An introduction to Allstar
Aug 8th, 2023 Program

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What is AllStar / AllStarLink?

AllStarLink is a world wide network of Amateur Radio repeaters, remote base stations, and hot spots accessible to each other via the Internet and/or private IP networks. AllStar software runs on a dedicated Linux computer (including the Raspberry Pi) that you host at your home, radio site, clubhouse, school, university, workplace, or computer center.

AllStar is based on the open source Asterisk PBX and is released under the GNU GPL and is free for anyone to use. The core of AllStar and AllStarLink is the powerful app_rpt application and associated modules that load into the Asterisk PBX system.

How Did AllStar Start?

Jim Dixon WB6NIL (SK) and Steve Rodgers WA6ZFT wrote an extension to Asterisk to provide hardware control of repeaters

“From its very onset, I saw that Asterisk was not only a good telephony switch, but also makes a good application implementation platform for virtually any telecommunication application that requires use of many of the things that Asterisk provides.”

“…. essentially provide an outlet of nearly 30 years of experience and frustration with repeater and remote base systems, in the form of designing a system essentially "the way I think a system should be.“” – Jim Dixon

Source: https://wiki.allstarlink.org/wiki/ASLCorporate:History

“Why Would I Care About AllStar?”

Use repeaters you cannot normally access

- In a bad location? Want to talk to someone in another state or country?

Keep in touch with your node when away from home

- Just need an internet connection and it’s as if you’re home

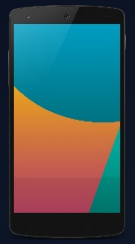
Participate in nets or connect to hubs outside of your local repeaters

- BlindHams, Hawaiian Hub, East Coast Reflector, Philadelphia Hub

Did I mention that you don’t need an expensive “proprietary” digital HT / Radio

- Use what every Ham has – an ANALOG VHF/UHF HT (Baofeng if you like ☺)

SIP Phone
Autopatch
Phone Portal



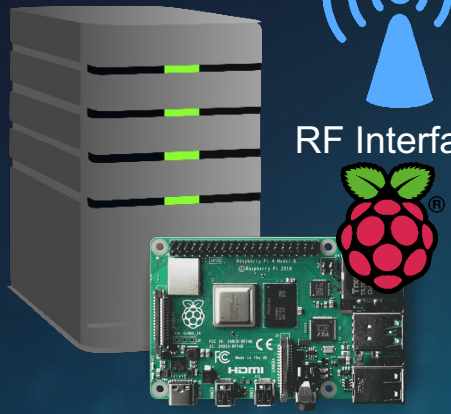
Phone App
DVSwitch
Zoiper
Repeaterphone

!! Lots of Connectivity Options !!

