

RMS Express Radio Only Messaging

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Using Winlink Express with the Winlink Hybrid (Radio-only) Network

When operating with the normal Winlink system, you can connect to any RMS (Radio Mail Server) to send and receive messages. Because messages are stored in the "backbone" Amazon cloud system, a message sent through any RMS can be received through any RMS.

Winlink also can be operated as in a radio-only mode of operation called the "Hybrid Network" where messages are stored on RMS themselves without being transferred to a CMS (Common Message Server). The radio-only system is designed primarily for use by agencies during an Internet outage, but it could be used at other times.

Both Pactor and now Vara HF can be used to move messages.

Registering Message Pickup Stations (MPS)

Unlike the standard Winlink system, when operating in a radio-only network you must specify specific RMS as the "Message Pickup Stations" (MPS) where you will pick up incoming messages.

Note: you can send outgoing messages through *any* Hybrid RMS in the radio-only network, the MPS must be used for *receiving* incoming messages.

To select the MPS you wish to register for incoming messages in a radio-only network, click Settings/Radio-only Network Parameters. We will demonstrate that in the following slides.

Note: Each MPS you select adds overhead to the system, because a separate message must be sent to each MPS, so it is recommended that you limit your MPS selection to 2 stations.

Also only use Hybrid RMS as MPS that you can reach reliably.

Where are these Hybrid RMS Stations?

Open RMS Express and select a **VARA HF Radio-Only** session

The screenshot shows the Winlink Express 1.7.4.0 interface for user KC5QOC. The 'Open Session:' dropdown menu is open, showing various session options. The 'Vara HF Radio-only' option is highlighted with a red box. The message list below shows several messages from NM5BC to KC5QOC, with the most recent one selected.

Date/Time	Message ID	Size	Source	Sender	Recipient
2023/01/14 20:22	X416SQWQIE...	451	NM5BC	NM5BC	KC5QOC
2023/01/14 20:18	TM4OWGO0A...	390	NM5BC	NM5BC	KC5QOC
2023/01/14 20:22	7TJISXM4PN80	728	NM5BC	NM5BC	KC5QOC
2023/01/14 20:18	R9YNWVZ4CRK2	550	NM5BC	NM5BC	KC5QOC
2023/01/14 19:57	QHN8CFESP0A3	513	NM5BC	NM5BC	KC5QOC
2023/01/14 19:53	YNVY5W4X2MXR	474	NM5BC	NM5BC	KC5QOC
2023/01/14 19:49	76GWXEQA10UH	552	NM5BC	NM5BC	KC5QOC
2023/01/14 19:47	GKMZYQ0WGD...	374	NM5BC	NM5BC	KC5QOC

Message ID: GKMZYQ0WGD...
Date: 2023/01/14 19:47
From: NM5BC
To: KC5QOC
Source: NM5BC
Downloaded-from: Peer-to-peer:NM5BC
P2P: True
Location: 35.145833N, 106.625000W
Subject: ACK: Message A

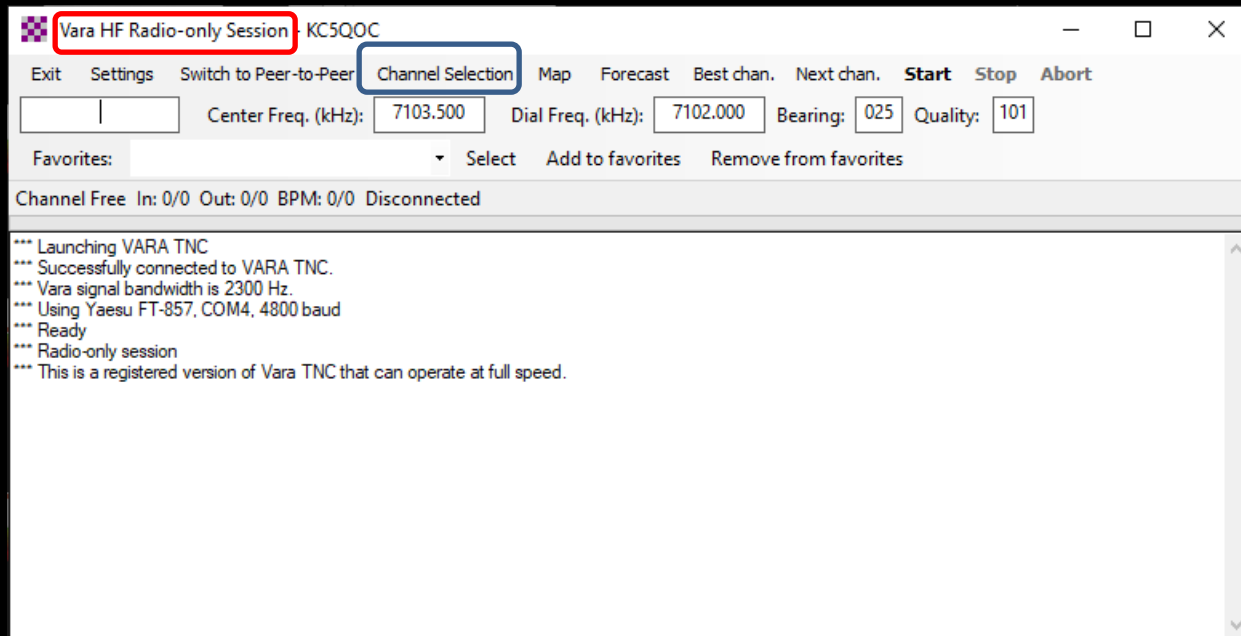
Notice the Session Type is “Radio Only”

Now Select the **Channel Selection** tab

You will be presented with a list of Hybrid RMS Station capable of being an MPS

Pick one and try it to make sure you are able to connect reliably. Try some on 20 meters for day use and some on 40 meters for night use.

You are not sending a message yet – you are just trying to see how well you are able to connect. The important word here is reliably.



