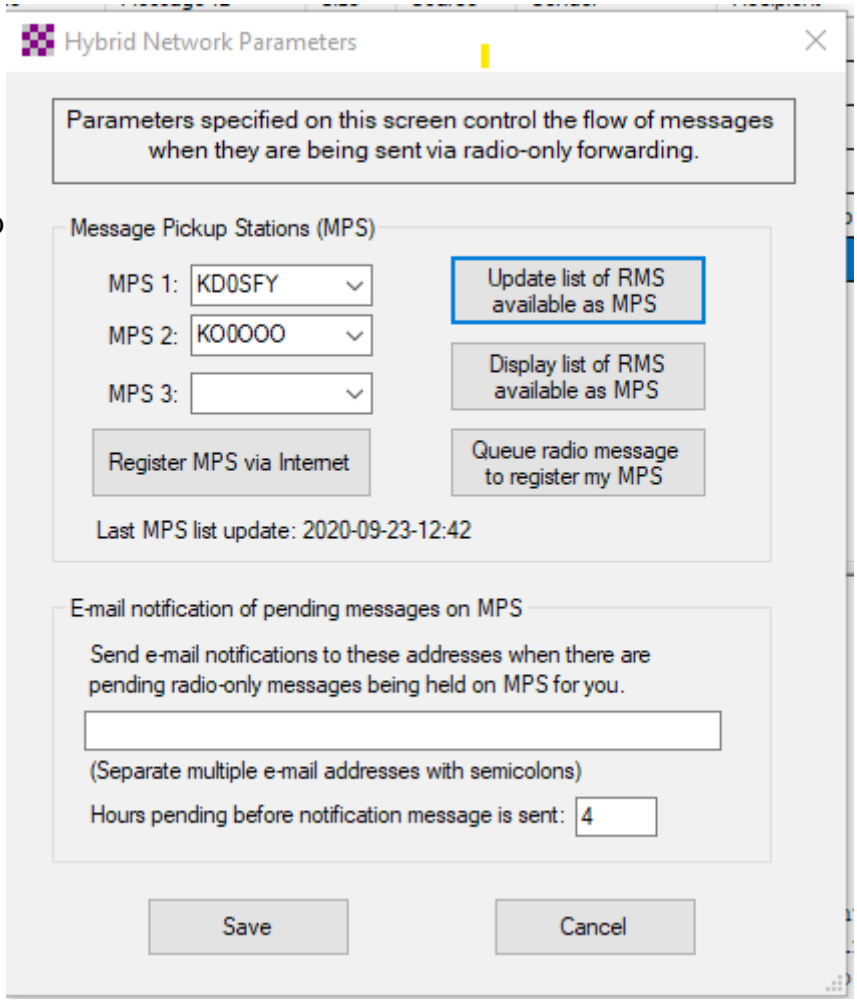
Configuring RMS Express For Radio Only

The Radio Only modes require usage of HF SSB RMS Gateways that are configured to operate in “Hybrid Mode” and utilizing both RMS Trimode and RMS Relay programs. Radio Only messages are tagged as such and the type of connection made to the RMS, forces the message to be handled using the radio-forwarding mode even if the RMS Station has the Internet available. With this mode, messages are not stored in the CMS, instead they are forwarded to an Hybrid RMS stations that the recipient has previously configured as a Message Pickup Station (MPS). The forwarded messages are stored locally on the MPS, waiting for pickup by the message recipients. If multiple MPS’s are configured, the message will be forwarded to each. When the recipient picks up the message from one of their MPS’s it will not download the same message from another of their MPS’s.

Configuring the Message Pickup Stations

- From the Main Winlink Express window click on the menu *Settings* → *Hybrid Network Parameters*.
  - The following window should appear:
- Click on the *Update list of RMS available as MPS* button.
  - This will populate the drop down lists with stations that are participating in the Hybrid Network that can function as an MPS.
- While three MPS’s can be configured, for efficiency sake, only configure two.
- For emergency purposes chose stations outside of your local area, but ones you can reliably access.
  - Use the drop down to select the MPS.
  - I have one I know I can select with daytime propagation, and the other I know can access with night time propagation.
- If you have internet availability, Click on *Register MPS via the Internet*, and your registration of you MPS selection is sent immediately.