Repeater

HAMVOIP or ASL
Software

RF Interface



Web Transceiver
Droid/Dude Star
Transceive

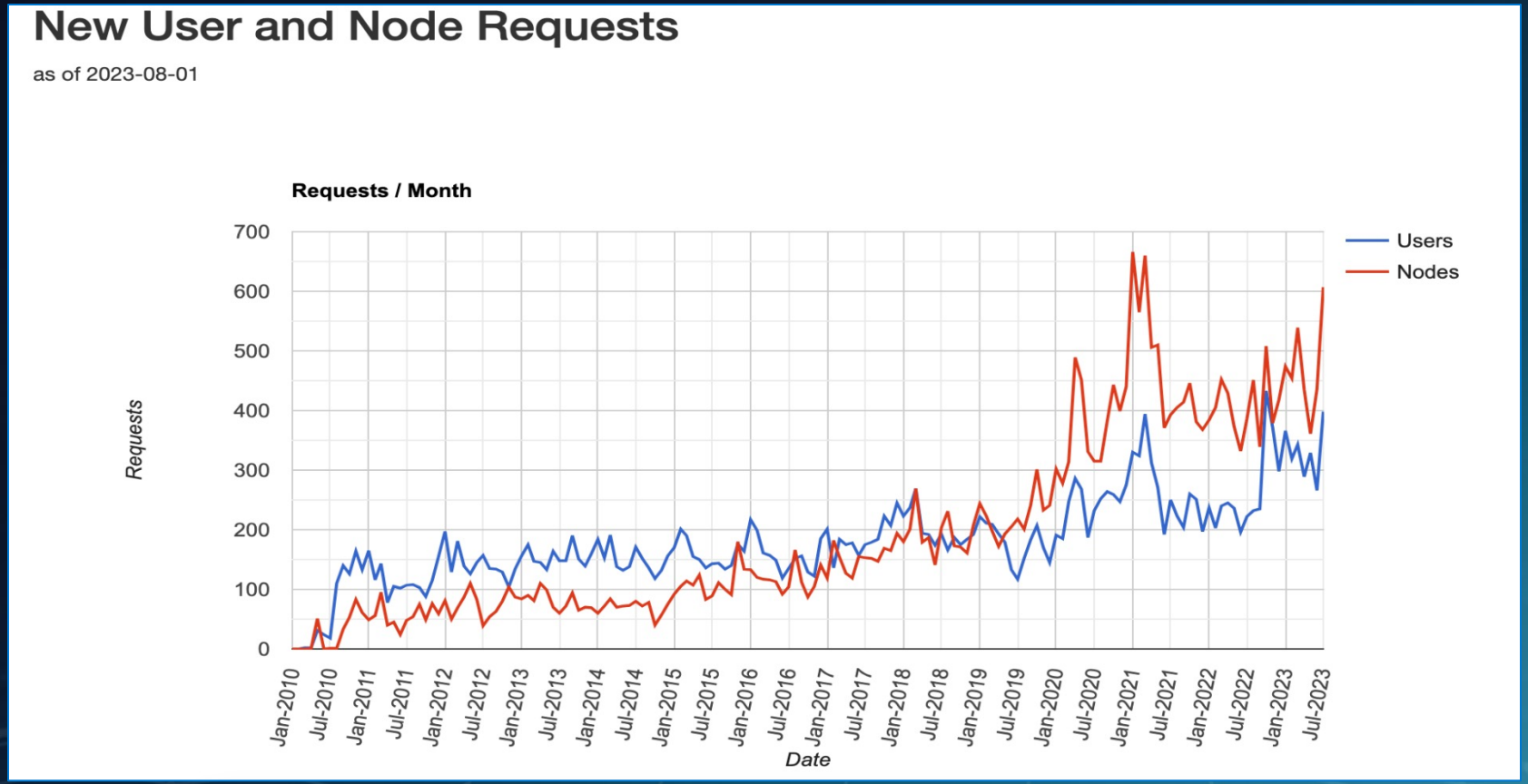
AllStar Link

Connect to other
Nodes, Repeaters and
or Hub's

VHF / UHF
Analogue

AllStar Nodes 28,991 as of Today

And Growing……


New User and Node Requests
as of 2023-08-01
Requests / Month
Requests
Date
Users
Nodes
0
100
200
300
400
500
600
700
Jan-2010
Jul-2010
Jan-2011
Jul-2011
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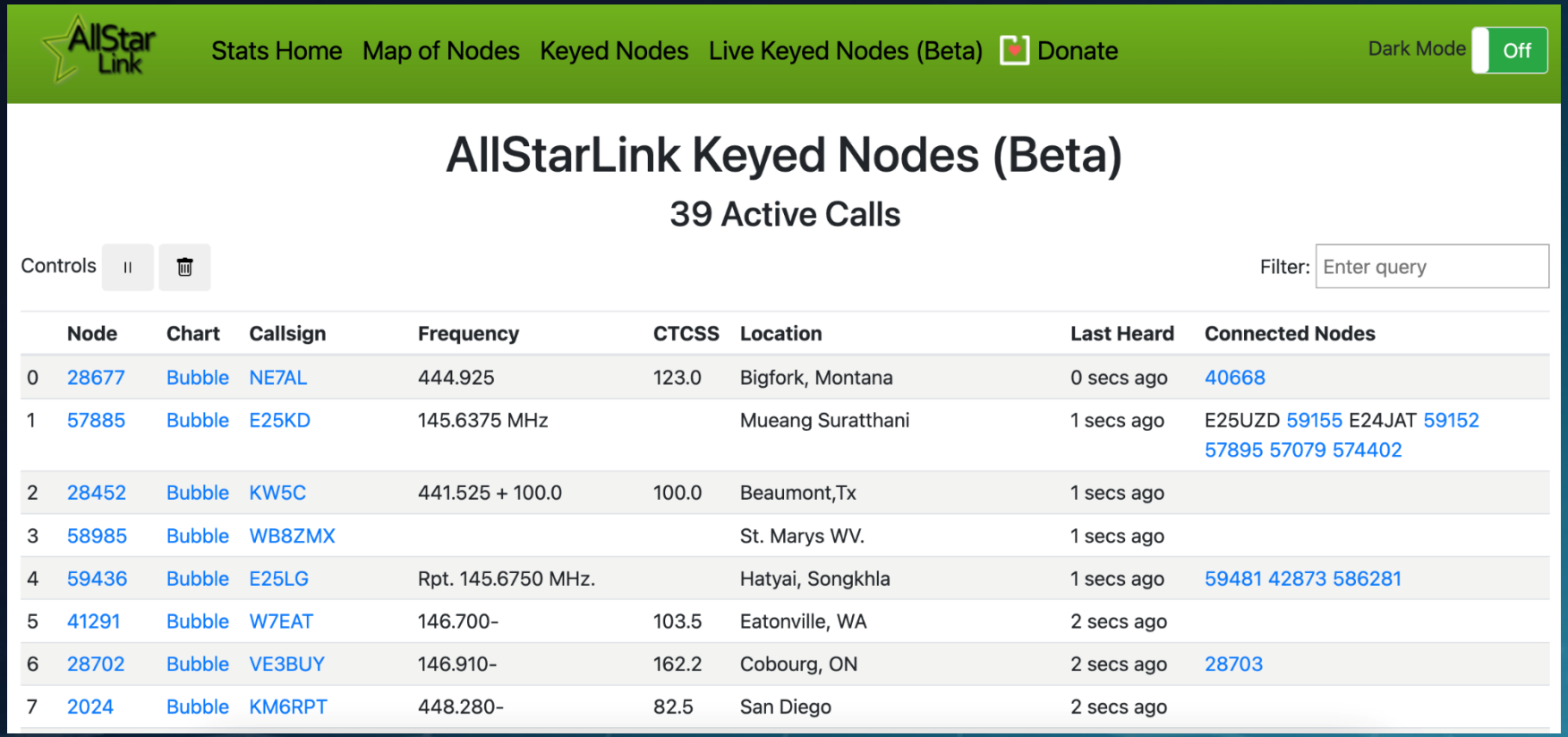
Jan-2023
Jul-2023

Active Node List



	Node	Chart	Callsign	Frequency	CTCSS	Location	Last Heard	Connected Nodes
0	28677	Bubble	NE7AL	444.925	123.0	Bigfork, Montana	0 secs ago	40668
1	57885	Bubble	E25KD	145.6375 MHz		Mueang Suratthani	1 secs ago	E25UZD 59155 E24JAT 59152 57895 57079 574402
2	28452	Bubble	KW5C	441.525 + 100.0	100.0	Beaumont,Tx	1 secs ago	
3	58985	Bubble	WB8ZMX			St. Marys WV.	1 secs ago	
4	59436	Bubble	E25LG	Rpt. 145.6750 MHz.		Hatyai, Songkhla	1 secs ago	59481 42873 586281
5	41291	Bubble	W7EAT	146.700-	103.5	Eatonville, WA	2 secs ago	
6	28702	Bubble	VE3BUY	146.910-	162.2	Cobourg, ON	2 secs ago	28703
7	2024	Bubble	KM6RPT	448.280-	82.5	San Diego	2 secs ago	

Source: http://stats.allstarlink.org/stats/keyedBeta

How to get involved with Allstar

1. Register for an AllStar Account Login/Sign Up
2. Do you want to access Allstar only?
   Allows Connectivity from phone / App etc.
3. Do you want to have your own node?
   Allows RF / Internet connectivity
   Requires either a Server (Physical / Virtual) or
   A Raspberry PI (Preferably a 4B)

