

VOLUSIA COUNTY EOC COMM SUPPORT GROUP

WINLINK GUIDE



WINLINK INSTALLATION AND SETUP GUIDE

INTRODUCTION

This guide is intended to provide initial instructions for getting on the air with Winlink Express and the Volusia County EOC RMS (Radio Mail Server) gateway and is a work in progress. This is the first revision and should be considered a rough draft. If you find an error or correction, please let me (KG4WKX) know. The initial version of this document includes settings for the Yaesu FT-991A. If you have a different radio, please send me instructions so this guide can be updated to help others who have similar radios. This guide is divided into multiple sections covering basic Winlink setup that applies to all users, a radio specific section, and a question/troubleshooting section.

Email corrections or additional radio instructions to the group and we can incorporate those into this manual.

Assumptions made: basic computer skills – downloading, saving, installing programs

Applications required: Winlink Express, Vara FM Modem

TABLE OF CONTENTS

Winlink Installation and setup guide	1
Introduction	1
Getting started with winlink	3
Downloading Vara FM	4
Sending a test message and connecting to the KV4EOC-10 RMS gateway.....	5
Revisions	7
Troubleshooting.....	8
Serial comm port advanced settings.....	8
Radio Setup Instructions.....	9
Yaesu FT-991A Instructions.....	9

GETTING STARTED WITH WINLINK

If you are new to Winlink, welcome to an exciting method of sending email over radio. This section covers where to download Winlink and basic setup. Your account will be setup after installing Winlink.

1. Navigate to <https://winlink.org/> and click on My Account.
2. Download Winlink Express and install
3. Setup your callsign and demographic info and click update. It may take an hour or so for your account to be fully initialized.

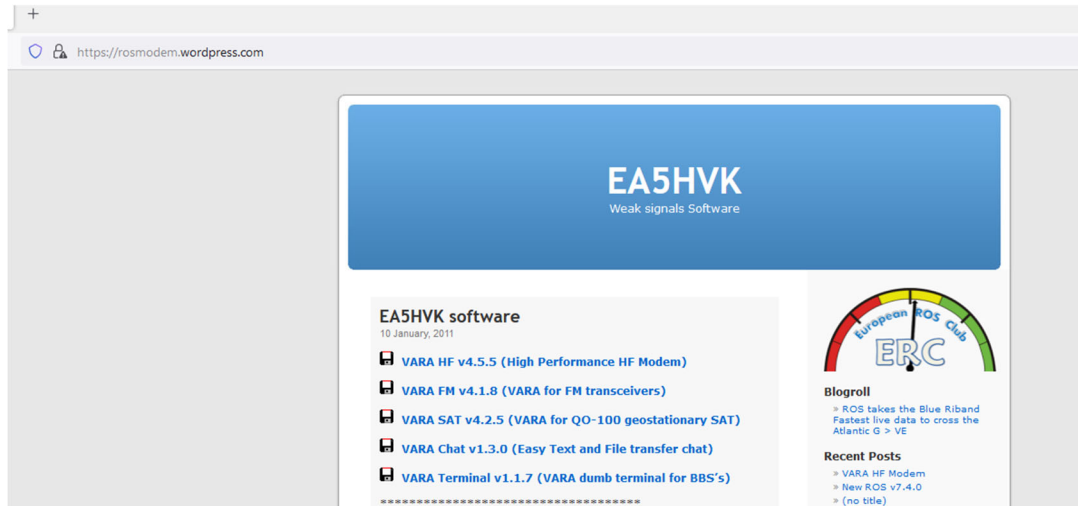
A screenshot of the 'Winlink Express Properties' dialog box. The dialog is divided into several sections: 'Call Signs' with fields for 'My Callsign', 'My Password', 'Callsign suffix (optional)', and 'Password recovery e-mail'; 'Auxiliary Callsigns and Tactical Addresses' with an 'Add Entry' button; 'My Grid Square' and 'Lat/Lon to Grid Square' fields; 'Service Codes' with a text input containing 'PUBLIC'; 'Contact Information (Optional)' with fields for 'Name', 'Street address 1', 'Street address 2', 'City', 'State/Province', 'Country', 'Postal code', 'Web Site URL (optional)', 'Phone number', and 'Non-Winlink e-mail'; and 'Additional information (optional)' with a text area. At the bottom, there are 'Update' and 'Cancel' buttons. The 'Recalculate HF path quality' section is set to 30 days, and 'Keep logs for' is set to 2 weeks.

