



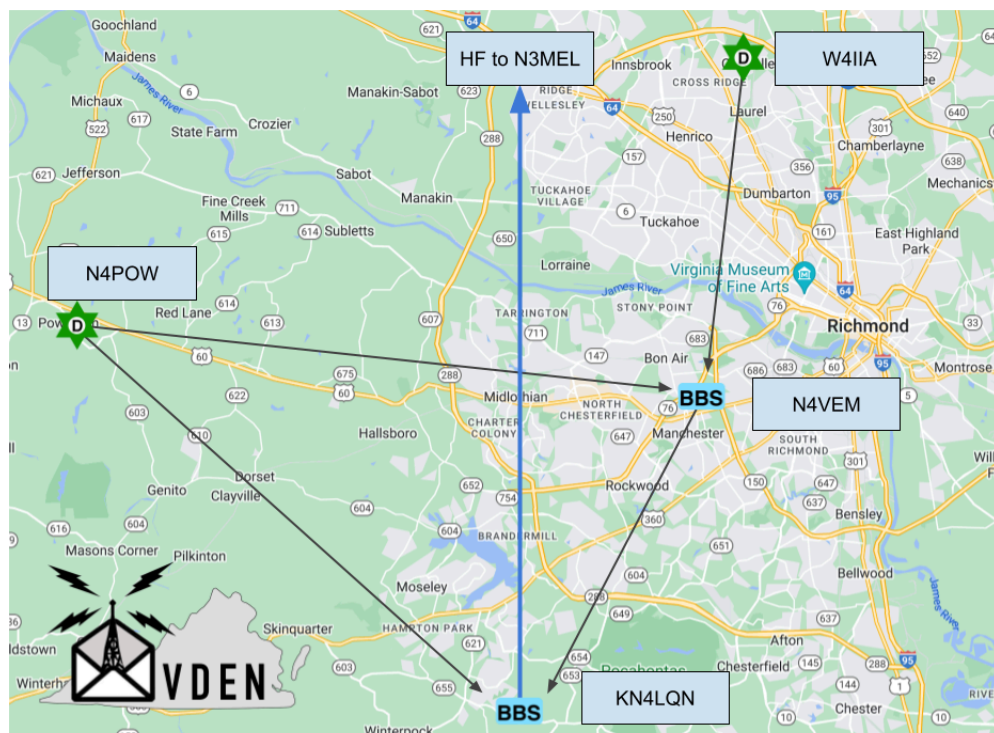
Virginia Digital Emergency Network (VDEN)

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Central Virginia BBSes with active forwarding:

BBS Callsign	Mode	Freq (Dial)	Hours (ET)	Via Digipeaters
N4VEM-1 (VA)	Packet AX.25 1200bd	145.730	0000-2359	KN4LQN-3 N4POW-10
	Packet AX.25 1200bd	145.090	0000-2359	KN4LQN-3
	Vara FM Wide	145.090	0000-2359	KN4LQN-10 N4POW-10 W4IIA-10
KN4LQN-2 (VA)	Packet AX.25 1200bd	145.730	0000-2359	N4VEM N4POW-10
	Packet AX.25 1200bd	145.090	0000-2359	N4VEM
	Vara FM Wide	145.090	0000-2359	N4VEM-10 N4POW-10
	Packet AX.25 300bd	7103.2 USB 3596 USB	0700-1900 1900-0700	@ 1000c
	Vara HF	7103.2 USB 3596 USB	0700-1900 1900-0700	@ 1500c
N3MEL-2 (PA)	Packet AX.25 300bd	7103.2 USB 3596 USB	0700-1900 1900-0700	@ 1000c
	Vara HF	7103.2 USB 3596 USB	0700-1900 1900-0700	@ 1500c



Quick example using Keyboard Terminal:

CONNECT N4VEM-1

*** Connected to N4VEM-1 <Wed,13Sep23 03:11 PM>

[BPQ-6.0.23.1-B1FWIHJM\$]

Hello David. Latest Message is 419, Last listed is 323
de N4VEM>

:> SB PKTNET@USA

Enter Title (only):

:> KN4LQN, David, Virginia, N4VEM

Enter Message Text (end with /ex or ctrl/z)

**:> 1. Various Packet/VaraFM Winlink gateways are in the area, with one well-positioned
central standalone digipeater**

:> 2. Regular daily HF NTS voice nets but not much on VHF in Central VA

:> 3. Still using mainline UZ7HO Soundmodem but will give QtSoundModem a try for IL2P

:> /ex

Message: 420 Bid: 420_N4VEM Size: 232

de N4VEM>

:> BYE

*** Disconnected Fm N4VEM-1 <Wed,12Sep23 03:13 PM>

In this example, the lines in **bold** are typed in by the operator and ">" is the BBS prompt.