Let's Discuss the options…

For a NODE Build – There are TWO Software Options

ASL – AllStarLink
https://wiki.allstarlink.org/wiki/Downloads

Can run on either Physical or Virtual X86 / Single Board Computer (Raspberry Pi / Beagle Bone Black)

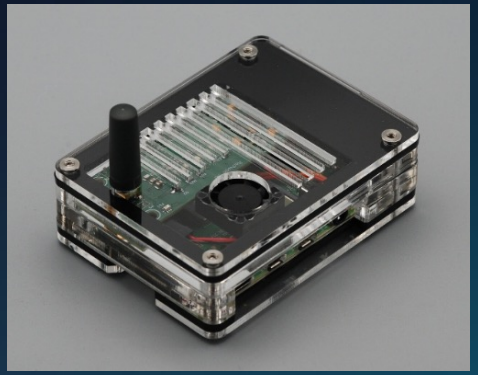
HAMVOIP
https://hamvoip.org/#download

Can **ONLY** run on Single Board Computer (Raspberry Pi / Beagle Bone Black)

BUY
Raspberry Pi Based

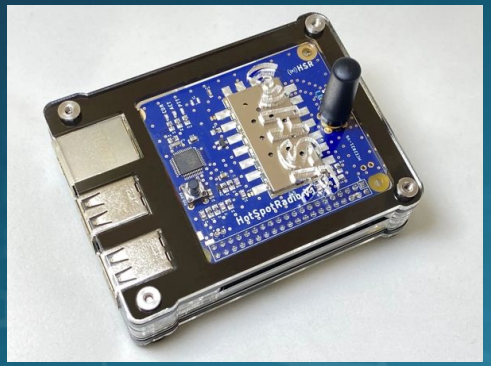
ClearNode https://www.node-ventures.com/ ~$355

- Built in RF radio
- Can be operated wired or wireless to Internet
- Affected by Raspberry Pi shortages



Hotspotradios https://hotspotradios.com/hotspotradio ~$280

- Built in RF radio
- Can be operated wired or wireless to Internet
- Affected by Raspberry Pi shortages



BUILD
RF Modules

Ham Projects https://hamprojects.info/

- Adapters for a ‘bring your own transceiver’ node/repeater
- Self contained RF based nodes ($80-$125)
- You supply the Raspberry Pi (Subject to Availability)

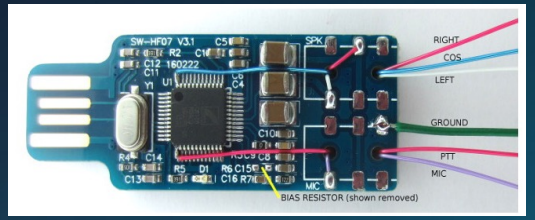
HotSpotRadios Hotspotradio-USB

- Adapter for a ‘bring your own transceiver’ node/repeater
- USB Module ($90)
- You supply the Raspberry Pi (Subject to Availability)

BARE Bones – Still Requires Raspberry Pi

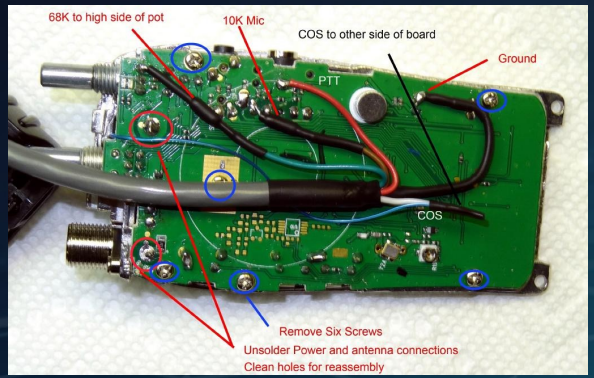
Radio-Less (Full Duplex)

