



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

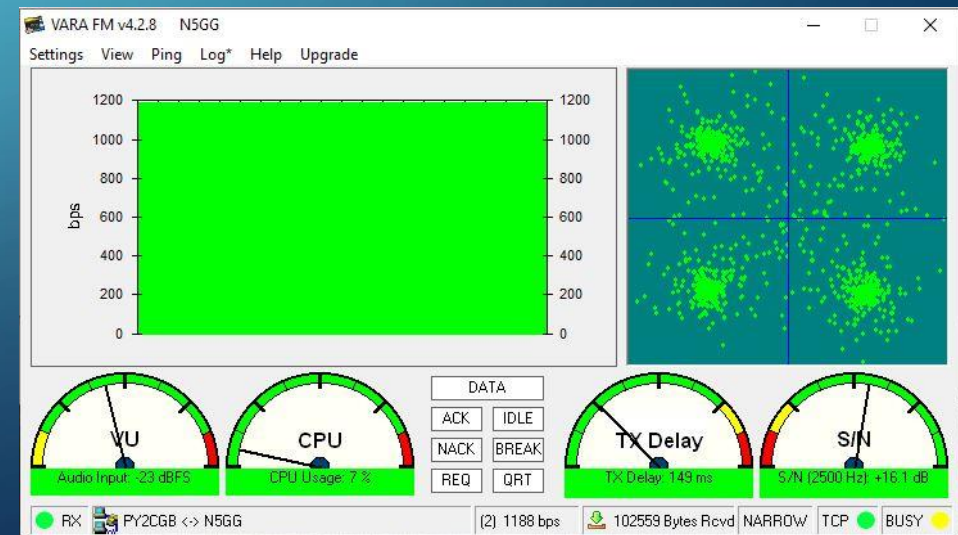
# WINLINK EMAIL SYSTEM

LARA – LEWISVILLE AMATEUR RADIO ASSOCIATION

N5GG

COLIN BUCKUP

04/18/2023



# WHAT IS THE WINLINK SYSTEM



<https://winlink.org/>

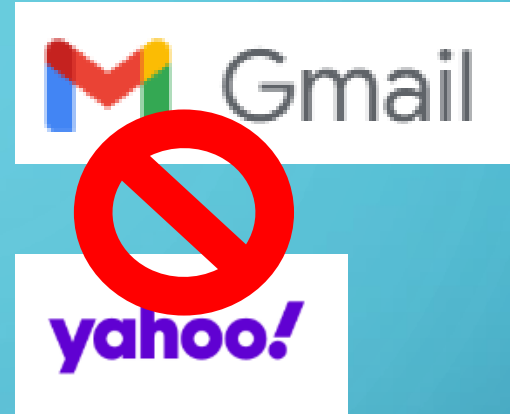
## **Winlink Global Radio Email®...**

*...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 bulletins.*
- It is well-known for its role in interoperable emergency and disaster relief communications.*
- It can operate completely without the internet --automatically-- using smart-network radio relays.*

# WHAT IT IS NOT!

- The system is NOT A replacement for the generic [xyz@gmail.com](mailto:xyz@gmail.com) or [abc@yahoo.com](mailto:abc@yahoo.com) account.
- The system should NOT be your PRIMARY email, since it is inbound filtered and should be used for text-only messages due to much slower speeds over RF.
- **The system is NOT secure and/or encrypted.** Since it uses the Amateur Bands, the messages must be “open” and readable by any licensed amateur. Keep that in mind when sending traffic.



## Open Message Viewer

All messages passing through licensed US amateur radio stations by radio are freely accessible by other licensed amateurs right here. Help the US amateur radio community police itself. Search and view, and please report a message if you spot a violation.

[US Amateur Radio Message Viewer](#)

# MESSAGES ARE NOT SECURE AND NOT ENCRYPDED

Browser address bar: cms.winlink.org:444/MessageViewer.aspx

Filter Type: **Sender** Search for:  Limit to:  records  [3]

	Timestamp	Callsign	Gateway	CMS	Source	Sender	Subject	Size	Attch	Frequency	Client
<input type="button" value="View"/>	03/26/23 15:14	N5GG	KD5EOC	CMS-B	N5GG	N5GG	GRIB file request	287	0	144.990 MHz	Express
<input type="button" value="View"/>	03/26/23 15:06	N5GG	KD5EOC	CMS-A	N5GG	N5GG	REQUEST	134	0	144.990 MHz	Express
<input type="button" value="View"/>	03/26/23 15:00	N5GG	KD5EOC	CMS-B	N5GG	N5GG	Position Report	241	0	144.990 MHz	Express

Selected Message: GRIB file request  Show Message Header

```
send GFS:14N,25N,73W,60W|0.5,0.5|0,6,12,18,24,30,36,42,48|WIND,WAVES,PRMSL Days=2 time=00:00
```



# HOW TO JOIN THE SYSTEM

## Winlink Accounts...

...are created with a client program.

### 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

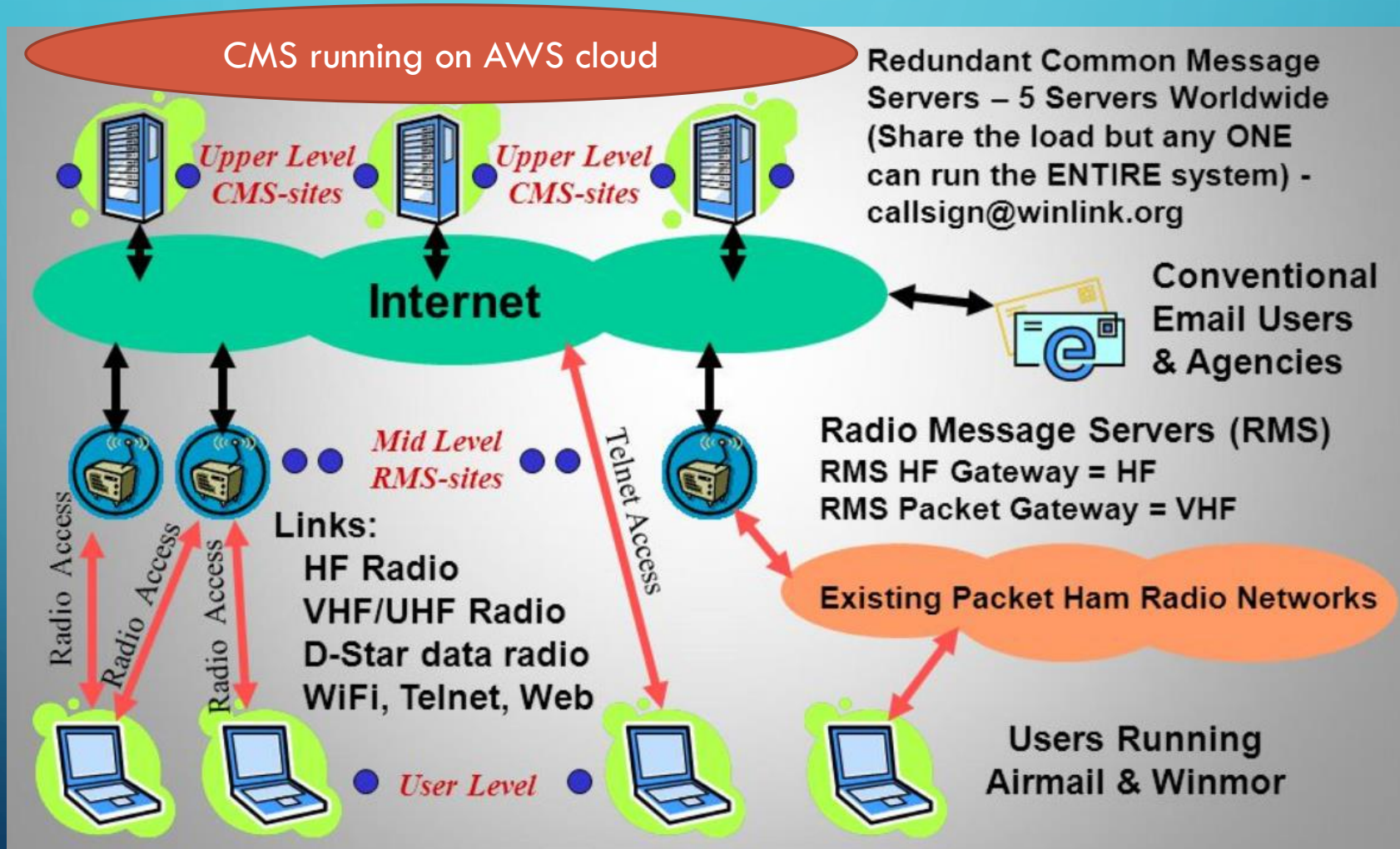
- Download, install and configure any **client software**. We suggest **Winlink Express**. Study its help about installation and use.
- **If using Winlink Express**, with an internet connection fill out the form presented on first startup after installation. See the help article "Basic Configuration" for guidance. Be sure to include a password and password recovery address. Click 'Update'. Winlink Express makes the process easy. Your account is created!

# HOW THE SYSTEM WORKS

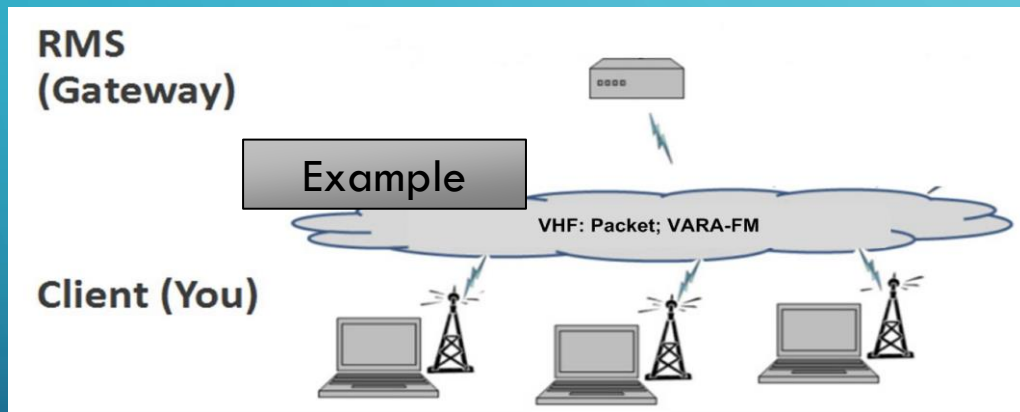
CMS

RMS

Clients



# HOW THE SYSTEM WORKS – SUPPORTED MODES



INTERNET

VHF

HF  
HF  
VHF  
INTERNET

## Supported radio technologies [\[ edit \]](#)

- 802.11 "WiFi"
- ALE (Automatic Link Establishment)
- APRS (Automatic Packet Reporting System)
- AX.25 Packet Radio
- D-Star
- PACTOR
- PACTOR-II
- PACTOR-III
- PACTOR-IV
- WINMOR(Deprecated)
- ARDOP
- Vara HF
- Vara FM
- TCP/IP (Telnet and other Wireless Technologies)

# HARDWARE COMPONENTS



\* Likely the only missing link in the shack



# AUDIO / CAT INTERFACE

## USB Cable



Simple USB A to USB B cable

Solution when the Radio has embedded USB/Sound Card capabilities

Example: HF ICOM 7300

## Cable + USB Sound Card



Set of dedicated cables for CAT / TX control and Mic/Spkr audio from radio to USB sound card

Simple and inexpensive solution for majority of VHF handheld HT's

Sound Card runs around \$15 on Amazon

## Hardware Interface



Dedicated interface hardware such as DigiRig, Signalink, etc.

Vendors have an array of dedicated cables for various radio models

This is a bit more expensive (\$50 to \$150) for the box, (\$15 to \$30) for the cables, but has the advantage of being a plug-and-play solution

# SOFTWARE COMPONENTS



Winlink Express Client Software – e-mail client

AX.25 Packet Modem – for VHF use

VARA FM – for VHF use

VARA HF – for HF use

ARDOP – for HF use, incorporated in Winlink Express

# WINLINK - ONLINE

# WINLINK HOMEPAGE

winlink.org



> My Account

> Tools

> News

> Positions

> User Programs

> Book of Knowledge

> Download

> Support

## 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 bulletins, and is well-known for its role in interoperable emergency and disaster relief communications. It is capable of operating completely without the internet--automatically--*

## Announcing 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](#)


## Play HAMWORD

Mark Kloino, N5H7R, has created a Winlink-based game

## 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 RF activity for FCC rules compliance? Welcome! Please

# THE WEBMAIL PAGE



> My Account   > Tools   > News

> Log out

> Password change

> US Amateur Radio Message Viewer

> My Webmail

> My Whitelist

> Become an RMS sysop - GUIDELINES

> Sysop Software

n5gg@winlink.org   Contacts

New Message

Inbox

Starred

Sent

Drafts

Spam

Trash

The folder is empty.

# THE WHITELIST MANAGER



## Whitelist Manager

This form permits you to add or change internet-based addresses (name@domain.com) or entire domains (@domain.com) to your anti-spam accept/deny list (your "whitelist"). You can also manage your whitelist using your radio client with command messages as described [in this article](#). This information is also found in the Winlink Catalog (available on-air as item SPAM.CONTROL in the WL2K\_HELP category).

Whitelist entries for N5GG

Address:   Allow

		Address	Allow
Edit	Delete	[REDACTED]	<input checked="" type="checkbox"/>
Edit	Delete	[REDACTED]	<input checked="" type="checkbox"/>
Edit	Delete	[REDACTED]	<input checked="" type="checkbox"/>

# WINLINK ONLINE TOOLS – RMS MAP – VARA-FM

### Live System Information

RMS Map | RMS List | Cnx Map | Prop Map | CMS Status | Traffic | RMS Ver. | User

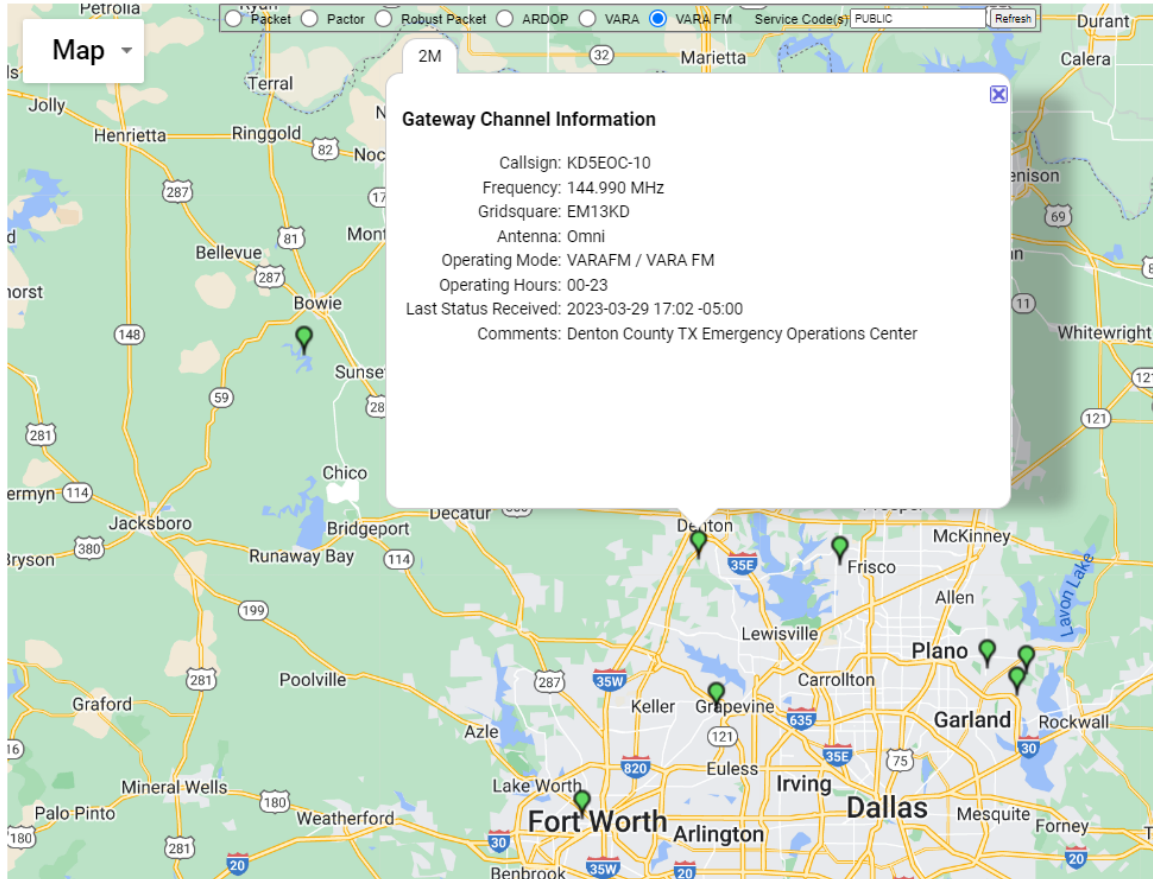
Map

Packet | Factor | Robust Packet | ARDOP | VARA | **VARA FM** | Service Code(s) PUBLIC | Refresh

2M

#### Gateway Channel Information

Callsign: KD5EOC-10  
Frequency: 144.990 MHz  
Gridsquare: EM13KD  
Antenna: Omni  
Operating Mode: VARAFM / VARA FM  
Operating Hours: 00-23  
Last Status Received: 2023-03-29 17:02 -05:00  
Comments: Denton County TX Emergency Operations Center



The screenshot displays a map of Texas with several green location pins. A pop-up window is open over a pin in the Denton County area, providing detailed information about the VARA FM gateway channel. The map shows major cities like Dallas, Fort Worth, and Plano, along with various highways and geographical features.

