# SalCo ARES Digital Data Messaging

### Kenwood TM-V71A set up and configuration

# Contents

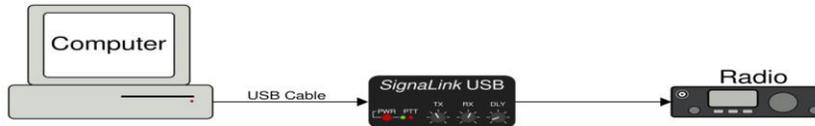## TM-V71A Menu Settings

In your TM-V71A, check the following menu settings;

|     |         |      |
|-----|---------|------|
| 517 | DATBAND | B    |
| 518 | DATSPD  | 1200 |
| 519 | PCSPD   | 9600 |

## Signalink Configuration



You can purchase a Signalink USB interface from many different sources for around $129.00 (February 2019) including the appropriate cable to connect to your specific radio. (For Kenwood TM-V71A, uses an RJ45 to a 6 pin Mini DIN connector) The Signalink is powered by the USB port from your computer.

Ensure you look at the configuration of the jumper wires for your specific radio (Also available at many sources).

SIGNALINK JUMPER SETTINGS
Same for both TS-480SAT and TM-V71A.
6-pin Mini-DIN Data Port  (use part # SLUSB6PM, SL1+6PM, or SLCAB6PM)

| JP-1 | Pin-out | Radio Models | Notes |
|------|---------|--------------|-------|
|  | Pin 1 – Data In<br>Pin 2 – Ground<br>Pin 3 – PTT<br>Pin 4 – 9600 Out<br>Pin 5 – 1200 Out<br>Pin 6 – Squelch | DR-735T/E | |

Ensure you radio is powered off. Connect the 6 pin Mini Din connector to the DATA port on the back of the radio. Connect that cable to the RJ45 port on the back of the Signalink. Connect the USB cable (USB A to USB B just like the cable to connect to a printer) to any USB port on your computer, then plug the USB connector into the USB B port on the back of the Signalink. (In Windows 7 and above, the computer already has the appropriate drivers and will install them automatically.)

The TM-V71A can only be used for AX.25 1200 baud packet transmission, however, this is a good thing since you can access the Winlink RMS Packet server via the Saline County ARES node AD5EO-10.

## DigiRig

DigiRig is another Soundcard TNC interface for use with radios that do not have a built-in soundcard.

For the Kenwood TM-V71A you will need:

> DigiRig Mobile Unit (Default Logic Levels) https://digirig.net/product/digirig-mobile/

> Kenwood TM-V71A Cables https://digirig.net/product/kenwood-tm-v71a-cables/

Additionally, you will need to manually download and install the DigiRig Drivers:
https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers?tab=downloads

After you download the drivers, unzip the folder and click on the appropriate driver installer for your computer.
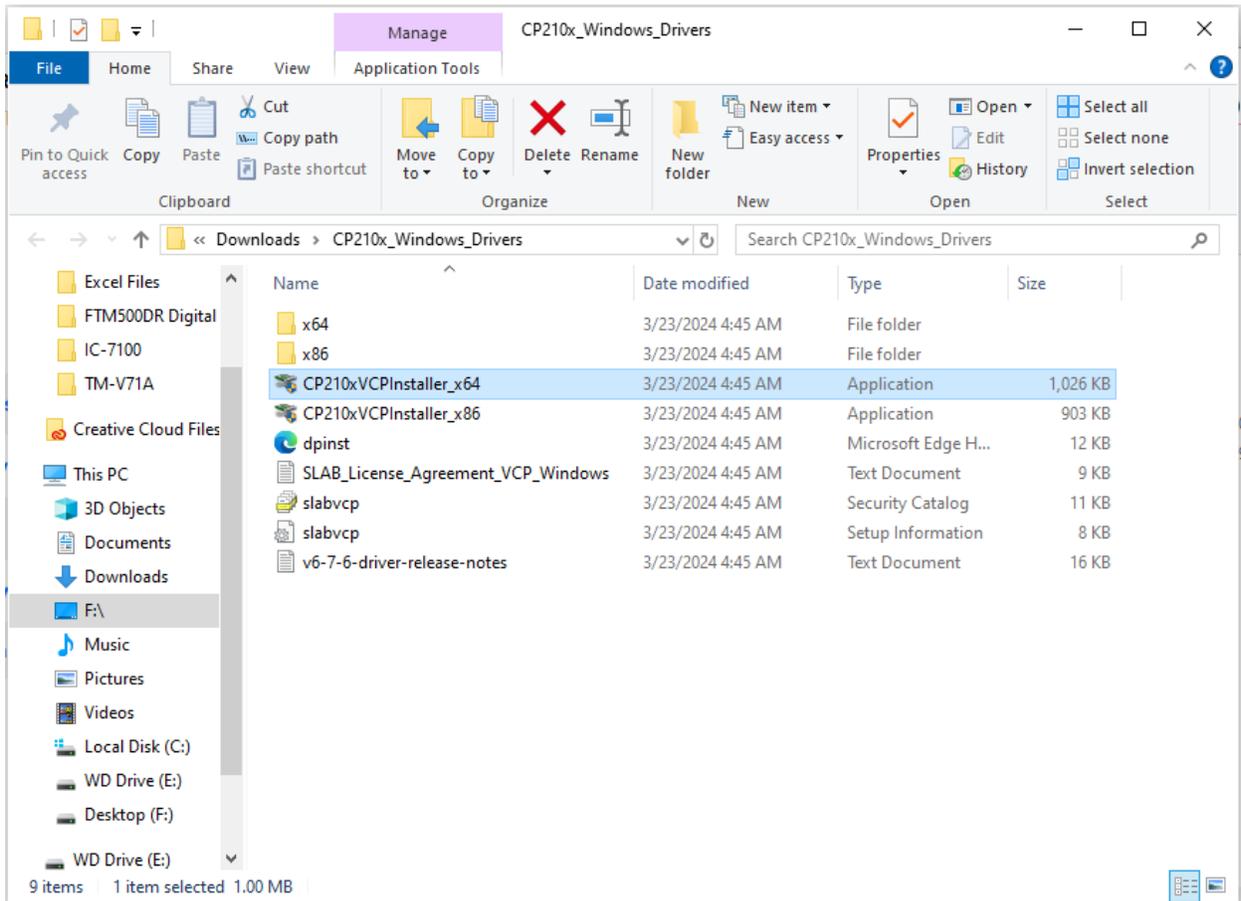


Use the default settings for the install. When finished you'll be ready to connect the DigiRig first to your radio, then to the computer.

Make sure your radio is powered off and connect the DigiRig cable(s) to the appropriate data/computer ports on the back of your radio. DO NOT connect to the computer yet.

