Sending and Receiving Email with Winlink Express
(Cheat Sheet)

If you have not already installed and properly configured <u>Winlink Express</u> on your computer, please see the document: **<u>Installing Winlink Express PDF</u>** on the MCARA.com website. Follow those instructions and install Winlink Express. This document is intended to be a reference for sending and receiving email using a computer that is running Winlink Express with correct config settings. There is help available from MCARA members getting Winlink Express running on your computer system.

In the mind set of *<u>Keeping it Simple</u>*, we will discuss 3 different email modes used with Winlink Express.

Telnet Winlink
Packet Winlink
Packet P2P.

<u>Telnet Winlink</u> uses the <u>Internet</u> to send and receive emails to the global CMS Email Servers, so it is lightning fast. You can send and receive email using the CMS servers anywhere <u>you</u> have an Internet connection.

<u>Packet Winlink</u> uses your <u>TNC</u> and <u>VHF</u> <u>radio</u> to send and receive emails to the same CMS global servers through an **<u>Internet Gateway</u>** at 1200 Baud...much slower, but it's great if you don't have Internet at your location.
9600 Baud is available, but not discussed here.

<u>Packet P2P</u> uses your <u>TNC</u> and <u>VHF</u> <u>radio</u> to send and receive email directly with a local Ham station. Internet is not required on either end of the connection. This is truly a backup communication mode.

<u>Telnet Winlink</u>.

Double Click on the RMS Express Icon and get Winlink Express running.

A common misconception is to assume that Winlink will automatically download your emails and put them in your inbox (like your current email service). *<u>It doesn't.</u>* That feature requires Winlink configuration.

Winlink can send and receive email using: Telnet Winlink (Internet), Packet Radio (via Internet Gateways) and (P2P ...Radio to Radio no Internet). Winlink requires your control input for the modes it uses.

When you Double Click on the RMS Icon, you get the opening Screen.

Below is a *portion* of a Winlink Express screen.
Yours screen will be somewhat different.
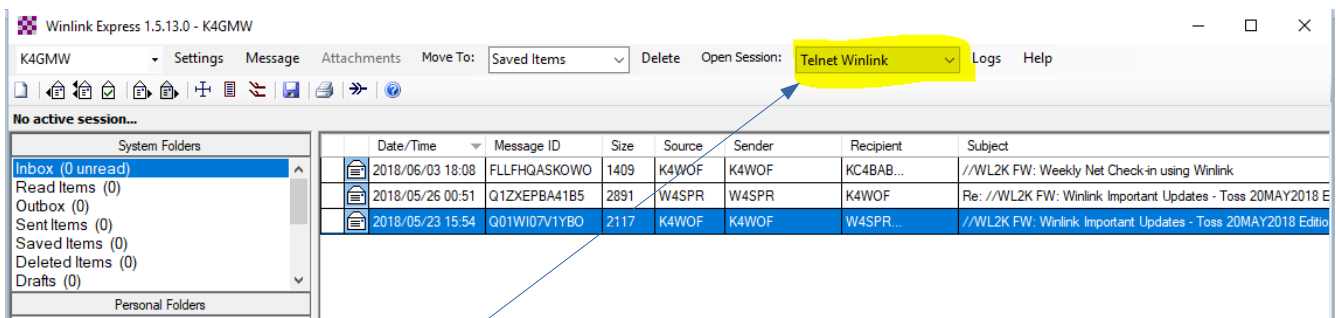
In the snippet above, the Telnet Winlink option is already active. If you have another mode active, click the drop down box, and select Telnet Winlink.
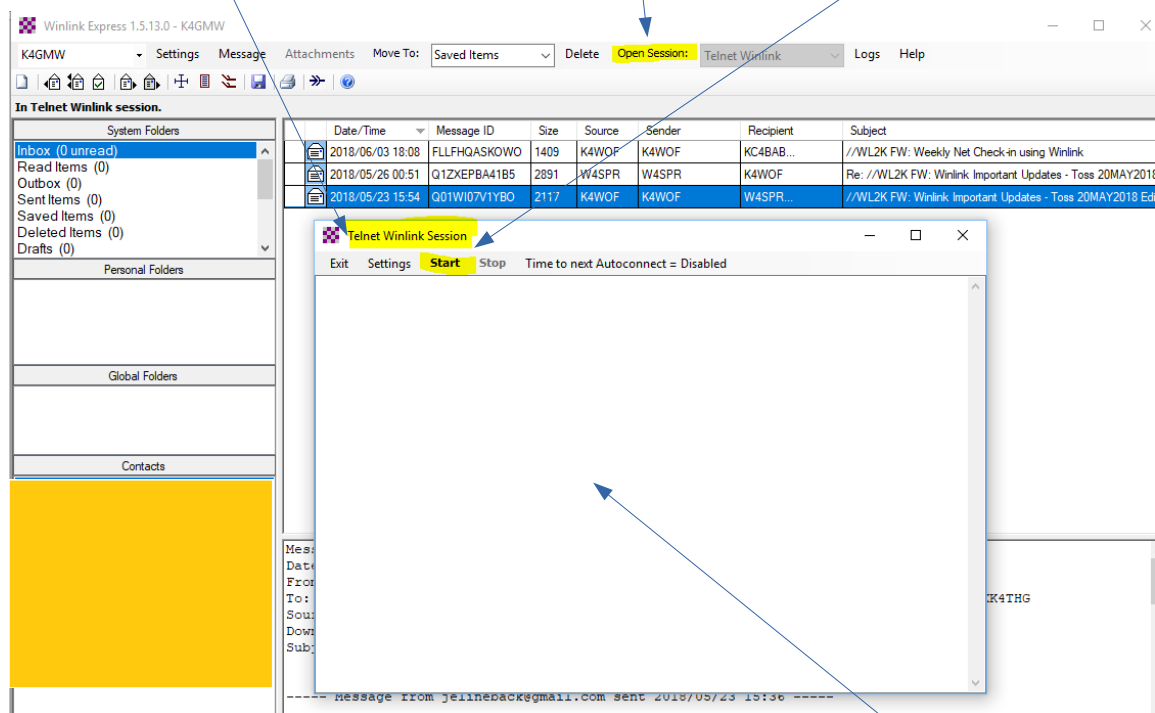
Retrieve Winlink Email using Telnet Winlink