# WINLINK ONLINE TOOLS – RMS MAP – PACKET

The screenshot displays the 'Live System Information' interface for the Winlink RMS Map. The interface includes a navigation bar with tabs for 'RMS Map', 'RMS List', 'Cnx Map', 'Prop Map', 'CMS Status', 'Traffic', 'RMS Ver.', and 'Use'. Below the navigation bar, there is a map of Texas with a pop-up window titled 'Gateway Channel Information'. The pop-up window contains the following details:

- Callsign: KD5EOC-10
- Frequency: 144.990 MHz
- Gridsquare: EM13KD
- Antenna: Omni
- Operating Mode: Packet / Packet 1200
- Operating Hours: 00-23
- Last Status Received: 2023-03-29 17:02 -05:00
- Comments: Denton County TX Emergency Operations Center

The map shows various locations in Texas, including Fort Worth, Dallas, and Arlington, with several green location markers. The interface also features a search bar at the top with the text 'Service Code(s) PUBLIC' and a 'Refresh' button.



# WINLINK ONLINE TOOLS – RMS MAP – VARA-HF

## Live System Information

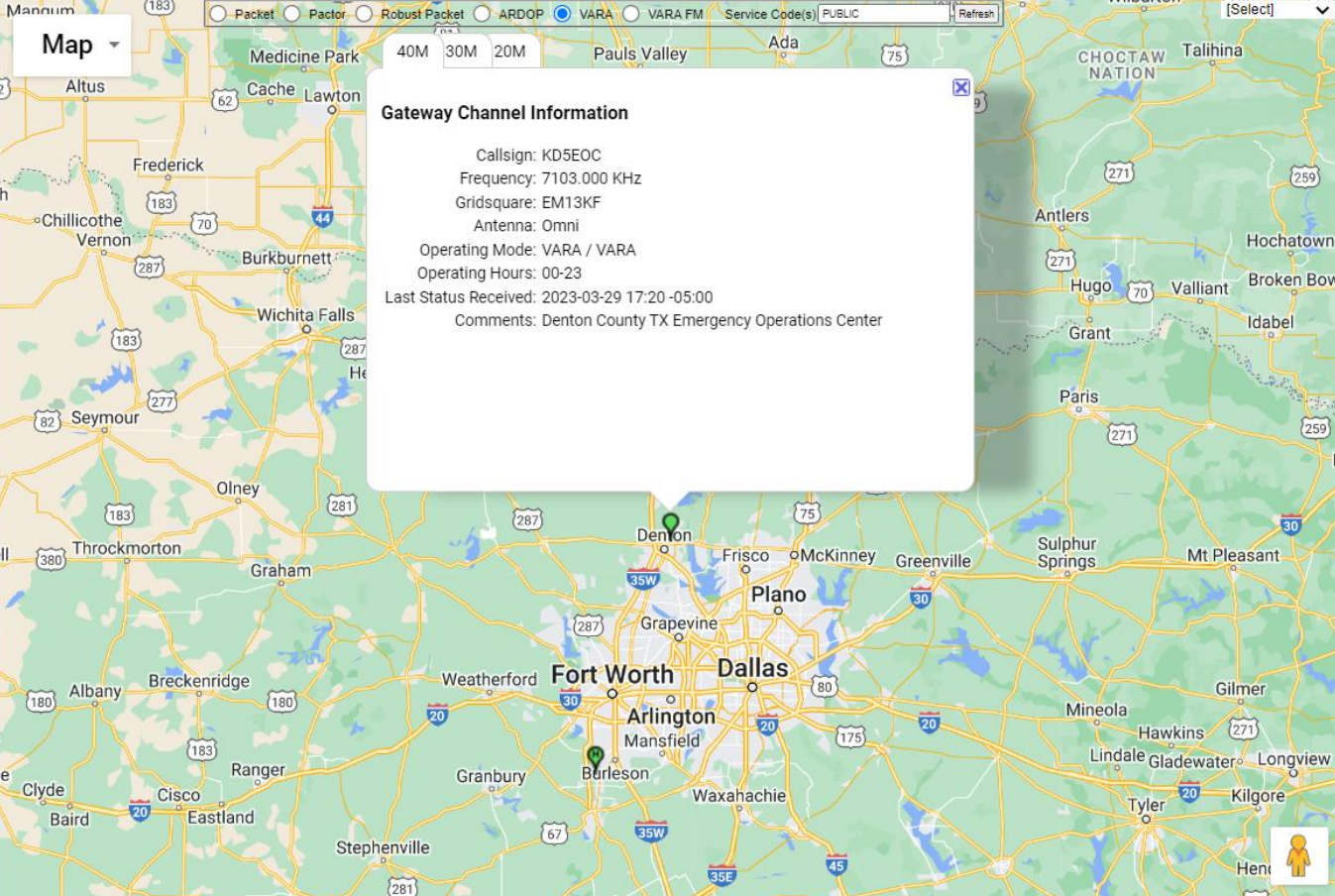
**RMS Map** | RMS List | Cnx Map | Prop Map | CMS Status | Traffic | RMS Ver. | User Ver. | Local

Map  Packet  Factor  Robust Packet  ARDOP  VARA  VARA FM Service Code(s) PUBLIC Refresh [Select]

40M 30M 20M

**Gateway Channel Information**

- Callsign: KD5EOC
- Frequency: 7103.000 KHz
- Gridsquare: EM13KF
- Antenna: Omni
- Operating Mode: VARA / VARA
- Operating Hours: 00-23
- Last Status Received: 2023-03-29 17:20 -05:00
- Comments: Denton County TX Emergency Operations Center



The map displays a geographical area centered on Dallas, Texas, with various cities and towns labeled. A pop-up window provides detailed information for a specific gateway channel. The map includes major highways and geographical features.

# CLIENT PROGRAMS TO USE WITH WINLINK

## Compare Client Programs

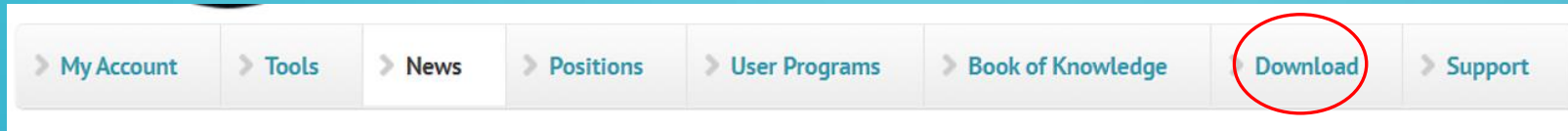
Programs (Download)-> Features below	<a href="#">Outpost</a>	<a href="#">AirMail</a>	<a href="#">WoAD</a>	<a href="#">Pat</a>	<a href="#">RadioMail</a>	<a href="#">Paclink- Unix</a>	<a href="#">Paclink</a>	<a href="#">Winlink Express</a>
<b>TELNET</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>AX.25 PACKET</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>PACTOR 1-3</b>	No	Yes	No	Yes	No	Yes	Yes	Yes
<b>PACTOR 4</b>	No	Yes	No	Yes	No	No	Yes	Yes
<b>ARDOP</b>	No	No	Yes	Yes	No	No	No	Yes
<b>VARA HF and VARA FM</b>	No	No	Yes, limited	Yes, limited	Yes, limited	No	No	Yes. VARA is speed- limited unless licensed.

Password

The background is a solid teal color with a subtle gradient. In the four corners, there are decorative white line-art patterns resembling circuit traces or data paths, with small circles at the end of the lines.

DOWNLOAD THE NEEDED SOFTWARE

# DOWNLOAD WINLINK EXPRESS



# DOWNLOAD UZ7HO – SOFTWARE PACKET RADIO TNC

UZ7HO Personal page - Packet-Radio

Net secure | uz7.ho.ua/packetradio.htm

Welcome to the personal page

## UZ7HO

Home | Contesting | Guestbook | Log search | Packet-Radio

### Solar-Terrestrial Data


30 Mar 2023 1742 GMT  
SFI: 148 SN: 121  
A-Index: 6  
K-Index: 3  
X-Ray: B9.1  
304A: 151.9 @ SEM

### Calculated Conditions

Band	Day	Night
80m-40m	Poor	Fair
30m-20m	Fair	Good
17m-15m	Good	Good
12m-10m	Fair	Poor

Signal Noise: S2-S3

Click to Install Solar Data On your Web Site  
<http://www.zn0bbh.com>  
Copyright Paul L Herriman 2023



### The software Packet-Radio TNC

I am developing a software dual-port Packet-Radio TNC that uses a soundcard as a modem and supports AX.25 protocol. It has been tested on Windows XP, Vista, 7, 8, 10 and has proved stable in operation. The Soundmodem has two TCP/IP interfaces to link with client application: AGW PE and (X)KISS. In case AGW PE interface, this modem is a direct replacement of original AGW Packet Engine and emulates AC PE API. The Soundmodem may be used to build EMCOMM, APRS, BBS, Node station, for satellites etc supports such modes:

Soundmodem	High-Speed Soundmodem
<ul style="list-style-type: none"><li>• AFSK 300, 600, 1200, 2400 bps</li><li>• (D)BPSK 300, 600, 1200, 2400 bps</li><li>• (D)QPSK 2400, 3600, 4800 bps</li><li>• (D)8PSK 4800 bps</li></ul>	<ul style="list-style-type: none"><li>• G3RUH 4800, 9600, 19200 bps</li><li>• Manchester 1200, 2400, 3600, 7200 bps</li><li>• HAPN 4800 bps</li><li>• GOMX-1/3, Mobitex-NX (BeeSAT-2/4)</li><li>• AAUSAT-4, LilacSat-2 decoders</li></ul>

## Soundmodem versions, manuals and utility:

<a href="#">CHANGELOG.txt</a>	09-Jun-22 06:22	10.02K
<a href="#">greentnc.zip</a>	25-Dec-22 11:33	1.35M
<a href="#">hs_soundmodem27.zip</a>	11-Feb-21 09:15	454.19K
<a href="#">other-versions.zip</a>	05-Oct-22 00:03	6.99M
<a href="#">ptt-dll.zip</a>	30-Oct-19 22:39	247.22K
<a href="#">soundmodem114.zip</a>	09-Jun-22 06:18	465.62K
<a href="#">user_guide_v045b_FR.pdf</a>	11-Oct-13 19:13	333.12K
<a href="#">user_guide_v114_EN.pdf</a>	24-Oct-22 05:14	705.45K
<a href="#">utils.zip</a>	28-Feb-15 04:59	68.21K

# DOWNLOAD VARA-HF AND VARA-FM

EA5HVK | Weak signals Software x +

https://rosmodem.wordpress.com

## EA5HVK

Weak signals Software

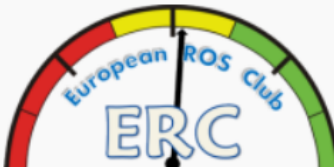
### EA5HVK software

10 January, 2011

- [VARA HF v4.7.6 \(High Performance HF Modem\)](#)
- [VARA FM v4.2.9 \(VARA for FM transceivers\)](#)
- [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

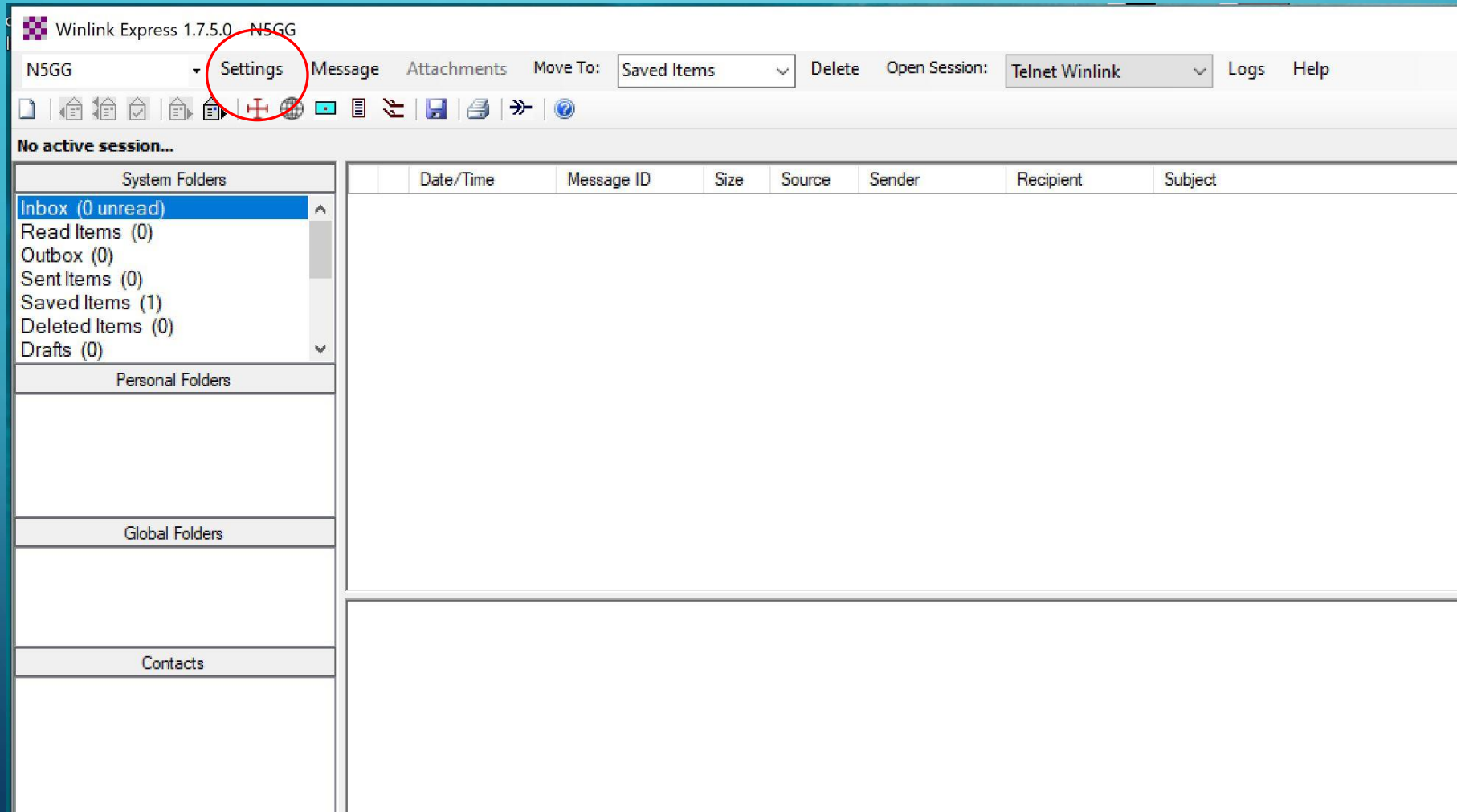
- » ROS takes the Blue Riband  
Fastest live data to cross the Atlantic G > VE

