

Ham Radio with Android

Smart phones uses for amateur radio.

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Android vs. iPhone

- My preference is for the Android platform.
- I have used an iPhone (company issued) and did not care for it.
- Your mileage may vary as there are many fans of the iPhone out there.
- This discussion will mainly focus on the Android.

Basic Uses—mundane to pretty cool stuff

- I use the phone to remind me of net times. This is especially important if you are net control. Pretty mundane, but I find it to be useful.
- Some antenna analyzers interface with a smart phone. RigExpert uses an app, AntScope, to communicate with their current line of analyzers via Bluetooth for both Android and IOS (Apple). Why haul around a laptop if you can use your cell phone?
- Use your phone to look up a call sign.

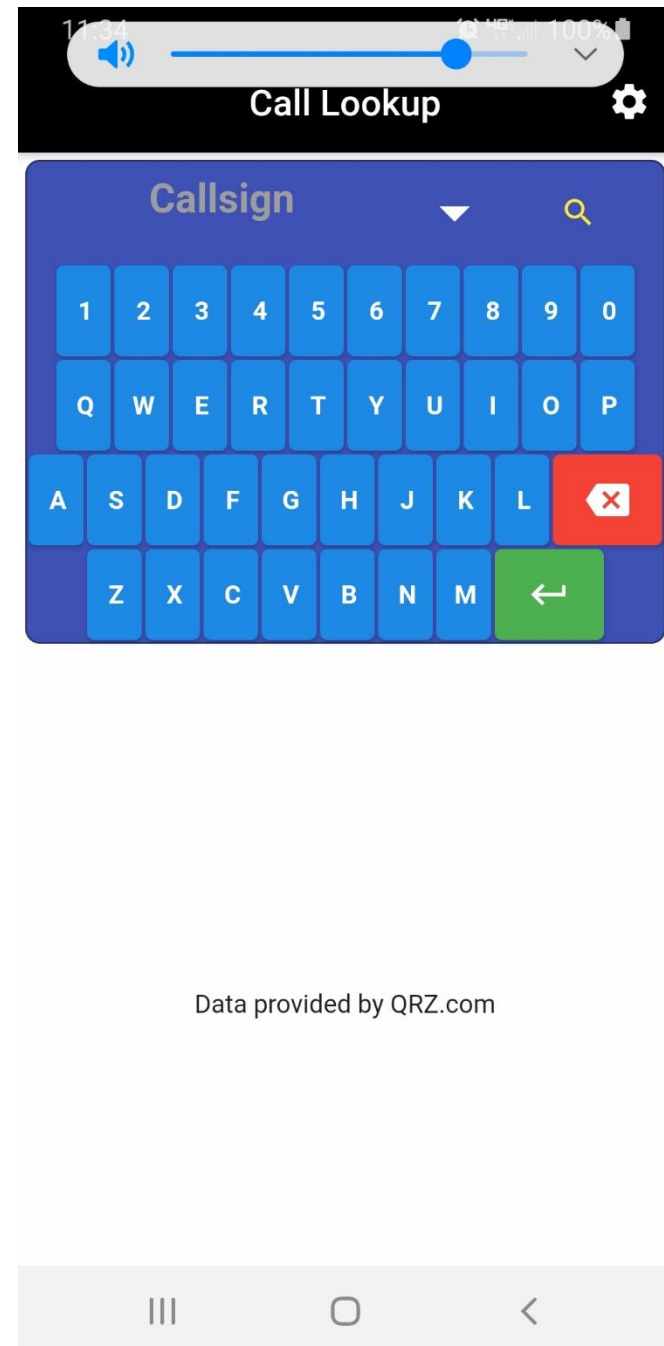
Play Store Search “Ham Radio”

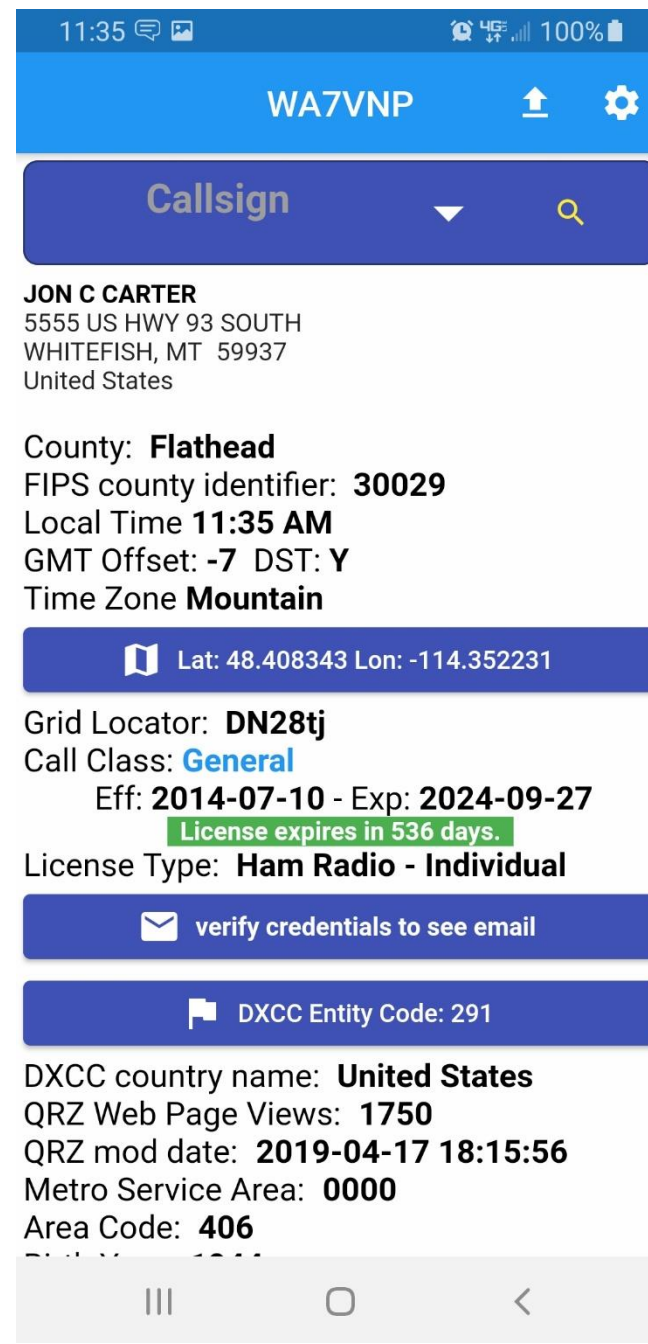
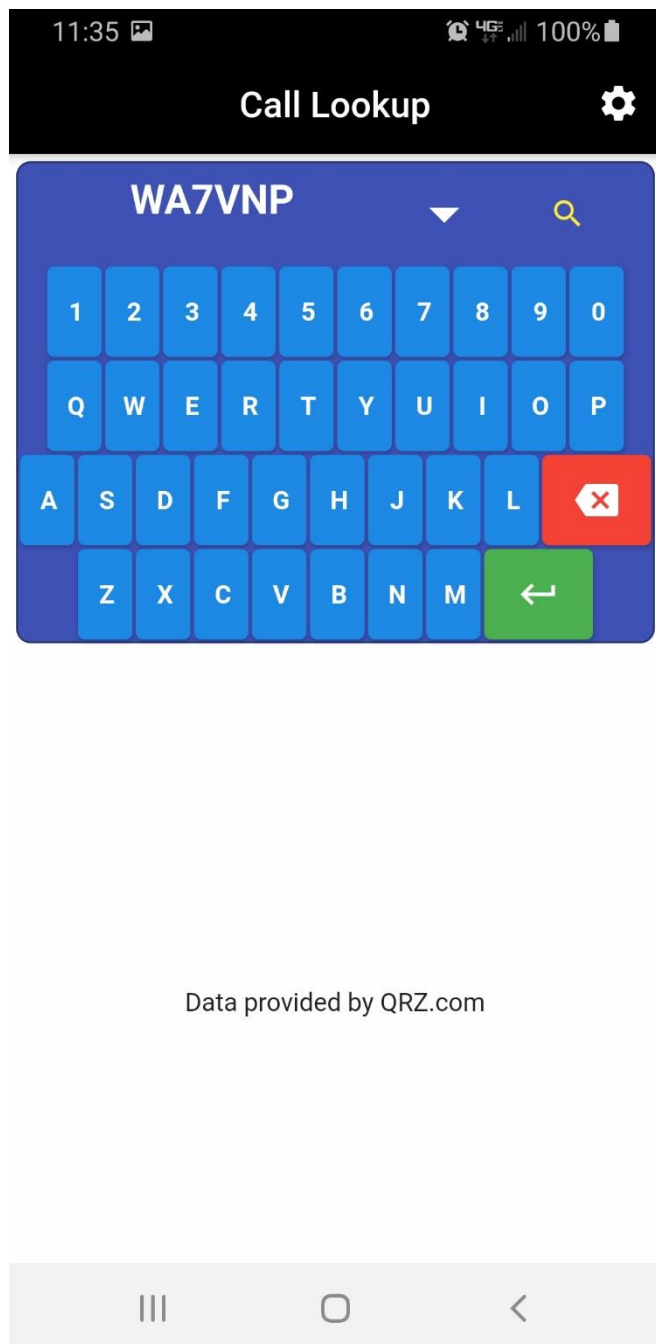
Turns up:

- HamStudy.org – Study guides for license exams
- Ham Radio Prep – more study guides
- Repeater Book – listing of repeaters (many are outdated)
- EchoLink – communication program (more on that later)
- Several e books – Even a free version of ARRL Antenna Book from 1949. I could not resist downloading this one.
- Ham Callsigns – Let’s look at this one a little more

Call Lookup

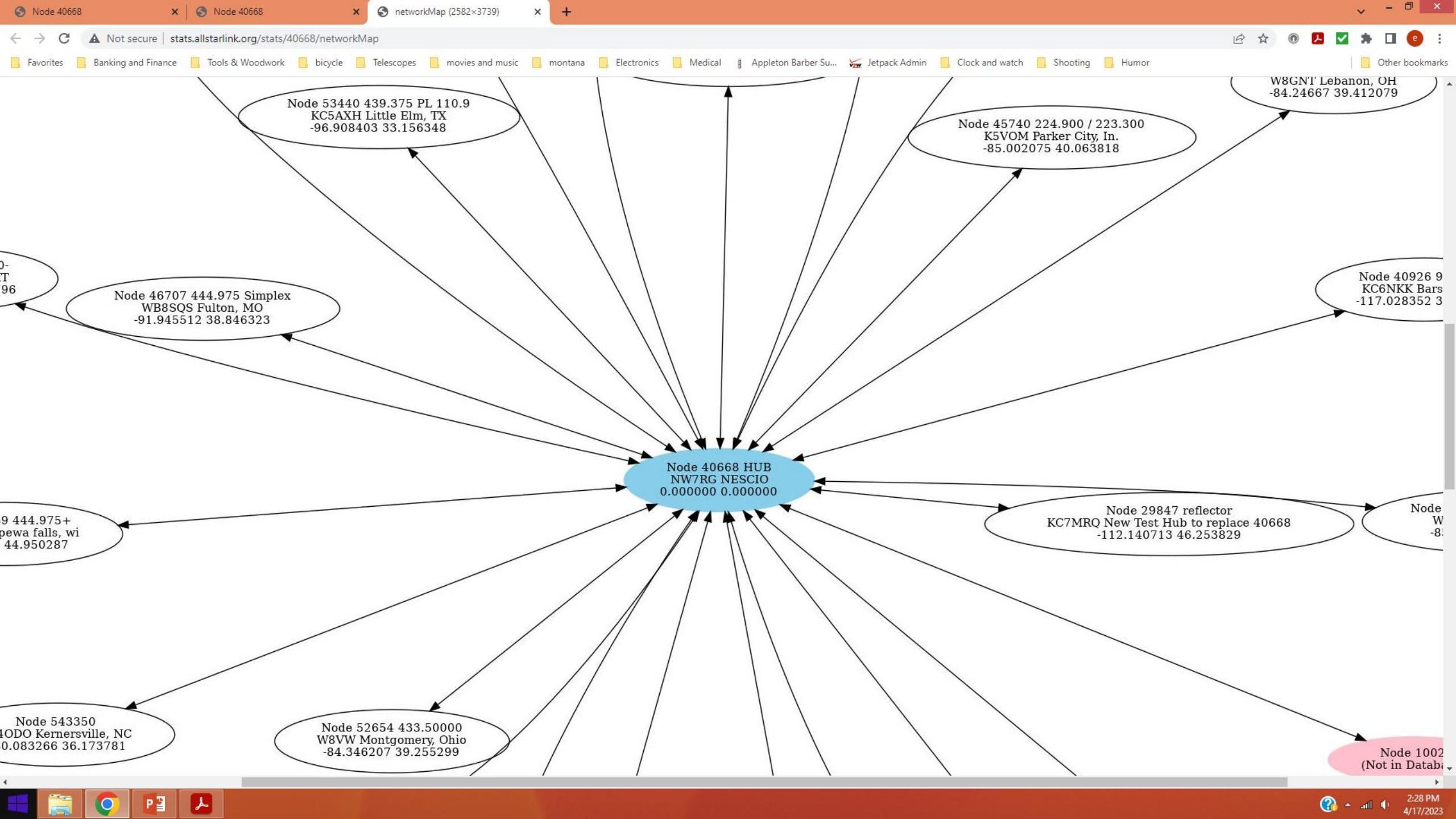
- Ham Callsigns is an app that give similar functionality to QRZ.com.
- Does not require you to reconfirm your login data every 30 days—an annoying “feature” of QRZ.com.
- Type in the call sign and select the search icon.





More interesting stuff. . . .

- You can use a phone app to access EchoLink or AllStar linked nodes and repeaters. That's right, you don't need a radio to talk on the radio—just the right app and a cell signal. This is the function that most interests me right now.
- Definition of Node — a point at which lines or pathways intersect or branch; a central or connecting point. A picture of may help.