Close all open windows, then [RIGHT CLICK] on the speaker icon in the task bar, then click on the [OPEN SOUND SETTINGS] menu item.
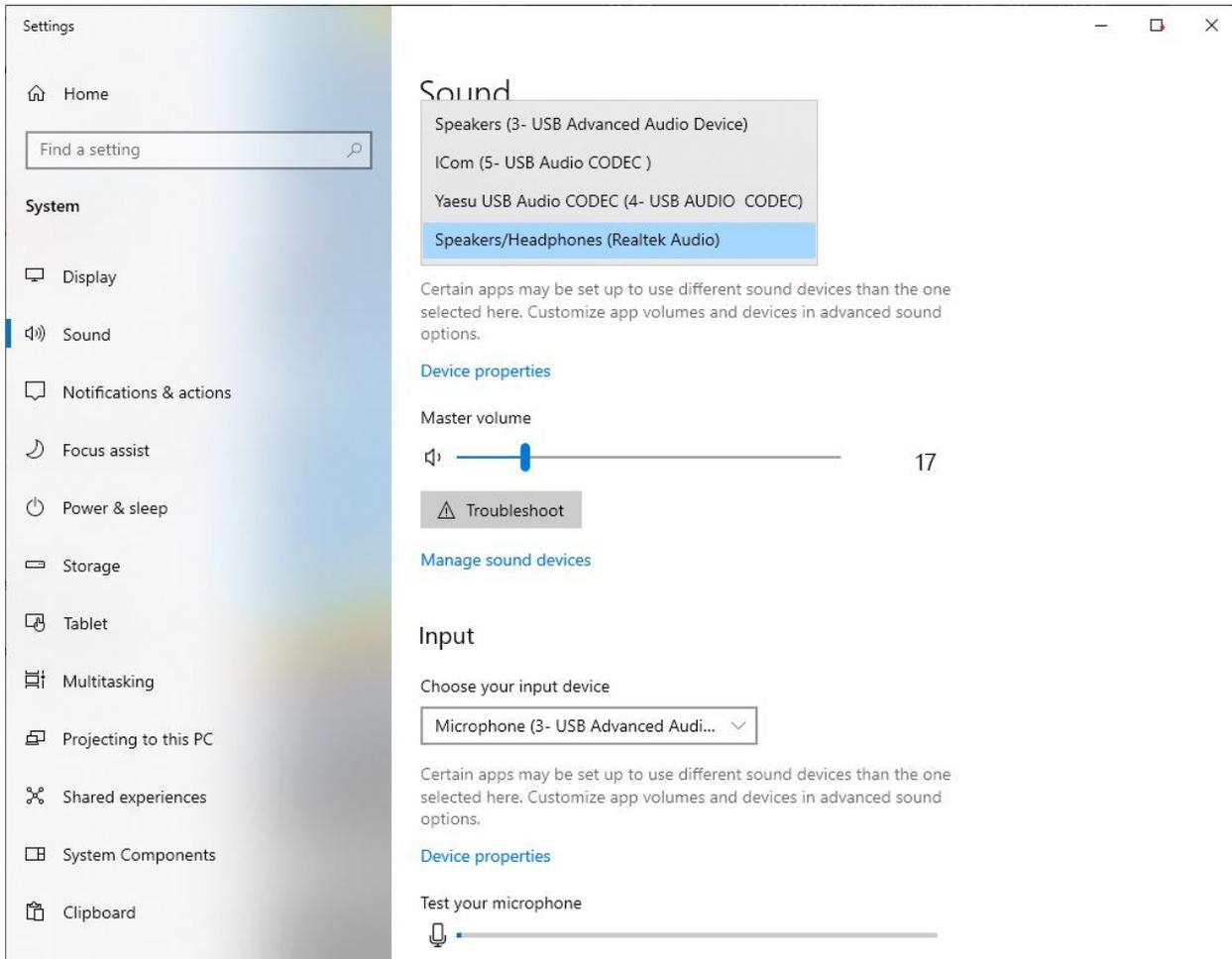


Click on the pull down arrow in both the Output and Input sections and make note of what is already there. When finished, close the window.

Next, open [DEVICE MANAGER] and click on the arrow next to [Ports (COM & Lpt)] make not of the COM ports currently in use.
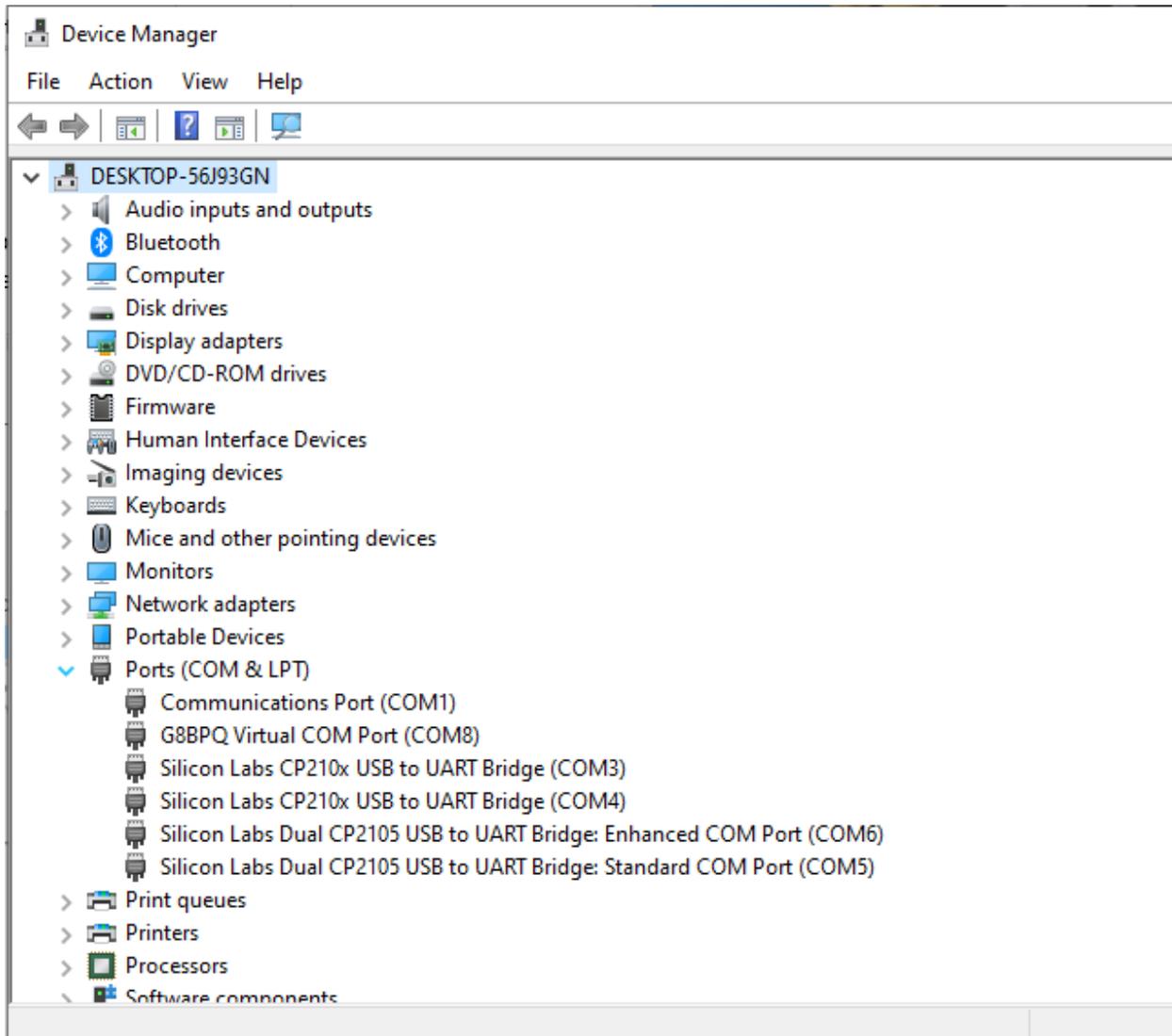


Now you are almost ready to connect the USB-a to USB-c cable to your computer. Make sure the DigiRig cables are plugged into the correct port on the back of your TM-V71A, and plugged into the correct ports on the DigiRig. Plug the USB-c end of the computer cable into the DigiRig. Finally, plug the USB-a end of the computer cable into an available USB port on your computer.

