

N3BYR DIGITAL NODE

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TNC'S TO TRY PACKET RADIO

- I Currently have 2 spare TNC's that I have on-hand that are available if you want to get into packet. These are available if you belong to MGRA, CGARC, or the local ARES (Tri-county / Houston County / Macon-Bibb).
- The loaners are if you are interested in trying packet radio but you are unsure if packet radio is for you. I will assist making a cable or you can order a cable for your radio online. You will need a 2m FM radio with 10 watts or higher, a cable that goes from the TNC to the radio, and a computer.
- Loaners are only for 2-4 weeks, after that I will need it back but will assist you in finding a TNC or using Direwolf (Software TNC**)

CURRENT BANDS / FREQUENCIES

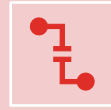
- Node is located in SW Warner Robins (Grid EM82DN86FS)
 - VHF FM Packet 1200 – 145.030Mhz
 - HF LSB Packet 300 – 14.105Mhz (“Network 105”)*
 - HF USB Packet 300 – 14.1017Mhz*
 - HF USB VARA – 14.1017* (Dial Frequency for RMS!)
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- Packet is inverse capable – Meaning stations can use either SSB mode
 - Only Packet or Only VARA can be used on HF – after a connect, the other is locked out until stations disconnect from the node

NODE SERVICES

- Winlink Gateway – Provides Winlink Mail access (Known as RMS Gateway)
- BBS: BBS, PacketMail, Bulletins, Floods, WorldWide!!
- Chat: Multi-station chat channels or rooms – Think IRC or Internet Chat
- Switch: Connects from node to other pathways (Internet, HF, VHF)
- Digipeater: In same-band will digipeat from “Dash Seven”
- Internet Access – Text Based Browser, not always on! Reserved for EmComm

NODE INFO

Emergency Power – The Node has backup power to permit operation in case of power failure at node location.



N3BYR-7 : This is the primary connection and recommended except for Winlink Connections*. All functions are accessible from 7 to include Node Switch (ports), BBS, Chat, Winlink Gateway, Digipeater, etc.



N3BYR-1 : Direct connect to the BBS system and Relay



N3BYR-10 : Direct connect to RMS gateway and Relay



N3BYR-12 : Direct connect to Live Chat (think IRC)