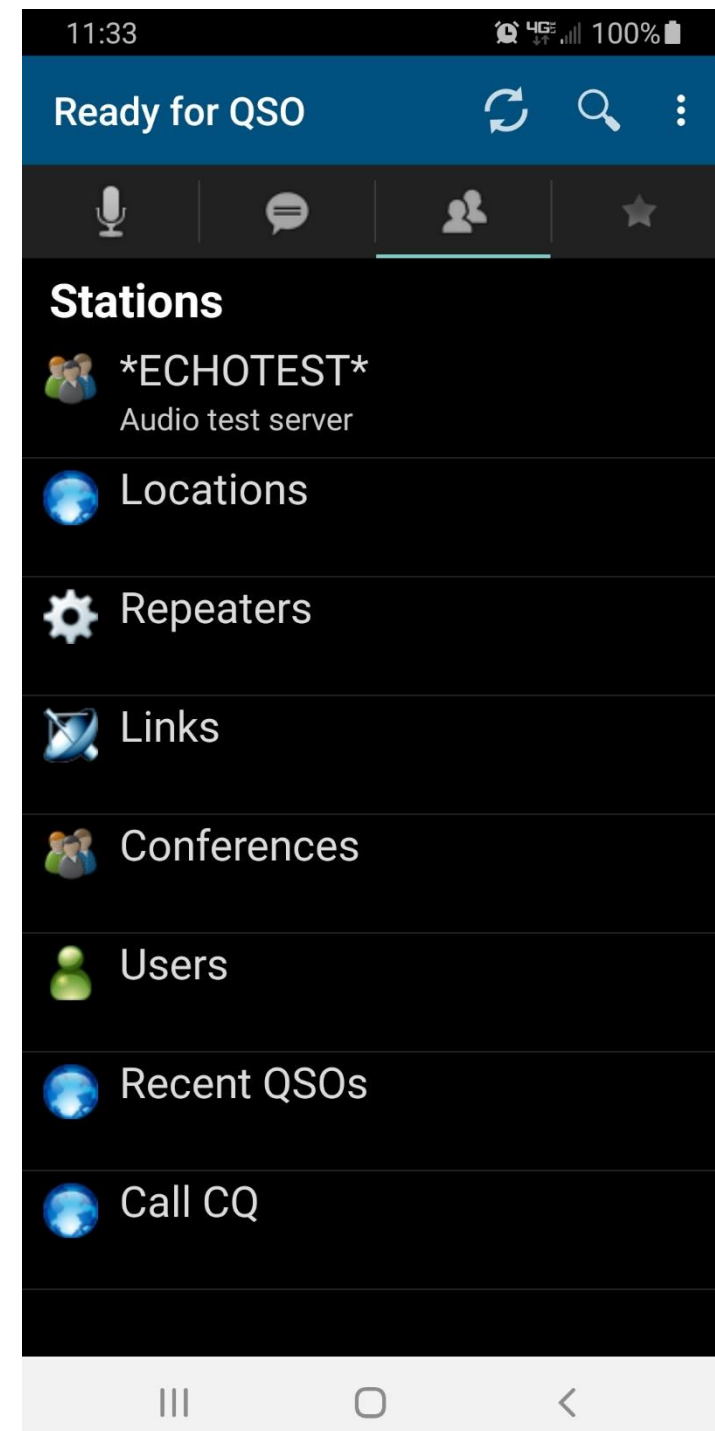
EchoLink Overview

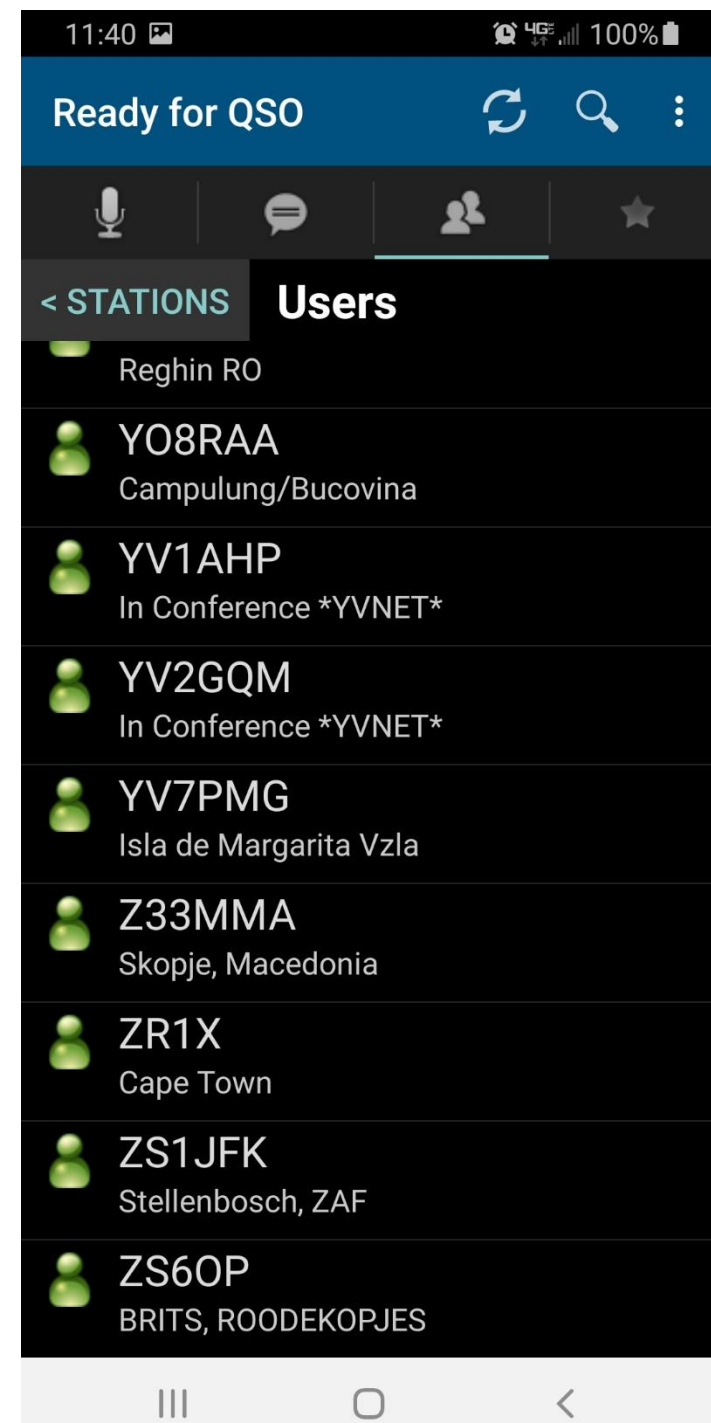
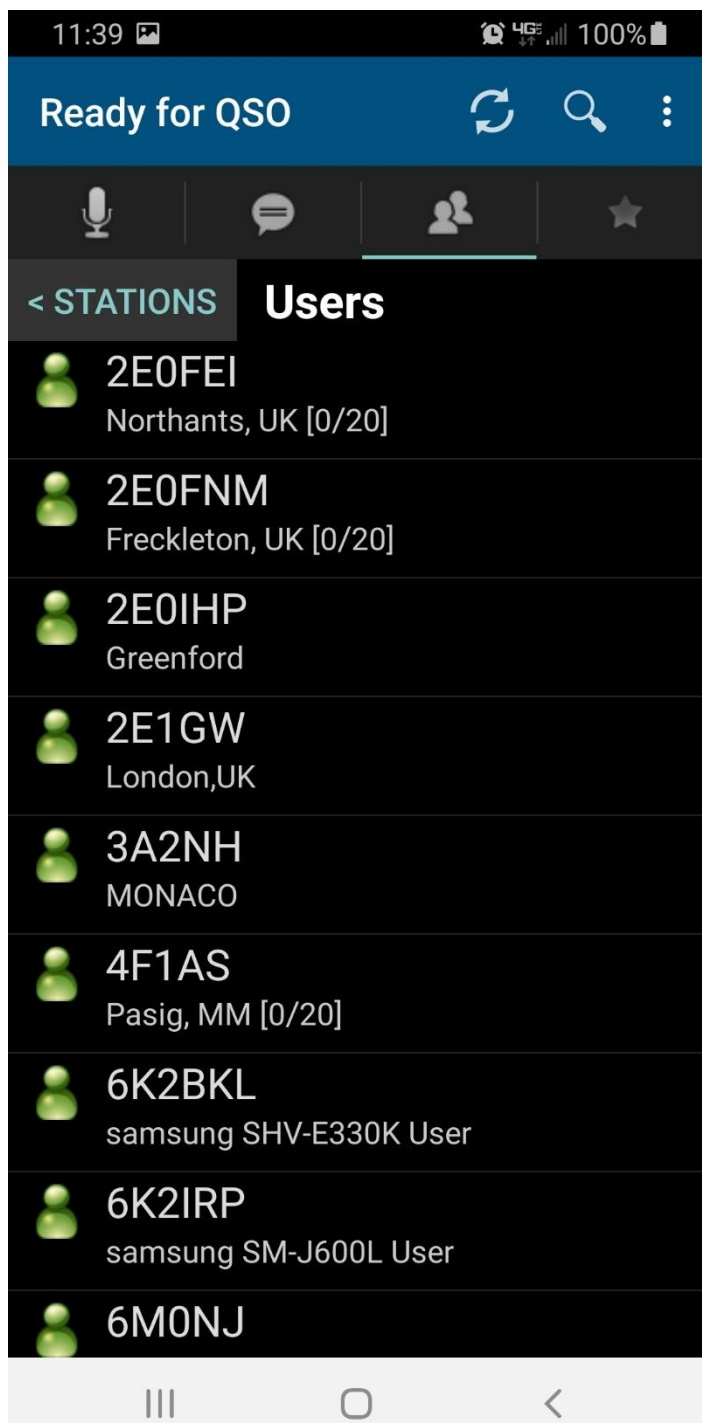
- So what is this EchoLink stuff?
 - EchoLink allows licensed amateurs to communicate with each other using a combination of radios and the internet.
 - Repeaters may be linked via the internet.
 - According to data on echolink.org, there are more than 350,000 validated users worldwide in 159 nations. Typically 6,000 users are online at any time.
- EchoLink platforms
 - Windows
 - Android
 - IOS

EchoLink Registration

- Before using EchoLink, you need to register.
- Install the EchoLink software and register your call sign.
- Go to echolink.org and start the validation process.
- An Official Copy of your license will be required. This is how they try to ensure that it is used by licensed amateurs.
- Get an official copy of your license from the FCC ULS database. Do not rename the file.
- Fortunately, the instructions at echolink.org are pretty easy to follow (even I managed somehow).

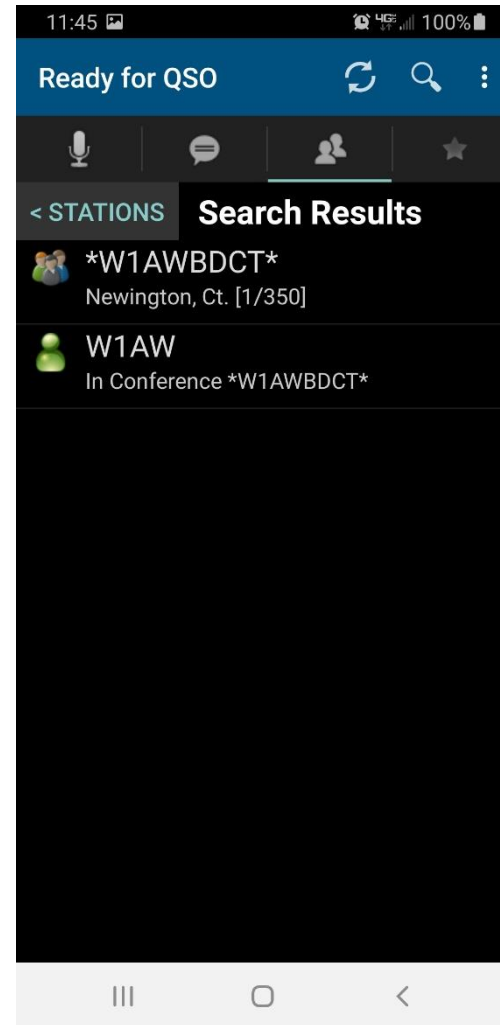
- EchoLink opening screen. Note the “ECHOTEST” function, which allows you to hear how your signal sounds.
- Next, let’s look at the users who are online by selecting “Users”