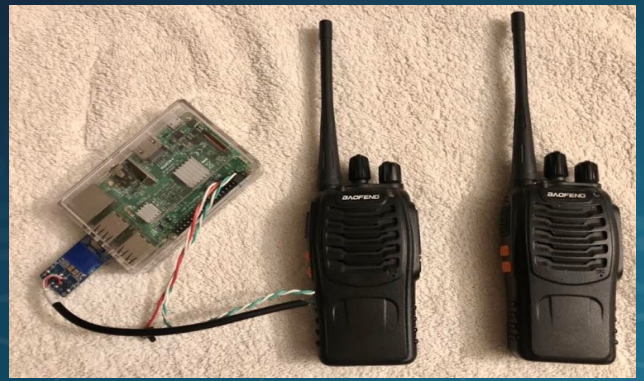
- USB Headphones (CM108 / CM119 ($10)
- USB Sound Card CM108 ($6)



Radio Based Half Duplex (Baofeng 888s)

- USB Sound Card + HT ($6 + $18)





Operating on Allstar

Connecting your node to the network

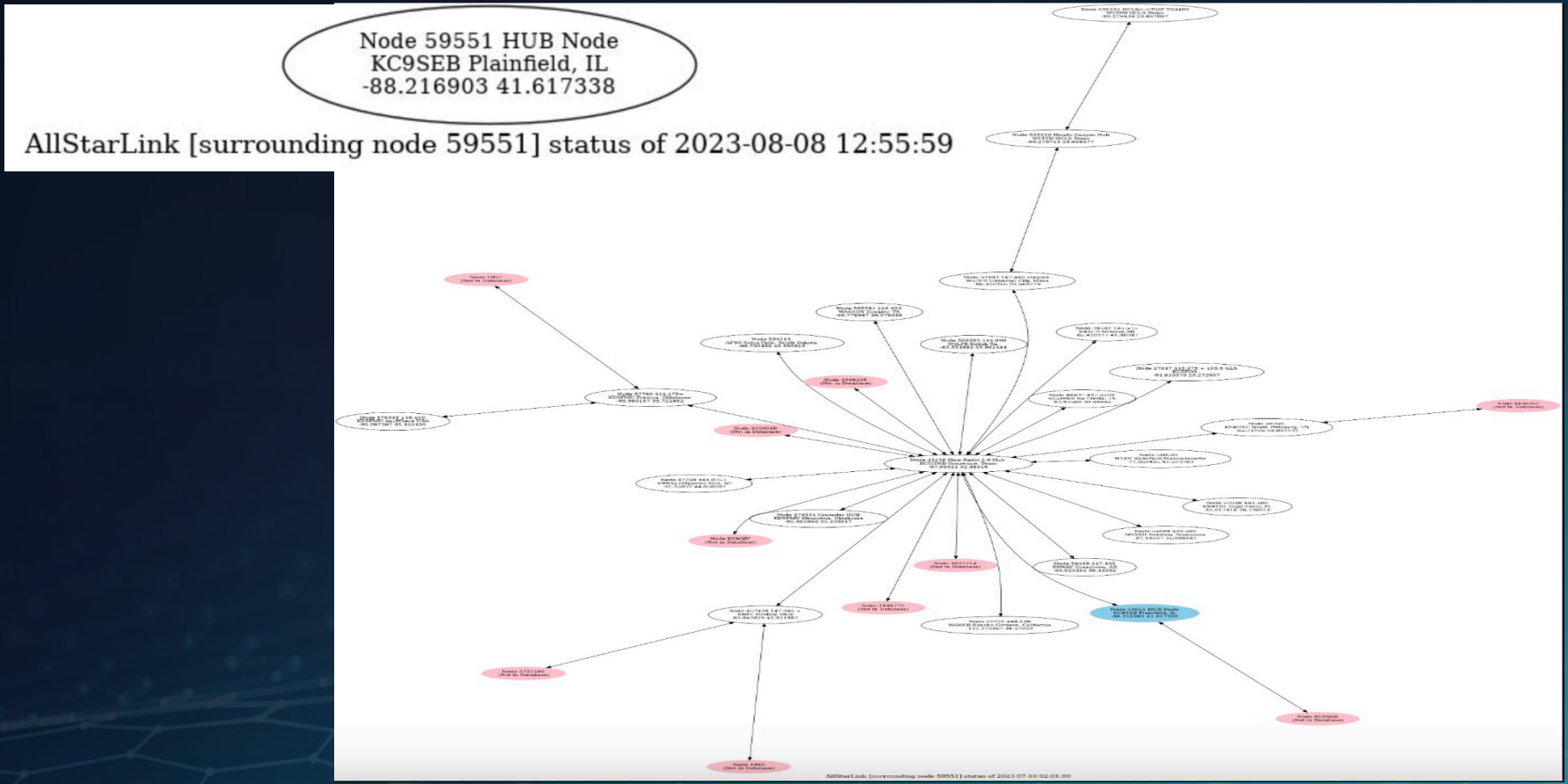
Using another radio that has a keypad. You will use the commands listed below to connect.

