Quick Setup Guide for VARA FM 3.0.5 and higher for Winlink with Signalink on Windows

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Get the Software

Download

- VARA FM: download VARA FM directly from here https://rosmodem.wordpress.com/, or follow the link for VARA FM in Winlink Express, then extract the install files in a location you can find easily (e.g. Desktop). Now double-click the install file and install it in C:\VARA FM\
- VARA FM is a separate program from VARA Modem. If you want to only use VARA FM, only download VARA FM. If you want to use VARA on HF you should also download and install VARA Modem.
- NOTE: Some antivirus programs may identify VARAFM.exe as a Trojan or virus. It is a false positive. Create an exception in your antivirus program for the folder VARAFM.exe is located in.
- NOTE: VARA FM can cause Signalink sputtering when third-party antivirus programs are present. Removing the third party antivirus and using Windows Defender is one solution.
- NOTE: VARA FM works perfectly fine without a license key. The key only unlocks the higher speeds. Basic VARA FM will be more than twice as fast as Packet.
- NOTE: VARA FM 3.0.5 and higher are <u>not</u> compatible with VARA FM 1.3.0 or lower. We recommend upgrading to VARA FM 3.0.5 or higher.

Soundcard Considerations

After you have hooked up your Signalink please make sure it is not selected as the default audio device.

Right Click on the Windows Icon

Select **Run**

Type or copy and paste **control mmsys.cpl**

Press **Enter**

Select **Playback**

Right click on your computer soundcard

Select **Set Default Device**

Right click on your computer soundcard

Select **Set As Default Communication Device**
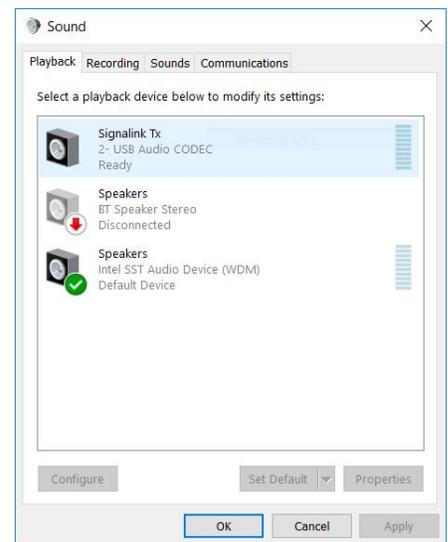
Then select **Recording**. Right-click your computer's internal soundcard and **Set as Default Device** and then right-click again and **Set as Default Communication Device**. There should be a green check mark on the internal soundcard device now.

Then click **OK.**

Quick Tip: Soundcard Shortcut

-   Right-click on **Desktop**
-   Select **Create Shortcut**
-   In "Type the location of the item" copy and paste **control mmsys.cpl**
-   Click **Next**
-   Type **Soundcards**
-   Click **Finish**

Customize your Soundcards Shortcut icon:
Properties -> Shortcut -> Change Icon -> paste **C:\Windows\system32\SHELL32.dll**

Also make sure that Signalink is not your active Playback Device. You can select your active playback device by left clicking on the speaker icon [speaker icon] and selecting any playback device other than USB Audio CODEC. Selecting Speakers/Headphones in the example here is a good idea.

Select playback device

Speakers / Headphones (Realtek High De

Acer T232HL (Intel(R) Display Audio)
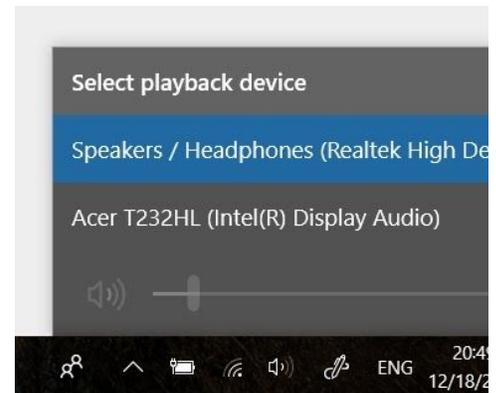
SignaLink Settings

Set the TX and RX dials on your Signalink to the 9 o'clock position. You can adjust that later if needed. Set DLY(delay) to the 7:30 setting, halfway between the first and the second notches.