Vará HF Radio-only Session KC5QOC

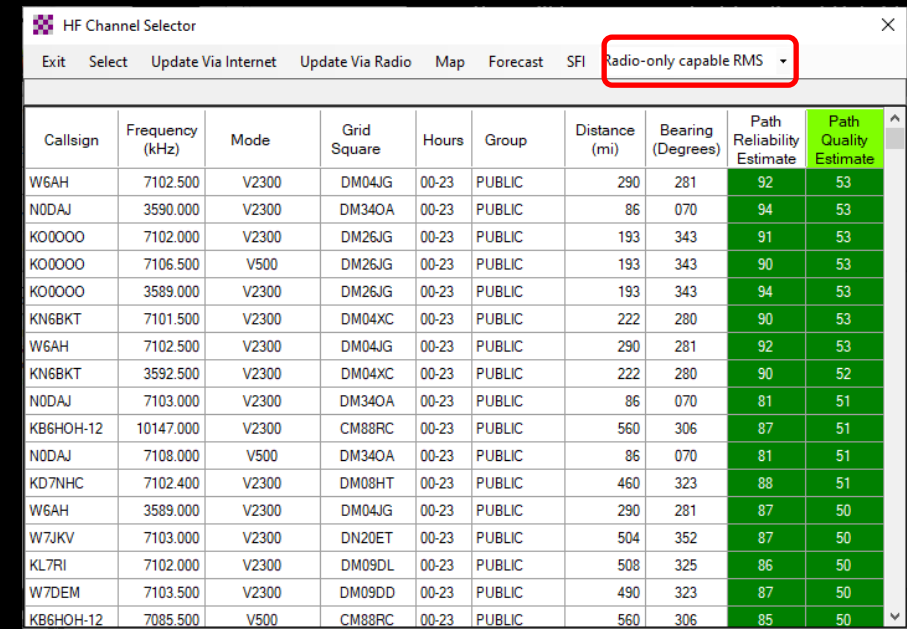
Exit Settings Switch to Peer-to-Peer Channel Selection Map Forecast Best chan. Next chan. Start Stop Abort

Center Freq. (kHz): 7103.500 Dial Freq. (kHz): 7102.000 Bearing: 025 Quality: 101

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

*** Launching VARA TNC
*** Successfully connected to VARA TNC.
*** Vara signal bandwidth is 2300 Hz.
*** Using Yaesu FT-857, COM4, 4800 baud
*** Ready
*** Radio-only session
*** This is a registered version of Vará TNC that can operate at full speed.



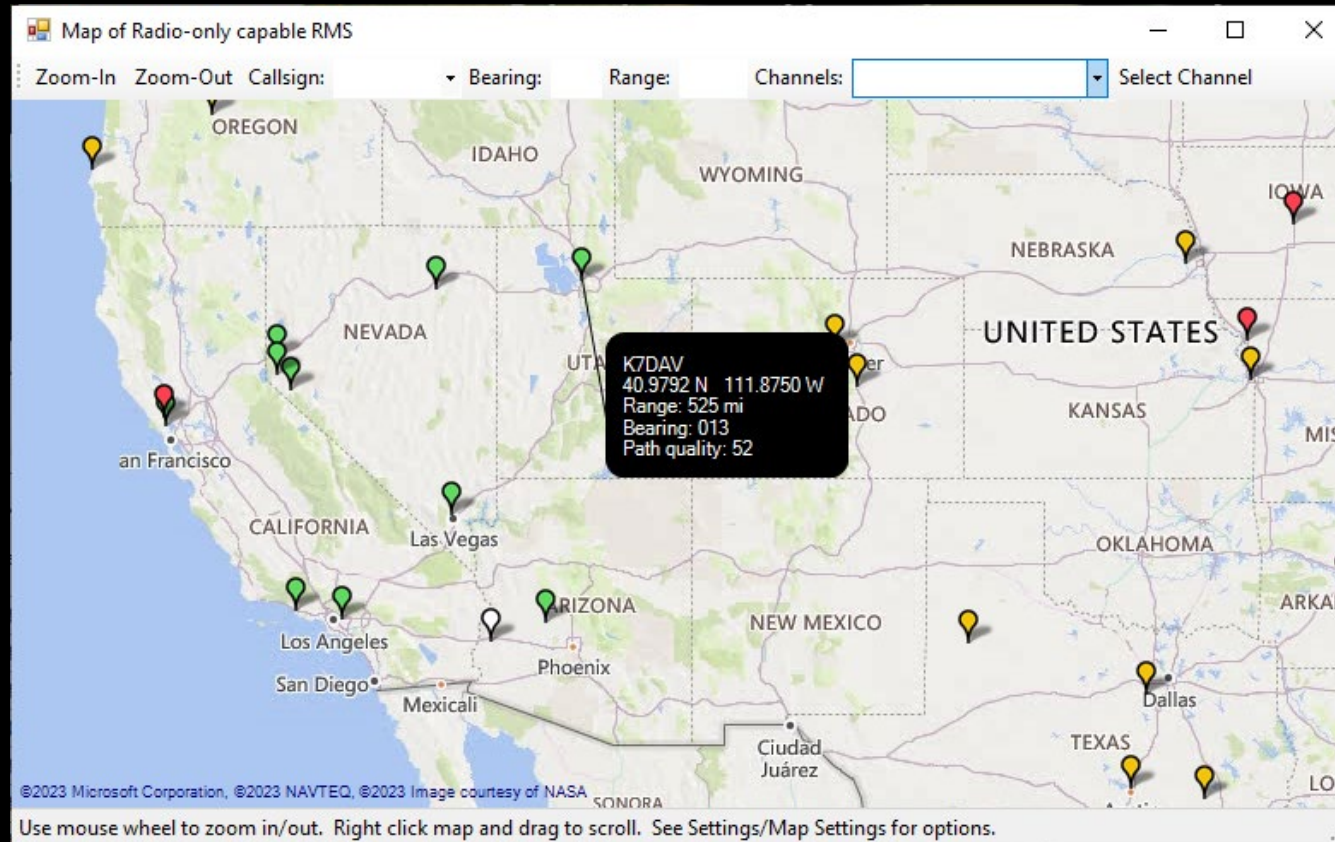
HF Channel Selector

Exit Select Update Via Internet Update Via Radio Map Forecast SFI Radio-only capable RMS

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (mi)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
W6AH	7102.500	V2300	DM04JG	00-23	PUBLIC	290	281	92	53
N0DAJ	3590.000	V2300	DM34OA	00-23	PUBLIC	86	070	94	53
K00000	7102.000	V2300	DM26JG	00-23	PUBLIC	193	343	91	53
K00000	7106.500	V500	DM26JG	00-23	PUBLIC	193	343	90	53
K00000	3589.000	V2300	DM26JG	00-23	PUBLIC	193	343	94	53
KN6BKT	7101.500	V2300	DM04XC	00-23	PUBLIC	222	280	90	53
W6AH	7102.500	V2300	DM04JG	00-23	PUBLIC	290	281	92	53
KN6BKT	3592.500	V2300	DM04XC	00-23	PUBLIC	222	280	90	52
N0DAJ	7103.000	V2300	DM34OA	00-23	PUBLIC	86	070	81	51
KB6HOH-12	10147.000	V2300	CM88RC	00-23	PUBLIC	560	306	87	51
N0DAJ	7108.000	V500	DM34OA	00-23	PUBLIC	86	070	81	51
KD7NHC	7102.400	V2300	DM08HT	00-23	PUBLIC	460	323	88	51
W6AH	3589.000	V2300	DM04JG	00-23	PUBLIC	290	281	87	50
W7JKV	7103.000	V2300	DN20ET	00-23	PUBLIC	504	352	87	50
KL7RI	7102.000	V2300	DM09DL	00-23	PUBLIC	508	325	86	50
W7DEM	7103.500	V2300	DM09DD	00-23	PUBLIC	490	323	87	50
KB6HOH-12	7085.500	V500	CM88RC	00-23	PUBLIC	560	306	85	50

Where are they ?

