Winlink Basics Presentation to 285 TechConnect Radio Club

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Introduction

- Who are we?
  - Jon - Technician license in mid-2020; General in 2024. Mainly have been doing ARES/EMCOMM
  - Art – Amateur Extra. Assistant Emergency Coordinator (EC) for ARES R1D6
- What this presentation IS
  - Basic setup of system on VHF/UHF
  - Demos of gateway and P2P connections
  - Basic Winlink Express functionality
- What this presentation IS NOT
  - Not a comprehensive review of the overall Winlink system
  - Not a comprehensive review of the Winlink Express program
  - Not a step-by-step guide for installation/setup of programs
  - Not about Winlink over HF

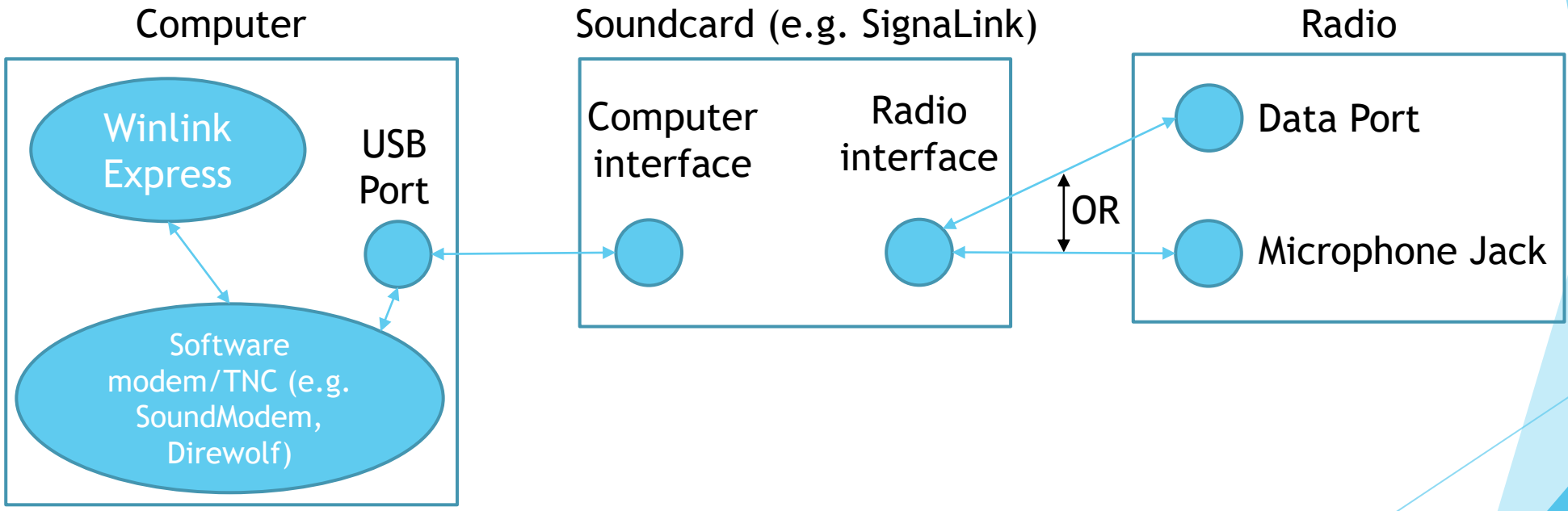
Resources

- YouTube is your friend
  - Overview of Winlink System - Rick Frost videos on youtube - https://www.youtube.com/watch?v=qGhUfW8pjY8
  - WaveTalkers videos - https://www.youtube.com/watch?v=vD_G9YCoDNM
  - Lots of other videos on different ways to do Winlink

Agenda

- Basic initial setup for doing VHF/UHF Winlink
  - HW/SW needed
  - Basic configuration
- Demo GW & P2P
  - VHF/UHF GW connection options – Packet Winlink, VARA FM Winlink
  - VHF/UHF P2P connection options – Packet P2P, VARA FM P2P
- Forms and sending images

Key components for running Winlink from your computer over VHF/UHF



Key components for running Winlink from your computer over VHF/UHF (cont.)

- Email program
  - e.g. Winlink Express (formerly RMS Express)
- Modem / SW Terminal Node Controller (TNC)
  - e.g. Direwolf, UZ7HO SoundModem, Vara FM
- Sound card
  - e.g. SignaLink, Masters Communications DRA-30
- Radio
  - Data port for faster potential speeds

