

Winlink Express

Before we get going, I want to cover some potential issues that come up with Winlink Express. The biggest one is that the radio you are connecting to can only handle one user at a time. So you must be mindful about what you are sending and receiving. If you have anything that is fairly large, you will either want to hold off on sending/receiving it, or try to do it using Telnet and the Internet. This will come up later in the tutorial as well.

Most RMS Gateways (Radio Mil Server, the term for the station you are connecting to) allow a limited amount of time in a 24-hour period. Often it's 2 hours maximum. This is another reason why you have to be careful about what you choose to send or receive. If you time out, then you cannot use that station again for 24-hours. That could pose problems if you are on an extended deployment somewhere and have limited options to connect to.

A second issue is that the propagation estimates are a guess based on your location. While they **might** say you have a 99 percent chance of using the station, your mileage may vary. So, don't be afraid to try stations with lower percentages—especially if they are in green. Along this line, the location is determined by the grid square you set up in settings. In a perfect world, we will update the propagation settings before deploying, but in reality they will be out of date when you get into Winlink Express. If you have Internet access, you should use that option to update the settings (more on this later). Updating via a radio can be used, but it is slow and should be a last resort.

A final issue, and we will cover this in the next session, is that if you send a form to someone outside of the Winlink system, they will only be able to see the text in the message. The form will not open up correctly at all. Because of this, you have to print the form out to a PDF and attach that to the message. If everyone is in the Winlink system (meaning they don't have an @something.something in their email address), you do not have to do this as the form will open properly through Winlink.

To get around what would be a large time problem, simply go to Settings, select Form Settings, then tick the box for Send forms as pdf files to Internet addresses.

So, with that, let's get started...

You will see this icon on your desktop:

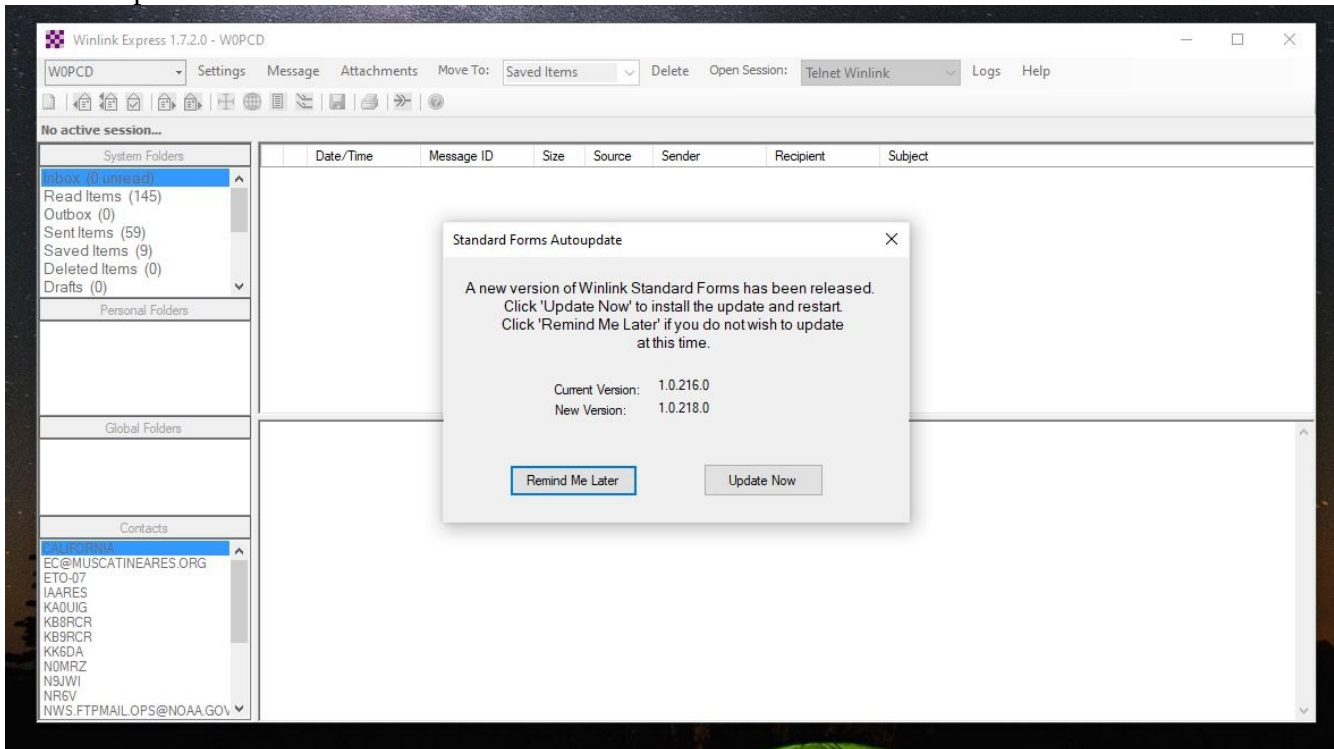


Simply double click that and you are good to go.

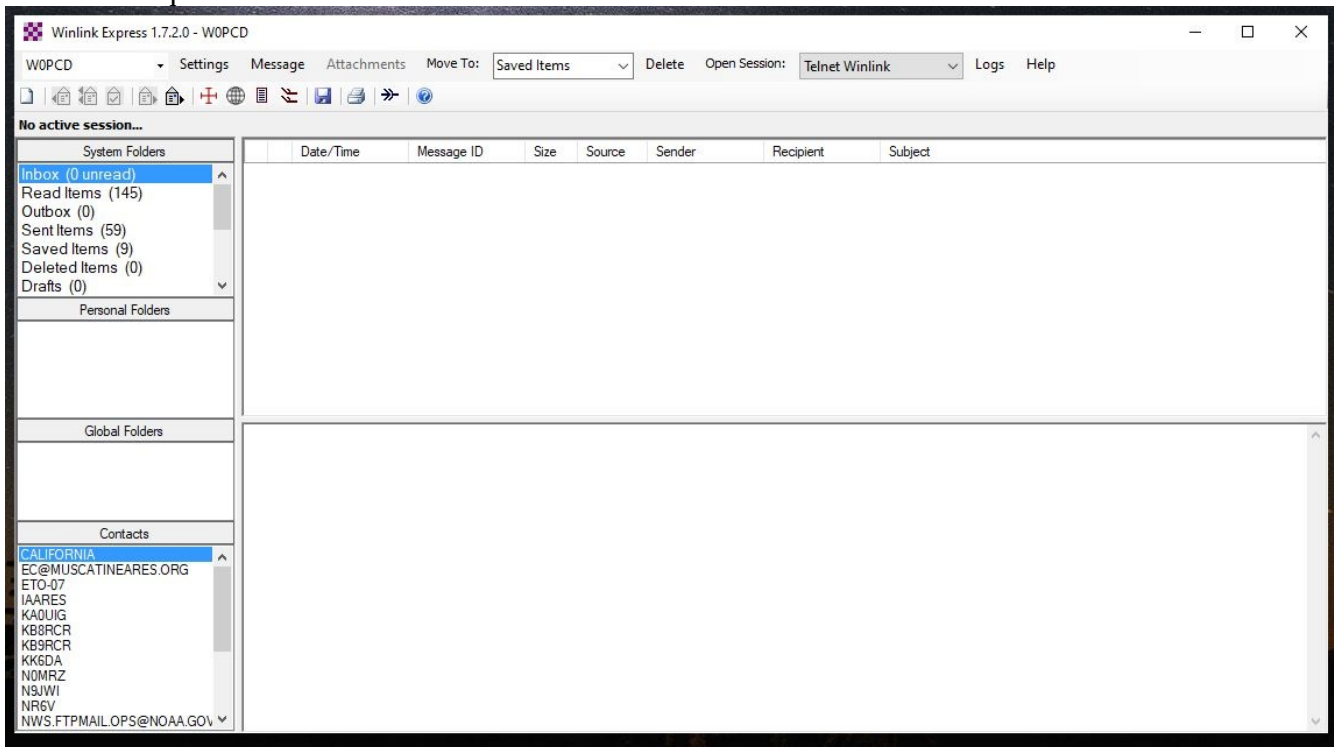
If you don't see it on your desktop, it might be inside of a folder. Or you might have to click your Start button, then scroll down to RMS Express and click on that. Finally, click on Winlink Express in that menu option. The computers in the trailer should be setup to use the AC0EC Winlink email account by default. If you want to use your own personal Winlink email, you can run the Winlink Express Setup from the Settings menu. Also, if for some reason, the system is not configured, you will be presented with the Winlink Express Setup window.