In the **Channel Selection** window click on “Map” and it will show you something like this:



The markers are different colors depicting the path quality for that time of day. Clicking on a marker will show which station it represents.

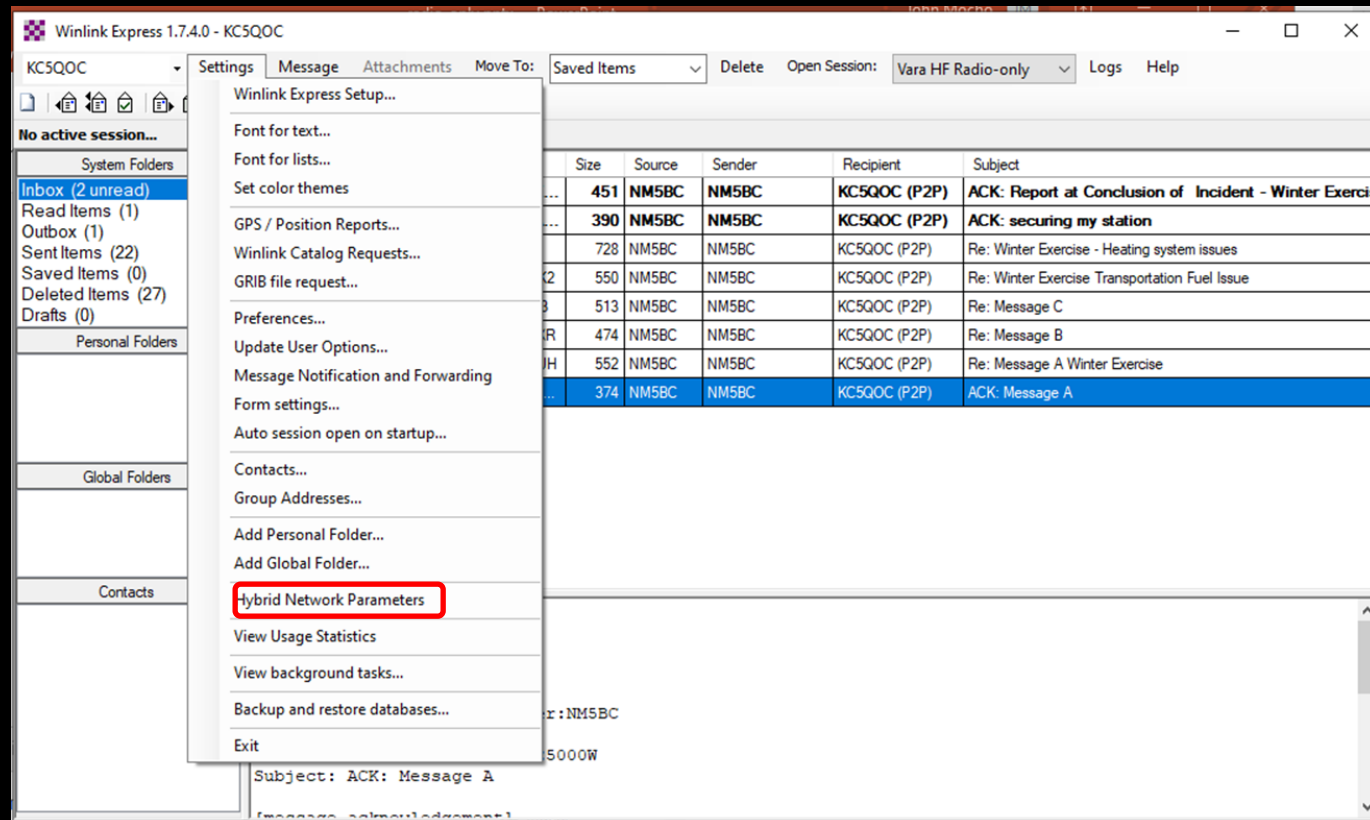
All of that was the pre-cursor to setting up your own MPS

Remember – **MPS** is Message Pickup Station

When someone sends you a Radio-Only message you must contact one of your MPS to be able to receive it.

How do you set up your own MPS once you have tried some Hybrid RMS and found them reliable ?

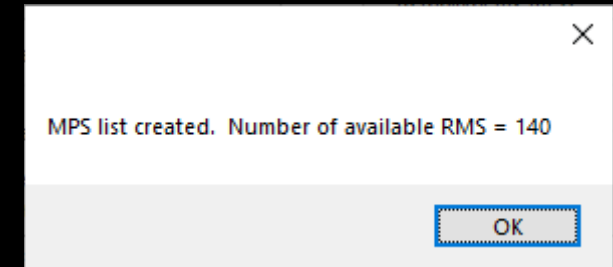
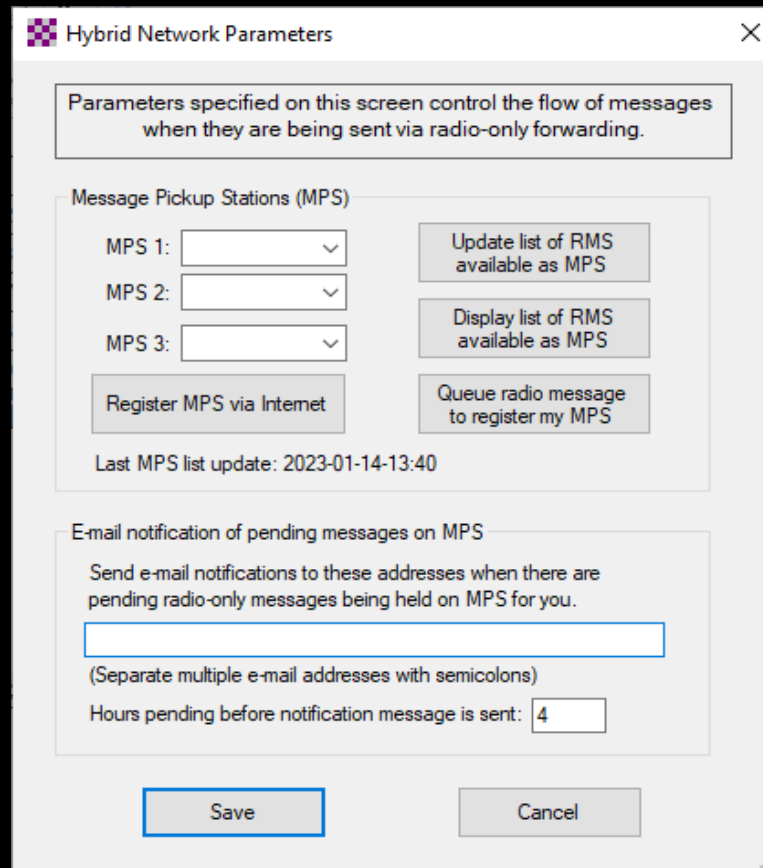
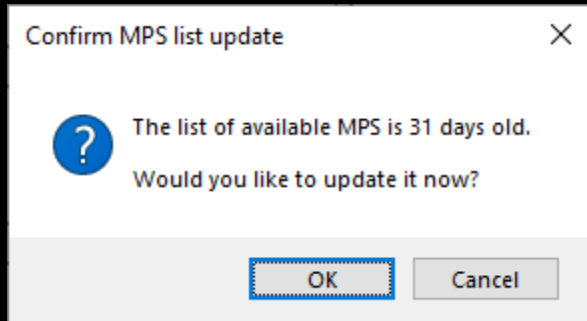
Open RMS Express again and go the Settings tab on the opening screen and select “Hybrid Network Parameters”.



