W4URG UNIFIED RADIO GROUP

WINLINK + VARA FM FIELD OPERATION GUIDE

SEND AND RECEIVE EMAIL VIA RADIO • NO INTERNET REQUIRED ON YOUR END • COMMUNICATE LOCALLY OR WORLDWIDE

1 INSTALL & INITIAL SETUP

- Download and install:
  - **Winlink Express**
  - **VARA FM**
- Open both programs and complete the initial setup with your station information and callsign.
- Configure your TNC/interface (DigiRig, signalink, etc.) as needed.
- No internet connection is required for operation.

WINLINK Express

VARA FM

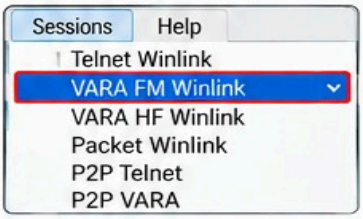
2 COMPOSE MESSAGE

- In **Winlink Express:**
  - Compose your message.
  - When finished, click **Post to Outbox.**



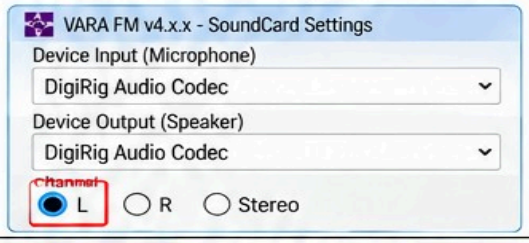
3 OPEN VARA FM SESSION

- In Winlink Express go to: **Session** → Select **VARA FM Winlink.**
- Click **Open Session.**
- The Winlink session and VARA FM modem windows will open.



4 SET UP AUDIO (SOUNDCARD)

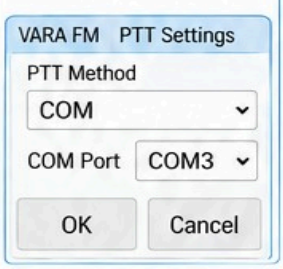
- In the VARA FM window go to **Settings → SoundCard.**
- For Speaker and Microphone, select the audio devices associated with your radio/interface.
- If using a DigiRig, select the audio codec for the DigiRig.
- On Channel, select "L" (Left) if using a DigiRig (to use the left audio channel).
- Close the SoundCard settings when finished.



5 SET UP PTT

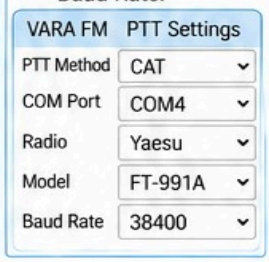
DigiRig / COM Port

- Select COM.
- Select the COM port assigned to your DigiRig/interface.



CAT Control

- Select CAT.
- Select the correct COM Port.
- Select your radio Brand and Model.
- Set the correct Baud Rate.



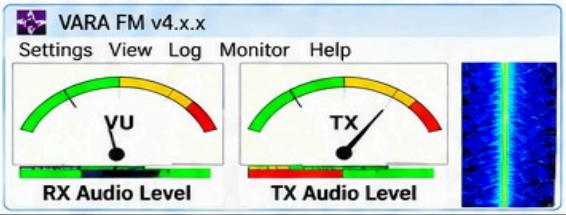
6 SELECT GATEWAY

- In the VARA FM session, select the desired RMS gateway.
- Example: **W4URG-10**
- Confirm the frequency and tune your radio accordingly.



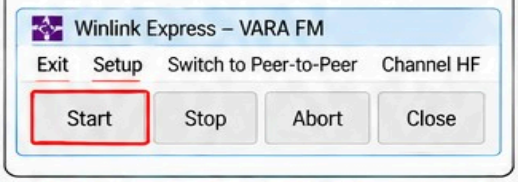
7 CHECK AUDIO LEVELS

- Before connecting, check and adjust your audio levels.
- Watch the VARA FM level indicators.
- Adjust transmit and receive levels as needed.
- Avoid excessive audio levels or overdriving the radio.



8 CONNECT & SEND

- Confirm the radio is on the correct frequency.
- Confirm VARA FM is receiving audio.
- Click **Start** to connect to the RMS gateway.
- Winlink will send messages in your Outbox and retrieve any waiting messages.



