

Winlink for Rookies

Zoom Class

K3EUI Barry

Winlink For Rookies

Goal: learn the fundamentals of using Winlink as an emergency communications package

HF SSB modes

VHF/UHF FM modes

Winlink Express software (free)

Send email to

GATEWAY (internet connect)

or

Peer-to-Peer

Hardware needed

RADIO - HF SSB or VHF/UHF FM or HT

TX: input port - MIC or DATA port

RX: output port - speaker/headphone or DATA port

Sound Card or TNC

INPUT - Rx analog audio from radio

OUTPUT - Tx analog audio to radio

PTT - COM port or VOX (voice relay)

GND - common ground cable

Winlink Express

HF SSB modes

Pactor II, III (requires TNC)

VARA HF SSB (sound card)

ARDOP (sound card)

VHF/UHF FM modes

Packet (TNC or Sound Modem)

VARA FM (sound card)

Which bike would you want
to ride up a mountain?

PACKET

vs.

VARA



EMCOMM modes: the software

Adapt to a changing propagation

Send data nearly error-free

Efficient use of bandwidth?

Be inexpensive

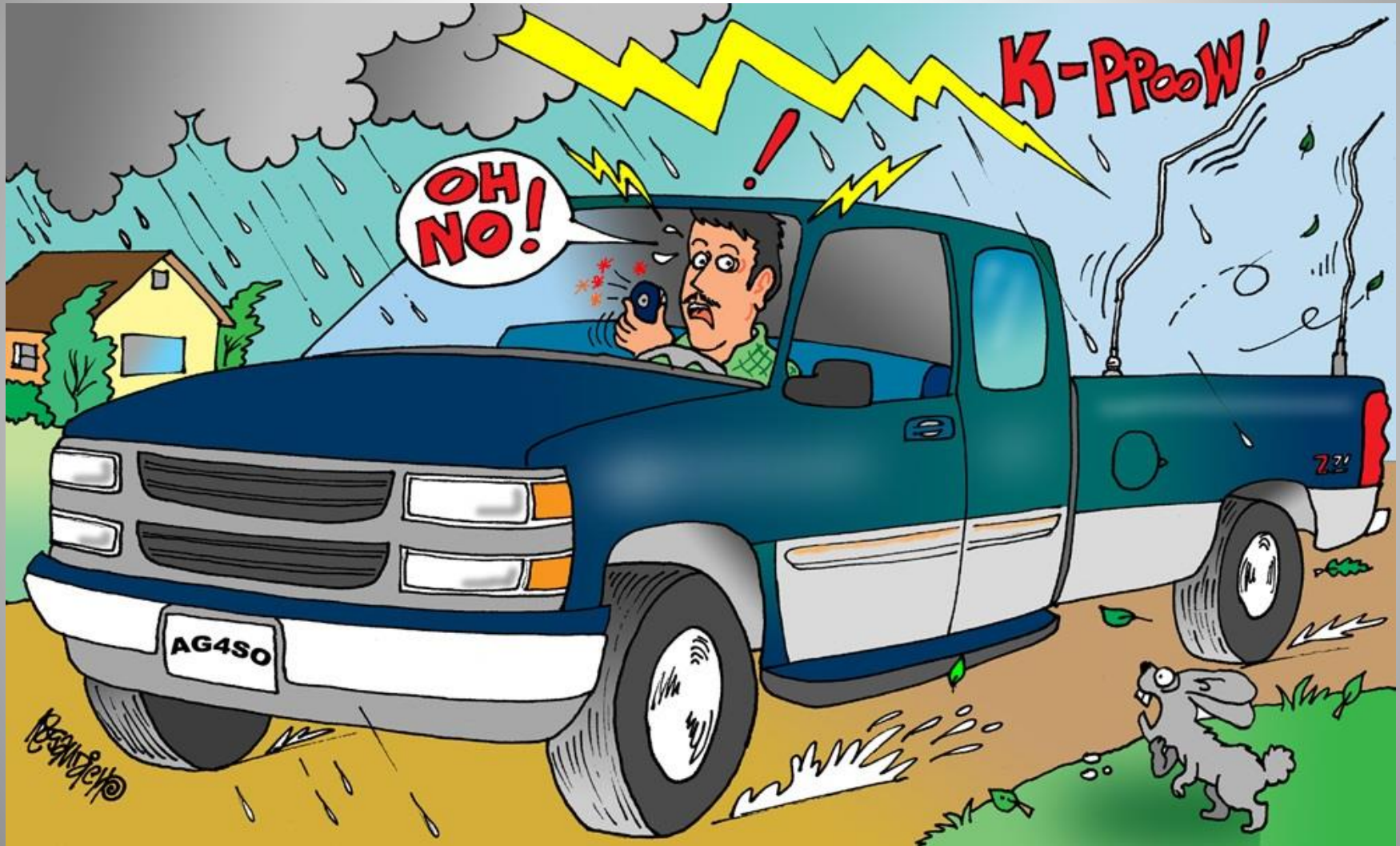
Complete Winlink/NBEMS FLDIGI station
Icom 706MIIG (HF/VHF/UHF) SSB-FM
USB-serial converter COM port PTT and CAT (rig control)
Signalink usb audio and HF antenna tuner
Pactor III TNC for HF Pactor 3 and VHF PACKET



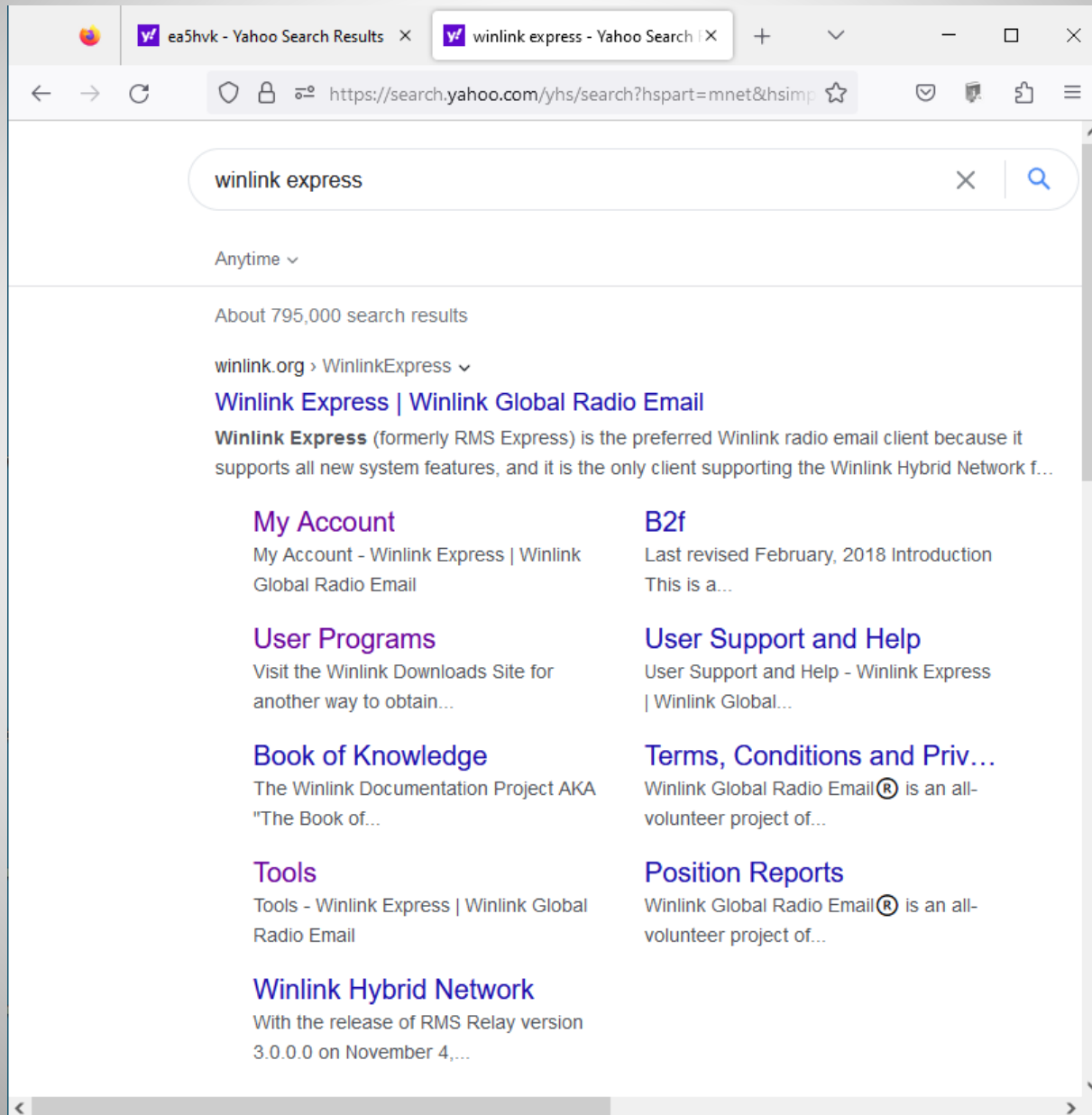
Sometimes we operate EMCOMM
from our home QTH



Other times Portable/Mobile



Start with Winlink Express



The screenshot shows a web browser window with two tabs. The active tab is titled "winlink express - Yahoo Search". The address bar shows the URL "https://search.yahoo.com/yhs/search?hspart=mnet&hsimp". The search bar contains the text "winlink express". Below the search bar, there is a dropdown menu for "Anytime". The search results show "About 795,000 search results". The first result is from "winlink.org" and is titled "Winlink Express | Winlink Global Radio Email". The description for this result states: "Winlink Express (formerly RMS Express) is the preferred Winlink radio email client because it supports all new system features, and it is the only client supporting the Winlink Hybrid Network f...". Below the main result, there are several links in a grid layout:

- My Account**: My Account - Winlink Express | Winlink Global Radio Email
- User Programs**: Visit the Winlink Downloads Site for another way to obtain...
- Book of Knowledge**: The Winlink Documentation Project AKA "The Book of..."
- Tools**: Tools - Winlink Express | Winlink Global Radio Email
- Winlink Hybrid Network**: With the release of RMS Relay version 3.0.0.0 on November 4,...
- B2f**: Last revised February, 2018 Introduction This is a...
- User Support and Help**: User Support and Help - Winlink Express | Winlink Global...
- Terms, Conditions and Priv...**: Winlink Global Radio Email® is an all-volunteer project of...
- Position Reports**: Winlink Global Radio Email® is an all-volunteer project of...

Get an account (free): My Account set up Recovery Acct and password

The screenshot shows a web browser window with the URL <https://winlink.org/user>. The page has a navigation menu with items: My Account, Tools, News, Positions, User Programs, Book of Knowledge, Download, and Support. The main content area is titled "My Account" and includes the following sections:

- Winlink Accounts...**

...are created with a client program.
You can not create one here.
- We require**
 - A valid amateur radio license, or
 - a license from a participating government service or agency.
Ship station, marine or general radiotelephone licenses DO NOT qualify.
- How To Get an Account**
 - Download, install and configure any [client software](#). We suggest [Winlink Express](#). Study its help about installation and use.
 - If using [Winlink Express](#), with an internet connection fill out the form presented on first startup after installation. See the help article "Basic Configuration" for guidance. Be sure to include a password and password recovery address. Click 'Update'. Winlink Express makes the process easy. Your account is created!
- If you use a different program than Winlink Express:**
 - By using this website or by maintaining a radio email account, you agree that we may set cookies for purposes of customizing content and user convenience. You also agree to the Winlink Global Radio Email Terms and Conditions of Use and Privacy Policy. [I understand and agree.](#)

The "My Account" form includes the following fields and buttons:

- Username (Callsign) ***
Input field containing "K3EUI".
Label: Enter your WinLink Global Radio Email username.
- Password ***
Input field (empty).
Label: Enter the password that accompanies your username.
- Log in** button
- Password Assignments & Recovery**
 - Forgot your Winlink password?**

We will send it to your account password recovery address, or your [@winlink.org](#) address if you have not supplied one.
 - Callsign (Username) ***
Input field containing "K3EUI".
 - Send my password** button
 - [Complete Password Reset](#) link

Register your call with Winlink.org pick a "recovery" email account

Winlink Express Properties [X]

Call Signs

My Callsign: My Password:
(Case sensitive) Show password

Callsign suffix (optional): (Used for country code)

Password recovery e-mail:
(Non-Winlink e-mail address where lost password will be sent when requested)

Auxiliary Callsigns and Tactical Addresses

My Grid Square:

Winlink Express registration key:

Service Codes

(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.)
If you change service codes, you must update the list of channels.

Contact Information (Optional)

Name:
Street address 1:
Street address 2:
City:
State/Province:
Country:
Postal code:
Web Site URL (optional):
Phone number:
Non-Winlink e-mail:

Additional information (optional):

Recalculate HF path quality if SFI changes more than:

Keep logs for weeks. Keep deleted messages for days.

- Display list of pending incoming messages prior to download
- Warn about connections to stations holding messages
- Allow diagnostic information to be sent to the Winlink Development Team
- Automatically install field-test (beta) versions of Winlink Express

Choose Download next



The screenshot shows a web browser window with the URL <https://winlink.org>. The page features the Winlink Global Radio Email logo, which includes a globe and the text "WINLINK Global Radio Email®". A navigation menu is visible with the following items: My Account, Tools, News, Positions, User Programs, Book of Knowledge, Download, and Support. The "Download" item is highlighted with a blue background. Below the navigation menu, there are three main content sections: "Winlink Global Radio Email®...", "RadioMail for iOS", and "Fast Info...". The "Fast Info..." section contains a list of links: "Support Winlink: Register your program", "Lost Registration Key? Log in. It's on your account page.", "Callsign change? What to do. How to do it.", "Which bands are open? Propagation Map", and "HTML Forms and Forms not in the Express Standard Library". At the bottom of the page, there is a footer with a copyright notice and a link to the "Terms and Conditions of Use and Privacy Policy".

Winlink Global Radio Email | x +

← → ↻ 🔒 <https://winlink.org> 120% ☆ 📧 📄 ☰



My Account Tools News Positions User Programs Book of Knowledge **Download** Support

Download software from the Winlink Develop

Winlink Global Radio Email®...

...is a network of amateur radio and authorized government stations that provide worldwide radio email using radio pathways where the internet is not present. The system is built, operated and administered entirely by licensed "Ham" volunteers. It supports email with attachments, position reporting, weather and information

By using this website or by maintaining a radio email account, you agree that we may set cookies for purposes of customizing content and user convenience. You also agree to the Winlink Global Radio Email® Terms and Conditions of Use and Privacy Policy. I understand and agree.

RadioMail for iOS

We are excited to announce the release of RadioMail, a new client app for the iPhone by Island Magic Co. of Kaua'i, Hawaii. With RadioMail, you can easily send and receive Winlink emails via telnet or pair with modems to exchange emails over the air.

[Read more](#)

Fast Info...

- Support Winlink: [Register](#) your program
- **Lost Registration Key?** [Log in](#). It's on your account page.
- Callsign change? [What to do. How to do it.](#)
- Which bands are open? [Propagation Map](#)
- [HTML Forms and Forms not in the Express Standard Library](#)
- [No Internet? Winlink Hybrid Network](#)
- [Become a Winlink Gateway Sysop](#)
- Interested in monitoring Winlink

<https://downloads.winlink.org>

Choose User Programs

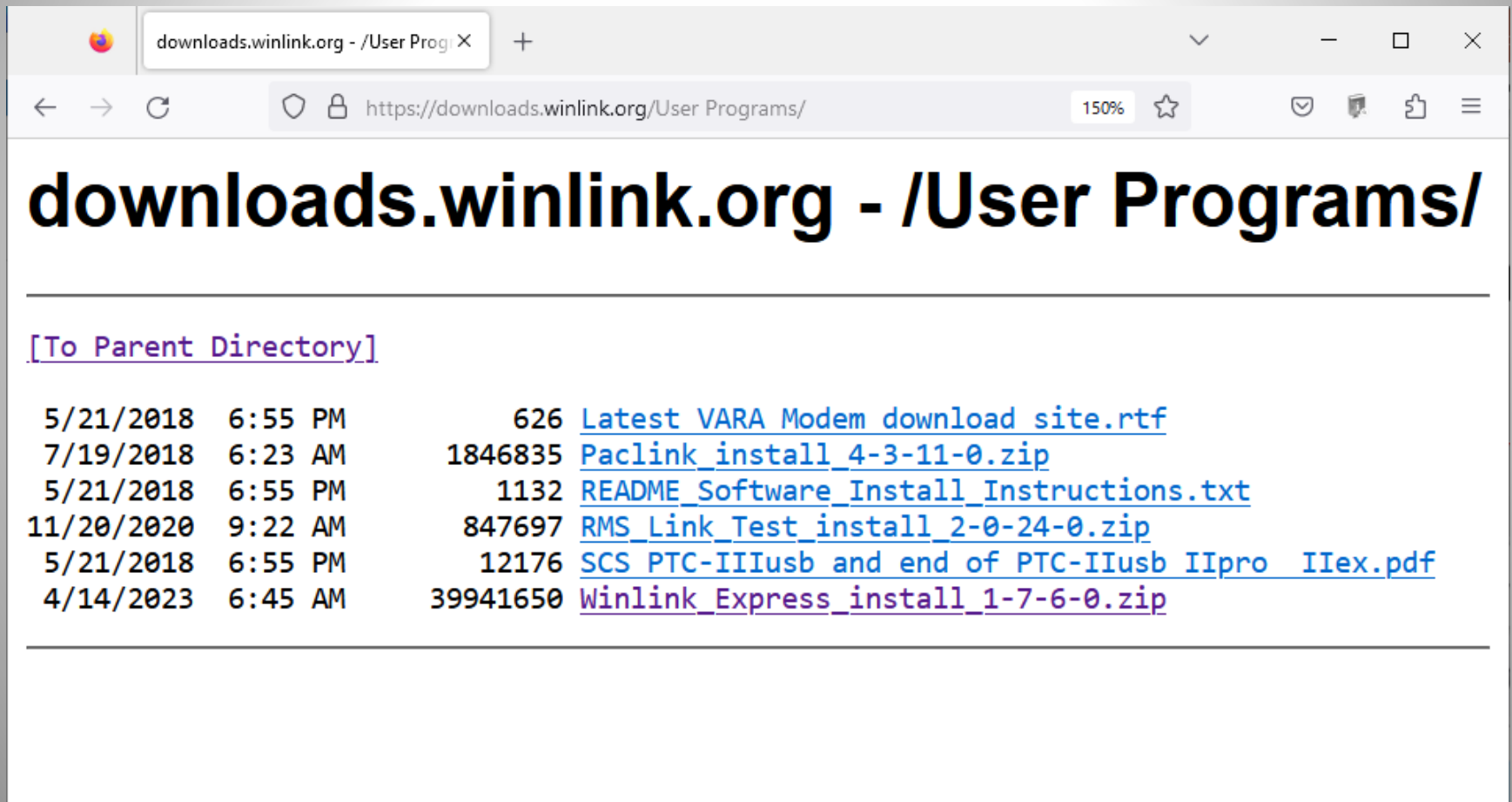
downloads.winlink.org - /

← → ↻ 🔒 https://downloads.winlink.org ☆ 📧 🗑️ 📄 ☰

downloads.winlink.org - /

5/8/2023	5:47 AM	<dir> Sysop Programs
4/14/2023	6:45 AM	<dir> User Programs

Download Winlink Express install (zip)



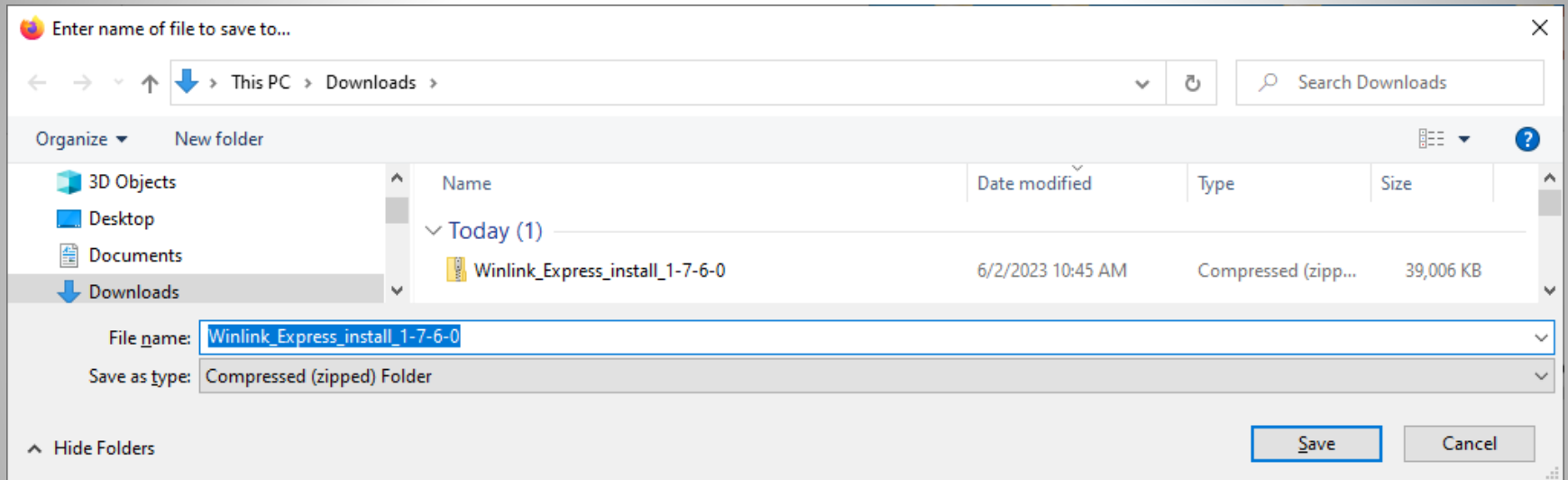
The screenshot shows a web browser window with the address bar displaying "https://downloads.winlink.org/User Programs/". The page title is "downloads.winlink.org - /User Programs/". Below the title, there is a link "[To Parent Directory]". A list of files is displayed, including "Latest VARA Modem download site.rtf", "Paclink_install_4-3-11-0.zip", "README_Software_Install_Instructions.txt", "RMS_Link_Test_install_2-0-24-0.zip", "SCS_PTC-IIIusb and end of PTC-IIusb IIpro IIex.pdf", and "Winlink_Express_install_1-7-6-0.zip".

downloads.winlink.org - /User Programs/

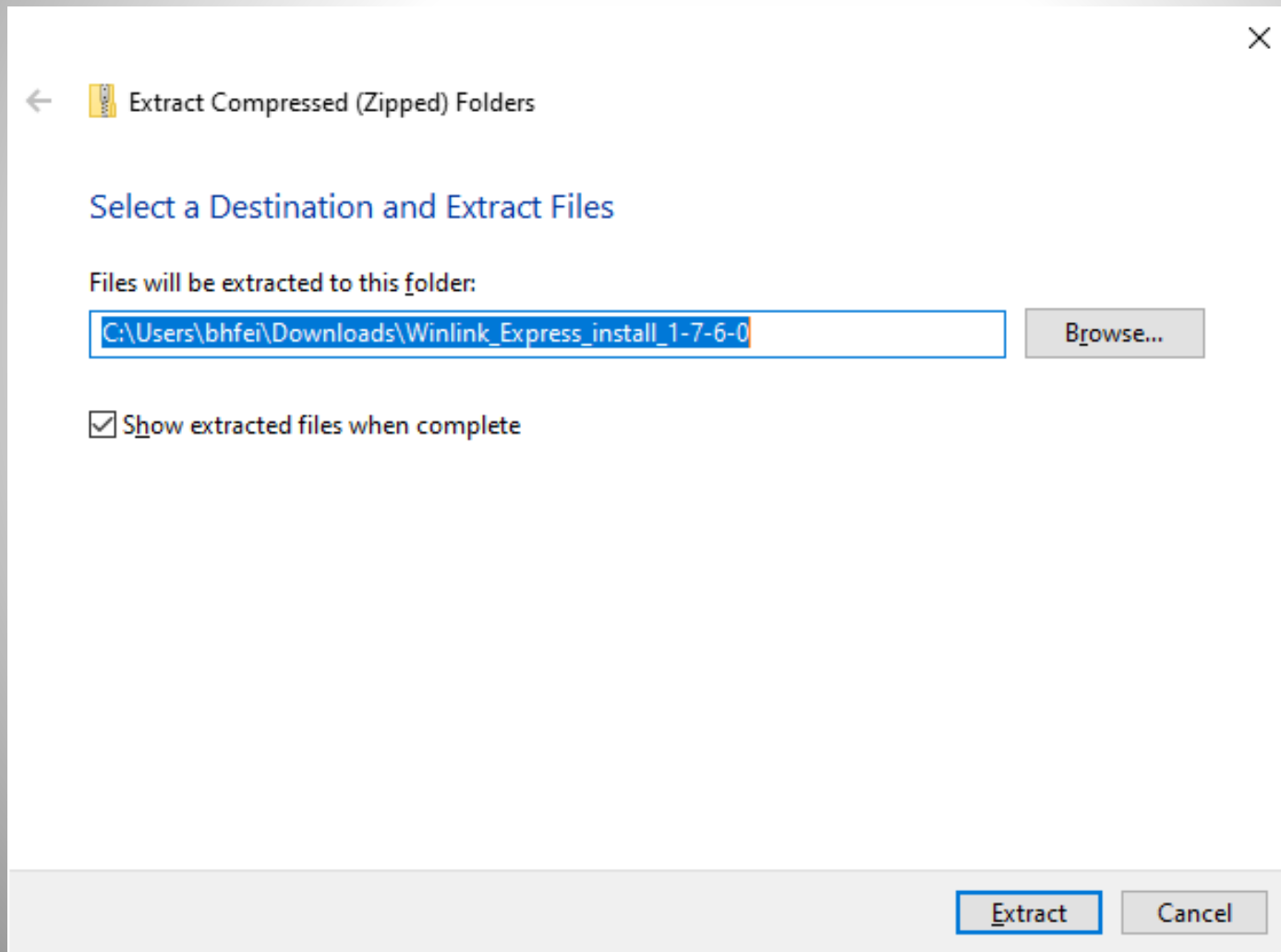
[\[To Parent Directory\]](#)

5/21/2018	6:55 PM	626	Latest VARA Modem download site.rtf
7/19/2018	6:23 AM	1846835	Paclink_install_4-3-11-0.zip
5/21/2018	6:55 PM	1132	README_Software_Install_Instructions.txt
11/20/2020	9:22 AM	847697	RMS_Link_Test_install_2-0-24-0.zip
5/21/2018	6:55 PM	12176	SCS_PTC-IIIusb and end of PTC-IIusb IIpro IIex.pdf
4/14/2023	6:45 AM	39941650	Winlink_Express_install_1-7-6-0.zip