Setting up your Own MPS

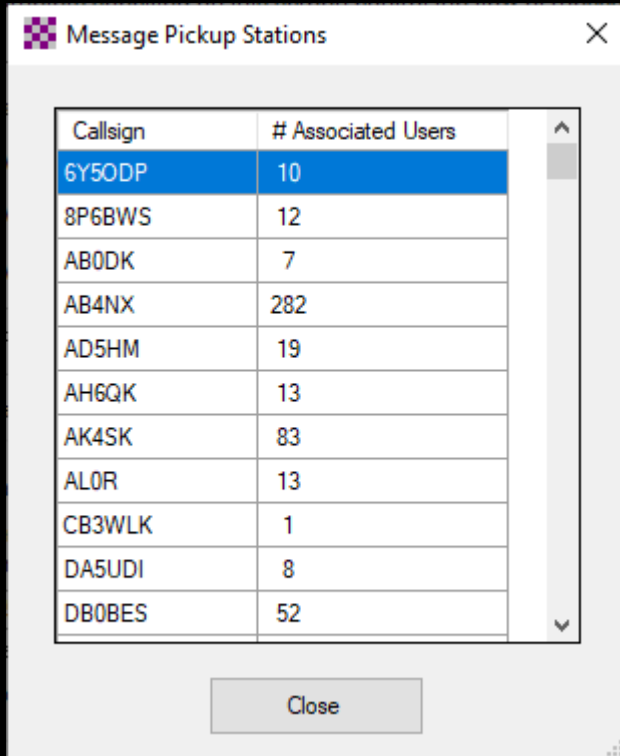
Here is where you will enter the RMS station that you wish to use for your MPS.

You may be presented with an “MPS update window” – if so click OK



You may need to look at the list by selecting: “Display list of RMS available as MPS”

It will look something like this:



The screenshot shows a window titled "Message Pickup Stations" with a close button (X) in the top right corner. Inside the window is a table with two columns: "Callsign" and "# Associated Users". The table contains the following data:

Callsign	# Associated Users
6Y5ODP	10
8P6BWS	12
AB0DK	7
AB4NX	282
AD5HM	19
AH6QK	13
AK4SK	83
AL0R	13
CB3WLK	1
DA5UDI	8
DB0BES	52

Below the table is a "Close" button.

You need to choose the 2 stations which you are able to reliably connect with. Maybe one on 20M and one on 40M.

It must be remembered that not all Hybrid Stations act as an MPS. That distinction is by the choice of the RMS System operator.

When you send a “Radio-Only Message” you may use the MPS you have selected or any on the list we have shown earlier.

Once you know your MPS selections enter them in the boxes

Hybrid Network Parameters

Parameters specified on this screen control the flow of messages when they are being sent via radio-only forwarding.

Message Pickup Stations (MPS)

MPS 1:

MPS 2:

MPS 3:

Register

Last MPS: 2-14-16:31

E-mail notification

Send e-mail when there are pending radio messages on MPS

(Separate addresses with semicolons)

Hours pending:

Update list of RMS available as MPS

Display list of RMS available as MPS

Queue radio message to register my MPS

Cancel

Go to the First MPS box and click the down arrow on the right of the box and the list will appear. Select the one you want by clicking on it. That will enter it in the box.

Do the same for the second box.

How will you be notified about Pending Radio-Only Messages?

You may do this by entering your email address in the area provided and selecting a reasonable amount of time that a message has been pending prior to notification in the box provided.

This feature is added for those folks playing with the system. It probably will not work if the internet is truly down.

Hybrid Network Parameters

Parameters specified on this screen control the flow of messages when they are being sent via radio-only forwarding.

Message Pickup Stations (MPS)

MPS 1:

MPS 2:

MPS 3:

Update list of RMS available as MPS

Display list of RMS available as MPS

Register MPS via Internet

Queue radio message to register my MPS

Last MPS list update: 2023-02-14-16:31

E-mail notification of pending messages on MPS

Send e-mail notifications to these addresses when there are pending radio-only messages being held on MPS for you.

(Separate multiple e-mail addresses with semicolons)

Hours pending before notification message is sent:

Save Cancel

Send Your Selections to the System

Click on “Queue radio messages to register my MPS”

This will generate a winlink message to send to the system with the information in the boxes labeled “MPS 1”, “MPS 2” and “MPS-3”.

You will receive this acknowledgement:

Hybrid Network Parameters

Parameters specified on this screen control the flow of messages when they are being sent via radio-only forwarding.

Message Pickup Stations (MPS)

MPS 1: K7DAV
MPS 2: WA5TED
MPS 3:

Update list of RMS available as MPS
Display list of RMS available as MPS
Register MPS via Internet
Queue radio message to register my MPS

Last MPS list update: 2023-02-14-16:31

E-mail notification of pending messages on MPS

Send e-mail notifications to these addresses when there are pending radio-only messages being held on MPS for you.

kc5qoc@gmail.com
(Separate multiple e-mail addresses with semicolons)

Hours pending before notification message is sent: 4

Save Cancel

RMS Express

A request to update your MPS registrations has been posted in the Outbox.
You must now send pending outgoing messages.

Note, it may take up to 24 hours after your message is sent before the change takes effect.

OK

Alternately you may click on Register MPS via Internet in which case you will receive this acknowledgment:

MPS successfully registered with Winlink.

Note, it may take up to 24 hours before the change takes effect.

OK

Notification from the MPS

Pending messages on WA5TED MPS

WA5TED@winlink.org 12:00 AM (8 hours ago)

The following messages are waiting for pickup by KC5QOC on the WA5TED MPS.
A radio-only connection must be made to the WA5TED RMS to download these messages.