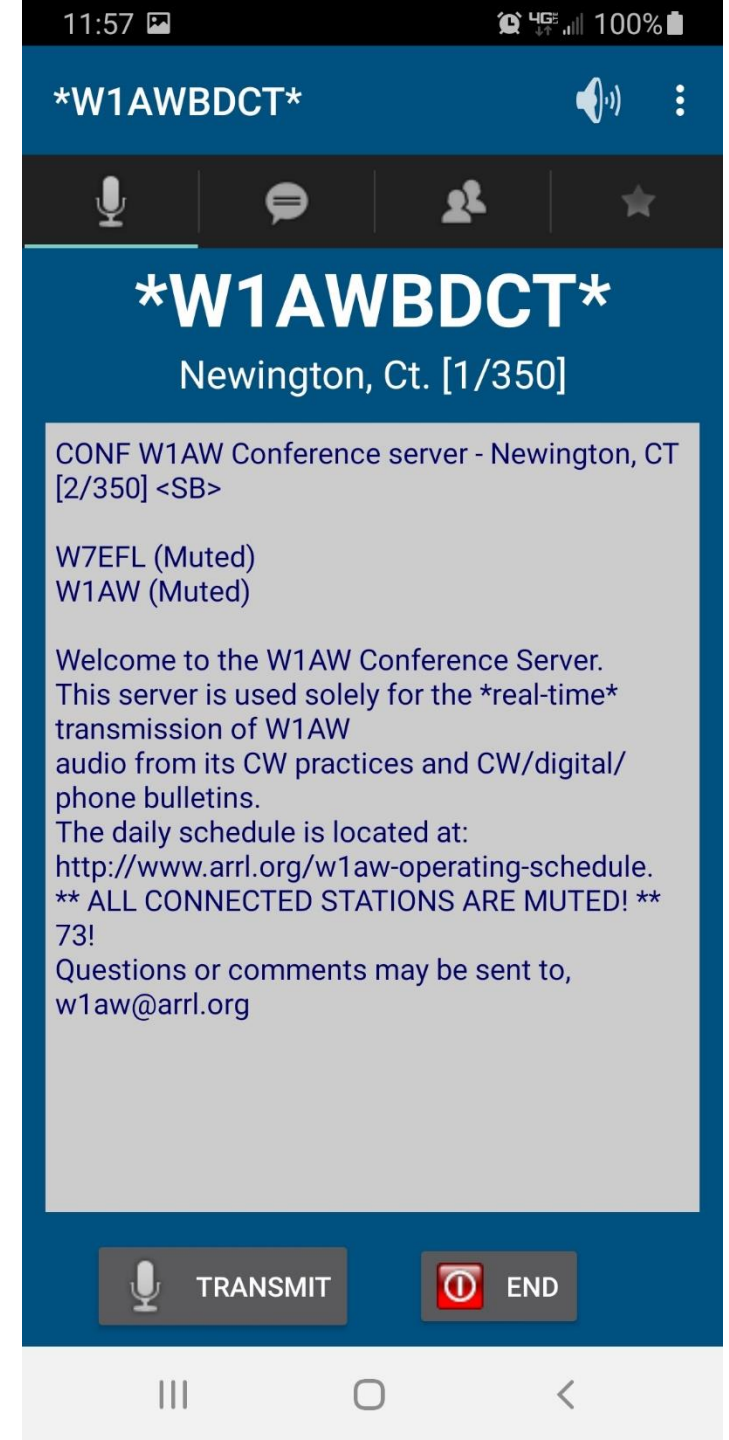
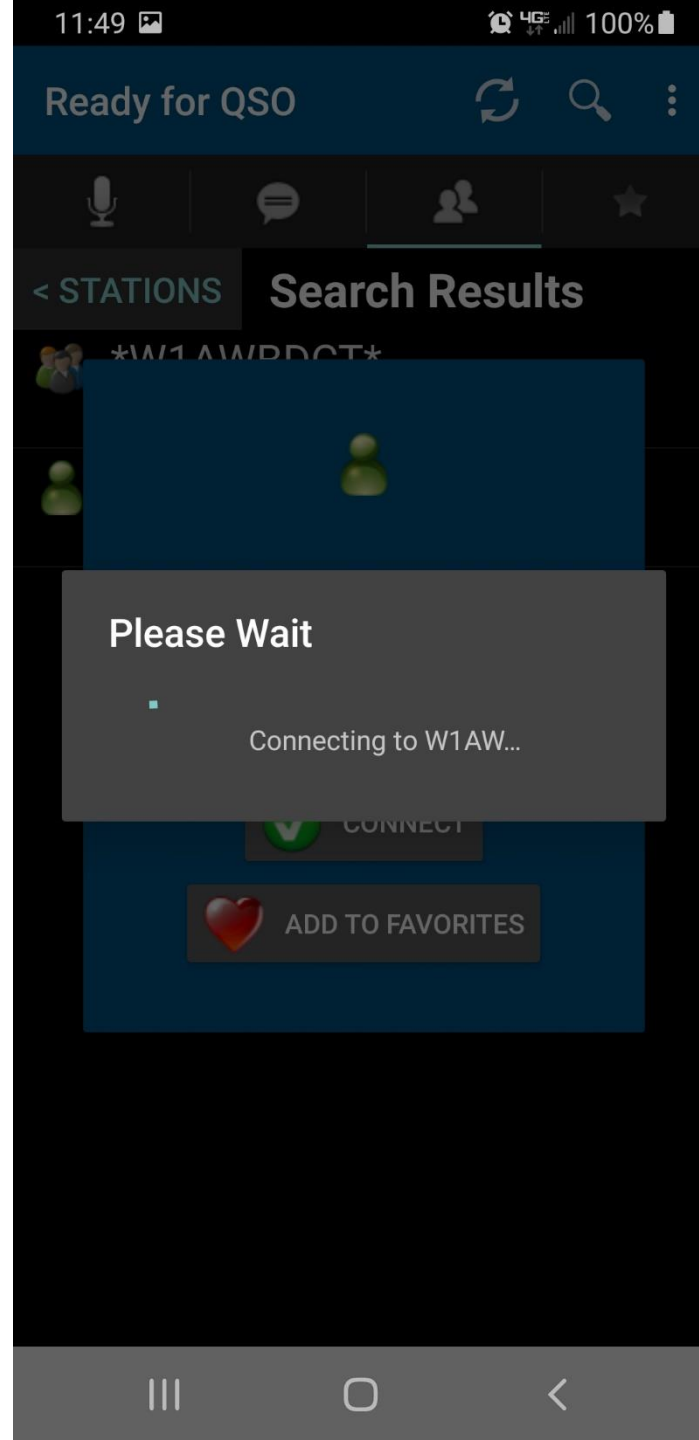
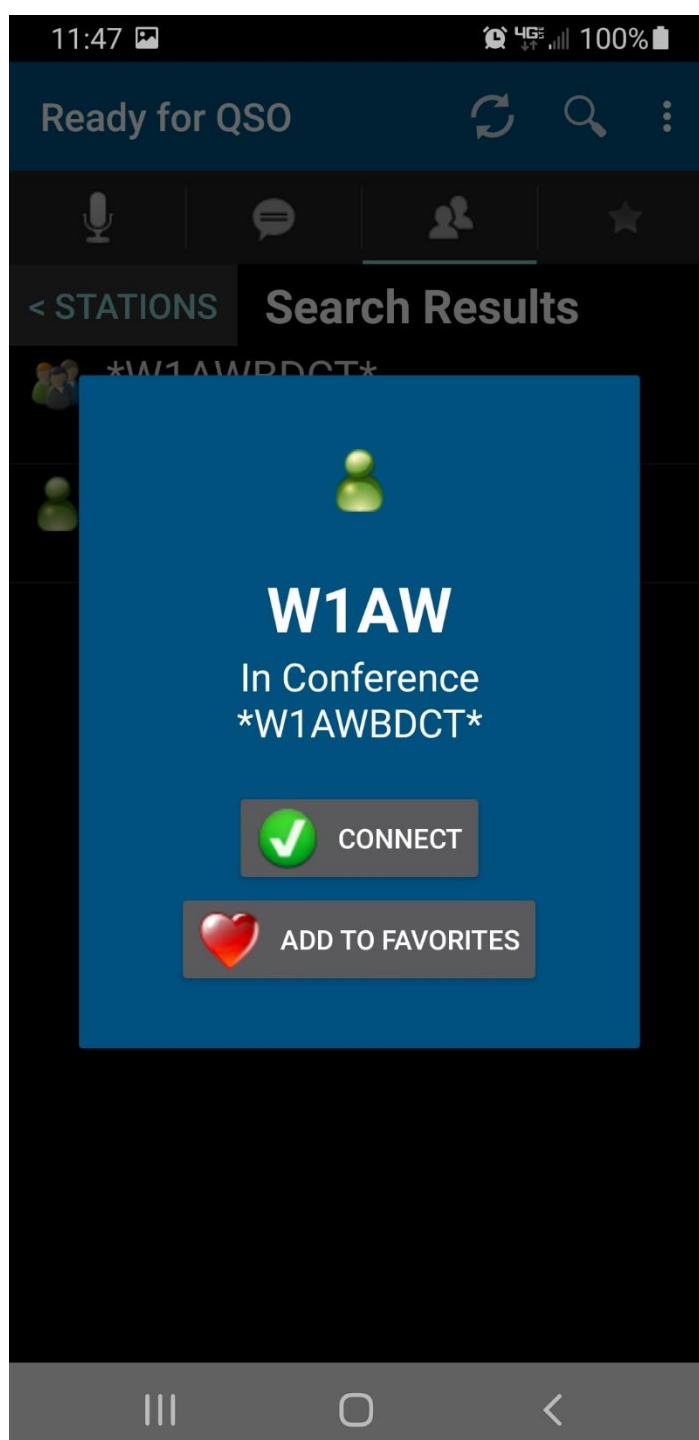