You might also be prompted to update forms or the program. If you have Internet access, do this. Otherwise, you can click No and make a note of it in your log form (ICS-213 or other) so we

know to update them.

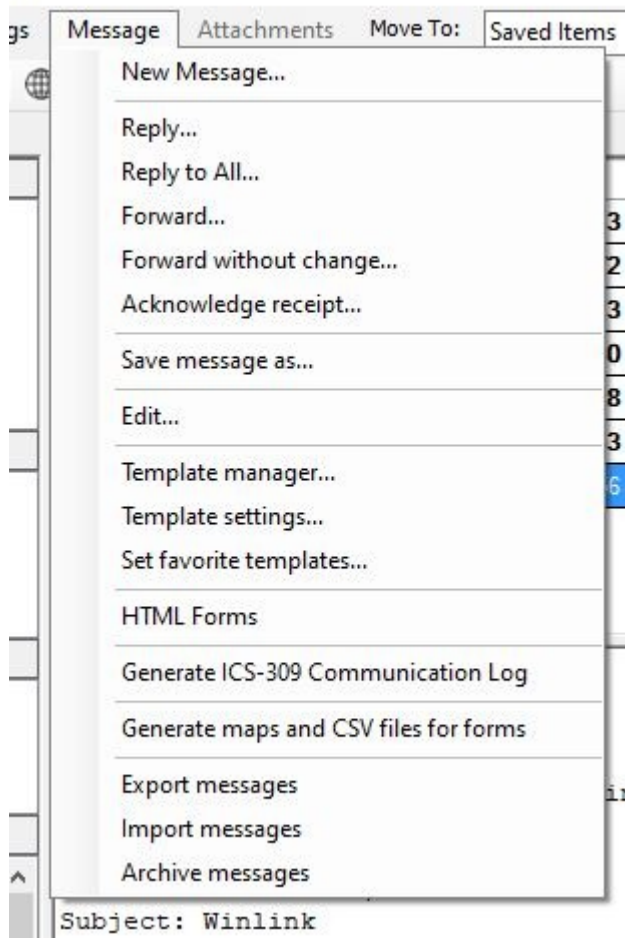


Let's take a quick look around the main window...



In the upper left-hand corner, you will see the callsign that is currently in use. If you have your callsign setup, you can click that dropdown to switch between them. For the purposes of this tutorial, the

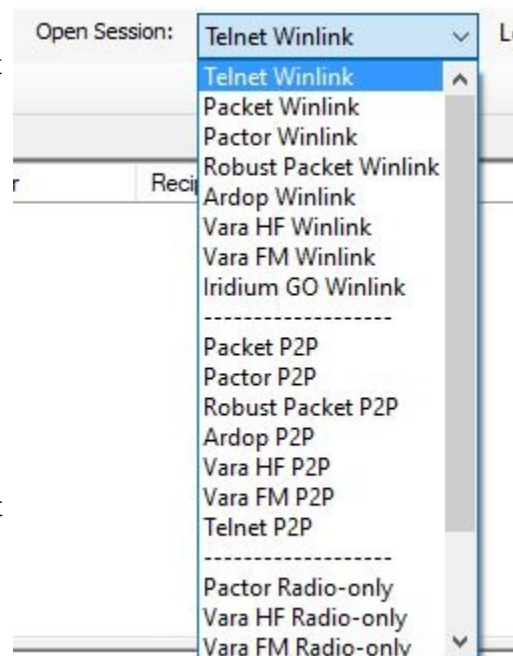
callsign should read ACOEC. Next to that is the Settings Menu, where you can find the Winlink Express Setup, along with some other options. Next to that is the Messages menu option. Here, you can either start a new message, reply to a message, forward the message, or Generate an ICS-309 Communications Log. You will want to Generate the log at the end of your shift on that computer. You can also Save the message.



Other Options are beyond the scope of this manual. If you are not viewing a message in the main window, some of the options will be greyed out. We will ignore most of the other options above, as we won't use them normally.

The next area that we care about is the Open Session: area. You will see Open Session: with a dropdown list that might say "Telnet Winlink" in the box. Click the Dropdown list and it will show you all of the available options.

In this, we only care about VARA HF, VARA FM, and Telnet options, although you are free to use the Ardop Winlink or Packet Winlink options as well. If you are connecting to an RMS Gateway, you will use the options that end in Winlink (Telnet Winlink, VARA HF Winlink, or VARA FM Winlink).



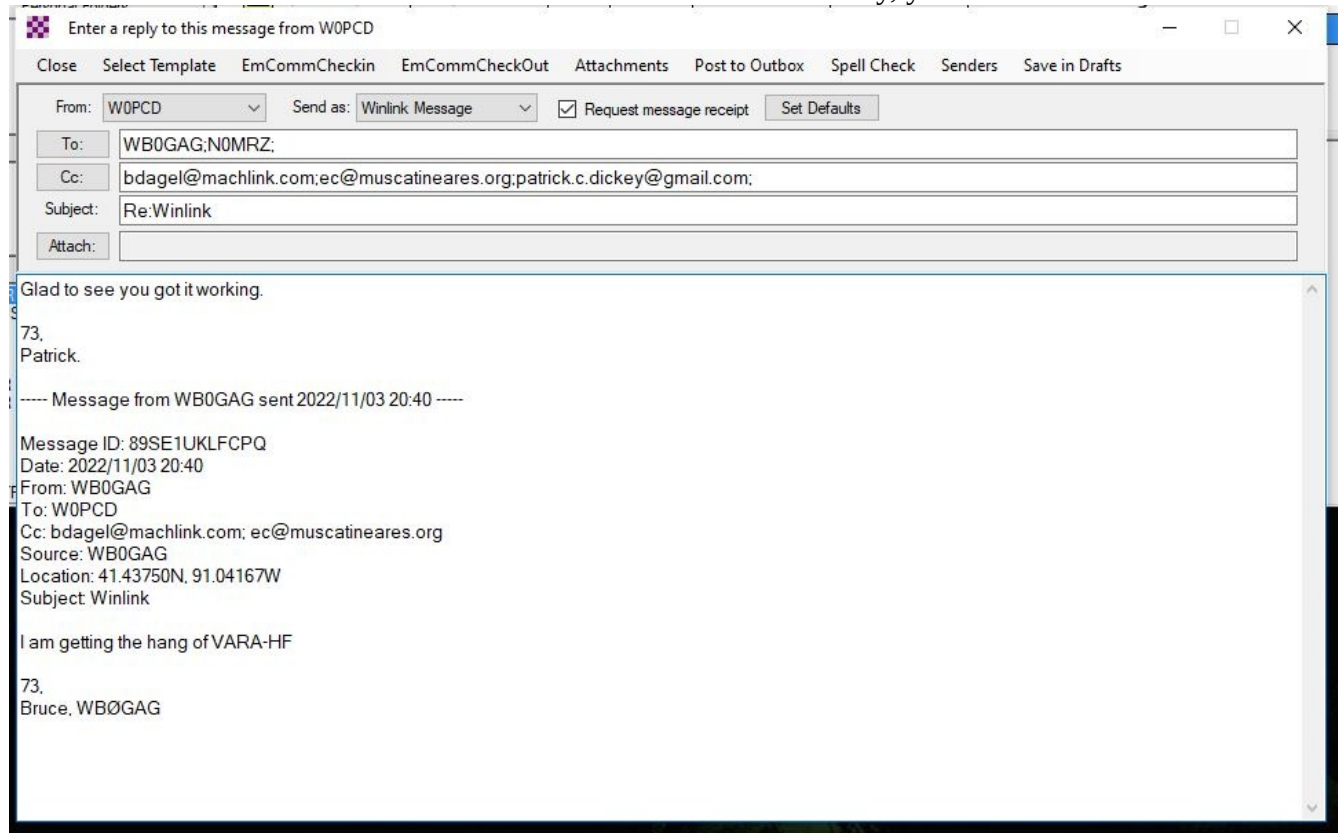
If you are connecting to another amateur operator directly, you will use the Vara HF P2P, Vara FM P2P, or Telnet P2P options. (Most likely, we will use the RMS Gateway but you will be told otherwise as necessary).