### Recent Posts

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

# WINLINK – CLIENT AND VIRTUAL MODEMS INSTALLATION

# INSTALL THE WINLINK CLIENT





# CONFIGURING WINLINK EXPRESS

**Winlink Express Properties**

**Call Signs**

My Callsign:  My Password (Case sensitive):

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:

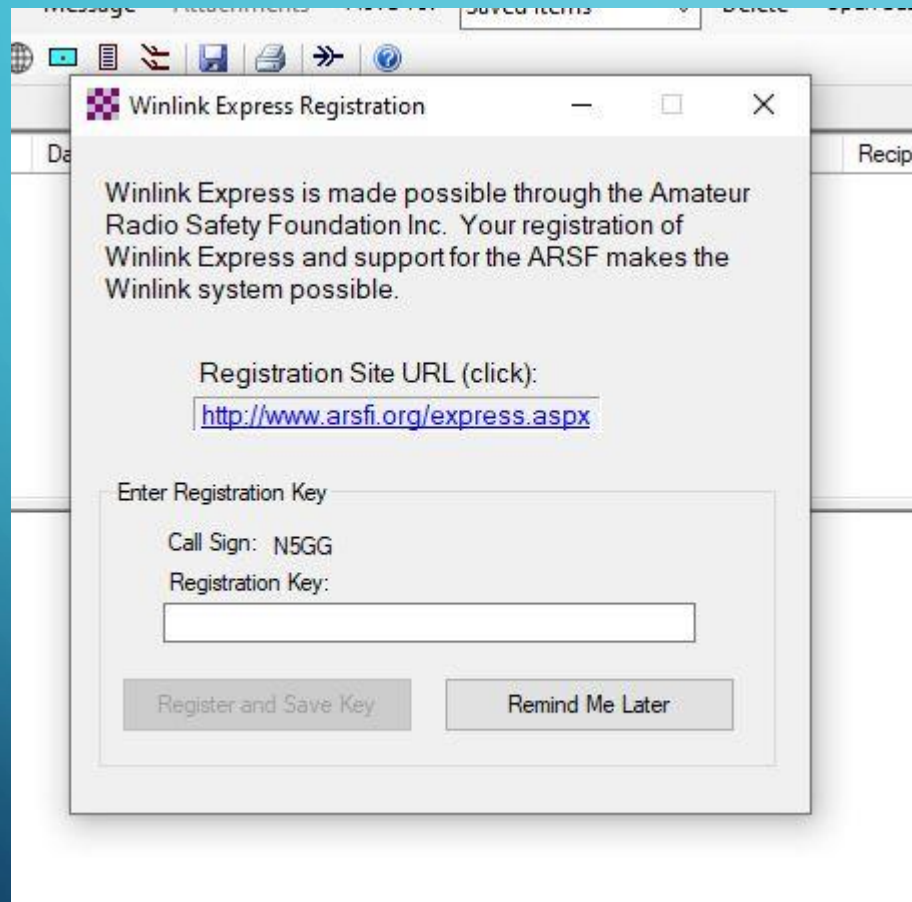
**Additional information (optional):**

Recalculate HF path quality if SFI changes more than:

Keep logs for  weeks. Keep deleted messages for  days.

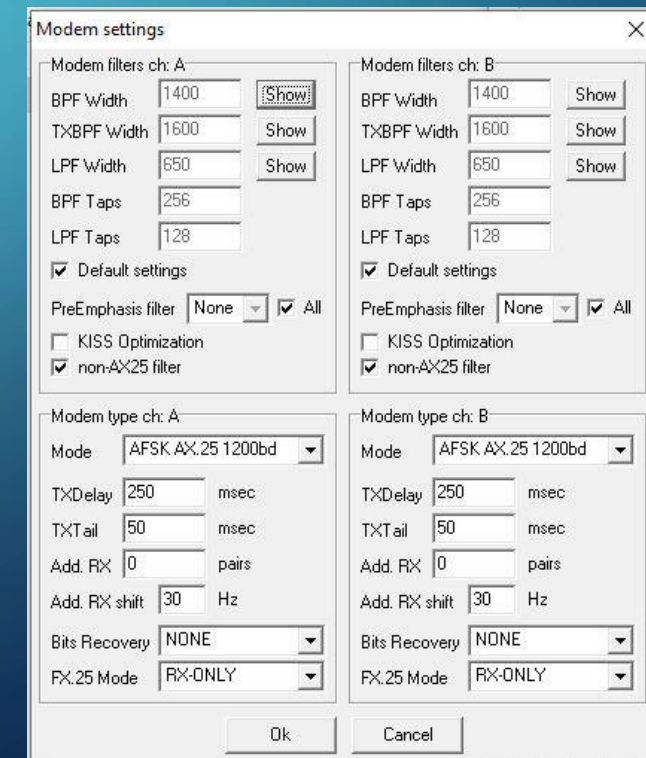
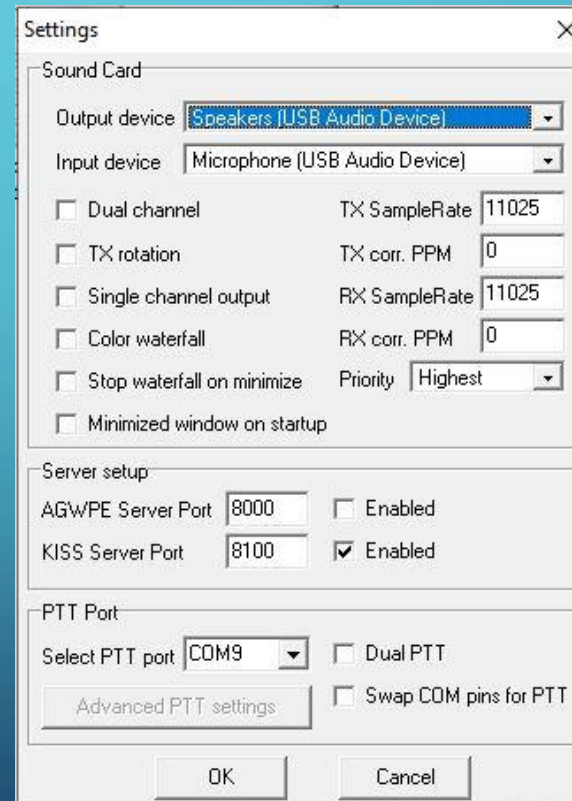
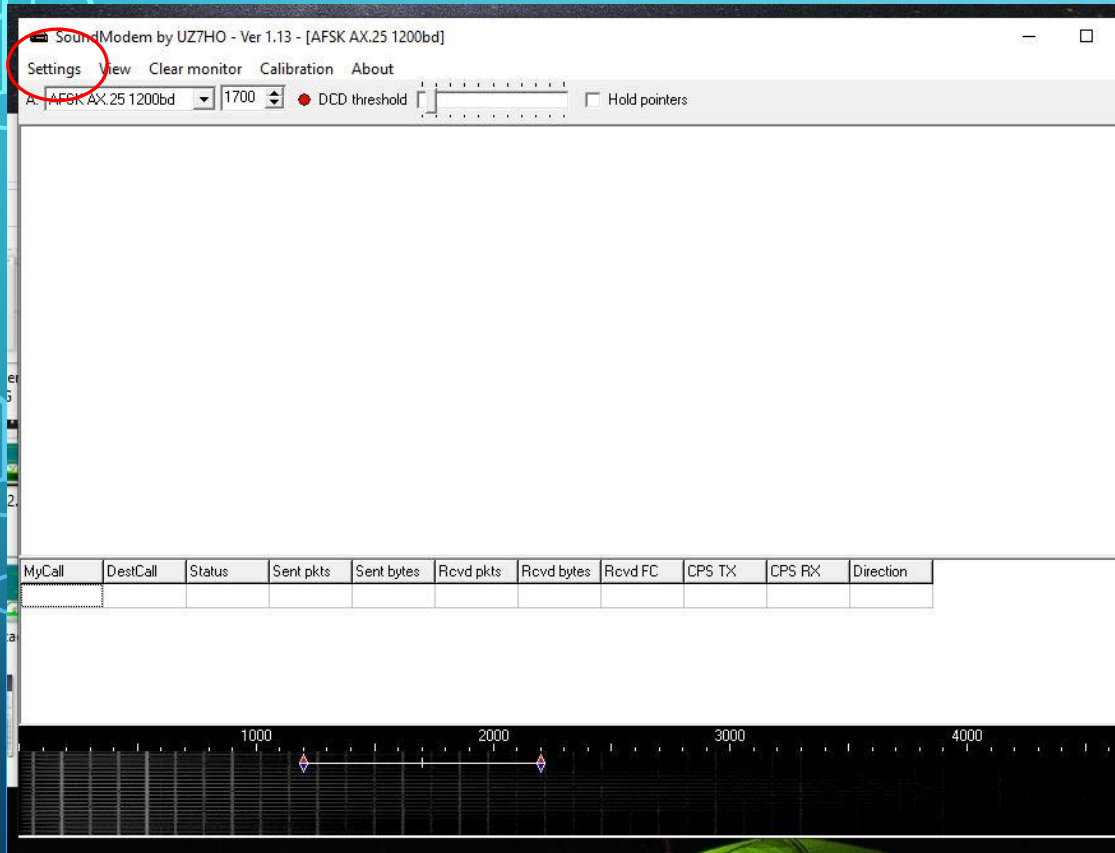
- Display list of pending incoming messages prior to download
- Warn about connections to stations holding messages
- Allow diagnostic information to be sent to the Winlink Development Team
- Automatically install field-test (beta) versions of Winlink Express
- Automatically install updates without prompting

# NAGGING SCREEN IN WINLINK EXPRESS

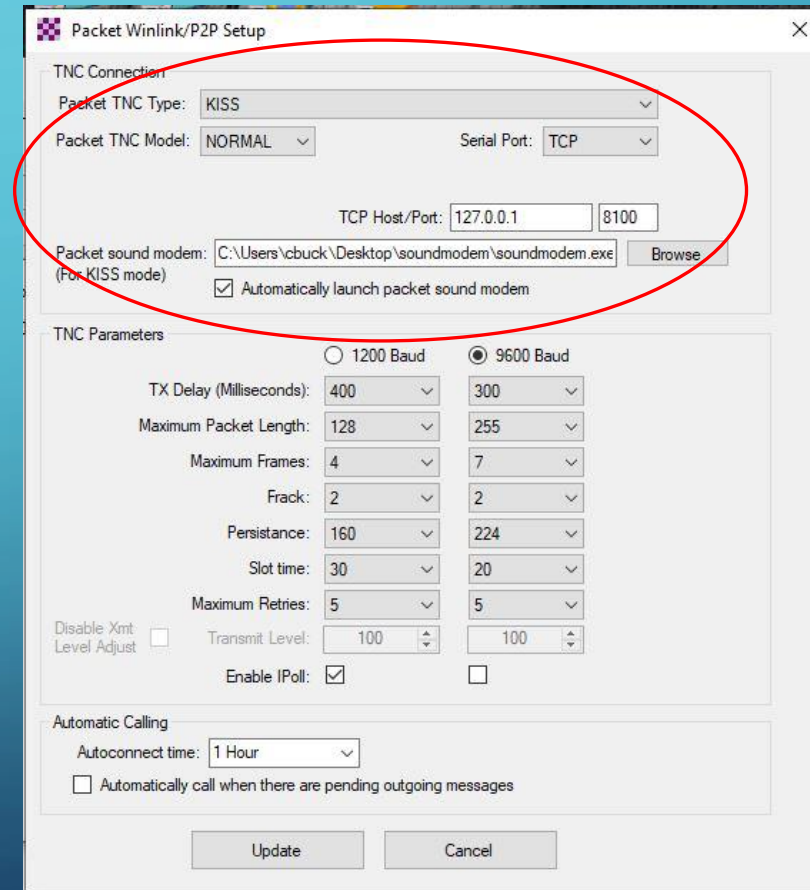
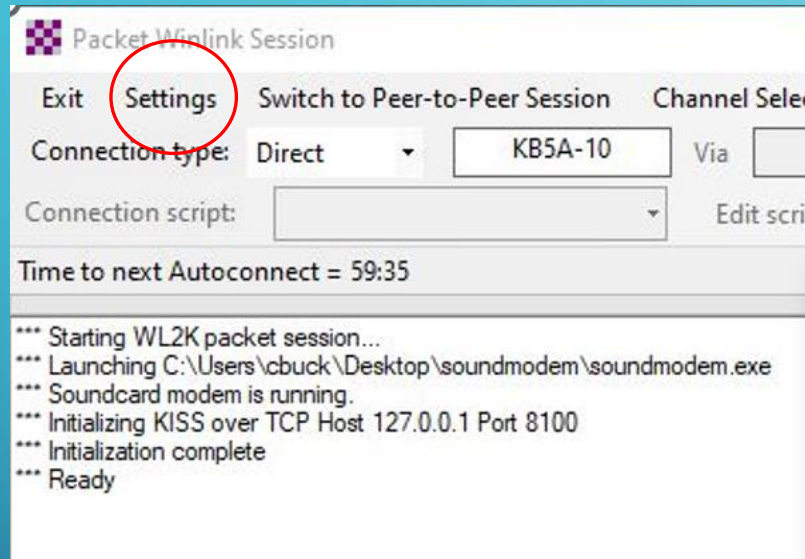


Just press the Remind Me Later button when it comes up, or buy a license key

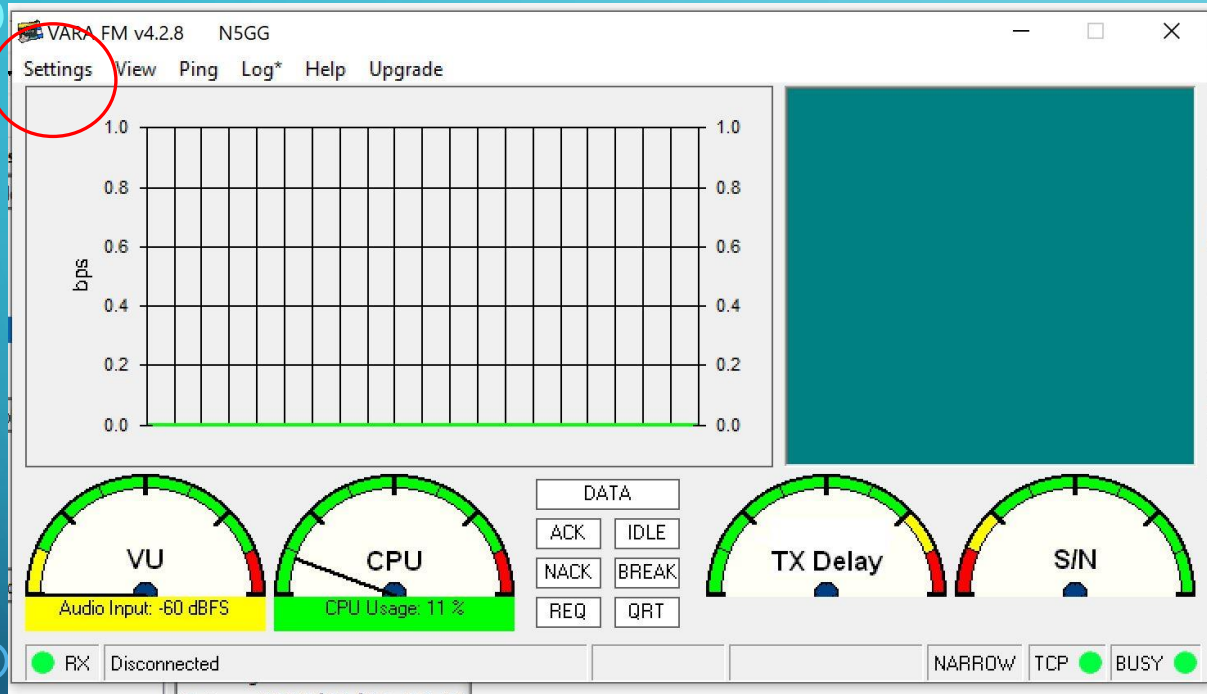
# INSTALL AND CONFIGURE THE PACKET MODEM