VU Meter:
Open the squelch on your transceiver or press the monitor button.
Adjust the Signalink RX dial on your Signalink so that the VU meter needle is in the center or slightly left of center.
You want to avoid the red zone.

VU
Audio Input: -21 dB

RX Disconnected

Signalink Audio Settings in Windows[1]:
With Signalinks your Windows settings for USB Audio CODEC audio levels should be

… 100% for Speakers and ...

Signalink TX Properties

General Levels Enhancements Advanced Spatial sound

Speakers

100   Balance

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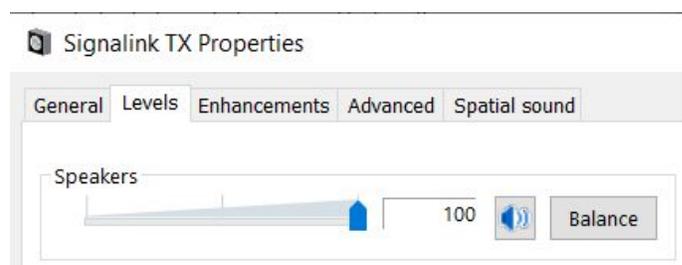
[1] Access the settings: **Right Click on the Windows Icon ;** Select **Run ;** Type or copy and paste **control mmsys.cpl ;** Press **Enter**

… as near to 0dB for Microphone as possible.
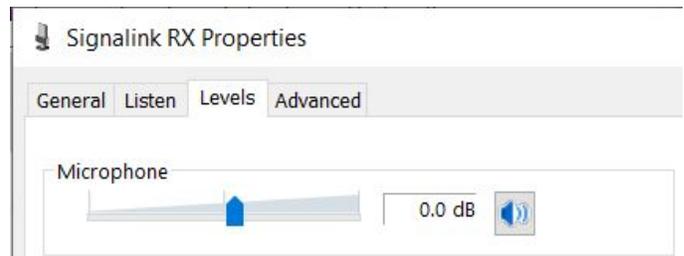
Setting up Winlink for VARA FM

Open Winlink Express
In the Open Session window select **VARA FM P2P**[2] or **VARA FM WInlink**
Click on **Open Session**
You will see this screen:

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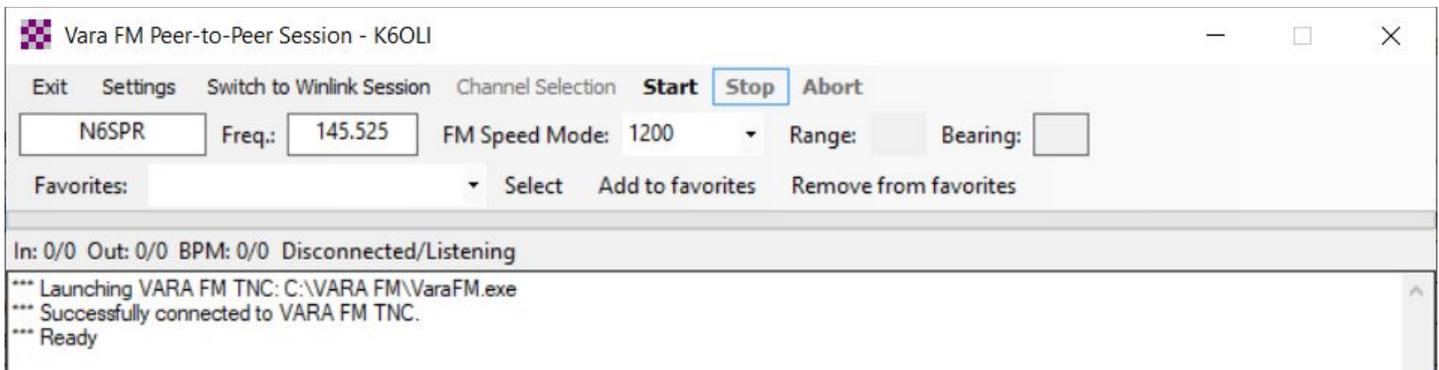
[2] VARA FM settings carry over from the VARA P2P to the Winlink VARA Session and vice versa