W4URG-10 QUICK INFO

RMS Gateway:	W4URG-10
Frequency:	144.990 MHz
Dial Frequency:	144990 kHz
Mode:	VARA FM
Bandwidth:	12.5 kHz

SOFTWARE & RADIO NOTES

- **Winlink Express:** Email client for Winlink (free).
- **VARA FM:** High performance modem for VHF (free).
- Works with most transceivers and interfaces (DigiRig, Signalink, etc.).
- Only your radio needs to reach an RMS gateway. No internet is required on your end.
- You can send and receive email to anyone with an email address (not just hams).

QUICK FIELD CHECKLIST

- ☐ Radio ON and tuned to **144.990 MHz**
- ☐ Audio devices selected (SoundCard)
- ☐ PTT/CAT configured
- ☐ Gateway set to **W4URG-10**
- ☐ Audio levels adjusted (RX/TX)
- ☐ Open session and **Start**
- ☐ Send and receive messages

TIPS FOR SUCCESS

- Keep audio levels in the green (avoid red).
- Use a good interface (DigiRig/Signalink).
- Use a stable power source.
- Try at different times if the gateway is busy.
- Keep messages short and include key information (callsign, location, needs, status).
- Perfect for emergency/SHTF communications.
- Practice regularly so it's ready when needed.

WINLINK *REAL MESSAGES. REAL PEOPLE. REAL WHEN IT COUNTS.*

W4URG UNIFIED RADIO GROUP

PREPARE • PRACTICE • COMMUNICATE
LOCAL • REGIONAL • WORLDWIDE

WINLINK + VARA FM — Complete Beginner's Step-by-Step Guide

Install • Configure • Connect • Send • Receive • Troubleshoot

Purpose: A printer-friendly training and field reference combining the two supplied guides. Intended for licensed amateur radio operators using a Windows computer and a VHF/UHF FM radio.

Prepared as a consolidated educational guide • November 2026

Understand the connection Winlink Express prepares, queues and receives email. VARA FM is the sound-card data modem that converts computer data to radio audio. Your FM radio sends that audio to a reachable RMS gateway, which normally forwards traffic into the Winlink system through its own network connection. Your computer does not need internet during a successful radio session, but internet is useful for initial setup and channel-list updates.

What you need

- Windows laptop/PC with Winlink Express and VARA FM installed
- Licensed amateur radio operator with privileges for the selected frequency
- VHF/UHF FM radio, antenna, power source, and appropriate cables
- Compatible sound-card interface (e.g., DigiRig/SignaLink), or built-in radio USB audio
- Working push-to-talk (PTT) control: serial, CAT, or supported interface method
- Internet access for initial account registration, downloads, and gateway list updates

Important: Radio/interface settings are equipment-specific. A frequency or COM port pictured in a handout is an example, not a universal setting. Verify current gateway details before transmitting.

1 | Download and install Winlink Express

1. While connected to the internet, open https://downloads.winlink.org and look under User Programs for Winlink Express.
2. Download the current installer. If supplied as a ZIP archive, extract it before running the included installer (often an MSI).
3. Follow the Windows installer prompts. Launch Winlink Express after installation.
4. Complete the initial station/account form with your own callsign, name, contact information and grid square as requested. Set a password and recovery email when prompted.
5. Submit/update the registration while online. Follow any on-screen prompts to complete account setup. Your Winlink address normally uses the format YOURCALL@winlink.org.

Cost: Winlink Express and basic VARA FM operation can be used without purchasing optional registrations. License prices shown in older handouts can change; consult the official vendors for current terms.

2 | Test Winlink Express over internet (Telnet)

1. With internet available, select Telnet Winlink in the session selector of Winlink Express.
2. Click Open Session, then Start. Allow the session to complete and check for connection or account errors.
3. Close the session. Optionally compose a brief test message to an address you control, post it to the Outbox, and start another Telnet session to send it.

Telnet is an account/software test, not a radio transmission. It helps separate account problems from radio/audio problems.

3 | Download and install VARA FM

1. From the Winlink downloads area under VARA products, or the VARA vendor site https://www.varamodem.com, obtain VARA FM (not VARA HF).
2. Extract the download if needed and run the VARA FM installer.