# CONFIGURE PACKET MODEM WITHIN WINLINK



# INSTALL AND CONFIGURE VARA FM MODEM



VARA Setup

TCP Ports: Command 8300 Data 8301

FM System: NARROW

Digipeater: Retries: 2

Allow VARA check for updates

KISS interface  SysLog

VARA Licenses

Compatible with Signalink USB

SQL DATA OUT 9600bps GND DATA DATA OUT 1200bps PTT DATA IN

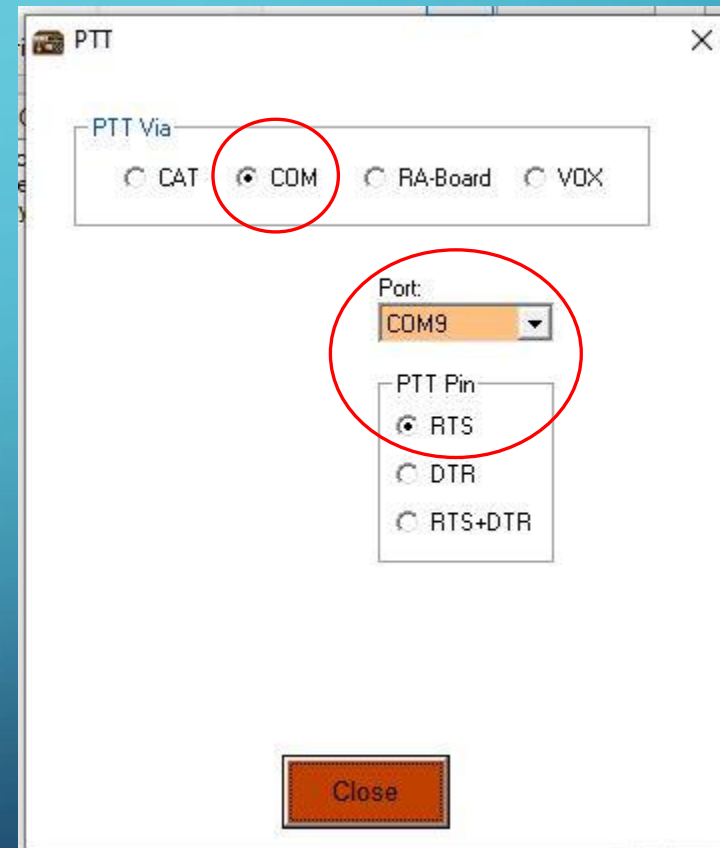
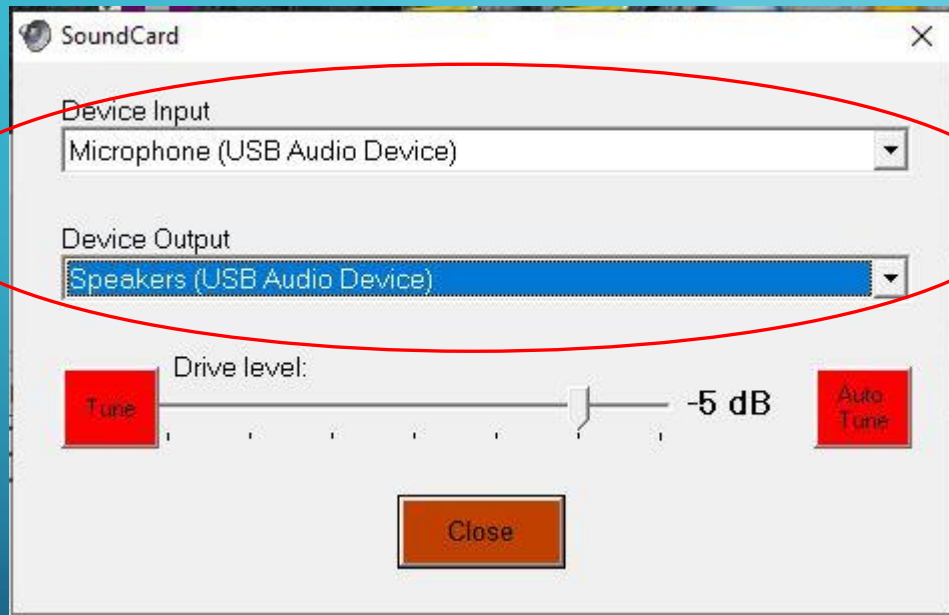
to PC input from PC output

\* VARA FM WIDE needs a FM rig set for 9600 Packet operation, with a special soundcard interface (6 kHz BW) connected to rear panel: RA-Board, Signalink "Black" transforms, Modified Signalink (red audio transforms removed), homebrew interface (a simple direct cable)...

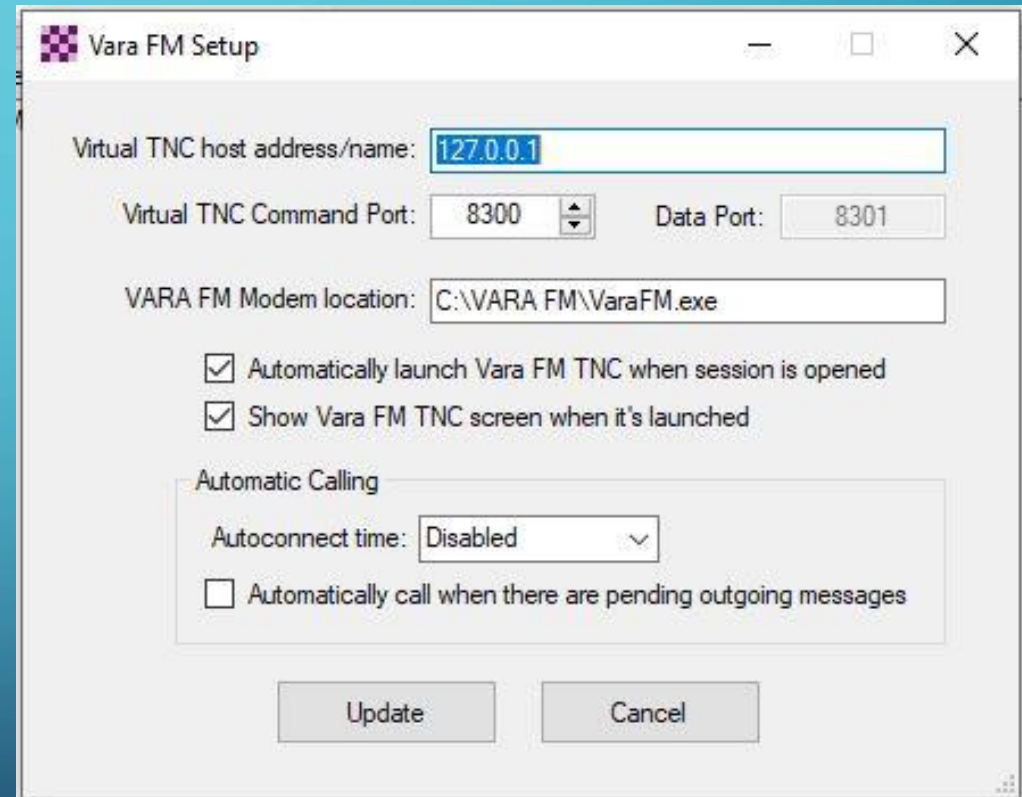
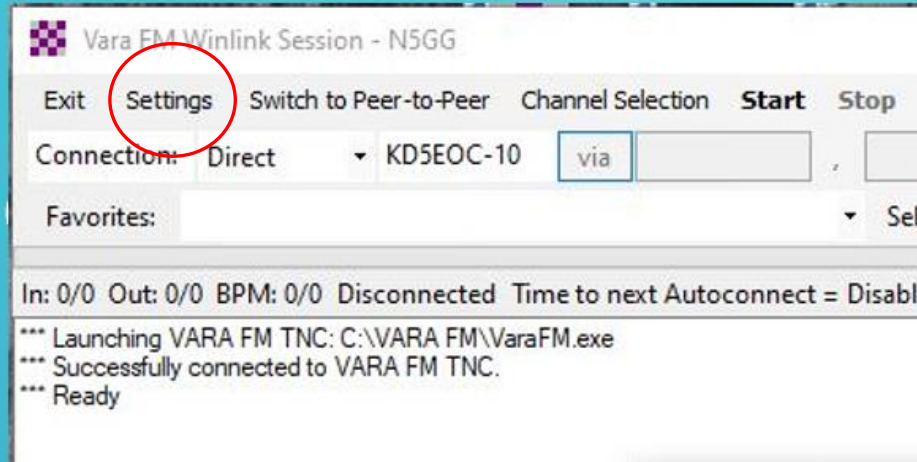
\* In other case, you must select VARA FM NARROW

Close

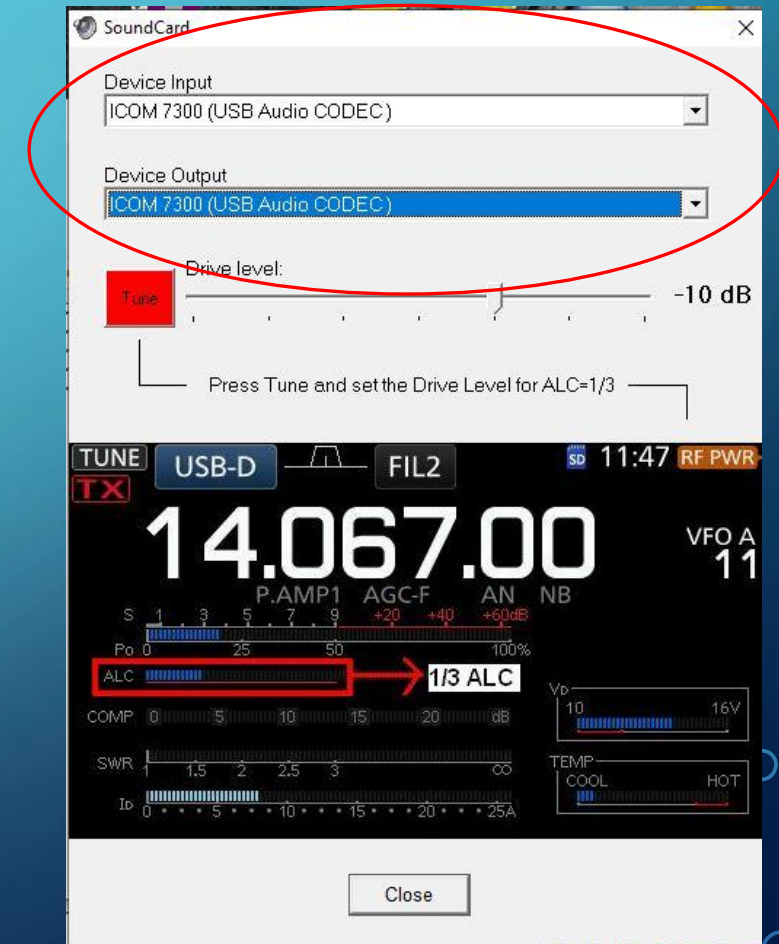
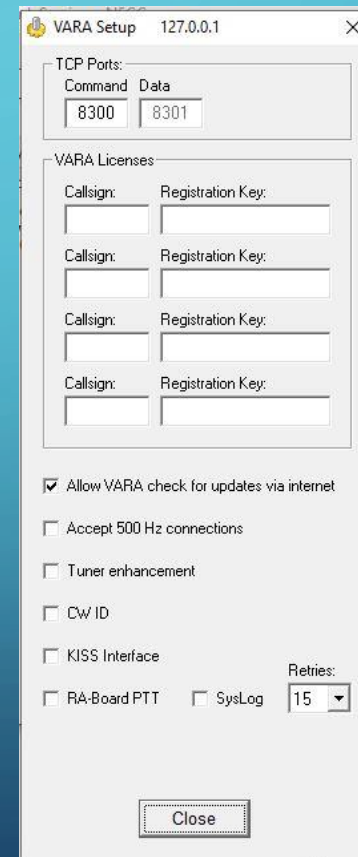
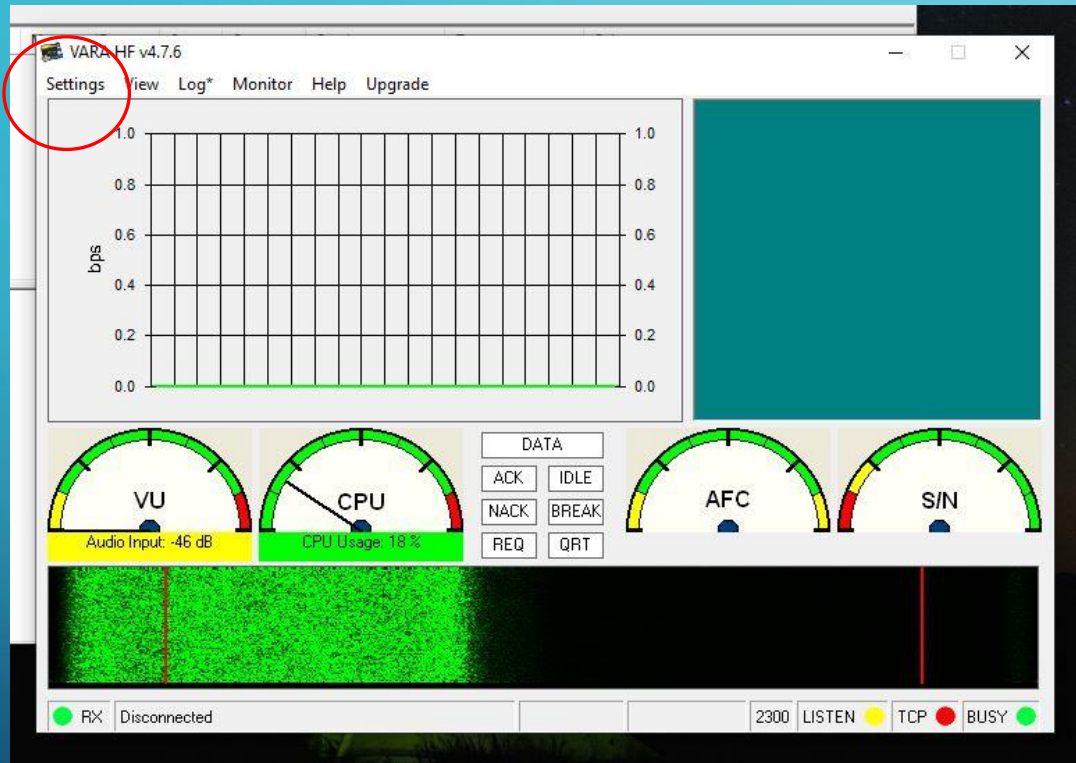
# CONFIGURE VARA FM MODEM