VARA FM Winlink TNC Setup

Click on **Settings**
Select **VARA TNC Setup**
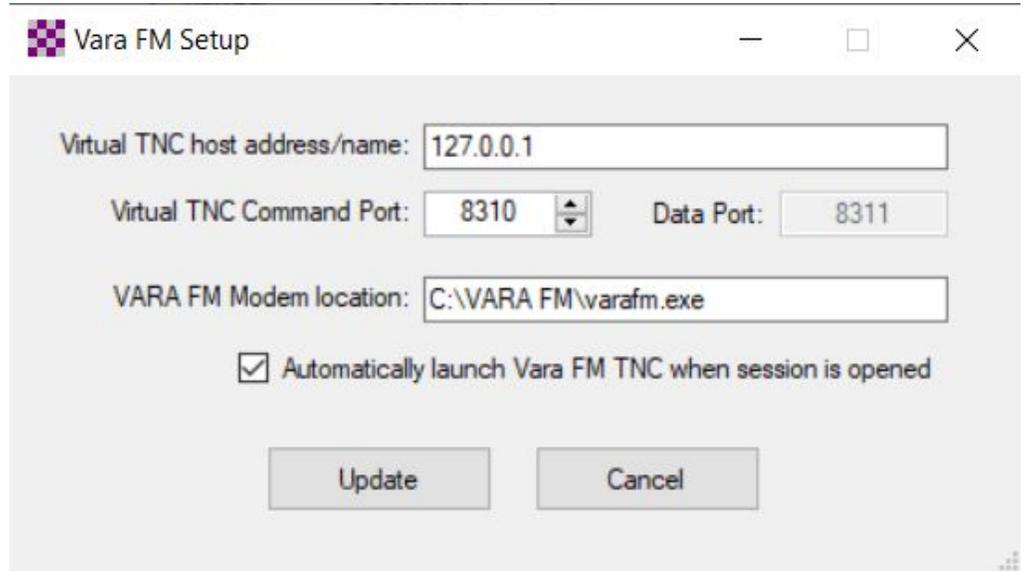
Virtual TNC host address/name: **127.0.0.1**
Virtual TNC Command Port: **8300**[3]
VARA Modem location **C:\VARA FM\VaraFM.exe** (or the path you chose during VARA FM install, if different from default).
Check Automatically Launch VRA FM TNC when session is opened, if you want that VARA FM launches automatically.
Click **Update**.

Quick Tip: NARROW vs WIDE

Pin 1200 is limited to 3kHz audio bandwidth. **Only VARA FM NARROW** can be used with pin 1200.

Pin 9600 is limited to 6kHz audio bandwidth. So either VARA FM NARROW or WIDE can be used.

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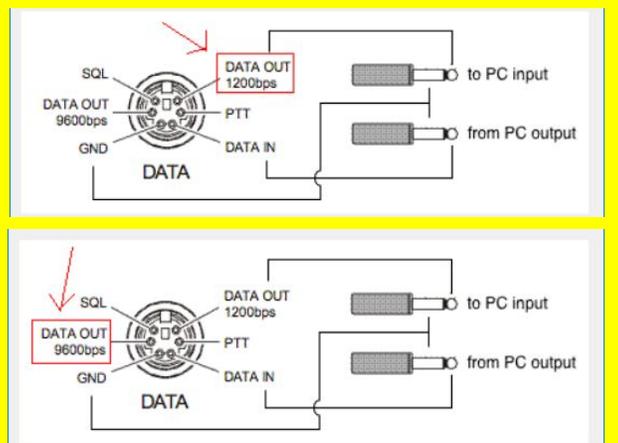
[3] In the screenshot above it is set to 8310 due to personal preference.

You need a 9600 capable transceiver in order to use VARA FM WIDE or a transceiver with a built-in soundcard, like the IC-7100, for example.

The transformers in current Signalinks max out at 4000Hz, whereas VARA FM WIDE can reach 5800Hz bandwidth.