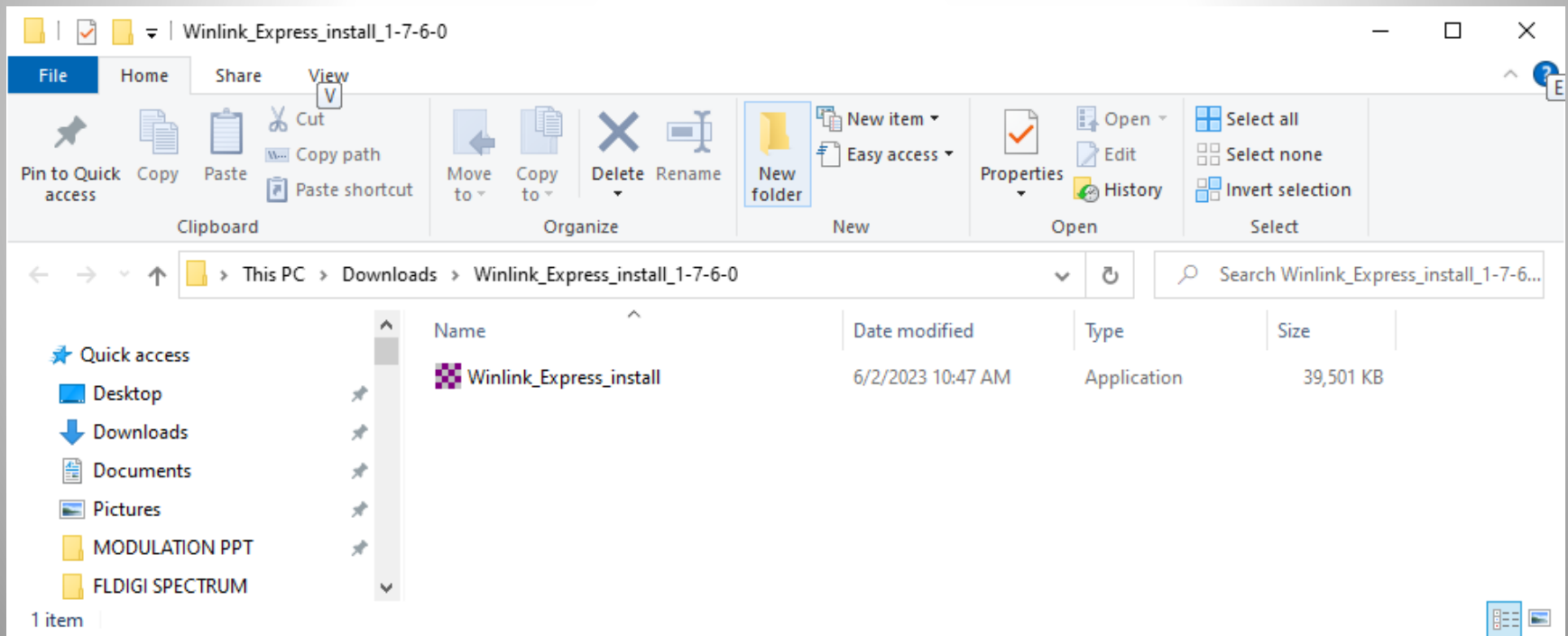
Install in Downloads folder as a compressed ZIP file



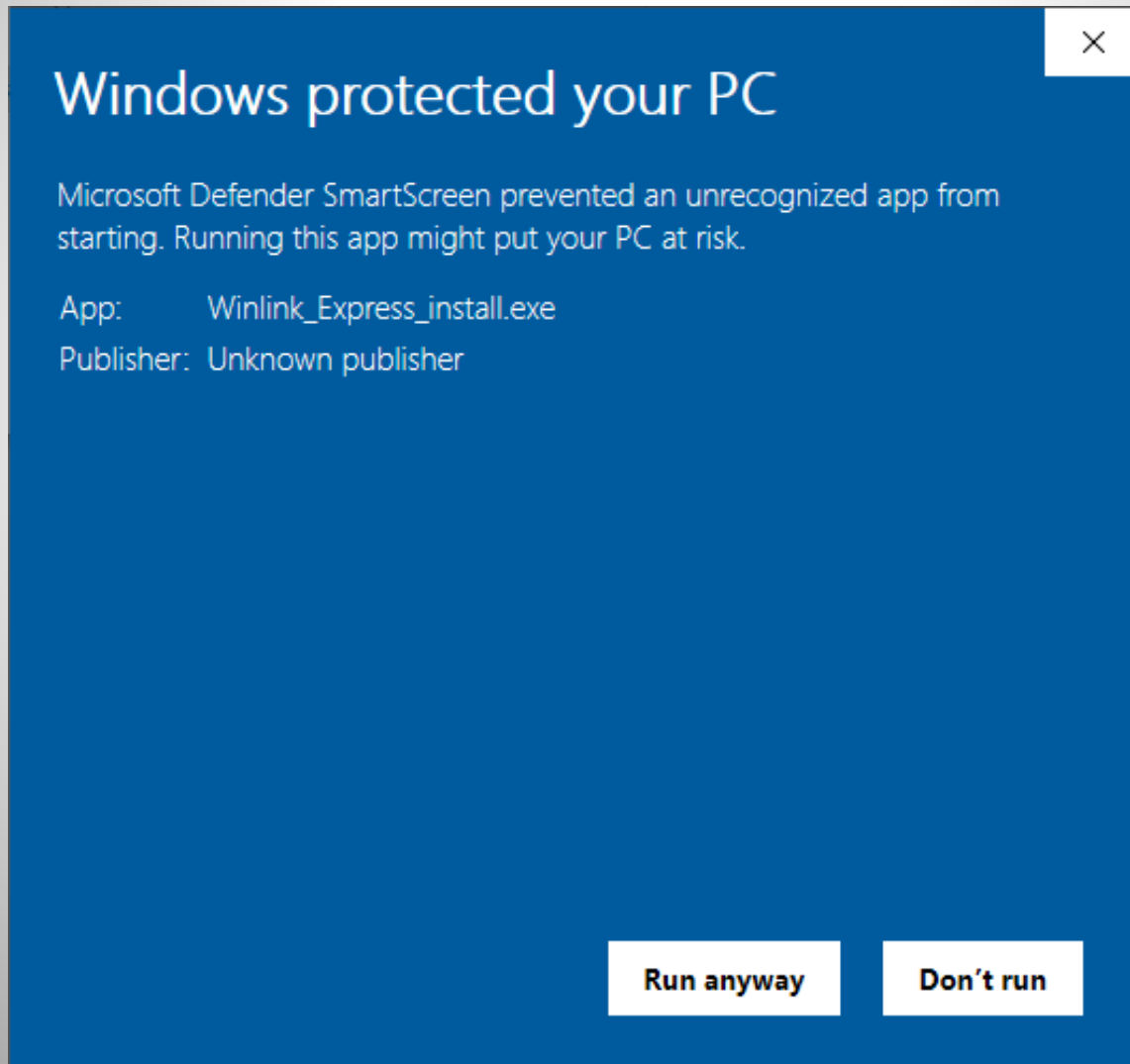
Choose folder to EXTRACT files suggest using the default folder



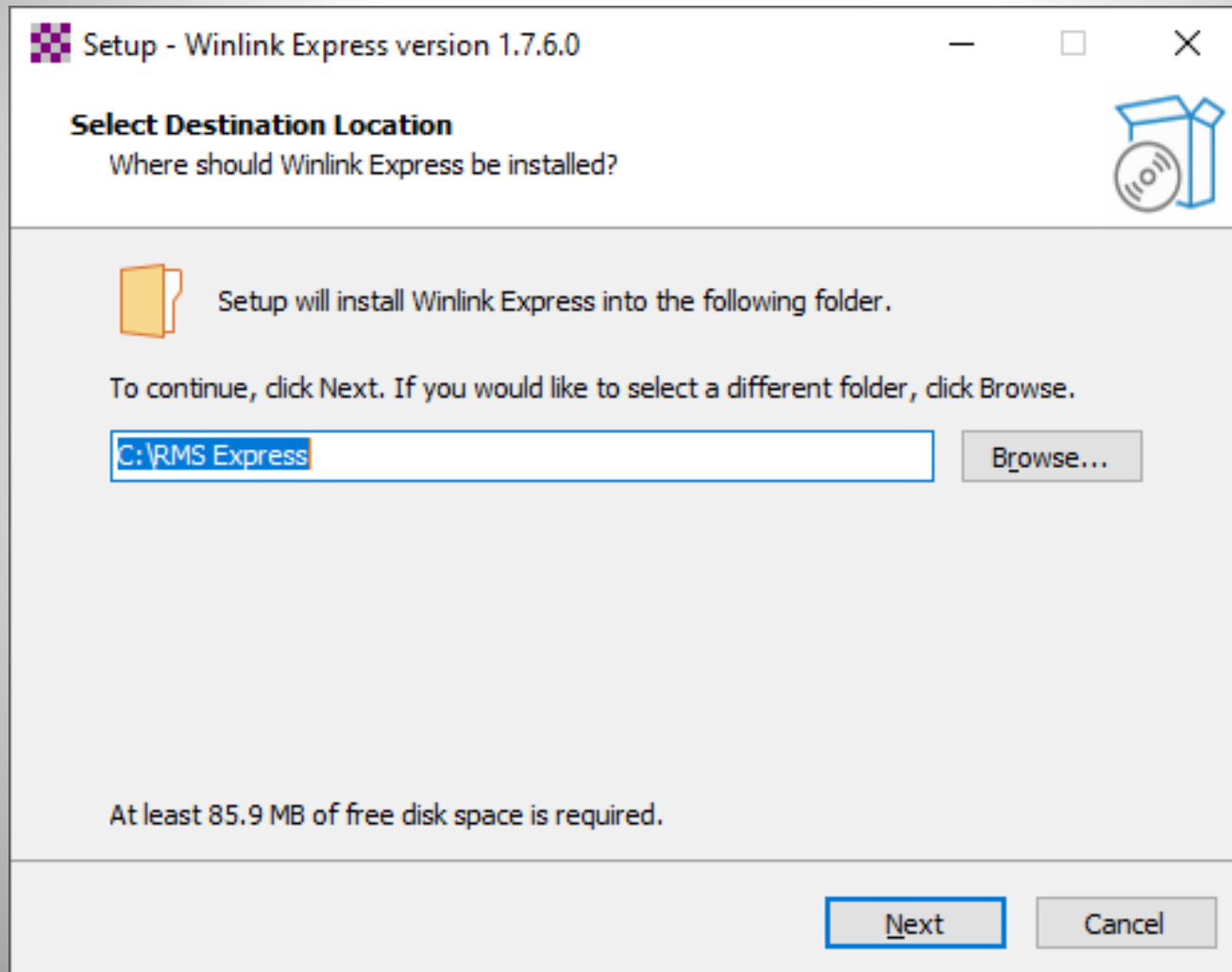
Ready to download Winlink Express install (39,501 kB here)



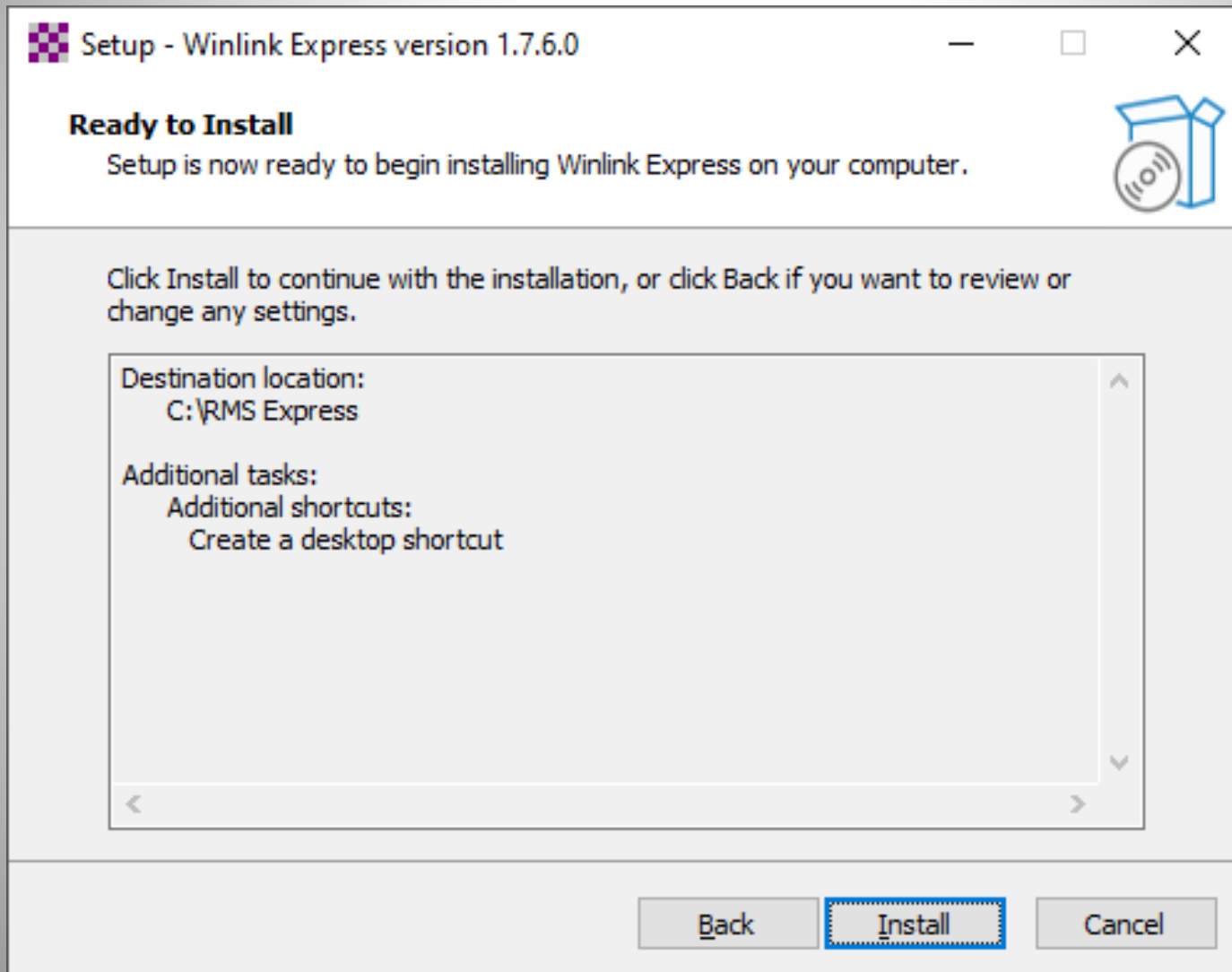
It is OK to RUN



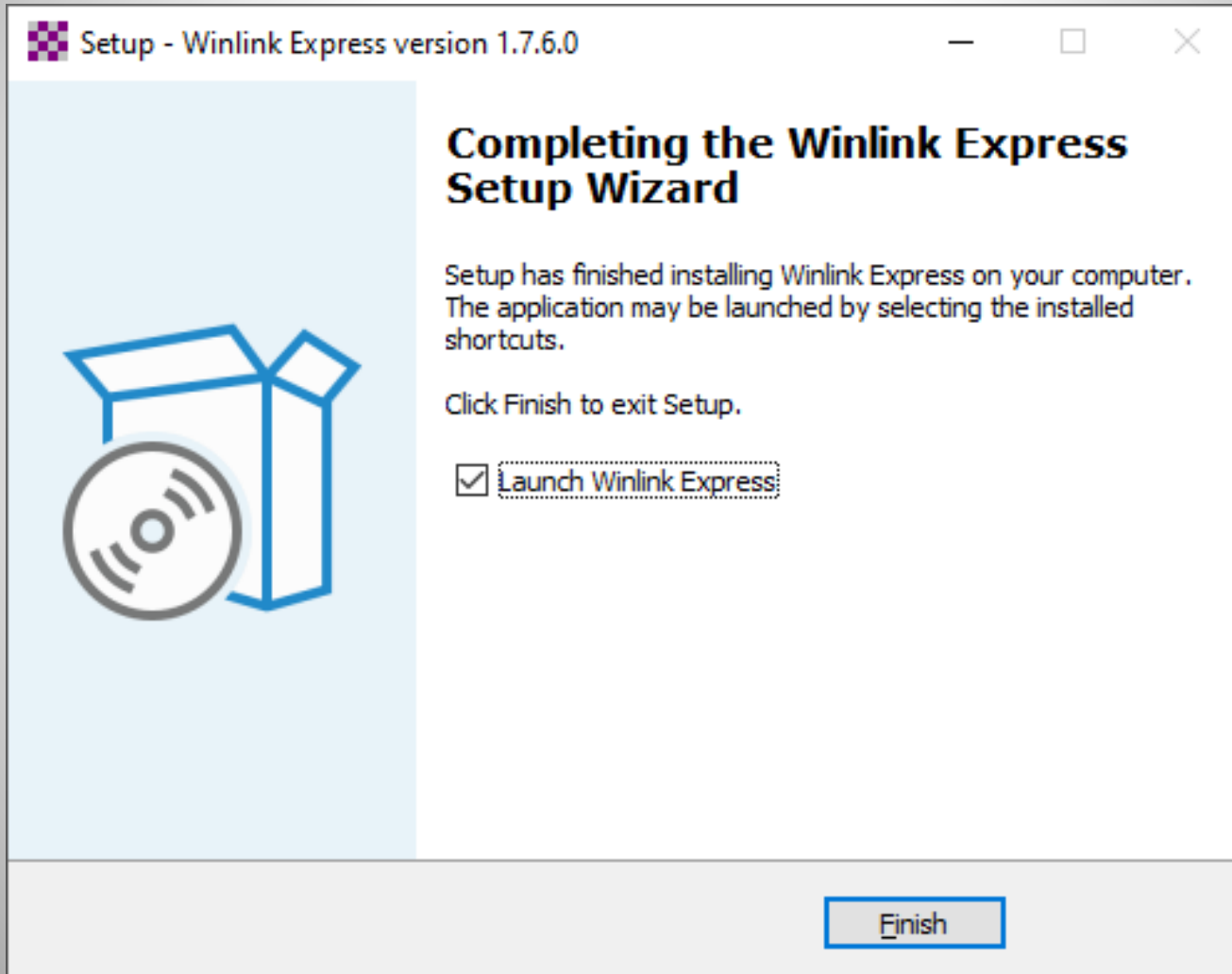
Default folder will be C:\RMS Express



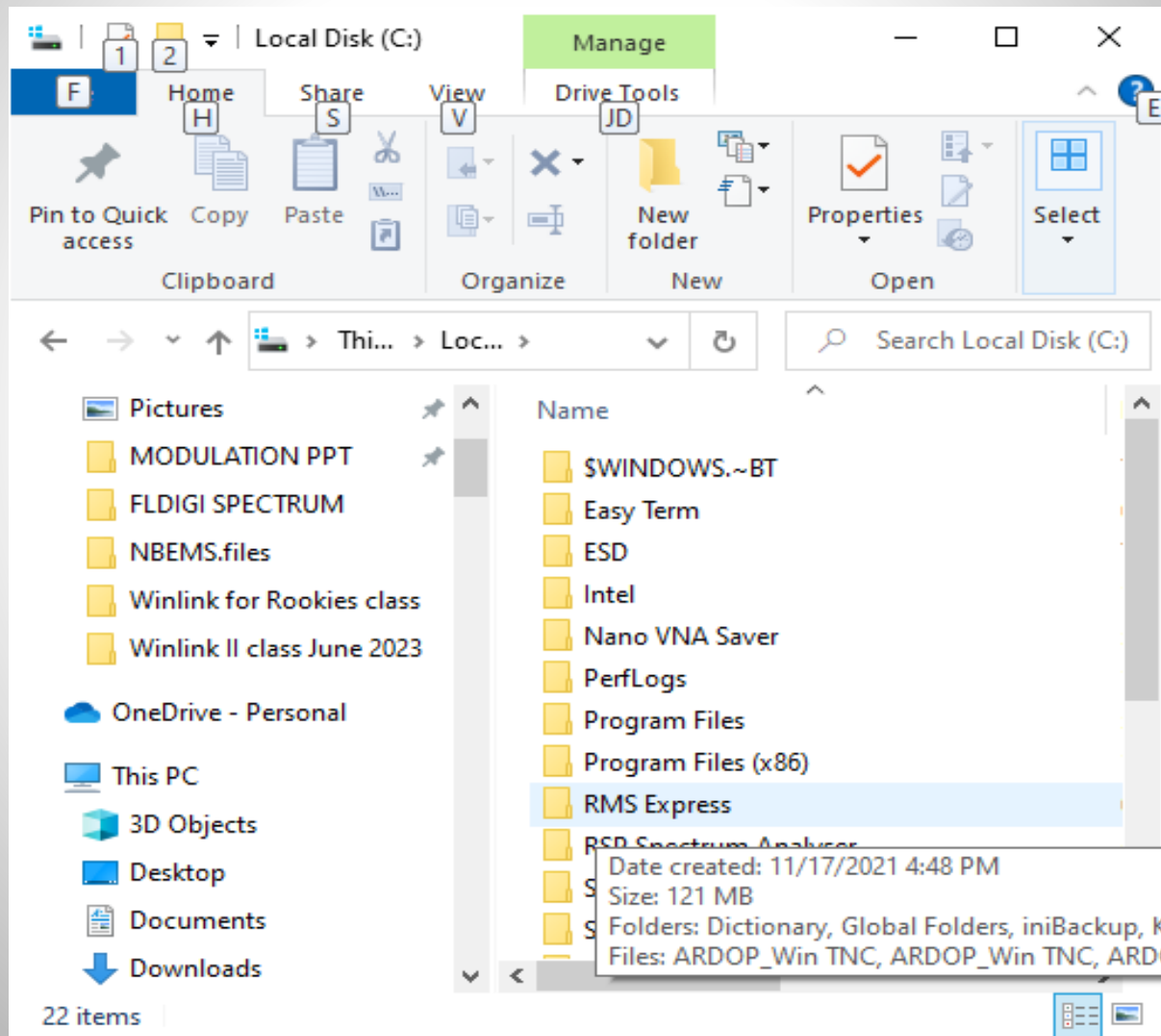
Click on Install



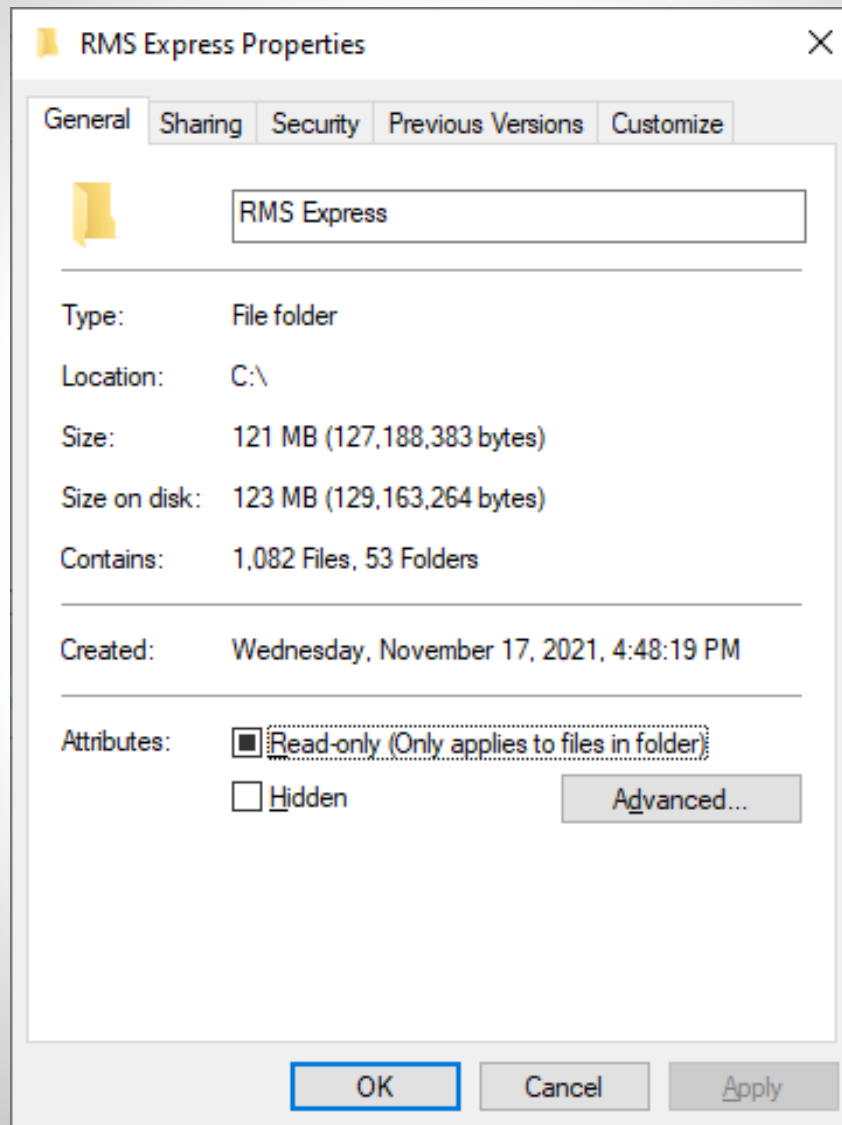
Click Finish and Launch



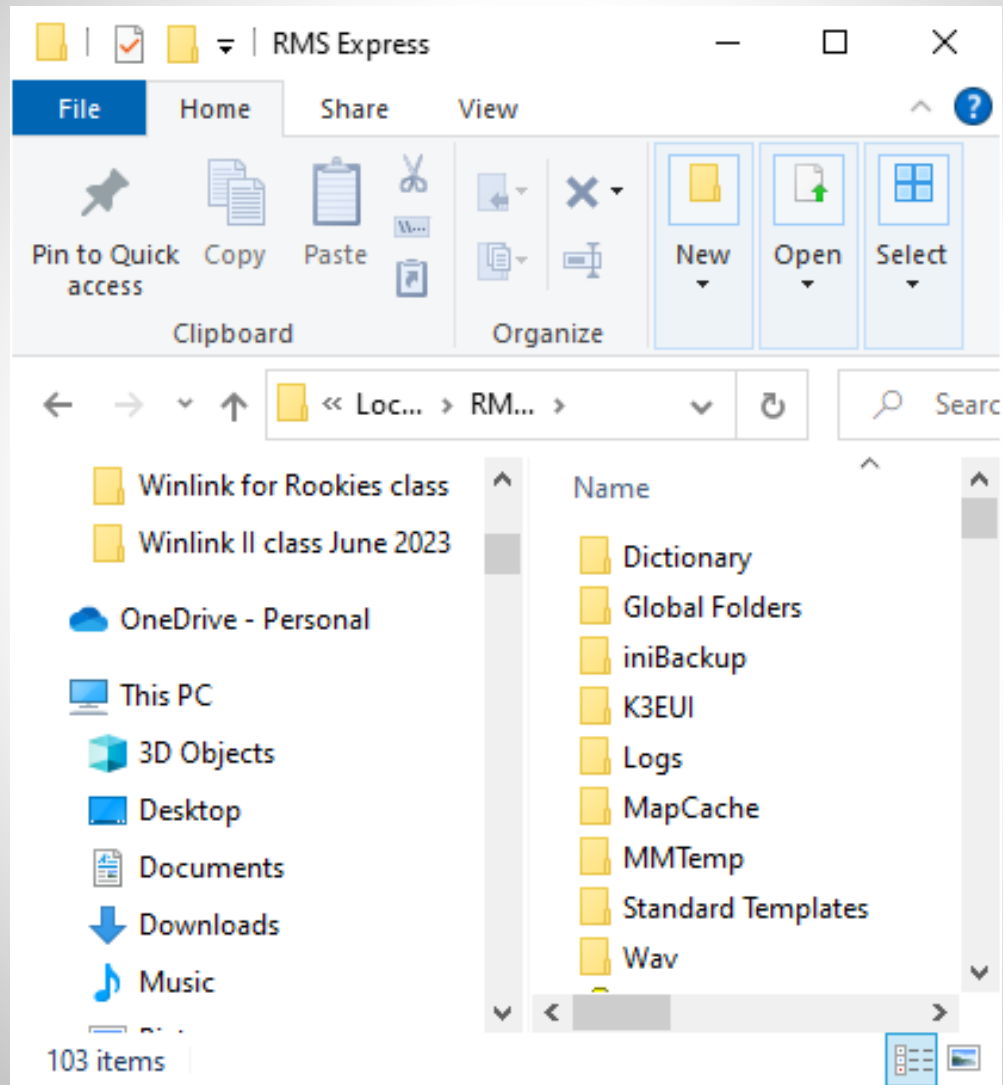
New folder created on local C drive RMS Express (121 MB for me)