# CONFIGURE VARA FM MODEM WITHIN WINLINK

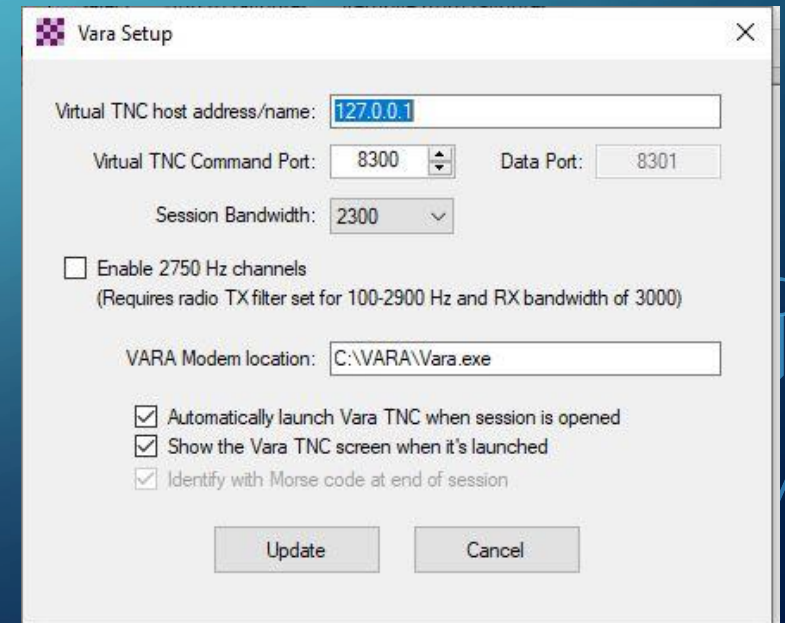
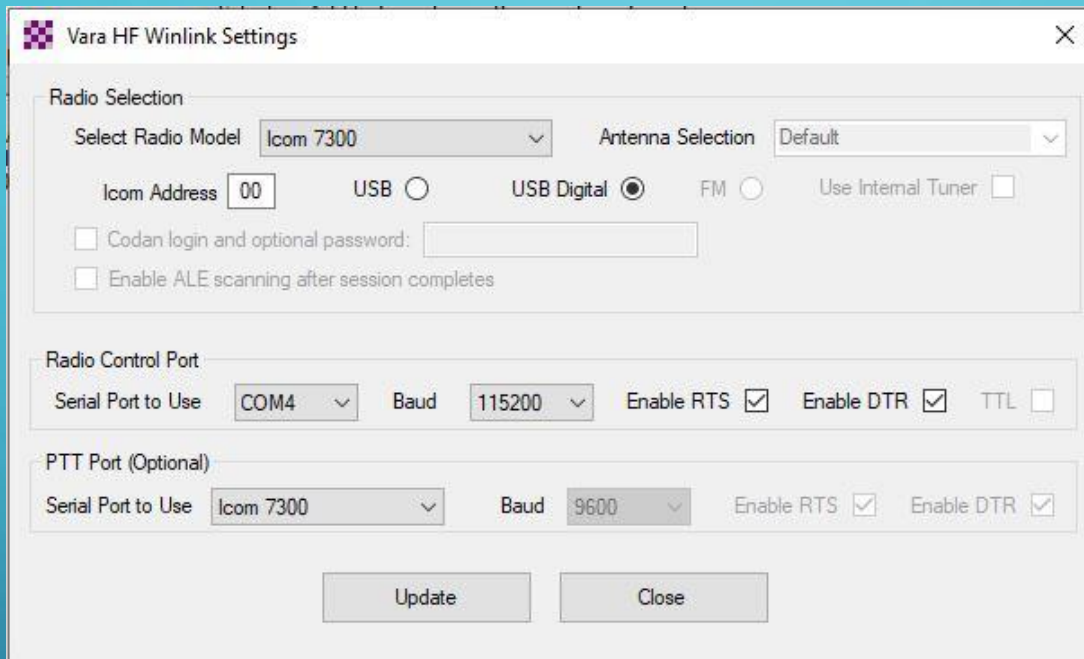
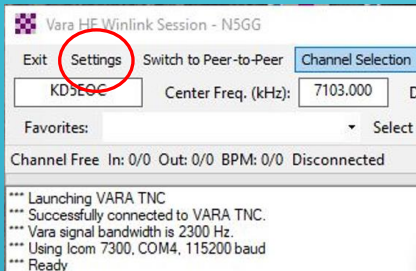


# INSTALL AND CONFIGURE VARA HF MODEM

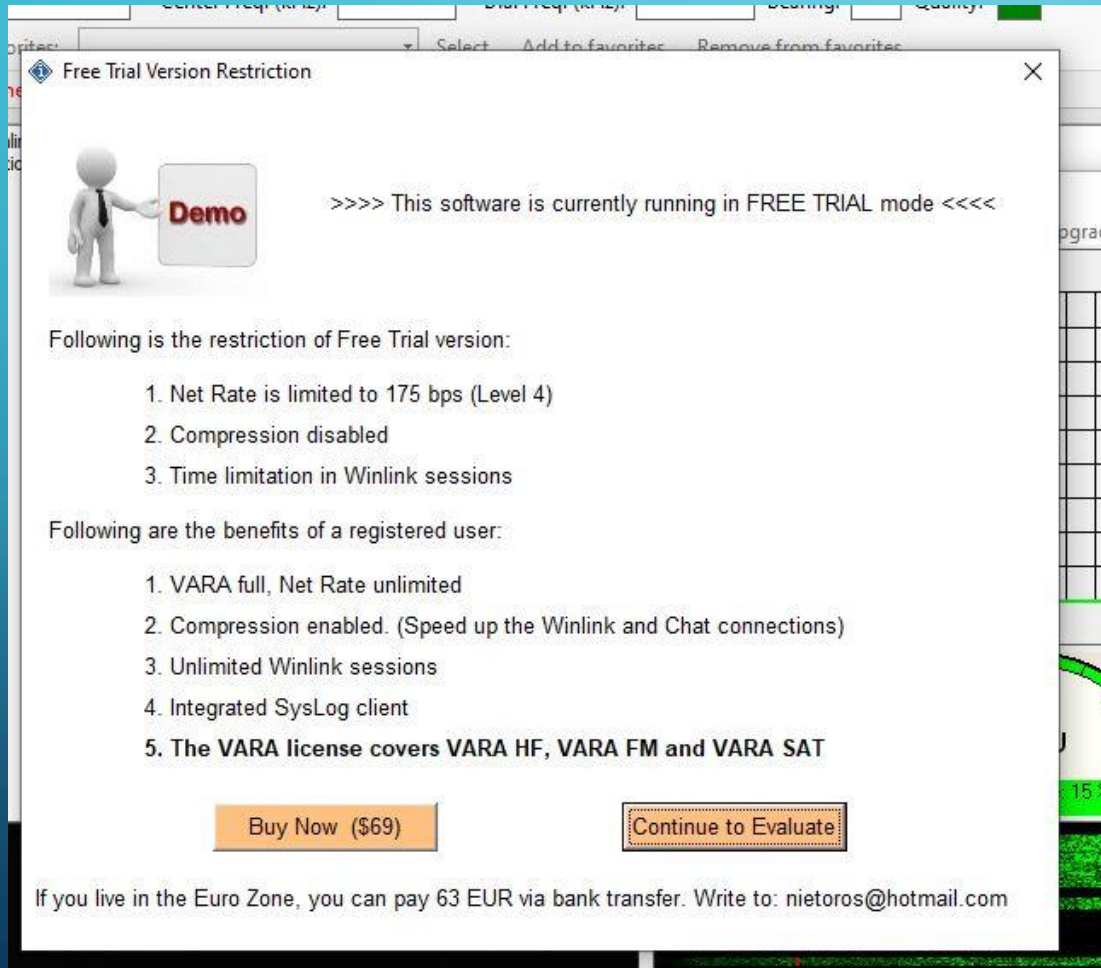




# CONFIGURE VARA HF MODEM WITHIN WINLINK



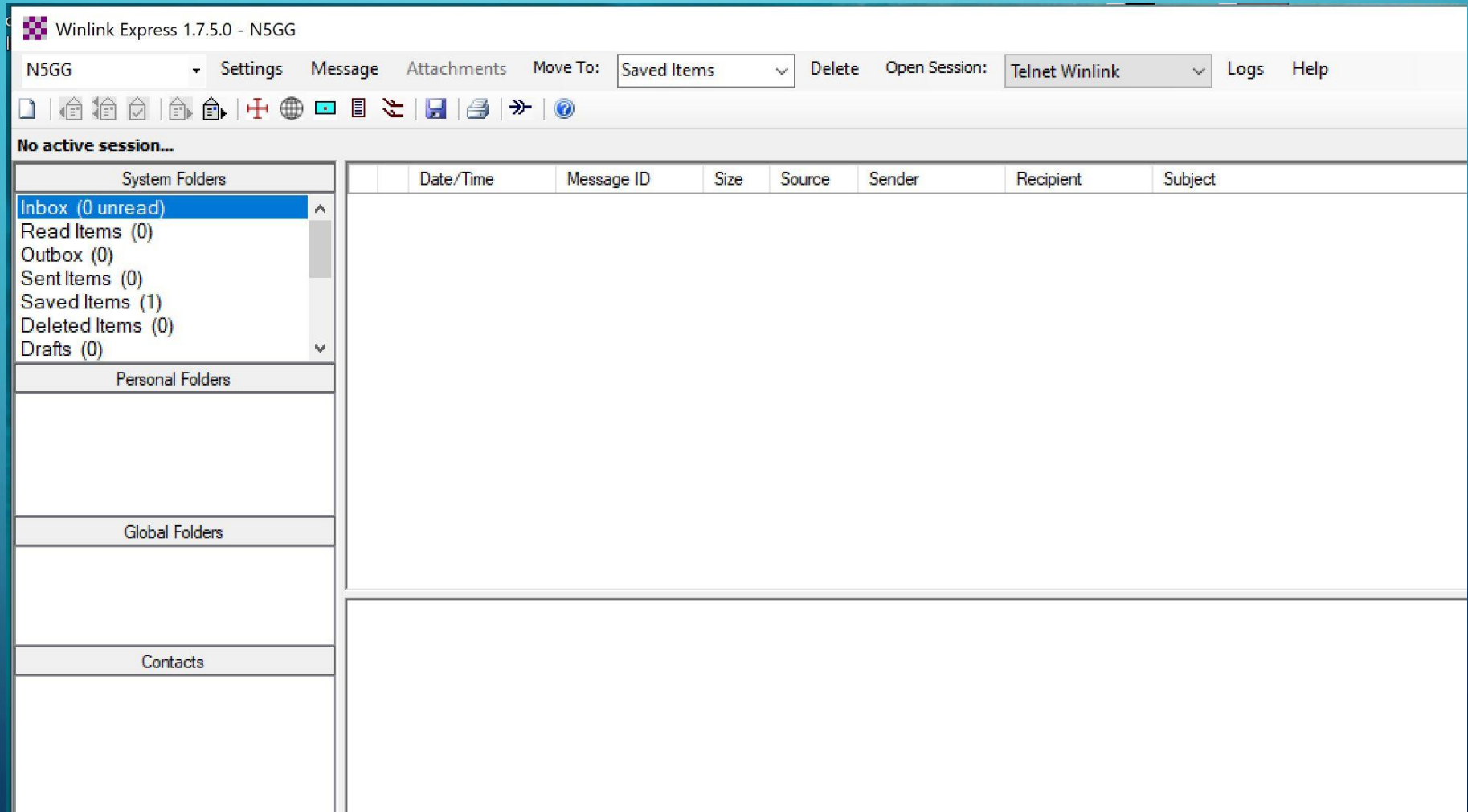
# NAGGING SCREEN IN VARA MODEMS



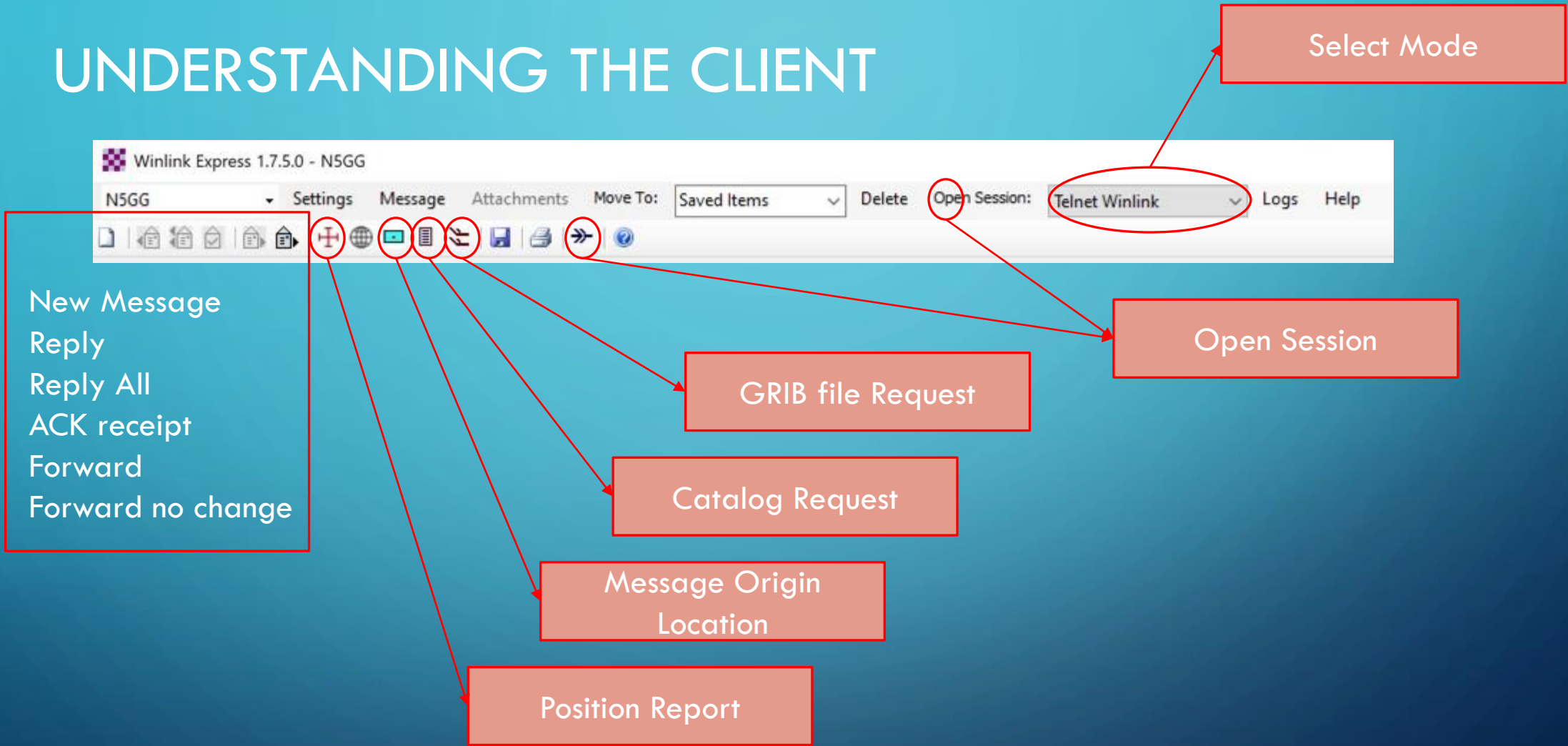
Just press the Continue to Evaluate button when it comes up, or buy a license key

LET'S SEND/RECEIVE SOME MESSAGES!!!

# THE WINLINK EXPRESS MAIL CLIENT



# UNDERSTANDING THE CLIENT



# TELNET WINLINK

# TELNET - SIMPLE AS "START"

- 1 – select Telnet
- 2 – open the session
- 3 – start the connection

The screenshot displays the Winlink Express 1.7.5.0 - N5GG interface. The top menu bar includes 'N5GG', 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Telnet Winlink', 'Logs', and 'Help'. The 'Open Session' dropdown is circled in red. Below the menu bar is a toolbar with various icons, including a red circle around the 'Telnet' icon. The main window is titled 'In Telnet Winlink session.' and features a left sidebar with folders: System Folders (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (0), Saved Items (1), Deleted Items (0), Drafts (0)), Personal Folders, Global Folders, and Contacts. The main pane shows a table with columns: Date/Time, Message ID, Size, Source, Sender, Recipient, and Subject. A red box highlights a message entry. A secondary window titled 'Telnet Winlink Session' is open, showing a 'Start' button circled in red. The session log text is as follows:

```
*** Connecting to a CMS...
*** Connected to CMS-SSL at 2023/03/30 18:46:31
[WL2K-5.0-B2FWIHJMS]
:PQ: 30807757
CMS>
:FW: N5GG
[RMS Express-1.7.5.0-B2FHMS]
:PR: 47106276
:WL2K DE N5GG (EM13LA)
FF
FQ
*** --- End of session with WL2K at 2023/03/30 18:46:32 ---
*** Messages sent: 0. Total bytes sent: 0. Time: 00:00, bytes/minute: 0
*** Messages Received: 0. Total bytes received: 0. Total session time: 00:00, bytes/minute: 0
*** Disconnected at 2023/03/30 18:46:32
```

# YOU'VE GOT MAIL!

The screenshot shows the Winlink Express 1.7.5.0 - N5GG interface. The window title is "Winlink Express 1.7.5.0 - N5GG". The menu bar includes Settings, Message, Attachments, Move To: Saved Items, Delete, Open Session: Packet Winlink, Logs, and Help. The toolbar contains icons for file operations and network functions. The main area displays a message list with the following data:

	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
	2023/03/30 16:21	X4NG4VCJP9AC	302	SYSTEM	SERVICE	N5GG	Duplicate Position Report

Below the message list, the details for the selected message are shown:

Message ID: X4NG4VCJP9AC  
Date: 2023/03/30 16:21  
From: SERVICE  
To: N5GG  
Source: SYSTEM  
Downloaded-from: RMS:KB5A-10  
Subject: Duplicate Position Report

This position report is a duplicate of the most recent one recorded for N5GG:

Date: 2023/03/30 16:18  
Latitude: 33-1.04N  
Longitude: 97-1.28W  
Comment: N5GG via 2m Winlink Express / VARAFM