If using Scott's RMS, you will need to use Packet P2P, as it is on 146.610 MHz FM and does not do Vara.

Click the item in the list that you want and then click "Open Session:". **It doesn't look like a button, but it is.**

Some of the other areas of interest in the main window are the folders on the left side, and the contacts. As you email groups or people, they will show up in the Contacts window. You can double-click on a contact to start a new message to them. On the right-hand side, you will see all of the emails in the inbox and below that will be a reading pane, where you can read the individual email. Note: If the email has an attachment (like an ICS-form), when you open the message, it will open your browser and show you the form. You can print that from your browser if you need an actual copy of it.

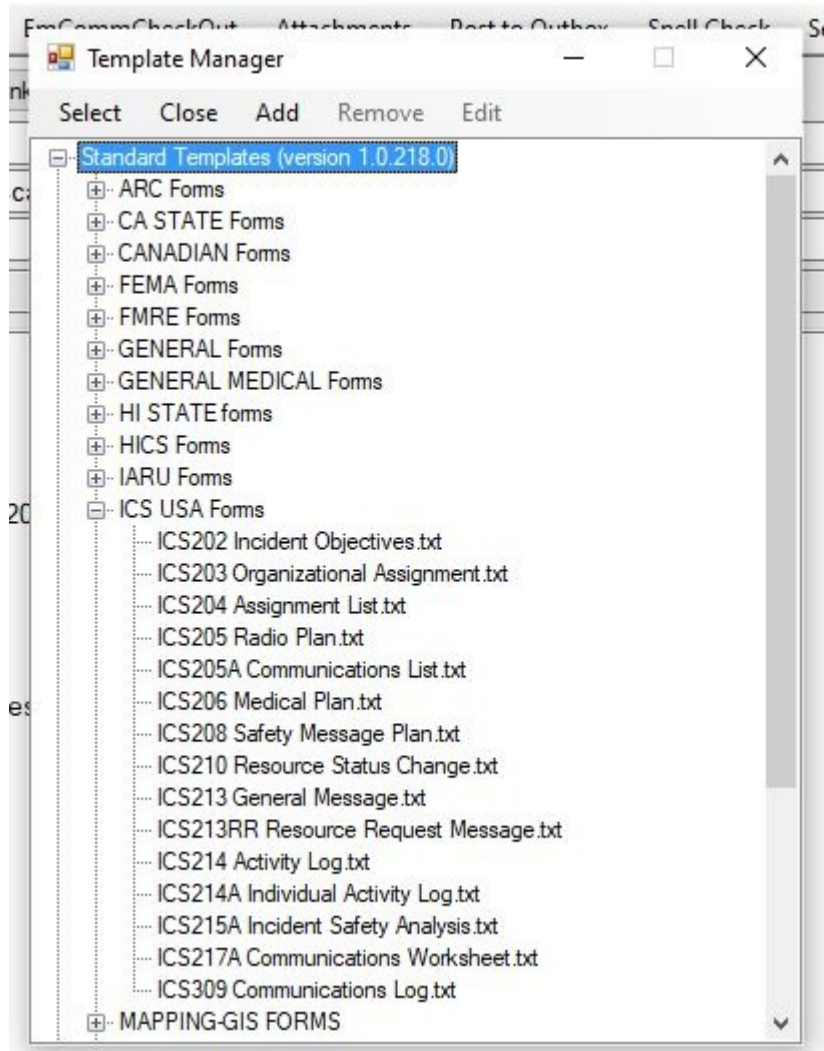
To send a new message, simply click on Messages —> New Message. If you are replying to a message, you can click on Messages —> Reply or Messages —> Reply All, if it has multiple people listed. You can also double-click the contact from the list. Either way, you will come to this window:



If it's a new message, everything will be blank. If it's a reply, it will look similar to this. Let's take a look around here too. The important things are the To: CC: Subject: and Message areas. Depending on how you started the process, the To: box may have the contact in it. And you'll fill in the rest. You can click on the To: button to bring up a list of contacts (same with the CC: button).

At the top of the window, you see some options. The ones you will care about are “Select Template”, “Attachments”, “Spell Check” and “Post to Outbox”. If you need to save the message, you can click on Save in Drafts. Note, your window may look different than the one pictured, depending on what templates you have set up.

If you are sending an ICS- form or another form, you will click on “Select Template” and choose the form from the list that pops up. I have a picture of the window with the ICS-forms section opened, as those will be the most commonly sent forms. Other forms you may be using will be the Red Cross forms (ARC Forms).



When you pick the template, it will open up in your browser.

The screenshot shows a web browser window with a form titled "General Message (ICS 213) EmComm Training Organization". The form has a header section with a "Setup" button and a "Click to add an agency or group name" link. Below the header are several input fields: "1. Incident Name: Incident name is optional", "2. To (Name/Position):", "3. From (Name/Position):", "4. Subject:", "5. Date:", and "6. Time:". There is a large text area for "7. Message:" with the instruction "Be Brief and Concise". At the bottom, there is a field for "8. Approved by:" and "Position / Title:". The form also includes buttons for "Load ICS213 INITIAL Data", "Form Instructions", "Save ICS213 INITIAL Data", "Submit", and "Reset Form". The version number "Ver 41.12" is shown in the bottom right corner.

The Setup button lets you customize the subtitle (under the form name) of the form.

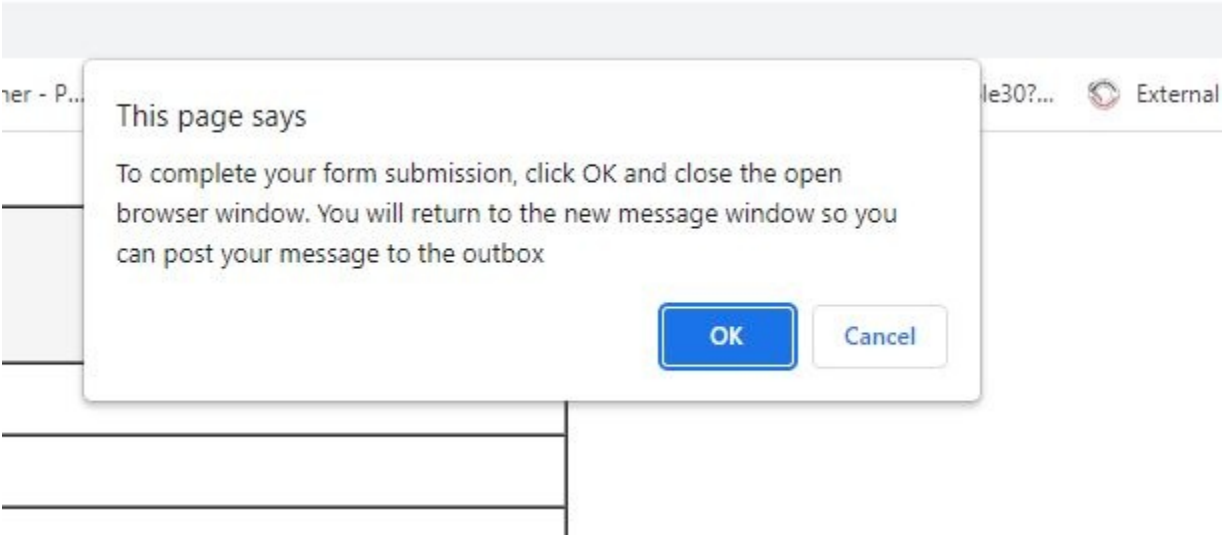
If you have some default information that you are using, you can click on the “Load Initial Data (in this window, it says “Load ICS-231 Initial Data”). Then pick the file with the initial data and it will pre-populate some of the fields. You DO NOT have to do this... Click next to Incident Name and type in the incident you are deployed to. Click next to the To (Name/Position): and put in the recipients name and title (for example John Smith/Director of Operations). Click next to the From (Name/Position): and put in the senders name and title (most likely won’t be you—for example Jane Doe/Head of the shelter).