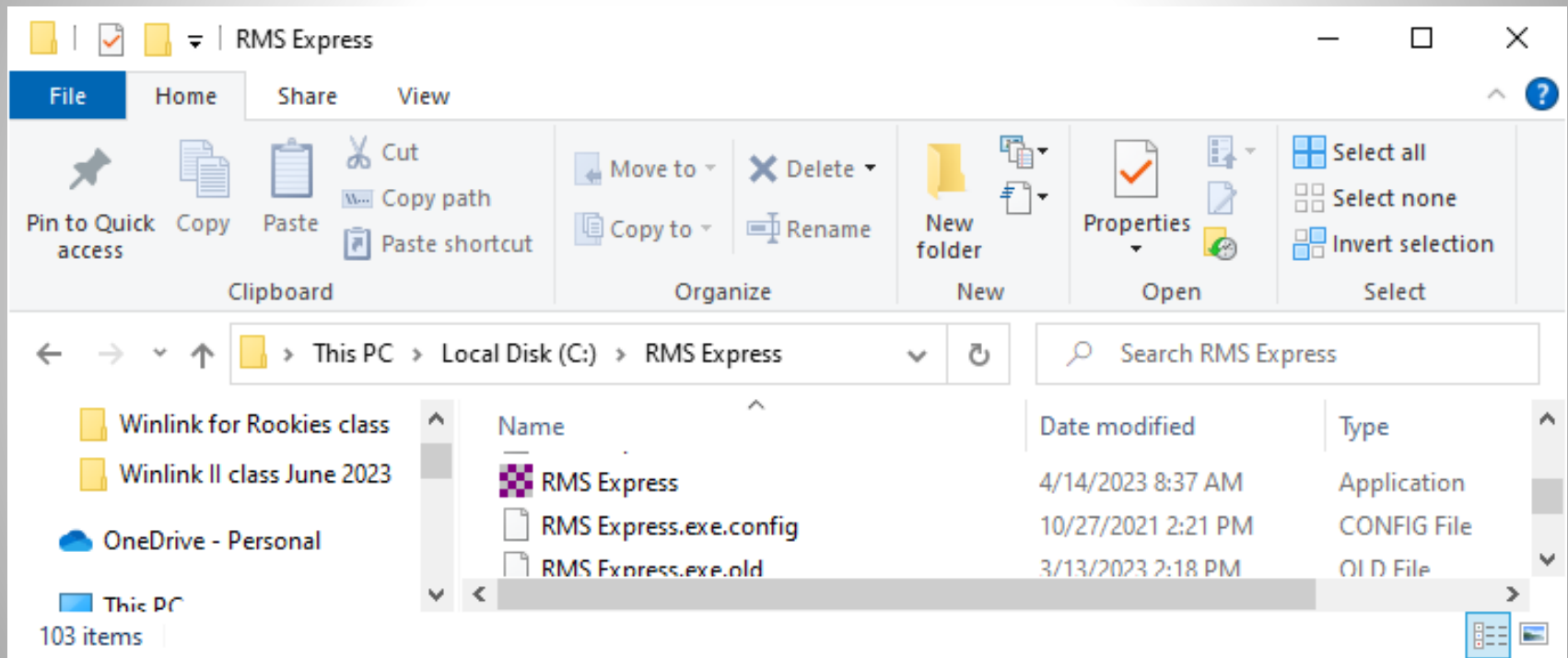
1082 files in 53 folders



RMS Express has many folders and files



The Application is called RMS Express



Open the folder with [YOUR call]

The screenshot shows a Windows File Explorer window titled "RMS Express". The address bar indicates the path: "This PC > Local Disk (C:) > RMS Express". The left sidebar shows "Local Disk (C:)" selected. The main pane displays a list of folders:

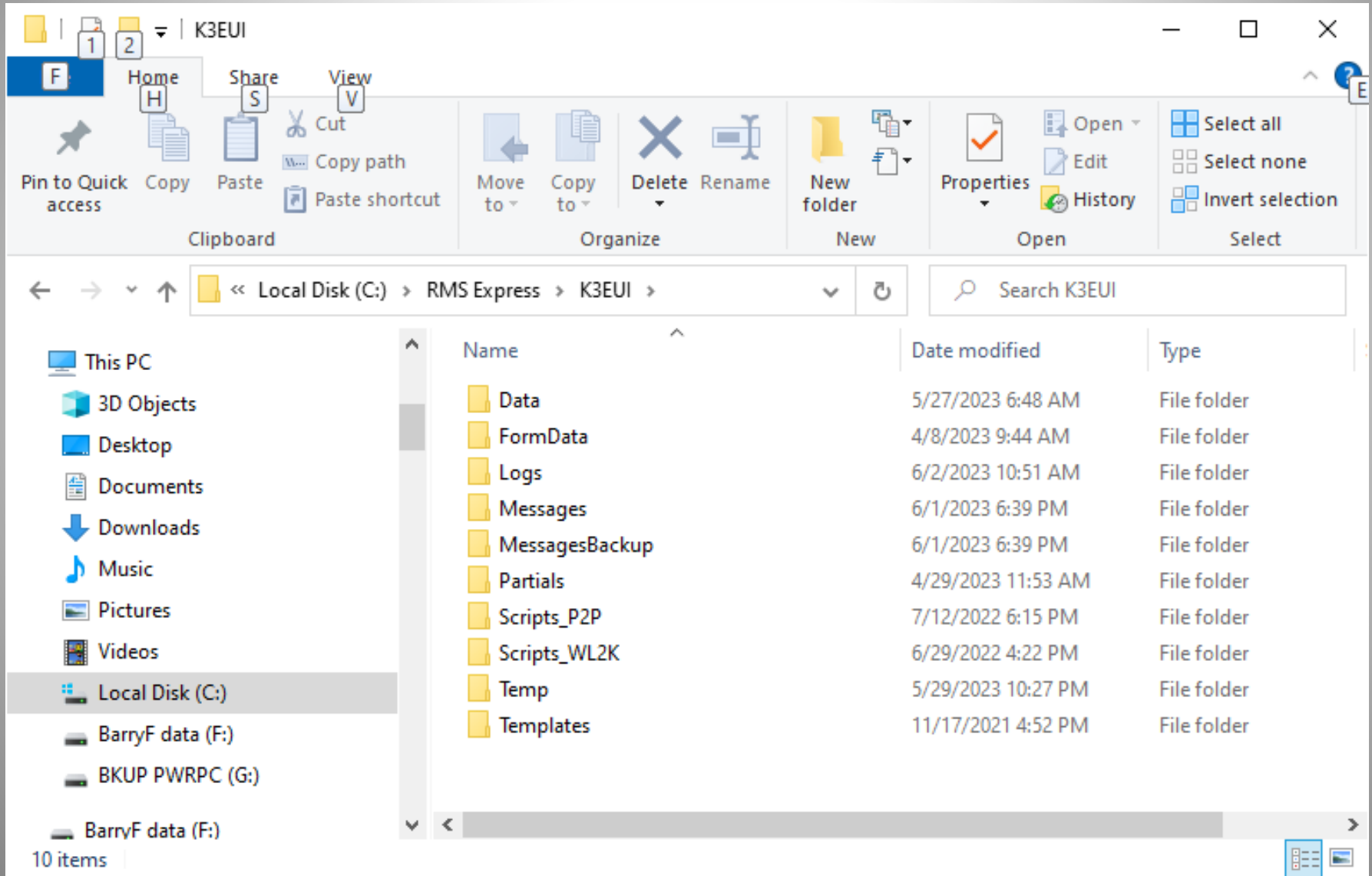
Name	Date modified	Type
Dictionary	6/2/2023 10:50 AM	File folder
Global Folders	11/17/2021 4:48 PM	File folder
iniBackup	6/1/2023 6:40 PM	File folder
K3EUI	7/12/2022 6:15 PM	File folder
Lo	11/17/2021 4:52 PM	File folder
Ma	11/17/2021 4:52 PM	File folder
MI	11/17/2021 4:52 PM	File folder
Standard Templates	6/2/2023 10:51 AM	File folder
Wav	1/18/2023 5:41 PM	File folder

A tooltip for the selected "K3EUI" folder shows the following details:

- Date created: 11/17/2021 4:52 PM
- Size: 10.0 MB
- Folders: Data, FormData, Logs, Messages, MessagesBackup, ...

The status bar at the bottom indicates "103 items" and "1 item selected".

Folders inside [YOUR CALL] folder note the **MESSAGES** folder



Inside MESSAGES folder your messages are stored here

The screenshot displays a Windows File Explorer window titled "Messages". The address bar shows the path: This PC > Local Disk (C:) > RMS Express > K3EUI > Messages. The left sidebar shows the navigation pane with "Local Disk (C:)" selected. The main pane displays a list of 56 items, all of which are MIME Files. The list is sorted by "Date modified" in descending order.

Name	Date modified	Type	Size
BVWALW8V1YLE	6/1/2023 6:39 PM	MIME File	1 KB
97BR69SDVUCT	5/31/2023 6:16 AM	MIME File	1 KB
7IHS2DHQ6GMU	5/31/2023 6:12 AM	MIME File	1 KB
4B34ADP833EI	5/27/2023 10:24 AM	MIME File	11 KB
JUGL6WB2VKSI	5/27/2023 10:14 AM	MIME File	11 KB
PL4KLSBW1HOF	5/27/2023 7:15 AM	MIME File	14 KB
V9LOZERFMZ2X	5/27/2023 6:54 AM	MIME File	1 KB
RWTUKO0P4HOG	5/14/2023 11:56 AM	MIME File	2 KB
WR01A6H0XTXF	4/29/2023 11:53 AM	MIME File	76 KB
49M9775LW0MK	4/21/2023 10:50 AM	MIME File	1 KB
QGC48TV7G1JZ	4/21/2023 10:44 AM	MIME File	1 KB
YUEUUPPBRMY0	4/21/2023 10:37 AM	MIME File	6 KB
S0UIIMPX71ML5	4/11/2023 6:22 PM	MIME File	1 KB
EAE0E2EG7KJI	4/11/2023 6:01 PM	MIME File	14 KB
V38IDOPH3Y9N	4/11/2023 5:55 PM	MIME File	1 KB
S3ESKHC44WXT	4/9/2023 11:46 AM	MIME File	76 KB
FXBCAK4JGY5K	4/9/2023 11:40 AM	MIME File	76 KB
OWFDX1ZAT1UA	4/8/2023 9:44 AM	MIME File	8 KB
CRIQJ4NCHH27	4/8/2023 9:41 AM	MIME File	5 KB
ETILWJ0I9Y7	4/8/2023 9:29 AM	MIME File	1 KB

Inside LOGS folder

The screenshot shows a Windows File Explorer window titled "Logs" with the address bar set to "This PC > Local Disk (C:) > RMS Express > K3EUI > Logs". The ribbon includes "Clipboard", "Organize", "New", "Open", and "Select" tabs. The main pane displays a list of 17 text documents with columns for Name, Date modified, Type, and Size.

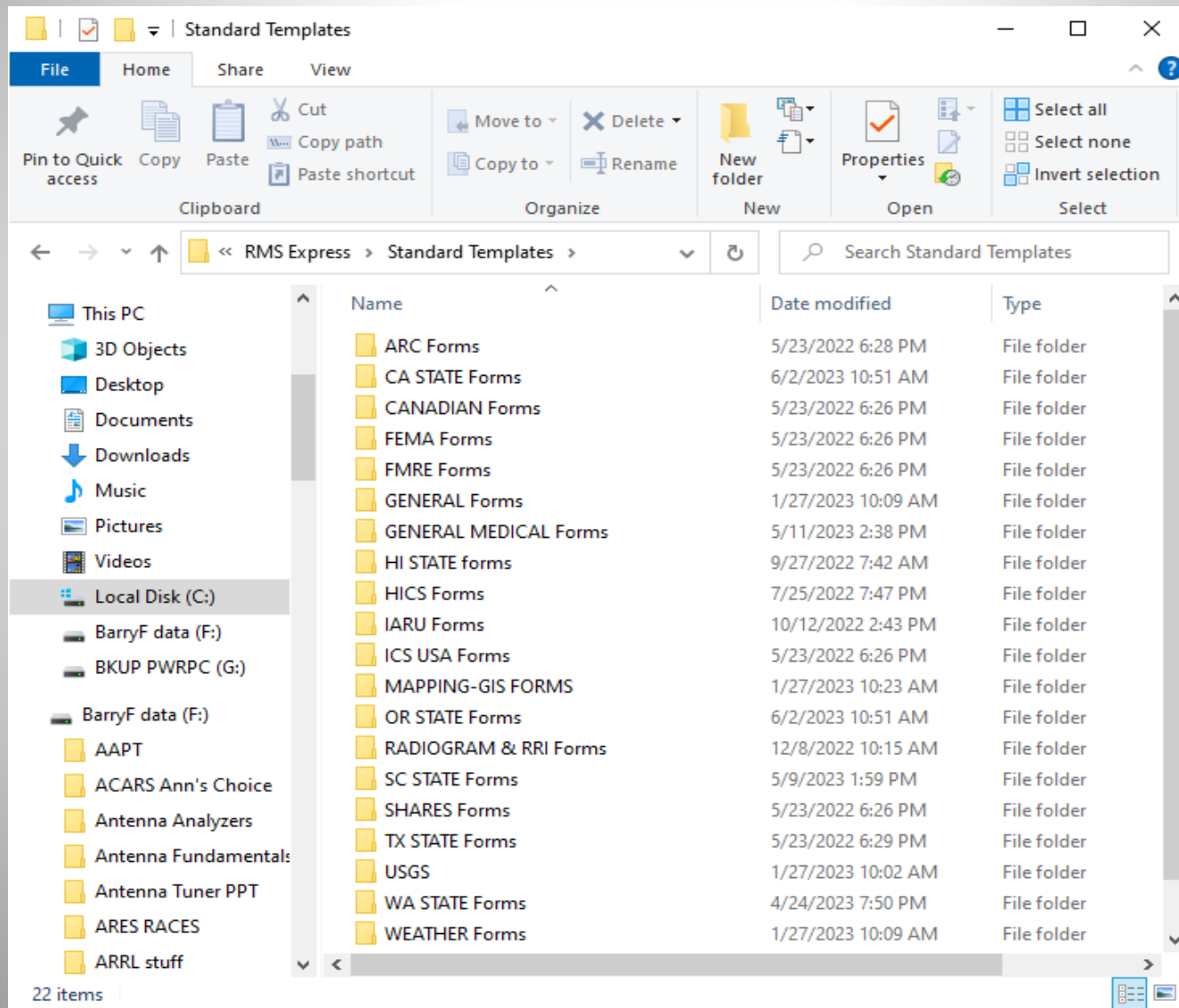
Name	Date modified	Type	Size
RMS Express 20230527	5/27/2023 10:27 AM	Text Document	18 KB
RMS Express 20230529	5/29/2023 12:12 PM	Text Document	1 KB
RMS Express 20230530	5/29/2023 10:27 PM	Text Document	1 KB
RMS Express 20230531	5/31/2023 6:24 AM	Text Document	8 KB
RMS Express 20230601	6/1/2023 6:40 PM	Text Document	3 KB
RMS Express 20230602	6/2/2023 10:51 AM	Text Document	1 KB
RMS Express Autoupdate 20230527	5/27/2023 10:09 AM	Text Document	2 KB
RMS Express Autoupdate 20230529	5/29/2023 12:11 PM	Text Document	1 KB
RMS Express Autoupdate 20230531	5/31/2023 6:08 AM	Text Document	1 KB
RMS Express Autoupdate 20230601	6/1/2023 6:36 PM	Text Document	1 KB
RMS Express Autoupdate 20230602	6/2/2023 10:51 AM	Text Document	1 KB
RMS Express Exceptions 20230527	5/27/2023 6:47 AM	Text Document	1 KB
Standard Forms Autoupdate 20230527	5/27/2023 10:09 AM	Text Document	1 KB
Standard Forms Autoupdate 20230529	5/29/2023 12:11 PM	Text Document	1 KB
Standard Forms Autoupdate 20230531	5/31/2023 6:08 AM	Text Document	1 KB
Standard Forms Autoupdate 20230601	6/1/2023 6:35 PM	Text Document	1 KB
Standard Forms Autoupdate 20230602	6/2/2023 10:51 AM	Text Document	1 KB

Look inside Standard Templates

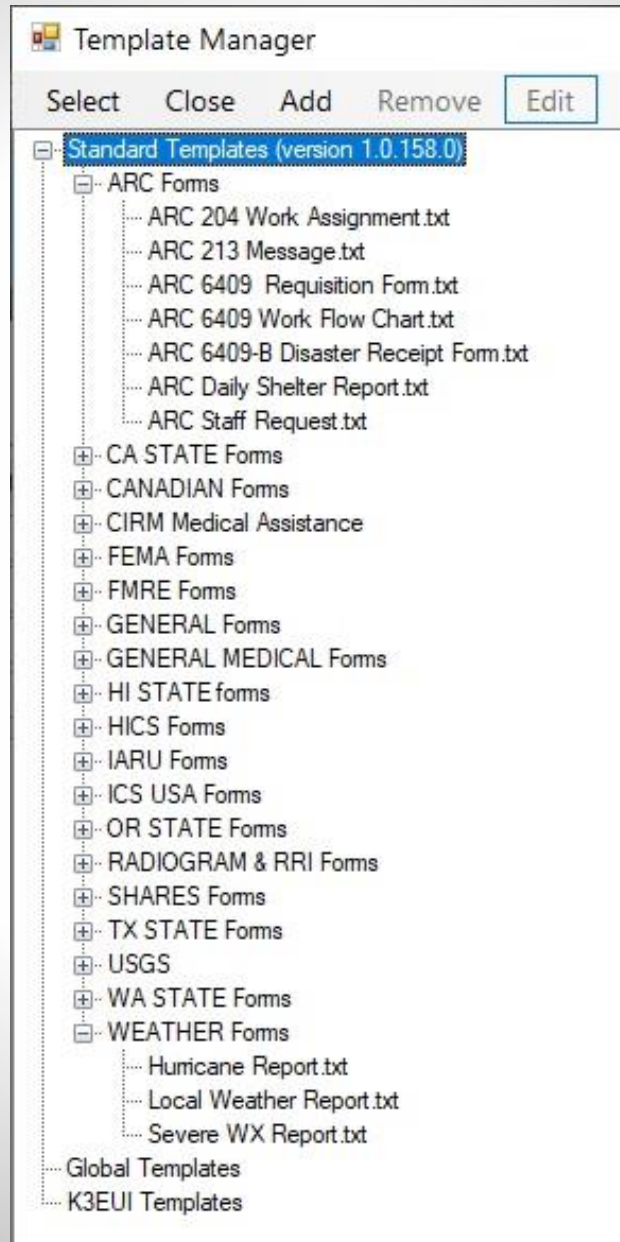
The screenshot shows a Windows File Explorer window titled 'RMS Express'. The address bar indicates the path: 'This PC > Local Disk (C:) > RMS Express'. The left sidebar shows the navigation pane with 'Local Disk (C:)' selected. The main pane displays a list of folders and files. The 'Standard Templates' folder is selected, and a tooltip is visible over it, showing its details: 'Date created: 6/2/2023 10:51 AM', 'Size: 8.41 MB', and a list of contents including 'Folders: ARC Forms, CA STATE Forms, CANADIAN Forms, FEMA Forms, ...' and 'Files: Changelog, Standard_Forms_Version.dat'. The main list also shows other folders like 'Dictionary', 'Global Folders', 'iniBackup', 'K3EUI', 'Logs', 'MapCache', 'MMTemp', and files like 'ARDOP_Win', 'Def_RMS_Channels_Ham', 'Def_RMS_Channels_Ham.zip.old', 'Def_RMS_Channels_MARS', and 'Def_RMS_Channels_SHARES'.

Name	Date modified	Type	Size
Dictionary	6/2/2023 10:50 AM	File folder	
Global Folders	11/17/2021 4:48 PM	File folder	
iniBackup	6/1/2023 6:40 PM	File folder	
K3EUI	7/12/2022 6:15 PM	File folder	
Logs	1/18/2023 5:41 PM	File folder	
MapCache	11/17/2021 4:48 PM	File folder	
MMTemp	4/1/2023 10:52 AM	File folder	
Standard Templates	6/2/2023 10:51 AM	File folder	
Date created: 6/2/2023 10:51 AM		folder	
Size: 8.41 MB			
Folders: ARC Forms, CA STATE Forms, CANADIAN Forms, FEMA Forms, ...		Compiled HTML ...	856 KB
Files: Changelog, Standard_Forms_Version.dat		configuration sett...	1 KB
ARDOP_Win	2/27/2018 2:33 PM	Application	526 KB
Def_RMS_Channels_Ham	4/13/2023 4:05 PM	Compressed (zipp...	33 KB
Def_RMS_Channels_Ham.zip.old	3/13/2023 2:12 PM	OLD File	33 KB
Def_RMS_Channels_MARS	8/10/2020 2:19 PM	Compressed (zipp...	22 KB
Def_RMS_Channels_SHARES	4/13/2023 4:06 PM	Compressed (zipp...	25 KB

Standard Templates: often updated everyone using Winlink has these



Templates are available and updated regularly



American Red Cross forms

The screenshot shows a Windows File Explorer window titled 'ARC Forms'. The ribbon includes 'File', 'Home', 'Share', and 'View'. The 'Home' tab is active, showing various actions like 'Pin to Quick access', 'Copy', 'Paste', 'Cut', 'Copy path', 'Paste shortcut', 'Move to', 'Delete', 'Copy to', 'Rename', 'New folder', 'Properties', 'Select all', 'Select none', and 'Invert selection'. The address bar shows the path '< Standard Templates > ARC Forms' and a search box containing 'Search ARC Forms'. The main area displays a list of 17 items, all of which are Firefox HTML Documents, all modified on 5/23/2022 at 6:28 PM. The 'ARC Requisition Form 6409 Viewer' file is selected and highlighted.

Name	Date modified	Type	Size
ARC 204 Work Assignment Viewer	5/23/2022 6:28 PM	Firefox HTML Document	44 KB
ARC 204 Work Assignment	5/23/2022 6:28 PM	Firefox HTML Document	46 KB
ARC 213 Message Initial Viewer	5/23/2022 6:28 PM	Firefox HTML Document	82 KB
ARC 213 Message Initial	5/23/2022 6:28 PM	Firefox HTML Document	46 KB
ARC 213 Message SendReply Viewer	5/23/2022 6:28 PM	Firefox HTML Document	30 KB
ARC 213 Message SendReply	5/23/2022 6:28 PM	Firefox HTML Document	47 KB
ARC 6409 Work Flow Chart	5/23/2022 6:28 PM	Firefox HTML Document	57 KB
ARC Disaster Receipt 6409-B Reply viewer	5/23/2022 6:28 PM	Firefox HTML Document	55 KB
ARC Disaster Receipt 6409-B Reply	5/23/2022 6:28 PM	Firefox HTML Document	56 KB
ARC Disaster Receipt 6409-B Viewer	5/23/2022 6:28 PM	Firefox HTML Document	51 KB
ARC Disaster Receipt 6409-B	5/23/2022 6:28 PM	Firefox HTML Document	57 KB
ARC Requisition Form 6409 Viewer	5/23/2022 6:28 PM	Firefox HTML Document	58 KB
ARC Requisition Form 6409	5/23/2022 6:28 PM	Firefox HTML Document	64 KB
ARC_Staff_Request_Form_Initial	5/23/2022 6:28 PM	Firefox HTML Document	46 KB
ARC_Staff_Request_Form_Viewer	5/23/2022 6:28 PM	Firefox HTML Document	36 KB
Daily_Shelter_Report_Initial	5/23/2022 6:28 PM	Firefox HTML Document	46 KB
Daily_Shelter_Report_Viewer	5/23/2022 6:28 PM	Firefox HTML Document	48 KB

17 items









Weather Forms

The screenshot shows a Windows File Explorer window titled "WEATHER Forms". The ribbon includes the following tabs and groups:

- Home:** Pin to Quick access, Copy, Paste, New folder.
- Share:** Share.
- View:** Move to, Copy to, Delete, Rename, Properties.
- Select:** Select all, Select none, Invert selection.

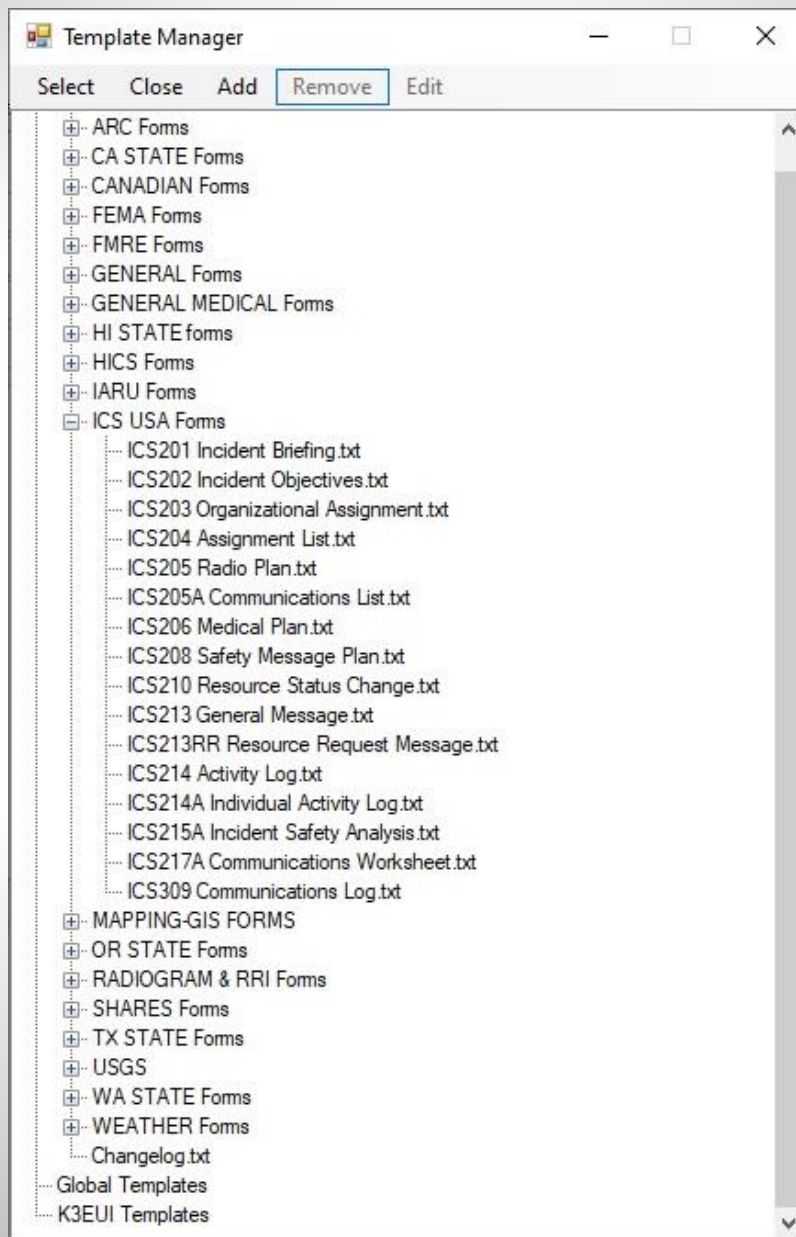
The address bar shows the path: Standard Templ... > WEATHER Forms. The search bar contains "Search WEATHER Forms".

