WINLINK VARA HF PEER-to-PEER (P2P) OPERATIONS MADE EASY
INCLUDING Setup for 500Hz Bandwidth P2P

By ND1J

REVISED VERSION 4 dated 22Sep2022.   See list of changes on last page.

This article details how to set up and then conduct Winlink Vara HF P2P operations. The assumption is that you are already a Winlink and Vara HF user with some RMS experience and already have the general setup done for rig interface / CAT control / etc. Dive into P2P!

Peer-to-Peer is just another way to connect and send/receive messages with Winlink. And it is NOT difficult so don't shy away from trying P2P. This article will help you get going in no time.

PREVIEW:
The first part of this article will provide detail on the setup for 500Hz bandwidth P2P mode, the preferred mode for P2P operations. Then I will go into detail about P2P operations – limitations and restrictions – basically what it can and cannot do for us. And finally, I will detail how to actually conduct a P2P session, whether it by initiated by you or by someone calling you.

This is everything you would likely need to set up your station for either incoming our outgoing P2P operations. Play with P2P. The Florida Winlink W4AKH Net has several P2P host / target / anchor stations (whatever you want to call them) that are available so you can experiment with P2P. That is their purpose – to let you have a station you can practice connecting with. So have at it!

Also, please consider signing up as a target or anchor station for the Florida Winlink Net. It is easy, fun, and will give you more confidence and experience in conducting P2P operations both directions.

SETUP:
In order to use Vara HF P2P 500Hz bandwidth mode, you **MUST first set your system to 500 Hz bandwidth in TWO locations within the Winlink application.**   This helps conserve bandwidth so most P2P stations use 500 Hz. P2P will work at 2300 and even 2750 bandwidths. But why use 2300 Hz of bandwidth when you can do the same thing with a fifth of that?

If your target station is using P2P 500 Hz bandwidth, that station *will NOT* answer if you don't do the following:

1.   Open Winlink Express

2.   Select Vara HF P2P in the Session Window and click Open Session.

3.   Now you will see the Vara HF Peer-to-Peer Session window open. You will also now see an icon down in the taskbar for Vara HF. Click on it (or Alt-Tab to it) and another window will open up that says Vara HF version#. This is called the Vara HF TNC Window. The Vara HF TNC window will show the waterfall, meter dials and transmission speed for the session once underway, along with other information. You will make one configuration change in the setup of each of these windows as follows.

4.   In the main Vara HF Peer-to-Peer Session window, select: **Settings**>**Vara TNC Setup** and for Session Bandwidth, select 500 and click Update.

5.   In the other window, the Vara HF TNC window with the meters, select: **Settings**> **VARA Setup.** Check the box that says Accept 500 Hz Connections and click Close.

6.   Close the Vara Session Window. That action will also close the Vara TNC window.

7.   **OPTIONAL** for all but necessary if you are going to be a host/target/anchor station: You don't want a connected station to wait for a minute before their message can start sending to you, so you need to change the following setting in the main Winlink Express Program - **Settings > Preferences> Message Review Before Downloading > uncheck** the box "Display the list of pending incoming messages prior to download. That way, an incoming message will be sent without that extra dialog box popping up and delaying the process.

VIDEO HELP: There is a good, short video on Youtube by the ETO EmComm Group, on how to do this. See the **ETO # 2102 Vara HF P2P 500 Hz Setup** tutorial on YouTube for instructions:

https://youtu.be/tNgncCVXrHM

Now you are all set. You will not have to do this again unless you choose to use P2P in other bandwidths by changing those settings. Note: Once you actually start the session, you can confirm 500 Hz mode by noting the bandwidth of 500 at the bottom, below the AFC meter and waterfall.

P2P PURPOSE & LIMITATIONS:

P2P mode enables us to pass message traffic to and from two specific stations. Remember, however, that these messages do not continue on. With a Winlink message sent to an RMS station, it is then passed onto the internet and ultimately delivered to recipients. P2P does not do that. You pass a message to another P2P station and the operator at that station must take action in order to pass that info onto someone else.

To illustrate the difference between P2P and regular Winlink messages, let's say you want to check into the Florida Winlink W4AKH Net. If you send your check-in message via an RMS station (as a Winlink message), it gets forwarded to the intended addressee – W4AKH. Bingo and it is there.

Now, let's say you want to check into the Florida Winlink W4AKH Net via Peer to Peer instead of RMS:

First, you draft a check-in message as a specific **P2P message** addressed to, let's say me – ND1J. Then you connect to my P2P station ND1J and send me the check-in message. Now, I have to pass that info on, somehow, in some form or format, so that it gets to W4AKH or you won't ever be checked in. That is the main difference between P2P messages and Winlink messages. Remember the P2P target station's operator has to do something with that message before it will get anywhere else. In the case of FL Winlink W4AKH Net, the check-in info is passed by each of the P2P anchor stations at the end of each Net week to KK4SHF & KK2JJK. They crunch the data for the weekly report.