While holding down the PTT button, press the keys listed below. The asterisk (*) enters the command mode. Example: *32000 - This will connect you to the HUB 2000.

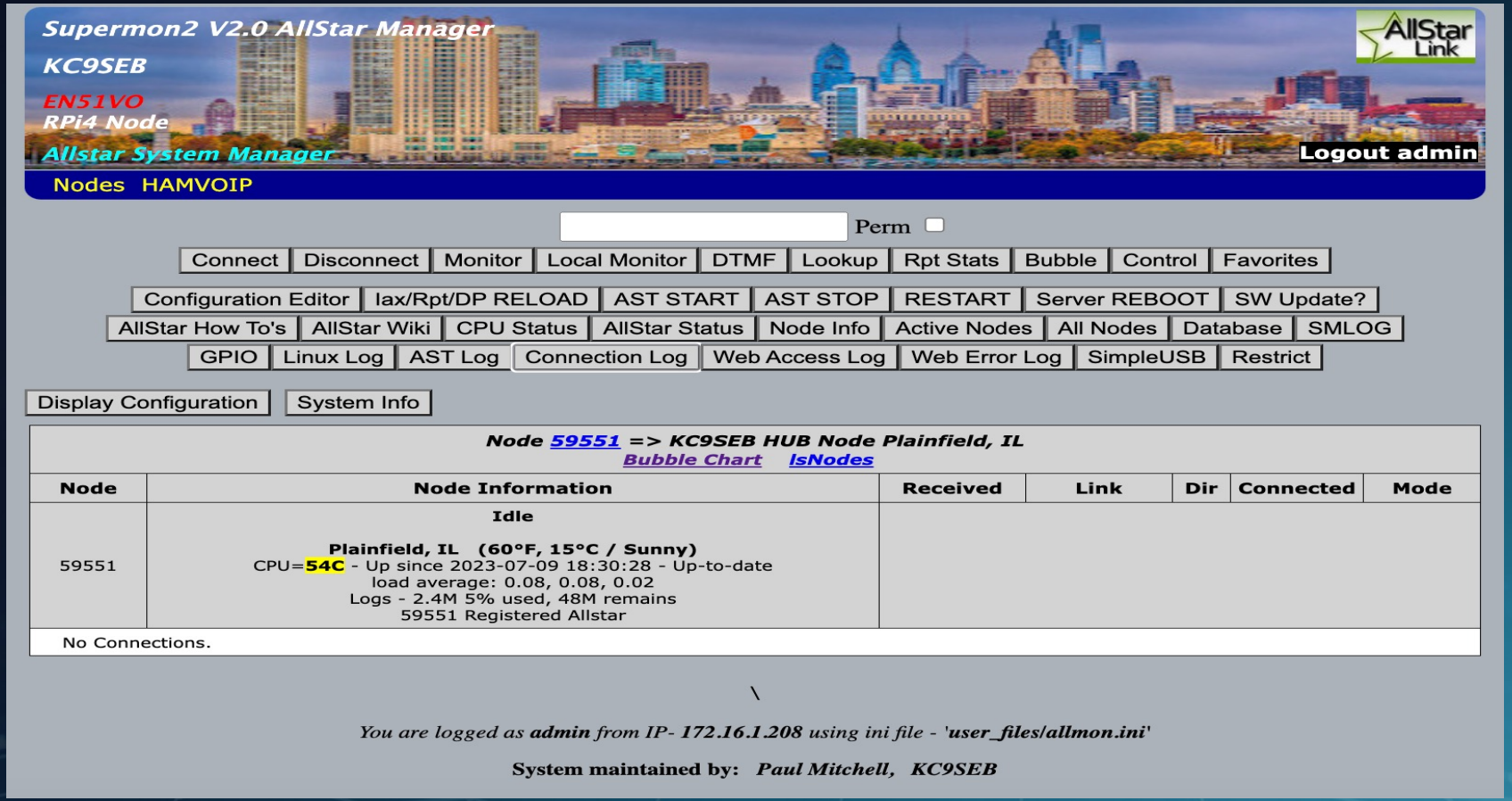
a. *1(node number) - This Disconnects the node you are currently connected to..
b. *2(node number) - This is Monitor mode only. You can listen, but will not be able to talk.
c. *3(node number) - This will Connect you to the node you entered after the *3.