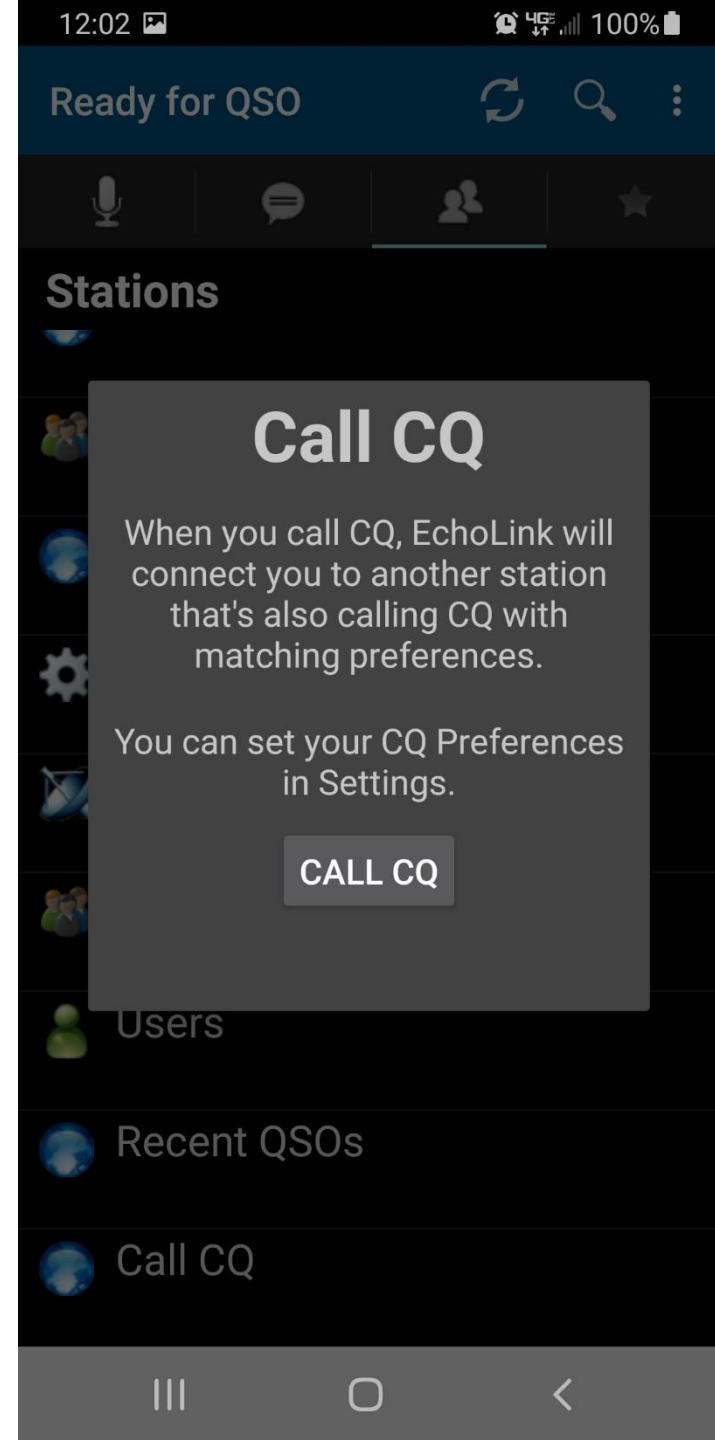
That's a lot of users!

- If you have a specific user in mind, you can search.
- In this case, I will search for W1AW.
- Tap W1AW and you will get the option of connecting to the “conference.”





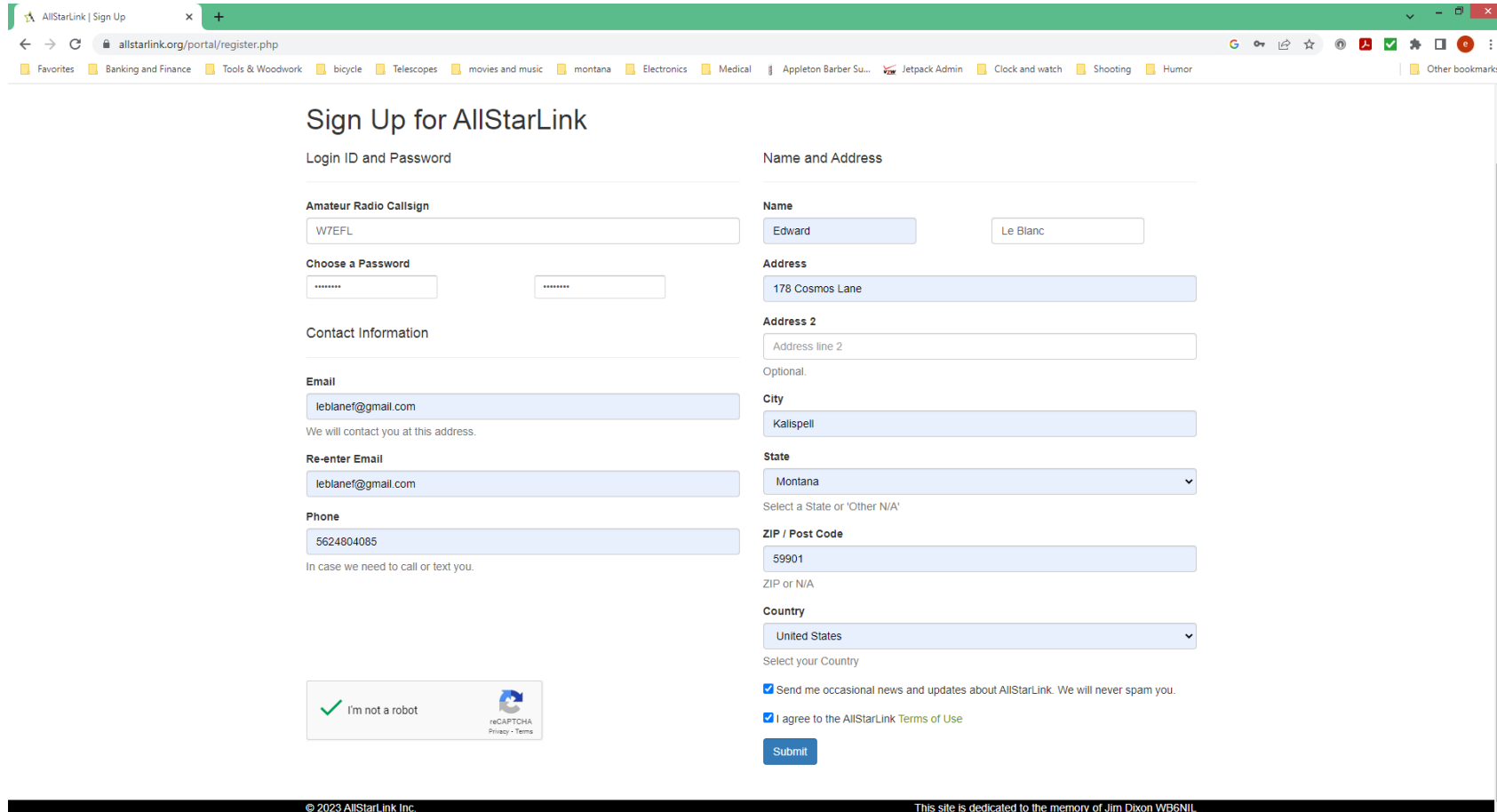
This is what you get when to select “Call CQ.”



AllStar

- AllStar is similar to EchoLink in the same way that GM and Ford are similar. They both get you there (sometimes), but they are different.
- The Northwest Montana Repeater Group (NW7RG) uses Allstar.
- If you want to get into the Tuesday night net on the NW7RG repeater all you need to do is tune your radio to 444.925 MHz, but what if you are out of repeater range? A node may be the answer. I got a ClearNode Alpha (about \$300).
- You will need to register to use AllStar at allstarlink.org—do this before ordering a node.
- Request a node number, you will need that.

AllStar Registration



The screenshot shows a web browser window with the address bar displaying "allstarlink.org/portal/register.php". The page title is "Sign Up for AllStarLink". The registration form is divided into two main sections: "Login ID and Password" and "Name and Address".

Login ID and Password:

- Amateur Radio Callsign:** A text input field containing "W7EFL".
- Choose a Password:** Two text input fields, both containing "*****".
- Contact Information:**
 - Email:** A text input field containing "leblanef@gmail.com". Below it, a note says "We will contact you at this address."
 - Re-enter Email:** A text input field containing "leblanef@gmail.com".
 - Phone:** A text input field containing "5624804085". Below it, a note says "In case we need to call or text you."

Name and Address:

- Name:** Two text input fields, the first containing "Edward" and the second containing "Le Blanc".
- Address:** A text input field containing "178 Cosmos Lane".
- Address 2:** A text input field containing "Address line 2". Below it, a note says "Optional."
- City:** A text input field containing "KalisPELL".
- State:** A dropdown menu showing "Montana". Below it, a note says "Select a State or 'Other N/A'".
- ZIP / Post Code:** A text input field containing "59901". Below it, a note says "ZIP or N/A".
- Country:** A dropdown menu showing "United States". Below it, a note says "Select your Country".