VARA FM Modem Setup

Click on the VARA FM Modem icon next to the Winlink Express
icon at the bottom of your screen.
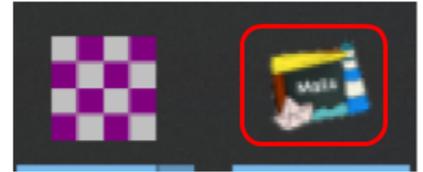
You will see this screen:
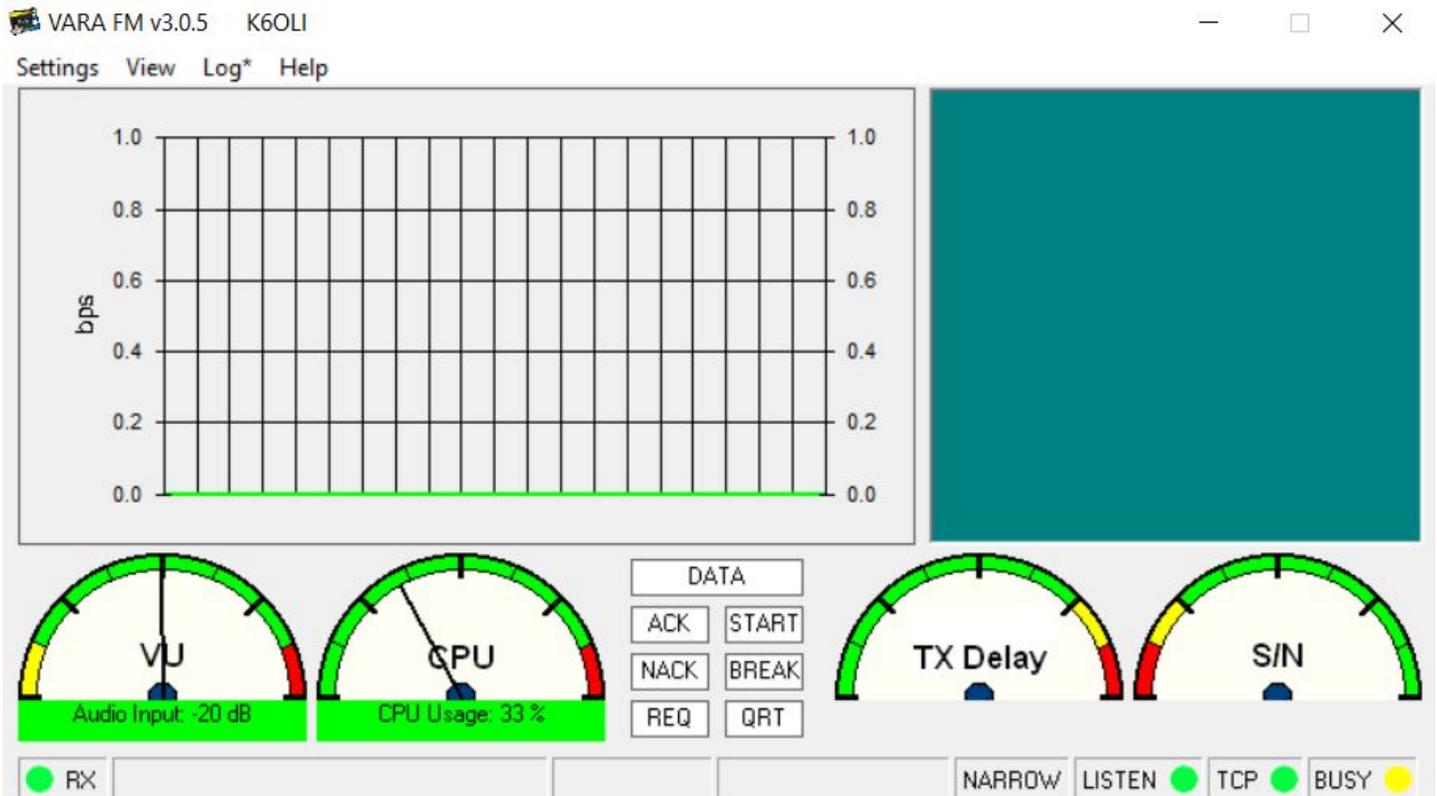
VARA FM Setup