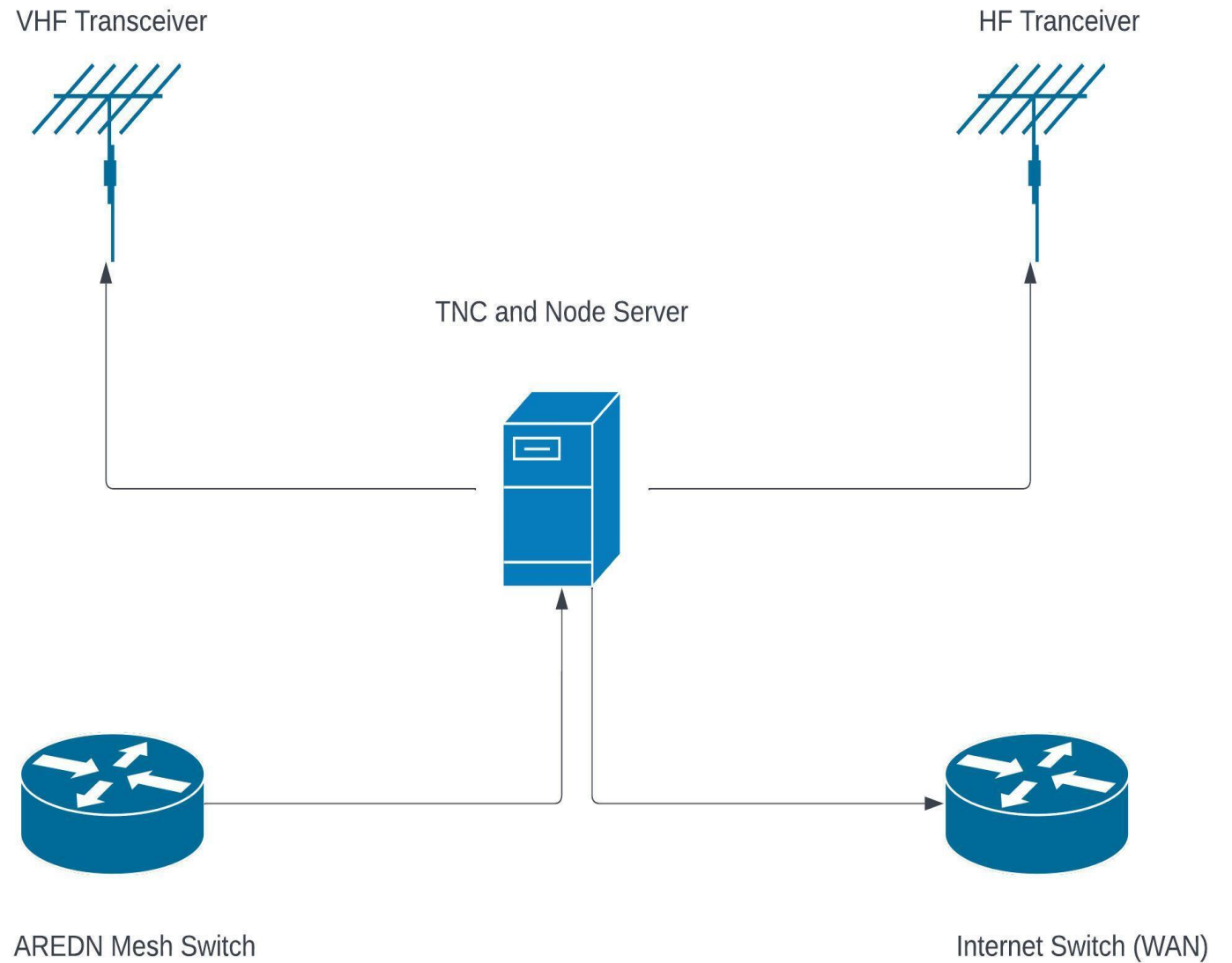


N3BYR has an additional SSID for internet access that is turned on occasionally – Text Based Browser Access