The main content area displays a list of 8 items:

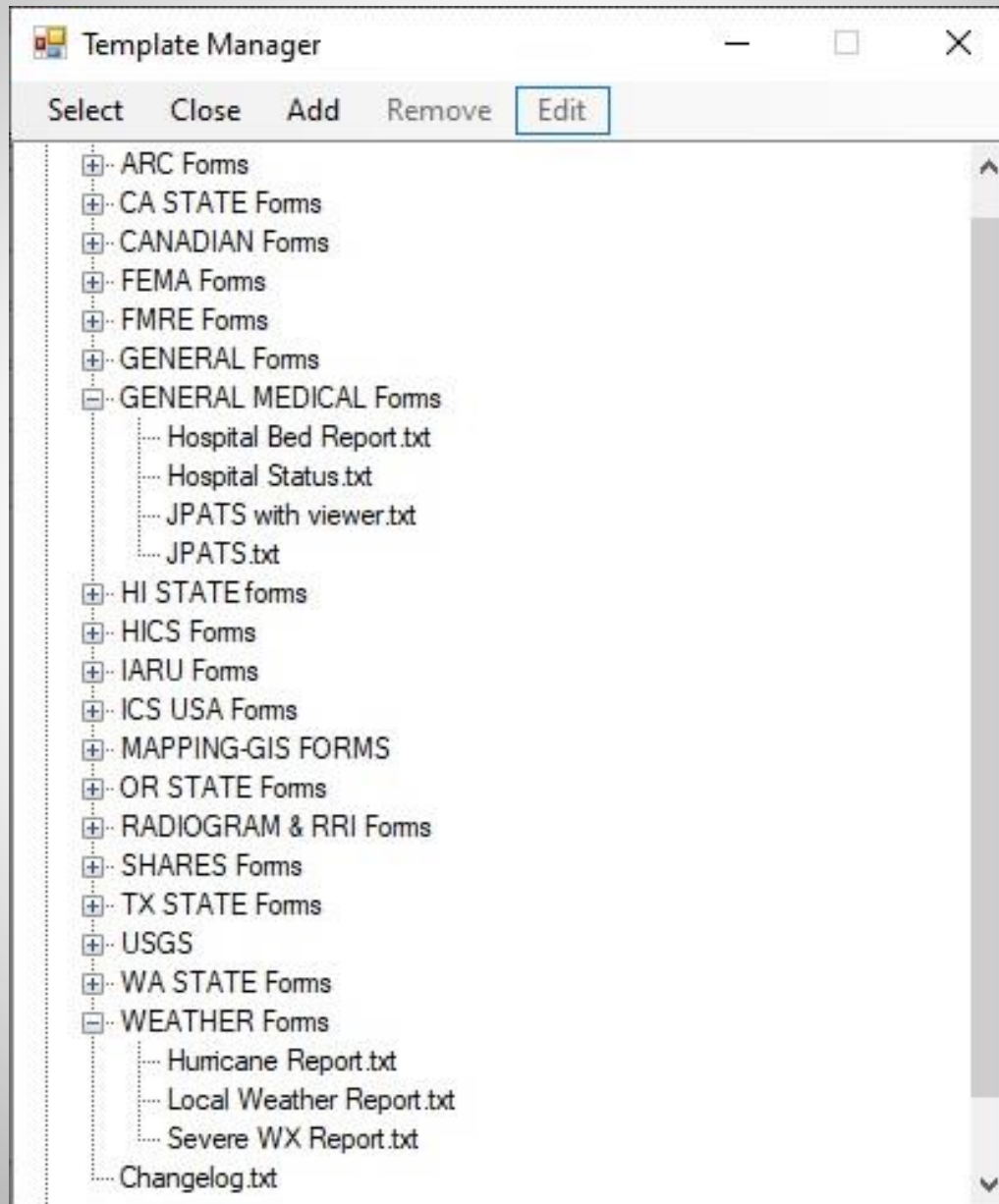
Name	Date modified	Type	Size
 Hurricane Report Initial	1/27/2023 10:09 AM	Firefox HTML Doc...	52 KB
 Hurricane Report	1/27/2023 10:09 AM	Text Document	2 KB
 Local Weather Report Initial	5/11/2023 2:51 PM	Firefox HTML Doc...	81 KB
 Local Weather Report Viewer	5/11/2023 2:51 PM	Firefox HTML Doc...	24 KB
 Local Weather Report	5/11/2023 2:55 PM	Text Document	2 KB
 Severe WX Report viewer	1/27/2023 10:09 AM	Firefox HTML Doc...	23 KB
 Severe WX Report	1/27/2023 10:09 AM	Firefox HTML Doc...	59 KB
 Severe WX Report	1/27/2023 10:09 AM	Text Document	2 KB

8 items


ICS Templates



Medical and Weather Templates



American Red Cross Daily Shelter Report



Daily Shelter Report

[Load ARC Daily Shelter Report Data](#)
[Form Info](#)

Date Incident/ DR # Shelter Name/County

SHELTER INFORMATION

Shelter Address

Shelter Phone Number (s)

SHELTERING STAFF

POSITION	NAME	PHONE
Shelter Manager	<input type="text" value="Mr Joe"/>	<input type="text"/>
Day Shift Supervisor	<input type="text" value="Ms. Jane"/>	<input type="text"/>
2nd Shift Supervisor	<input type="text"/>	<input type="text"/>
Night Shift Supervisor	<input type="text"/>	<input type="text"/>

Total Number of Sheltering Workers	Day Shift <input type="text" value="5"/>	2nd Shift <input type="text" value="5"/>	Night Shift <input type="text" value="2"/>
------------------------------------	--	--	--

OTHER FUNCTIONS OR ACTIVITIES STAFF

# Disaster Health Services <input type="text"/>	# Casework and Recover Planning <input type="text"/>
# Disaster Mental Health <input type="text"/>	# Feeding <input type="text"/>
# Disaster Spiritual Care <input type="text"/>	Other <input type="text"/> # <input type="text"/>

SHELTER POPULATION

Age Groups (years)	0-3	4-7	8-12	13-18	19-65	65 +
Nighttime Population Submitted Last Night	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>
Daytime Population Today	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="7"/>	<input type="text" value="7"/>

Total NEW Shelter Dormitory Registrations Since Last Night:

OPERATIONAL REPORTING

	Breakfast	Lunch	Dinner	Snacks/Drinks	Cots	Blankets	Comfort Kits	Clean-up Kits	Other Bulk Items	Signage Kits	<input type="text"/>	<input type="text"/>
# Used Today	<input type="text" value="12"/>	<input type="text" value="12"/>	<input type="text" value="12"/>	<input type="text" value="12"/>	<input type="text" value="15"/>	<input type="text" value="15"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text" value="5"/>	<input type="text"/>	<input type="text"/>
# Available Tomorrow	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
# Needed Tomorrow	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

NOTES

Severe Weather Report

Daily Shelter Report x Severe WX Report Entry x +

File | C:/RMS%20Express/K3EUI/Tem... | Search | Star | Home | Profile

SEVERE WEATHER REPORT

[Load Severe WX Data](#)

Sender:

Report Date/Time (local): Report Version (Select one): Initial Update Final Message

Fill in what you can. This form sends data as plain text to your recipient(s).

Reporting Party Name:

Reporting Party Phone Number:

Reporting Party Email Address:

EVENT AREA

State/Province/Region: County:

City: Other:

Optional Decimal GPS Coordinates: *Auto filled via a connected GPS device or enter manually*
(If entering GPS coordinates manually, use decimal format. Example: 32.5042,-116.9834 Note the comma)

OBSERVED EVENT CONDITIONS

Check All That Apply:

Flood:

Hail:

Hlgh Wind Speed: [View Wind Speed guidelines](#)

Tornado / Funnel Cloud:

Wind Damage:

Winter Precipitation:

Snow:

Freezing Rain:

Now it is time to download and
install the VARA HF modem

So how do you get VARA HF
modem software?

VARA HF and VARA FM

EA5HVK software

<https://rosmodem.wordpress.com/>

EA5HVK

Weak signals Software

EA5HVK software

10 January, 2011

-  [VARA HF v4.7.2 \(High Performance HF Modem\)](#)
-  [VARA FM v4.2.8 \(VARA for FM transceivers\)](#)
-  [VARA SAT v4.3.6 \(VARA for QO-100 geostationary SAT\)](#)
-  [VARA Chat v1.3.4 \(Easy Text and File transfer chat\)](#)
-  [VARA Terminal v1.2.0 \(VARA dumb terminal for BBS's\)](#)

***** VARA HF Info *****



Blogroll

- » [ROS takes the Blue Riband Fastest live data to cross the Atlantic G > VE](#)

Recent Posts

- » VARA HF Modem
- » New ROS v7.4.0
- » (no title)
- » ROS WEEKEND HF AWARD 2016
- » 1 ST 27Mhz ROS WEEKEND AWARD

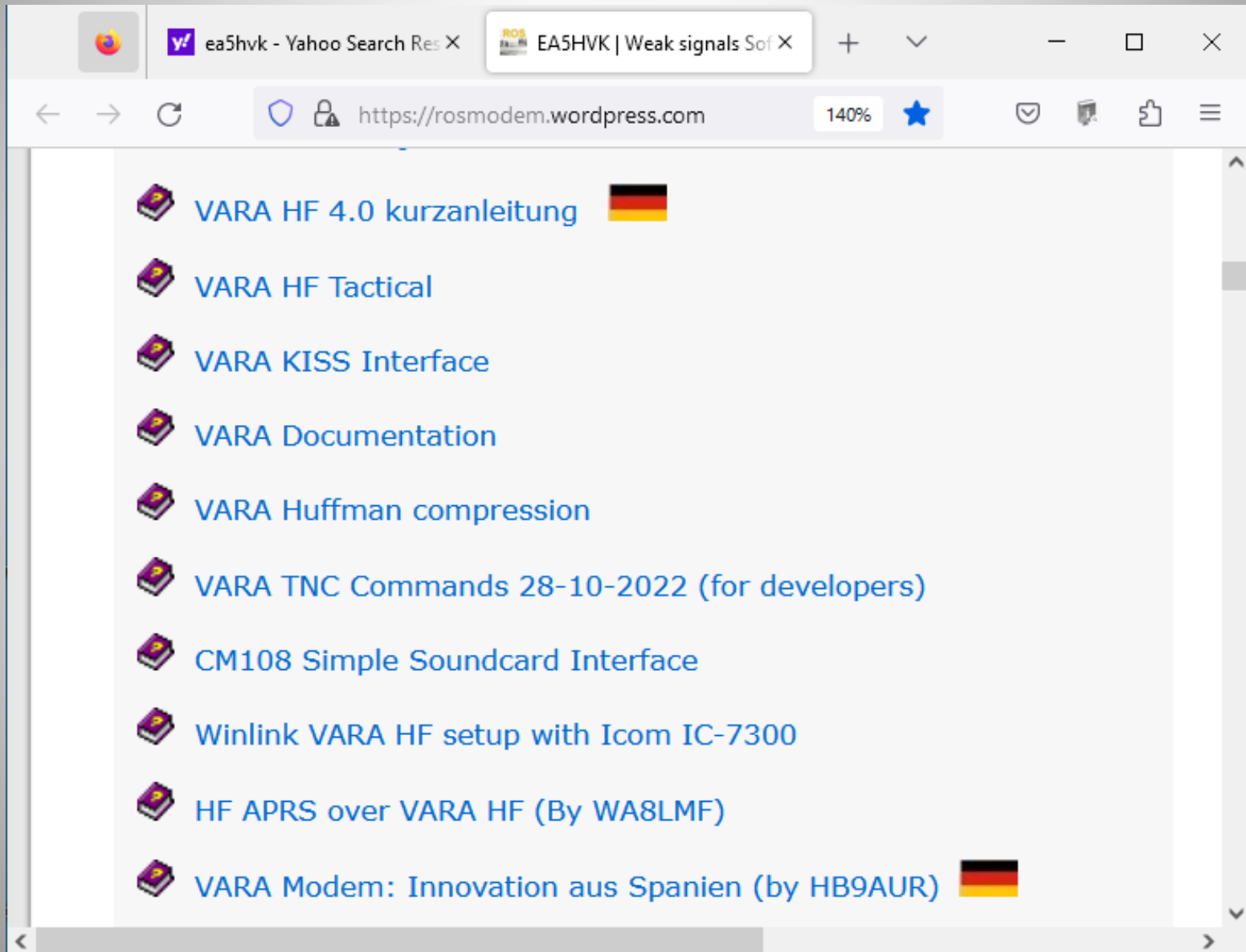
Youtube videos may be helpful

***** VARA HF Info *****



- [Winlink with VARA HF-Wavetalkers LIVE \(by W6AH\)](#)
- [Sending Images over HF with VARA \(by K2MO\)](#)
- [Sending Large Text File Over HF With VARA \(by K2MO\)](#)
- [Winlink P2P session using VARA HF \(by K8BZ\)](#)
- [VARA HF connection \(by NA9LE\)](#)
- [Testing VARA HF 4.0 \(by YV4KW\)](#)
- [MicroHAMS Digital Conference 2020 – VARA \(by W3RWN\)](#)
- [RMS Express and VARA HF 4.0 \(by M0IPU\)](#)
- [Winlink Email. Asynchronous Ham Radio for Preppers \(by OH8STN\)](#)
- [Short tutorial on setting up and using VARA HF with Winlink software \(by AG5AG\)](#)
- [Winlink on HF using Icom-7200 and VARA HF \(by AC3K\)](#)
- [JNOS and VARA. Acces mode demo \(by VE4KLM\)](#)
- [Install VARA on a Raspberry Pi 4 \(by KM4ACK\)](#)
- [RPI-4 to RPI-4 VARA HF Link \(by PE1RRR\)](#)
- [New Winlink record Hawaii to Switzerland 12/27/21](#)

Follow

Pdf files - good resource



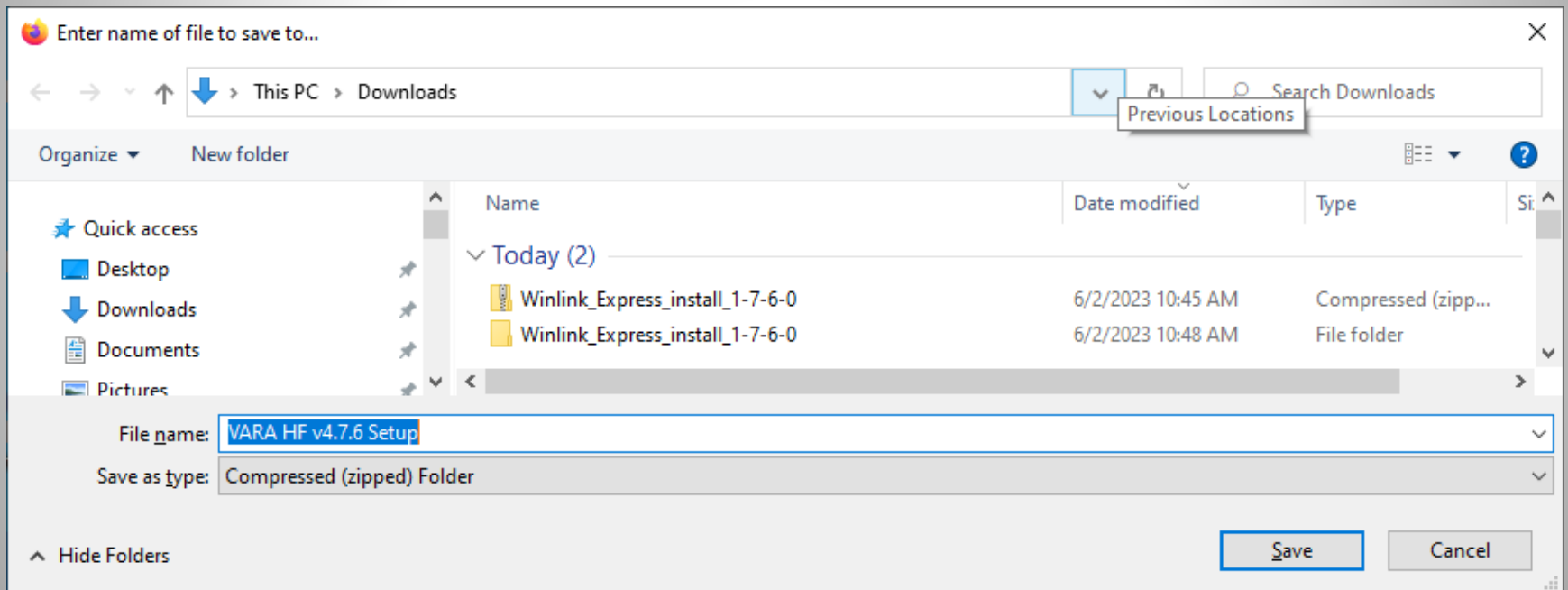
The screenshot shows a web browser window with two tabs. The active tab is titled "EA5HVK | Weak signals Sof" and the address bar shows "https://rosmodem.wordpress.com". The page content is a list of PDF files, each with a small PDF icon to its left. The list includes:

- [VARA HF 4.0 kurzanleitung](#) 
- [VARA HF Tactical](#)
- [VARA KISS Interface](#)
- [VARA Documentation](#)
- [VARA Huffman compression](#)
- [VARA TNC Commands 28-10-2022 \(for developers\)](#)
- [CM108 Simple Soundcard Interface](#)
- [Winlink VARA HF setup with Icom IC-7300](#)
- [HF APRS over VARA HF \(By WA8LMF\)](#)
- [VARA Modem: Innovation aus Spanien \(by HB9AUR\)](#) 

Download VARA HF

The screenshot shows a web browser window with three tabs: "download VARA HF - Yahoo", "EA5HVK | Weak signals Softw", and "Download - MEGA". The address bar displays the URL: <https://mega.nz/file/za4WzRSI#mIPFGobg1cBS2PAx1hqNhhsC8cnC3wUf43a8CY/>. The MEGA logo is in the top left, and a "Create account" button is in the top right. The main content area features a large grey placeholder with a test tube icon in the center. Below the placeholder, the file name "VARA HF v4.7.6 Setup.zip" and size "4.3 MB" are shown. To the right of the file name are two buttons: a green "Download" button with a dropdown arrow, and a grey "Save to MEGA" button.

Default folder on C drive



VARA folder on your C drive

The screenshot shows a Windows File Explorer window titled "VARA" located on the "Local Disk (C:)" drive. The window displays a list of 24 items in the VARA folder, including folders and various file types such as HTML documents, text documents, DAT files, PDFs, applications, and configuration files. The items are sorted by name.

Name	Date modified	Type	Size
OCX	4/30/2023 10:21 AM	File folder	
Buy	8/1/2017 1:33 PM	Firefox HTML Doc...	1 KB
ChangeLog	4/15/2023 8:15 PM	Text Document	8 KB
Data.dat	2/1/2023 8:28 PM	DAT File	64 KB
How to transmit a file with VARA Chat	5/17/2022 9:38 AM	Microsoft Edge P...	402 KB
License	8/10/2021 8:08 PM	Rich Text Format	9 KB
VARA Chat	6/9/2022 6:42 PM	Application	360 KB
VARA Chat	8/6/2022 10:14 AM	Configuration sett...	2 KB
VARA HF v4.3.0 Speed Levels	12/19/2020 12:14 PM	JPG File	97 KB
VARA Install	7/14/2019 5:52 PM	Application	28 KB
VARA Quick Guide	2/27/2023 5:20 PM	Microsoft Edge P...	1,362 KB
VARA setup (Run as Administrator)	1/9/2022 9:54 AM	Application	3,972 KB
VARA Terminal	12/9/2021 7:28 PM	Application	356 KB
VARA Terminal	12/14/2021 5:46 PM	Configuration sett...	1 KB
VARA	4/15/2023 8:13 PM	Application	1,140 KB
VARA	6/2/2023 12:06 PM	Configuration sett...	1 KB
VarAC_cat_commands	2/19/2023 11:35 AM	Configuration sett...	40 KB
VarAC_frequencies	12/17/2022 9:45 AM	CONF File	1 KB
VARAChatChangeLog	11/24/2021 6:56 PM	Text Document	1 KB
VARAHF	5/31/2023 6:17 AM	Text Document	248 KB
VARAHF500.dat	3/10/2023 12:59 AM	DAT File	718 KB
VARAHF2300.dat	10/7/2020 2:27 PM	DAT File	704 KB
VARAHF2750.dat	12/17/2020 5:25 PM	DAT File	852 KB
VARATerminalChangeLog	12/9/2021 7:29 PM	Text Document	1 KB

24 items

VARA HF SSB Gateways: 500 Hz or 2300 Hz BW hang out on a designated frequency and mode

HF Channel Selector									
Exit	Select	Update Via Internet	Update Via Radio	Map	Forecast	SFI	All RMS		
Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (km)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
N3MEL-11	3596.000	V500	FM29DX	00-14...	PUBLIC	8	303	99	99
KB3PCY	3593.500	V2300	FM29EV	00-23	PUBLIC	4	180	99	99
N3MEL-11	7082.000	V500	FM29DX	15-19	PUBLIC	8	303	96	96
KB3PCY	7107.250	V500	FM29EV	00-23	PUBLIC	4	180	96	96
W2MMD	7101.500	V2300	FM29JR	00-23	PUBLIC	43	123	96	96
W2KBF	7101.500	V2300	FM29IR	00-23	PUBLIC	37	129	96	96
KB3PCY	10147.500	V2300	FM29EV	00-23	PUBLIC	4	180	94	94
KB3PCY	14109.000	V2300	FM29EV	00-23	PUBLIC	4	180	92	92
VE3KPG	7091.000	V2300	FN04VE	00-23	PUBLIC	518	337	73	49
VE3HJL	7108.000	V2300	FN03IR	10-22	PUBLIC	519	325	73	49
KC8ZKI	7110.500	V500	EN91EA	00-23	PUBLIC	521	285	72	49
KC8ZKI	7103.800	V2300	EN91EA	00-23	PUBLIC	521	285	72	49
AJ4FW	7103.600	V2300	FM07BC	00-23	PUBLIC	486	231	72	49
W1EO	7102.500	V2300	FN42IM	00-23	PUBLIC	462	050	71	49
K1EHZ	7098.500	V500	FN42EX	00-23	PUBLIC	474	043	71	49
K1EHZ	7103.800	V2300	FN42EX	00-23	PUBLIC	474	043	71	49
KD4JWF	7089.000	V500	FM06RH	00-23	PUBLIC	477	213	70	48
VE3WLR	7089.000	V2300	FN04DI	00-23	PUBLIC	594	327	69	47
KF1D	7101.300	V2300	FN42FA	00-23	PUBLIC	414	055	69	48

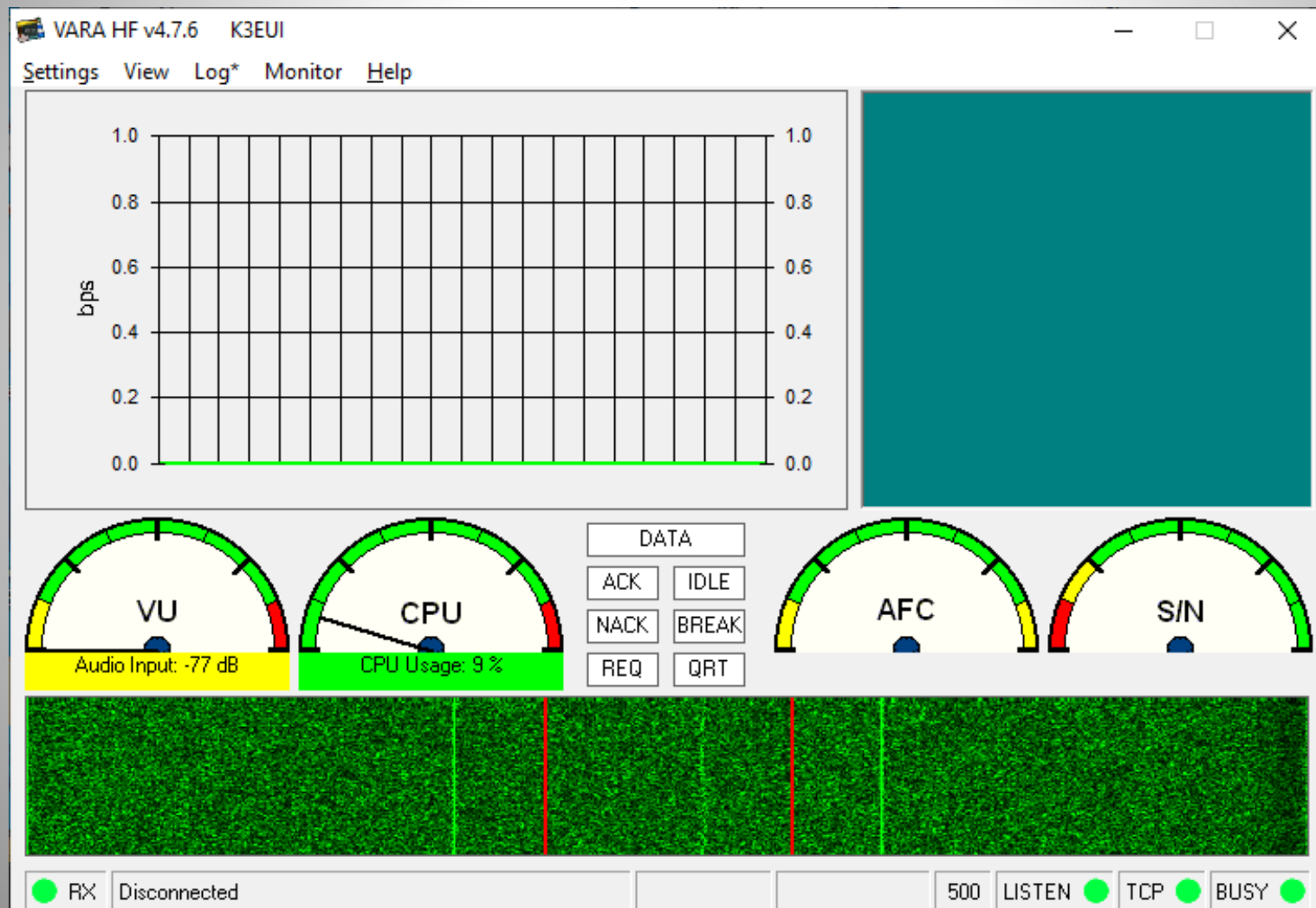
VARA HF SSB Speed Levels & Modulation Type

wide 2300 Hz and narrow 500 Hz

VARA HF v4.0.0 Speed Levels

Level	VARA HF 2300				VARA HF 500			
	Symbol Rate	Carriers	Mod.	Net Rate (bps)	Symbol Rate	Carriers	Mod.	Net Rate (bps)
1	23	32	FSK	18	23	11	FSK	18
2	47	16	FSK	41	47	11	FSK	41
3	47	16	FSK	82	47	11	FSK	61
4	94	16	FSK	175	94	2	BPSK	88
5	94	3	4PSK	270	94	2	4PSK	177
6	94	4	4PSK	363	94	3	4PSK	270
7	94	6	4PSK	549	42	11	4PSK	441
8	94	8	4PSK	735	42	11	4PSK	588
9	94	10	4PSK	922	42	11	4PSK	705
10	42	49	4PSK	2011	42	11	8PSK	884
11	42	49	4PSK	2682	42	11	8PSK	1060
12	42	49	4PSK	3219	42	11	16QAM	1286
13	42	49	8PSK	4025	42	11	32QAM	1543
14	42	49	8PSK	4830				
15	42	49	16QAM	5872				
16	42	49	32QAM	7050				

Your VARA HF modem how your sound card talks to your radio



Choose VARA Setup

The image shows a Windows desktop environment with a presentation slide in the foreground. The slide content is as follows:

- Click to add title
- Click to add text

Overlaid on the slide is the VARA HF v4.7.6 K3EUI software interface. The interface includes a waterfall display showing a signal at approximately 7.4 MHz, four gauges (VU, CPU, AFC, SIN), and a status bar. The CPU gauge shows 18% usage. The status bar indicates 'RX Disconnected' and '500 LISTEN TCP BUSY'.

