designation in RB</i>
5. REPORTING – Create custom export files to create unique repeater lists and reports using Excel or other spreadsheet applications		YES	YES
6. STATUS – Receive weekly email updates (if desired) about changes to any repeaters of interest to you by subscribing to the Repeater Change Notification System		YES	YES
7. PROTECTION – Use Record Lock to protect your listings from being changed by anyone other than yourself, another Custodian, or an RB Administrator .			YES

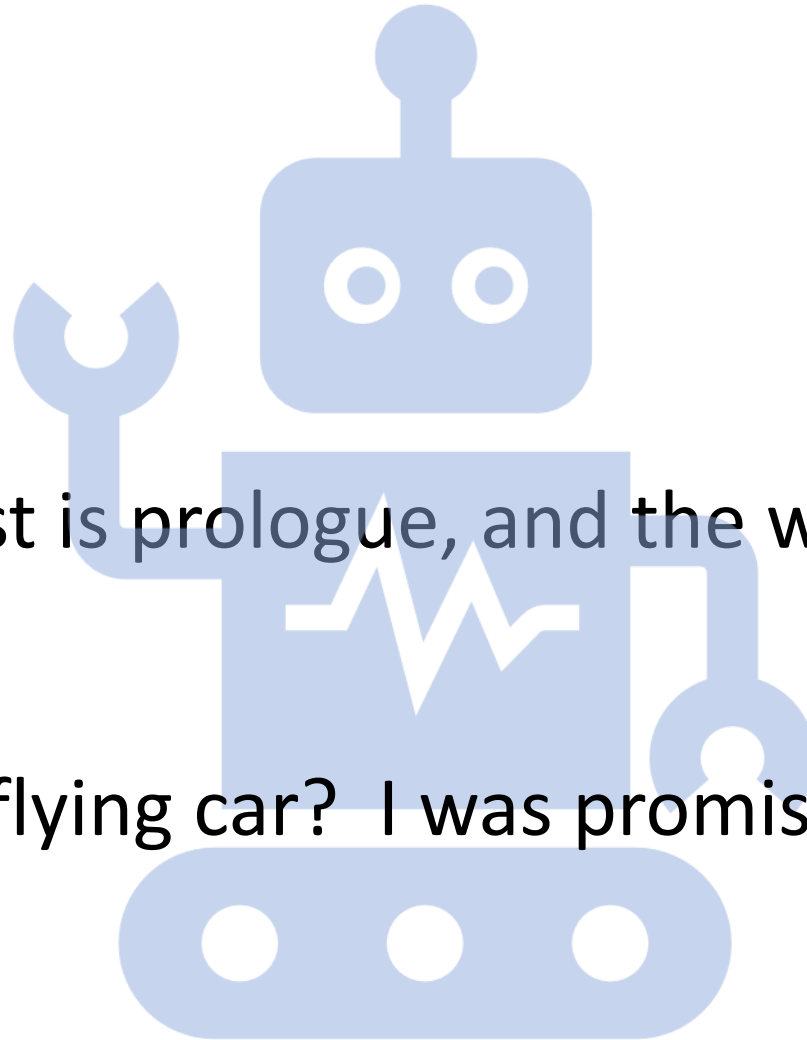
Why Register With **RB**?

Primary Benefits and Advantages of Being Registered With RepeaterBook.com	<i>With No Registration</i>	<i>With RB Registration</i>	<i>With Repeater Trustee or Custodian Designation in RB</i>
8. FLEXIBILITY – Change your repeater operational status listings autonomously from ON-AIR to OFF-AIR (and vice versa) as shifting conditions dictate			YES
9. CAUTION – Receive automatic email notifications from RB if any changes are made to your repeater listings (but ONLY if properly registered in RB)			YES
10. CONTROL – Directly manage your DMR repeater's Talk Group settings			YES

Why Register With RB?

Primary Benefits and Advantages of Being Registered With RepeaterBook.com	With No Registration	With RB Registration	With Repeater Trustee or Custodian Designation in RB
11. GROWTH – Add and remove other qualified Repeater Data Custodians for your repeater as needs and leadership roles change <i>Ham clubs are frequent users of this unique feature</i>			YES
12. CUES – Receive annual automatic email reminders from RB to review and re-validate your listings to help ensure their accuracy and completeness			YES
13. ACCESS – Get early passport to future RB Trustee/Custodian features and automation technologies as they become available			YES

The Future of Amateur Repeaters



“What's past is prologue, and the world awaits.”