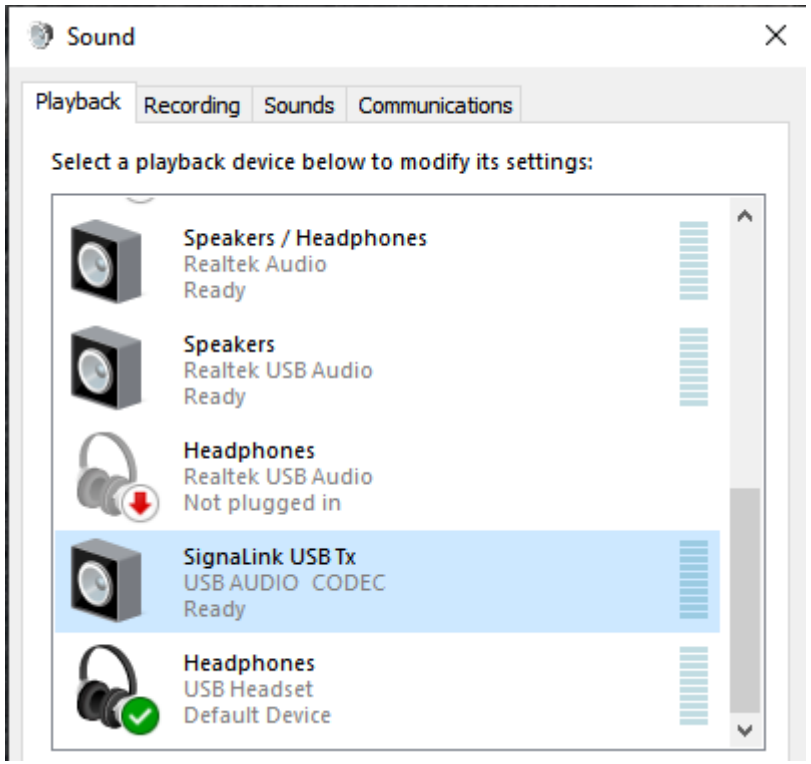
Connection to data port on mobile radio

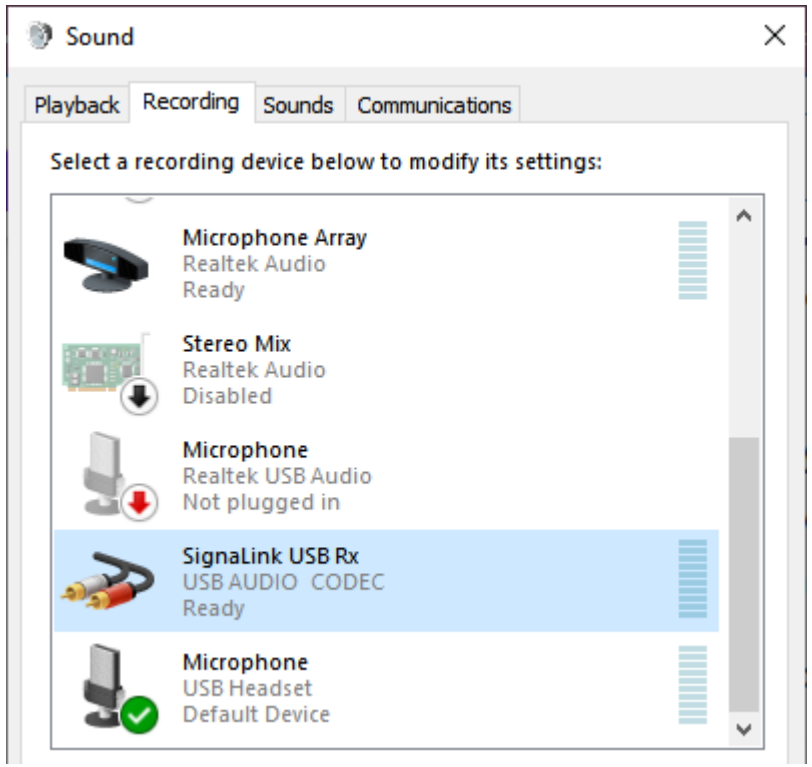
Basic Soundcard & Winlink Express setup

- Downloading & installing
  - Winlink Express – www.winlink.org -> Download -> User Programs -> Winlink_Express_install_1-5-36-0.zip
  - SoundModem by UZ7HO – uz7.ho.ua/packetradio.htm -> soundmodem114.zip
- Setting up sound devices for SignaLink
  - Sound Control Panel
- Configuration for Packet Winlink
  - Winlink Express, SoundModem
- Configuration for VARA FM
  - Winlink Express, VARA FM