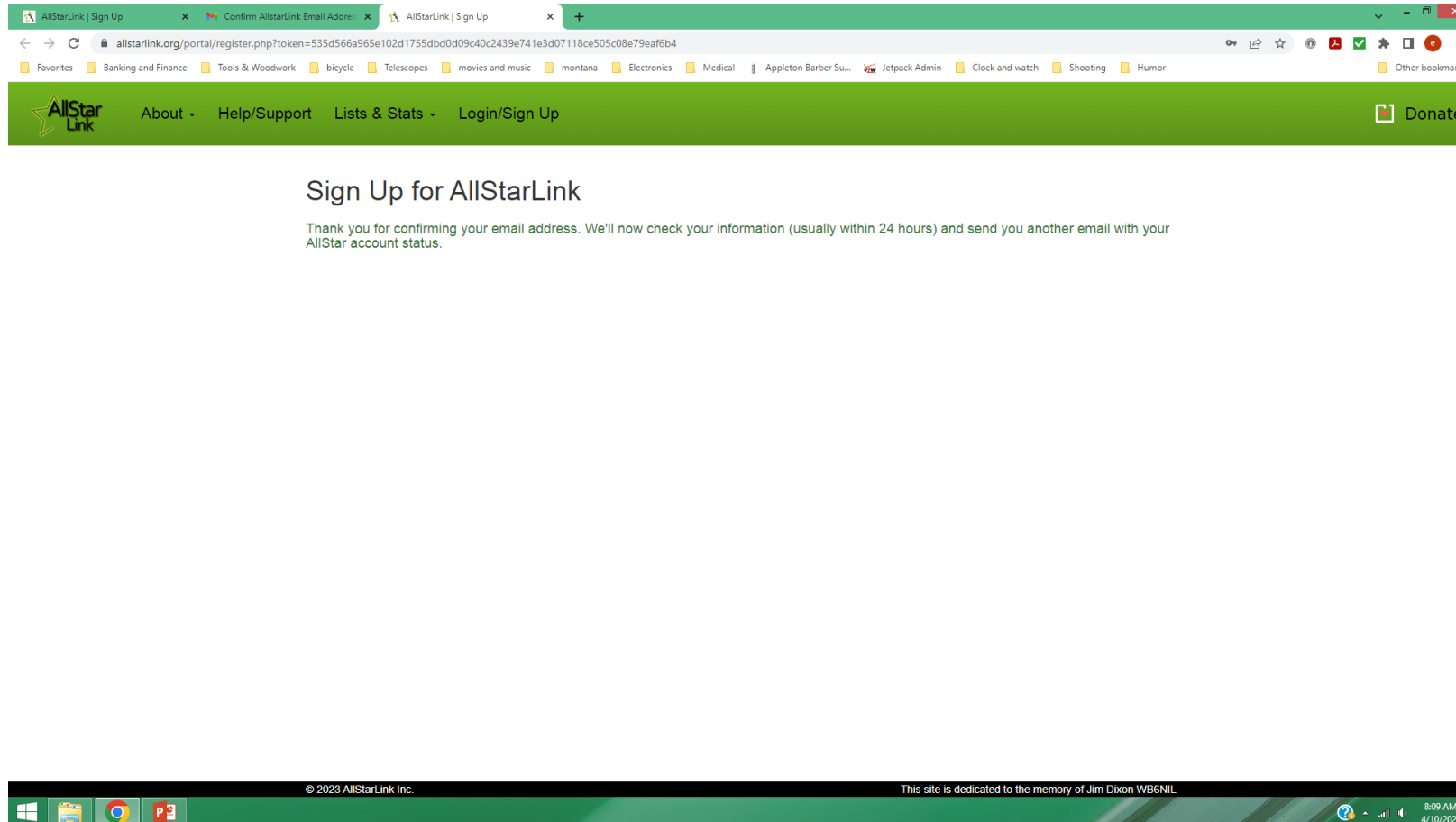
Additional Form Elements:

- A checkbox labeled "Send me occasional news and updates about AllStarLink. We will never spam you." is checked.
- A checkbox labeled "I agree to the AllStarLink Terms of Use" is checked.
- A "Submit" button is located at the bottom right of the form.
- A reCAPTCHA widget is located at the bottom left of the form, showing a green checkmark and the text "I'm not a robot".

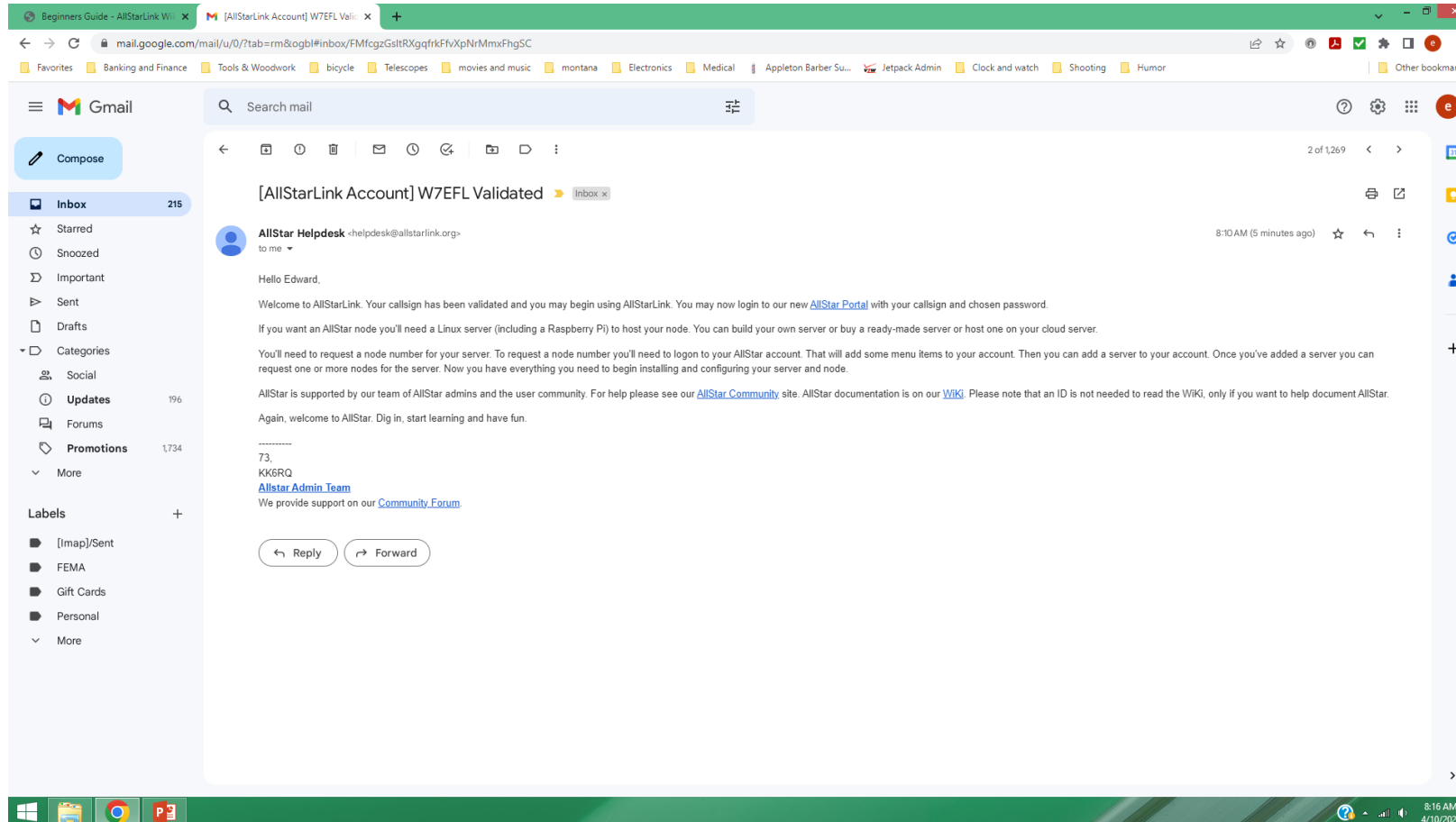
Footer:

© 2023 AllStarLink Inc. This site is dedicated to the memory of Jim Dixon WB6NIL

You will get a confirmation email



Email is followed up with Validation



Beginner's Guide—Good place to start

The screenshot shows a web browser window displaying the AllStarLink Wiki page titled "Beginners Guide". The browser's address bar shows the URL `wiki.allstarlink.org/wiki/Beginners_Guide#Request_a_Node_number`. The page features a sidebar on the left with navigation links such as "Main page", "All Pages", "Recent changes", "Random page", "Help about MediaWiki", "Tools", "What links here", "Related changes", "Special pages", "Printable version", "Permanent link", and "Page information". The main content area has a "Page" tab selected, with "Discussion" also visible. Below the "Page" tab is a search bar labeled "Search AllStarLink Wiki". The title "Beginners Guide" is prominently displayed. A "Contents [hide]" section lists 15 numbered items, including "What is a node?", "How do I use AllStarLink?", "Getting on AllStarLink", "Creating an account", "Download an ASL image", "Flashing the ASL image", "Login & Create a Server", "Request a Node number", "Edit Node settings", "Install and configure ASL to your computer", "AllStarLink software setup", "Determine Radio Interface", "AllStarLink Audio settings with SimpleUSB", "PTT and COS polarity settings", and "Allmon2 Setup". The first section, "What is a node?", is expanded, showing a definition: "A node, in simplest terms, is a computer that connects to the AllStarLink network. Nodes typically have an RF radio interface as well as an internet connection. Radios can range in size from a repeater radio to a low power radio integrated into a node. A node allows you to connect to other nodes in the AllStarLink network. Nodes take the form of an inexpensive Raspberry Pi computer or a PC running the Linux operating system." The second section, "How do I use AllStarLink?", is also visible, with a note about local FM repeaters.