Click on **Settings**
Select **VARA Setup**

Make sure the following is set

TCP Ports: Command **8300**[4]
FM System: **NARROW**
[5]Registration Key: (here is where you enter your registration key if you have one)
Retries: **2**
Click **Close**
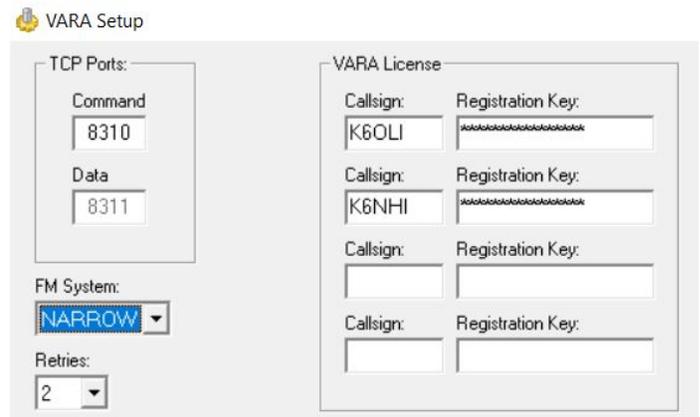
Special note: VARA FM 3.0.5 and higher set the software TX Delay automatically.
For best results with a Signalink we recommend setting the Signalink Delay (DLY) to the 7:30 setting, i.e. halfway between the first and the second notches. You will find that the VARA FM TX Delay will drop dramatically.

VARA FM SoundCard Setup

Click on **Settings**
Select **SoundCard**

Make sure the following is set

Device Input: **USB Audio CODEC**
Device Output: **USB Audio CODEC**
Drive Level: **-8dB**
Click **Close**
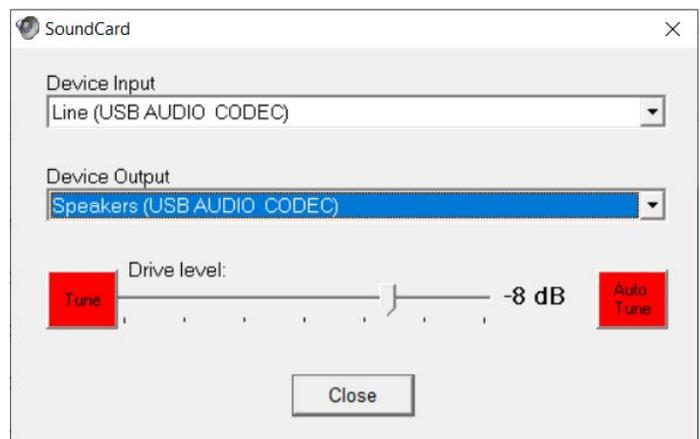
Note: This selects your Signalink as the Output and Input device for VARA FM and Winlink Express.
Note: The Signalink may sometimes show up as 2-USB Audio CODEC or similar.

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[4] I use port 8310. This must match the port you selected in Winlink VARA FM Session above.
[5] Use NARROW for Signalinks and similar devices using a microphone or 1200 pin configuration. Use WIDE for RA-boards, X50, boards and similar devices using the 9600 pin configuration. NARROW and WIDE are cross compatible.

Auto Tune

Auto tune is a practical feature to optimize your signal.

You can autotune with a gateway or with a peer. When tuning with a peer make sure he/she is running VARA FM 3.0.5 or higher and VARA FM is running when you try to tune.

Ideally you tune with a station that has a good signal to you.

You only need to tune once for a specific radio, antenna, location, combination.

Click on **Auto Tune**

Enter the call sign of the station you want to tune with, in this example, K6YZF-11

Click on the power plug icon

VARA FM will key the radio and go through a number of levels. The other station will transmit results. VARA FM uses these results to either

  a) Set the drive level automatically
  b) Recommend setting changes on the Signalink

Click **Close**

PTT

Choose **Settings**
Select **PTT**
Set radio button to **VOX**
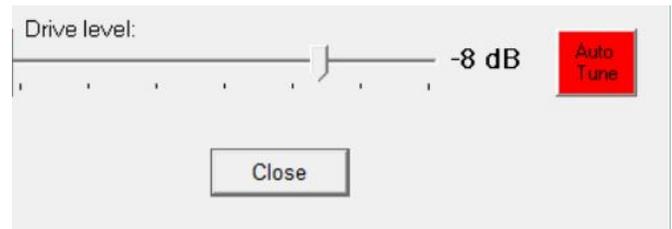
Done! You are now set up to use VARA FM. It is a good idea to exit your VARA FM P2P session at this point and re-initialize it to ensure the changes are saved.