

# Winlink Setup via Digirig and VARA FM

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This document was created by Greg Singer, K3VLR. If you have any questions, please contact me at [k3vlr@arrl.net](mailto:k3vlr@arrl.net).

## Winlink Settings:

- Open “Winlink Express”
- Click “Settings”
- Select “Winlink Express Setup”
- Make sure the following fields are filled out
  - My Callsign
  - My Password
  - Password Recover E-mail
  - My Grid Square

Call Signs

My Callsign: K3VLR My Password: ●●●●●●●● (Case sensitive)

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

Password recovery e-mail: k3vlr1@gmail.com (Non-Winlink e-mail address where lost password will be sent when requested)

Remove Callsign Request password be sent to recovery e-mail

Auxiliary Callsigns and Tactical Addresses

My Grid Square: EN91TC Lat/Lon to Grid Square

- Click “Update” to save
- To switch from Telnet to VARA FM P2P
  - On the main Winlink Express window find “Open Session” on the top right.
    - Click the drop down menu next to “Open Session”
    - Select “VARA FM P2P”
    - Click “Open Session”
  - K3VLR Settings Message Attachments Move To: Saved Items Delete Open Session: Vara FM P2P Logs
  - VARA FM will launch

## VARA FM Settings:

- Click “Settings”
- Click “VARA Setup”
- Set “Command” to “8300”
- Set “FM System” to “Narrow”
- Set “Retries” to “6”
- Click “Close”

VARA Setup 127.0.0.1

TCP Ports:

Command: 8300

Data: 8301

FM System: NARROW

Digipeater:

Retries: 6

Allow VARA check for updates

KISS interface  SysLog

VARA Licenses:

Callsign: K3VLR	Registration Key:
Callsign:	Registration Key:
Callsign:	Registration Key:
Callsign:	Registration Key:

## VARA FM PTT: (Digirig Lite Only)

- Click “Settings”
- Click “PTT”
- Select “RA-Board”
- Click “Close”

PTT

PTT Via

CAT  COM  RA-Board  VOX

## VARA FM PTT: (Digirig Mobile Only)

- Click “Settings”
- Click “PTT”
- Select “COM”
- Select “Com Port”
- Click “Close”

PTT Via

CAT  COM  RA-Board  VOX

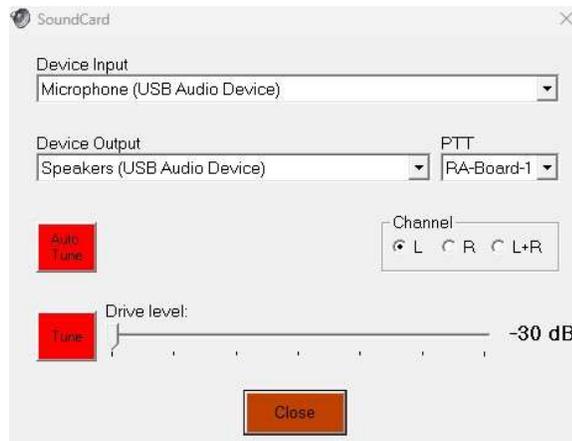
COM Port: COM3

PTT Pin:

RTS  DTR  RTS+DTR

## **VARA FM Sound Card (For the Digirig device):**

- Click “Settings”
- Click “Sound Card”
- Under “Device Input” select “Microphone (USB Audio Device)”
- Under “Device Output” select "Speakers (USB Audio Device)”
- Under “PTT” select “RA-Board-1”
- Under “Channel” select “L”



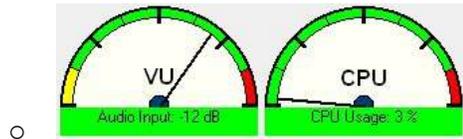
- Click “Close”

## **Digirig audio settings for Windows 10 and 11:**

- Press Windows+R to open the Run window
- Type “control”
- Click “OK” or press enter
- In the top right-hand corner click on “Category”.
- Select “Large Icons”
- Scroll down and click “Sound”
- Click the “Playback” tab
- Select “Speakers USB Audio Device”
- Click “Properties”
- Click the “Levels” tab
- Under Speakers move the slider to the left until it shows “20”
- Click “OK”
- Click the “Recording” tab
- Select “Microphone USB Audio Device”
- Click “Properties”
- Click the “Custom” tab
- Uncheck “AGC”
- Click “OK”
- Click “OK” again
- Close the Control Panel