Click next to Subject and fill that in. When you click **next to** the words Date or Time, it will bring up a box with the current date and time in it. Click OK on those and it will fill them in (I would do this just before sending the message). Click in the Message: section and fill out the form. You *should* have the information in front of you, preferably written on the same form, so you will know what to put where.

In the Approved By: you will put the person who approved the message (from the form). The first time through, click on the “Save Initial Data” box (mine shows Save ICS213 Initial Data, yours will vary based on the form) and save it to your Documents folder with the incident name and form (example: RiverRumble-ICS-213). By doing this, you can preload the data for future messages.

If you are sending this to people outside of the Winlink System (if they have something after the @ symbol in their email address), you need to do one more set of steps. Right click on a blank part of the window and choose Print... Then, choose “Save as PDF from the box and click Save... Give the file a name and click OK.

Then, click the Submit button. There will be a pop-up box that appears. Click OK on that, and when you are presented with a blank browser page, close the tab/window.



Your original message will be populated with information from the ICS-form. **DO NOT CHANGE ANYTHING IN THIS.** If you are sending this to people outside of the Winlink System, click Attachments and select the file you created above. Then, click “Post to Outbox” in the menu list at the top.

If you click on your outbox in the folder list, it will show all of the messages that you’ve posted there. If you need to edit a message, you can double click it in the window and edit it. Otherwise, you can just go to the Open Session and pick the type of session you’re using (Telnet, Ardop, or VARA) and click on Open Session:

Winlink Express 1.7.2.0 - W0PCD

W0PCD Settings Message Attachments Move To: Saved Items Delete Open Session: Vara HF Winlink Logs Help

In Vara HF Winlink session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2022/11/24 1...	N6GGQAUU9...	426	W0PCD	W0PCD	NSJWI	ACK: IL ARES AUXCOM Digital Check-in #2022-47
Read Items (152)	2022/11/24 1...	YMAX52P7BR...	460	W0PCD	W0PCD	KFOCVR	ACK: 213-Scott county ARES-Net check ins 11-10-22 - 2022-11-14
Outbox (9)	2022/11/24 1...	4ABK9WUOT...	424	W0PCD	W0PCD	NSJWI	ACK: IL ARES AUXCOM Digital Check-in#2022-46
Sent Items (59)	2022/11/24 1...	BO2BUJL94U1X	904	W0PCD	W0PCD	KFOCVR...	Re:APRS/PACKET
Saved Items (9)	2022/11/24 1...	MRDVE9OYS...	373	W0PCD	W0PCD	KFOCVR	ACK: APRS/PACKET
Deleted Items (0)	2022/11/24 1...	XKG789TU6L...	432	W0PCD	W0PCD	NSJWI	ACK: 213-Weekly Exercise-#2022-45 - 2022-11-07 06:11
Drafts (0)	2022/11/24 1...	4AQLW8L28IHT	411	W0PCD	W0PCD	NSJWI	ACK: IL ARES AUXCOM Digital Check-in
Personal Folders	2022/11/24 13:54	MV6QWVXDYXKL	366	W0PCD	W0PCD	WBOGAG	213-EXERCISE IN FUTILITY-Demonstrating Templates for Tutorial
Global Folders							
Contacts							

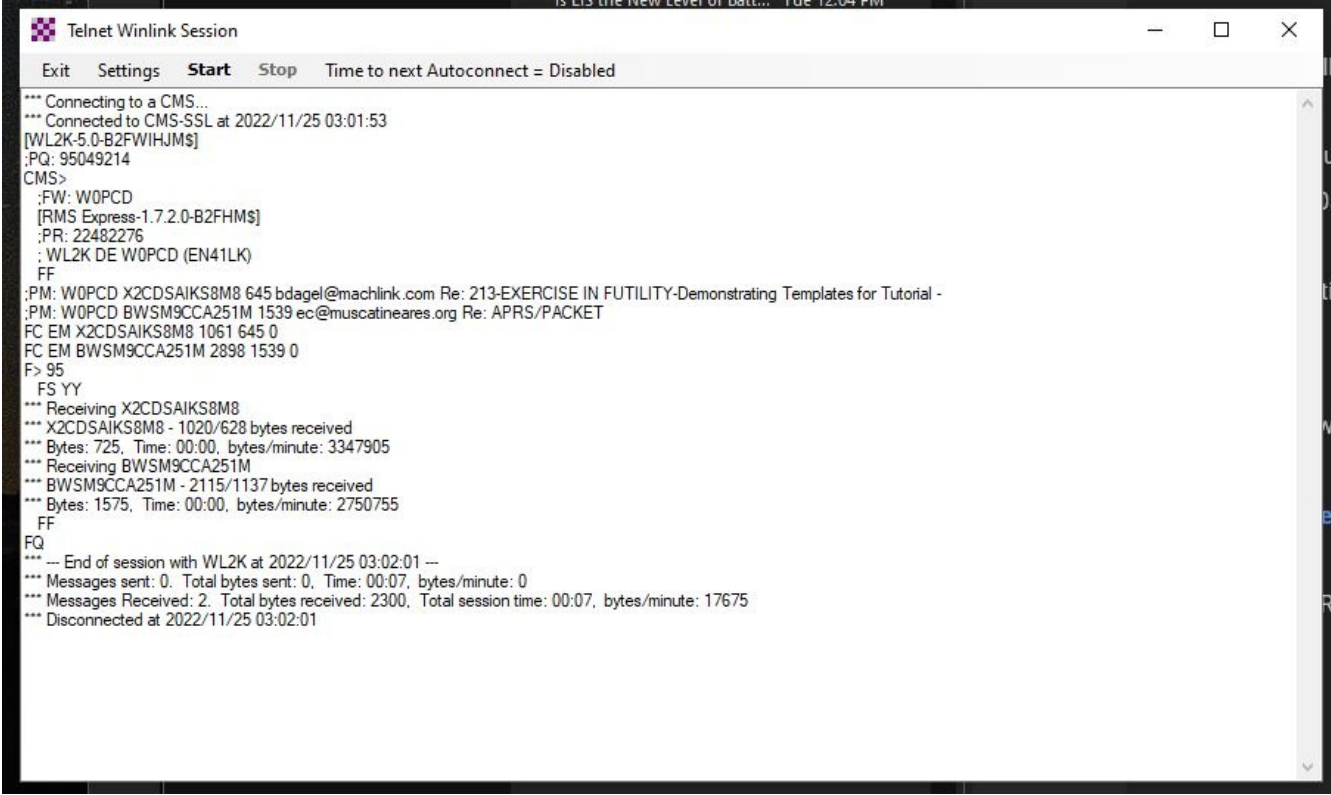
Message ID: MV6QWVXDYXKL
 Date: 2022/11/24 13:54
 From: W0PCD
 To: WBOGAG
 Source: W0PCD
 Location: 41.43750N, 91.04167W
 Subject: ACK: Winlink

[message acknowledgement]

The following message was received by W0PCD

Subject: Winlink
 Sender: WBOGAG
 To: W0PCD
 Received: 2022-11-03 20:40 UTC
 Acknowledged: 2022-11-24 13:54 UTC
 Message-ID: 89SE1UKLFCPQ
 Number of attachments: 0

We will typically be using a VARA or Telnet Session, so I will show those here. Essentially the windows will be the same for any radio-related session (VARA, Ardop, etc). Let's start with the Telnet Session first.