If you have already closed [DEVICE MANAGER], open it again and look at the COM port list. Ibn y case, COM Port 2 was added. Make note of the new COM Port number, it will be required for settings up the software.
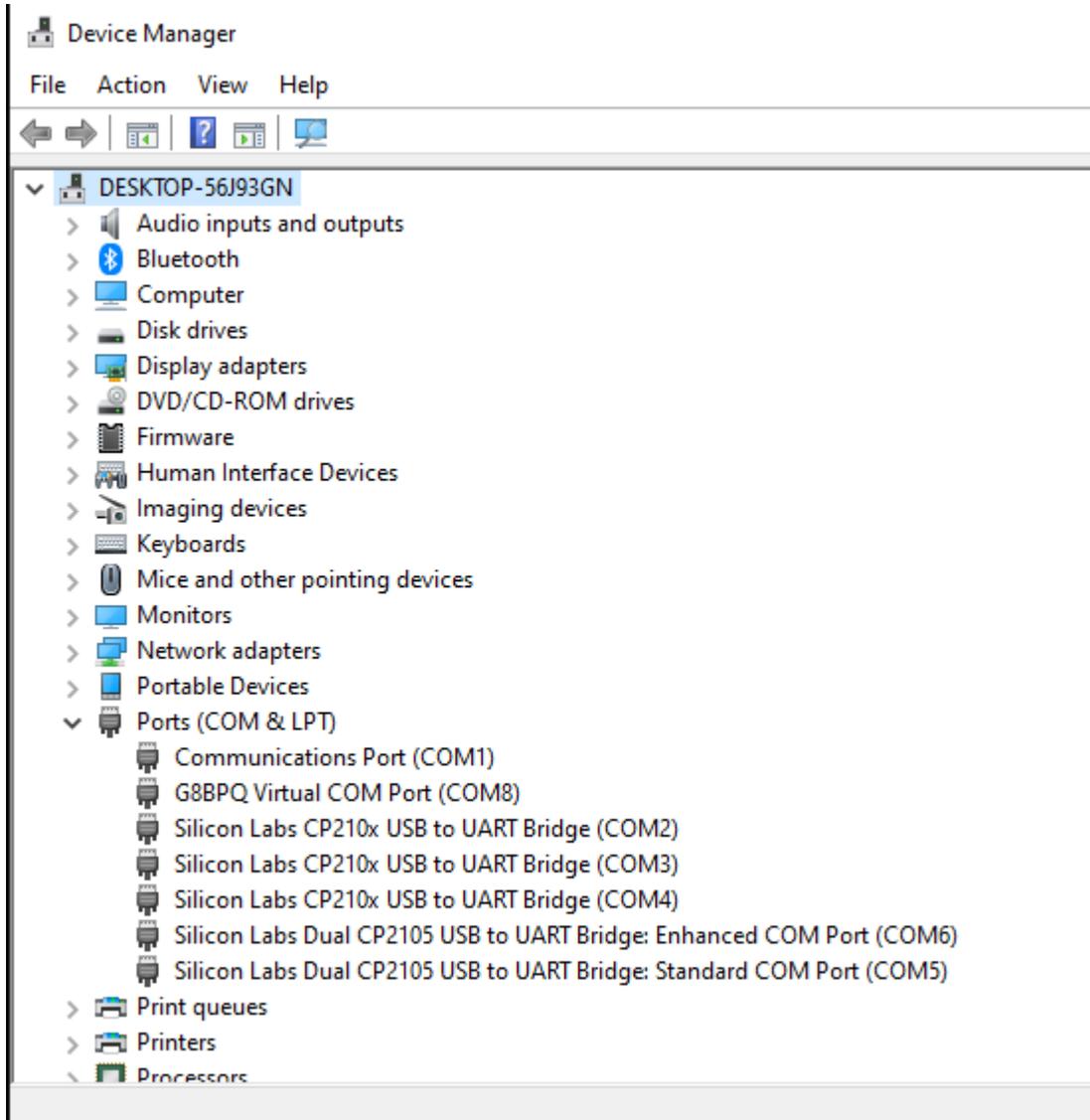
Next, [RIGHT CLICK] on the Speaker Icon in the task bar and click on [Open Sound Settings]. Comparing the new list of available items to the list check previously, you should notice that a new item was added to each list. I rename mine from (Speaker) or (Microphone) to the soundcard I added.
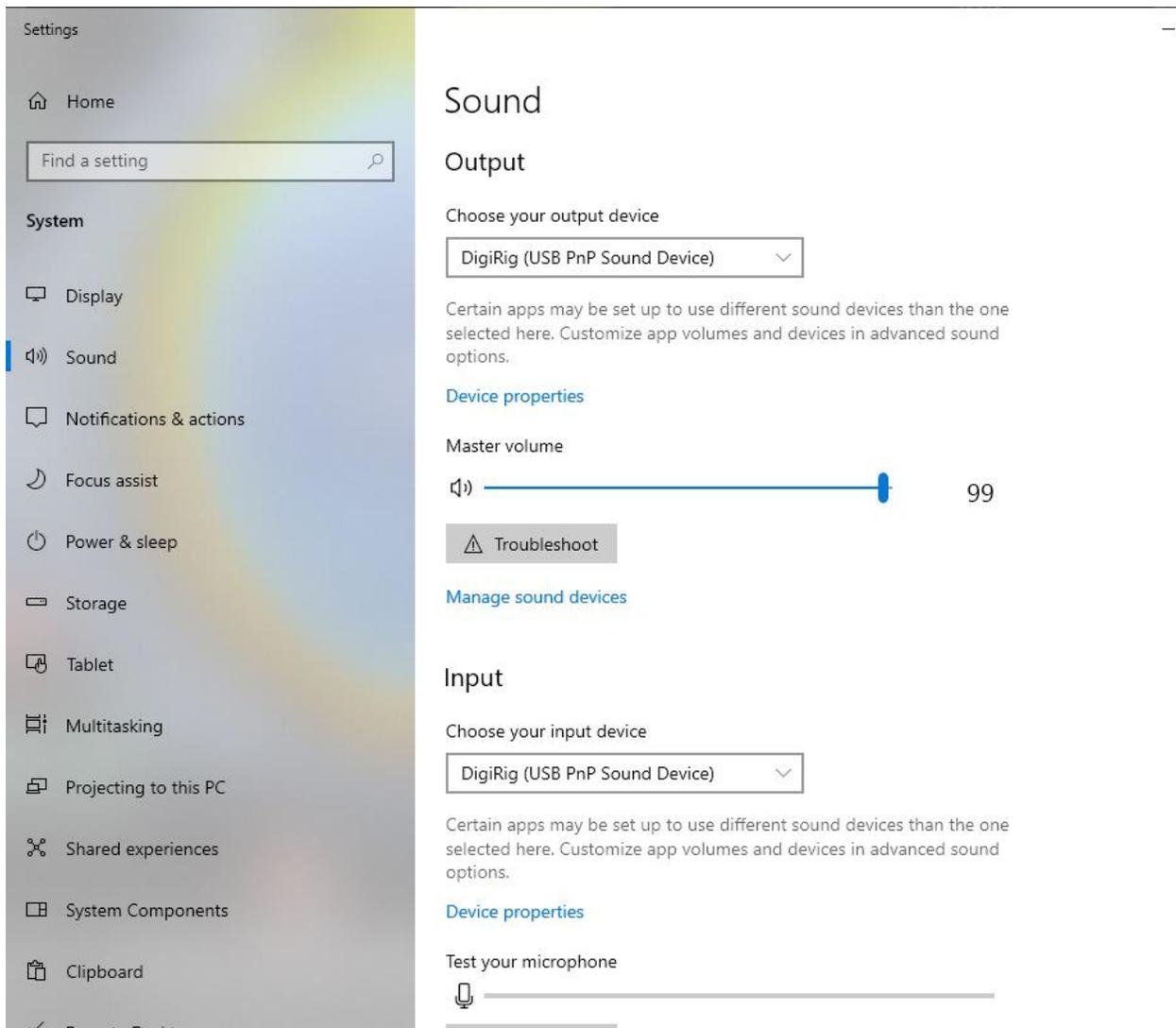


Again, make note of the added item for setting up the software.

## Soundmodem Installation

You will now need to download and install the following file from the UZ7HO website: http://uz7.ho.ua/packetradio.htm  scroll down the page until you see the file named "soundmodem##.zip" (where the ## equals the highest number available). Save the file to your desktop, then move it to a convenient location (I use a self-made folder on my C: drive entitled install packages.)

Unzip (extract) the files, then "click" on the soundmodem.exe file to initiate the program. (This program is required to enable the Winlink Express system to communicate via the AX.25 protocol.)