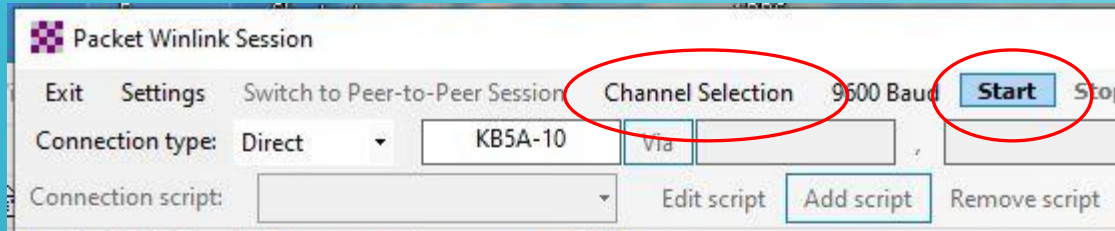
# PACKET WINLINK

# AX.25 PACKET

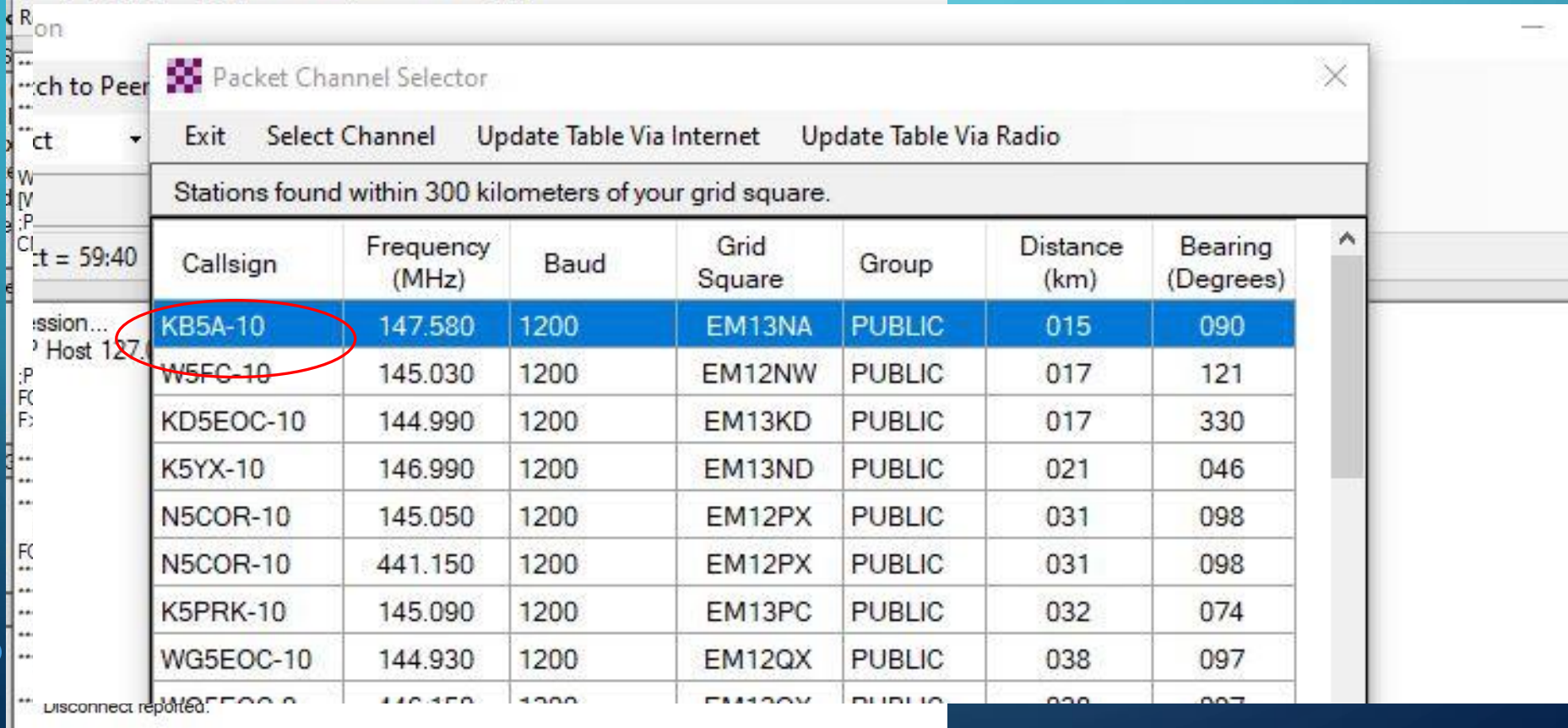
- 1 – select Packet
- 2 – open the session

The screenshot displays the Winlink Express 1.7.5.0 - N5GG interface. The main window shows a menu bar with 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Packet Winlink', 'Logs', and 'Help'. The 'Open Session' dropdown is circled in red. Below the menu bar, there is a toolbar with various icons, including a red circle around the 'Open Session' icon. The main area is divided into a left sidebar with 'System Folders' (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (18), Saved Items (14), Deleted Items (0), Drafts (0)) and 'Personal Folders'. The main pane shows a table with columns for 'Date/Time', 'Message ID', 'Size', and 'Source'. A secondary window titled 'Packet Winlink Session' is open, showing 'Connection type: Direct', 'Channel Selection: KB5A-10', and '9600 Baud'. It also has 'Start' and 'Stop' buttons. A log window titled 'SoundModem by UZ7HO - Ver 1.13 - [AFSK AX.25 1200bd]' is also visible, showing the status 'Ready' and a table with columns: MyCall, DestCall, Status, Sent pkts, Sent bytes, Rcvd pkts, Rcvd bytes, Rcvd FC, CPS TX, CPS RX, and Direction. At the bottom, there is a frequency spectrum display with markers at 1000, 2000, 3000, and 4000 Hz.

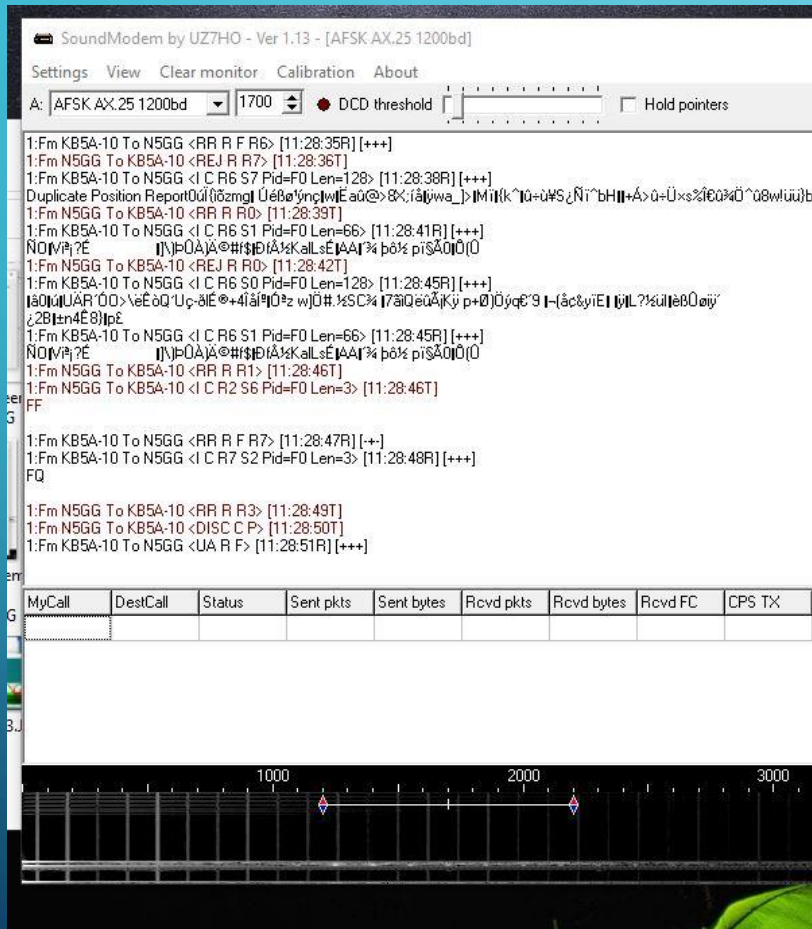
# SELECT THE BEST CHANNEL



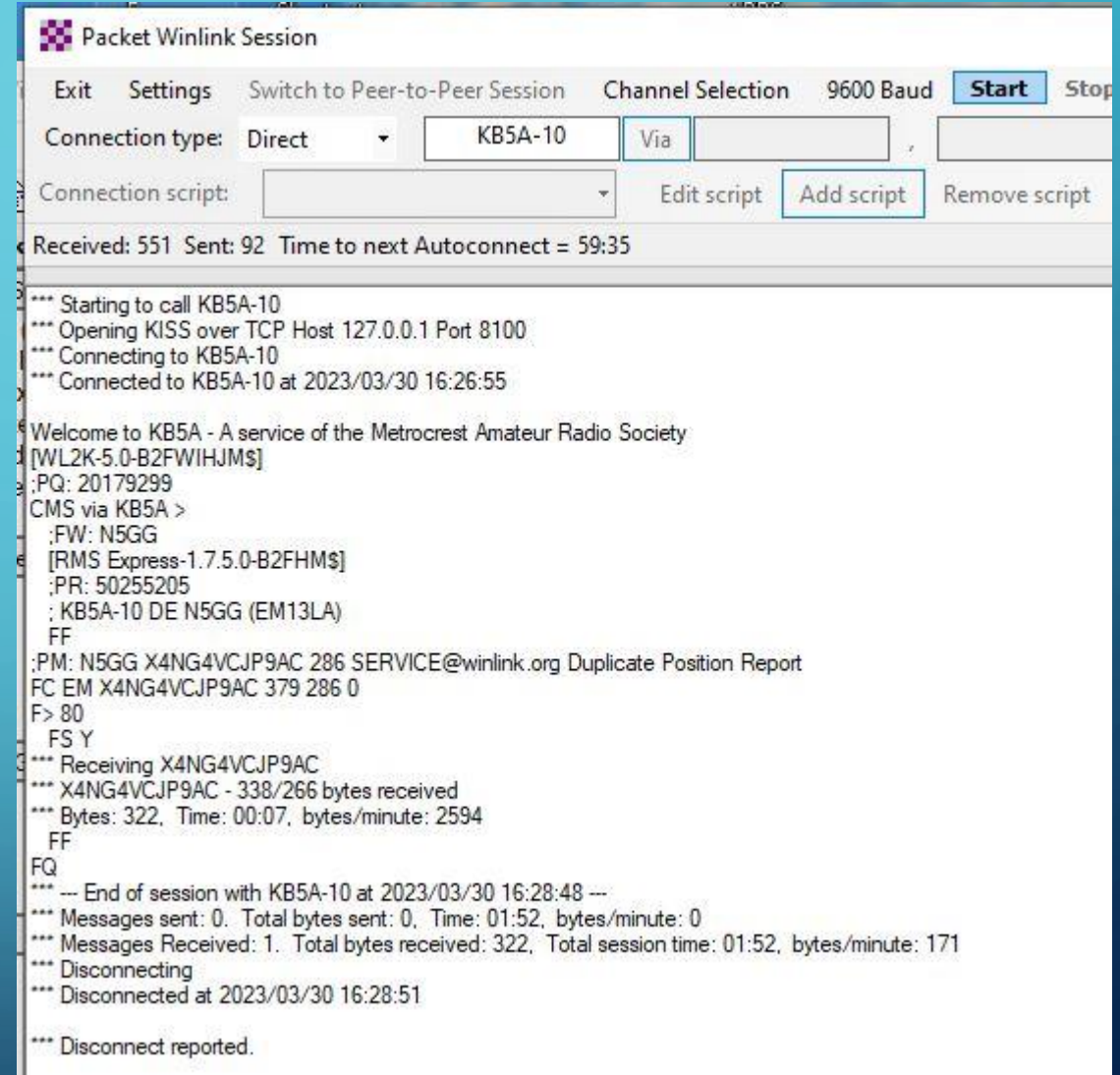
- 3 – select the best channel
- 4 – start the connection



# PACKET CONNECTION



Raw Packet traffic on the UZ7HO terminal



Packet Winlink Session

# YOU'VE GOT MAIL!

The screenshot shows the Winlink Express 1.7.5.0 - N5GG application window. The interface includes a menu bar with 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Packet Winlink', 'Logs', and 'Help'. Below the menu is a toolbar with various icons. The main area is divided into a left sidebar and a main content area. The sidebar shows 'System Folders' (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (18), Saved Items (14), Deleted Items (0), Drafts (0)), 'Personal Folders', 'Global Folders', and 'Contacts'. The main content area displays a table of messages with the following data:

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2023/03/30 16:21	X4NG4VCJP9AC	302	SYSTEM	SERVICE	N5GG	Duplicate Position Report

Below the table, the message details are displayed:

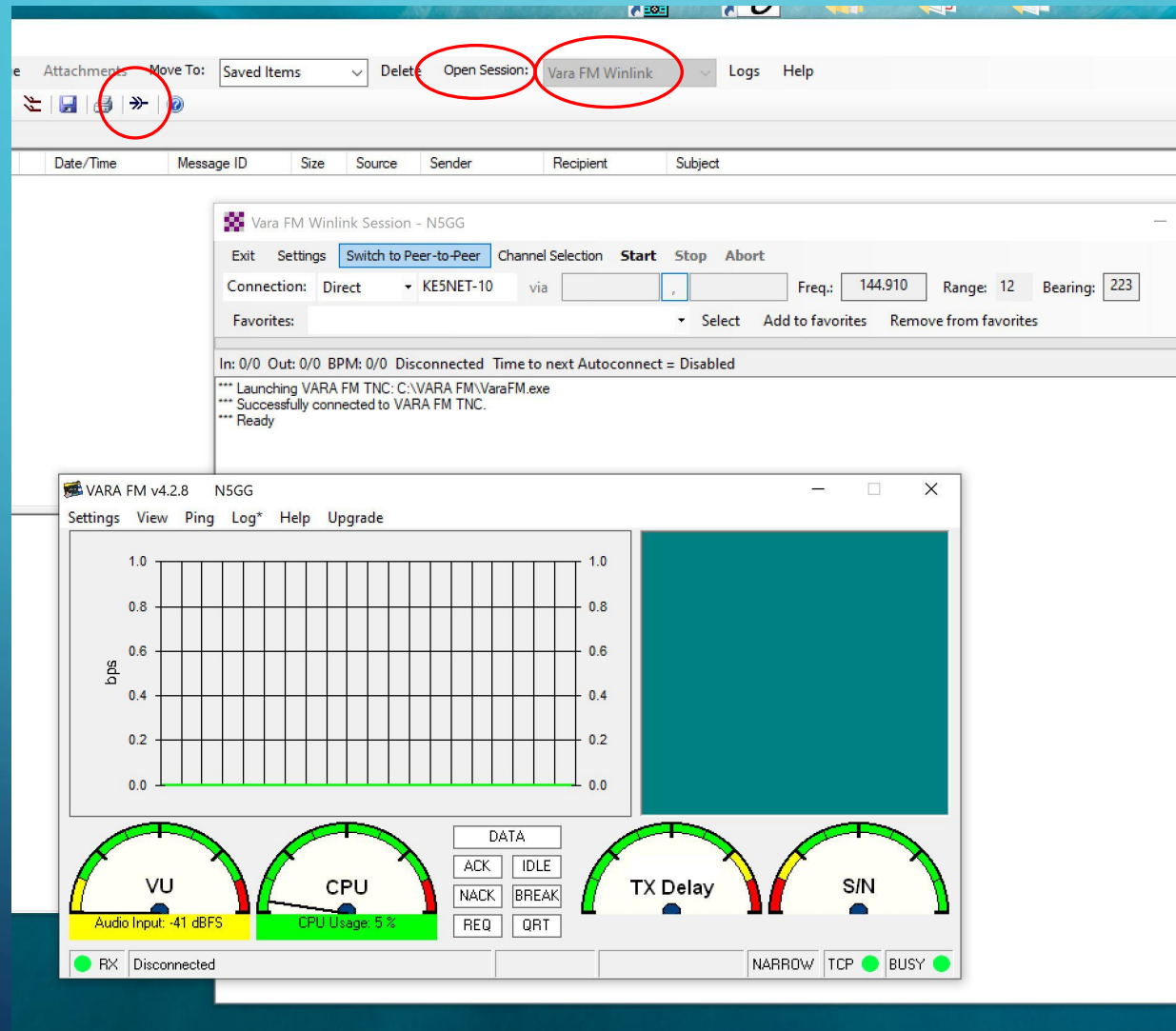
Message ID: X4NG4VCJP9AC  
Date: 2023/03/30 16:21  
From: SERVICE  
To: N5GG  
Source: SYSTEM  
Downloaded-from: RMS:KB5A-10  
Subject: Duplicate Position Report