N3BYR STATION CONNECTIONS

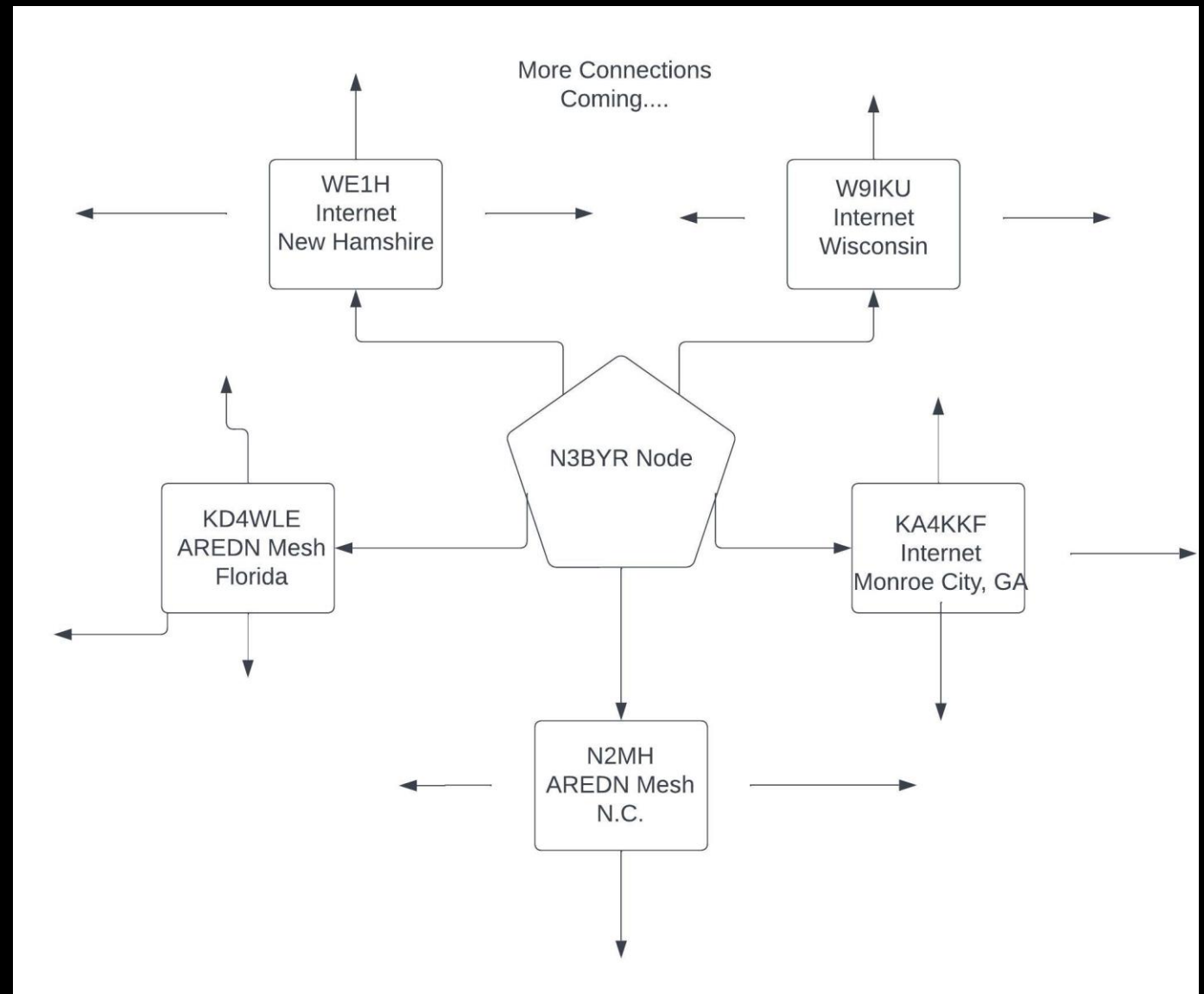
BASIC IDEAS*

*SOME ASSEMBLY
REQUIRED*



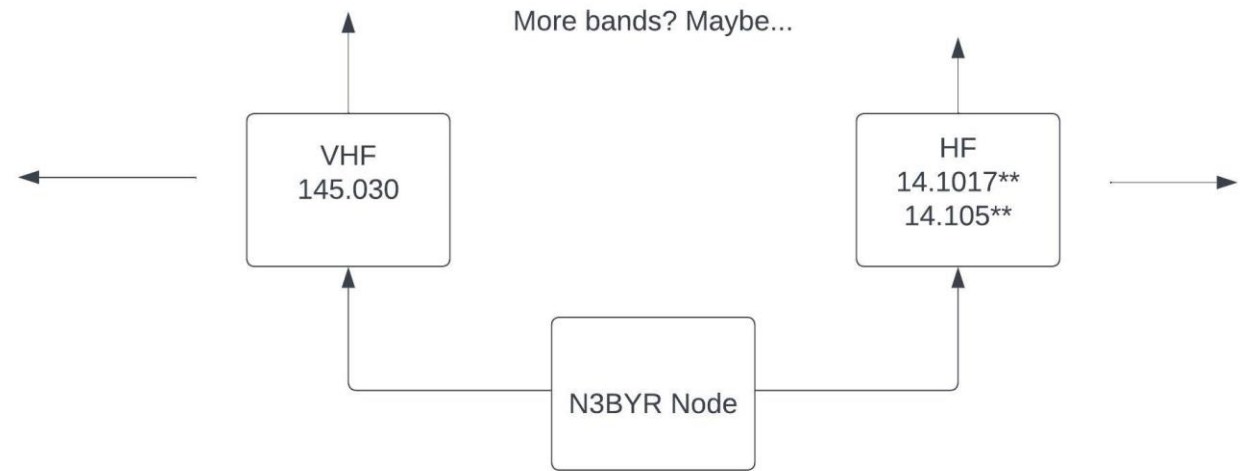
NETWORKED CONNECTIONS

- Other connections will be added
- Dual Networked Server on both AREDN and Regular Internet permits a bridgeway for those on AREDN
- Each connected node has many other connections creating a large "Web" of connections
- All of these nodes are accessible from N3BYR Node and then reaching out past that...
- Traffic flow permits world wide packet messages to pass over internet, AREDN Mesh, and even via RF connections!



RF CONNECTIONS

- HF connections allow VARA HF and Packet – Both incoming and outgoing! Digipeating is possible on HF Packet extending that reach!
- VHF connections permit local area connections within the footprint of the N3BYR Node – Digipeating gives even further reach!
- VHF and HF are available to any connection to the Node allowing a bridge from a distance HF station jumping to VHF to reach a local station