3. Launch VARA FM once to confirm it opens. Note its installed location if Winlink Express later asks where the program is.
4. The free/unregistered VARA FM mode has reduced performance compared with the licensed version. Registration is optional for learning.

4 | Connect radio and interface

1. Turn off equipment as appropriate before plugging in interface cables. Connect radio audio/PTT interface to the radio using the correct model-specific cable.
2. Connect the interface to the computer by USB; install any required USB serial/audio drivers.
3. In Windows Sound settings, identify the interface recording and playback devices. Do not select the laptop microphone/speakers by mistake. Disable audio enhancements/processing where available.
4. Open Windows Device Manager → Ports (COM & LPT) and record the COM port used for PTT/CAT, if applicable.
5. Connect the antenna and verify radio power, mode, and proper operating privileges.

5 | Open the VARA FM Winlink session

1. In Winlink Express, select VARA FM Winlink from the session drop-down.
2. Click Open Session. The session window opens and typically starts VARA FM.
3. If VARA FM fails to open, check the VARA executable path in the session settings and confirm the software is installed.

6 | Select the sound card in VARA FM

1. In the VARA FM modem window, choose Settings → SoundCard (menu labels may differ slightly by version).
2. Set the input/recording device to the radio/interface audio coming from the receiver.
3. Set the output/playback device to the interface audio going to the transmitter.
4. For interfaces offering separate left/right channels, choose the channel wired for your station. Some DigiRig arrangements use Left; verify your wiring rather than assuming.
5. Save settings. With the radio receiving a signal, check that VARA shows receive audio activity without overload.

7 | Configure and test PTT

1. In VARA FM open Settings → PTT.
2. Choose the method your interface supports: a serial COM port with RTS/DTR, CAT control with matching radio model/baud rate, or a supported VOX arrangement.
3. For serial PTT, select the actual COM port seen in Device Manager and the proper control line. For CAT, select the correct port, radio, model, and baud rate.
4. Use the software PTT test if available. The radio should key briefly and reliably return to receive when the test ends.
5. If PTT chatters or repeatedly switches TX/RX, stop testing and check conflicting control programs, port ownership, RTS/DTR choice, cables and CAT configuration before transmitting data.

Never copy another operator's COM number or CAT settings blindly. A screenshot showing COM3, COM4 or a particular Yaesu model is only an illustration.

8 | Set audio levels correctly

1. Start with conservative transmit audio output from VARA/Windows/interface.
2. Use VARA test/tune facilities, when available, to observe transmitter behavior. Increase output only enough for a clean, decodable signal.
3. Avoid excessive FM deviation, clipping, heavy ALC and audio processing. Too much audio can prevent decoding even with a strong RF signal.

4. For receive audio, adjust radio/interface and Windows recording levels until VARA responds clearly without being pinned at maximum.
5. Record the working values in the station worksheet at the end of this guide.

9 | Find and verify an RMS gateway

1. While online, open the VARA FM Winlink session Channel Selection and update the channel list if that option is available.
2. Select a reachable RMS gateway and record its callsign, frequency, and VARA FM Narrow/Wide setting.
3. Configure VARA FM to match the gateway's Narrow/Wide mode. A mismatch may prevent a connection.
4. Tune the radio to the gateway's listed operating frequency. Many gateways use simplex with no tone or repeater offset, but follow the actual gateway listing or operator instructions.
5. Listen first. Check that the channel is clear, the antenna is connected, and you are operating within your license privileges.

Example only: The original W4URG field card uses W4URG-10 / 144.990 MHz. Gateway operation, frequency, and accessibility can change. Confirm its current status and channel configuration before use. A gateway reached through a repeater may require special offset/tone settings.

10 | Compose your first Winlink email

1. In Winlink Express choose Message → New Message (or click New Message).
2. In To, enter a valid Winlink callsign or ordinary email address that you control or have permission to contact.
3. Enter a short, descriptive Subject, such as VARA FM TEST.
4. Type a brief message, for example: This is a test message sent through Winlink using VARA FM. 73, YOURCALL.
5. Click Post to Outbox. This queues the message but does not transmit it.