“Where is my flying car? I was promised a flying car!”

The Future of Amateur Repeaters

STRENGTHS

Leading Regional RF Communication Method
Most Are Well Built/Operated/Maintained
Value Has Been Proven/Accepted/Embraced
Various Technologies Standardized Worldwide

WEAKNESSES

Growth of Competing Yet Incompatible Modes
Limited Feature and Service Offerings
Inconsistent Coverage and Service Levels
Silence of the Repeaters/Microphone Reluctance

Amateur Repeaters SWOT Case Study Analysis

OPPORTUNITIES

Growth of Repeater Networking Options
Integration With Popular Online Data Services
Agile Response to New Trends and Technologies
Artificially Intelligent Repeaters

THREATS

Continued Decline in the Use of Repeaters
Increasing Cost of Operation and Limited Funding
Further Mode Fracturing/Isolation/Islands
Loss of Band Space/Radio Spectrum to FCC

The Future of Amateur Repeaters

Amateur radio repeater services will either **innovate** and **flourish** or **stagnate** and **perish**.

The most likely path to a **brighter future** includes:

- **Integration** with other relevant/complimentary online data services
- **Adaptation** of artificial intelligence (**A.I.**) technologies

The Future of Amateur Repeaters



The past can inform our future!

**Do any of you remember
ACK Radio Supply Company?**

The Future of Amateur Repeaters

In the early 70s, **ACK** Radio Supply Company near downtown Atlanta was an important vendor to hams throughout the Southeast



The Future of Amateur Repeaters

- **ACK** placed a valuable, operating, **HP VHF** test set in a side window of its store after-hours and over weekends
- It included a well-calibrated VHF frequency counter and FM deviation meter

The Future of Amateur Repeaters

- Hams would drive from miles around to make their pilgrimage to **ACK** to test and align their mobile 2M FM gear at their convenience and free of charge
- I never forgot this brilliant service **innovation**

The Future of Amateur Repeaters

Amateur Repeaters Need an Innovative Kick in the “ACK”

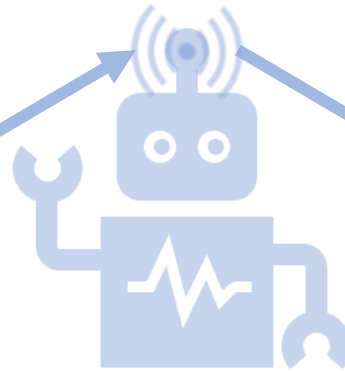
- Many of us already talk with our computers every day (i.e. Bixby, Siri)
- Repeaters should evolve an **A.I.** voice interface too

The Future of Amateur Repeaters

Amateur Repeaters Need an Innovative Kick in the “ACK”

- Ham **A.I.** personalities could be “**Elmer**” (male), “**Ellie**” (female), or “**ACK**” (neutral) as a starting point
- Apparently, **HAL**[™] is already spoken for
- This would support a mobile, microphone-only, no buttons, conversational interface that could provide on-demand feedback and services such as:

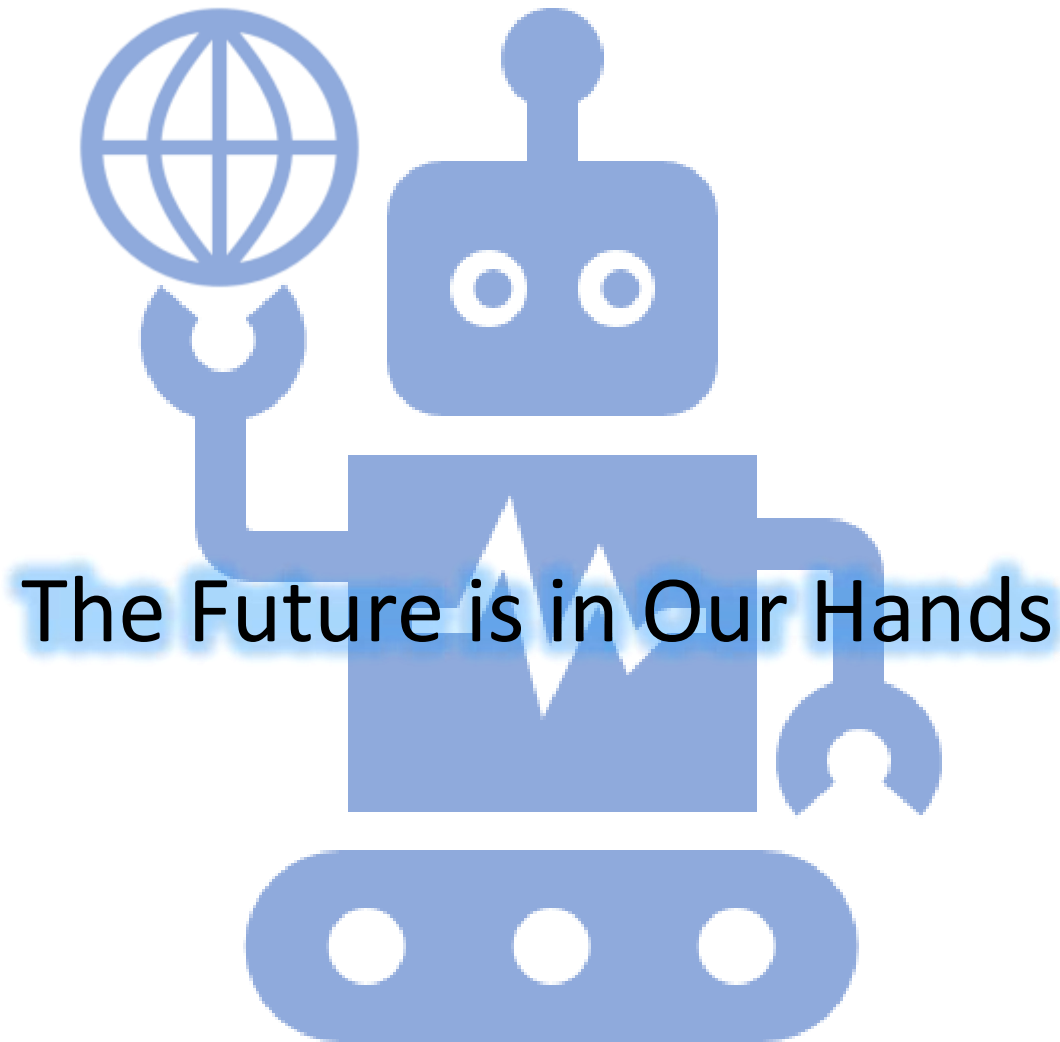
The Future of Amateur Repeaters



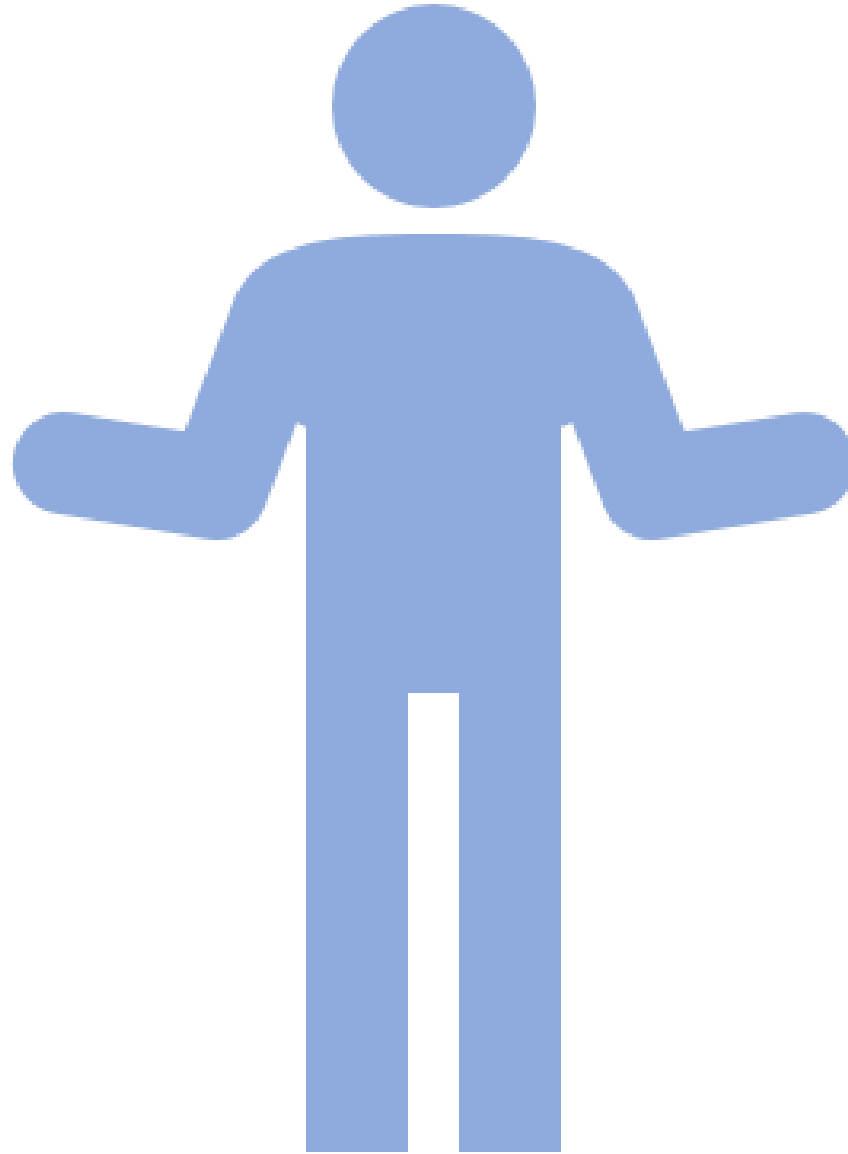
Elmer, Ellie or ACK?

