

# Installing Vara FM to RMS Packet

- Assuming
    - RMS Packet is installed and working properly via
      - The Packet Software TNC is UZ7HO's SoundModem
      - Signalink Sound Card Interface
  - Sharing the Signalink Input and Output Devices
    - Both the SoundModem Packet virtual TNC and the VARA FM virtual TNC share the Signalink Speaker and Microphone. To Share from the Windows Desktop TaskBar:
      - Start → Settings → System → Sound
      - Click on the link **Sound Control Panel**
        - Located with the **Related Settings** section of the Sound settings window
      - Speaker
        - Select the Playback tab
          - Make sure the Signalink device is not the default otherwise Window's sounds will be transmitted.
          - Right Click on the Signalink device (USB Audio Codec)
            - Select Properties
              - Click on the Advanced Tab
                - Uncheck "Allow applications to take exclusive control of the this device"
              - Click OK
      - Microphone
        - Select the Recording Tab
          - Right Click on the Signalink device (USB Audio Codec)
            - Select Properties
              - Click on the Advanced Tab
                - Uncheck "Allow applications to take exclusive control of the this device"
              - Click OK
    - Click OK to close the Sounds Control Panel
    - Close Settings window
- Download and install Vara FM
  - <https://rosmodem.wordpress.com>

- Configure Vara FM Settings **within RMS Packet** window
  - Settings → Vara FM Settings
    - Virtual TNC host address/name
      - If Vara FM is running on the same PC as RMS Packet use the local host IP address 127.0.0.1 or the name localhost
    - Virtual TNC Command Port
      - Use default 8300
        - If more than one instance of VARA FM is running on this PC you should switch it to a different number like 8350
    - FM Speed Mode
      - With a Signalink this should be 1200 (I believe this also maps to Vara FM's NARROW mode)
    - Vara FM Modem Location
      - This is the fully qualified name of the VARAFM.exe executable.
        - For default VARA FM installs this will be
          - C:\VARA FM\VARAFM.exe
        - Use the browse function to find it to eliminate typos
    - VARA FM Port Properties
      - These are the properties unique to your RMS Packet Gateway, and information this information will also be used to define your station with Winlink.orgs map and station list.
      - These should all match to the settings for your RMS Packet Gateway settings under the Settings → Packet Channels
    - Optional Login Message
      - Put something here to describe your station or a welcome message
  - Click on Update button
  - This should close both the Packet and if open the VARA FM windows then restart both.

- Configure Vara FM Settings **within VARA FM TNC** window
  - Settings → VARA Setup...
    - TCP Ports
      - These should match the Virtual TNC Command Port values within the Vara FM Settings of the **RMS Packet** settings window
    - FM System
      - When using a Signalink sound card interface NARROW should be selected
    - Retries
      - Doesn't matter as RMS Packet doesn't initiate connections
    - Allow VARA check for updates via internet server
      - Have this unchecked. Historically I have found the pop-up informing there is a new version has stalled the TNC. It may not do that anymore but....
  - Settings → SoundCard
    - The Device Input should match the same sound card microphone as the Input Device in SoundModem
    - The Device Output should match the same sound card speaker as the Output Device in SoundModem
    - Auto Tune
      - If you have your Winlink Express client VARA FM open, you can optimize the output device sound levels for VARA FM. If these antennas/radios of the client and server are near each other, I recommend using a dummy loads and low power on at both of the radios.
      - Clicking on Auto Tune will open the Auto Tune window
        - Connect with:
          - Use your call sign configured in the Winlink express client
          - Clicking on the plug will run the test, it will send 11 signals at different Db levels and configure the slider for the best setting. If the Values are too extreme it may request modifying the Signalink's TX level dial.
          - Optimum SNR should be greater than 20 Db.
  - Settings → PTT
    - VOX should be checked