2023-02-25 02:59 "Echo from K7DAV for 1ECNEF7BAVQP" (From: K7DAV, ID: BXOB9D94ADHD)

Pending messages on K7DAV MPS

K7DAV@winlink.org Fri, Feb 24, 10:00 PM (10 hours ago)

The following messages are waiting for pickup by KC5QOC on the K7DAV MPS.
A radio-only connection must be made to the K7DAV RMS to download these messages.

2023-02-25 00:03 "Reply from W7JKV for YWB8GJO0VXN0" (From: W7JKV, ID: HLX3T4IJ5V5D)

2023-02-25 00:03 "Echo from K7DAV for 1ECNEF7BAVQP" (From: K7DAV, ID: BXOB9D94ADHD)

Practice with A Ping Messages

You can send a special "ping" message to an RMS that's part of the hybrid system to test your radio connectivity.

To send a ping:

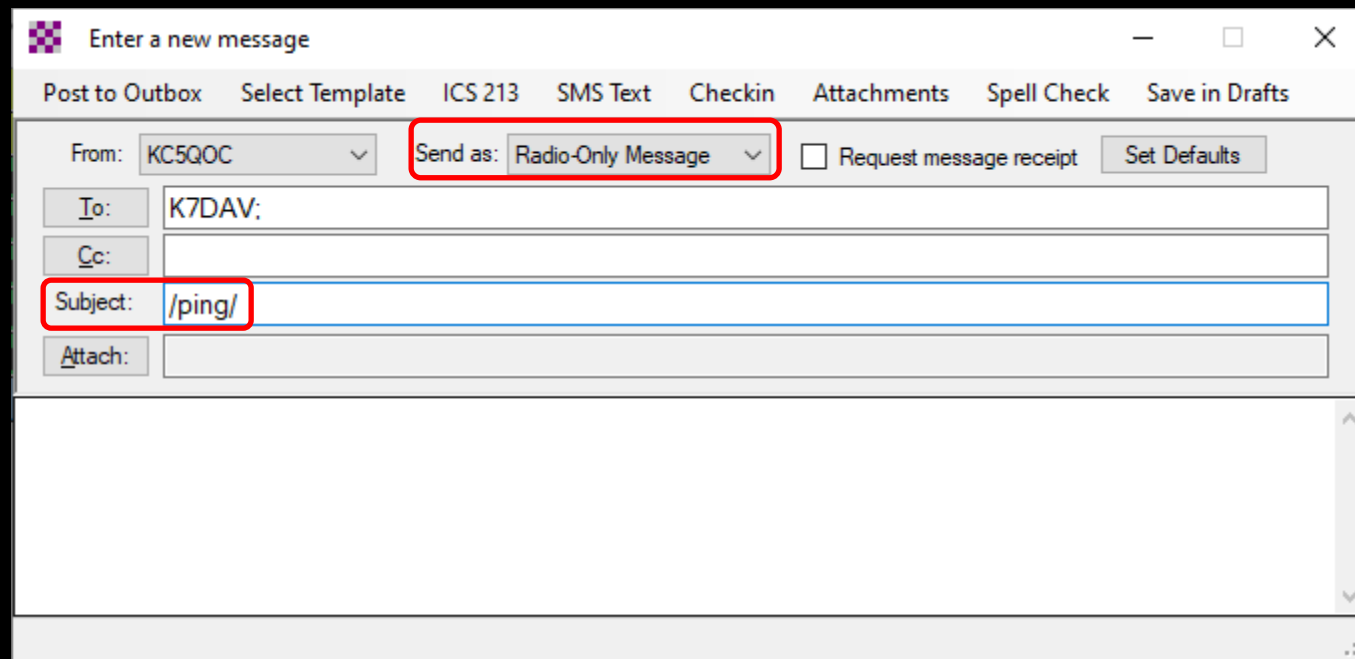
1. Use Winlink Express to create a message. Specify the callsign of the RMS as the recipient.
Note: the recipient is the callsign of the RMS, not some person at the RMS.
2. Specify `/ping/` as the subject of the message (without the quote marks).
Note: that the word "ping" must be enclosed in forward slants (`/`).
3. Start a "Radio-only" type of session.
4. Send the ping message into any RMS that's part of the hybrid network, or use a telnet connection to send the message into a local copy of RMS Relay.
5. If the ping message reaches the destination RMS, it will generate a reply and send it to your MPS.

Ping Message (Cont)

This is what my Ping Message looked like:

Important parts are the “Send as:” and the “Subject:”