Click on "Settings -> Devices"



.
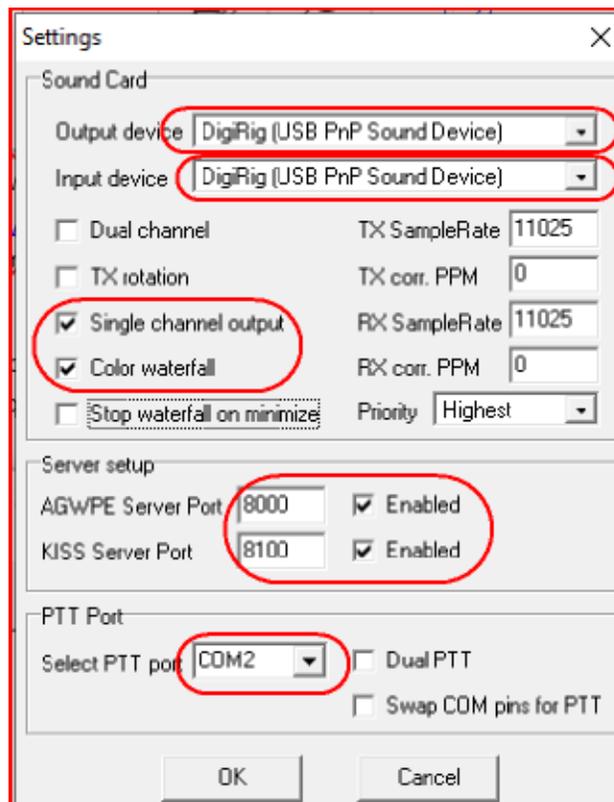
Once the settings are verified, click OK, then Cancel. (NOTE: the numbers associated with the USB Audio CODEC can and will change depending upon which USB port the cable is plugged into on your computer.)

Next click on "Settings -> Modems".
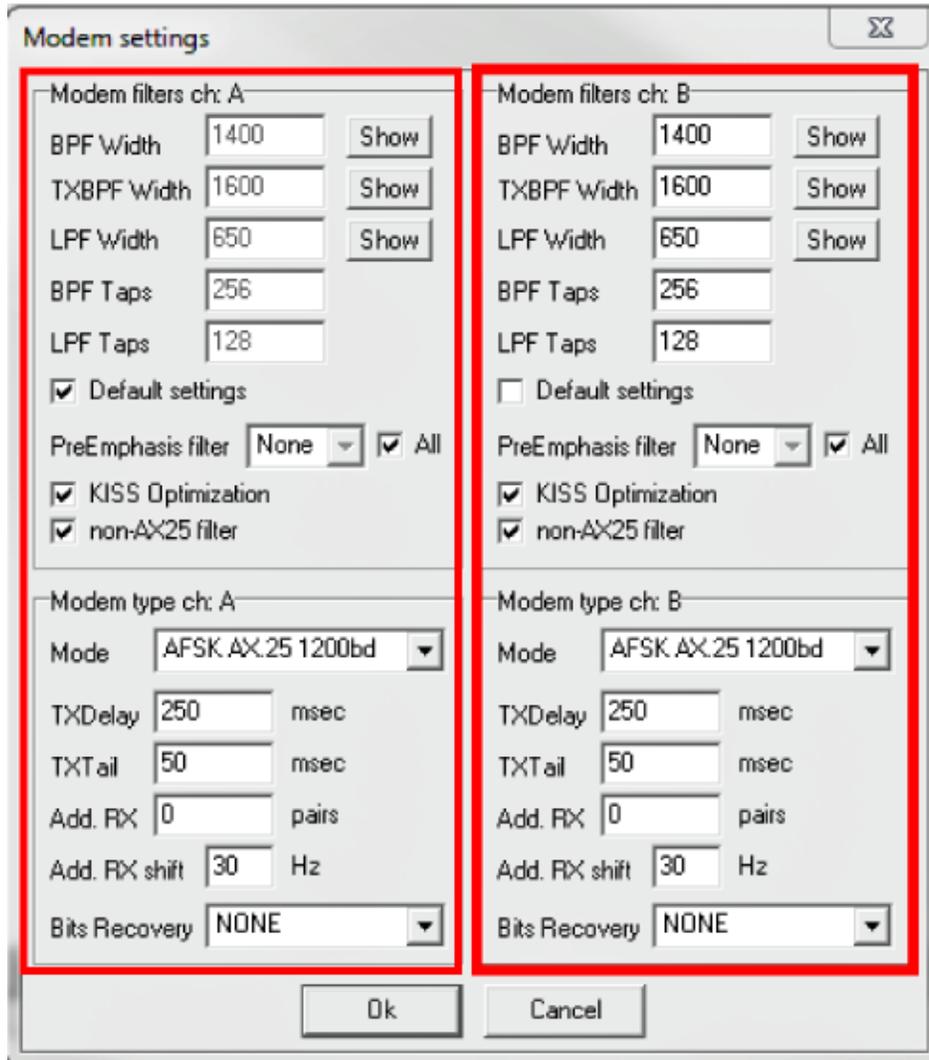


Once the indicated settings are verified, click on OK, then click Cancel.

The main Soundmodem Window should reflect these settings:
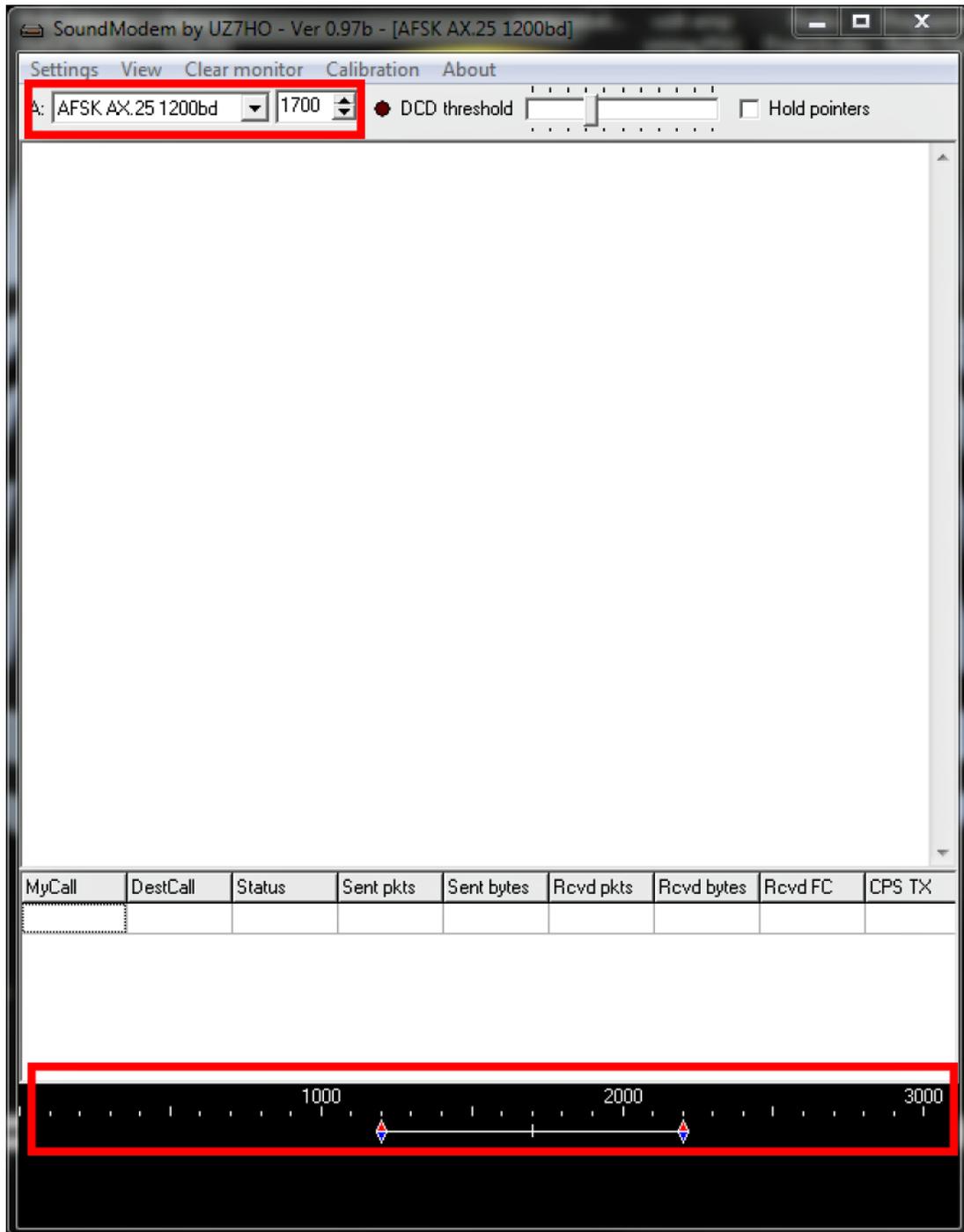


Once verified, leave soundmodem running.