Use Telnet Winlink to retrieve emails from a CMS server, via the Internet.
Your "Email Address" is your Call Sign.

(1) Click: Open Session.

(2) Telnet Winlink Session Window appears.

(3) Click: Start to retrieve emails.

An Internet connection to a CMS Server is established. The Telnet Winlink Session window will fill with lines of text that mean nothing to you. These are cryptic CMS Server...Winlink Express handshake messages. Any emails retrieved, will be posted to your Inbox. Emails received can be *read*, *saved*, *replied to* or *deleted*. If the CMS server had no emails addressed to you….your Inbox will not change. *This is a great way to quickly check for new emails.*

Send Winlink Email using Telnet Winlink

To create an email, click message... then "New Message" in the drop down.
 or click the mail icon
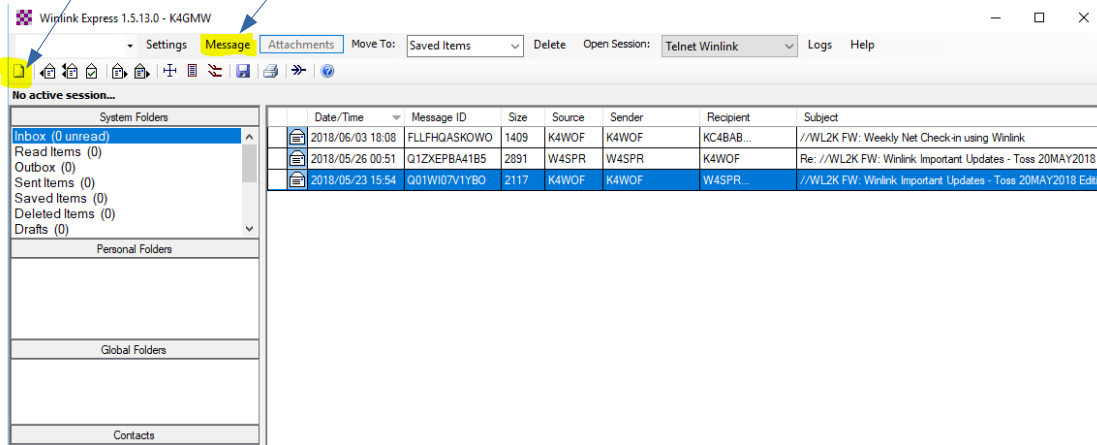
When the email page opens, you should see your call in the "From" and "Send as: Winlink Message.