UPLINK SIGNAL QUALITY FEEDBACK	DOWNLINK STATUS REPORTING
VFO accuracy	Overall repeater health/mode/status
Signal strength/clarity	Repeater traffic statistics/link status
Voice quality/intelligibility/talk-back	Ad hoc internet inquiries
Voice recognition rate with A.I. interpreter	Upcoming events/ daily briefing
FM deviation levels	Emergency notifications
Data transmission/data loss rates	Time/temperature/weather reports
<i>And many more services...</i>	<i>And many more services...</i>

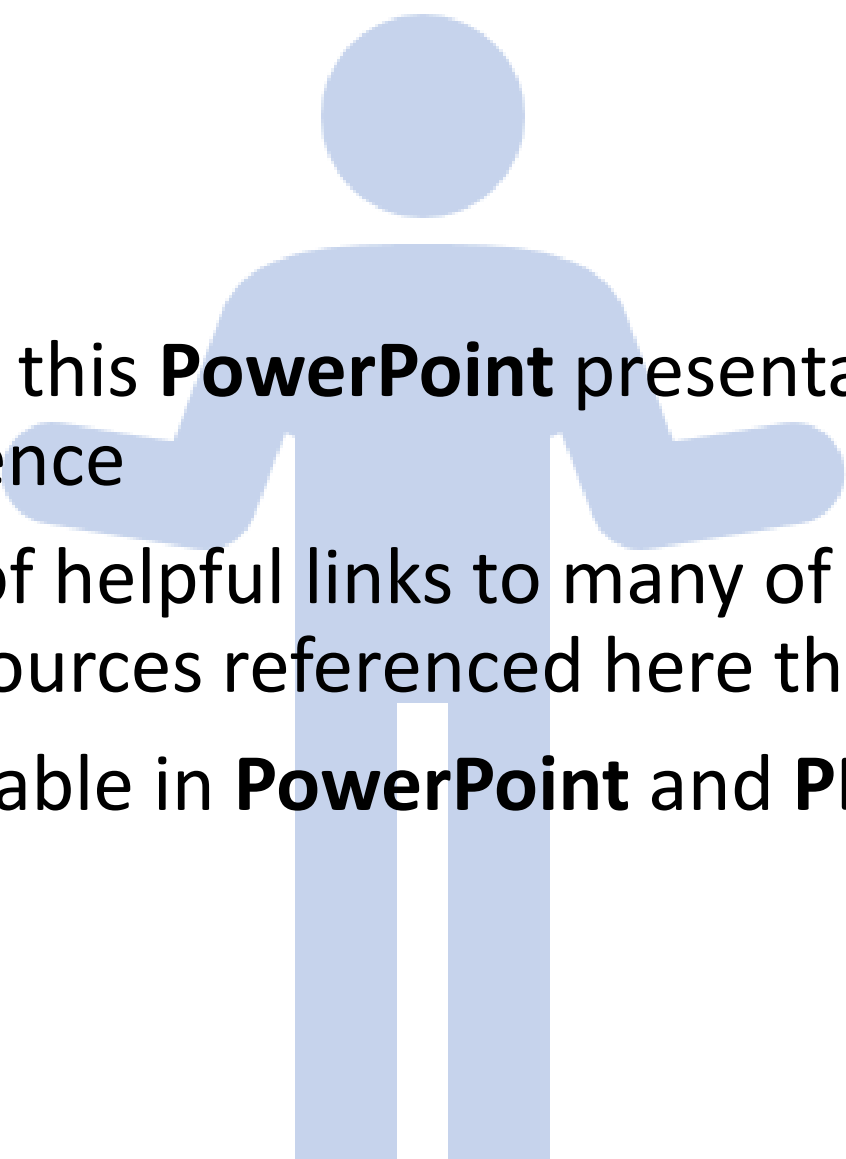
The Future of Amateur Repeaters



All I Ask Of You



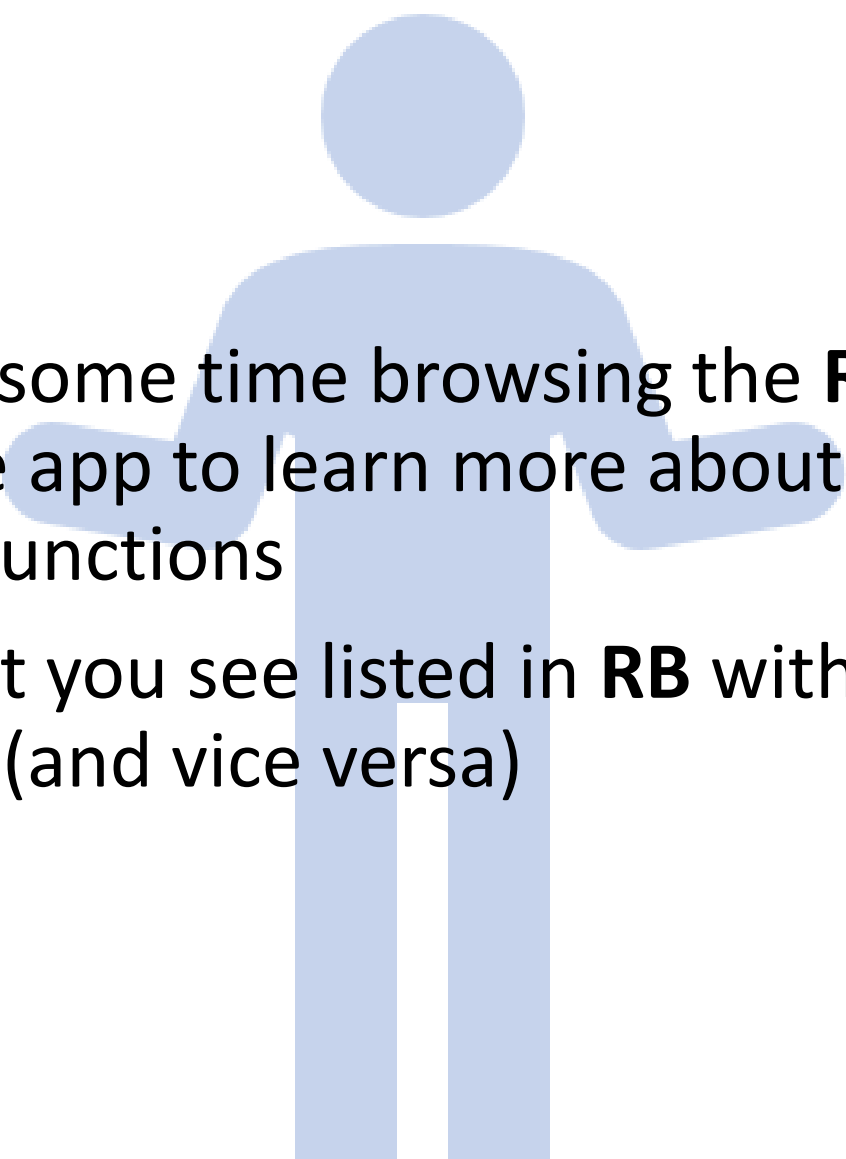
All I Ask Of You

- 
- **Please** review this **PowerPoint** presentation stack at your convenience
 - It has plenty of helpful links to many of the online information sources referenced here this evening
 - It will be available in **PowerPoint** and **PDF** formats