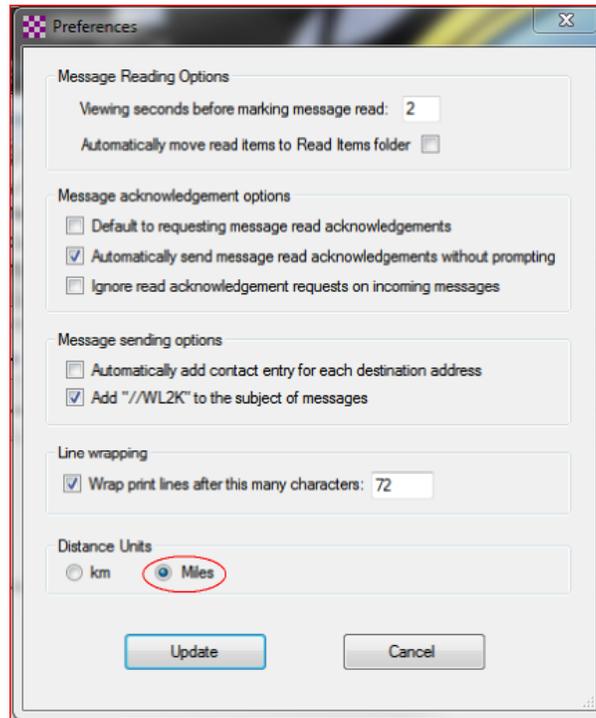# Winlink Express Installation

Download Winlink Express software at  https://www.winlink.org/WinlinkExpress

Install the RMS (Winlink) Express software using the default location for file storage and location. When you start Winlink Express for the first time, you will see: (fill in the items circled in red)



NOTE: a Winlink registration key is not required! (However if you decide to donate to further the research and development of Winlink, the registration fee is currently $24.00)

Finally, click "Update" to save the changes you made, then click "Close" to close this window.

If you prefer to have distances indicated in miles instead of kilometers, "click" on Settings > Preferences

Near the bottom of the new window, you will see radio buttons for kilometers and miles. Click on the button next to miles, then click Update.

To verify the program was installed correctly (and to complete the installation),

On the pull-down menu near the top of the window, select "Telnet Winlink" from the options:
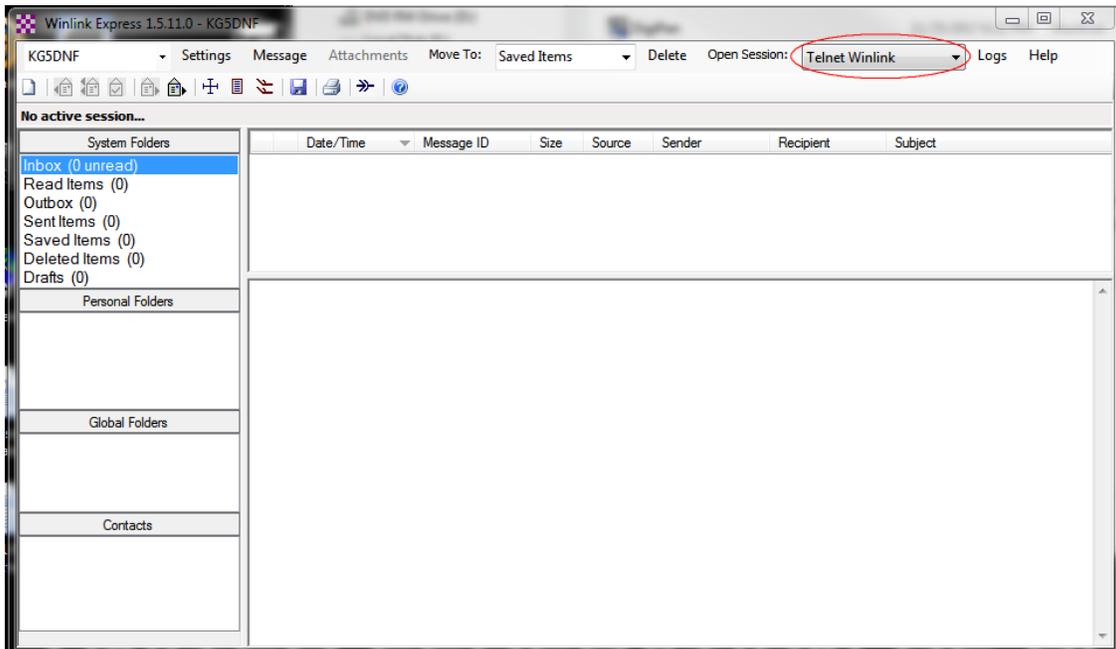


Then "click" on the "Open Session" text (it actually is a button).
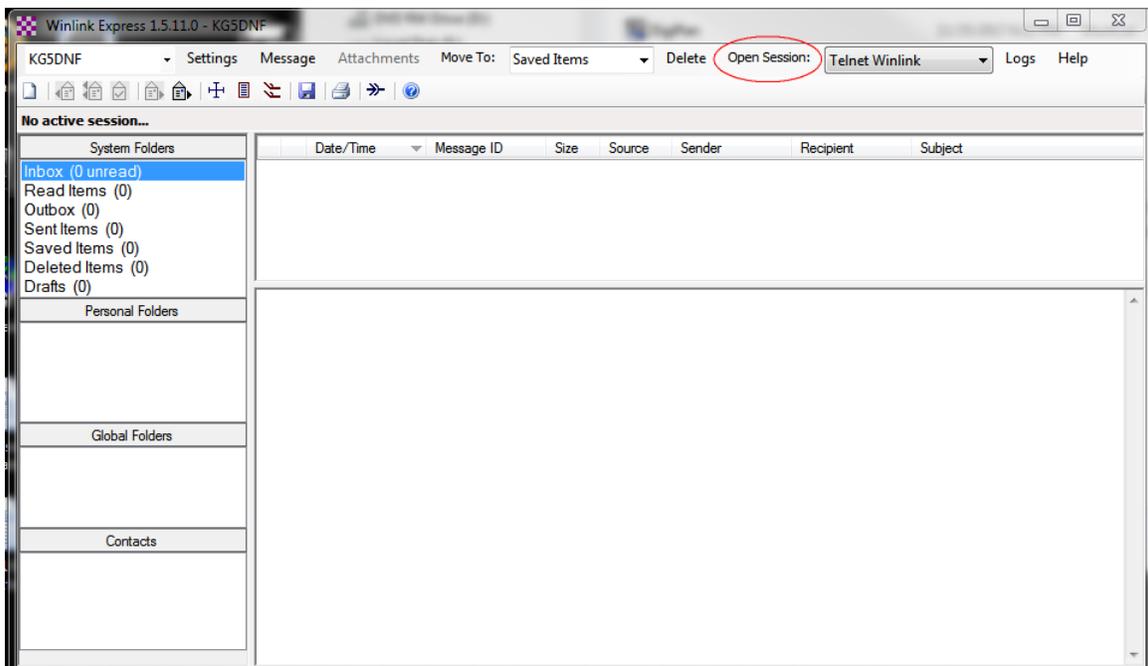
On the window that opens up, press [Start] to begin the session
You will then connect to one of the RMS (Radio Message Servers) via your internet connection.
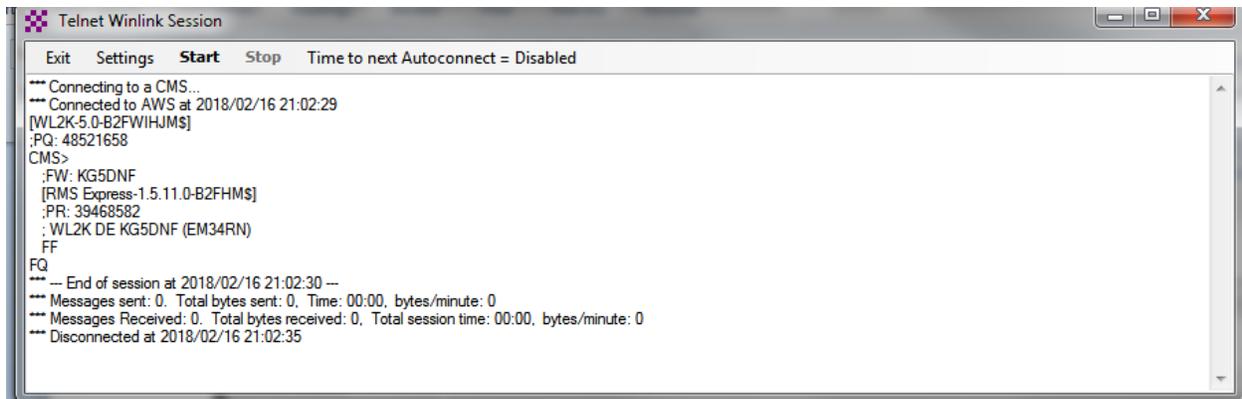