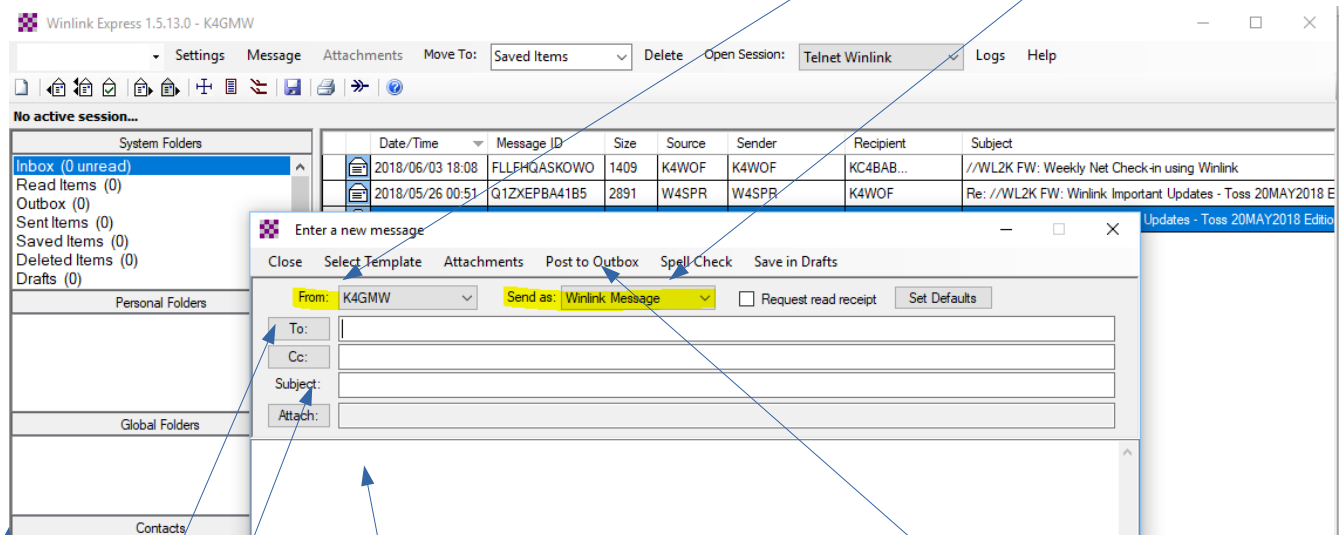
Fill in the To, Subject and Body of your email. When complete click Post to Outbox.
To can be a Call Sign or an email address...example: BBBBB@gmail.com. If you use a Call Sign, the email will be held by a CMS Server. If you send email to a standard email address, it will be forwarded to the recipient immediately. It is NOT recommended to use Attachments in Winlink.
When email is send via packet communications, speed is 1200 BAUD...Really Slow. Don't use Attachments.

Contacts: If you click on the Contacts Bar in the main window, you can add contacts to Winlink Express. When you have a contact list, click the "To" button and your contact list appears.

To Send your email follow the exact same steps you did to receive email.

Select "Telnet Winlink" at the top of the page.
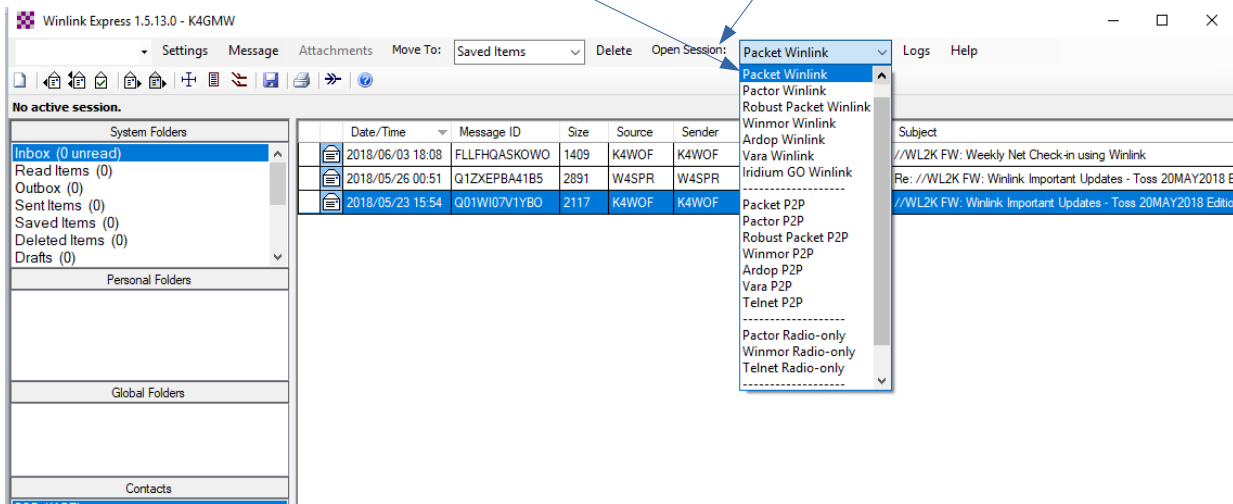Click "Open Session"
Click "Start" in the session Window