All I Ask Of You

- 
- Questions and suggestions are always welcome!
 - **Video streaming links and presentation links** for this presentation will be posted on the **GARS** website, **right Dave?**

All I Ask Of You

- 
- **Please** spend some time browsing the **RB** website and the **RB** mobile app to learn more about their unique features and functions
 - Compare what you see listed in **RB** with what you hear on your radio (and vice versa)

All I Ask Of You

- Report any **RB** errors, omissions, or inconsistencies **ASAP** via **RB** Update Request or via email directly to me
- Consider becoming a **GA RB VRO** (see Appendices for more details!)

All I Ask Of You

- Please post **reviews** and **propagation reports** of the repeaters you **regularly use** in **RB** to help other hams know what to **expect**
- Exercise your **lungs** and your **radio** on your local **repeaters!**

All I Ask Of You

- Support your local repeater **Owners** and **Trustees** by volunteering your **time** and/or your **targeted donations** to help keep these **essential** repeater resources **ON-AIR** and active

Consider Donating to **RB**

- If you use **RB** and like what it does for you, **please** consider donating to this **very worthy cause**
- You can help keep **RB** alive by offering a **small** donation through **PayPal**, a **secure** way to donate



Special Thanks To

- Gwinnett Amateur Radio Society (GARS)
- GARS Officers, Committee Leaders and the Entire Club Membership
- W3DJS – David – Workshop Host
- KD4HNX – Dallas – Workshop Associate
- All of you here on Zoom this evening

Appendices



Useful RB Links

- Facebook:
<https://www.facebook.com/repeaterbook>
- Twitter:
<https://twitter.com/repeaterbook>
- Group IO:
<https://repeaterbook.groups.io/g/repeaterbook>
- Instagram:
<https://www.instagram.com/repeaterbookofficial/>
- Pinterest:
<http://www.pinterest.com/repeaterbook/>
- PayPal:
<https://www.paypal.me/repeaterbook>

Georgia's 12 Regions and 159 Counties

<div>Georgia Region Number, Abbreviation & Name</div>	<div>Short Region Name for Programming Ham Radio Memory Banks</div>	Georgia Counties in Each Region																		
<div>1 NWGR Northwest Georgia Region</div>	01-NW GA	Bartow	Catoosa	Chattooga	Dade	Fannin	Floyd	Gilmer	Gordon	Haralson	Murray	Paulding	Pickens	Polk	Walker	Whitfield				15
<div>2 GMR Georgia Mountains Region</div>	02-GA Mountains	Banks	Dawson	Forsyth	Franklin	Habersham	Hall	Hart	Lumpkin	Rabun	Stephens	Towns	Union							12
<div>3 AR Atlanta Region</div>	03-Atlanta Reg	Cherokee	Clayton	Cobb	DeKalb	Douglas	Fayette	Fulton	Gwinnett	Henry	Rockdale									10
<div>4 TRR Three Rivers Region</div>	04-Three Rivers	Butts	Carroll	Coweta	Heard	Lamar	Meriwether	Pike	Spalding	Troup	Upson	White								11
<div>5 NEGR Northeast Georgia Region</div>	05-NE GA	Barrow	Clarke	Elbert	Greene	Jackson	Jasper	Madison	Morgan	Newton	Oconee	Oglethorpe	Walton							12
<div>6 MGR Middle Georgia Region</div>	06-Middle GA	Baldwin	Bibb	Crawford	Houston	Jones	Monroe	Peach	Pulaski	Putnam	Twiggs	Wilkinson								11
<div>7 CSRAR Central Savannah River Area Region</div>	07-Savannah Riv	Burke	Columbia	Glascok	Hancock	Jefferson	Jenkins	Lincoln	McDuffie	Richmond	Taliaferro	Warren	Washington	Wilkes						13
<div>8 RVR River Valley Region</div>	08-River Valley	Clay	Crisp	Chattahoochee	Dooley	Quitman	Harris	Macon	Marion	Muscogee	Randolph	Schley	Stewart	Sumter	Talbot	Taylor	Webster			16
<div>9 HOGAR Heart of Georgia Altamaha Region</div>	09-Heart of GA	Appling	Bleckley	Candler	Dodge	Emanuel	Evans	Jeff Davis	Johnson	Laurens	Montgomery	Tattnail	Telfair	Toombs	Treutlen	Wayne	Wheeler	Wilcox		17
<div>10 SWGR Southwest Georgia Region</div>	10-SW GA	Baker	Calhoun	Colquitt	Decatur	Dougherty	Early	Grady	Lee	Miller	Mitchell	Seminole	Terrell	Thomas	Worth					14
<div>11 SGR Southern Georgia Region</div>	11-Southern GA	Atkinson	Bacon	Ben Hill	Berrien	Brantley	Brooks	Charleton	Clinch	Coffee	Cook	Echols	Irwin	Lanier	Lowndes	Pierce	Tift	Turner	Ware	18
<div>12 CGR Coastal Georgia Region</div>	12-Coastal GA	Bryan	Bulloch	Camden	Chatham	Effingham	Glynn	Liberty	Long	McIntosh	Screven									10