Practice by sending private messages to other local operators or bulletins to ALL@N4VEM,
ALL@KN4LQN, etc!

BPQ BBS commands:

Command	Description
? or Help	Displays a list of commands.
B or Bye	Disconnects from the BBS.
N	Enters or modifies your name (max 12 characters allowed).
Home	Enters or modifies the Home BBS. A point deletes the current Home BBS.
Q	Enters or modifies QTH.
Z	Enters or modifies the Zip Code.
I callsign	Gives the information on callsign taken from the white pages database. Callsign can include wildcards.
OP <# of lines>	Enables or disables the paging of output.
A	Abort the BBS output while paging.
L	Lists the new messages since the last usage of this command.
LM	Lists the personal messages to you.
LB	Lists bulletins.
R msg# msg#	Reads the messages by their numbers.
RM	Reads new messages to you.
S[type] callsign	Sends a message or a bulletin. If the type is not specified, sent as private.
SP callsign	Sends a private message.
SB category@route	Sends a bulletin. eg, SB ALL@N4VEM
SR Msg#	Replies to a message.
S callsign @ BBS	Sends a message to a station AT another BBS. The message must be terminated by a Ctrl/Z or /EX followed by a return.
SC Msg# Call @ BBS	Copies a message or bulletin to the specified callsign.
K msg#	Deletes a message identified by its number.
KM	Deletes all the messages addressed to you, that you haven't yet read.

Connecting via Vara Terminal using Vara FM / HF

Vara is a newer mode that is robust and fast, using scaling speeds with OFDM modulation.

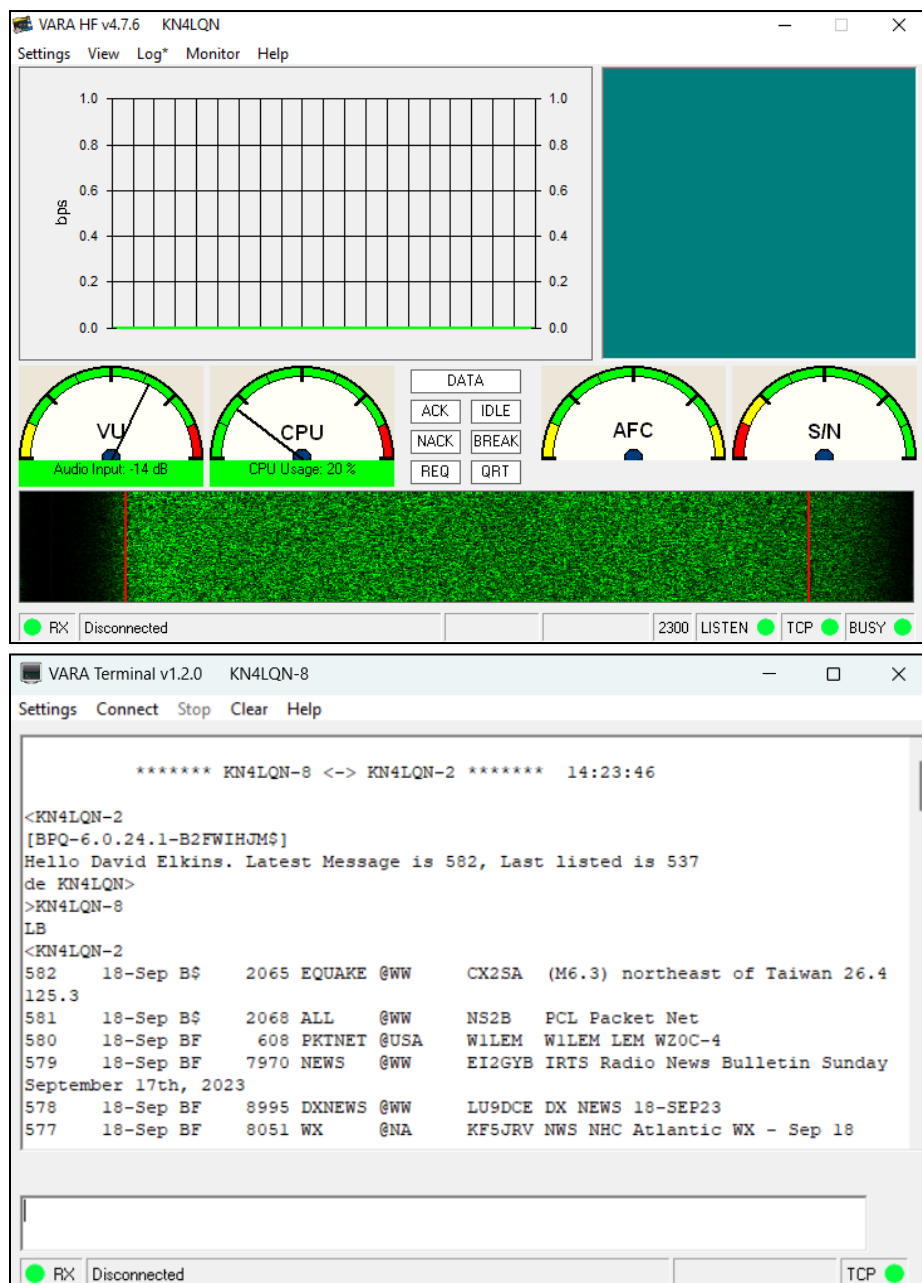
Vara FM can use WIDE audio bandwidth signals for faster speeds, depending on hardware setup, and includes digipeating functionality similar to AX.25 Packet.