Start causes Winlink to send emails and receive emails. This all happens during the Telnet Session.

Packet Winlink

This email mode uses a VHF Radio and a TNC attached to your computer. Your interaction with Winlink in this mode is almost identical to Telnet Winlink. Start Winlink Express.
Choose Packet Winlink from the drop down menu. Then click Open Session.

Packet Winlink Session is now open. Set Connection type to Direct.
Make the destination WX4MC-10. Martin County communications center near Martin South Hospital.
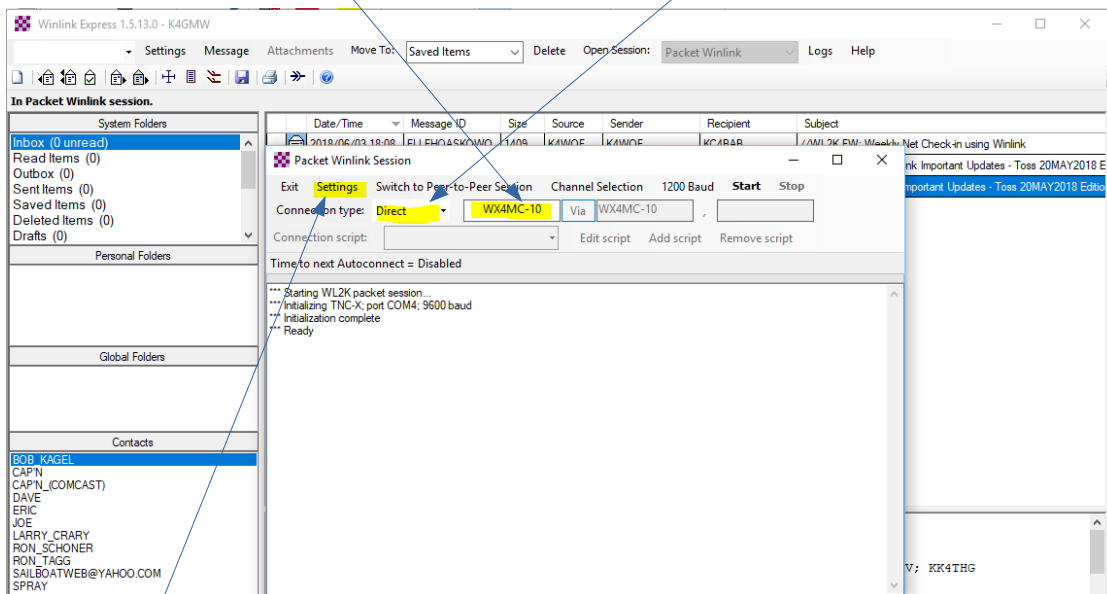
Now click Settings to open TNC Connection window.