(NOTE: You may receive a pop-up notification that your password was changed)
After Winlink completes its connection press either Exit or the Red "X" to exit the session. Your call sign (Winlink User Name) has now been registered!

Close this window (click the red "X").

Select "Packet Winlink" from the pull down mode menu, then click "Open Session"
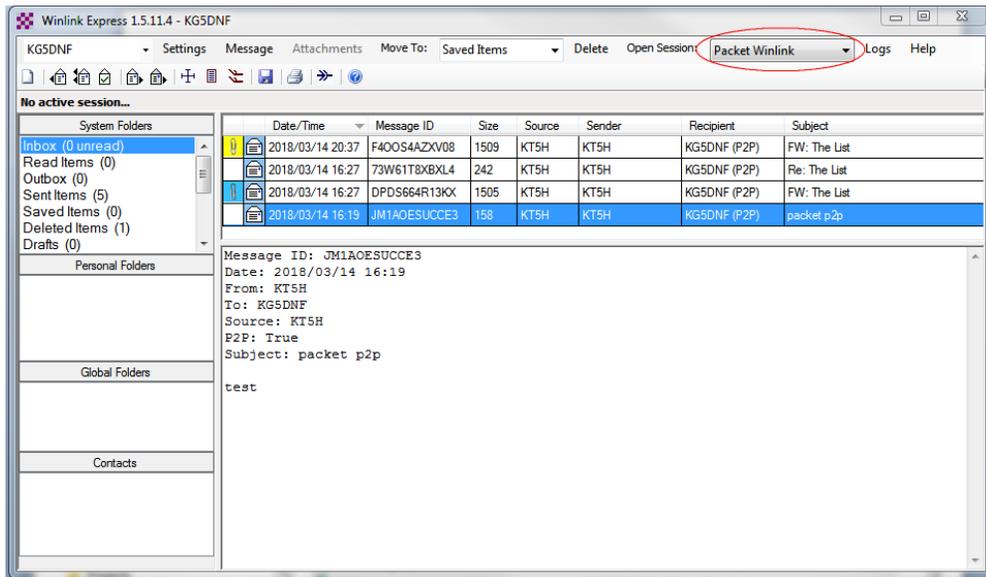


When the new window opens, click on "Settings". Adjust the settings to the following:
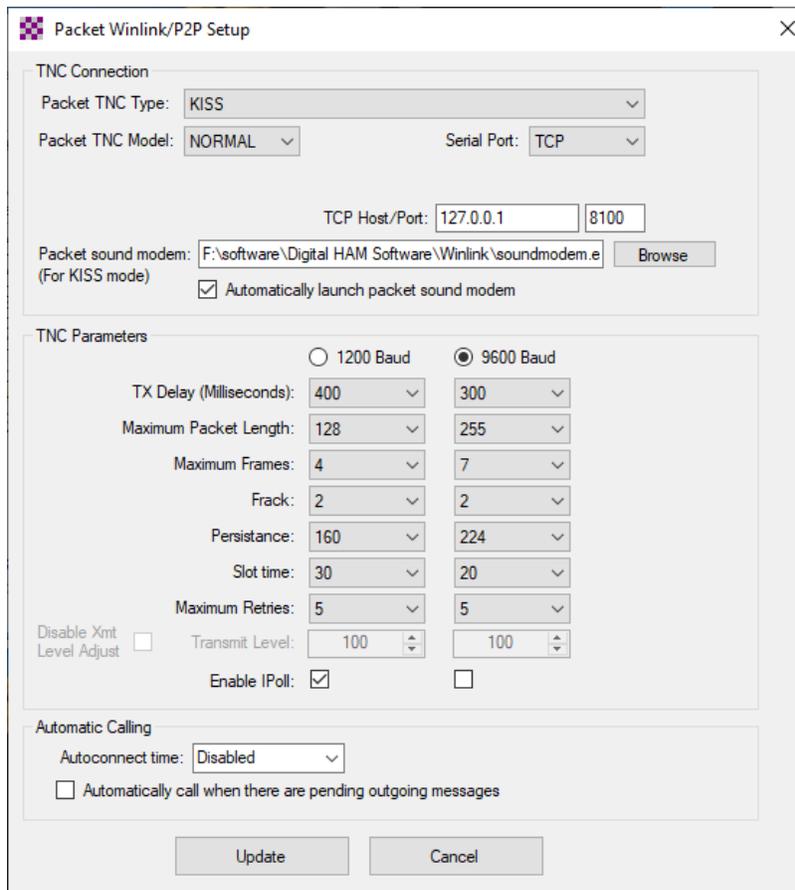


When finished, click "Update"

Select [Channel Selection].



If this table is blank, select [Update Table via Internet]. Once the process is complete, this window should look similar to the one pictured.

Select [AD5EO-10] (double click) This is the RMS Packet Gateway located at the Saline County EOC in Benton, Arkansas.

Your screen should now look similar to this:
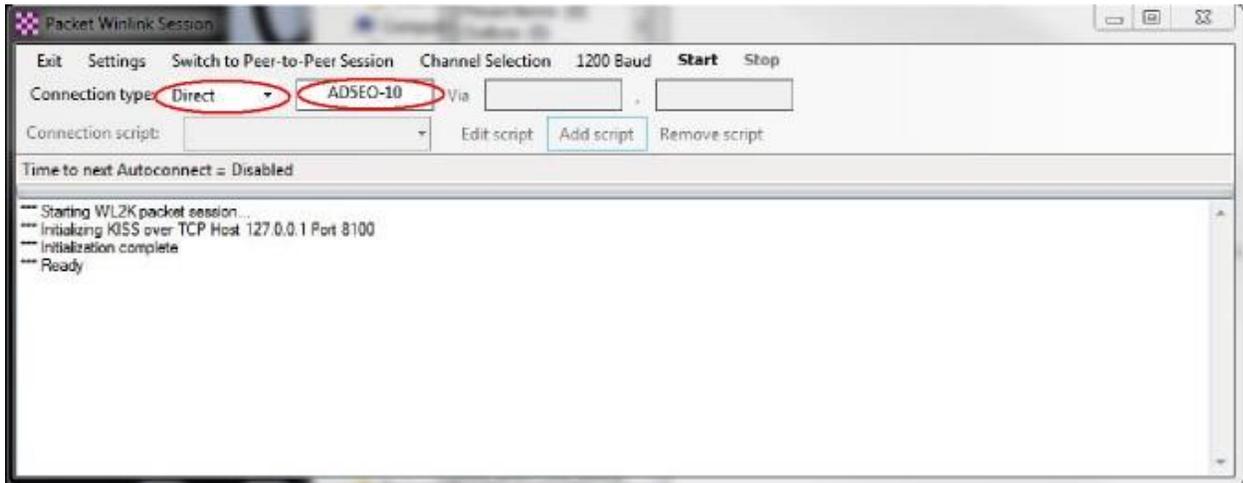