159

Georgia by the Numbers

GA ECONOMIC REGIONS:	12
GA COUNTIES:	159
GA MUNICIPALITIES:	535
GA SQUARE MILES:	59,425
GA HAM RADIO LICENSES (approx):	18,700

Georgia RepeaterBook.com by the Numbers

As of 01 July 2020

GA Repeater RECORDS ACTIVE:	590	100%
GA Repeaters ON-AIR:	408	69%
GA Repeaters TESTING:	4	1%
GA Repeaters OFF-AIR:	114	19%
GA Repeaters UNKNOWN STATUS:	65	11%



Georgia's Regional Economic Commissions

GA Ham & Repeater Analysis by the Averages

ON-AIR Repeaters per Region	34
ON-AIR Repeaters per County	2.6
Municipalities per ON-AIR Repeater	1.3
Square Miles per ON-AIR Repeater	146
Hams per ON-AIR Repeater	46
Hams per Economic Region	1558
Hams per County	118
Hams per Municipality	35

ATTENTION ALL GA HAMS !

Georgia RepeaterBook.com Needs Voluntary Repeater Observers -- Now !

All of Georgia's **400+ ON-AIR** repeaters are spread across **12** Economic Regions, **159** Counties in over **535** Municipalities serving over **18,700** licensed amateur radio operators, in **scores** of ham radio clubs throughout its **59,425** square miles.

Maintaining the status and the detailed listings of all these repeaters online in **RepeaterBook.com** (RB) is no easy task !

We need **at least one** (and perhaps more) GA ham living in each of Georgia's 12 Regions to serve as **GA RB Voluntary Repeater Observers (GA RB VROs)**.

Check out the statistics carefully in the image below.

If you:

- Live in one of Georgia's 12 Economic Regions
- Have appropriate mobile/ portable VHF/ UHF radio equipment and reliable regional transportation **or..**
- Have similarly appropriate base station radio equipment with a good antenna
- Enjoy chasing down repeater signals in the counties closest to you
- Take pride in the accuracy and completeness of your City, County, Region and State RB listings
- Have great patience and attention to detail
- Work well with others and enjoy collaborating together on something bigger than yourself

Please send me a personal text message here on Facebook or email me directly at **KV4VT@RepeaterBook.com** with your background and qualifications.

The adventure of a lifetime awaits !

Background

KV4VT – Chuck Adams – GA RB Administrator:

- First licensed circa **1970** as a Novice – **WN4ZEG**
- **BSEE** – 1978 – Tennessee Technological University
- **MBA** – 1986 – Mercer University
- Telecommunications Engineer – Southern Company
- IT Consulting Director – KPMG
- Certified IT Project Management Professional
- KV4VT – Amateur Extra – Morse Code Tested

Background

Adjunct Faculty Member and Instructor at:

- Southern Technical Institute – STI (later known as Southern Polytechnic State University – SPSU and now as Kennesaw State University – KSU)
- Georgia Institute of Technology
- Mercer University
- KPMG
- Professional meeting facilitator and conference room pilot
- Numerous professional workshops and seminars worldwide

Contact Details



Chuck Adams

KV4VT

Georgia Administrator

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Georgia@RepeaterBook.com

[KV4VT RB Messenger](#)

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Lawrenceville, GA USA

EM73xw