Only change items highlighted below. Once done, you may not have to do Setup again. If your TNC is connected via USB to your computer, the Serial Port may change. Windows sometimes changes COM Port numbers. If that happens, come back and change the Serial Port entry. See text below.
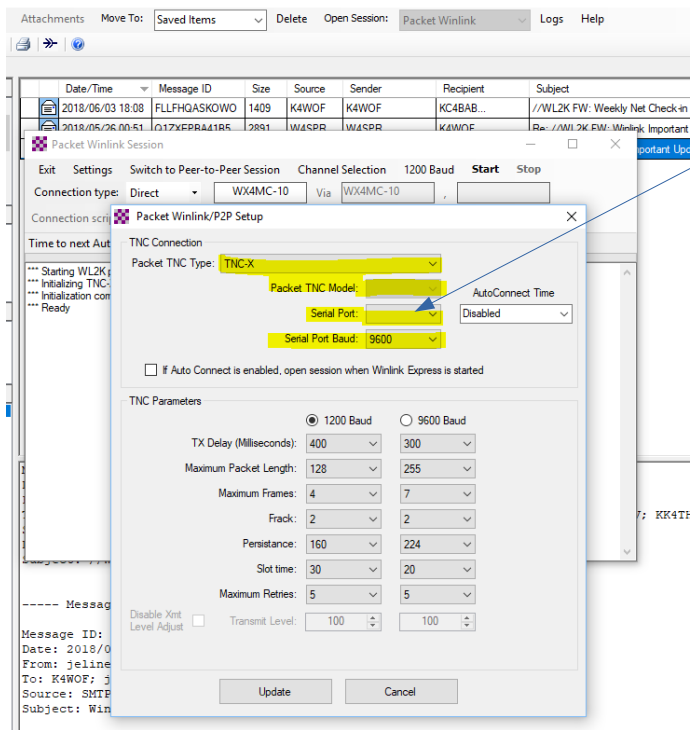

Packet TNC Type. This drop down menu shows the TNC's that have been tested by Winlink creators. If you see your TNC in the list, choose it. MCARA/ARES is using TNC-X as our standard.
If you have a TNC and it is not in the list, begin testing using TAPR TNC2. If that fails try KISS.
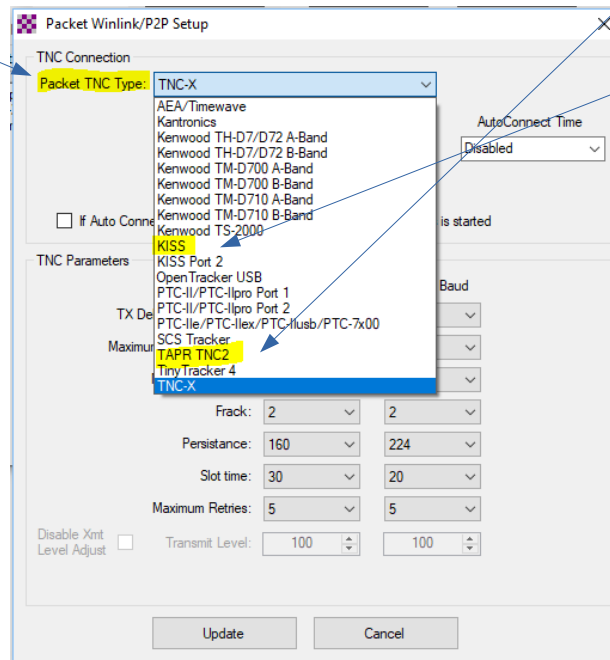
Once you have made a TNC selection you will configure the other boxes in this window.

If the Packet TNC Model box is grayed out, skip it, otherwise add the TNC model number
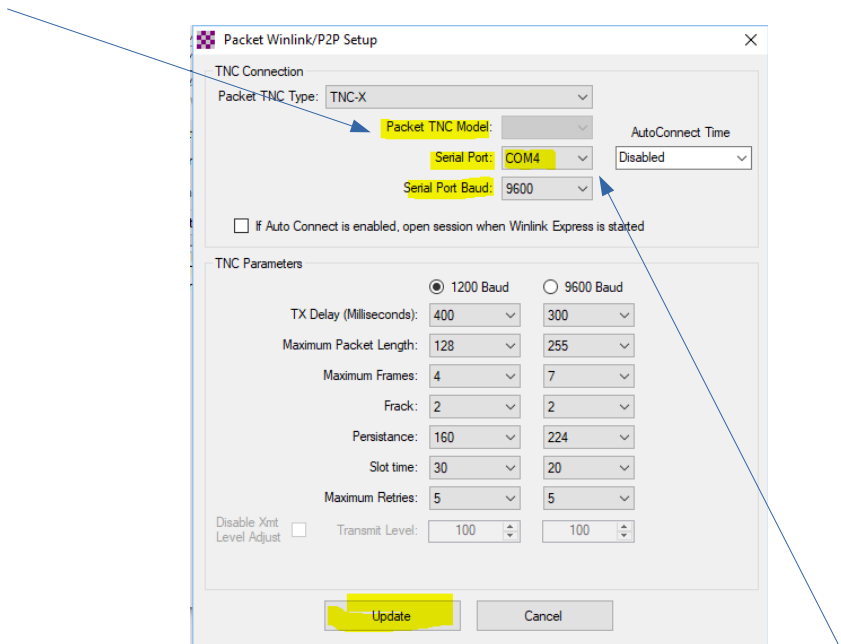
If your TNC is using a serial port or is connected via USB, set the Serial Port. Click the box and Winlink will show you a COM port number. If two or more COMs are shown go to "Device Manager" in Windows and find the correct one. Or just try one...if it fails...pick the other! The Serial Port Baud is set to 9600 by default. You may need to change this based on the radio or TNC you chose in the TNC Type. Use 9600 Baud if unsure. Click Update at the bottom of the window.