Ensure your TM-V71A "B" channel is set to 145.030 MHz, you're ready to click on "Start" to begin the session.
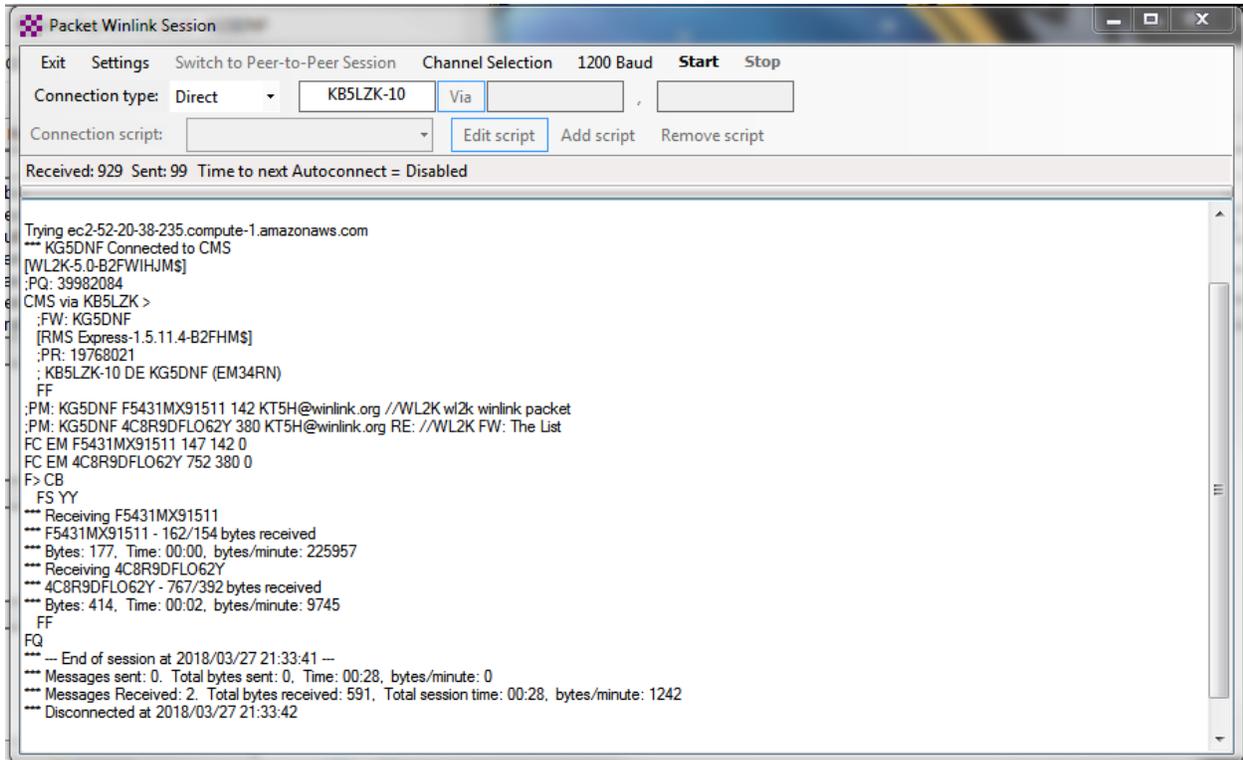


Note that in this particular "session" I received 2 messages. If you followed these instructions and had a successful session, you connected through the Packet RMS server at the Saline County EOC.
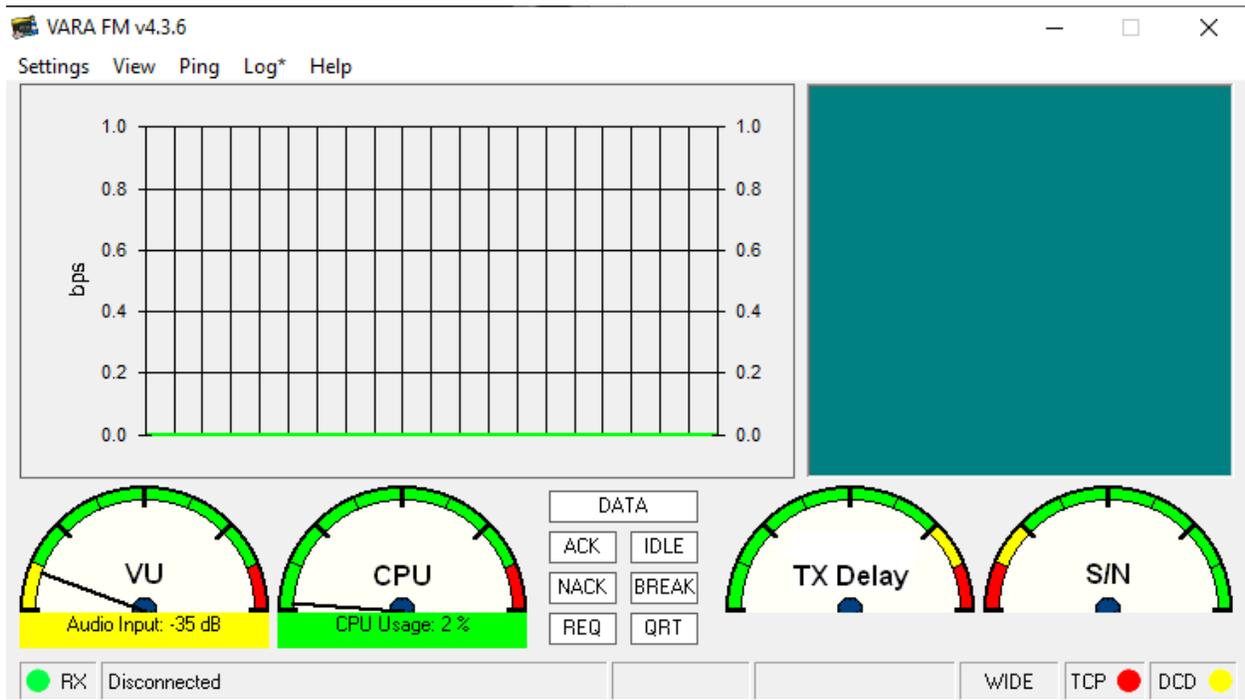
When you close down the programs, please remember to close soundmodem as well, or it may keep residing in a background window causing issues the next time you 'start' it.

## Vara FM Setup

Download Vara FM https://www.winlink.org/tags/vara

Install using the default settings.