4. Test your Winlink account using Telnet. Telnet is an internet protocol allowing connection to the Winlink servers directly. Click open session, choose Telnet Winlink. In the sessions window, click start. If your account is ready to use, you will see successful connections.
5. Compose a system test message by sending a message to test@winlink.org. This will create a bounce message which you receive on your next connection.

DOWNLOADING VARA FM

Vara FM is the VHF/UHF modem used to control the packet sessions with the Winlink RMS server over the air.

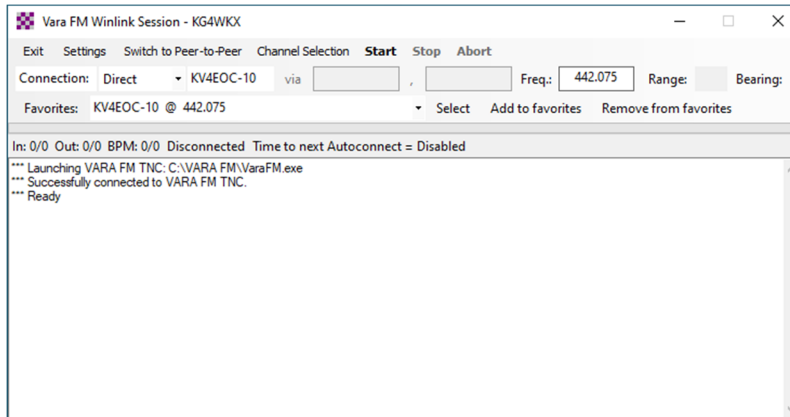
1. Navigate to <https://rosmodem.wordpress.com>, download and install the current Vara FM version.



Note: Make sure to right click on the installation file and Run as Administrator

SENDING A TEST MESSAGE AND CONNECTING TO THE KV4EOC-10 RMS GATEWAY

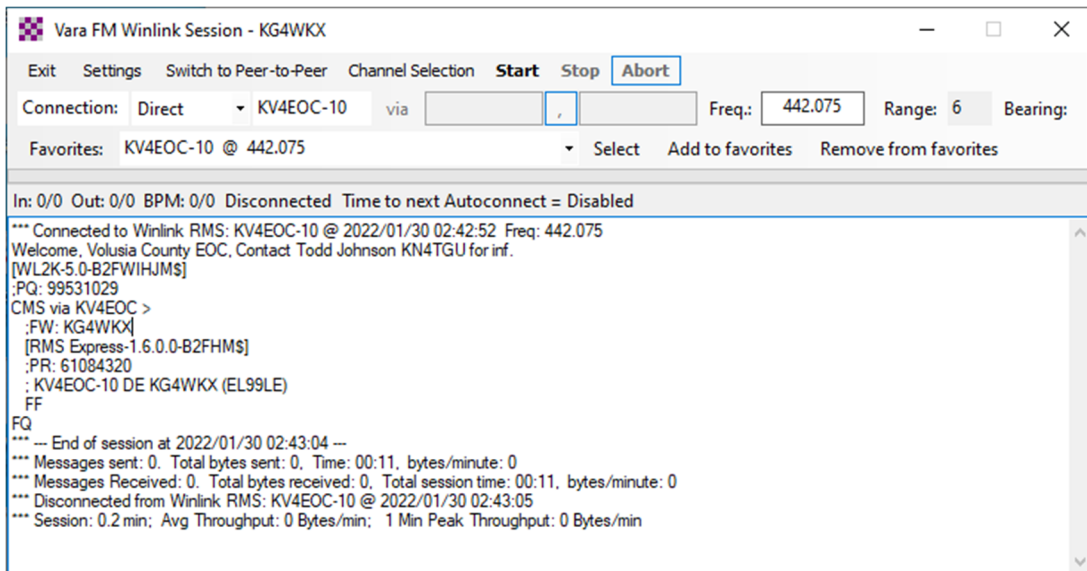
1. Compose a test message to test@winlink.org and post to your outbox.
2. Choose Vara FM from the session list and click open session.