After Update, the window will close and Packet Winlink Session restarts. You should see a message indicating that the communications test of your TNC was successful. If it Fails, go back to Settings and try changing to a different TNC or COM port or Baud rate.
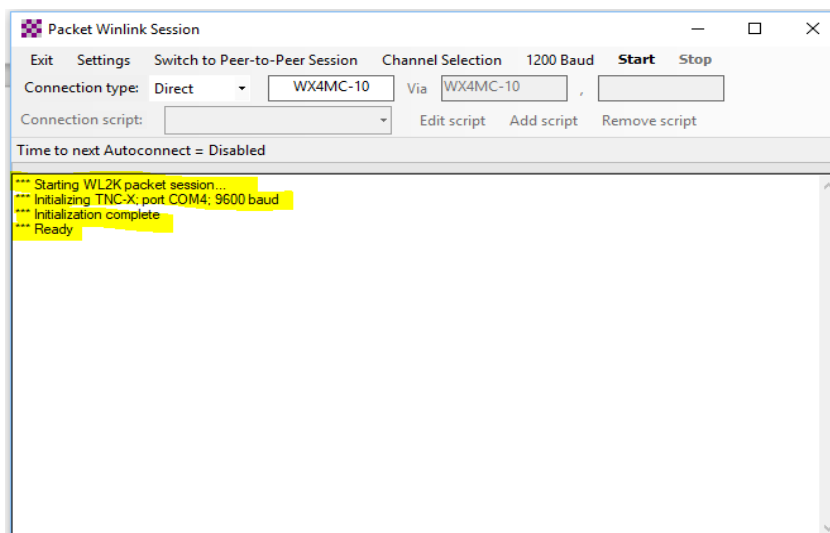
When you get a happy initialization message, you are ready to send/receive email.
These setting can be difficult to get right. If initialization fails… try other setting. Another Winlink user in our club may be able to help.

Set Your Radio to 145.730 MHz.

*No freq offset or tone is required. This is a simplex frequency.*
Never press the PTT button on your Microphone while on this frequency.
This is a digital channel, not a voice channel.

To begin the email transaction Click Start on the Packet Winlink Session page. Winlink emails in the Out Box will be sent and any received will be go to the In Box.

Sending and receiving email using Internet Gateways outside of Martin County.

You can use other Winlink gateways. You will need to change the call sign for the new gateway and the radio frequency. To see what is available, click: Channel Selection
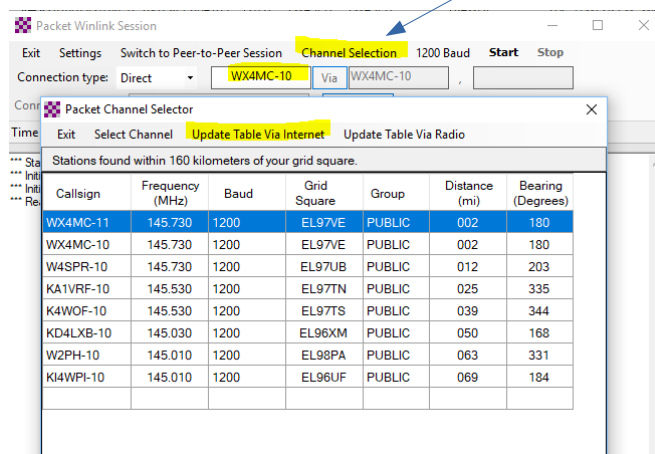
Replace WX4MC-10 with the call sign you want to use. Set your Radio to the new frequency. The distance column can be used to gauge if a station is too far from you to work. If you have Internet connection, Click Update Table Via Internet to get the latest station info.