Beginners Guide - AllStarLink Wiki

Page: Discussion

Read View source View history

Search AllStarLink Wiki

Beginners Guide

Contents [hide]

- 1 What is a node?
- 2 How do I use AllStarLink?
- 3 Getting on AllStarLink
- 4 Creating an account
- 5 Download an ASL image
 - 5.1 ASL Beta Images
 - 5.2 Beta Download
 - 5.3 Beta Documentation
 - 5.4 Install from ASL Repository
 - 5.4.1 Install the ASL Repository
 - 5.4.2 Install ASL
 - 5.5 Bug Reports
- 6 Flashing the ASL image
 - 6.1 USB Thumbdrive (PC/Pi4)
 - 6.2 SD Card (Pi2-Pi4)
- 7 Login & Create a Server
- 8 Request a Node number
- 9 Edit Node settings
- 10 Install and configure ASL to your computer
- 11 AllStarLink software setup
- 12 Determine Radio Interface
- 13 AllStarLink Audio settings with SimpleUSB
- 14 PTT and COS polarity settings
- 15 Allmon2 Setup

What is a node?

A node, in simplest terms, is a computer that connects to the AllStarLink network. Nodes typically have an RF radio interface as well as an internet connection. Radios can range in size from a repeater radio to a low power radio integrated into a node. A node allows you to connect to other nodes in the AllStarLink network.

Nodes take the form of an inexpensive Raspberry Pi computer or a PC running the Linux operating system.

How do I use AllStarLink?

If you have a local FM repeater that is AllStarLink enabled, you may already be using it! However, before attempting to control a local FM repeater, check with the owner(s) first before doing so — ham radio etiquette applies.

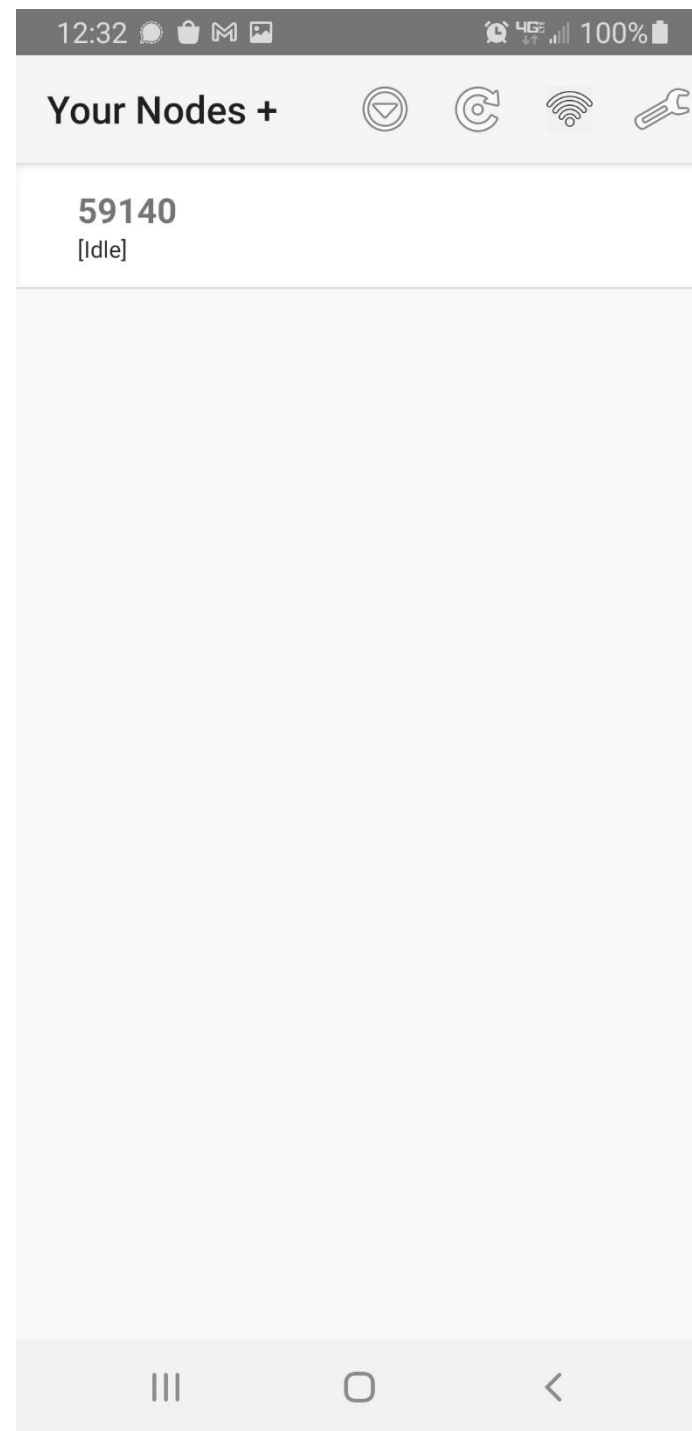
ClearNode

- There are others out there, but I can only offer my experience with ClearNode.
- If you order a ClearNode from Node-Ventures.com, they will ask you for your AllStar, EchoLink, desired frequency, cell phone, and router information.
- If you give that information, your node will be ready to use right out of the box.
- The ClearNode is controlled from an app on your cell phone. Download the ClearNode app on your phone. You will receive a “key” to activate the app in an email shortly after your node is shipped.