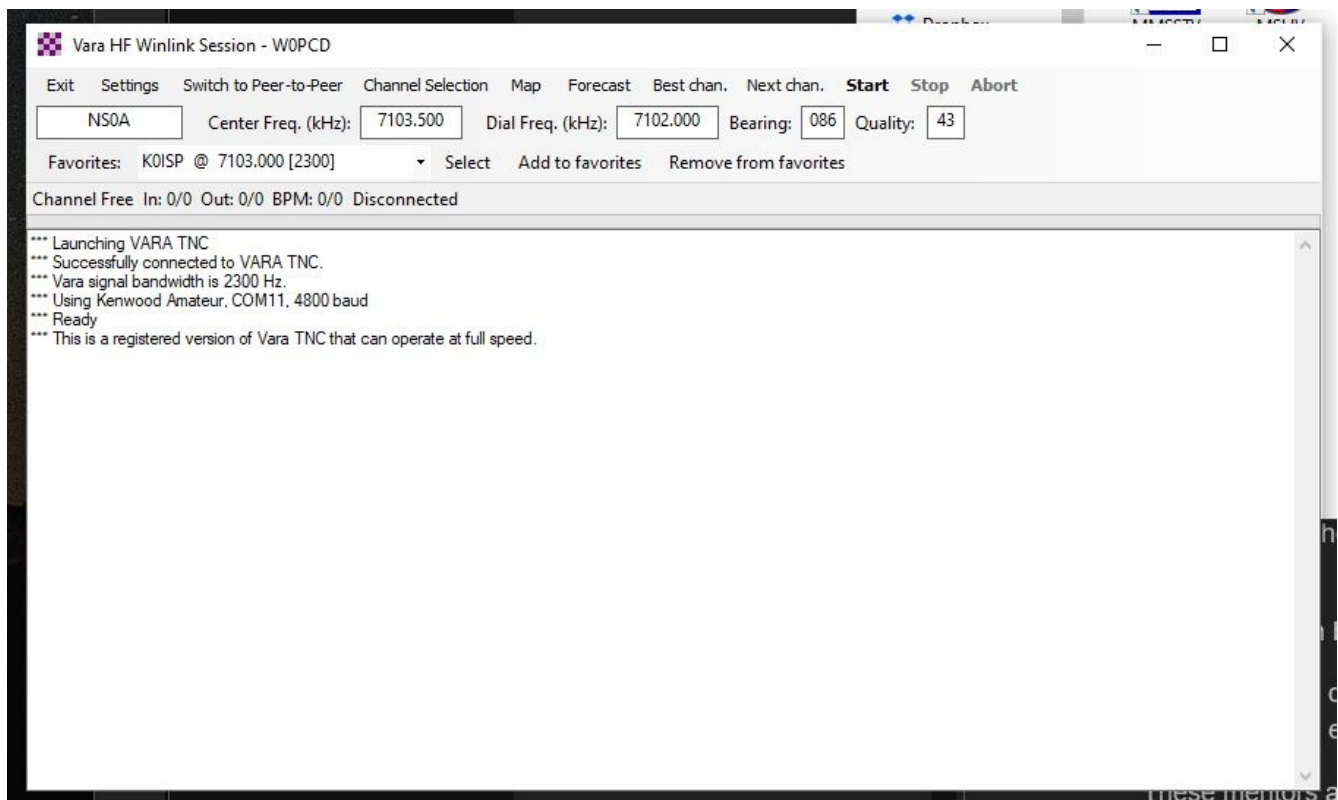


```
Telnet Winlink Session
Exit Settings Start Stop Time to next Autoconnect = Disabled
*** Connecting to a CMS...
*** Connected to CMS-SSL at 2022/11/25 03:01:53
[WL2K-5.0-B2FWIHJMS]
:PQ: 95049214
CMS>
:FW: W0PCD
[RMS Express-1.7.2.0-B2FHM$]
:PR: 22482276
:WL2K DE W0PCD (EN41LK)
FF
:PM: W0PCD X2CDSAIKS8M8 645 bdagel@machlink.com Re: 213-EXERCISE IN FUTILITY-Demonstrating Templates for Tutorial -
:PM: W0PCD BWSM9CCA251M 1539 ec@muscatineares.org Re: APRS/PACKET
FC EM X2CDSAIKS8M8 1061 645 0
FC EM BWSM9CCA251M 2898 1539 0
F> 95
FS YY
*** Receiving X2CDSAIKS8M8
*** X2CDSAIKS8M8 - 1020/628 bytes received
*** Bytes: 725, Time: 00:00, bytes/minute: 3347905
*** Receiving BWSM9CCA251M
*** BWSM9CCA251M - 2115/1137 bytes received
*** Bytes: 1575, Time: 00:00, bytes/minute: 2750755
FF
FQ
*** --- End of session with WL2K at 2022/11/25 03:02:01 ---
*** Messages sent: 0, Total bytes sent: 0, Time: 00:07, bytes/minute: 0
*** Messages Received: 2, Total bytes received: 2300, Total session time: 00:07, bytes/minute: 17675
*** Disconnected at 2022/11/25 03:02:01
```

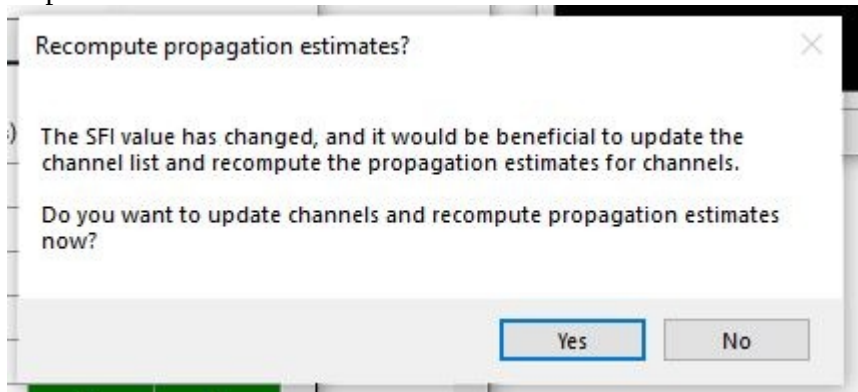
In here, you are mainly concerned with Start and/or Stop. When you're ready to send and receive, you click on Start and it will do the rest. If you need to use a relay or set up automatic sending/receiving, that will be done in Settings. That is beyond the scope of this manual and most likely will be set up in advance.

When you're finished with the session, click the Exit option or close the window.

Now, let's look at the VARA window. The options here will be the same for Ardop, Packet, Winmor, or other radio-to-radio sessions.



You shouldn't need to do anything with Settings. Switch to Peer-to-Peer would go from the VARA xx Winlink to VARA xx P2P and vice versa. If you haven't updated the propagation list recently, you will be presented with this box:



If you have a stable Internet connection on your computer, click Yes. Otherwise, you can click No. It will try to update via the Internet or Radio.