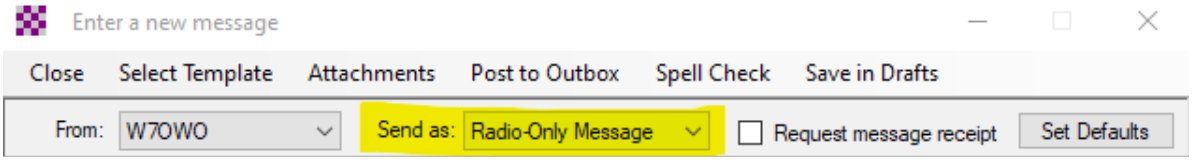


- If you have no internet locally you can click on *Queue radio message to register my MPS.* You will need to send the queued message before you new MPS list is regisetered.
- The Hybrid network stations update their delivery tables once a day usually around their local midnight hour so updates can take up to 24 hours.

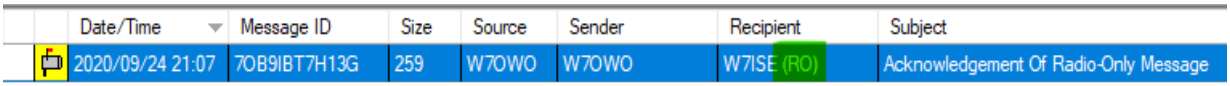
- Click on *Save* to save and exit.
  - If you use different computers for Winlink, you only need to do this once. When you use another instance of Winlink Express under you call sign, it will be configured there as well.

Sending a Radio-only Message

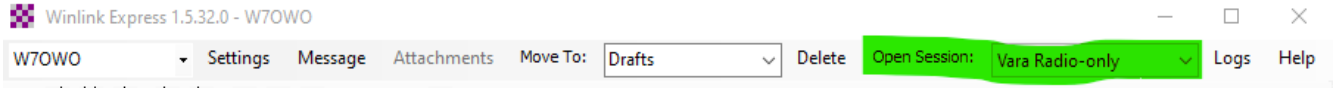
- From the main Winlink Express window, select a session mode that ends in Radio-only
  - Currently these are PACTOR Radio-only, Winmor Radio-only, Vara Radio-only, and Telnet Radio-only.
    - As I understand it, the Telnet Radio-only is for Mesh networks that are configured with a Hybrid Network's station RMS Relay in the mesh network. Don't quote me on this.
- Generate a Radio Only Message
  - Message → New Message…
    - Change the Send as: to *Radio-only message*



    - Fill in the remainder of you message
    - When complete click on *Post to Outbox*
      - Your message within the Outbox will be tagged as a Radio-only message have the suffix *(RO)* on the Recipient



- Open your selected Radio-only session



- Click on the *Channel Selection* button and select a station you can access
  - This list should only be configured with Hybrid Stations.
    - You don't have to use one of your selected Message Pickup Stations when sending a Message, but you will not have any messages stored at a Hybrid Station that is not on your MPS list for your pickup.
- Click On *Start*
  - Once you message is sent, the receiving RMS Station will use inactive periods to begin the process of relaying the message to the recipient's MPS's.
    - This means your recipient must have Message Pickup Stations configured.

Receiving a Radio-only Message

- From the main Winlink Express window, select a session mode that ends in Radio-only
- Open your selected Radio-only session
- Click on the *Channel Selection* button and select one of your Message Pickup Stations.
  - Its a good idea to have these as your favorites.
- Click On *Start*
  - Your session will attempt to make a connection with your MPS. If any messages have been stored on this Hybrid RMS Station pending pickup, it will be downloaded to your inbox.
- It should be noted, when you are in a Radio-only session, it will only download Radio-only messages. Conventional Winlink Express messages will not be down loaded. This means if you are *expecting to receive conventional and radio-only messages*, you will need to *run both a Radio-only session, and a separate conventional Winlink session* to pickup all your messages.

Performing an Echo Test using a Radio-only Message

There is a feature in Winlink Express that allows you to send a Radio-only echo test message and later download this message from your primary Message Pickup Station. Within the echo test response will be a RMS path that shows the HF Hybrid Stations that were used in the RMS Relay forwarding process to get the message to your MPS.