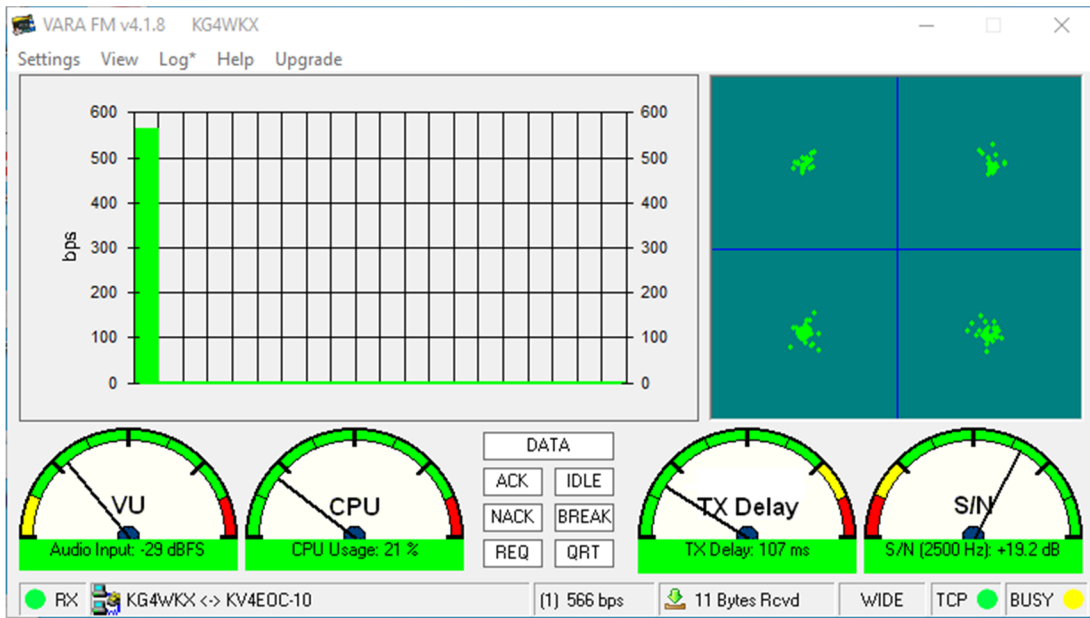
3. In the sessions window, click Channel Selection, click Update Table Via Internet, and select KV4EOC-10.
4. Enter the frequency **442.075** on your radio. Vara FM **DOES NOT** automatically transfer the frequency to the radio.

Callsign	Frequency (MHz)	Channel Width	Grid Square	Group	Distance (mi)	Bearing (Degrees)
KV4EOC-10	442.075	Narrow	EL99KD	PUBLIC	006	243
N4TDX-10	144.990	Wide	EL98NP	PUBLIC	039	165
WB4ULT-10	441.050	Wide	EL98IP	PUBLIC	040	202

5. KV4EOC-10 should now show in the connection bar. Click start. Your radio will open a connection to the RMS gateway.



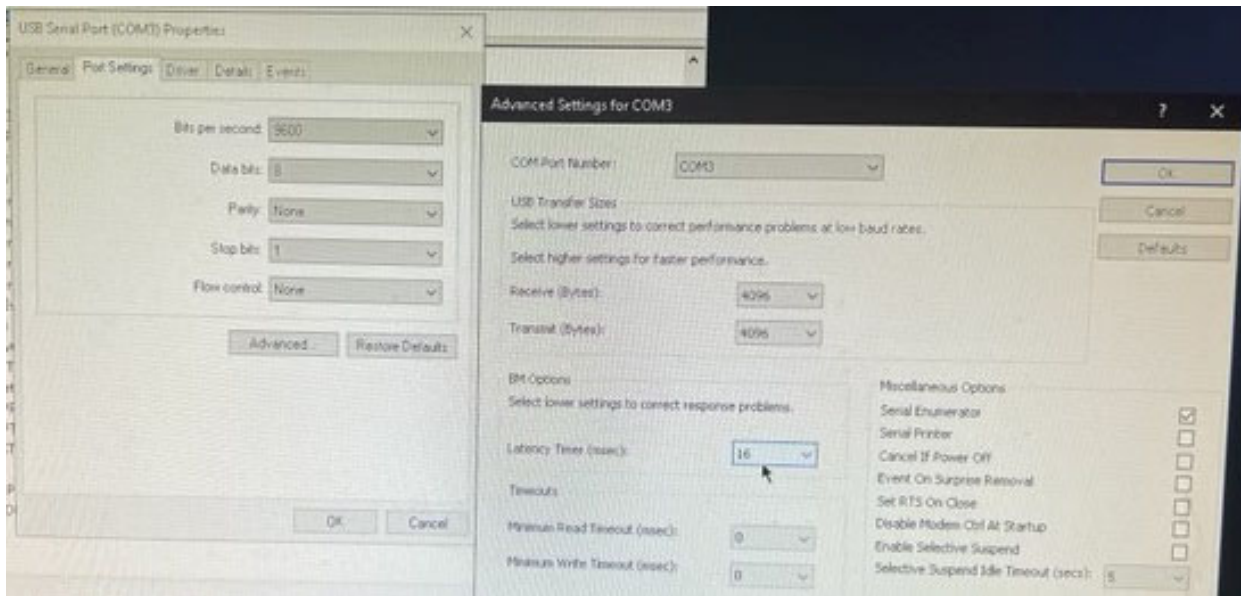
6. Monitor the transmit/receive status in the Vara FM window and Winlink session window.