The presentation is open in a Microsoft PowerPoint window titled 'Winlink For Rookies PPT June 02...'. The slide number is 52. The software interface is also visible in a separate window titled 'VARA HF v4.7.6 K3EUI'.

Fill in or use defaults enter your Registration Key

The screenshot shows the VARA Setup dialog box with the following fields and options:

TCP Ports:

Command	Data	KISS
8300	8301	8100

VARA Licenses:

Callsign:	Registration Key:
K3EUI	XXXXXXXXXXXXXXXXXXXX

Allow VARA check for updates via internet

Accept 500 Hz connections

Tuner enhancement

CW ID

KISS Interface

RA-Board PTT SysLog Retries: 10

Close

Choose Sound CARD

The screenshot displays a Windows desktop environment. In the foreground, a presentation slide titled "Click to add title" is open, with a bullet point "Click to add text" and a "Click to add notes" area at the bottom. The slide is part of a presentation titled "Winlink For Rookies PPT June 02...". To the left, a File Explorer window shows the contents of a folder named "VARA". Overlaid on the desktop is the VARA HF v4.7.6 K3EUI software window. This window features a "Settings" menu with "SoundCard..." selected, a "Waterfall" display showing a flat line at 0.0 dB, and four gauges for VU (Audio Input: -75 dB), CPU (Usage: 6%), AFC, and SIN. Below the gauges are control buttons for ACK, IDLE, NACK, BREAK, REQ, and QRT. At the bottom of the software window, there are status indicators for RX (Disconnected), 500 LISTEN, TCP, and BUSY. The taskbar at the bottom shows various application icons and the system tray with the date and time: 12:22 PM, 6/2/2023.

Pick your sound card

Set (audio) Drive Level for power output

The image shows two overlapping windows. The top window is titled "SoundCard" and contains the following elements:

- Device Input:** A dropdown menu showing "Icom 7610 (3- USB Audio CODEC)".
- Device Output:** A dropdown menu showing "Icom 7610 Tx (3- USB Audio CODEC)".
- Drive level:** A horizontal slider set to -10 dB. A red box labeled "Tune" is positioned at the left end of the slider.
- Instruction:** A text box below the slider reads "Press Tune and set the Drive Level for ALC=1/3".

The bottom window is a radio control interface with a black background and white text. It displays the following information:

- Mode:** TUNE, USB-D, FIL2, SD, 11:47, RF PWR.
- Frequency:** 14.067.00 MHz, VFO A 11.
- Power Meters:** S (1-9), P. AMP1, AGC-F (+20, +40, +60dB), AN, NB.
- ALC Meter:** A bar graph for ALC (Automatic Level Control) with a red box around it and an arrow pointing to "1/3 ALC".
- Other Meters:** COMP (0-20 dB), SWR (1-∞), Id (0-25A), Vp (10-16V), TEMP (COOL-HOT).
- Buttons:** TX, Close.

Open a VARA HF "SESSION" CHOOSE VARA HF Winlink (Gateway) or P2P (any ham)

The screenshot shows the Winlink Express 1.7.6.0 - K3EUI interface. The window title is "Winlink Express 1.7.6.0 - K3EUI". The menu bar includes "K3EUI", "Settings", "Message", "Attachments", "Move To: Saved Items", "Delete", "Open Session:", "Logs", and "Help". The toolbar contains various icons for file operations and session management. The main area displays a message with the following details:

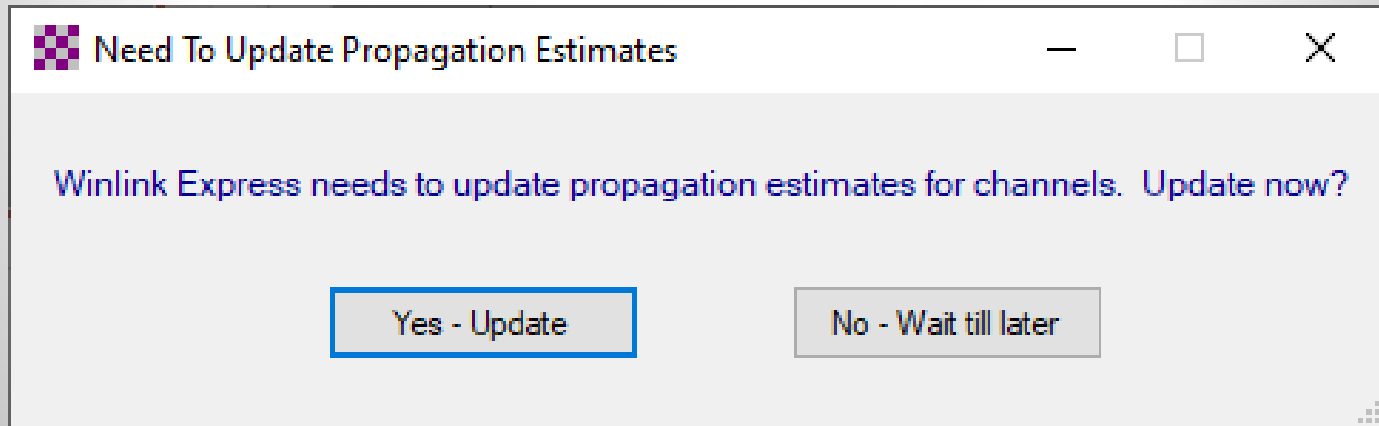
Date/Time	Message ID	Size	Source	Sender	Recipient
2023/06/02 15:57	4761QF7VP1TD	294	K3EUI	K3EUI	W3JFS (P2P)

Message ID: 4761QF7VP1TD
Date: 2023/06/02 15:57
From: K3EUI
To: W3JFS
Source: K3EUI
P2P: True
Location: 39.937500N, 75.625000W (Grid square)
Subject: Peer to Peer test k3eui to w3jfs

The "Open Session:" dropdown menu is open, showing a list of session options:

- Vara HF P2P
- 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

It may ask you to
UPDATE propagation files:
say yes



Winlink Setup for VARA HF Pick VARA TNC setup first

The screenshot shows the 'Vara HF Peer-to-Peer Session - K3EUI' window. The 'Settings' menu is active, displaying the following parameters:

- Call Sign: KB3PCY
- Center Freq. (kHz): 3585.500
- Dial Freq. (kHz): 3584.000
- Bearing: 180
- Quality: 99

Below the settings, there are buttons for 'Favorites', 'Select', 'Add to favorites', and 'Remove from favorites'. The status bar indicates 'Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected/Listening'.

The log window at the bottom contains the following text:

```
*** Launching VARA TNC  
*** Successfully connected to VARA TNC.  
*** Vara signal bandwidth is 500 Hz.  
*** Using Icom 7610, COM4, 19200 baud  
*** Ready  
*** This is a registered version of Vara TNC that can operate at full speed.
```

VARA TNC setup (use defaults)

Session bandwidth: pick 500 Hz

You can pick **AUTO LAUNCH** the modem VARA
click on **UPDATE** and wait ... And hope

Vará Setup

Virtual TNC host address/name: 127.0.0.1

Virtual TNC Command Port: 8300 Data Port: 8301

Session Bandwidth: 500

Enable 2750 Hz channels
(Requires radio TX filter set for 100-2900 Hz and RX bandwidth of 3000)

VARA Modem location: C:\VARA\VARA.exe

Automatically launch Vará TNC when session is opened
 Show the Vará TNC screen when it's launched
 Identify with Morse code at end of session

Update Cancel

Now Choose RADIO SETUP

The screenshot shows a Zoom meeting window with a presentation slide. The slide has a title "Now Choose RADIO SETUP" and a bullet point "Click to add text". An inset window titled "VARA TNC setup (user defaults)" is visible on the left side of the slide. In the foreground, a "Vara Winlink Session - K3EUI" window is open, showing a "Radio Setup" dialog box. The dialog box has fields for "Channel Selection" (3593.500), "Dial Freq. (kHz)" (3592.000), "Bearing" (180), and "Quality" (checkbox). Below the dialog box, a log window displays session details for K3EUI and KB3PCY, including call signs, frequencies, and session statistics. The background shows a Windows desktop with various icons and a taskbar at the bottom.

Now Choose RADIO SETUP

- Click to add text

Vara Winlink Session - K3EUI

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

K Vara TNC Setup 3593.500 Dial Freq. (kHz): 3592.000 Bearing: 180 Quality:

Favor Radio Setup Select Add to favorites Remove from favorites

Channel Auto-connect setup... Disconnected

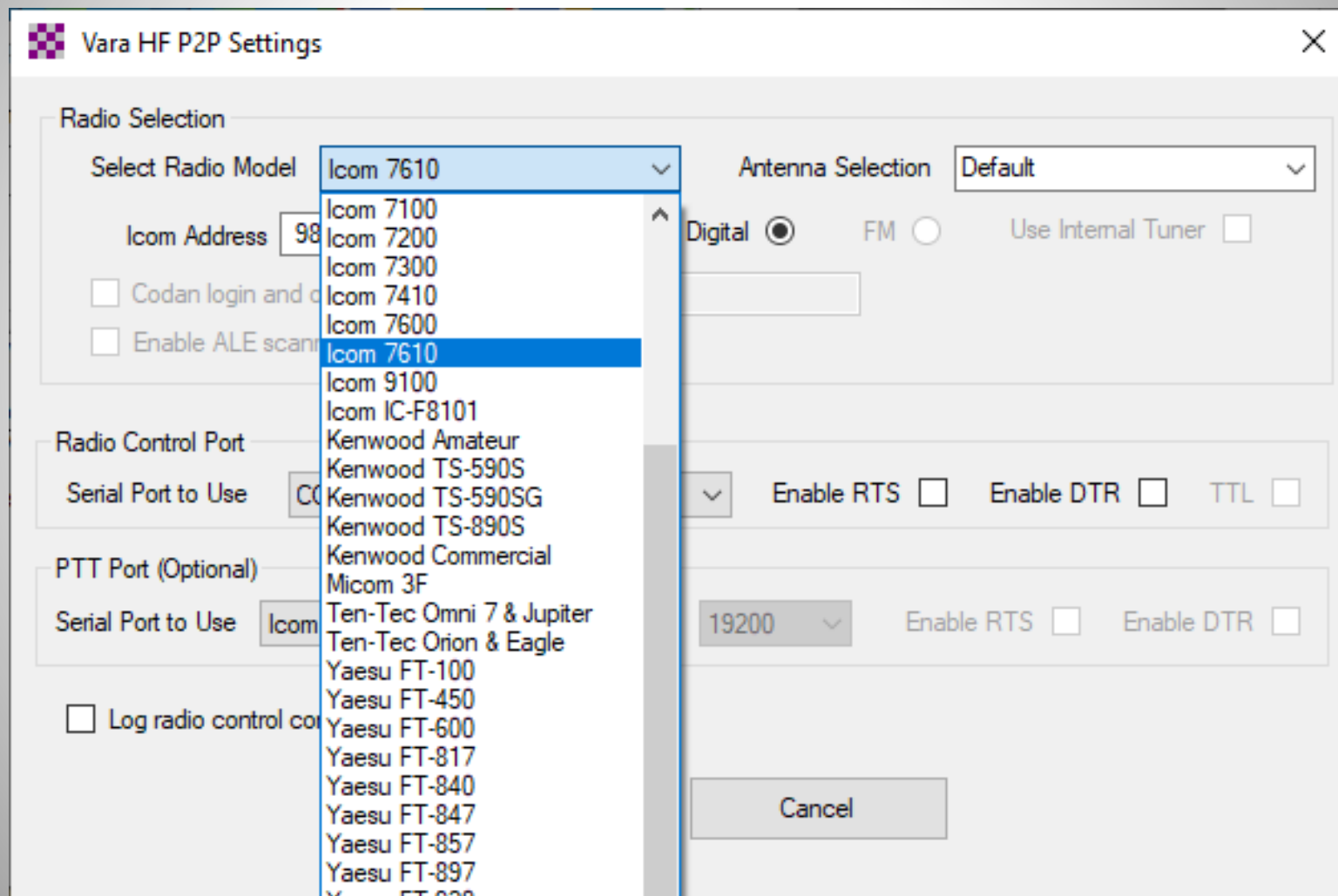
RMS Trimode 1.3.50.0 Kennett Square, PA -20 min time out
K3EUI has 120 daily minutes remaining with KB3PCY (FM29EV)
(SFI = 164 On 2023-06-02 16:00 UTC)
[WL2K-5.0-B2FVHJMJS]
:PG: 24208108
CMS via KB3PCY >
:FW: K3EUI
[RMS Express-1.7.6.0-B2FHMS]
:PR: 27503762
:KB3PCY DE K3EUI (FM29EV)
FF
EQ
--- End of session with KB3PCY at 2023/06/02 16:52:46 ---
*** Messages sent: 0. Total bytes sent: 0. Time: 00:17, bytes/minute: 0
*** Messages Received: 0. Total bytes received: 0. Total session time: 00:17, bytes/minute: 0
*** Disconnected from Winlink RMS: KB3PCY @ 2023/06/02 16:52:53
*** Session: 0.4 min. Avg Throughput: 0 Bytes/min. 1 Min Peak Throughput: 0 Bytes/min

Click to add notes

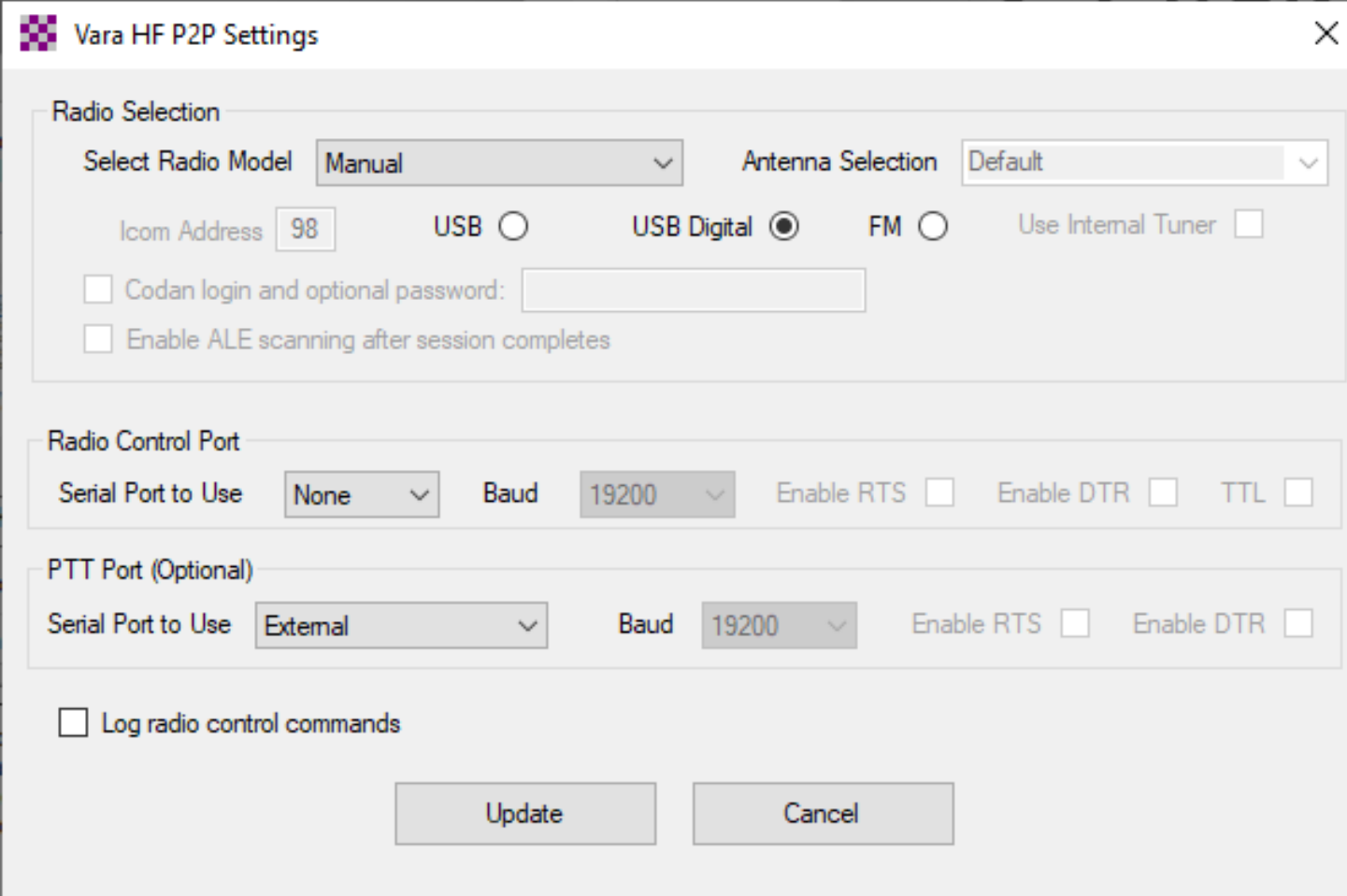
Slide 57 of 106 Accessibility: Investigate

Type to search 90°F Sunny 1:23 PM 6/2/2023

Lots of radios to pick from IF you want the app to control the radio's VFO and xmit (PTT) via a COM port



One choice: no CAT choose Manual and no COM port

A screenshot of the 'Vara HF P2P Settings' dialog box. The window has a title bar with a close button. It is divided into three main sections: 'Radio Selection', 'Radio Control Port', and 'PTT Port (Optional)'. The 'Radio Selection' section includes a 'Select Radio Model' dropdown set to 'Manual', an 'Antenna Selection' dropdown set to 'Default', an 'Icom Address' text box with '98', and radio buttons for 'USB', 'USB Digital' (selected), and 'FM'. There are also checkboxes for 'Use Internal Tuner', 'Codan login and optional password' (with an empty text box), and 'Enable ALE scanning after session completes'. The 'Radio Control Port' section has a 'Serial Port to Use' dropdown set to 'None', a 'Baud' dropdown set to '19200', and checkboxes for 'Enable RTS', 'Enable DTR', and 'TTL'. The 'PTT Port (Optional)' section has a 'Serial Port to Use' dropdown set to 'External', a 'Baud' dropdown set to '19200', and checkboxes for 'Enable RTS' and 'Enable DTR'. At the bottom, there is a checkbox for 'Log radio control commands' and two buttons: 'Update' and 'Cancel'.

Vara HF P2P Settings

Radio Selection

Select Radio Model: **Manual** Antenna Selection: **Default**

Icom Address: **98** USB USB Digital FM Use Internal Tuner

Codan login and optional password:

Enable ALE scanning after session completes

Radio Control Port

Serial Port to Use: **None** Baud: **19200** Enable RTS Enable DTR TTL

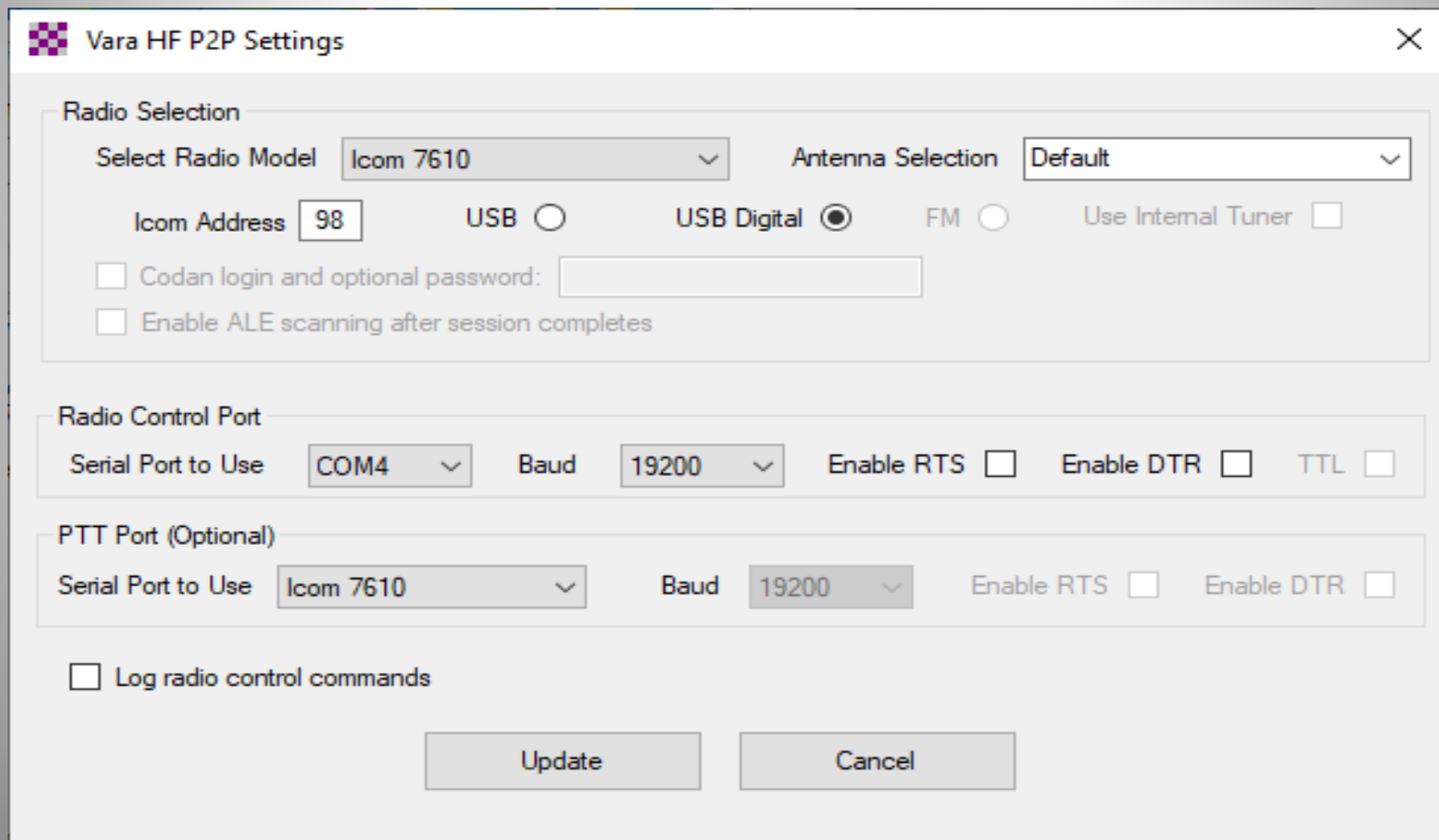
PTT Port (Optional)

Serial Port to Use: **External** Baud: **19200** Enable RTS Enable DTR

Log radio control commands

Update **Cancel**

Pick CAT (software controls radio's VFO)
and PTT (send) options under RADIO setup
PRESS Update (and hope)

The image shows a software window titled "Vara HF P2P Settings" with a close button in the top right corner. The window is divided into several sections for configuring radio settings. The "Radio Selection" section includes a "Select Radio Model" dropdown set to "Icom 7610", an "Antenna Selection" dropdown set to "Default", an "Icom Address" text box with "98", and radio mode options: "USB" (unselected), "USB Digital" (selected), and "FM" (unselected). There is also a "Use Internal Tuner" checkbox (unselected) and two other checkboxes: "Codan login and optional password:" (unselected) and "Enable ALE scanning after session completes" (unselected). The "Radio Control Port" section has a "Serial Port to Use" dropdown set to "COM4", a "Baud" dropdown set to "19200", and checkboxes for "Enable RTS" (unselected), "Enable DTR" (unselected), and "TTL" (unselected). The "PTT Port (Optional)" section has a "Serial Port to Use" dropdown set to "Icom 7610", a "Baud" dropdown set to "19200", and checkboxes for "Enable RTS" (unselected) and "Enable DTR" (unselected). At the bottom, there is a checkbox for "Log radio control commands" (unselected) and two buttons: "Update" and "Cancel".

Vara HF P2P Settings

Radio Selection

Select Radio Model: Icom 7610

Antenna Selection: Default

Icom Address: 98

USB USB Digital FM Use Internal Tuner

Codan login and optional password:

Enable ALE scanning after session completes

Radio Control Port

Serial Port to Use: COM4

Baud: 19200

Enable RTS Enable DTR TTL

PTT Port (Optional)

Serial Port to Use: Icom 7610

Baud: 19200

Enable RTS Enable DTR

Log radio control commands

Update Cancel

Launch is successful

The screenshot shows the 'Vará HF Peer-to-Peer Session - K3EUI' window. The interface includes a menu bar with 'Exit', 'Settings', 'Switch to Winlink Session', 'Channel Selection', 'Map', 'Forecast', 'Auto-connect', 'Next chan.', 'Start', 'Stop', and 'Abort'. Below the menu bar, there are input fields for 'W3JFS', 'Center Freq. (kHz): 3585.500', 'Dial Freq. (kHz): 3584.000', 'Bearing: 180', and 'Quality: 99'. A 'Favorites:' section is also visible. The status bar at the bottom of the window displays 'Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected/Listening'. The main text area contains the following log messages:

```
*** Launching VARA TNC
*** Successfully connected to VARA TNC.
*** Vara signal bandwidth is 500 Hz.
*** Using Icom 7610, COM4, 19200 baud
*** Ready
*** This is a registered version of Vara TNC that can operate at full speed.
```


Typical Error messages

COM port not available

Wrong sound card

Baud rates wrong choice

Etc.