- Packet HF is not sensitive to cross SSB usage... meaning USB or LSB are both interoperable!



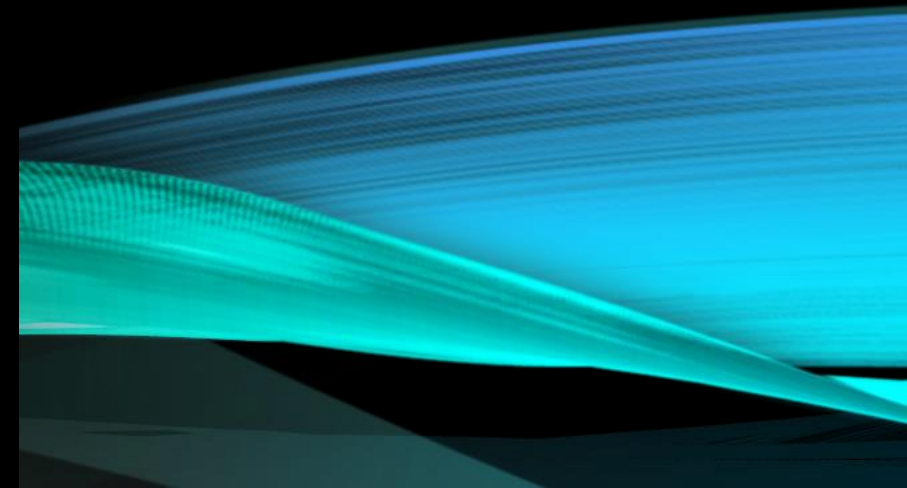
A vertical red abstract graphic on the left side of the slide, featuring overlapping, curved, semi-transparent shapes in various shades of red and orange, creating a dynamic, layered effect.

IS IT COMPLICATED TO SET UP?

- A huge learning curve involved, the software chosen was BPQ, there are others out there also.
- A lot of setup time and considerations
- Establish rapport with distant ops willing to establish direct links
- Having HF VARA and HF Packet on the same TXR is a pain... the use of an audio mixer was necessary to tie a sound card in with a TNC. Even if using software TNCs for Packet additional soundcards and mixers are required
- Current Node has two dedicated transceivers – Yaesu FTM-3000 and Icom IC-718 – which also means dedicated antennas for full 24/7 operations
- Currently I am considering adding a 3rd band – Not sure which though...



HOW DO
I USE THE
NODE....