Vara offers an optional \$69 license for the use of faster speeds and FM digipeating.

The Vara Terminal application uses either TNC to connect to a remote BBS to give keyboard terminal access.

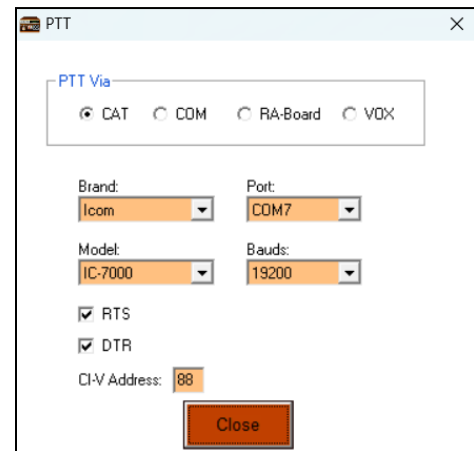
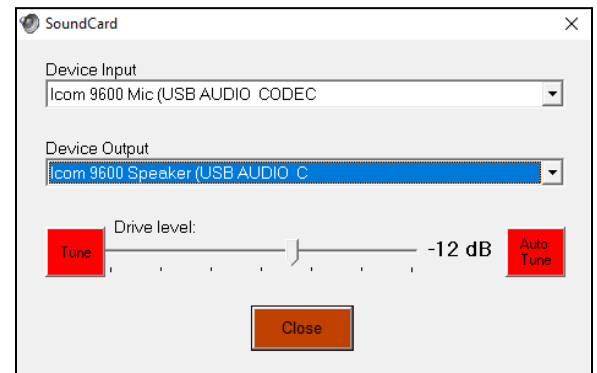
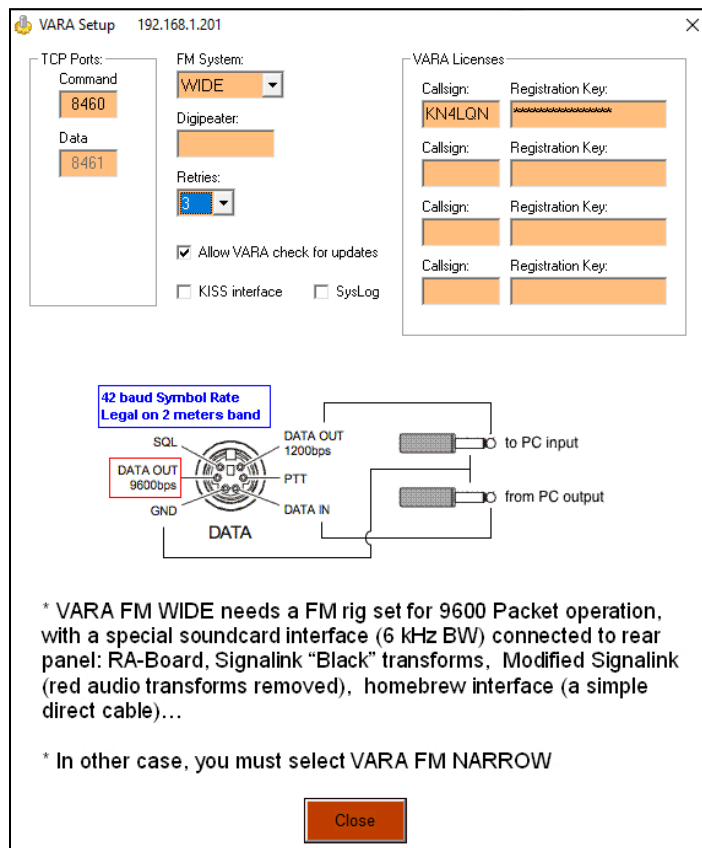
Download Vara FM and HF TNCs and Vara Terminal:

<https://rosmodem.wordpress.com/>



Connecting via Vara Terminal using Vara FM / HF (cont'd)

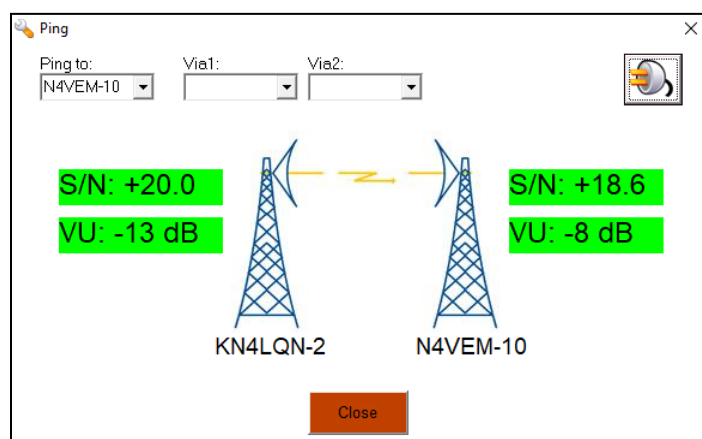
Configure Vara FM TNC for sound card audio devices:



In Setup, apply license key, select NARROW vs WIDE, and number of retries.