How to create a NEW MESSAGE choose Message in main window

The screenshot shows the Winlink Express 1.7.6.0 - K3EUI application window. The title bar includes the application name and standard window controls. The menu bar contains 'K3EUI', 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Vara HF Winlink', 'Logs', and 'Help'. The 'Message' menu item is highlighted in blue. Below the menu bar is a toolbar with various icons. The main window area is divided into a left sidebar and a main pane. The sidebar, titled 'No active session...', lists folders: System Folders (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (29), Saved Items (2), Deleted Items, Drafts (0)), Personal Folders, Global Folders, and Contacts. The main pane displays a table with columns: Date/Time, Message ID, Size, Source, Sender, Recipient, and Subject. The table is currently empty.

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
-----------	------------	------	--------	--------	-----------	---------

Pick Send as:

Enter a new message

Post to Outbox Select Template Attachments Spell Check Save in Drafts Close

From: K3EUI Send as: Winlink Message Request message receipt Set Defaults

To: W3JFS;

Cc:

Subject:

Attach:

Winlink Message
Radio-Only Message
Peer-to-Peer Message

Create a new message
Pick: **P2P** or **Winlink** (to Gateway)
then choose Post to Outbox

Enter a new message

Post to Outbox Select Template Attachments **Spell Check** Save in Drafts Close

From: K3EUI Send as: Peer-to-Peer Message Request message receipt Set Defaults

To: W3JFS

Cc:

Subject: Peer to Peer test k3eui to w3jfs

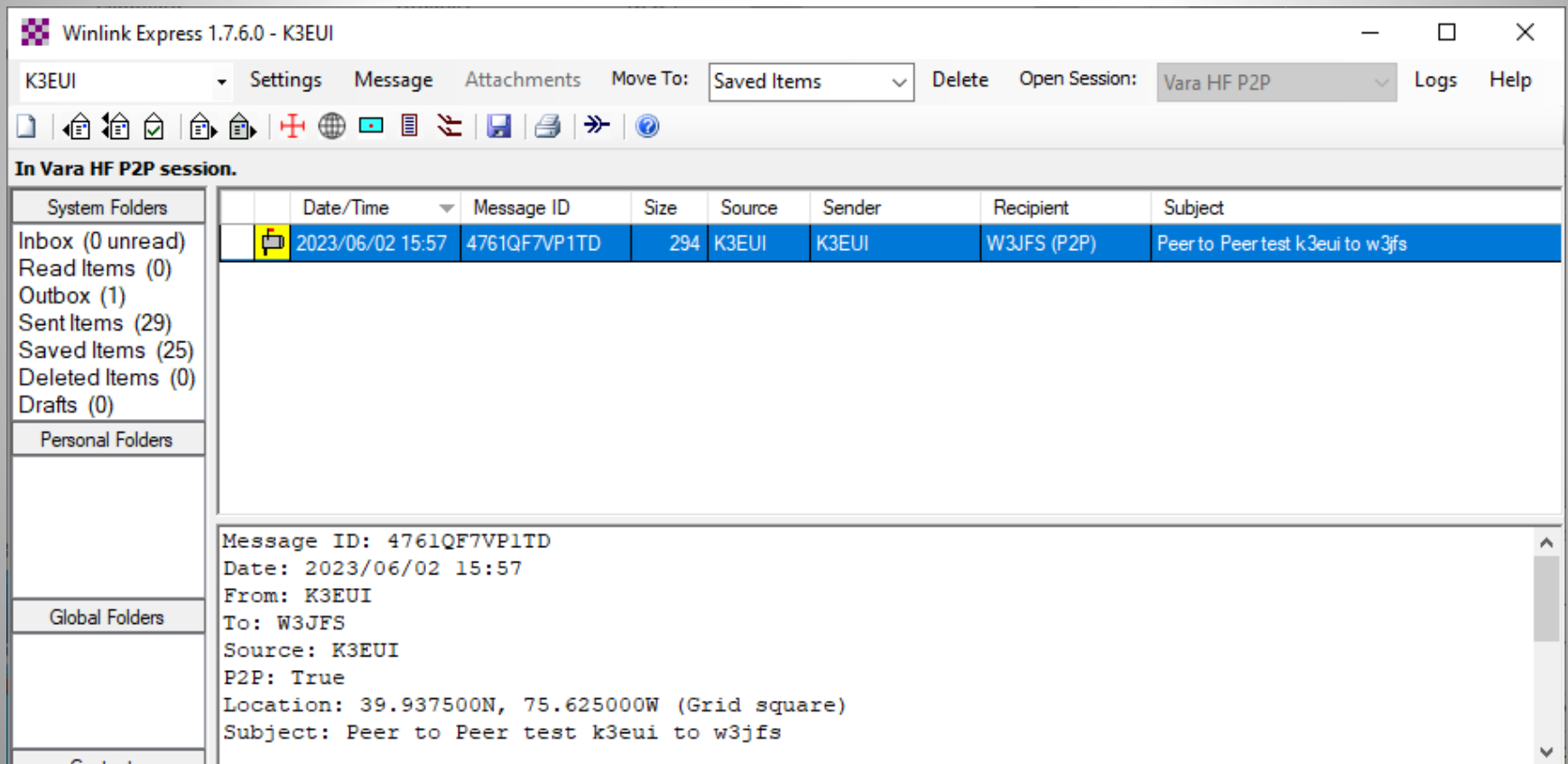
Attach:

This is a test P2P message
From: k3eui
To: W3JFS

Winlink for Rookies test message

de barry k3eui

Message will appear in **OUTBOX**
check that it is **P2P** mode if you are not
sending to a **GATEWAY**



Winlink Express 1.7.6.0 - K3EUI

K3EUI Settings Message Attachments Move To: Saved Items Delete Open Session: Vara HF P2P Logs Help

In Vara HF P2P session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread) Read Items (0) Outbox (1) Sent Items (29) Saved Items (25) Deleted Items (0) Drafts (0)	2023/06/02 15:57	4761QF7VP1TD	294	K3EUI	K3EUI	W3JFS (P2P)	Peer to Peer test k3eui to w3jfs

Personal Folders

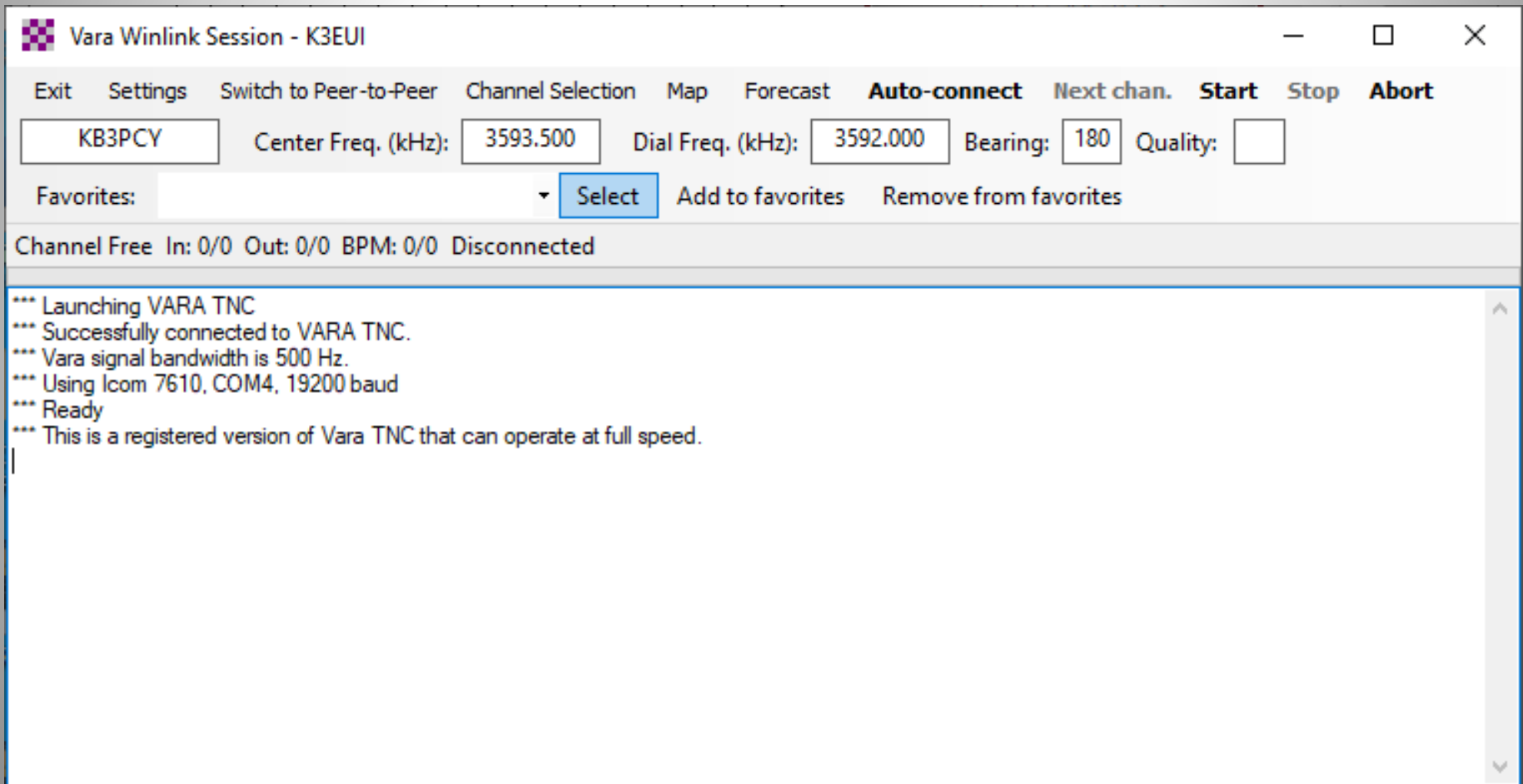
Global Folders

Message ID: 4761QF7VP1TD
Date: 2023/06/02 15:57
From: K3EUI
To: W3JFS
Source: K3EUI
P2P: True
Location: 39.937500N, 75.625000W (Grid square)
Subject: Peer to Peer test k3eui to w3jfs

Choose RADIO destination CALL sign (link)
ham call in P2P session
Pick a clear frequency
Center = VFO + 1.5 kHz

The screenshot shows the 'Varia HF Peer-to-Peer Session - K3EUI' window. The title bar includes a logo and window controls. The menu bar contains: Exit, Settings, Switch to Winlink Session, Channel Selection, Map (highlighted), Forecast, Auto-connect, Next chan., Start, Stop, and Abort. Below the menu bar, there are input fields for 'W3JFS', 'Center Freq. (kHz): 3585.5', 'Dial Freq. (kHz): 3584.000', 'Bearing: []', and 'Quality: []'. A 'Favorites:' section includes a dropdown arrow and buttons for 'Select', 'Add to favorites', and 'Remove from favorites'. A status bar displays 'Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected/Listening'. The main text area shows the following log messages: '*** Launching VARA TNC', '*** Successfully connected to VARA TNC.', '*** Vara signal bandwidth is 500 Hz.', '*** Using Icom 7610, COM4, 19200 baud', '*** Ready', and '*** This is a registered version of Vara TNC that can operate at full speed.'

A "link" begins when you press START
and negotiates with "handshaking"
here is a link to neighbor: kb3pcy (Gateway)



Vara Winlink Session - K3EUI

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

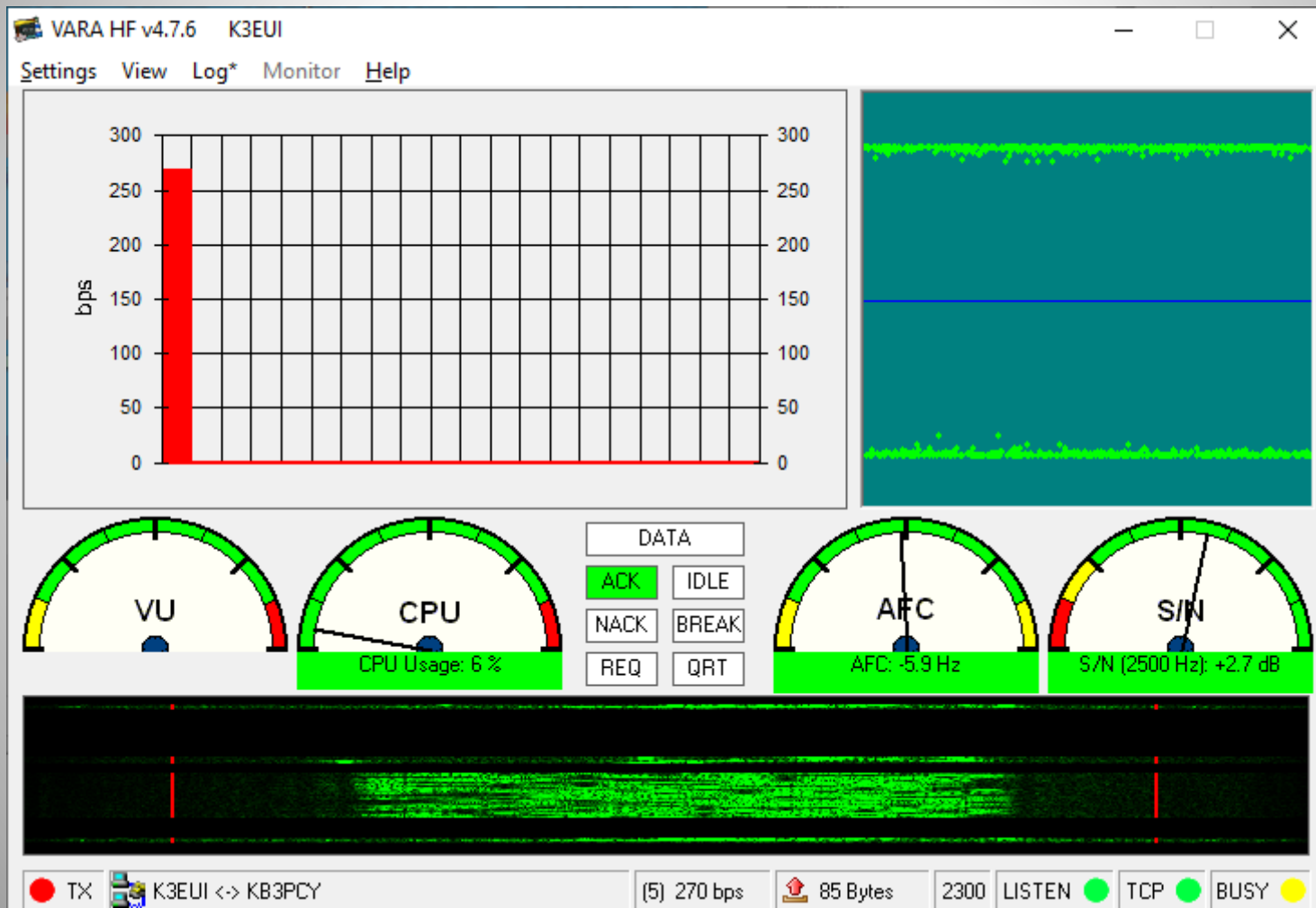
KB3PCY Center Freq. (kHz): 3593.500 Dial Freq. (kHz): 3592.000 Bearing: 180 Quality:

Favorites: **Select** Add to favorites Remove from favorites

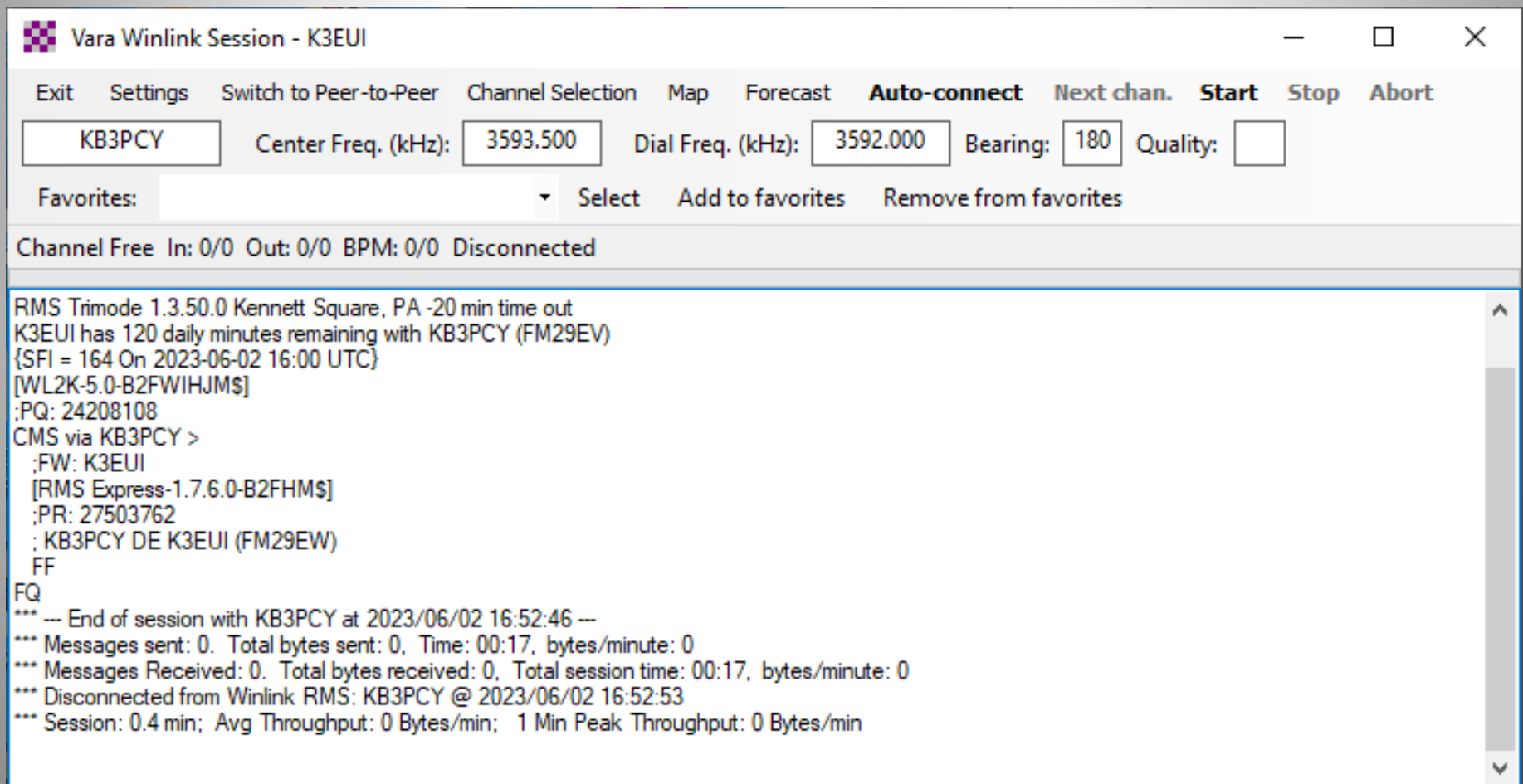
Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected

*** Launching VARA TNC
*** Successfully connected to VARA TNC.
*** Vara signal bandwidth is 500 Hz.
*** Using Icom 7610, COM4, 19200 baud
*** Ready
*** This is a registered version of Vara TNC that can operate at full speed.

Signals on 80m were moderate and message was sent



When you are successful summary of contact



The screenshot shows the Vará Winlink Session - K3EUI interface. The window title is "Vará Winlink Session - K3EUI". The interface includes a menu bar with "Exit", "Settings", "Switch to Peer-to-Peer", "Channel Selection", "Map", "Forecast", "Auto-connect", "Next chan.", "Start", "Stop", and "Abort". Below the menu bar, there are input fields for "KB3PCY", "Center Freq. (kHz): 3593.500", "Dial Freq. (kHz): 3592.000", "Bearing: 180", and "Quality: []". There are also buttons for "Favorites:", "Select", "Add to favorites", and "Remove from favorites". The status bar shows "Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected". The main text area displays the following information:

```
RMS Trimode 1.3.50.0 Kennett Square, PA -20 min time out
K3EUI has 120 daily minutes remaining with KB3PCY (FM29EV)
{SFI = 164 On 2023-06-02 16:00 UTC}
[WL2K-5.0-B2FWIHJM$]
:PQ: 24208108
CMS via KB3PCY >
;FW: K3EUI
[RMS Express-1.7.6.0-B2FHM$]
;PR: 27503762
; KB3PCY DE K3EUI (FM29EW)
FF
FQ
*** --- End of session with KB3PCY at 2023/06/02 16:52:46 ---
*** Messages sent: 0. Total bytes sent: 0, Time: 00:17, bytes/minute: 0
*** Messages Received: 0. Total bytes received: 0, Total session time: 00:17, bytes/minute: 0
*** Disconnected from Winlink RMS: KB3PCY @ 2023/06/02 16:52:53
*** Session: 0.4 min; Avg Throughput: 0 Bytes/min; 1 Min Peak Throughput: 0 Bytes/min
```

VARA FM options
on
VHF and UHF

wider bandwidth available
on 2m and 70cm

VARA Narrow = 3 kHz

VARA Wide = 5.8 kHz

Winlink's VARA FM 4.0 VHF/UHF

WIDE BW (6 KHz) needs 9600 baud pins

NARROW BW (2 kHz) uses 1200 baud pins

VARA FM v4.0.0 Speed Levels

Level	VARA FM WIDE				VARA FM NARROW			
	Symbol Rate	Carriers	Mod.	Net Rate (bps)	Symbol Rate	Carriers	Mod.	Net Rate (bps)
1	42	14	4PSK	566	42	14	4PSK	549
2	42	29	4PSK	1188	42	29	4PSK	1181
3	42	58	4PSK	2390	42	58	4PSK	2390
4	42	98	4PSK	4040	42	58	4PSK	3188
5	42	98	4PSK	5387	42	58	8QAM	4252
6	42	98	8QAM	7185	42	58	16QAM	5668
7	42	98	16QAM	9580	42	58	32QAM	7087
8	42	116	16QAM	11340	42	58	64QAM	8505
9	42	116	32QAM	14144	42	58	64QAM	9567
10	42	116	64QAM	16932	42	58	128QAM	11162
11	42	116	64QAM	19003	42	58	256QAM	12750
12	42	116	128QAM	22102				
13	42	116	256QAM	25210				

VHF VARA FM GATEWAYS - 2 meters

Gateways monitor their frequency 24/7

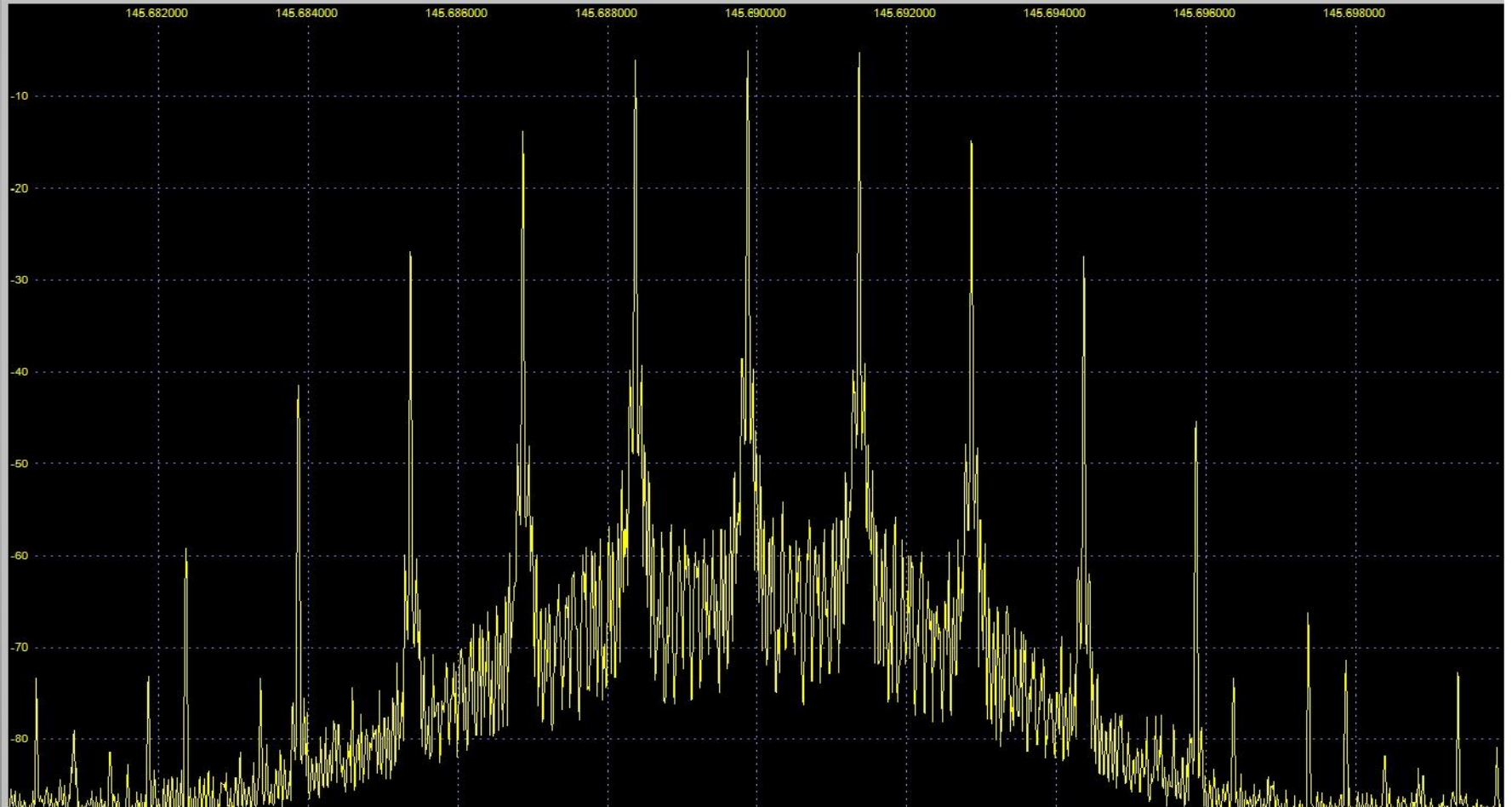
Vara FM Channel Selector

Exit Select Channel Update Table Via Internet Update Table Via Radio

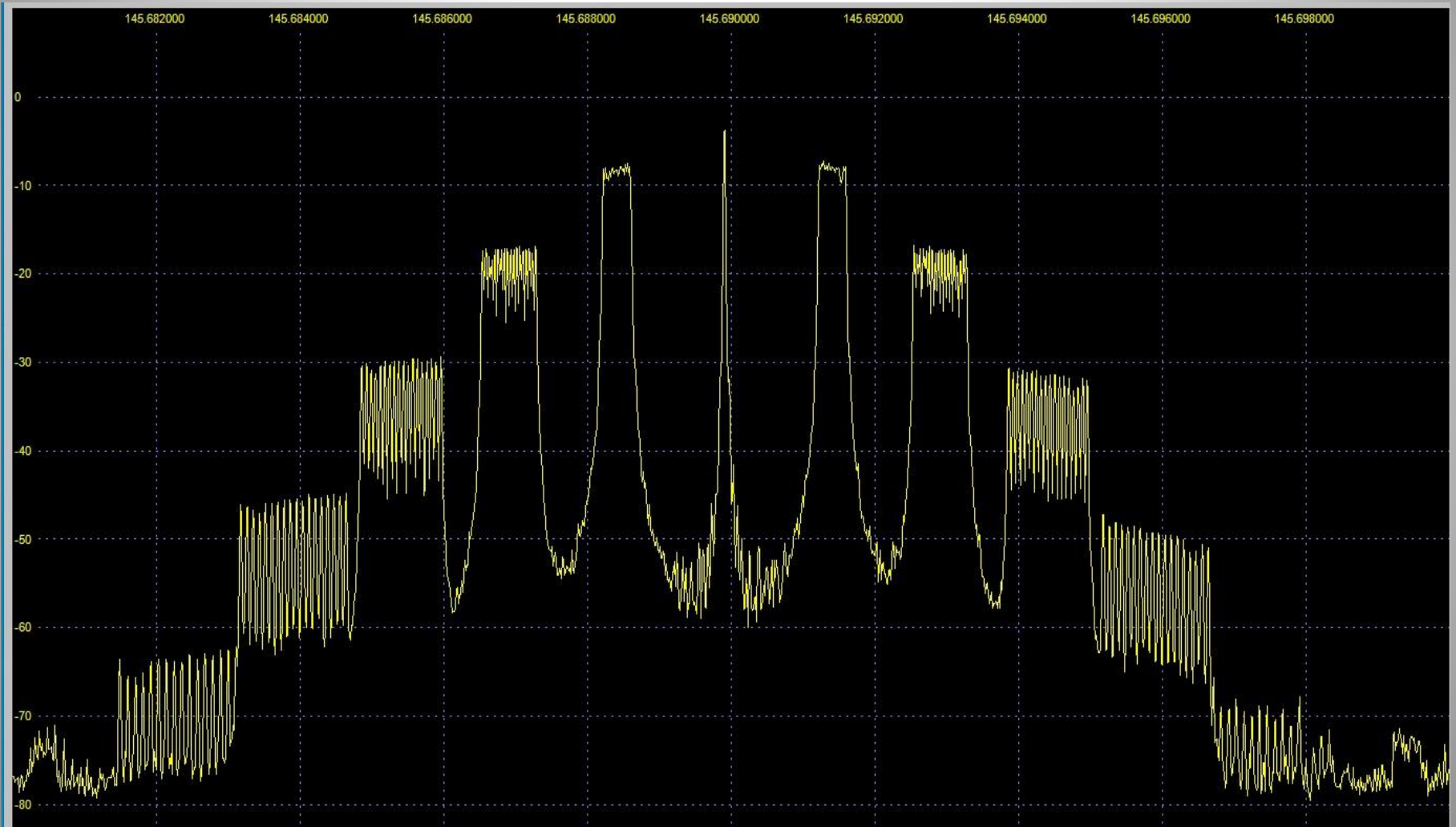
Stations found within 300 kilometers of your grid square.