SERIAL COMM PORT ADVANCED SETTINGS

Courtesy of Jeff, AJ4MQ. If you are having issues with your computer communicating with the radio via the serial port. Try these settings.

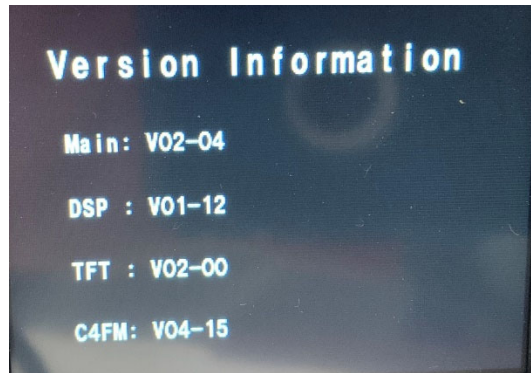
1. Open device manager and find your serial com port.
2. Right click and select properties, then click the port settings tab, then click advanced.
3. Recommended settings to try: Set latency to 16ms for 9600 baud, 12ms for 1200 or 2400 baud.



RADIO SETUP INSTRUCTIONS

YAESU FT-991A INSTRUCTIONS

The following instructions are for the FT-991a. Please confirm your firmware version and update if necessary. As of this revision, the following firmware versions were used in the radio. The FT-991a includes a built-in sound card. No additional hardware is necessary.



If this is your first time connecting the FT-991A to the computer, you will need to install the SCU-17 drivers from Yaesu. Do not connect your radio to the computer until you install the drivers.

Amateur Radio \ Software

[FT-991A All current Firmware including the New Update DSP Ver. 01-12 \(06/24/20\)](#) (4.45 MB)

[FT-991A Update Firmware Information 06/24/20](#) (252.45 KB)

[FT-991A/ SCU-17 USB Driver \(Virtual COM Port Driver\)](#) (3.74 MB)

[FT-991A/ SCU-17 USB Driver Installation Manual](#) (415.69 KB)

[FT-991A_SCU-17 USB Driver Installation Manual \(1909-C\)](#) (594.19 KB)

1. Connect your USB cable from the computer to the radio and wait a few seconds for windows to recognize the new device.
2. Open device manager and confirm the com port number. Your com port number may be different.
 - i. Click start, type device manager, press enter. Scroll down to the ports section and note the Enhanced Port number.