This position report is a duplicate of the most recent one recorded for N5GG:

Date: 2023/03/30 16:18  
Latitude: 33-1.04N  
Longitude: 97-1.28W  
Comment: N5GG via 2m Winlink Express / VARAFM

# VARA-FM WINLINK

# VARA FM WINLINK

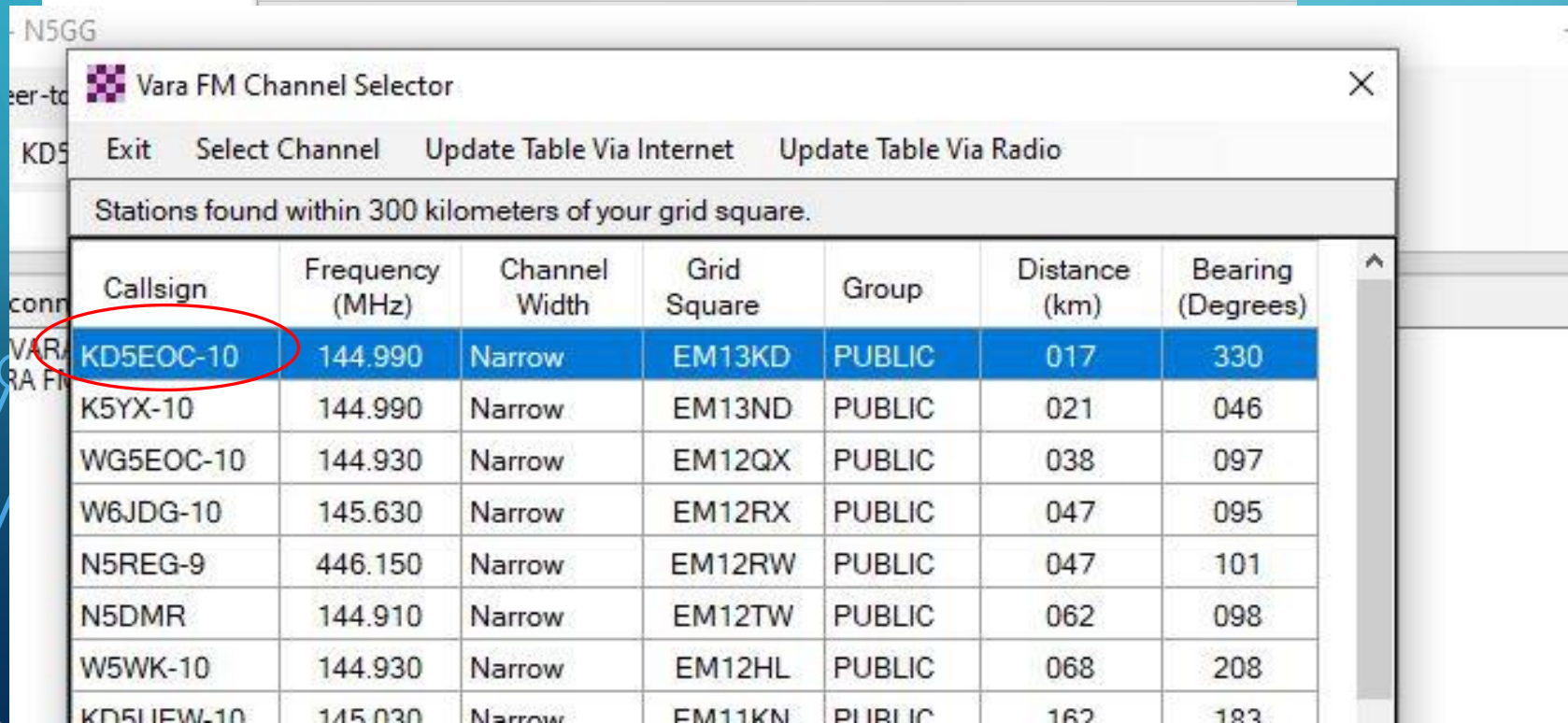
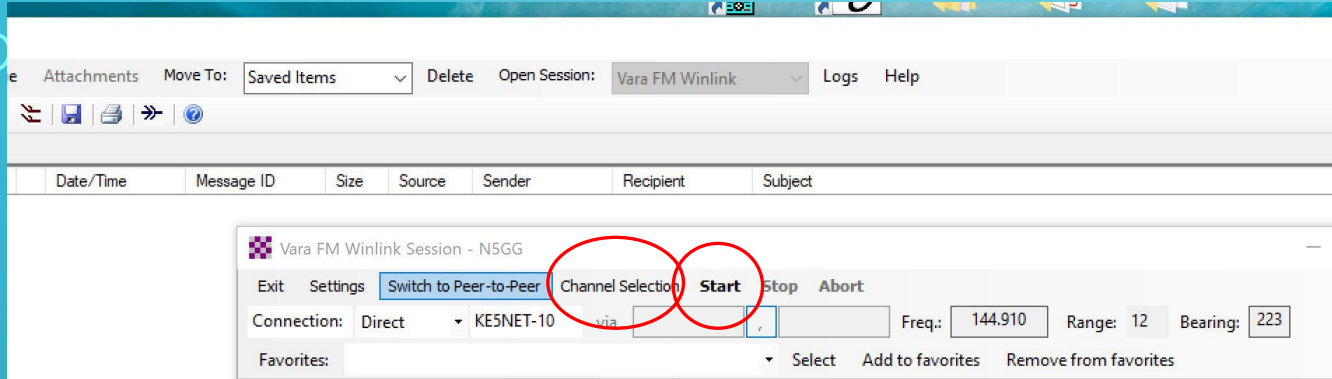


- 1 – select VARA-FM
- 2 – open the session

# SELECT THE BEST CHANNEL

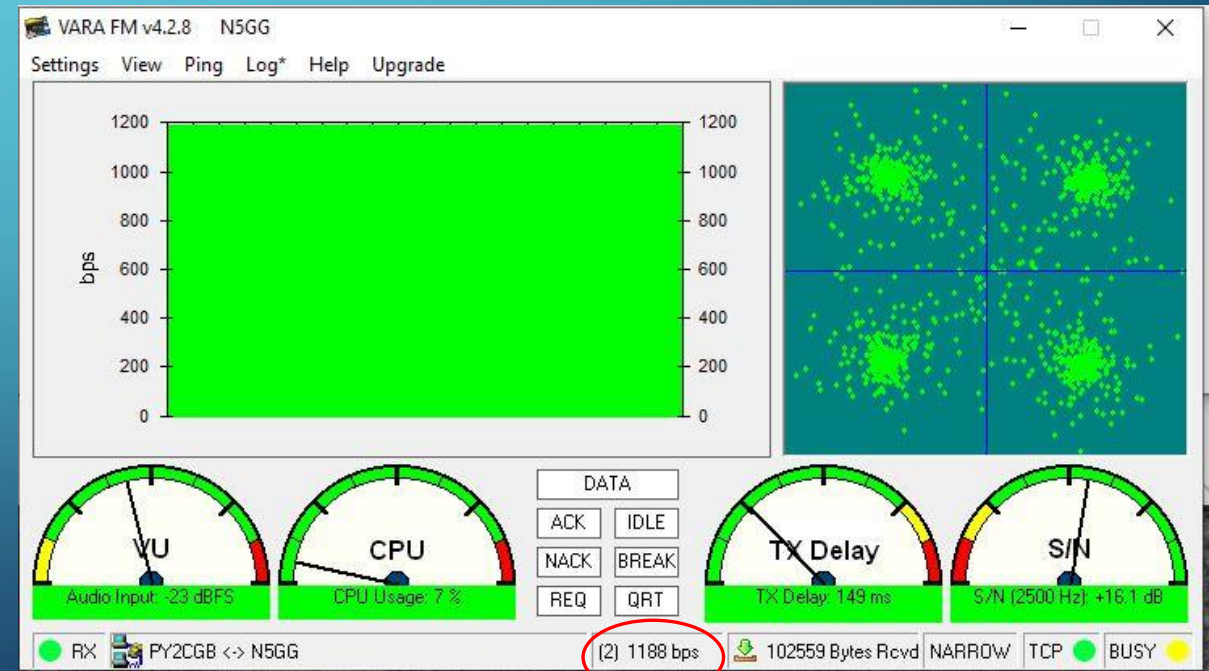
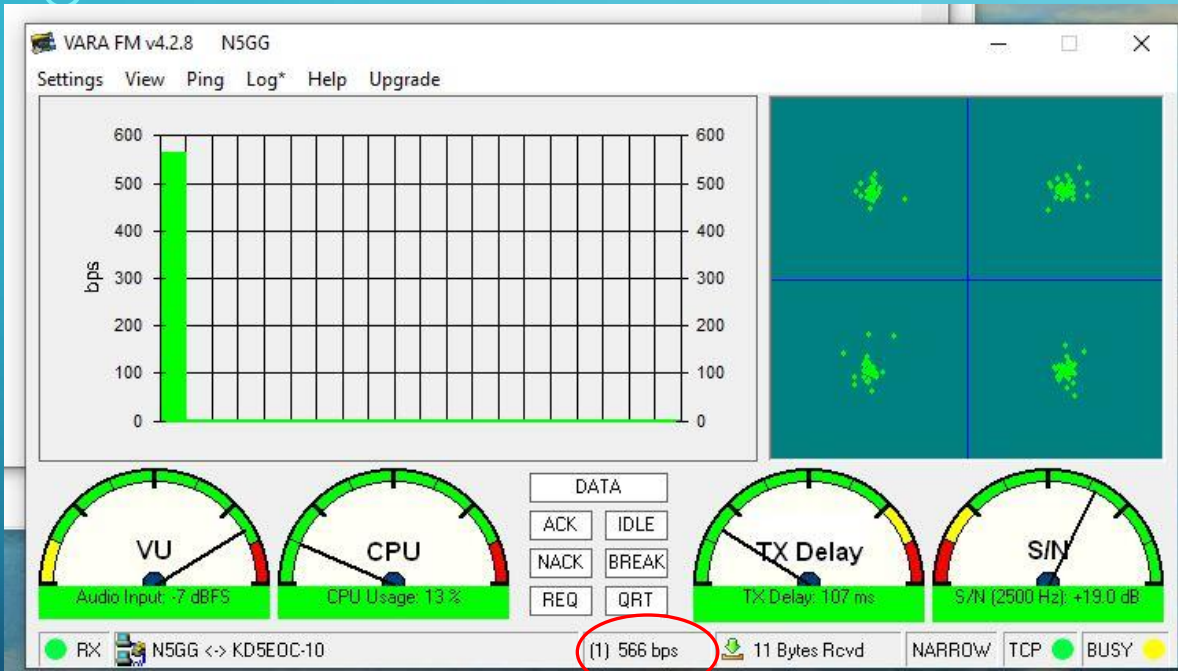
3 – select the best channel

4 – start the connection





# VARA-FM TRAFFIC



# VARA-FM TRAFFIC

Vara FM Peer-to-Peer Session - N5GG

Exit Settings Switch to Winlink Session Channel Selection Start Stop Abort

Connection: Direct PY2CGB via [ ] Freq.: 0.000 R

Favorites: [ ] Select Add to favorites Remove f

---

In: 104509/104509 Out: 0/0 BPM: 7955 Disconnected/Listening Time to next Autoconnect = Disabled

---

```
*** Connected to Peer: PY2CGB @ 2023/04/02 15:45:09 Freq: 0.000
;FW: N5GG
[RMS Express-1.7.5.0-B2FHMs]
PY2CGB DE N5GG >
;FW: PY2CGB
[RMS Express-1.7.5.0-B2FHMs]
; N5GG DE PY2CGB (GG66PJ)
;PM: N5GG J100688I9Y3P 104509 PY2CGB image
FC EM J100688I9Y3P 168985 104509 0
F> 92
FS Y
*** Receiving J100688I9Y3P
*** J100688I9Y3P - 168985/104509 bytes received
*** Bytes: 105359, Time: 13:09, bytes/minute: 8005
FF
FQ
*** -- End of session with PY2CGB at 2023/04/02 15:58:46 --
*** Messages sent: 0. Total bytes sent: 0, Time: 13:37, bytes/minute: 0
*** Messages Received: 1. Total bytes received: 105359, total session time: 13:37, bytes/minute: 7735
*** Disconnected from Peer: PY2CGB @ 2023/04/02 15:58:47
*** Session: 13.6 min; Avg Throughput: 7676 Bytes/min; 1 Min Peak Throughput: 7676 Bytes/min
```

# YOU'VE GOT MAIL!

The screenshot shows the Winlink Express 1.7.5.0 - N5GG application window. The interface includes a menu bar with 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Packet Winlink', 'Logs', and 'Help'. Below the menu is a toolbar with various icons. The main area is divided into a left sidebar and a main content area. The sidebar shows 'System Folders' (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (18), Saved Items (14), Deleted Items (0), Drafts (0)), 'Personal Folders', 'Global Folders', and 'Contacts'. The main content area displays a table of messages with the following data:

Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
2023/03/30 16:21	X4NG4VCJP9AC	302	SYSTEM	SERVICE	N5GG	Duplicate Position Report

Below the table, the message details are displayed:

Message ID: X4NG4VCJP9AC  
Date: 2023/03/30 16:21  
From: SERVICE  
To: N5GG  
Source: SYSTEM  
Downloaded-from: RMS:KB5A-10  
Subject: Duplicate Position Report

This position report is a duplicate of the most recent one recorded for N5GG:

Date: 2023/03/30 16:18  
Latitude: 33-1.04N  
Longitude: 97-1.28W  
Comment: N5GG via 2m Winlink Express / VARAFM

# VARA-HF WINLINK

# VARA HF WINLINK

- 1 – select VARA-FM
- 2 – open the session

The image displays a composite screenshot of the Winlink Express software interface. The top window, titled "Winlink Express 1.7.5.0 - N5GG", shows a menu bar with "Settings", "Message", "Attachments", "Move To: Saved Items", "Delete", "Open Session: Vara HF Winlink", "Logs", and "Help". A red circle highlights the "Open Session" dropdown menu, and a red arrow points to the "Vara HF Winlink" option. A red circle with the number "2" highlights the "Open Session" button in the toolbar. Below the menu bar is a toolbar with various icons, including a red circle with the number "1" around the "Open Session" button. The main window shows a "No active session..." message and a list of system folders: "Inbox (0 unread)", "Read Items (0)", "Outbox (0)", "Sent Items (17)", and "Saved Items (14)".

The bottom window, titled "Vara HF Winlink Session - N5GG", shows a "Channel Selection" tab with fields for "KD5EOC", "Center Freq. (kHz): 7103.000", "Dial Freq. (kHz): 7101.500", "Bearing: 340", and "Quality: 96". It also displays "Channel Free In: 0/0 Out: 0/0 BPM: 0/0 Disconnected" and a log of events: "\*\*\* Launching VARA TNC", "\*\*\* Successfully connected to VARA TNC.", "\*\*\* Vara signal bandwidth is 2300 Hz.", "\*\*\* Using Icom 7300, COM4, 115200 baud", and "\*\*\* Ready".

The bottom-right window, titled "VARA HF v4.7.6 N5GG", shows a monitoring interface with a graph of "bps" (bits per second) on the y-axis (0.0 to 1.0) and a green bar chart. Below the graph are four gauges: "VU" (Audio Input: -85 dB), "CPU" (CPU Usage: 10%), "AFC", and "S/N". There are also buttons for "DATA", "ACK", "IDLE", "NACK", "BREAK", "REQ", and "QRT". At the bottom, there is a status bar with "RX Disconnected", "2300 LISTEN", "TCP", "BUSY", and "GREEN".