I sent the message to N0DAJ who is a Radio-Only RMS - NOT One of my MPS

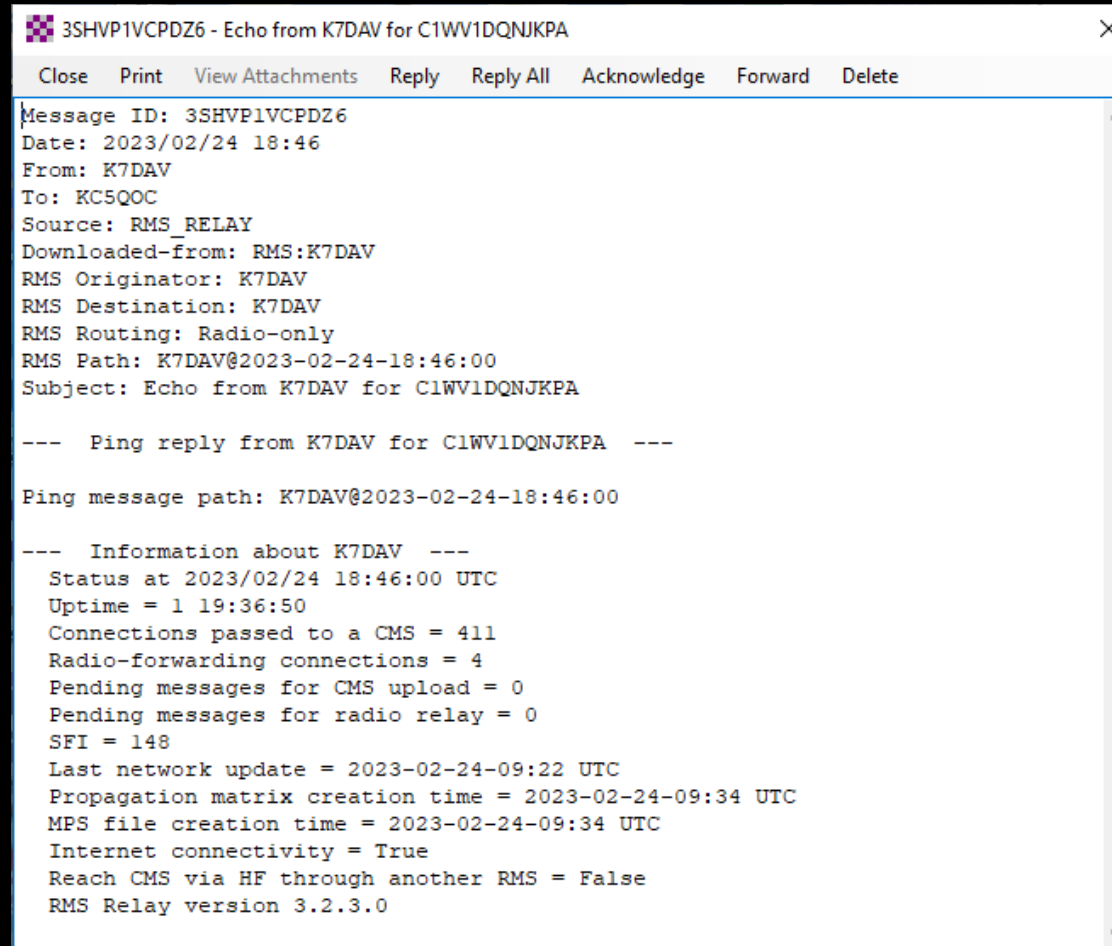


The screenshot shows a window titled "Enter a new message" with a menu bar containing "Post to Outbox", "Select Template", "ICS 213", "SMS Text", "Checkin", "Attachments", "Spell Check", and "Save in Drafts". The "From:" field is set to "KC5QOC". The "Send as:" dropdown menu is open and set to "Radio-Only Message". There is an unchecked checkbox for "Request message receipt" and a "Set Defaults" button. The "To:" field contains "K7DAV:". The "Cc:" field is empty. The "Subject:" field contains "/ping/". The "Attach:" field is empty. The main body of the message is a large empty text area.

Ping Message (Cont)

REMEMBER: I sent the ping message to a remote Radio-Only RMS station – **Not K7DAV**

I waited about 20 Min and logged into my MPS station (K7DAV) and received this message:



```
3SHVP1VCPDZ6 - Echo from K7DAV for C1WV1DQNJKPA
Close Print View Attachments Reply Reply All Acknowledge Forward Delete
Message ID: 3SHVP1VCPDZ6
Date: 2023/02/24 18:46
From: K7DAV
To: KC5QOC
Source: RMS_RELAY
Downloaded-from: RMS:K7DAV
RMS Originator: K7DAV
RMS Destination: K7DAV
RMS Routing: Radio-only
RMS Path: K7DAV@2023-02-24-18:46:00
Subject: Echo from K7DAV for C1WV1DQNJKPA

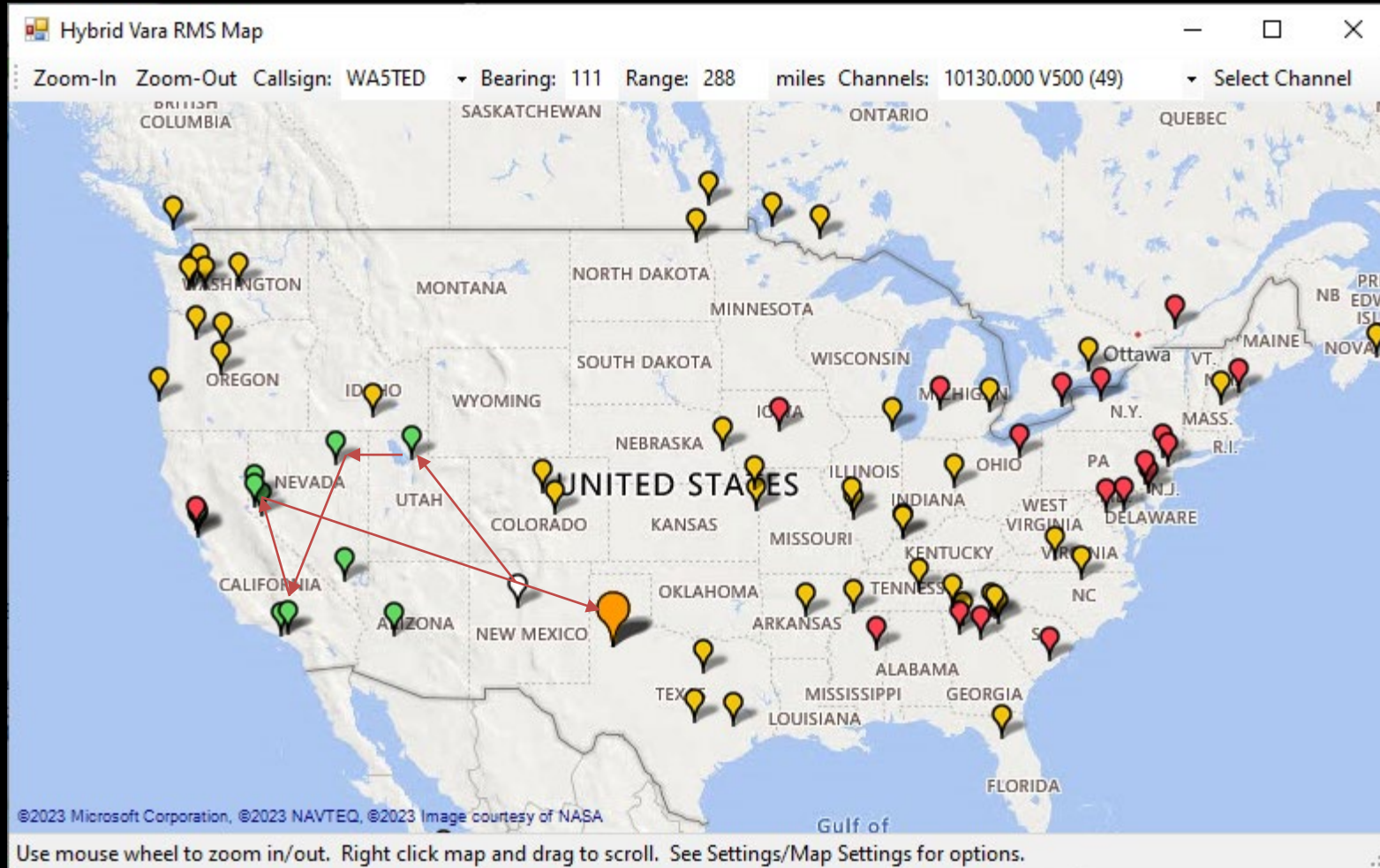
--- Ping reply from K7DAV for C1WV1DQNJKPA ---

Ping message path: K7DAV@2023-02-24-18:46:00

--- Information about K7DAV ---
Status at 2023/02/24 18:46:00 UTC
Uptime = 1 19:36:50
Connections passed to a CMS = 411
Radio-forwarding connections = 4
Pending messages for CMS upload = 0
Pending messages for radio relay = 0
SFI = 148
Last network update = 2023-02-24-09:22 UTC
Propagation matrix creation time = 2023-02-24-09:34 UTC
MPS file creation time = 2023-02-24-09:34 UTC
Internet connectivity = True
Reach CMS via HF through another RMS = False
RMS Relay version 3.2.3.0
```


Ping Message (CONT)

Sent another one to WA5TED via K7DAV – Here is the path it traveled



Using Radio-Only Messaging

To effectively use Radio-Only Messaging you **must** follow 2 simple rules:

1. Radio-only must be specified at the time the message is composed.
2. You must use a radio-only connection to an RMS that's running as a Hybrid RMS.