Soundcard setup

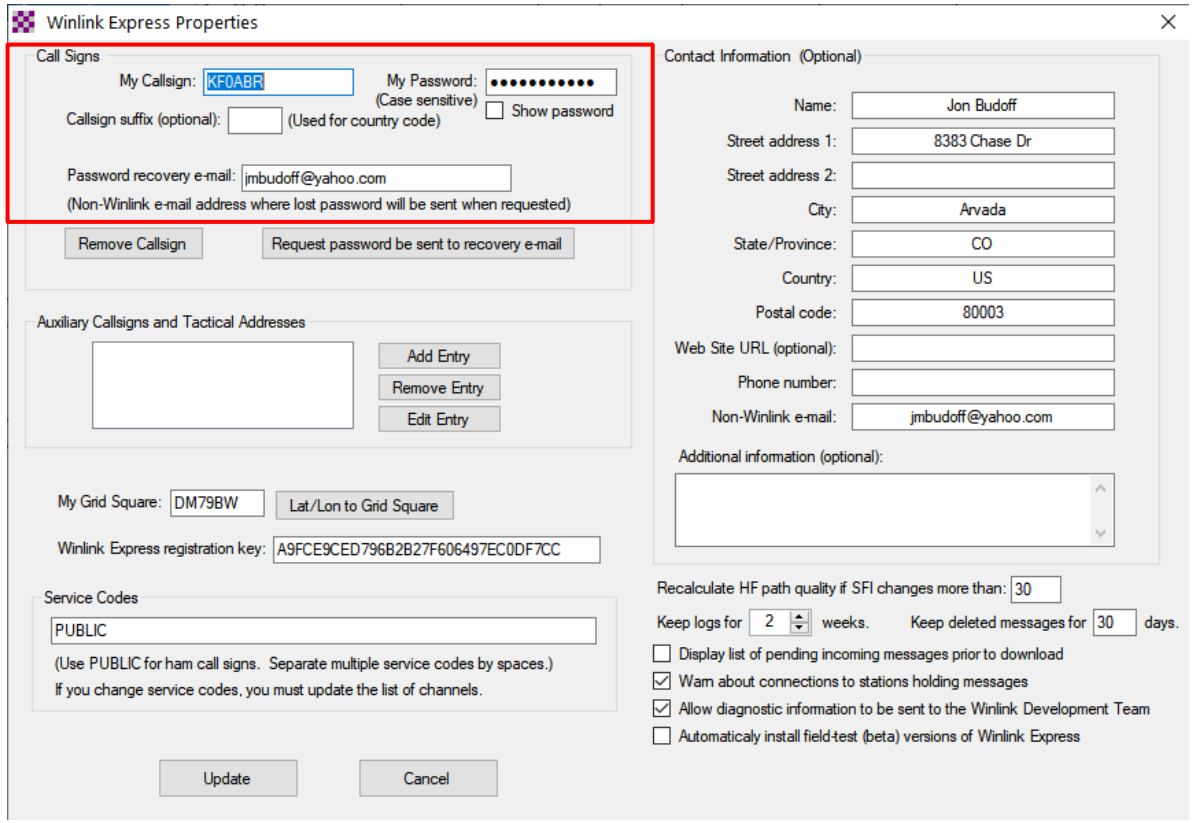
Go to Sound Control Panel in Windows:



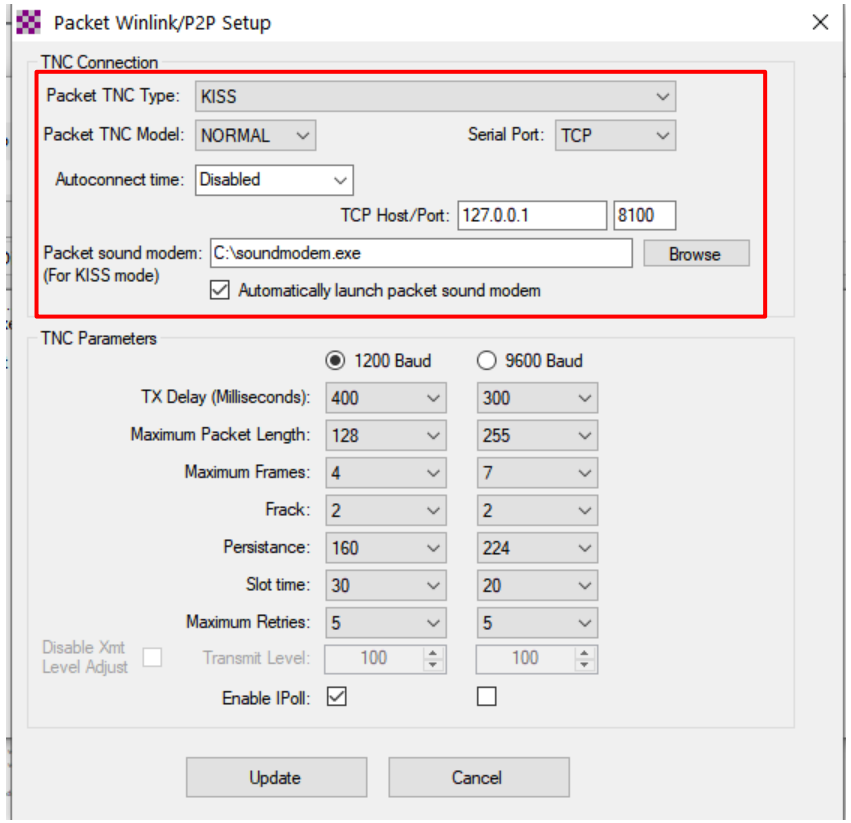


Winlink Express Properties

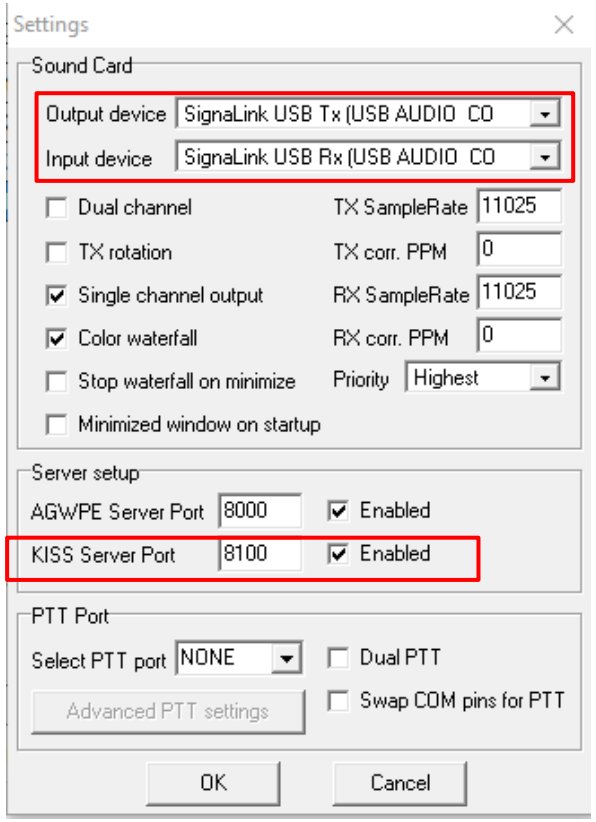
Settings -> Winlink Express Setup



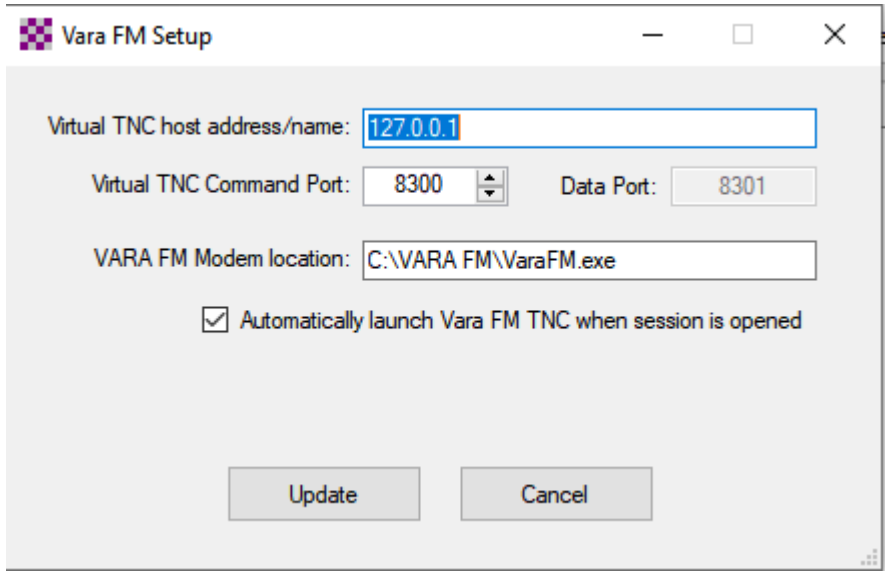
Winlink Express -> Open Session -> Packet Winlink Session -> Settings