Callsign	Frequency (MHz)	Channel Width	Grid Square	Group	Distance (km)	Bearing (Degrees)
KB3PCY-10	145.670	Wide	FM29EV	PUBLIC	004	180
N3MEL-10	145.670	Wide	FM29DX	PUBLIC	008	303
W3CTK-10	145.670	Narrow	FN20HA	PUBLIC	023	067
AA3E-10	145.050	Narrow	FN20GD	PUBLIC	027	032
KE3HG-10	145.670	Narrow	FN20EF	PUBLIC	032	000
K3FZT-10	145.670	Wide	FN20JA	PUBLIC	037	076
W2KBF-10	145.030	Narrow	FM29IR	PUBLIC	037	129
W2MMD-3	145.030	Wide	FM29JR	PUBLIC	043	123
WA3WLH-10	145.010	Narrow	FN20FJ	PUBLIC	052	008
KB2HEX-10	145.050	Narrow	FM19WP	PUBLIC	053	233
WA3ERQ-10	145.610	Narrow	FN20MC	PUBLIC	060	072
W3PLG	144.950	Narrow	FN20FM	PUBLIC	065	007
KC2QVT-10	145.010	Wide	FM29PX	PUBLIC	078	086
W2ZQ-10	145.030	Narrow	FN20OG	PUBLIC	080	063
K3ARS-10	145.010	Narrow	FM19WF	PUBLIC	090	209
KC3DSO-10	145.225	Wide	FM28GV	PUBLIC	116	173
KC3DSO-9	145.225	Wide	FM28GV	PUBLIC	116	173
W3AAQ-10	145.010	Narrow	FM19DP	PUBLIC	122	225

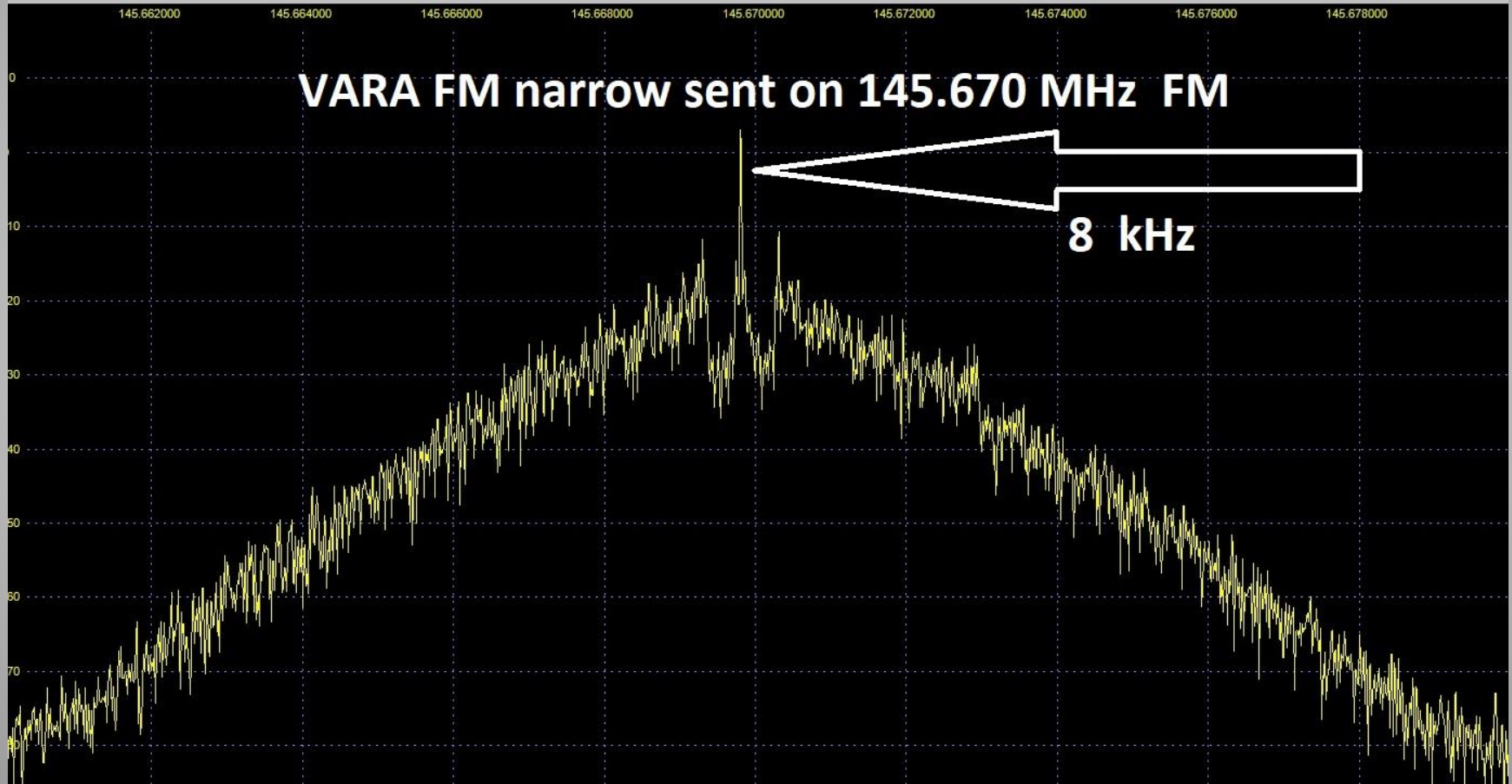
FM modulated by a single pitch sine wave at 1500 Hz results in multiple sidebands and large bandwidth (**16 kHz**)



THOR 22 sent by FM (16 kHz)
78 wpm and very easy to tune in



VARA sent by FM on 2m



Calibrate: AUTO TUNE your TX audio with another station

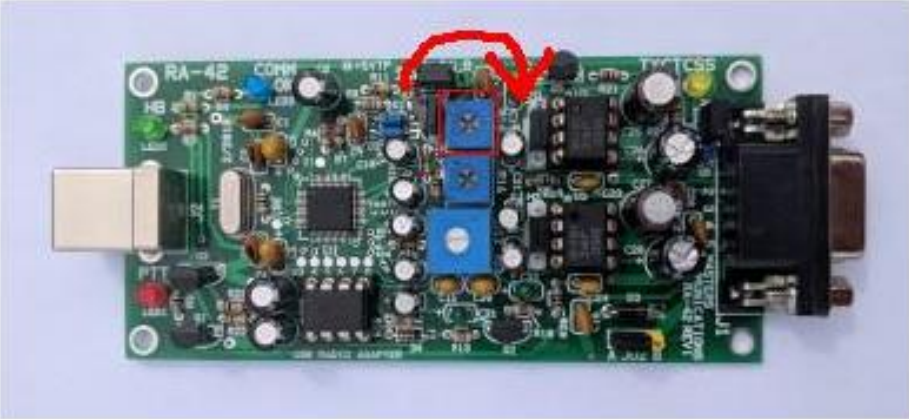
Drive Level Calibration

Calibrate with:
N3MEL

Drive Level: +0 dB

S/N: +19.3 dB

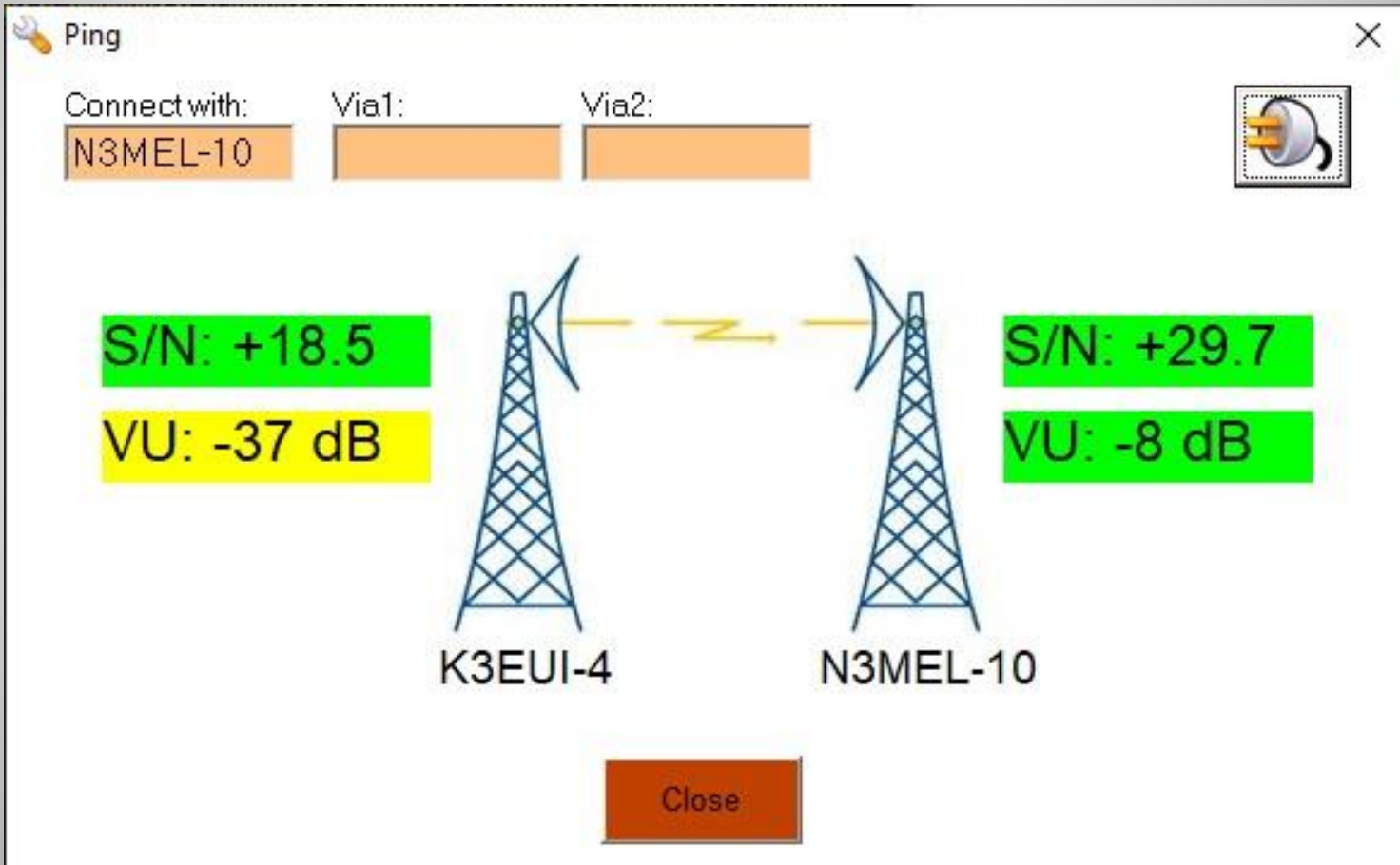
VU: -25 dB



Turn the R14 trimpot to the right

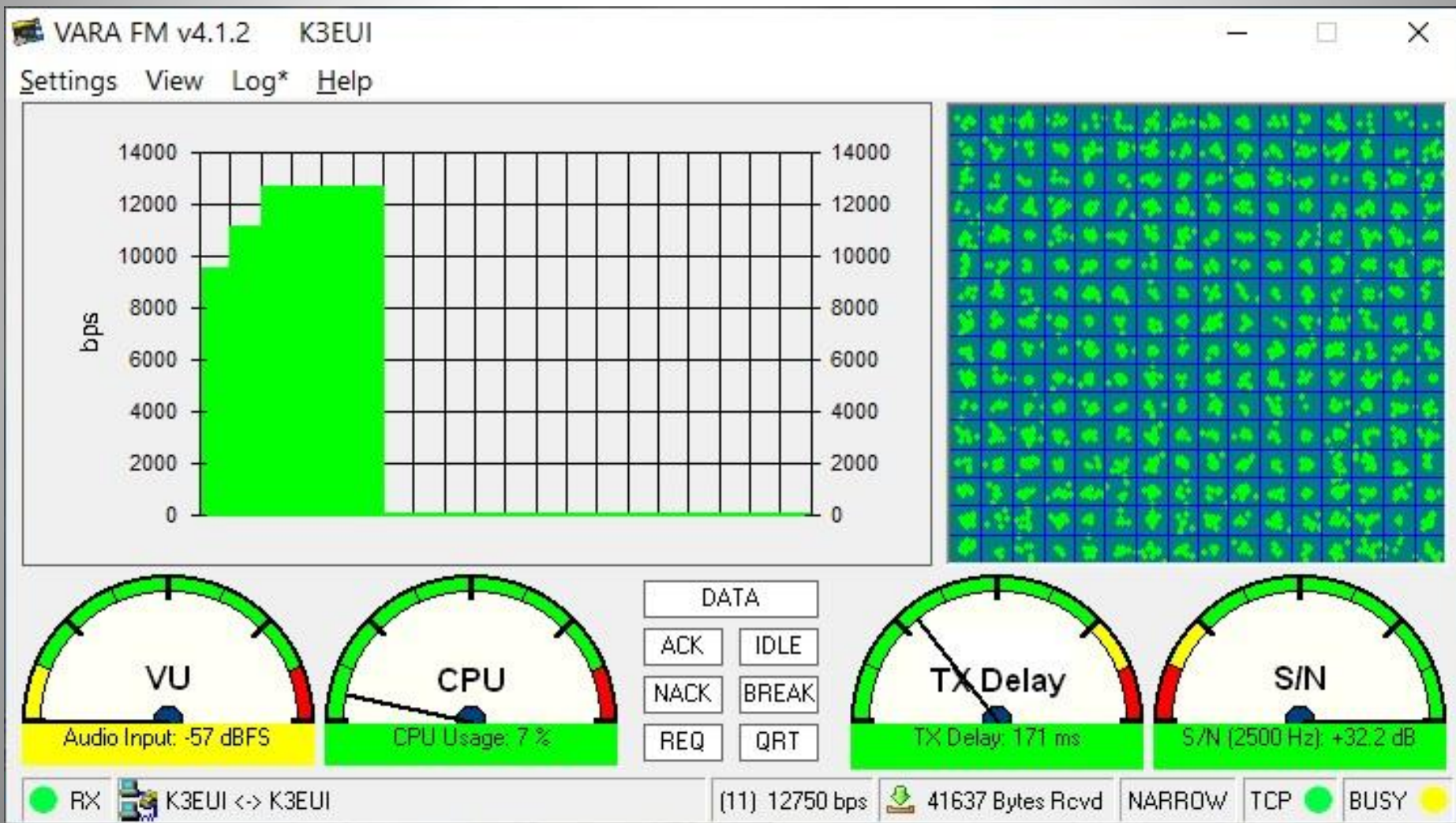
Close

PING shows the S/N to another station



Sample Rx Window VARA FM

note speed level 11 = 12,750 bit/second



Time for a Coffee Break and Questions



Modulation Methods

AM and CW are

amplitude shifts

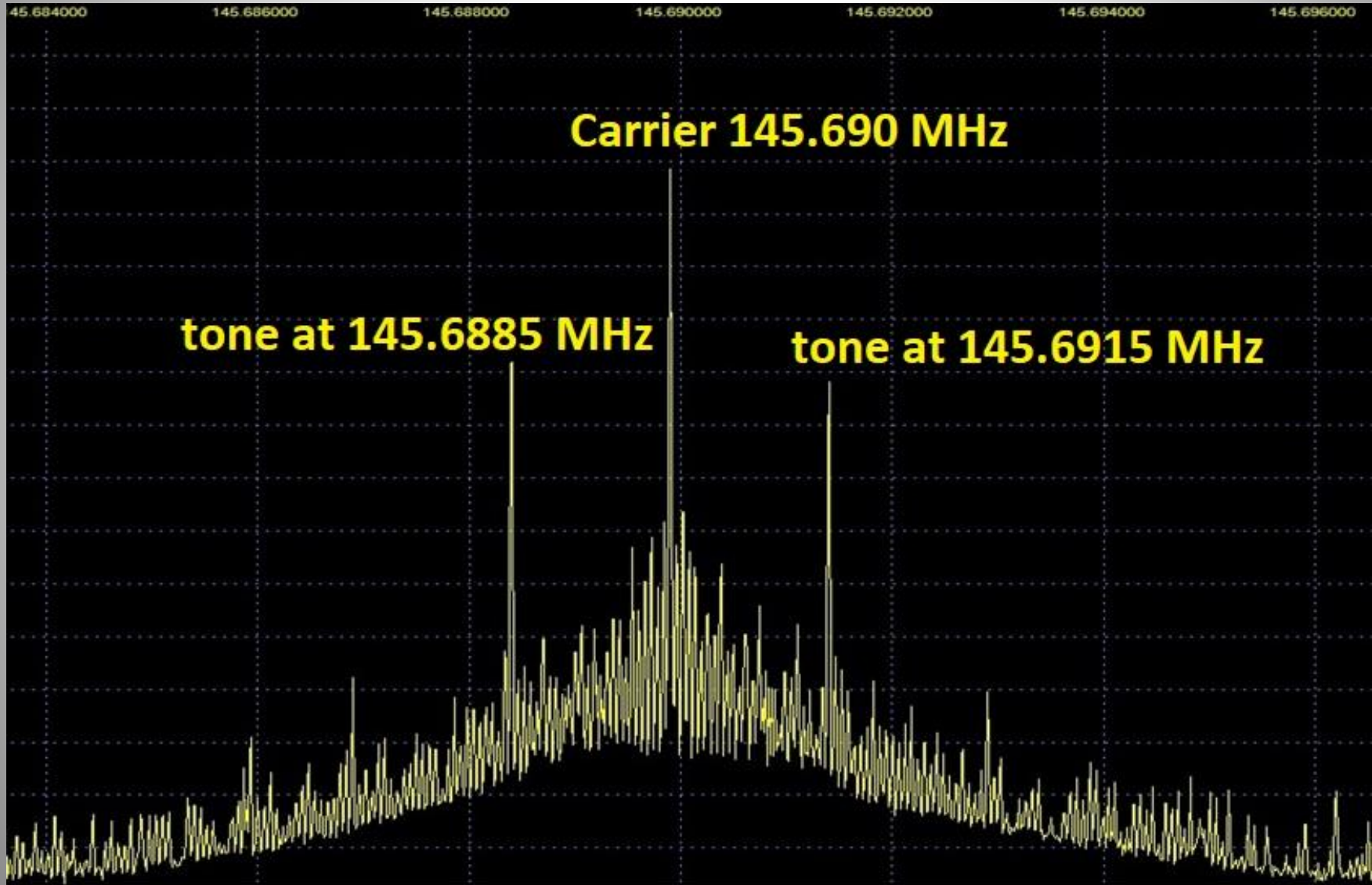
RTTY, Olivia, Thor, MFSK, FT8

frequency shifts
(constant amplitude)

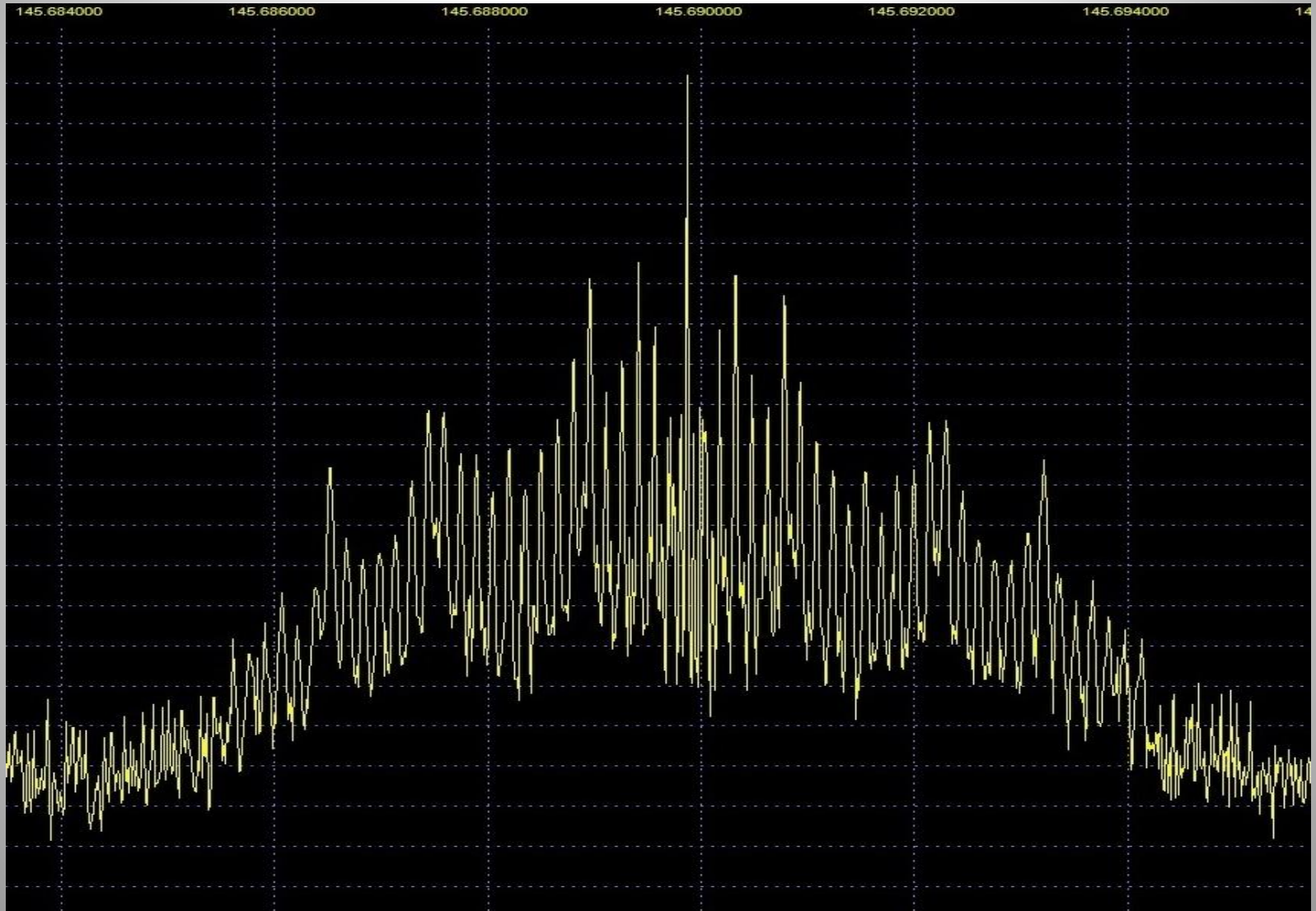
PSK, VARA, 8PSK, and MT63

phase and amplitude shifts

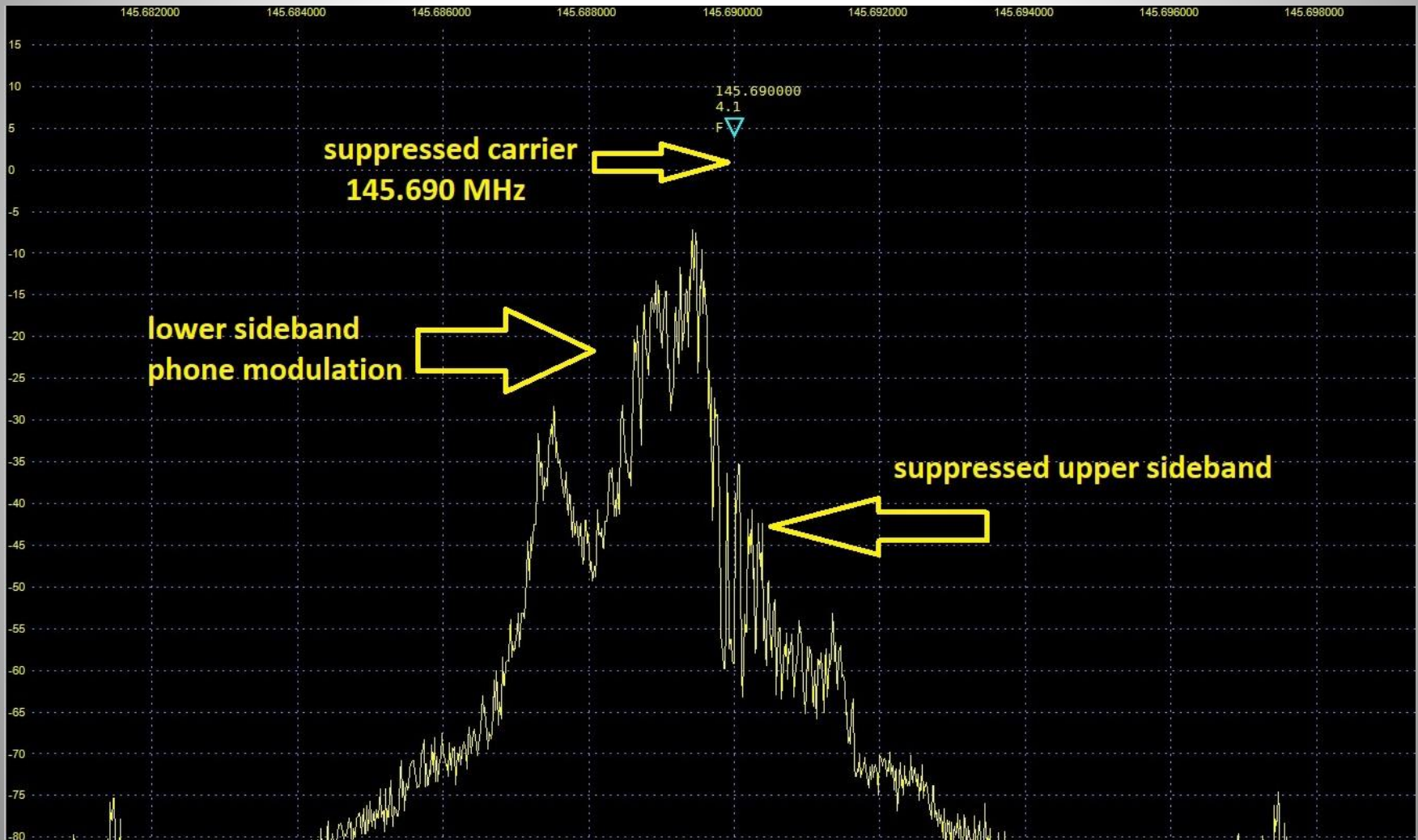
AM modulated by 1500 Hz audio sine wave
CARRIER + USB + LSB => 3 kHz bandwidth