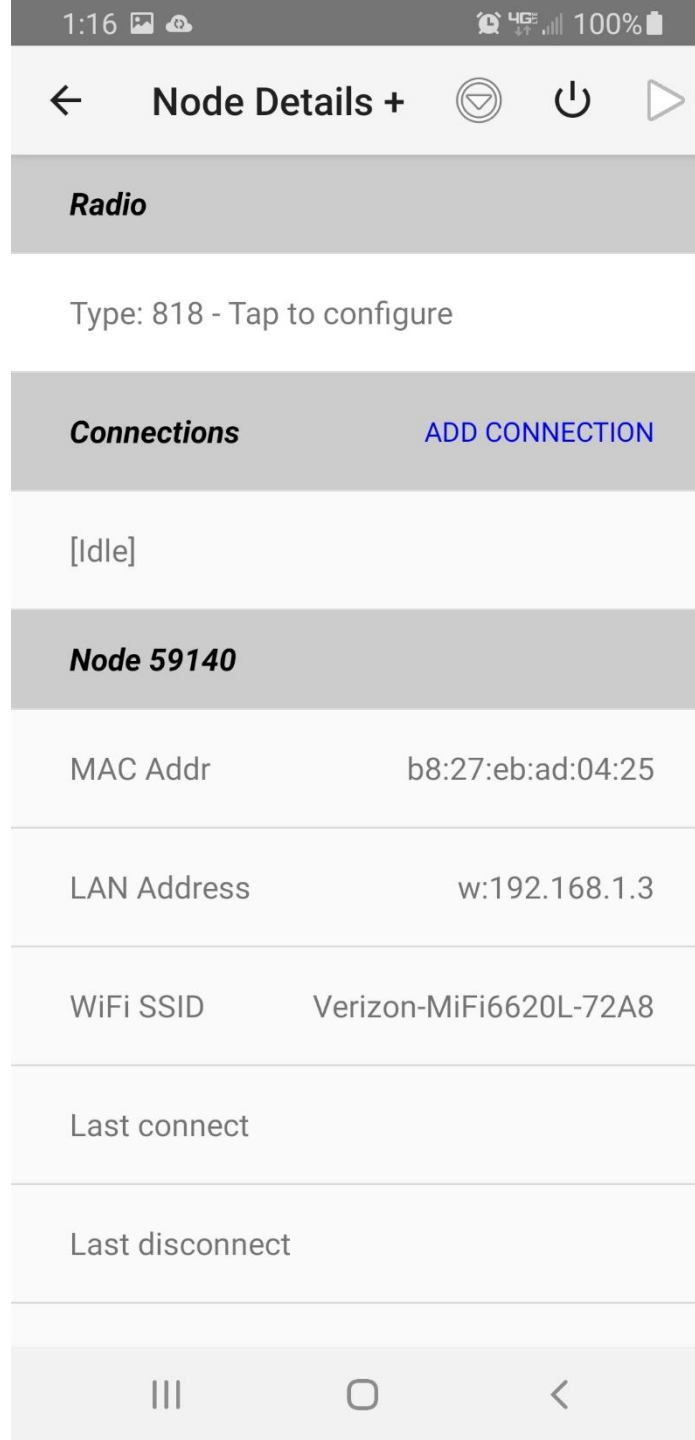
ClearNode App

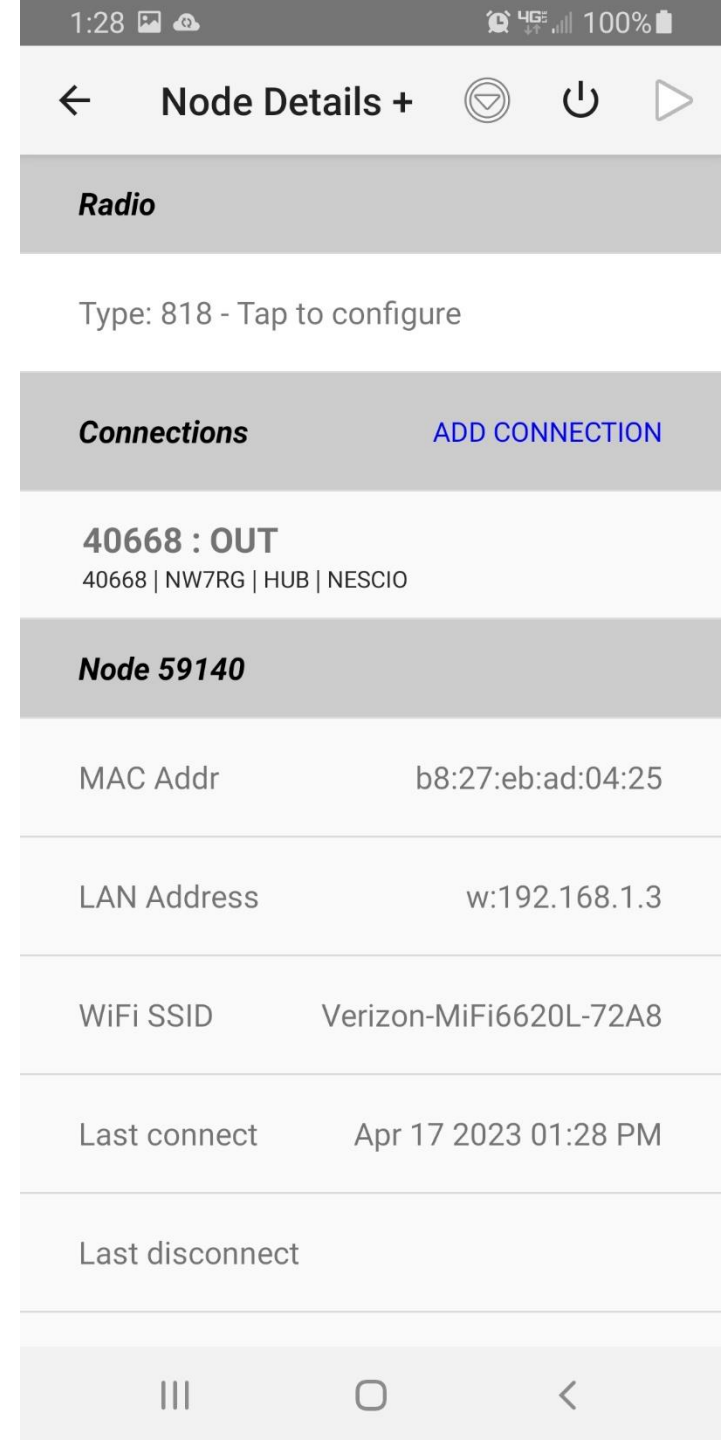
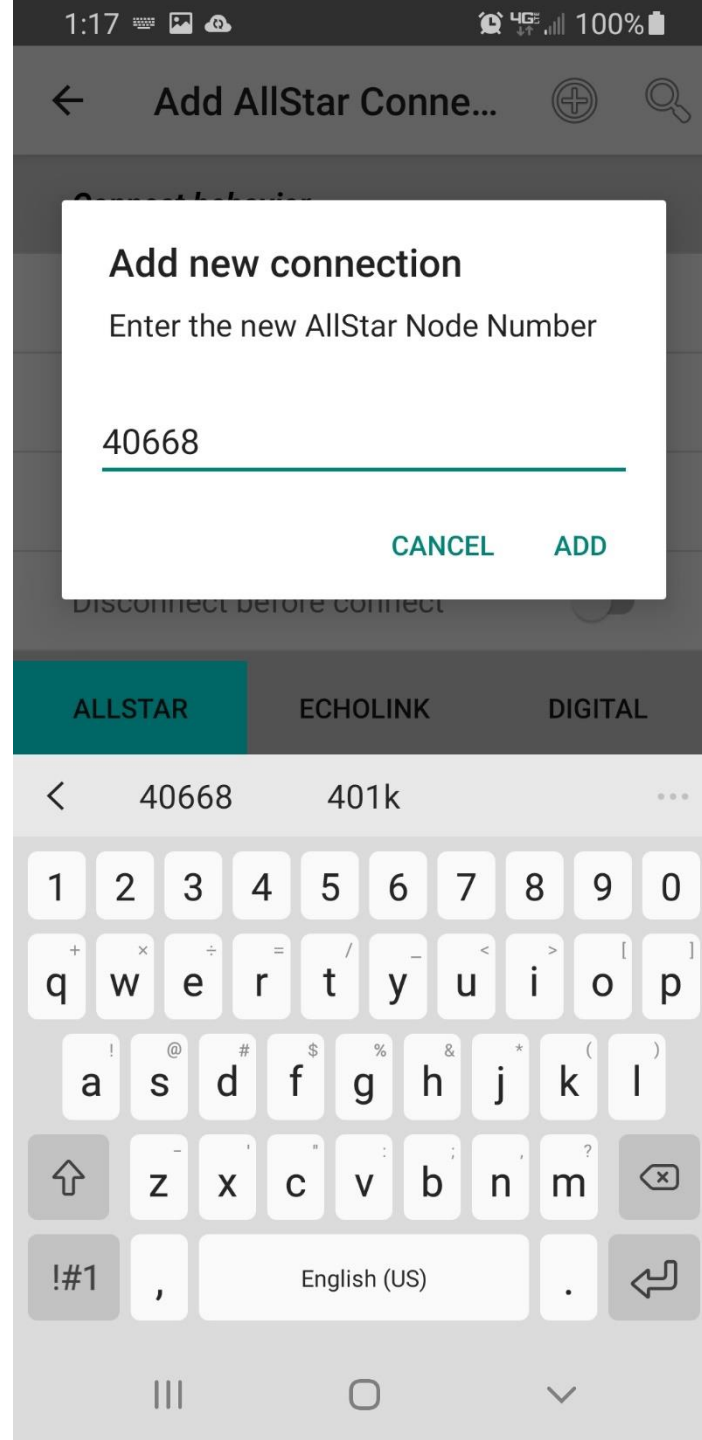
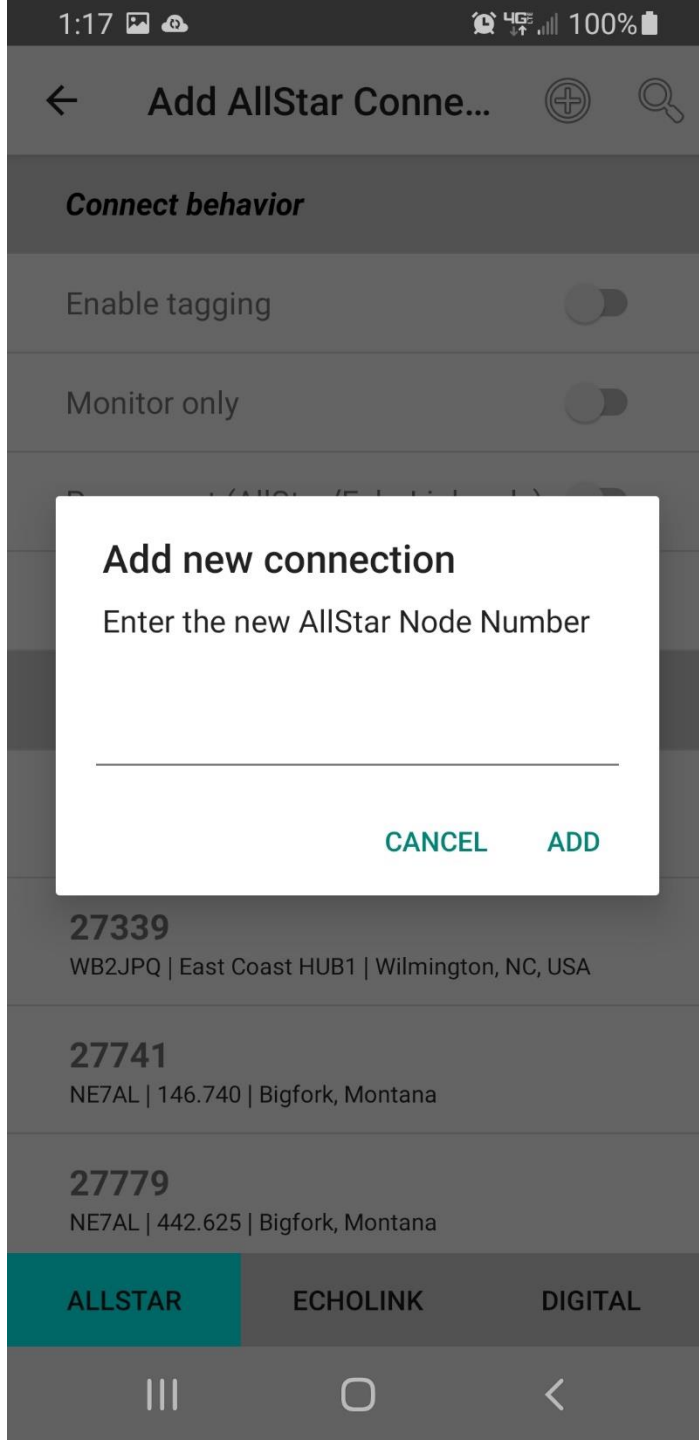
- The ClearNode uses a cell phone to configure it.
- To set up the node, you will need to have both an internet connection and the phone app.
- All I needed to do to get the ClearNode working was attach the antenna and plug the node in. Because I provided the SSID for my router (actually a hot spot), the node communicated right away.
- My node number is 59140, so this will appear in the following pictures (if your eyesight is keen enough).

- Note that the node shows up as “idle”
- This means it is not connected to any other nodes.
- To connect, tap the node number.



- Tap the connections bar and you will see a list of established connections.
- If you are just starting out, you will need to “add connection”—see the following slide.





Ready for a hands-on demo?