WINLINK GATEWAY

- The N3BYR node has RMS Relay – if internet is dead the message will store until the node can find another method of delivery or Internet returns!!!
- For HF users of the gateway – USE VARA HF, do **NOT** use HF Packet. Set your dial frequency to 14.1017 Upper Side Band (Center frequency is 14.1032 which you need to set in RMS Express!!!)
- For VHF users – Only Packet 1200 is available currently – set the SSID to N3BYR-10
- If you want to use the BBS for Winlink Messages you must: (Only if RMS Express is unavailable)
 - Connect to either N3BYR-1 (or -7 and type BBS)
 - Set your Winlink Password in the Node BBS (I have no access to this!)
 - Turn on POLLRMS “POLLRMS Enable” at the BBS prompt
 - Send Winlink emails to callsign@Winlink.org (or external email address)
 - Retrieve messages from your Winlink account to the BBS
 - Turn off POLLRMS if you want to use RMS Express (“POLLRMS Disable”)
 - I cannot guarantee how well this works but have tested a few times

BBS GENERAL USE

- The N3BYR Node BBS works like all the other mailboxes – except its also connected to the rest of the packet universe! Hundreds of bulletins, announcements, and traffic are listed. Preferred use of LL # to list the last X number of messages in the system (Start with 25-40! E.g., “LL 40”)
- You can send WW, USA, State, NOAM (North America), or other “bulls” (bulletins) to what area you need using “SB @WW” or “SB @GA”
- Sending regular messages works as usual – Any linked BBSs you can send to those users via any linked BBS – e.g. I send messages to WE1H from my own node because it knows where to send it – we’re directly connected!
- Always use the “?” (Question mark) in the main menu for help!

CHAT USE GENERAL

- Connect to N3BYR-7 and type “chat” or connect to N3BYR-12
- All commands are preceded by a forward slash in chat “/” and to get help just type “/?” in chat.
- Chat allows *MANY* packet stations to converse simultaneously – additional stations can join from other connected nodes – Chat can include stations on HF, VHF, AREDN Mesh, Internet Link, and even via VARA HF!
- Nets can be held via Chat – and I encourage it!
- You can create other chat “channels” within the chat menu to use
- Other nodes have linked chats with *MANY* users globally!! Try them!

PORTS, BRIDGE, AND SWITCH

- Connect to N3BYR-7
- Type "ports" and choose which port you want to use for a connection
- For all ports (EXCEPT VARA HF) type "c portnumber callsign-ssid" to connect to another station. E.g., if connecting to KK4IB-1 by port 2 (VHF) you type the command as "c 2 KK4IB-1" or KB9PVH-1 on HF (port 3) use "c 3 KB9PVH-1"
- Adding an "s" to any connect command tells the node to not disconnect you after you disconnect from the forward station "c 2 KK4IB-1 s" – its short for "stay connected to N3BYR"
- Typing MHU PortNum at the prompt of -7 give you a list of any stations heard on THAT port – for HF do "MHU 3"

VARA CONNECTIONS

- To make a VARA connection you must “Attach” the VARA TNC first... to attach the port use “attach 5” and you should see “ok”, “busy”, or “failed”.
 - Busy means VARA is in use, only one user at a time!
 - Failed (or other message) means that VARA is not running correctly – Please let me know if you get the error several times.
 - OK means the VARA TNC connected and your ready
- After getting OK you do NOT type the port number, just “C” and the callsign, e.g. “c WE1H-7” – You need to know that the other stations is VARA capable!
- At disconnect you will either return to the -7 node (if you used “s”) or you get disconnected from the node.

FUTURE PLANS

*EQUIPMENT AND
LOCATION NEEDED

Adding	Adding 6m, 40m, or 70cm (I have antennas)
Moving	Moving the Node to a tower or better location with higher elevation – Better coverage
Expanding	Expanding VARA to include VARA FM
Activating	Activating the DRATS Reflector



THANKS!

Feel free to ask questions or reach out
to me

<https://www.n3byr.com>