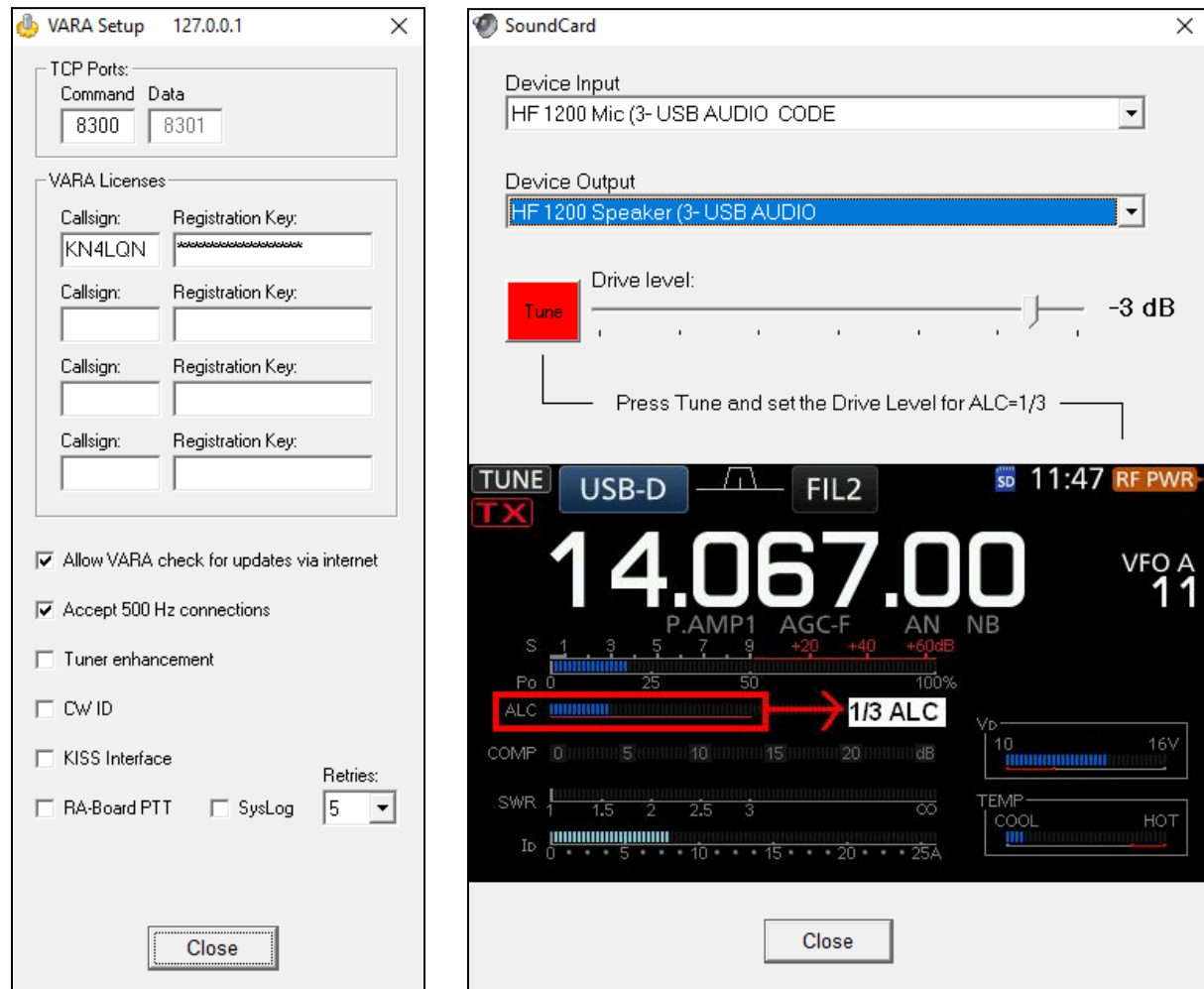
In SoundCard, select audio input and output device, set the drive level, test tune PTT, and optionally auto-tune to the target station to find the best drive level for optimal S/N.

The Ping dialog is very useful to test connectivity and S/N to the target station.



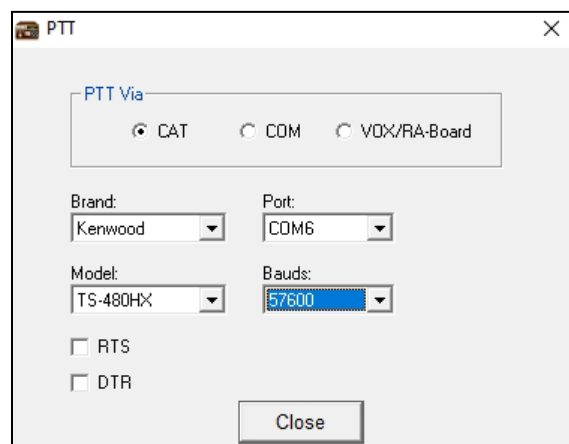
Connecting via Vara Terminal using Vara FM / HF (cont'd)

Configure Vara HF TNC for sound card audio devices:



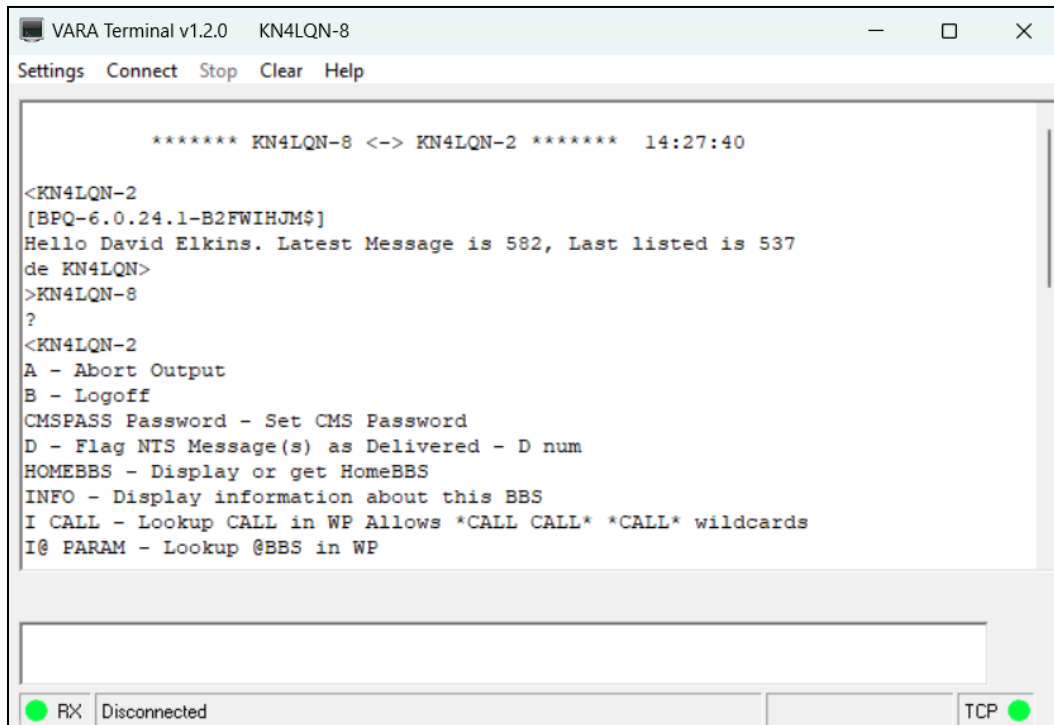
In Setup, apply license key, enable accept 500 Hz connections, and number of retries.

In SoundCard, select audio input and output device, set the drive level, and test tune PTT while watching radio ALC level. The PTT is configured in the application that uses the TNC.



Connecting via Vara Terminal using Vara FM / HF (cont'd)

The Vara Terminal application uses either TNC, with keyboard input at the bottom and remote station output in the larger text field on the top.