The first menu area that you are concerned with is the "Channel Selection." Option. This brings up the following window:

HF Channel Selector

Exit Select Update Via Internet Update Via Radio Map Forecast SFI All RMS

STANDBY - Updating RMS channels propagation indices for IR2DS

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (mi)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
NS0A	3587.500	V2300	EN41VL	00-23	PUBLIC	43	086	99	99
NS0A	7103.500	V2300	EN41VL	00-23	PUBLIC	43	086	96	96
NA9LE	3596.500	V2300	EN51NJ	00-23	PUBLIC	112	091	88	57
NC9IL	3596.500	V2300	EM59ER	00-23	PUBLIC	139	147	88	57
KD9UDL	3592.000	V2300	EN62AB	00-23	PUBLIC	164	074	88	56
KD9UDL	3596.500	V2300	EN62AB	00-23	PUBLIC	164	074	88	56
WX9CTA	3596.500	V2300	EN51US	00-23	PUBLIC	144	080	88	57
K9WRA	3584.400	V500	EN50JS	00-23	PUBLIC	106	115	88	57
KD7UHR	3591.000	V2300	EM58BQ	00-23	PUBLIC	199	162	87	56
NU9R	3586.200	V2300	EN60ED	00-23	PUBLIC	199	115	87	56
W9FE	3596.500	V2300	EM59AA	00-23	PUBLIC	176	161	87	56
W9FE	3592.500	V2300	EM59AA	00-23	PUBLIC	176	161	87	56
K0SI	3586.500	V2300	EM39UA	00-23	PUBLIC	180	202	87	56
W9IKU-10	3597.500	V500	EN53GN	00-23	PUBLIC	167	028	87	56
W6IDS	3584.500	V500	EM79NV	00-23	PUBLIC	339	106	84	55
W8MW	3595.000	V2300	EN72ET	00-23	PUBLIC	293	069	84	54
AL0R-10	3595.000	V2300	EN11TH	00-23	PUBLIC	277	270	84	54

If you have an Internet connection, you can click on Update via Internet. Otherwise, you can try to Update Via Radio, but it will take some time. So, I wouldn't worry about it right now. At the top of the table, you see Callsign, Frequency, Mode, Grid Square, Hours, Group, Distance, Bearing, Path Reliability, Path Quality. You can click on any of those to sort the table by that grouping. By default, it is sorted by Path Reliability from best to worst. Scroll the list down until you find the gateway that you want to connect to and double click on it. The common ones that we use are NS0A, K0SI, and K0ISP-1.

TAKE NOTE OF THE FREQUENCY NEXT TO THE CALLSIGN!!!

If your radio is set up for a particular band, you must choose a frequency in that band. Otherwise, you will have to tune the radio before sending. That is beyond this manual.

When you double-click the callsign, it will close this window and fill in the information on the session window. If your radio is set up with CAT Control, it will also set the radio to the correct frequency and mode. Otherwise, you will need to do this manually.

Exit Settings Switch to Peer-to-Peer Channel Selection Map Forecast Best chan. Next chan. Start Stop Abort

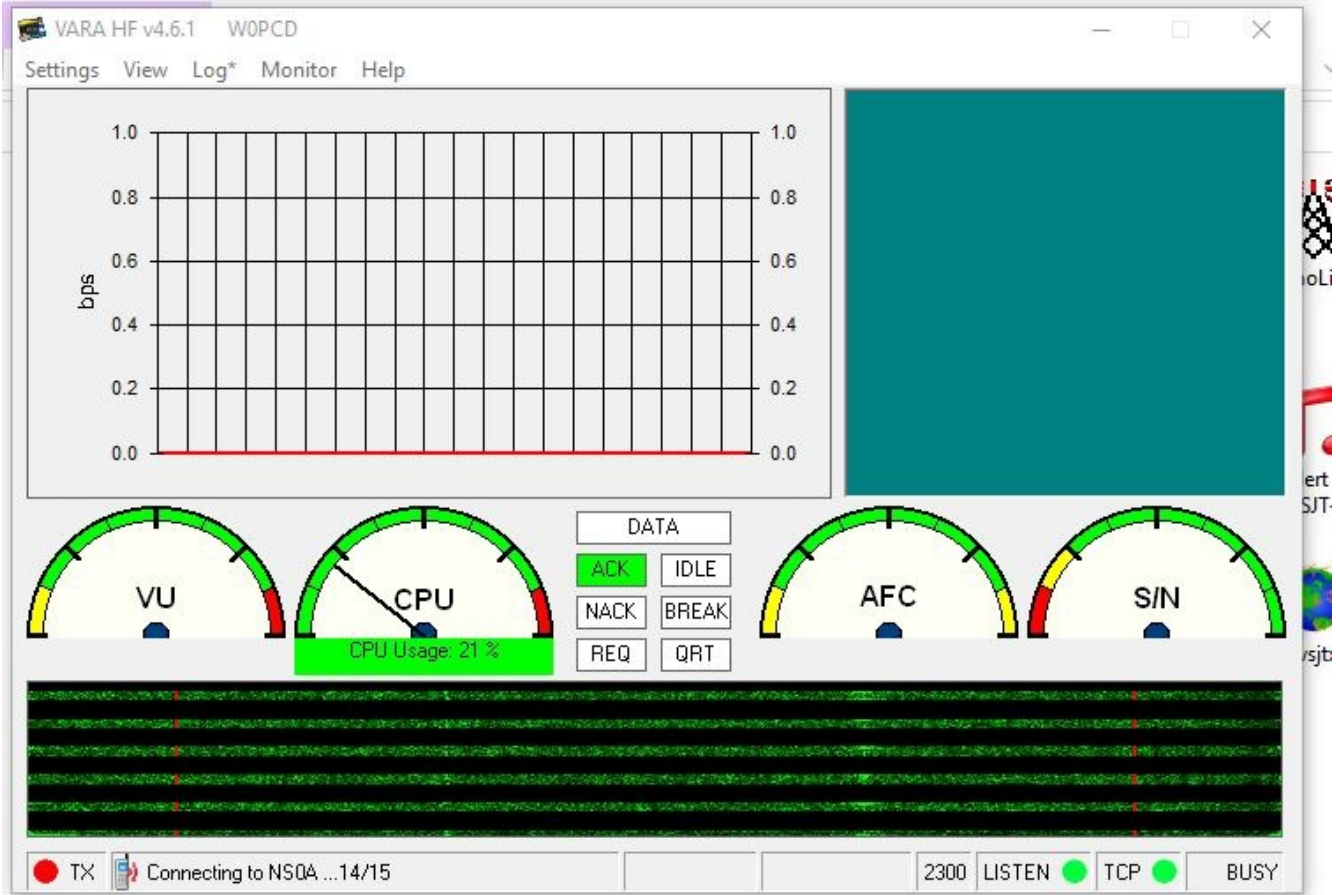
NS0A Center Freq. (kHz): 7103.500 Dial Freq. (kHz): 7102.000 Bearing: 086 Quality: 5