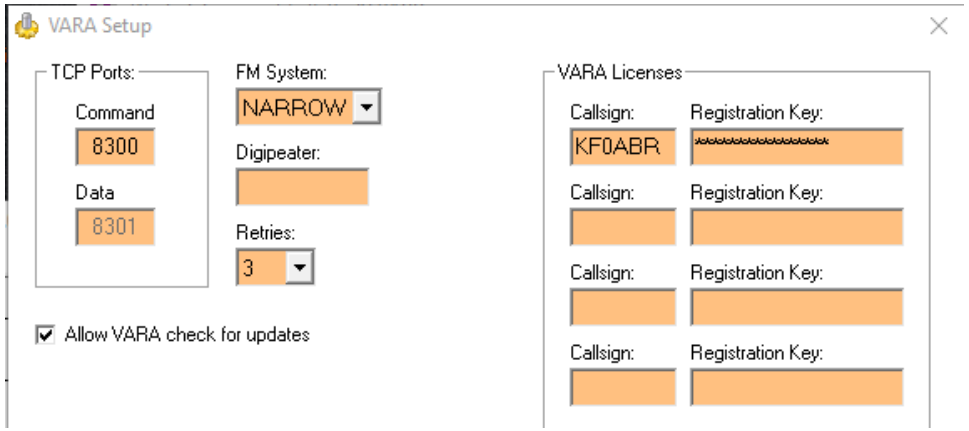
SoundModem -> Settings -> Devices

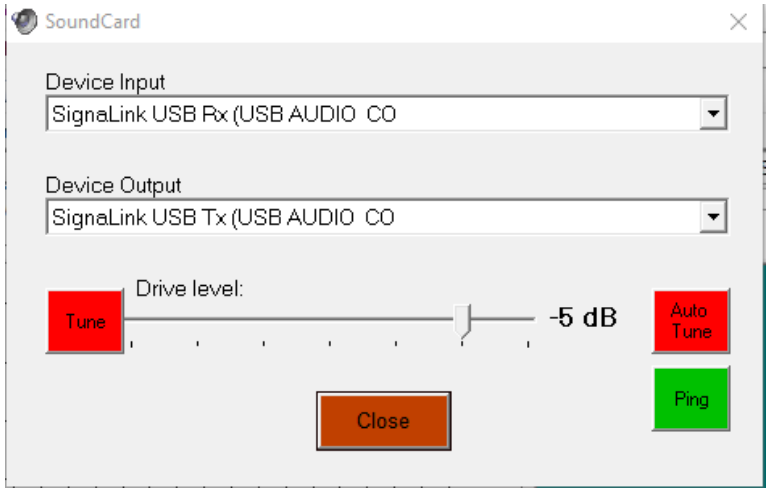


Winlink Express -> Open Session -> Vara FM Winlink Session -> Settings

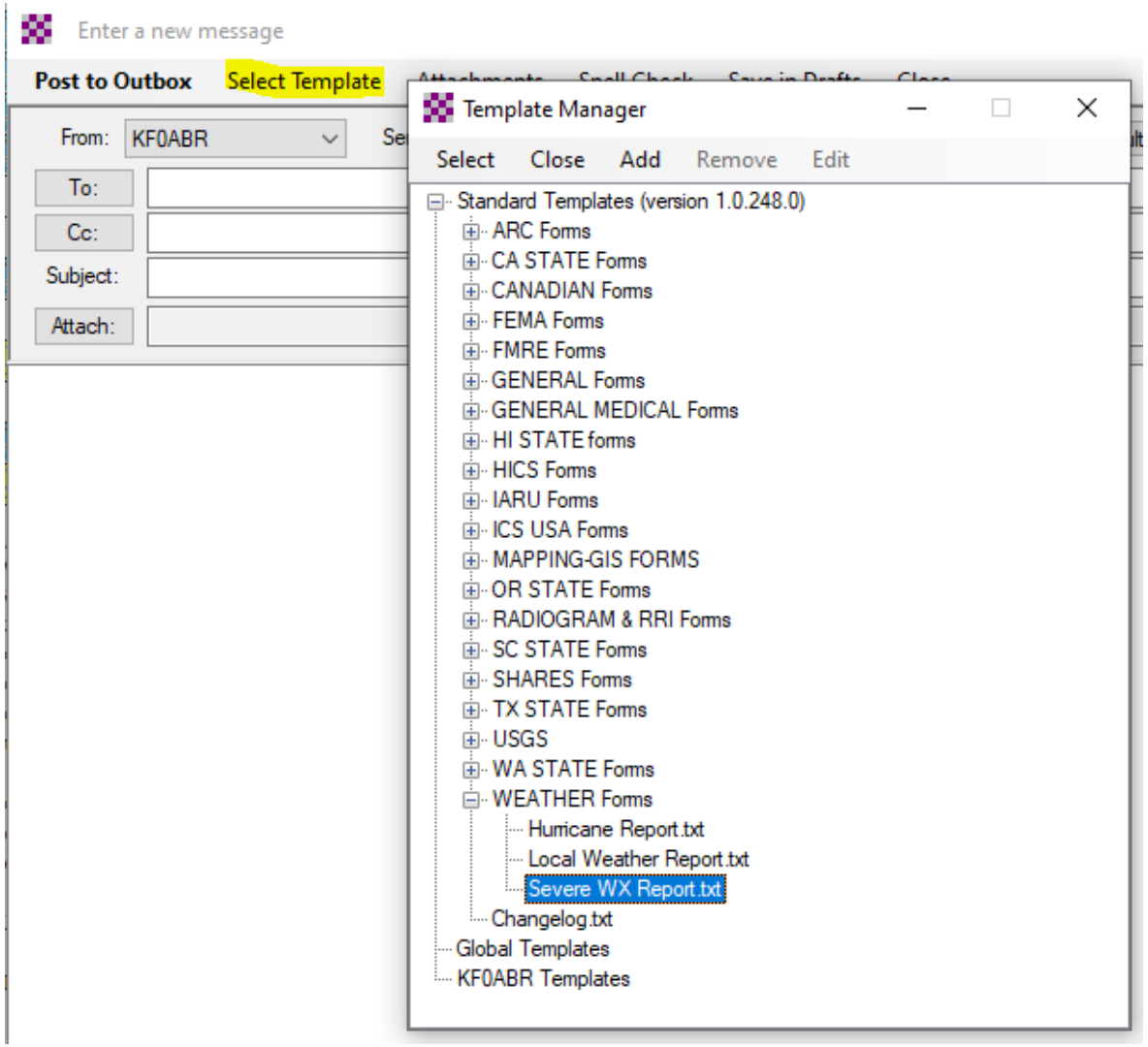


VARA FM -> Settings -> VARA setup
VARA FM -> Settings -> SoundCard