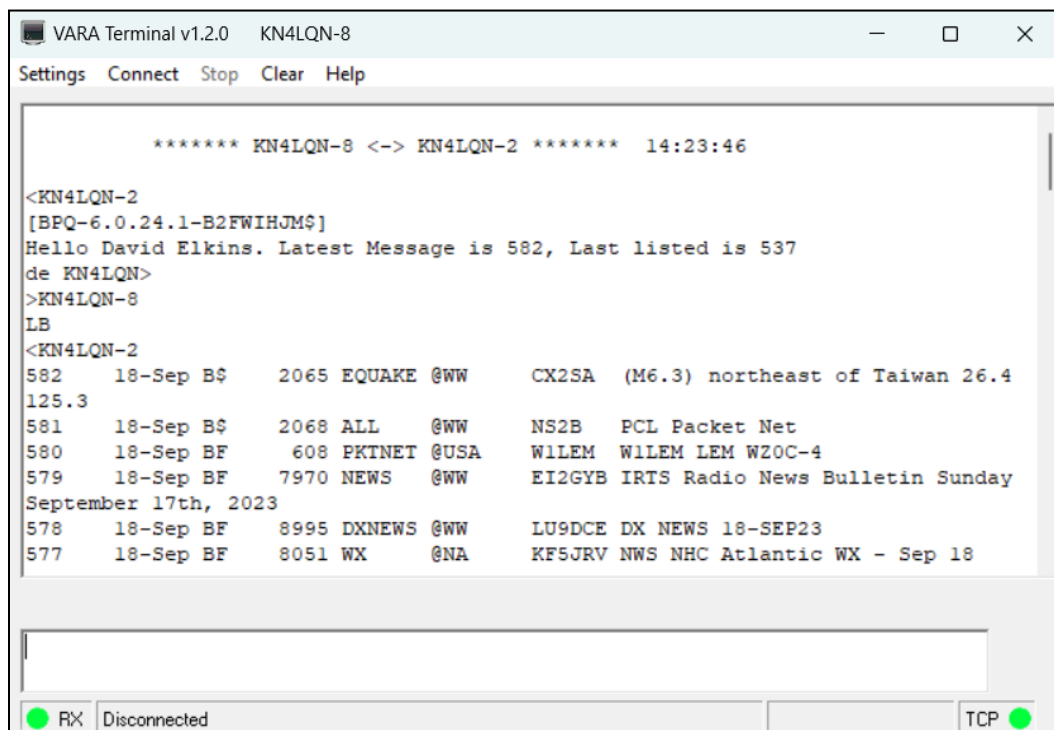


```
VARA Terminal v1.2.0  KN4LQN-8
Settings  Connect  Stop  Clear  Help

***** KN4LQN-8 <-> KN4LQN-2 *****  14:27:40

<KN4LQN-2
[BPQ-6.0.24.1-B2FWIHJM$]
Hello David Elkins. Latest Message is 582, Last listed is 537
de KN4LQN>
>KN4LQN-8
?
<KN4LQN-2
A - Abort Output
B - Logoff
CMSPASS Password - Set CMS Password
D - Flag NTS Message(s) as Delivered - D num
HOMEBBS - Display or get HomeBBS
INFO - Display information about this BBS
I CALL - Lookup CALL in WP Allows *CALL CALL* *CALL* wildcards
IO PARAM - Lookup @BBS in WP

RX Disconnected TCP
```



```
VARA Terminal v1.2.0  KN4LQN-8
Settings  Connect  Stop  Clear  Help

***** KN4LQN-8 <-> KN4LQN-2 *****  14:23:46

<KN4LQN-2
[BPQ-6.0.24.1-B2FWIHJM$]
Hello David Elkins. Latest Message is 582, Last listed is 537
de KN4LQN>
>KN4LQN-8
LB
<KN4LQN-2
582  18-Sep B$    2065 EQuAKE @WW    CX2SA  (M6.3) northeast of Taiwan 26.4
125.3
581  18-Sep B$    2068 ALL      @WW    NS2B   PCL Packet Net
580  18-Sep BF     608 PKTNET @USA    WILEM  WILEM LEM W2OC-4
579  18-Sep BF     7970 NEWS   @WW    EI2GYB IRTS Radio News Bulletin Sunday
September 17th, 2023
578  18-Sep BF     8995 DXNEWS @WW    LU9DCE DX NEWS 18-SEP23
577  18-Sep BF     8051 WX      @NA    KF5JRV NWS NHC Atlantic WX - Sep 18

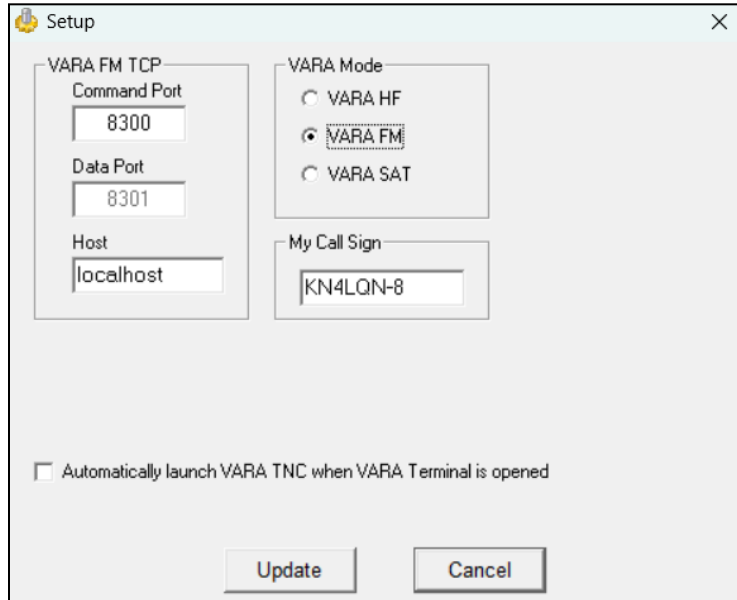
RX Disconnected TCP
```


Connecting via Vara Terminal using Vara FM / HF (cont'd)

Configure Vara Terminal for callsign, mode, host/ports and if you want the TNC to be automatically launched.