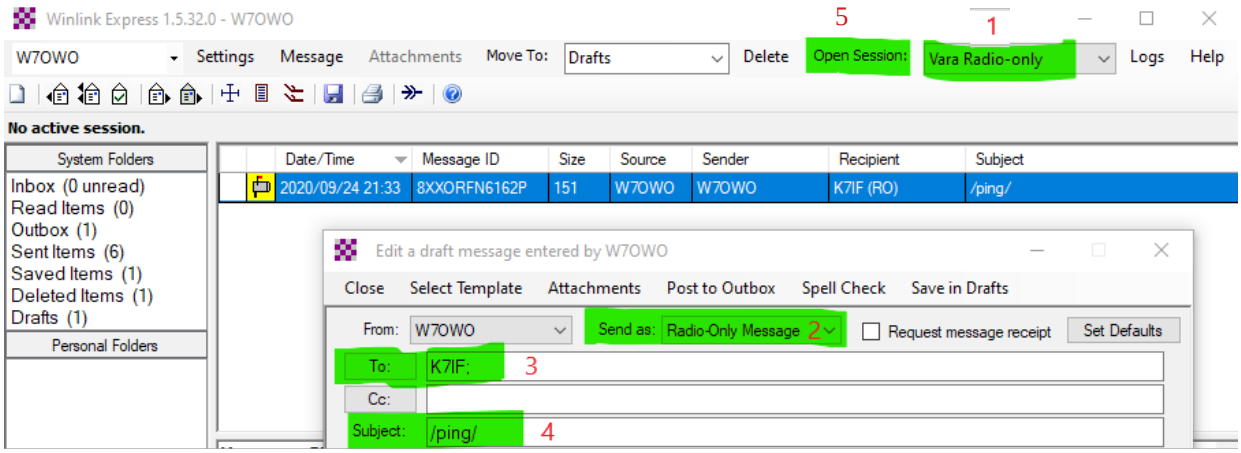
To perform an Echo Test, you must have hour MPS entries configured. You address the recipient of your test message to an RMS Station configured as a Hybrid station, and use "/ping/" (without the quotes) as the subject to the message. At a later time you then connect to your primary MPS in Radio-only session mode and download any waiting messages.

Note: Your Message Pickup Stations should have been configured at least 24 hours prior to running this test for the first time.

Step by Step Instructions

- Find a RMS Station configured as a hybrid station you can make a connection with that is not one of your Message Pickup Stations.
- (1) From the main Winlink Express window, select a session mode that ends in Radio-only
- Generate a Radio Only Message
  - Message → New Message…
    - (2) Change the Send as: to *Radio-only message*
    - (3) Address the recipient to the call sign of any RMS Station configured as a Hybrid station that you can make a connection with.
      - This *does not* have to be one of your Message Pickup Stations
    - (4) Set the subject line to: /ping/
  - Click on *Post to Outbox*

- (5) Open your Radio Only Session
  - Click on the *Channel Selection* button and select the Hybrid RMS Station you addressed your email as the recipient
  - Click on *Start* within the session window



- Later you then connect to your primary Message Pickup Station, and if successful, your Echo Test response will download.

It may take a while, as this message needs to be forwarded from the Hybrid Station you both designated as the recipient and connected with to send the message to be available at your Message Pickup Station. Depending on the propagation, this may require the Hybrid network to forward the message to multiple intermediate Hybrid RMS Stations.

In my last test, I waited several days after configuring my my new MPS entries as I got busy with some other things a didn't get back to it immediately. I sent my /ping/ message to K7IF via Radio-only mode, the next day I connected via Radio-Only mode to K7DAV which was my primary MPS. I downloaded the test message response which had the subject line

Echo from K7IF for S5RJSAOIZD3Q

Within the body of the message was a line that described the connection path my test message took from Hybrid Station K7IF to my primary MPS K7DAV

RMS Path: K7IF@2020-09-19-19:48:31 K7RHT@2020-09-19-21:20:26 K7DAV@2020-09-19-21:40:14

From this information I can see it used an intermediate Hybrid Station, K7RHT to get to K7DAV. Over relay process went fairly quickly. Over all it was delivered to K7DAV within less than 2 hours. I suspect because K7IF is in the Olympia area, it is fairly busy. But only took around 40 minutes to be free enough to forward the message to K7RHT. K7RHT in Eastern Washington which is in a rural location only took 20 minutes to get the message forwarded to K7DAV in the Salt Lake area of Utah.

Relayed Message Path Routing

- If a direct link is not available to the destination MPS, intermediate RMS will relay the message.
- The optimum path is computed by each RMS based on HF propagation estimates, time of day, Pactor speed, message size and other factors.
- Each intermediate RMS recomputes the optimum path.
- If a RMS is unavailable, the system will route around it.
- Busy RMS are tried a few times and then routed around.
- Radio messages can be relayed through RMS that are or are not connected to the Internet