DRAFTING P2P MESSAGES:

This is easy but also easy to mess up! In the Main Winlink window, draft the message and **also select Peer-to-Peer Message** in the "Send As" window. Post the message to the outbox. Check the outbox message and make sure it shows as an outgoing P2P message, not a Winlink Message. When connected to a station in P2P mode, only P2P messages can be sent or received. You can tell it's a P2P message in the Outbox by looking at the recipient address. A (P2P) will follow the callsign. If it isn't P2P, click on the message to open the editing box and change the Send As to Peer-to-Peer, then post it again.

SENDING & RECEIVING P2P MESSAGES:

The following five (5) notes pretty much sum up P2P messaging:

Note-1: You can only address a P2P message to one callsign, not multiple stations.

Note-2: You cannot send a P2P message to a tactical address or email address. Hint: ND1J is ok. ND1J@winlink.org is not, even if they are the same thing in a Winlink Message.

Note-3: You can have a mix of both P2P and Winlink Messages in the Outbox. If you connect to an RMS station, all Winlink Messages in the outbox will be sent during that session. If you connect to a P2P station, the only P2P messages that are sent are messages addressed to that specific P2P station you connected to. The other P2P messages will remain in the outbox.

Note-4: When connected, the other P2P station will also send you messages, but only those that are addressed specifically to your callsign and only if they are P2P messages.

OK, NOW IT'S TIME TO ACTUALLY CONDUCT A VARA HF P2P SESSION:

STEP-1 Open a Session using Vara HF P2P.

NOTE: You can use an already open Vara HF Winlink Session window and click on the Switch to P2P button. HOWEVER, if you do this, the P2P session will be in the bandwidth that Vara HF Winlink last used, which in most cases is 2300. This can result in no connects to a 500Hz P2P station. I recommend closing Vara HF sessions and reopening them rather than using this button selection to go back and forth.

STEP-2 Select the desired P2P target station. Enter the Center Frequency and Call Sign. The app will insert the Dial Frequency automatically and if you have rig control working, the rig will go to the correct frequency.

STEP-3 Set filters and other bells and whistles as desired. For 500 Hz mode, you can use a 600Hz roofing filter or Digital Filter or both. DNR – Digital Noise Reduction – try it both ways. I find great results with it on. You do not want excessive noise reduction, however. And no shift, no DNF Digital Noise Filters.

STEP-4 Once the session is open and the Vara HF Peer to Peer Session Window shows something like: *** Launching VARA TNC
*** Successfully connected to VARA TNC.
*** Vara signal bandwidth is 500 Hz.
*** Using Manual, COM10, 19200 baud
*** Ready

STEP-5 You are now ready to connect. It is important to note that **at this point, your station is NOW LISTENING on that frequency for connect requests.** IF another P2P station was to initiate a call to you, your system would automatically answer, starting the transmit/listen/negotiating process to connect. Once the connect occurred, you would see that on the screen. It really looks just the same as if you had initiated a connect, yourself. Once disconnected, your setup is again listening and waiting for another connect request. This is what you do if you want to be a target / anchor station. It is that easy!

OK, so you don't have anyone to connect to you but you want to connect to them.   Let's get that P2P message in your outbox on its way:

STEP-6 Click Start and the process will take off. From this point, everything is the same as connecting to an RMS station. When you get a successful connect and handshaking, any P2P message(s) in your outbox that is addressed to THAT P2P Station will be sent. Any message at that station's Outbox that is P2P and addressed to you will be sent to you. Then the stations will disconnect. Remember that after the disconnect, your station is basically armed and ready to be called again until you close the session window. I recommend keeping the P2P window open for a couple minutes in case the station just contacted tries to send a message back.

WRAP-UP:
Well, that is about it for Winlink Peer to Peer operations. It really is pretty easy and I encourage you to play with it. The more comfortable you are with P2P, the better qualified you will be when something big and bad happens to the internet. If you see errors or have any suggestions for refining this article, I can be reached at nd1j@arrl.org. Or even better, to my winlink address ND1J. Or even better than that, via a P2P message straight to me!

73, de David Blubaugh - ND1J in Senoia GA

REVISIONS:

Revised Ver 4 – 22Sep2022 –
    a. Note 3 on page 4 rewritten for clarification
    b. Added NOTE on page 4 about problems when switching between Vara HF Winlink and Vara HF P2P
    c. Reformatted page 4-5
    d. Added sentence at end of STEP-6 about keeping P2P window open for a couple of minutes waiting for the station to call back with a message.

Revised Ver 3 – 3Sep2022 –
    a. Added page numbering
    b. Added step 7 on page 2.