11 | Connect, send and receive

1. Return to the VARA FM Winlink session and select the verified gateway/channel.
2. Confirm frequency, mode, Narrow/Wide selection, sound devices, PTT, and clear channel.
3. Click Start in the session window. The software will attempt to connect through the radio.
4. When the connection succeeds, Winlink automatically transfers queued outgoing messages and downloads available incoming messages.
5. Allow the session to finish normally. Check Sent Items for transmitted messages and Inbox for received mail.
6. If the message remains in Outbox, it has not been confirmed sent. Correct the problem and retry.

Operational distinction: Winlink Express handles the email and queue; VARA FM handles radio data tones; the gateway handles the network handoff.

12 | Receive replies from ordinary email accounts

Mail sent to your Winlink address from outside Winlink may be subject to sender screening/acceptlist controls.

The supplied guides recommend first sending a message to that correspondent, managing your acceptlist, or using a recognized //WL2K subject convention where applicable. These mechanisms may change; verify current Winlink rules and test with family or contacts in advance.

13 | Message precedence and subject lines Routine traffic is the default. The supplied materials describe Winlink subject prefixes for higher-priority traffic.

Use the appropriate precedence only when justified; do not label ordinary practice traffic as emergency traffic.

Routine (R)

//WL2K R/ Normal traffic; default

Priority (P)

//WL2K P/ Important, ahead of routine

Immediate (O)

//WL2K O/ Time-sensitive urgent traffic

Flash (Z)

//WL2K Z/ Extreme urgency / life safety

Examples: //WL2K R/Supplies received and //WL2K P/Important logistics request. Check the receiving organization's traffic-handling procedures for required format.

14 | Troubleshooting: work through the symptom

VARA FM does not open: Confirm VARA FM is installed; check its program path in the Winlink session setup.

No receive audio: Verify correct recording device, cables, radio volume, Windows privacy/audio settings, and interface levels.

Radio does not transmit: Verify PTT method, COM port, CAT model/baud, RTS/DTR settings, wiring and any port conflict.

PTT clicks rapidly: Stop and inspect PTT method, COM ownership, CAT conflict and interface wiring; do not continue transmitting.

Radio keys but gateway does not connect: Check frequency, channel activity, gateway status, Narrow/Wide match, antenna, signal path and audio deviation.

Audio distorted or overloaded: Reduce transmit drive, disable enhancements and confirm interface/radio data-audio configuration.

Message remains in Outbox: Connection/transfer did not complete; inspect session log, retry or use another verified gateway.

Cannot receive an outside reply: Check the sender's address and Winlink sender authorization/acceptlist rules.

15 | Practice and readiness

After initial success, repeat a short test periodically, practice receiving a reply, and try a second reachable gateway if available. Share your Winlink address with trusted contacts and ask them to save it. Keep installers, drivers, this guide, and your station settings available offline.

Printable field checklist

- ■ Radio powered, antenna connected, correct frequency and operating privileges
- ■ Gateway currently listed/reachable; correct channel and Narrow/Wide mode
- ■ Sound-card input/output devices match radio interface
- ■ PTT test keys and releases correctly
- ■ Receive and transmit audio levels checked; no overload
- ■ Message composed and posted to Outbox
- ■ Listen first; open VARA FM Winlink session and click Start
- ■ Verify message moved to Sent Items; check Inbox for replies

Sources and accuracy notes

Combined from the supplied 10-page W4URG Winlink + VARA FM guide and the 3-page printable field guide.

The second guide credits Brian / KN4KSW and expansion by Howard / N4CRP.

References: winlink.org | downloads.winlink.org | varamodem.com | hamcompass.com.

Gateway status, software menus, fees and policies are not live-verified. Check before operating.

73 - Learn, practice, and help another operator get on the air.

MY STATION SETUP WORKSHEET

WINLINK + VARA FM | Keep a copy with your radio equipment

My callsign:

Radio model / interface:

Audio input device:

Audio output device / channel:

PTT method / COM port / baud:

Gateway callsign:

Gateway frequency / tone / offset (if needed):

VARA FM Narrow or Wide:

Transmit audio level:

Receive audio level:

Last successful connection date:

Tip: Verify gateway frequency and operating mode before every session.