Winlink Forms



STEPS to use:

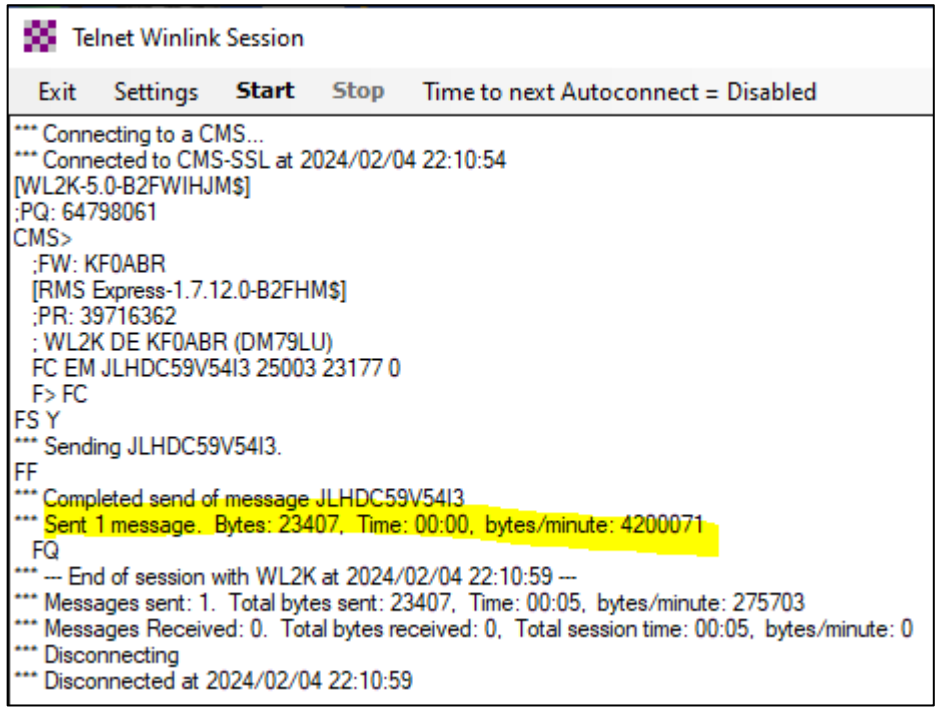
1. New Message
2. Select Template
3. Find the template you want and double-click
4. Fill in the information on the web page and hit Submit; info from page transfers to body of message
5. Post message to Outbox