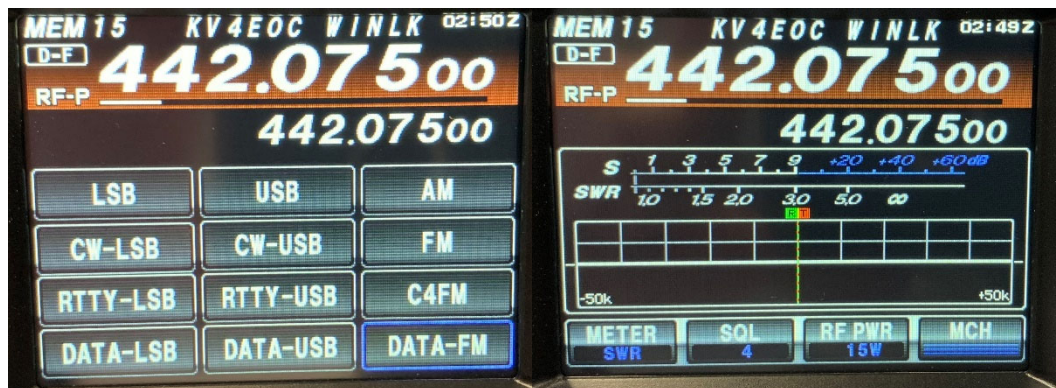


- Configure your radio for packet operation, PC control and create a memory channel for the KV4EOC Winlink receiving station. Set the mode to Data FM.



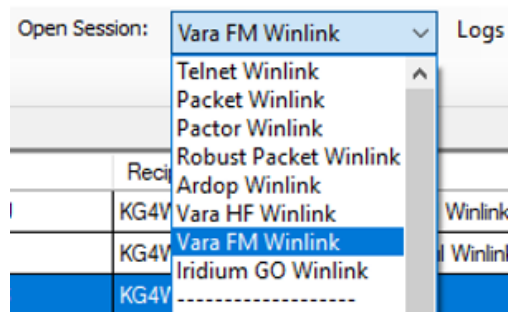
031	CAT RATE	38400bps
032	CAT TOT	100msec
033	CAT RTS	ENABLE
077	FM PKT PORT SELECT	USB
078	FM PKT TX GAIN	50
079	FM PKT MODE	1200

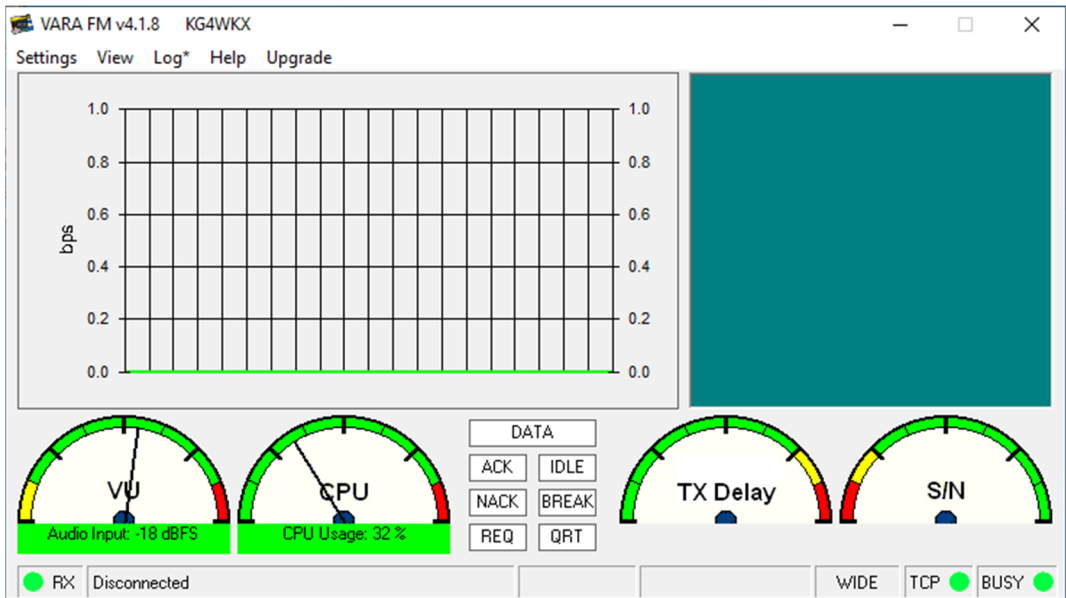
*the RTS/DTR setting did not appear to affect operation when testing this setup



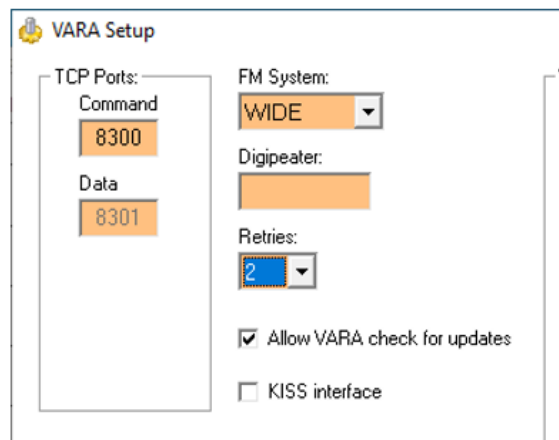
Tip: for testing purposes, open the squelch fully so you can hear the EOC radio transmitting back to your radio.