FLORIDA WINLINK NET

W4AKH

A MESSAGE TO OUR NET PARTICIPANTS

To all of our Florida WinLink Net participants,

Thank you all for your continued interest and for taking the time to participate in the **Florida WinLink Net - W4AKH**. Your participation helps strengthen not only your own skills, but also the readiness of our amateur radio community.

It is important to remember that **constant preparation, practice, and testing are essential** - especially during a mild hurricane season. A quiet season can make it easy to become complacent, but emergencies rarely give us the luxury of time to prepare.

WAITING UNTIL THE HURRICANE IS APPROACHING IS TOO LATE.

Continue practicing with Winlink, testing your equipment, checking your station, and sharpening your operating skills. The work we put in today helps ensure that when our communication capabilities are truly needed, **we are ready to answer the call.**

STAY SHARP. STAY PREPARED. STAY READY.

May God bless you, and may God bless America.

73,

Jim / K2JJK

Florida WinLink Net - W4AKH

Preparation • Practice • Testing • Readiness



WINLINK MESSAGE PRECEDENCE AND SPAM CONTROL

USE THE PROPER SUBJECT LINE FORMAT TO HELP KEEP WINLINK RUNNING EFFECTIVELY!

A MESSAGE FROM STEVE TAYLOR / W1HQL

PRESIDENT, EVERGLADES AMATEUR RADIO CLUB

With the local increase in Winlink messaging, I thought it would be a good idea to share some basic information pertaining to establishing a message precedence in the SUBJECT LINE of any message you are sending via Winlink.

Do your best to follow the suggestions below. If you forget... No harm, no foul... But it is a good habit to follow and will prepare you to use the system as it is designed to do, especially during emergency situations.

MESSAGE PRECEDENCE OVERVIEW

Precedence indicators control the order in which messages get processed and sent across slow radio iinks through the Winlink system. It also includes a mechanism to block SPAM – unwanted and unexpected mail – from the system.

PRECEDENCE	SUBJECT LINE TAG	DESCRIPTION
Z (Flash)	**//WL2K Z/**	**Flash** For urgent message use only. Reserved for life-safety or extremely urgent situations.
O (Immediate)	**//WL2K O/**	**Immediate** For urgent message use only. High priority, time sensitive.
P (Priority)	**//WL2K P/**	**Priority** Important messages that should be processed ahead of routine traffic.
R (Routine)	**//WL2K R/**	**Routine (Default)** For all **normal traffic.** Unless there is a special circumstance or urgent routing need, use R/. **"R" is the default if omitted.**

EXAMPLE SUBJECT LINES

- **//WL2K Z/**EOC FLOODING
- **//WL2K O/**SHELTER STATUS - FULL
- **//WL2K P/**Food and bedding inventory request
- **//WL2K R/**Supplies received
- **Re://WL2K R/**Generator manual needed
- **FW://WL2K R/**Please bring Gasoline.

REPLIES AND FORWARDING

"Reply" and "forwarded" messages will be treated with the same priority as the original unless the precedence indicator is changed in the subject line when replying or forwarding.

WHY IT MATTERS

- Helps get important messages delivered first
- Keeps the Winlink system efficient
- Supports emergency communications
- Reduces unwanted SPAM

Let's keep our Winlink traffic organized and effective!

– Steve Taylor / W1HQL
President
Everglades Amateur Radio Club

A FRIENDLY WINLINK REMINDER!

A message to everyone who attended today's class

Be sure to share your **Winlink email address** with your family, loved ones, and friends! Encourage them to save it alongside your regular contact information.

Take some time to practice sending them a Winlink email, and have them reply to you as well. Getting comfortable with sending and receiving messages now can help prevent confusion or unexpected issues when you really need the system to work.

Remember, practice builds confidence, and preparation makes all the difference!

I hope you enjoyed today's class and continue practicing the skills and operating modes we've covered. The knowledge you've gained today is just the beginning! As you continue learning and upgrade your amateur radio license privileges, these skills will grow with you, opening the door to even more exciting modes and opportunities within this incredible hobby.

Thank you all for your interest, participation, and willingness to learn. I encourage you to keep experimenting, keep practicing, and most importantly, **have fun with it!**

I hope to catch you in my Winlink inbox and on the air!

73 de Brian / KN4KSW