Demos

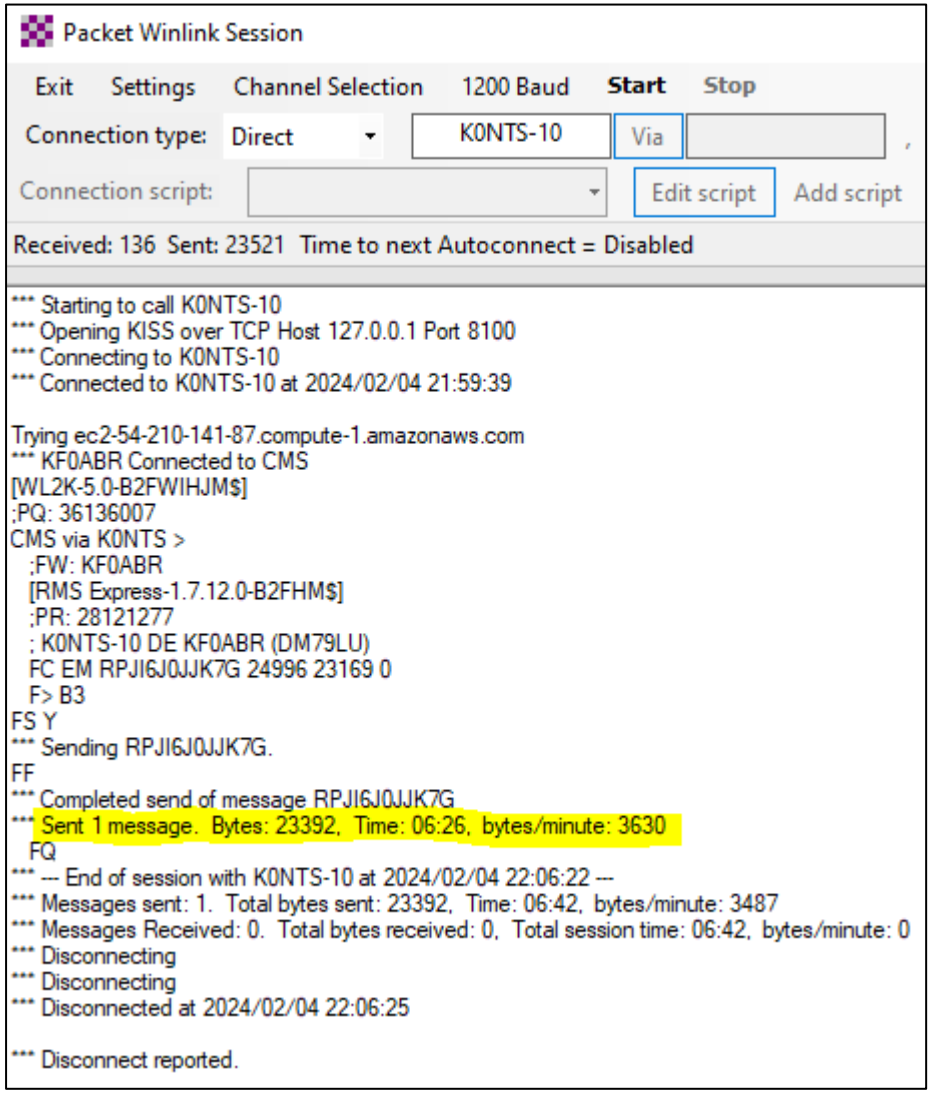
- Telnet Winlink
- Packet Winlink w/ Soundmodem (via Gateway)
- VARA FM Winlink (via Gateway)
- Packet P2P w/ Soundmodem
  - Make sure message is set to type P2P
- VARA FM P2P
  - Make sure message is set to type P2P

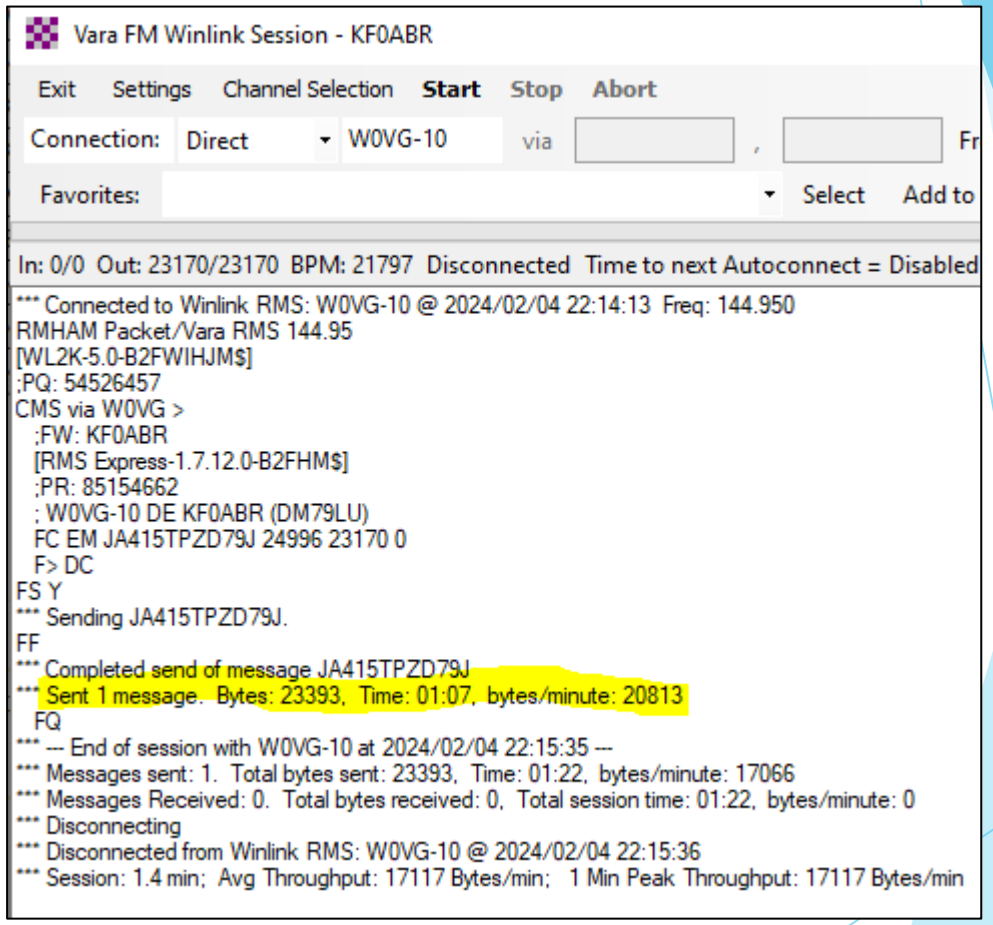
Speed comparisons

Method	Attachment size	Time to send	Transfer speed
Telnet Winlink	~24 KB	0 min 0 sec	4.2 MB/min
Packet Winlink	~24 KB	6 min 26 sec	3.63 KB/min
VARA FM	~24 KB	1 min 7 sec	20.813 KB/min