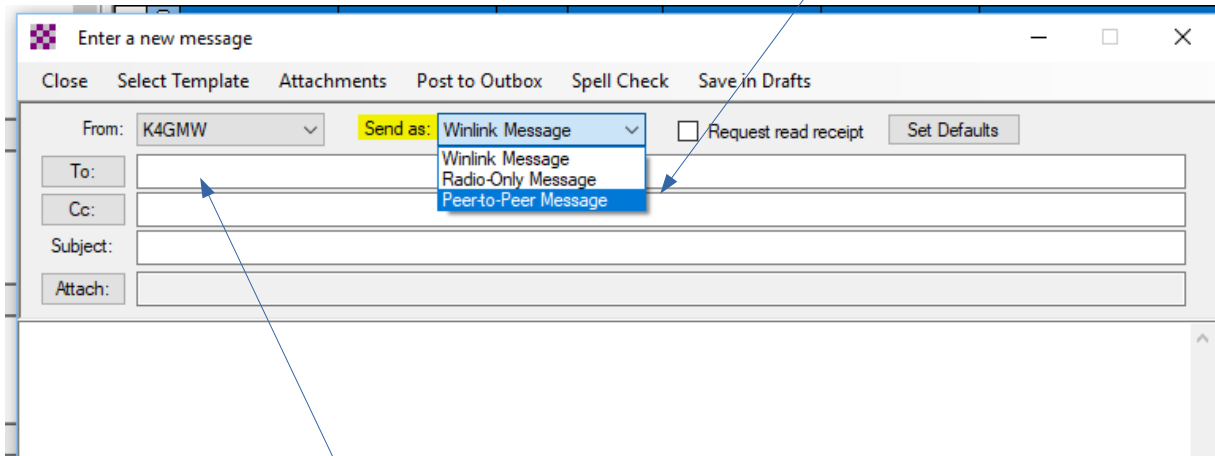# Packet (P2P) Email

Using Telnet Winlink is the fastest way to send/receive email when all systems are working at your location. Packet Winlink gets email through when you have no Internet but there is Internet at the Winlink Gateway locations. Our primary gateways are located at "hardened" Internet locations in Martin County. Hopefully, these will always be available.

Packet P2P email is useful when Internet is not working anywhere. These emails are sent from one Ham to another without using a Gateway or Internet. Very good backup communications.

Creating the P2P Email Message

When you create a new message, change ==Send as== to: Peer to Peer Message.

Write your email, type in ==Call Sign== (i.e. W4SPR) then ==Post to Outbox==. You have created a Packet P2P email. It is only sent during a Packet P2P session. It will not be sent via Telnet or Packet Winlink.
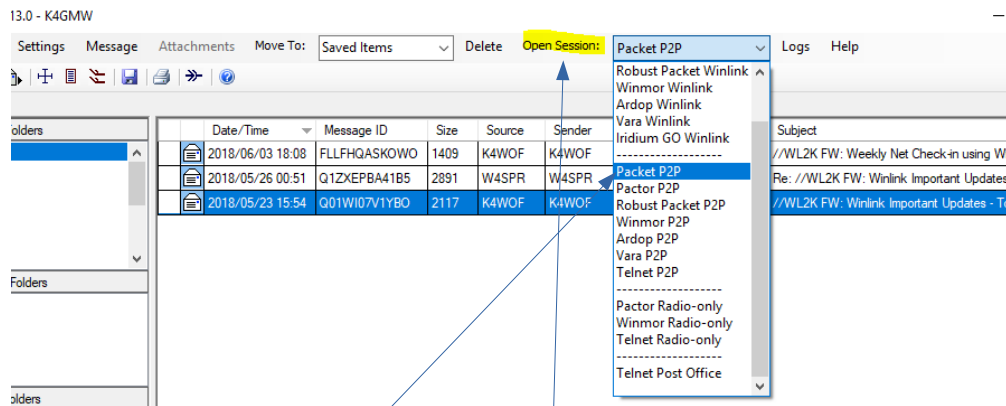
From Winlink page choose ==Packet P2P ,== then ==Open Session==.
Once started, Winlink will receive P2P emails sent to you. You don't have to be at the computer. Just keep the session open. It can receive multiple emails.