FM mode will allow using up to two via digipeaters, with PTT configured in Vara Terminal.

HF mode requires selecting the session bandwidth, with PTT configured in the Vara HF TNC.



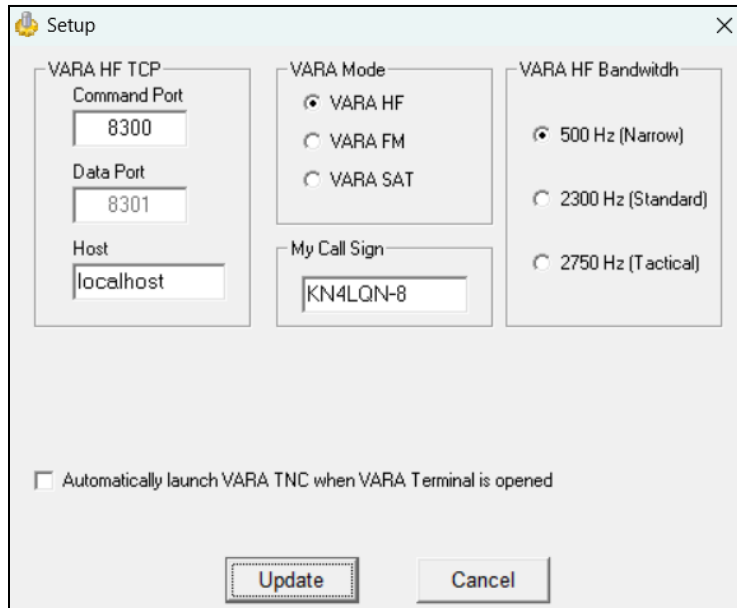
The Setup dialog for FM mode contains the following fields and options:

- VARA FM TCP**
 - Command Port: 8300
 - Data Port: 8301
 - Host: localhost
- VARA Mode**
 - ☐ VARA HF
 - ☒ VARA FM
 - ☐ VARA SAT
- My Call Sign**: KN4LQN-8
- ☐ Automatically launch VARA TNC when VARA Terminal is opened
- Buttons: Update, Cancel



The Connect dialog for FM mode contains the following fields and options:

- Connect with:** KN4LQN-2 (dropdown menu)
- Via1**: (empty dropdown menu)
- Via2**: (empty dropdown menu)
- Buttons: Plug icon, Cancel



The Setup dialog for HF mode contains the following fields and options:

- VARA HF TCP**
 - Command Port: 8300
 - Data Port: 8301
 - Host: localhost
- VARA Mode**
 - ☒ VARA HF
 - ☐ VARA FM
 - ☐ VARA SAT
- VARA HF Bandwidth**
 - ☒ 500 Hz (Narrow)
 - ☐ 2300 Hz (Standard)
 - ☐ 2750 Hz (Tactical)
- My Call Sign**: KN4LQN-8
- ☐ Automatically launch VARA TNC when VARA Terminal is opened
- Buttons: Update, Cancel



The Connect dialog for HF mode contains the following fields and options:

- Connect with:** KN4LQN-2 (dropdown menu)
- Buttons: Plug icon, Cancel

Click the plug icon to connect to the target station and begin using the keyboard terminal commands to read and send personal or bulletin mail.

Additional resources:

BBS spec:

https://www.scc-ares-races.org/data/packet/docs/BBS_Specification.pdf

AX.25 Packet spec:

<https://www.ax25.net/AX25.2.2-Jul%2098-2.pdf>

Automated Packet Reporting System (APRS) spec:

<http://www.aprs.org/doc/APRS101.PDF>

Improved Layer-2 Protocol (IL2P):

<https://tarpn.net/t/il2p/il2p.html>

https://en.wikipedia.org/wiki/Improved_Layer_2_Protocol

BPQ mail user commands:

<https://www.cantab.net/users/john.wiseman/Documents/BBSUserCommands.html>

Kenwood-style TNC commands:

<https://www.manualslib.com/manual/424067/Kenwood-Tm-D710a.html?page=33>

Kantronics-style TNC manual:

<https://kantronics.com/wp-content/uploads/2018/10/KAM-XL-Manual-RevE.pdf>