Please address the message to a single recipient if at all possible!!!

Now lets send a Radio Only Message

Open RMS Express and open a new message and select “Send As: Radio-Only Message”

Enter your message and post it to the outbox as you would normally

The screenshot displays the Winlink Express 1.7.4.0 interface. The main window is titled "Edit a draft message entered by KC5QOC". The "Message" menu is highlighted in red, and the "Post to Outbox" option is circled in red. The "Send as:" dropdown menu is set to "Radio-Only Message" and is circled in blue. The message content is "Please bring chochoate covered donuts as soon as possible". The "From:" field is set to "KC5QOC" and the "Subject:" field is "Urgent - Need Donuts".

System Folders:

- Inbox (2 unread)
- Read Items (1)
- Outbox (0)
- Sent Items (22)
- Saved Items (0)
- Deleted Items (24)
- Drafts (0)

Date/Time	Message ID	Size
2023/01/14 2...	X416SQWQIE...	451
2023/01/14 2...	TM40WGO0A...	390
2023/01/14 20:22	7TJISXM4PN80	728
2023/01/14 20:18	R9YNVWVZ4CRK2	550
2023/01/14 19:57	QHN8CFESP0A3	513
2023/01/14 19:53	YNVY5W4X2MXR	474
2023/01/14 19:49	76GWXEQA1OUH	552
2023/01/14 19:47	GKMZYQ0WGD...	374

Message ID: GKMZYQ0WGD...
Date: 2023/01/14 19:47
From: NM5BC
To: KC5QOC
Source: NM5BC
Downloaded-from: Peer-to-peer:NM5BC
P2P: True
Location: 35.145833N, 106.625000W
Subject: ACK: Message A

I have made a Radio Only Message

This is how the outbox looks prior to sending – Note the RO in the recipient field

It will only be sent during a Radio-Only Winlink session to a Radio-Only RMS

The screenshot shows the Winlink Express 1.7.4.0 interface. The window title is "Winlink Express 1.7.4.0 - KC5QOC". The menu bar includes "Settings", "Message", "Attachments", "Move To:", "Saved Items", "Delete", "Open Session:", "Vara HF Winlink", "Logs", and "Help". The toolbar contains various icons for file operations and session management. The left sidebar shows a folder tree with "System Folders" (Inbox (2 unread), Read Items (1), Outbox (1), Sent Items (22), Saved Items (0), Deleted Items (26), Drafts (0)), "Personal Folders", "Global Folders", and "Contacts". The main pane displays a table of messages in the Outbox. A red box highlights the recipient field "KC2LM (RO)" in the first row. The message details pane at the bottom shows the following information:

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2023/02/18 2...	YNYO049NC...	278	KC5QOC	KC5QOC	KC2LM (RO)	Urgent - Need Donuts

Message ID: YNYO049NCQC7
Date: 2023/02/18 23:43
From: KC5QOC
To: KC2LM
Source: KC5QOC
RMS Routing: Radio-only
Location: 33.604167N, 114.208333W (Grid square)
Subject: Urgent - Need Donuts

Please bring chocoate covered donust as soon as possible

I need to send it to a Hybrid RMS Station

Which One ?

Open RMS Express and select a VARA HF Radio-Only session

The screenshot shows the Winlink Express 1.7.4.0 interface for user KC5QOC. The main window displays a list of messages with columns for Date/Time, Message ID, Size, Source, Sender, and Recipient. A dropdown menu is open over the 'Open Session:' field, showing various session options. The 'Vara HF Radio-only' option is highlighted with a red rectangle.

Date/Time	Message ID	Size	Source	Sender	Recipient
2023/01/14 20:22	X416SQWQIE...	451	NM5BC	NM5BC	KC5QOC
2023/01/14 20:18	TM40WGO0A...	390	NM5BC	NM5BC	KC5QOC
2023/01/14 20:22	7TJISXM4PN80	728	NM5BC	NM5BC	KC5QOC
2023/01/14 20:18	R9YNWVZ4CRK2	550	NM5BC	NM5BC	KC5QOC
2023/01/14 19:57	QHN8CFESP0A3	513	NM5BC	NM5BC	KC5QOC
2023/01/14 19:53	YNYV5W4X2MXR	474	NM5BC	NM5BC	KC5QOC
2023/01/14 19:49	76GWXEQA1OUH	552	NM5BC	NM5BC	KC5QOC
2023/01/14 19:47	GKMZYQ0WGD...	374	NM5BC	NM5BC	KC5QOC

Open Session: **Vara HF Radio-only**

- Telnet Winlink
- Packet Winlink
- Pactor Winlink
- Robust Packet Winlink
- Ardop Winlink
- Vara HF Winlink
- Vara FM Winlink
- Iridium GO Winlink
-
- Packet P2P
- Pactor P2P
- Robust Packet P2P
- Ardop P2P
- Vara HF P2P
- Vara FM P2P
- Telnet P2P
-
- Pactor Radio-only
- Vara HF Radio-only**
- Vara FM Radio-only
- Telnet Radio-only
-
- Telnet Post Office

Message ID: GKMZYQ0WGD...
Date: 2023/01/14 19:47
From: NM5BC
To: KC5QOC
Source: NM5BC
Downloaded-from: Peer-to-peer:NM5BC
P2P: True
Location: 35.145833N, 106.625000W
Subject: ACK: Message A

Notice the Session Type is “Radio Only”