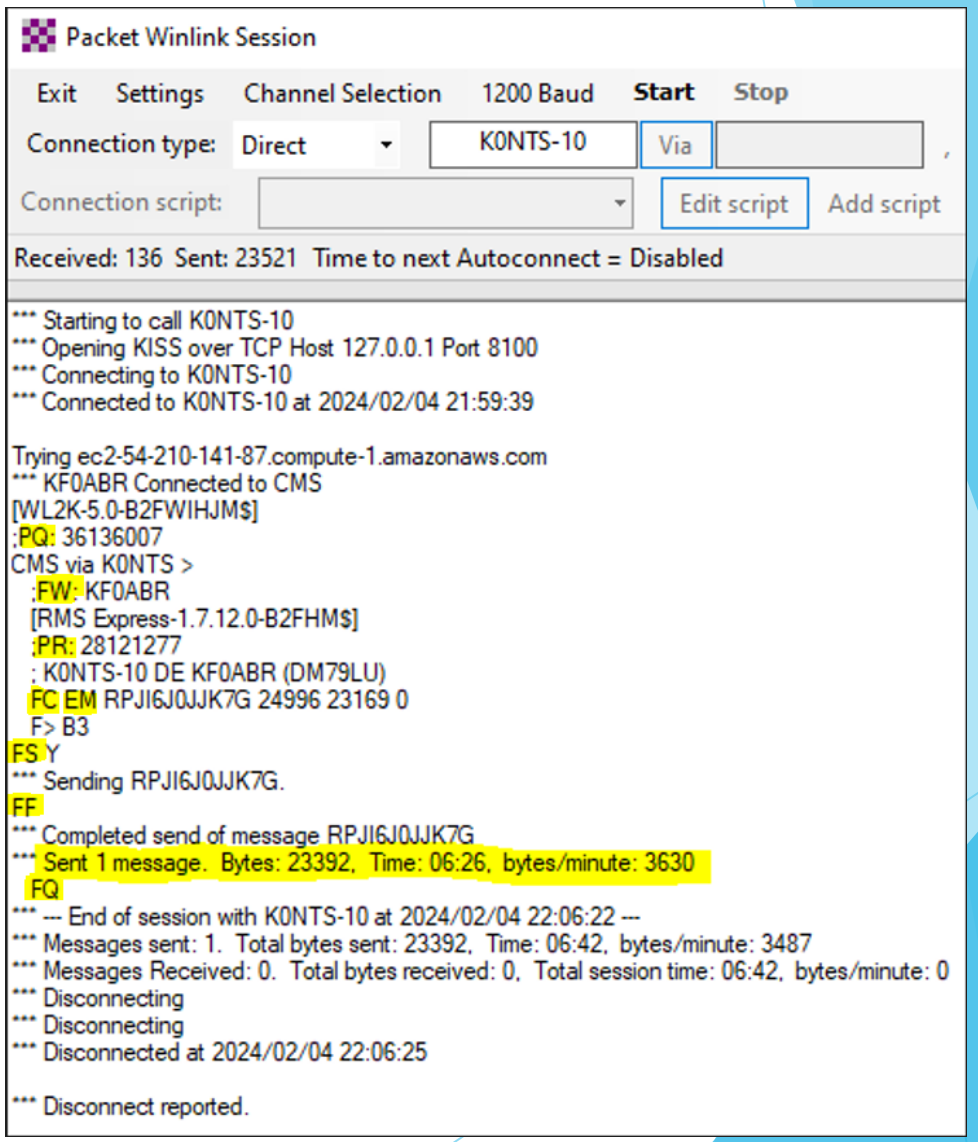
Speed comparisons





Sending attachments

- Keep them as small as possible
- Use a program to reduce image sizes prior to attaching to message
  - Lots of free programs available online that don't require you to install anything
  - Winlink has a built-in way to reduce size of image, but you can't tell how legible it is after it's been reduced
- If you're mobile, be prepared to do direct transfer of pic from phone to computer; don't assume cellular will be available

Decoding connections

- *PQ = account authentication challenge*
- *FW = Forward message(s)*
- *PR = Account authentication response*
- *FC = Proposal to send message*
- *EM = Encapsulated message*
- *FS = Proposal response*
- *FF = No more messages to send*
- *FQ – No message to send, time to disconnect*