*A1 Announce local IP address of your node.
*A3 Announce public IP address assigned to your node.
*A5 Announce registration status of your node.
*A9 One time parrot mode.
*B6 Restart Asterisk
*80 Play local ID
*81 Play Time and Voice ID.
*82 Play local time in 24 Hour format

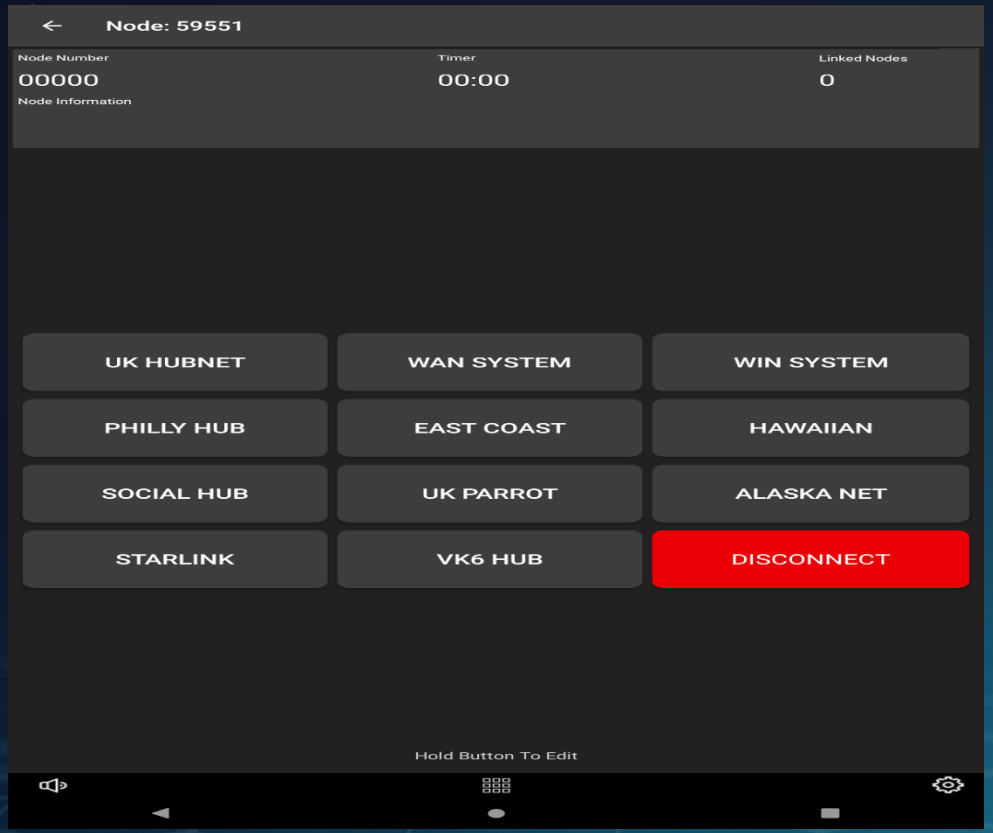
Monitoring - Bubble Map



Webpage Control of Your Node - SuperMon2



Phone App Control - Node Remote – Android / iOS



Summary

- It’s useful for getting to non-local repeaters, hubs, that support AllStar
- Very good sound quality, and most importantly, “It feels like analog FM”
- Low cost barrier for entry.
  - Raspberry Pi + $10 headphones and you’re in
- Many options to play with (Radio-less, simplex, duplex)
- Use of your existing HT (Non Digital)

Thank-You

Feedback and or questions?
>> director3@frrl.org