Favorites: K0ISP @ 7103.000 [2300] Select Add to favorites Remove from favorites

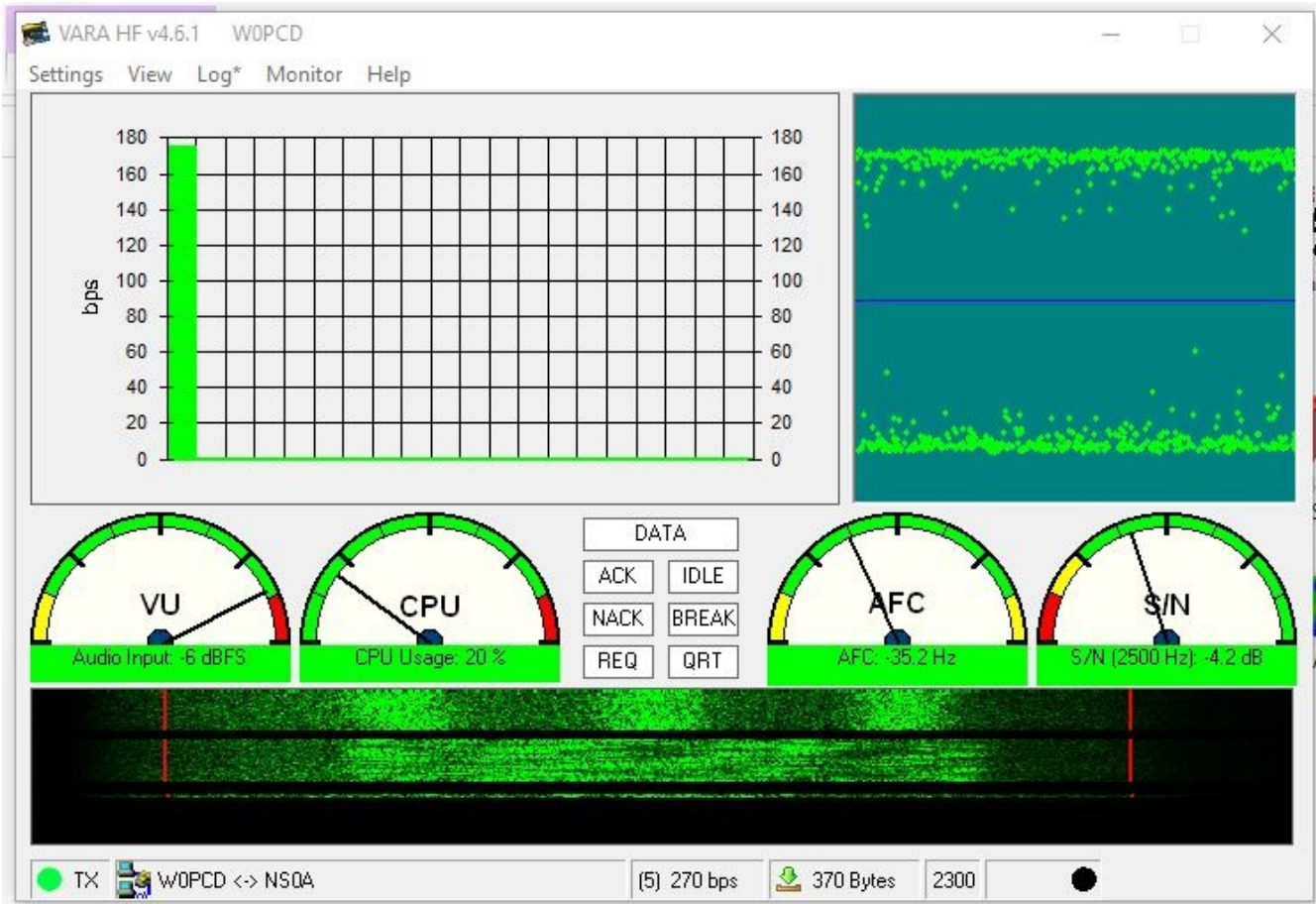
If you are setting your radio up manually, you care about the "Dial Frequency" entry here. The

mode will be USB. (You can tell this because the Center Frequency is above the dial frequency). If the station is reliable, you can click Add to Favorites and choose it that way instead of going through the Channel Selection process.

Click Start to begin the session. There is a second window that will open with an icon like this: (you may have to click the icon on the bottom of your screen to open it.)



You can click on that to follow the process. It will open a window similar to this:
If you make a connection, it will look like this:



If you have messages waiting for you, you will be presented with this popup:

The screenshot shows a "Review Pending Messages" dialog box. The title bar includes a purple icon and the text "Review Pending Messages".

The main content area is titled "Pending incoming messages" and contains a table with the following data:

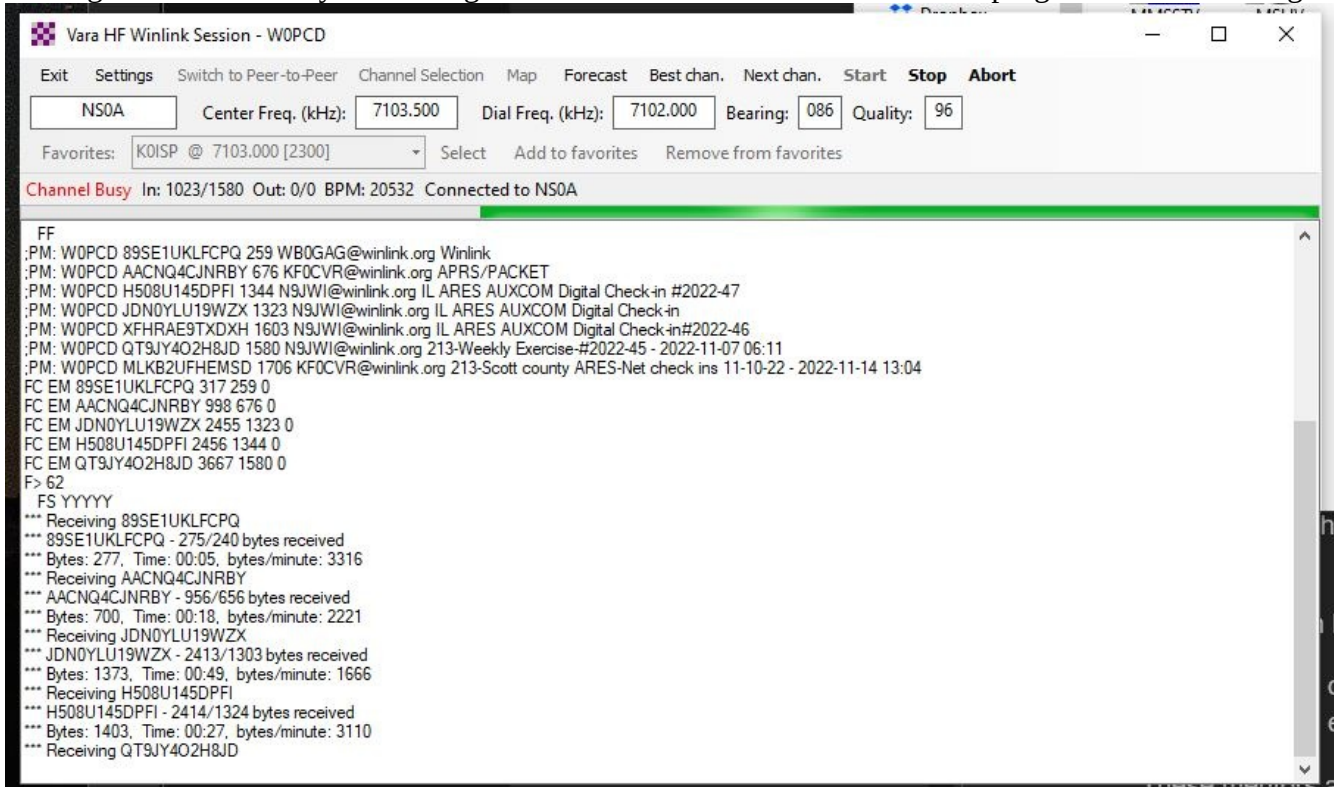
Message ID	Size	From	Subject
<input checked="" type="checkbox"/> 89SE1UKLFCPQ	259	WBOGAG@winlink.org	Winlink
<input checked="" type="checkbox"/> AACNQ4CJNRBY	676	KFOCVR@winlink.org	APRS/PACKET
<input checked="" type="checkbox"/> H508U145DPFI	1344	N9JWI@winlink.org	IL ARES AUXCOM Digital Check-in #2022-47
<input checked="" type="checkbox"/> JDN0YLU19WZX	1323	N9JWI@winlink.org	IL ARES AUXCOM Digital Check-in
<input checked="" type="checkbox"/> XFHRAE9TXDXH	1603	N9JWI@winlink.org	IL ARES AUXCOM Digital Check-in#2022-46
<input checked="" type="checkbox"/> QT9JY4O2H8JD	1580	N9JWI@winlink.org	213-Weekly Exercise-#2022-45 - 2022-11-07 06:11
<input checked="" type="checkbox"/> MLKB2UFHEMSD	1706	KFOCVR@winlink.org	213-Scott county ARES-Net check ins 11-10-22 - 20...