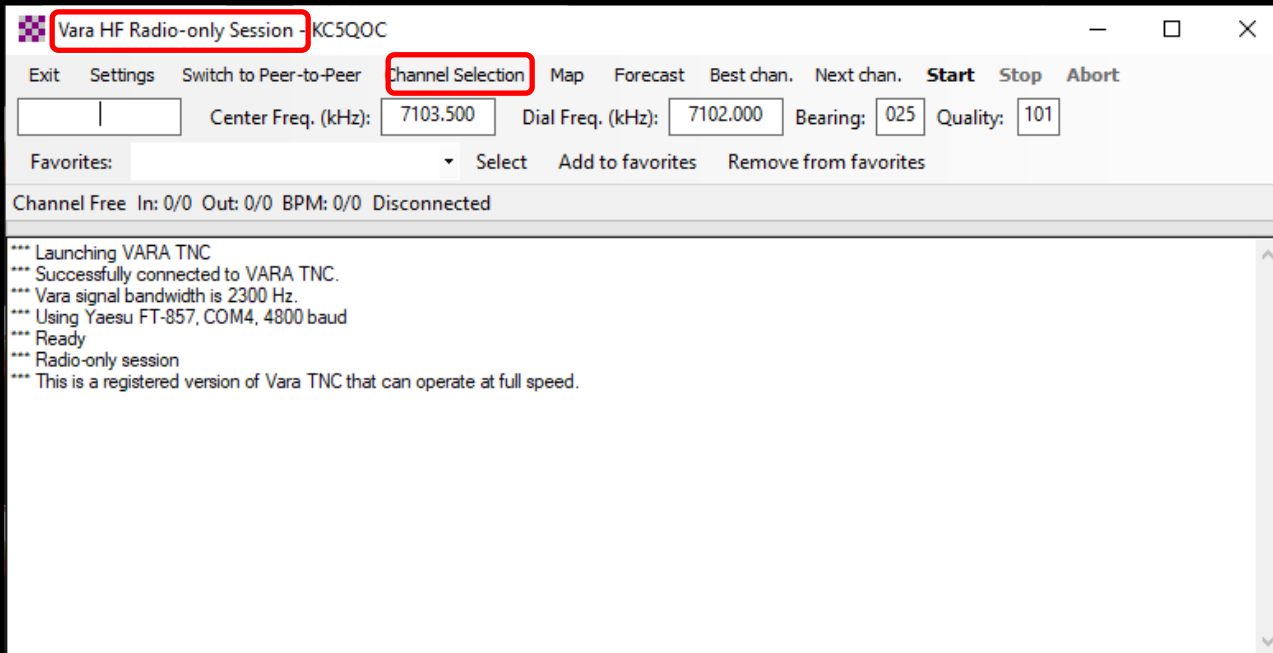
Now Select the **Channel Selection** tab and you will be presented with the list of Hybrid RMS Stations capable of handling Radio-Only messages.

Pick one that you are able to contact with – probably one you have used before.

NOTE: It does not need to be either of your MPS stations or the Recipient’s MPS which you do not need to know.

Send your VARA message as you have done before.

The message will now be forwarded to the MPS stations the recipient (NOT YOU) has selected. It will be sent via Radio-Only using either Pactor or VARA HF and await the recipient to retrieve it.



Vara HF Radio-only Session - KC5QOC

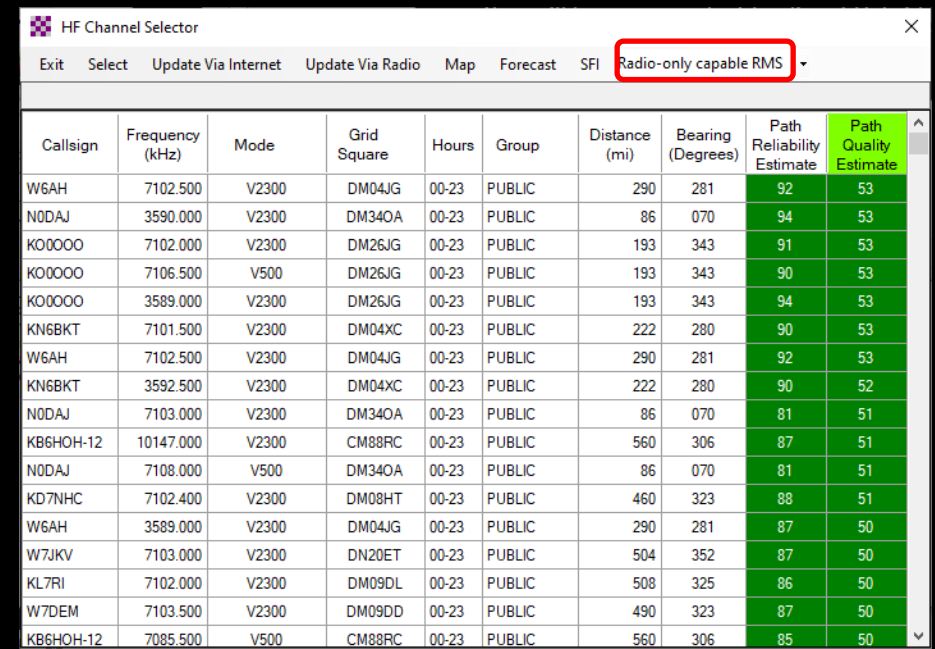
Exit Settings Switch to Peer-to-Peer **Channel Selection** Map Forecast Best chan. Next chan. Start Stop Abort

Center Freq. (kHz): 7103.500 Dial Freq. (kHz): 7102.000 Bearing: 025 Quality: 101

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

*** Launching VARA TNC
*** Successfully connected to VARA TNC.
*** Vara signal bandwidth is 2300 Hz.
*** Using Yaesu FT-857, COM4, 4800 baud
*** Ready
*** Radio-only session
*** This is a registered version of Vara TNC that can operate at full speed.



HF Channel Selector

Exit Select Update Via Internet Update Via Radio Map Forecast SFI **Radio-only capable RMS**

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (mi)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
W6AH	7102.500	V2300	DM04JG	00-23	PUBLIC	290	281	92	53
N0DAJ	3590.000	V2300	DM34OA	00-23	PUBLIC	86	070	94	53
K00000	7102.000	V2300	DM26JG	00-23	PUBLIC	193	343	91	53
K00000	7106.500	V500	DM26JG	00-23	PUBLIC	193	343	90	53
K00000	3589.000	V2300	DM26JG	00-23	PUBLIC	193	343	94	53
KN6BKT	7101.500	V2300	DM04XC	00-23	PUBLIC	222	280	90	53
W6AH	7102.500	V2300	DM04JG	00-23	PUBLIC	290	281	92	53
KN6BKT	3592.500	V2300	DM04XC	00-23	PUBLIC	222	280	90	52
N0DAJ	7103.000	V2300	DM34OA	00-23	PUBLIC	86	070	81	51
KB6HOH-12	10147.000	V2300	CM88RC	00-23	PUBLIC	560	306	87	51
N0DAJ	7108.000	V500	DM34OA	00-23	PUBLIC	86	070	81	51
KD7NHC	7102.400	V2300	DM08HT	00-23	PUBLIC	460	323	88	51
W6AH	3589.000	V2300	DM04JG	00-23	PUBLIC	290	281	87	50
W7JKV	7103.000	V2300	DN20ET	00-23	PUBLIC	504	352	87	50
KL7RI	7102.000	V2300	DM09DL	00-23	PUBLIC	508	325	86	50
W7DEM	7103.500	V2300	DM09DD	00-23	PUBLIC	490	323	87	50
KB6HOH-12	7085.500	V500	CM88RC	00-23	PUBLIC	560	306	85	50



RMS Express Radio Only Messaging

Questions ?