To Send Email: Set Connection type to ==Direct==. The call sign used in the email you created and the call entered below must be the same. The receiving station must also have Packet P2P running. Click Start and email begins.
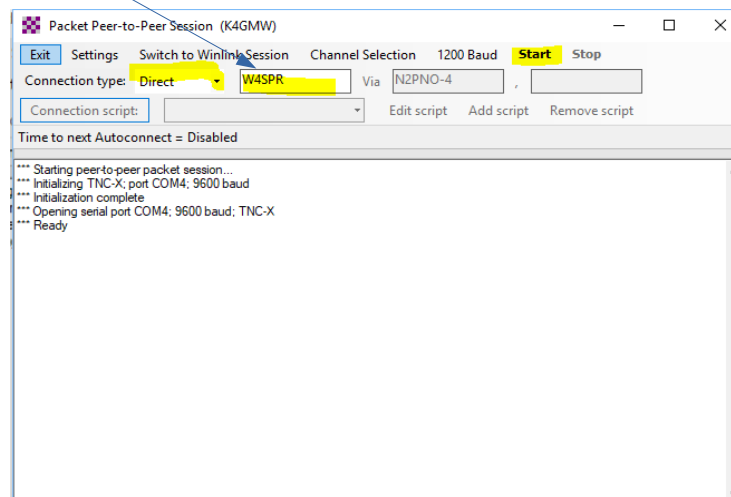
Packet Repeating...Digipeater

Occasionally, two stations are too far apart for Winlink P2P to work. They experience disconnects during email transmission. Emails are broken down into small chunks of data before being sent. These chunks are called packets.

If the received packets are scrambled or corrupted, Winlink requests packet re-transmission. The transmitting system re-sends the packet. If it is received as a good packet, more packets will be sent. If packet after packet being received is corrupted, Winlink will give up and disconnect. This can be caused by transmission distance (weak signals) or atmospheric conditions (noise QRN).

In cases where distance is the issue, using an intermediate system to repeat packets may find success.

To use this, select Digipeater. Select the call of the destination station. Then the call of the digipeater. Then Start.
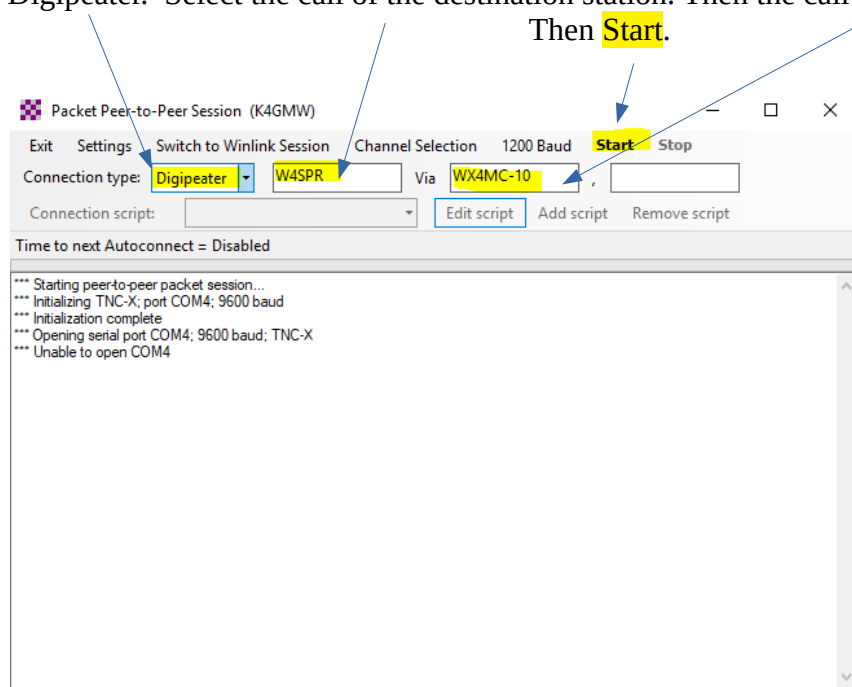
WX4MC-10 is an Internet Gateway for Winlink. It is also a Digipeater. It will receive packets, check them for errors, re-transmit them if error free to another station, skipping the Internet. This method can quadruple the time necessary to send an email from sender to receiver. The entire email message is received and then re-transmitted packet by packet through the digipeater. Notice that there is another space in the session window for a second digipeater. This will increase the time required for completion by a factor of 6 (minimum)! The longer it takes a packet to get to it's destination, the more likely it will get scrambled. Too many errors and Winlink gives up and disconnects.

On good weather days, WX4MC-10 has been a reliable digipeater. Many have used it successfully.