Below the table, there are several options and controls:

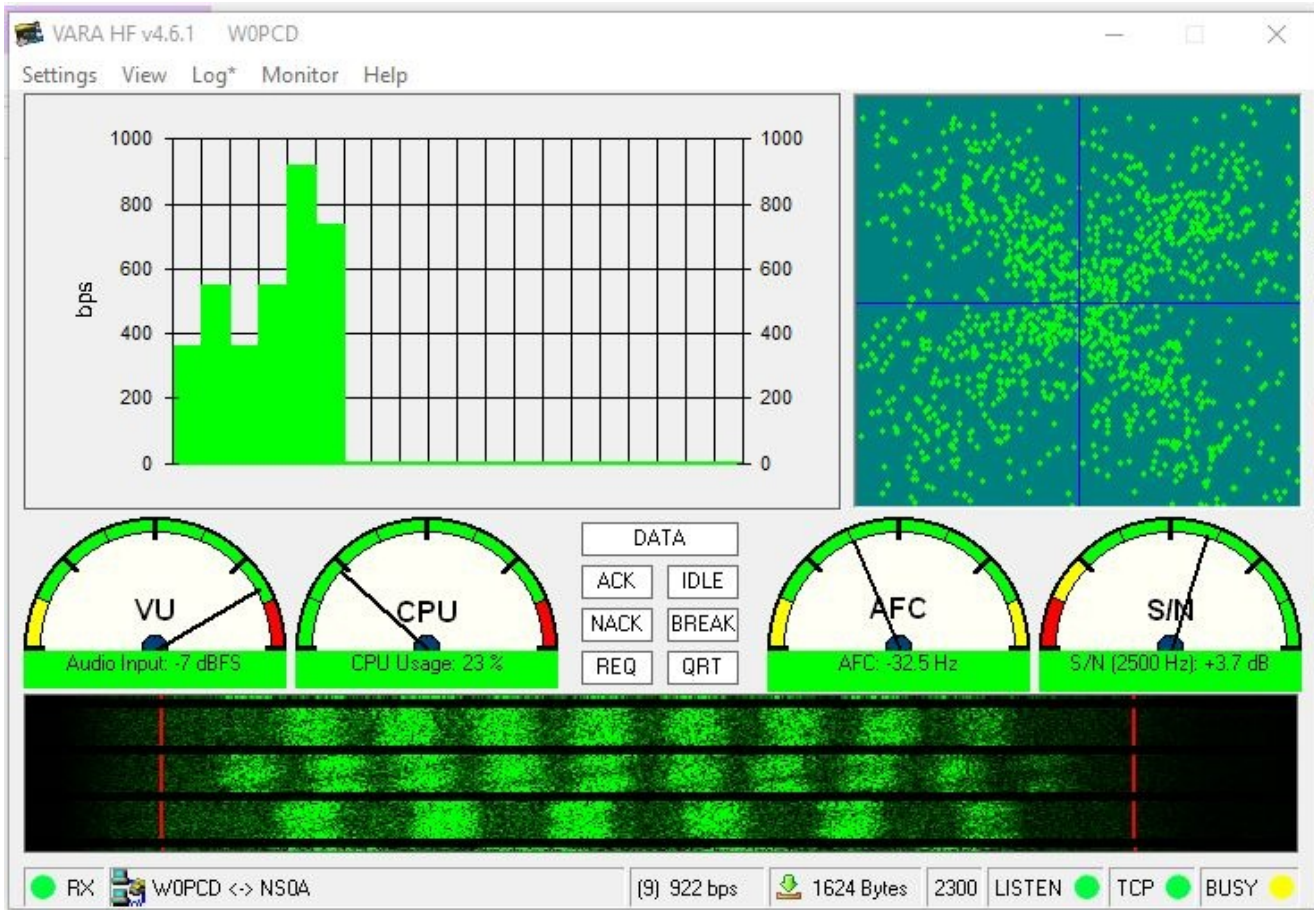
- A checkbox labeled "Check the messages you want to download." is checked.
- A section titled "Select what to do with unchecked messages" contains two radio buttons:
 - Hold unchecked messages until later
 - Permanently delete unchecked messages
- A timer displays "Time remaining to respond: 30 seconds".
- A checkbox at the bottom is checked and labeled "Display this message review screen for each download cycle".

At the bottom of the dialog, there are three buttons: "Download Checked Messages", "Select All Messages", and "Deselect All Messages".

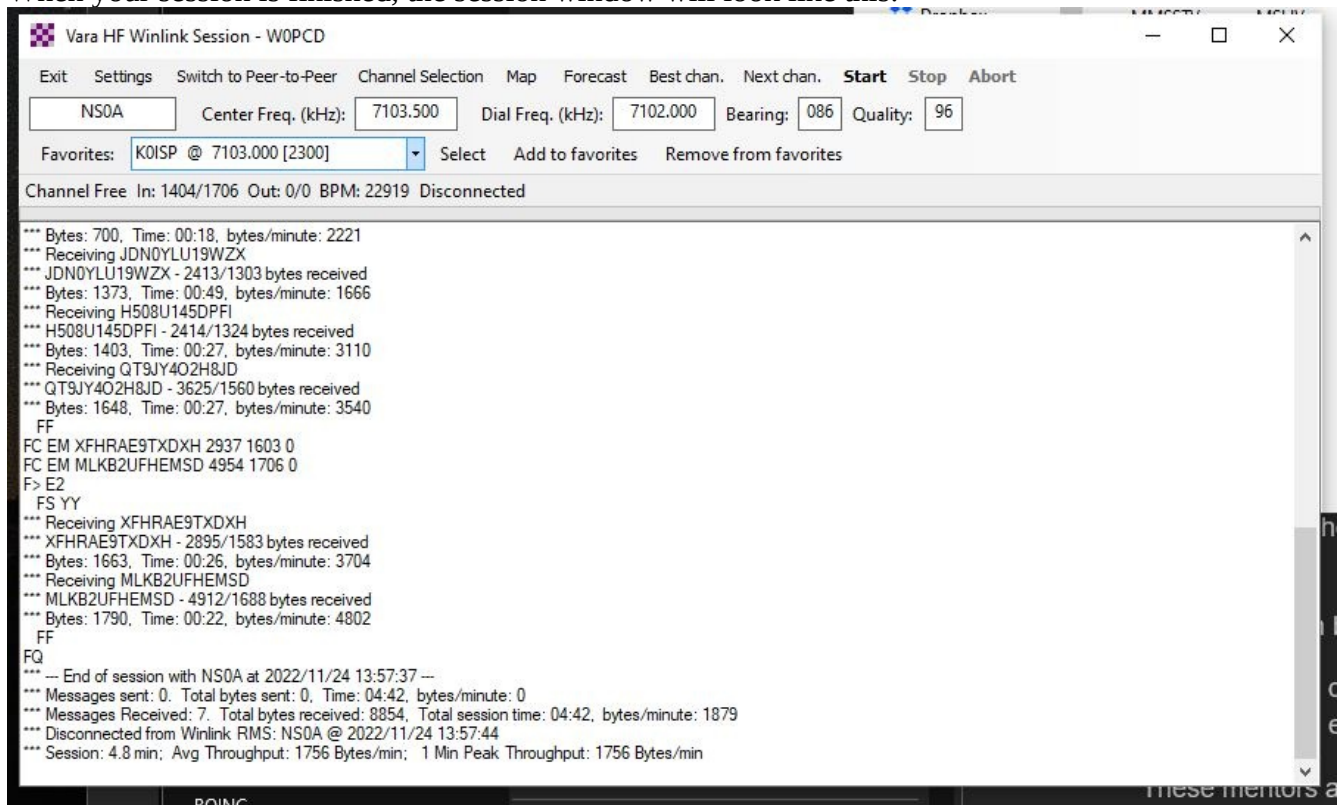
Take note of the sizes of the messages. The bigger the number, the longer the session will take. If you have any large numbers, you can uncheck them by clicking the check mark next to them. Otherwise, you can click the Select All Messages to download everything. Then click the “Download Checked Messages” to download your messages. Your session window will show the progress of each message:



Likewise, if you are sending messages, it will show that progress as well (the bar will be moving from left to right for sending and right to left for receiving). If you are watching the VARA window, the data area will have green bars for receiving and red bars for sending.



When your session is finished, the session window will look like this:



After this, you can either close the session window or leave it open. That's your choice. It will not run again until you come in and click Start. Go back to your main Winlink Express window to read/print/reply to messages.