## Radio settings for your HT:

- Enter the simplex frequency of 145.030 MHz
- Set Radio to “Wide”
- Set squelch to “Zero”
- Set power level to “Low” (Since we will all be in the same room)
- Adjust volume on radio so “Audio Input” is in the green:



## Team up with a partner and test your setup:

- From VARA FM Click “Settings”
- Click “Sound Card”
- Click “Auto Tune”
- Under “Calibrate with” enter your partners callsign
- Click the button to the right to start transmitting



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- Once it is done you will receive a Calibration Report
- Review the settings from the Calibration Report. You may need to increase or decrease the audio output of the Digirig.
- Once it successfully calibrated you will receive an “APPROVED” screen like the one below:



Drive Level: -18 dB

S/N: +20.6 dB

VU: -13 dB

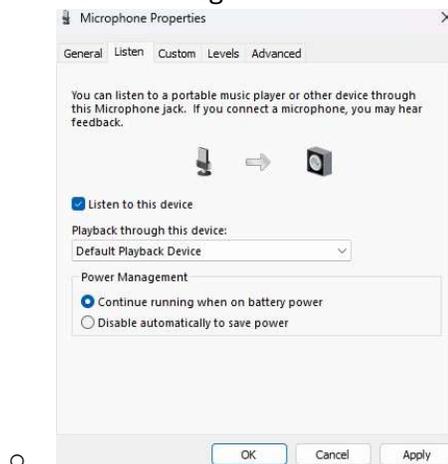
**APPROVED**

Close

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- Please note: If it does not say approved it may not work 100% of the time. Be sure to adjust settings until it says “APPROVED”.

**A good troubleshooting tool is to monitor the audio from your HT on the computer speakers. This is not needed if everything is working:**

- Go to the Control Panel
- Click on “Sound”
- Click the “Recording” Tab
- Select “Microphone (USB Audio Device)”
- Click “Properties”
- Click the “Listen” tab
- Check the box “Listen to this device”
- Click “OK”
- Click “OK” again

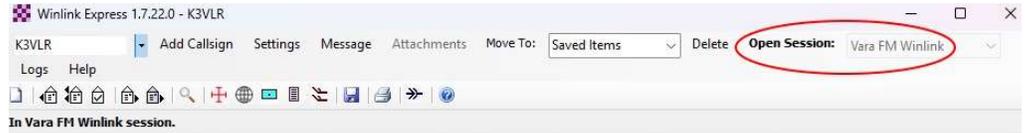


**For this setup I am using a Dell laptop running Windows 11 and a Kenwood TH-D72 handheld radio. I also purchased the items listed below:**

- Digirig Lite: <https://digirig.net/product/digirig-lite/>
- Digirig cable for Baofeng/Kenwood/Wouxon HT: <https://digirig.net/product/baofeng-cables/>
- VARA FM: <https://rosmodem.wordpress.com/>
- You can use the free version of VARA FM if you are using P2P. In order to use the digipeater function you must have the paid version. I emailed the author, and he confirmed that a single VARA license can be used for VARA FM and VARA HF. You can also use the license on your desktop and your laptop computers.

## Configure Winlink and VARA FM to work with the K3ACS-4 Digipeater: (This requires the paid version of VARA FM)

- On the main Winlink Express window find “Open Session” on the top right.
  - Click the drop down menu next to “Open Session”
  - Select “VARA FM Winlink”
  - Click “Open Session”



- In VARA FM Winlink session.
  - VARA FM will launch
  - In the VARA FM Winlink Session window click “Direct”
  - Select “Digipeater”
  - In the first box enter KE8OKO-4
  - In the second box enter K3ACS-4
  - Click “Start” to begin transmission



- By following these steps, you are sending your message to the K3ACS Digipeater. The Digipeater then sends the message to the KE8OKO Gateway in Poland, Ohio. The Gateway is connected to the Internet. The Gateway will deliver your message to any email address. The Digipeater and the Gateway are on the frequency of 145.030 MHz.