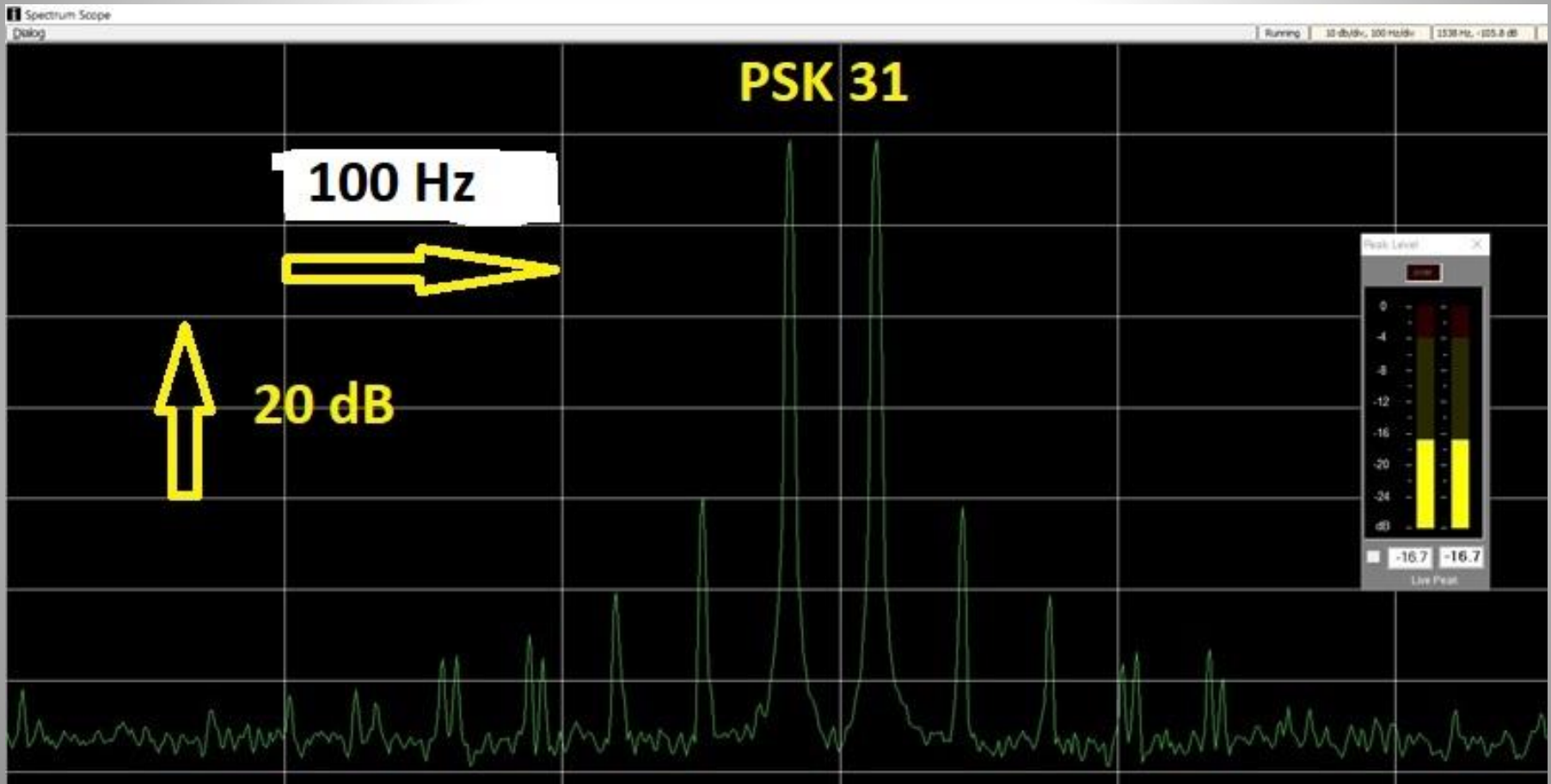
AM Human Voice wastes spectrum (8 kHz)



SSB - human voice spectrum (2-3 kHz)



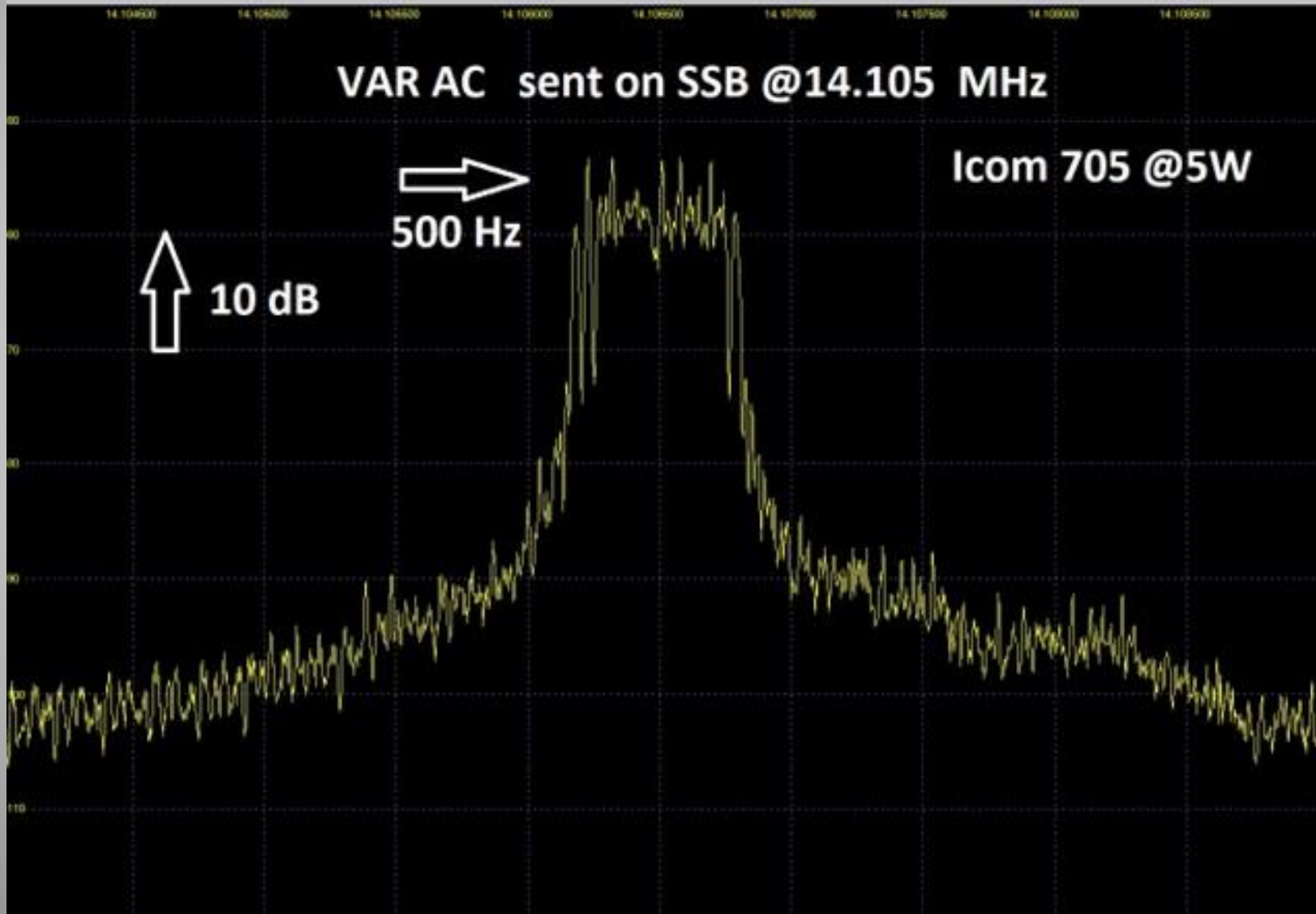
BPSK31 sent by SSB
Efficient use of spectrum (60 Hz BW)
but too slow 50 wpm for EMCOMM



MFSK32 - 120 wpm, 600 Hz wide
a popular traffic mode on 80m NVIS paths



VARA HF SSB 500 Hz wide



Sound CARD history

How do we inject SOUND
into the radio
to convey a message?

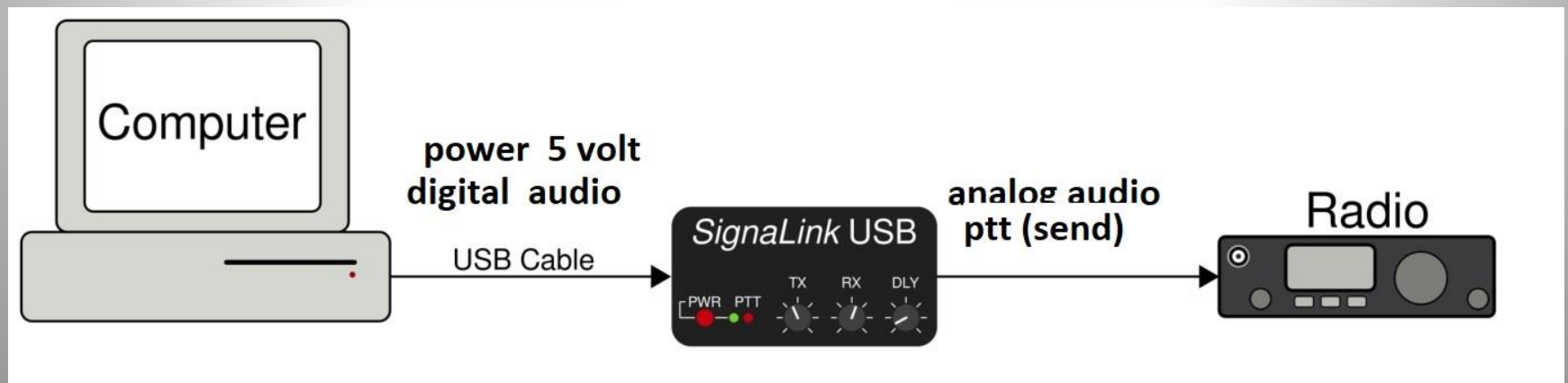
Interface Requirements

Goals: set proper RX and TX levels,
provide a means to SEND (PTT)
avoid RF feedback

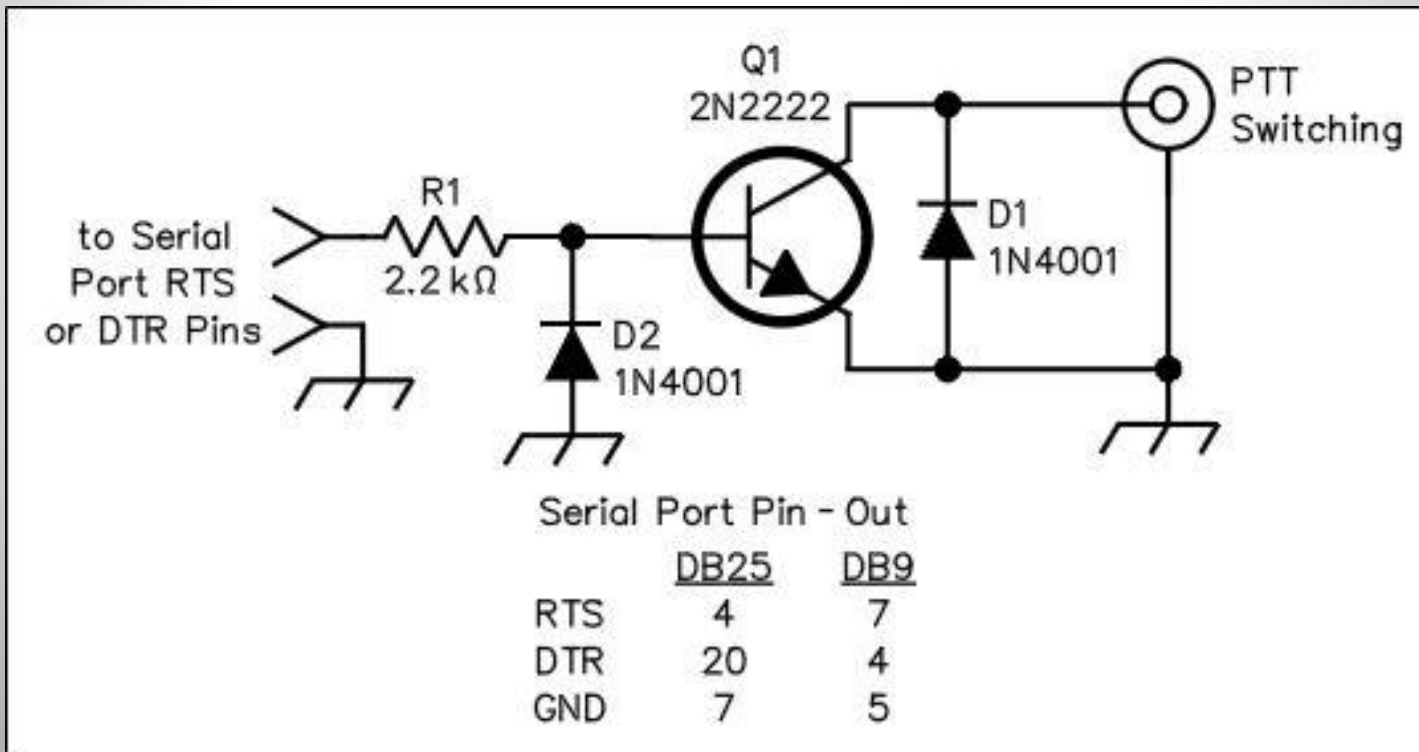
Optional Rig Control (CAT)

Typical setup with external sound card
digital - usb cable to computer
analog - audio cable to radio

advantage: PTT by VOX (no COM port)



Simple PTT (send) Circuit
 using a serial **COM** port
 Positive voltage on pins (RTS or DTR)
 grounds the PTT switching circuit



6 pin "MINI-DIN" port
common on all dual-band FM rigs

one TX port

one PTT port

TWO RX ports: 1200 or 9600 baud

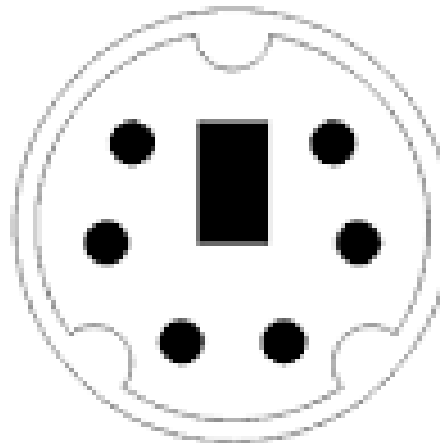
9600: FLAT audio

1200: processed audio

"Data Out 1200"
(Receive Audio)

PTT

"Data In"
(Transmit Audio)



Squelch/COR

"DATA Out 9600"
(FM Discriminator)

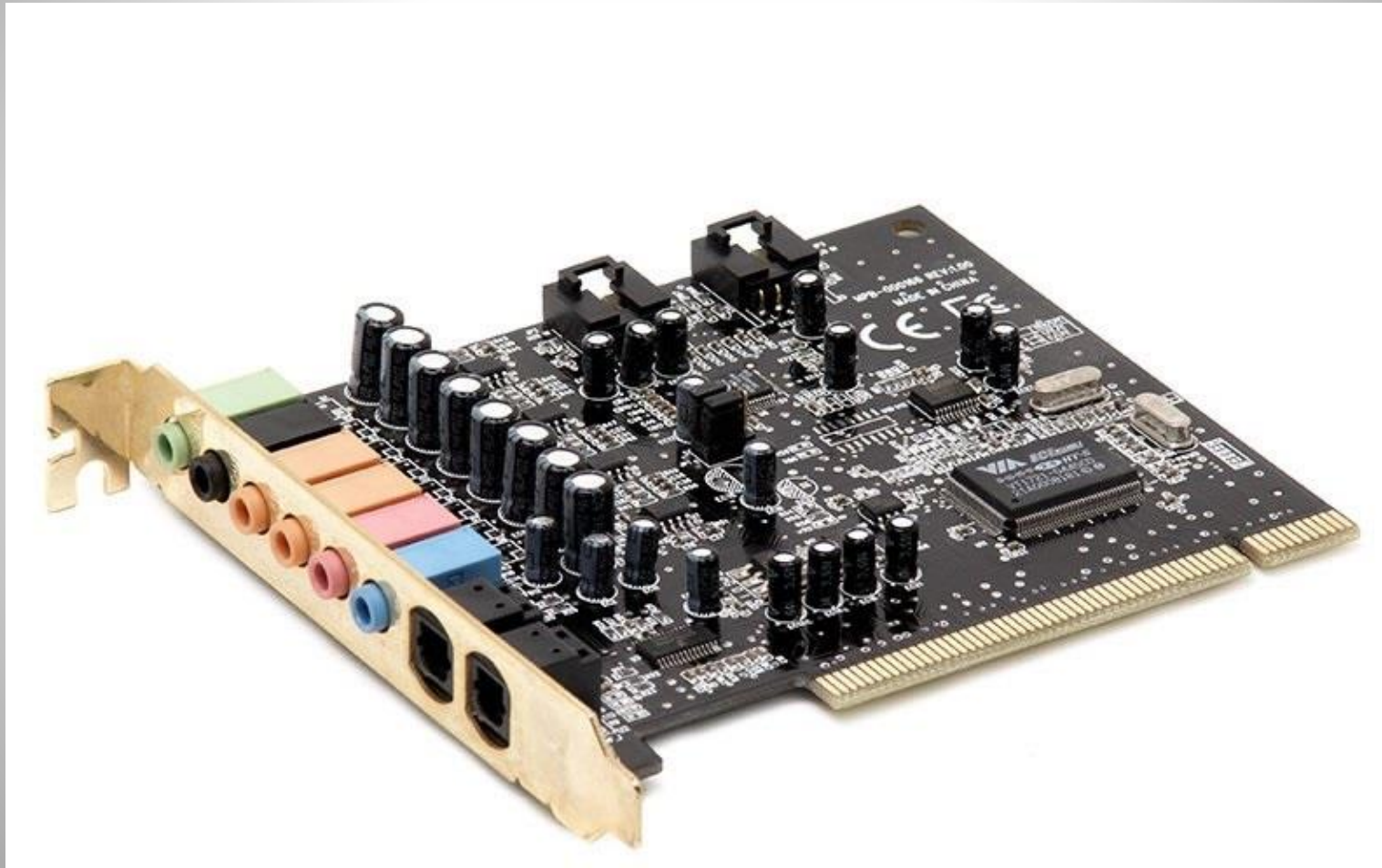
GND/COM

Looking into Male Plug
(Soldering end of Female Jack)

Complete Winlink/NBEMS FLDIGI station
Icom 706MIIG (HF/VHF/UHF) SSB-FM
USB-serial converter COM port PTT and CAT (rig control)
Signalink usb audio and HF antenna tuner
Pactor III TNC for HF Pactor 3 and VHF PACKET



Sound Cards (for older desktops) 1990's



Tigertronics - Signalink (no COM port)

USB sound card: power from usb 5 volts
Has its own VOX circuit for PTT and Delay (hang time)
Rx and TX audio level adjustments



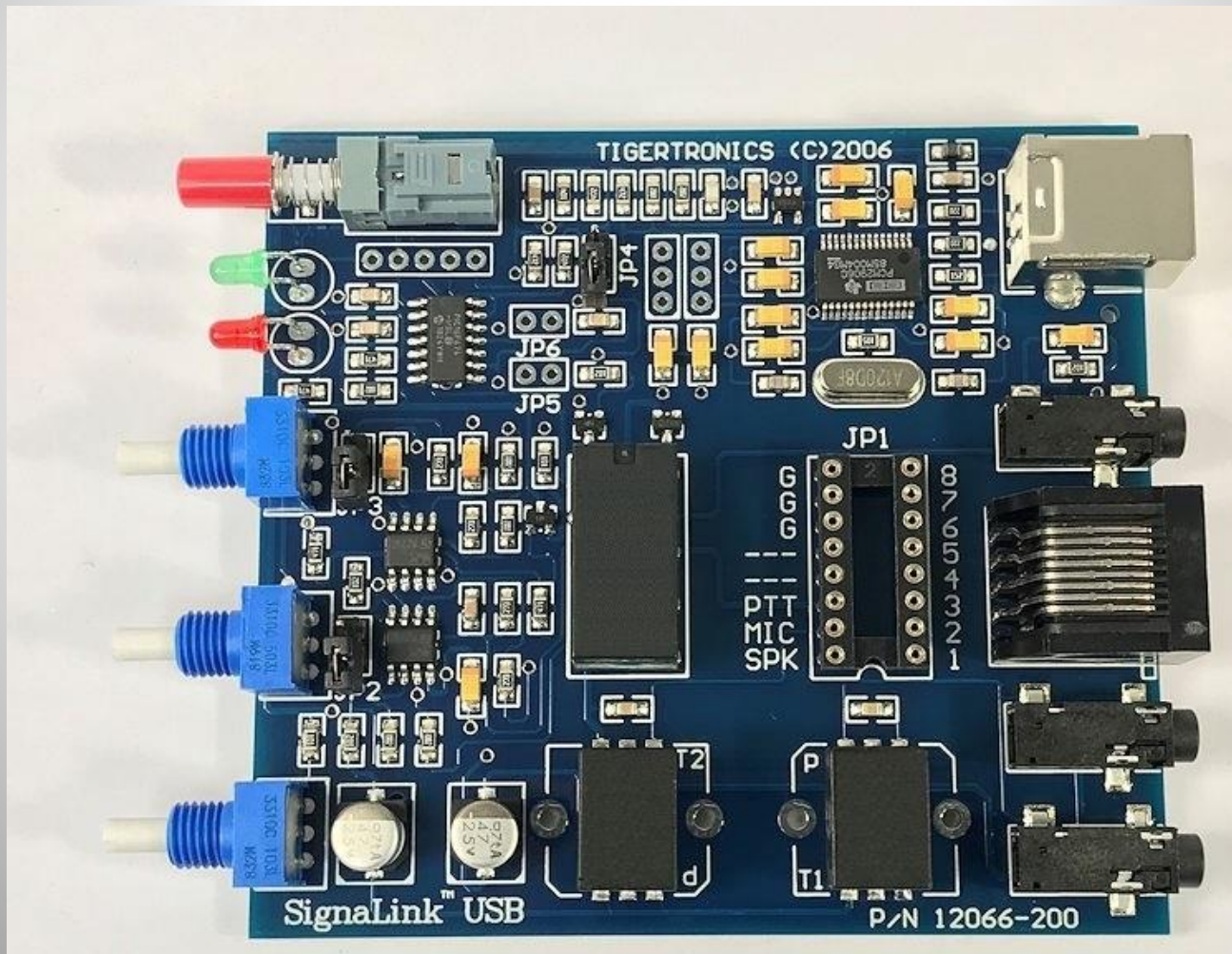
SignalLink - rear connections

USB power and digital audio to computer
Radio Cable: RJ-45 to specific plug for radio model
MON jack - listen to your **TX** audio in headphones

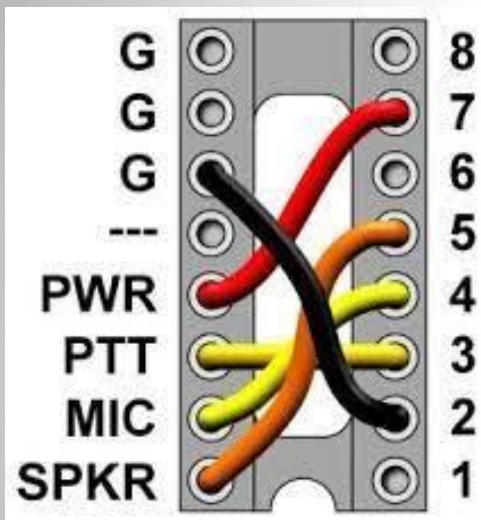


Signalink post 2018

- newer transformers - higher audio response range > 3 kHz
- better voltage regulation
- still MONO only - Tx/RX - Left channel only



SignalLink connects to variety of radios via Jumper block to set function of pins 1-8



Signalink SLCAB13K Cable Diagram

RB RJ45 Pin		Kenwood ACC2	Function
1	-----	12	TX Audio Gnd
2	-----	8	PTT Gnd
3	-----	4	RX Audio Gnd
4	-----	13	PTT (Mic Active)
5	---///---	NC	
6	-----	9	PTT (Mic Muted)
7	-----	11	TX Audio
8	-----	3	RX Audio



Masters Communications a high-end sound card

DRA-100 Series Black



USB audio - getting smaller and smaller
MIC input and HEADPHONE output
VOL control, MONO/STEREO



Rigblaster "interface" (needs external sound card)

Transmit: L/R/both channels with isolation transformer

VOX or Com Port for PTT (send)

TX audio plugs into ANY radio's microphone jack



Rigblaster "Advantage"

USB based sound card - very low noise

plugs into any MIC /speaker port, or DATA port

1 **COM** port for: PTT, Rig Control, CW keying, FSK RTTY

TX PTT via VOX or COM port (toggle switch)

Individual GAIN knobs: Tx, Rx, VOX hang time



Other popular sound cards



Many modern rigs have built-in sound cards