# SELECT THE BEST CHANNEL

3 – select the best channel

4 – start the connection

Vará HF Winlink Session - N5GG

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

KD5EOC Center Freq. (kHz): 7103.000 Dial Freq. (kHz): 7101.500 Bearing: 340 Quality: 96

Favorites: Select Add to favorites Remove from favorites

Channel Free In: 0/0 Out: 0/0

\*\*\* Launching VARA TNC  
\*\*\* Successfully connected to VA  
\*\*\* Vará signal bandwidth is 2300  
\*\*\* Using Icom 7300, COM4, 115  
\*\*\* Ready

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
W5WK	3596.000	V2300	EM12HL	00-23	PUBLIC	68	208	99	99
W5WK	7101.500	V2300	EM12HL	00-23	PUBLIC	68	208	96	96
KD5EOC	7103.000	V2300	EM13KF	00-23	PUBLIC	25	340	96	96
KD5EOC	10147.000	V2300	EM13KF	00-23	PUBLIC	25	340	94	94
KD5EOC	14105.500	V2300	EM13KF	00-23	PUBLIC	25	340	92	92
N5TW	7102.000	V2300	EM10CJ	00-23	PUBLIC	300	194	91	53
N5TW	7091.500	V500	EM10CJ	00-23	PUBLIC	300	194	91	53
N5TW	7066.000	V500	EM10CJ	00-23	PUBLIC	300	194	91	53
W5KAM	7103.500	V2300	EM20BE	00-23	PUBLIC	333	160	90	52
W5RMW	7103.000	V2300	EL09TK	00-23	PUBLIC	418	198	88	51
W5RMW	10147.000	V2300	EL09TK	00-23	PUBLIC	418	198	80	51
W5STED	10130.000	V500	DM93AN	00-23	PUBLIC	461	279	79	51

# VARA HF TRAFFIC

The image shows a Windows desktop with two main windows. The top window is titled "Vara HF Winlink Session - N5GG" and displays connection parameters: W5WK, Center Freq. (kHz): 7101.500, Dial Freq. (kHz): 7100.000, Bearing: 208, and Quality: 96. It also shows a log of the connection: "\*\*\* Winlink Vara Connection to W5WK @ 2023/03/30 15:43:54 USB Dial: 7100.000 \*\*\* Station Bearing: 208, Range: 68 km RMS Trimode 1.3.49.0 Welcome to the W5WK RMS Hybrid Relay in Burleson, Texas N5GG has 240 daily minutes remaining with W5WK (EM12HL) (SFI = 148 On 2023-03-30 13:00 UTC)".

The bottom window is titled "VARA HF v4.7.6 N5GG" and features a dashboard with several gauges and graphs. On the left is a histogram showing data rate in bps. On the right is a waterfall plot. Below these are four gauges: VU (Audio Input: -45 dB), CPU (CPU Usage: 13%), AFC (AFC: 2.9 Hz), and S/N (S/N (2500 Hz): -11.1 dB). A central control panel includes buttons for DATA, ACK, IDLE, NACK, BREAK, REQ, and QRT. At the bottom, a status bar shows "RX N5GG <-> W5WK" and a circled area displays "(3) 82 bps".

# VARA HF TRAFFIC

Vara HF Winlink Session - N5GG

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

W5WK Center Freq. (kHz): 7101.500 Dial Freq. (kHz): 7100.000 Bearing: 208 Quality: 96

Favorites: [ ] Select Add to favorites Remove from favorites

Channel Busy In: 0/0 Out: 0/0 BPM: 0/0 Connected to W5WK

\*\*\* Winlink Vara Connection to W5WK @ 2023/03/30 16:08:40 USB-Dial: 7100.000  
\*\*\* Station Bearing: 208, Range: 68 km  
RMS Trimode 1.3.49.0 Welcome to the W5WK RMS Hybrid Relay in  
N5GG has 238 daily minutes remaining with W5WK (EM12HL)  
[WL2K-5.0-B2FWIHJM\$]

VARA HF v4.7.6 N5GG

Settings View Log\* Monitor Help Upgrade

bps

VU Audio Input: -46 dB CPU Usage: 12% DATA ACK IDLE NACK BREAK REQ QRT AFC: -2.9 Hz S/N (2500 Hz): -17.4 dB

RX N5GG <-> W5WK (1) 18 bps 162 Bytes 2300 LISTEN TCP BUSY



# VARA HF TRAFFIC

The image displays a Winlink software interface for a session with station KD5EOC. The main window, titled "Vara HF Winlink Session - N5GG", shows connection parameters: Center Freq. (7103.000 kHz), Dial Freq. (7101.500 kHz), Bearing (340), and Quality (96). The status bar indicates "Channel Busy" and "Connected to KD5EOC".

The session log contains the following text:  
\*\*\* Winlink Vara Connection to KD5EOC @ 2023/03/30 15:38:39 USB Dial: 7101.500  
\*\*\* Station Bearing: 340, Range: 25 km  
RMS Trimode 1.3.49.0 Denton County TX Emergency Operations Center  
N5GG has 300 daily minutes remaining with KD5EOC (EM13KF)  
Sessions for users running unregistered versions of Vara are limited to 30 minutes.  
(SFI = 148 On 2023-03-30 14:00 UTC)  
[WL2K-5.0-B2FWIHJM\$]  
:PG: 53536173  
CMS via KD5EOC >  
:FW: N5GG  
[RMS Express-1.7.5.0-B2FHM\$]  
:PR: 36009897  
: KD5EOC DE N5GG (EM13LA)  
FF  
FQ  
\*\*\* --- End of session with KD5EOC at 2023/03/30 15:42:24 ---  
\*\*\* Messages sent: 0. Total bytes sent: 0. Time: 03:44, bytes/minute: 0  
\*\*\* Messages Received: 0. Total bytes received: 0. Total session time: 03:44, bytes/minute: 0

Overlaid on the Winlink window is the "VARA HF v4.7.6 N5GG" monitoring application. It features a "bps" graph on the left showing a steady signal rate of approximately 17 bps. On the right is a waterfall plot showing the signal's frequency and amplitude. Below these are four gauges: VU (Audio Input: -45 dB), CPU (Usage: 13%), AFC (43.9 Hz), and S/N (2500 Hz: -17.6 dB). A control panel with buttons for DATA, ACK, NACK, REQ, IDLE, BREAK, and QRT is also visible.

# YOU'VE GOT MAIL!

The screenshot shows the Winlink Express 1.7.5.0 - N5GG application window. The interface includes a menu bar with 'Settings', 'Message', 'Attachments', 'Move To: Saved Items', 'Delete', 'Open Session: Packet Winlink', 'Logs', and 'Help'. Below the menu bar is a toolbar with various icons. The main area is divided into a left sidebar and a main content area. The sidebar shows 'System Folders' (Inbox (0 unread), Read Items (0), Outbox (0), Sent Items (18), Saved Items (14), Deleted Items (0), Drafts (0)), 'Personal Folders', 'Global Folders', and 'Contacts'. The main content area displays a message table with one entry selected:

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Below the table, the message details are displayed:

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This position report is a duplicate of the most recent one recorded for N5GG:

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Latitude: 33-1.04N  
Longitude: 97-1.28W  
Comment: N5GG via 2m Winlink Express / VARAFM

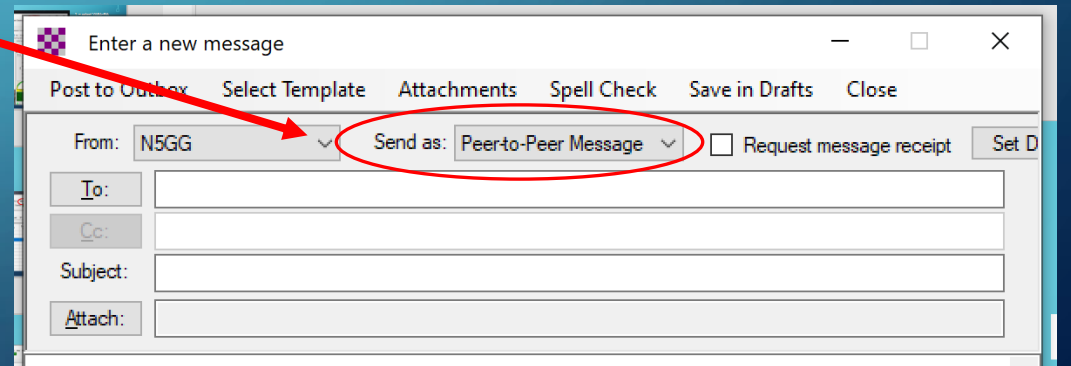
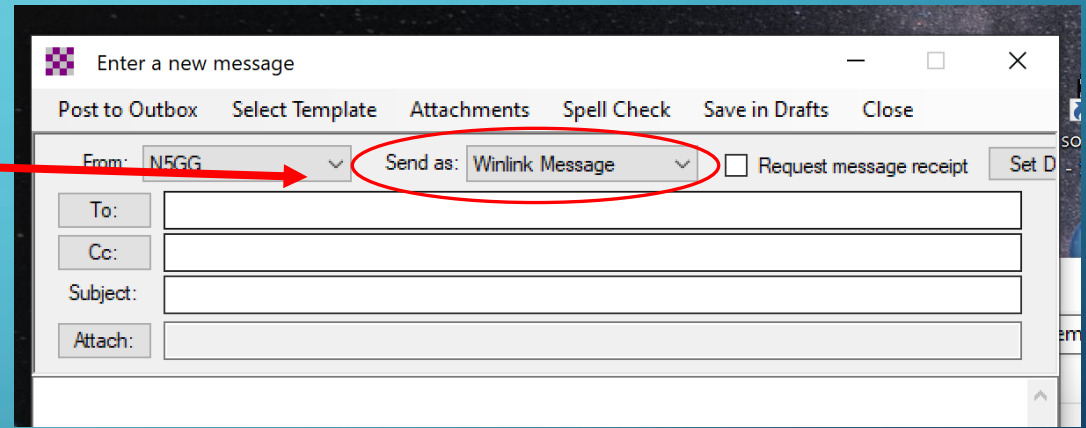
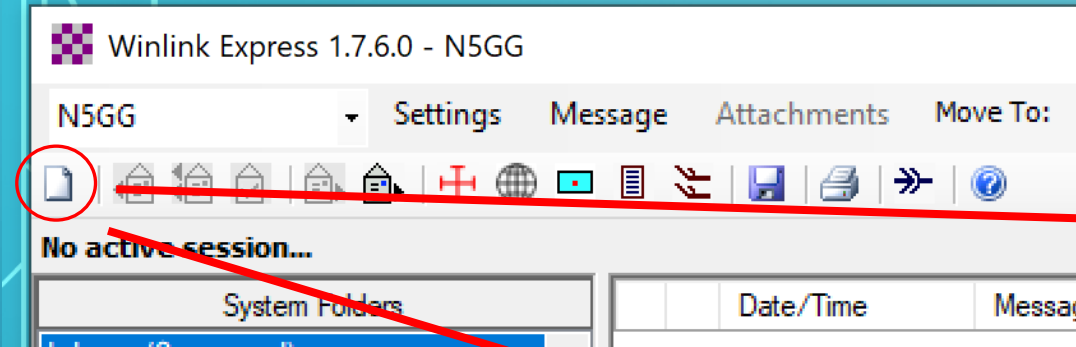
# TIPS FOR SENDING MAIL

1- Prepare **WinLink mail** separate from **Peer-to-peer** mail

2- If sending to non-WinLink addresses, ensure those are **white-listed** for your account, otherwise the response will be blocked...

3- **Be bandwidth mindful** - Avoid attachments at all costs and eliminate “fluff” such as fancy signatures, etc. Each BIT is PRECIOUS!

# PREPARING MAIL TO BE SENT



# PREPARING MAIL TO BE SENT

One odd thing about the email client is that you don't SEND the email, but you **POST TO OUTBOX**, since the sending method is not defined at the moment of email creation

Enter a new message

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

From: N5GG Send as: Peer-to-Peer Message  Request message receipt Set Defaults

To: K5VZ;

Cc:

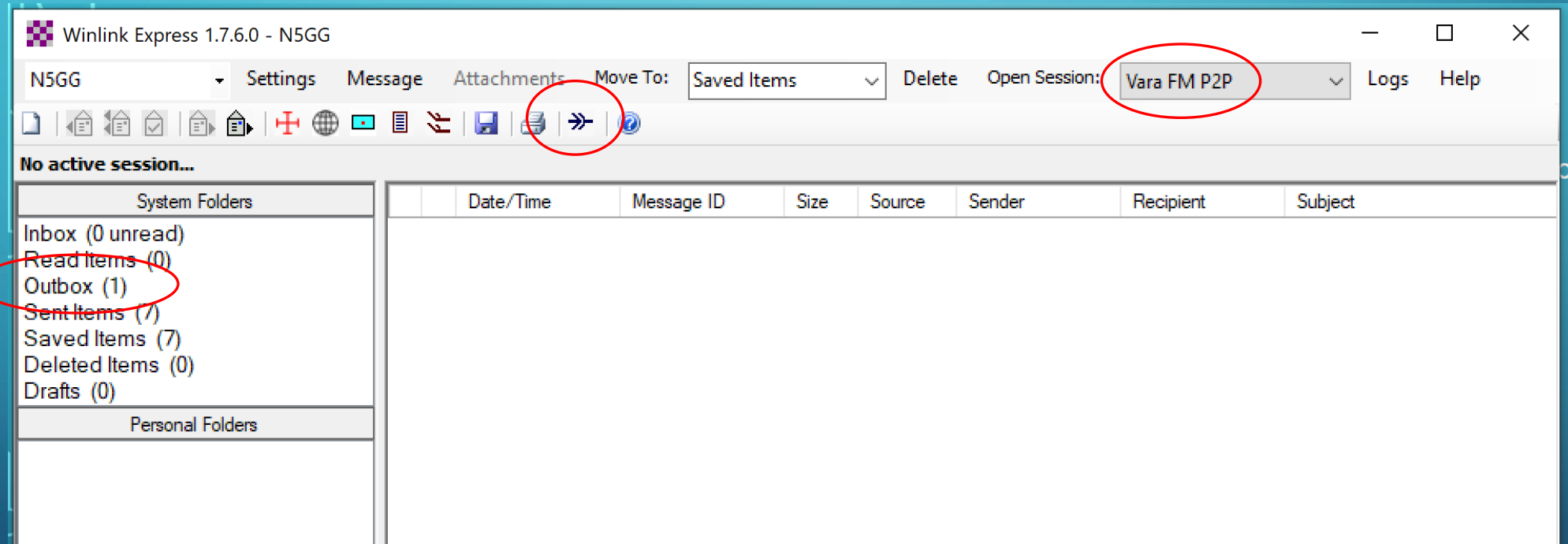
Subject: Howdy from the LARA meeting

Attach:

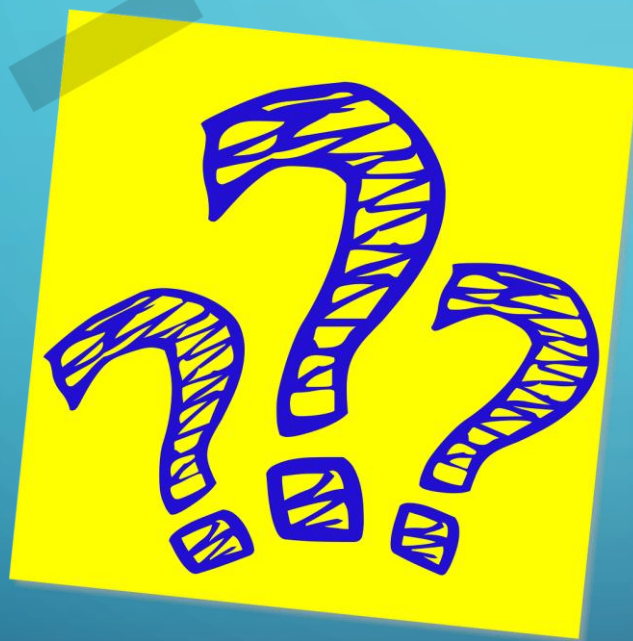
Hi Jim,  
We are having a great LARA meeting.  
Topic of the evening is WinLink and associated modes for HF/VHF.  
73  
Colin

# SENDING A PEER-TO-PEER EMAIL

- 1 – select Session Type
- 2 – open the session
- 3 – start the connection



QUESTIONS? COMMENTS?



73 de N5GG

dah dah dit dit dit  
dit dit dit dah dah!

LET'S TRY A LIVE DEMO...  
WHAT COULD POSSIBLY GO WRONG???