- Open Winlink.
- Select Vara FM Winlink and click Open Session. It may take a few seconds for Vara FM to start in the background.

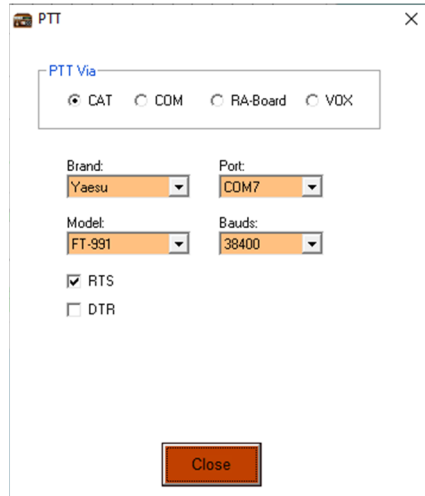




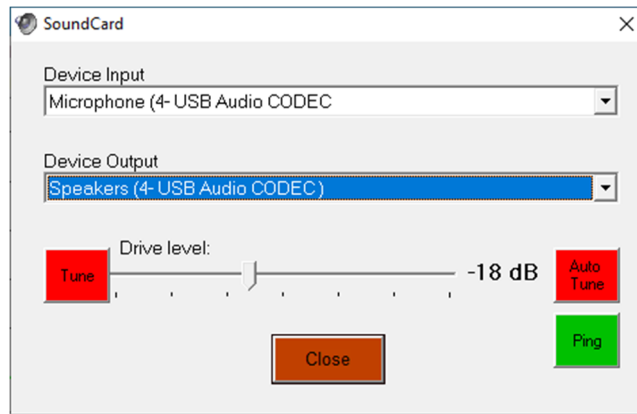
6. Configure settings in VARA FM. Click Settings and click Vara Setup. Confirm FM system is set to WIDE, retries 2. Click close. With the free Vara FM version and radio limitations, the transmit rate will be limited to 1200 or lower. *(If someone can confirm whether the built-in sound card will transmit at 9600, please update the group on how you were able to increase the rate. The transmit rate is shown in the Vara FM window when transmitting and upon session completion in the Winlink session window.)*



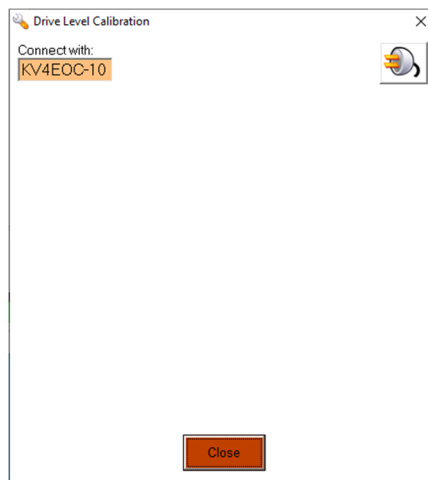
7. Click Settings and click PTT. Select your radio and com port settings. Select the com port noted earlier from Device Manager. Baud rate must match your radio settings.



8. Configure sound card and audio settings. Click settings, then click sound card. When you connected the USB cable to the radio, windows created USB Audio CODEC drivers. Choose this driver for both device input and device output.



9. Use auto tune to set the drive level. Click the red Auto Tune button. Enter KV4EOC-10 in the connect with field and confirm the frequency of 442.075 is tuned in the radio. Click the electric plug connect icon. The radio will transmit 10 test tones to the EOC station which will then return the autotune results and set the drive level.



10. Successful auto-tune results.



This completes the initial radio and Vara FM setup. You are now ready to send a test message. Periodically use the auto-tune feature to set the drive level as conditions change.