Launch Vara FM

Click on [SETTINGS] [VARA Setup]



At a minimum, enter your call sign. (NOTE: if you already have a Vara HF Registration Key, you can use the same key for this application.
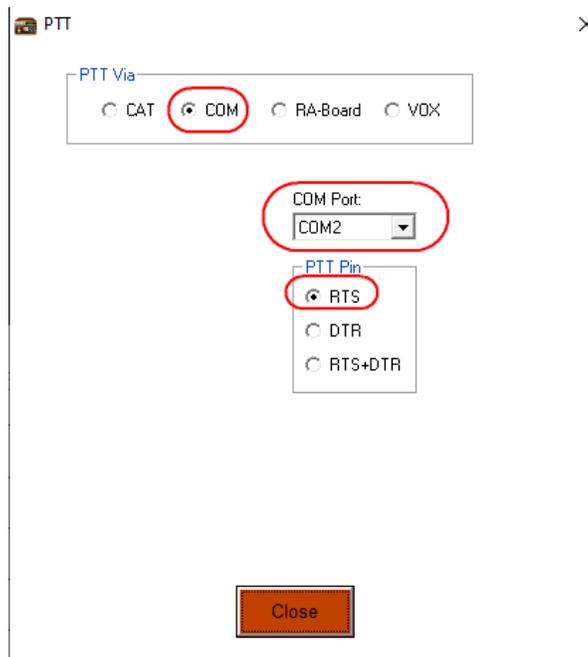
When finished, click [CLOSE]

Click on [SETTINGS] [soundcard]
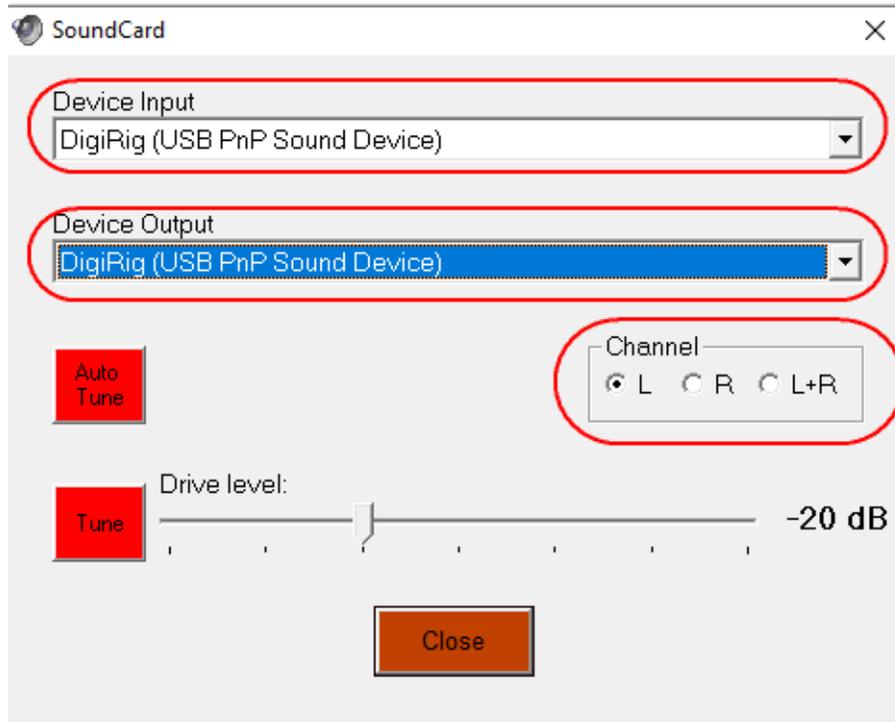


Select the Input and Output devices associated with your DigiRig, and ensure the Channel selector is set to [L]. When finished, click [CLOSE]
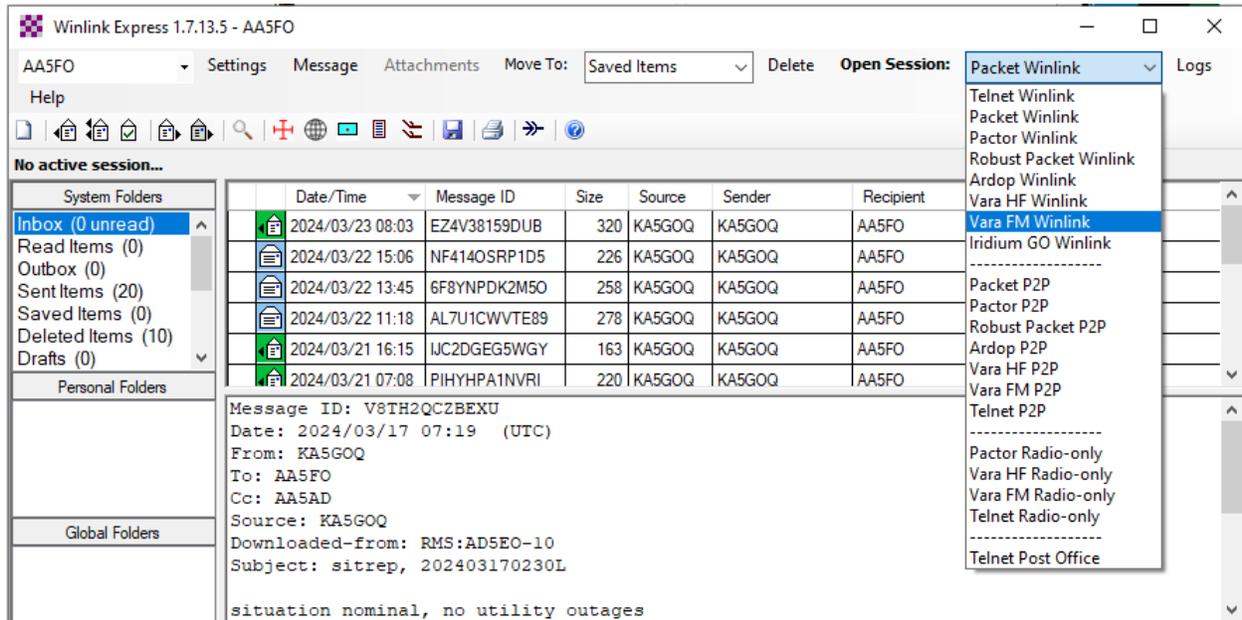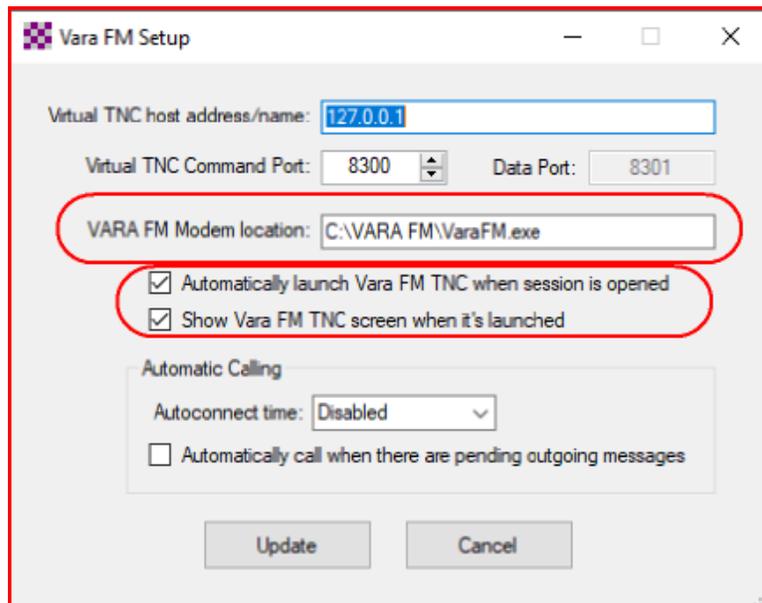
Click [SETTINGS] ]PTT]

Ensure the port type [COM] is selected, Select the Com Port number assigned to your DigiRig, and ensure RTS is selected. When finished, click [CLOSE]. You can close the Vara FM application.

## Winlink Express VARA FM Setup

Open Winlink Express



Select Vara FM Winlink, then click [Open Session]. When the Vara session opens, click on [Settings] [Vara TNC Setup].



If you select the location of the Vara FM.exe file and check the boxes indicated, the Vara FM modem screen will automatically launch when you start the Vara FM session. When finished, click [Update].

Click on [Channel Selection], then [Update Table via Internet].



After the table updates, Double click on the station you wish to connect to.

Please note that you will have to manually tune the Data Band of your radio to the indicated frequency. Vara FM does not support CAT control of your rig. You are now ready to connect to the selected RMS Gateway. To do so, click [Start].

# Winlink Message Composition

To send a message (either to a registered user of Winlink (using their call sign), or to a "standard" email address), in the Winlink Express Main Window, click on [Message] [New Message] a new window will open:



The call sign (for registered Winlink express users) or an email address will be entered into the [TO] section. The rest of the message should be filled out similarly to any other email client software. When you are finished composing your message, click the [Post To Outbox] button.

The next time you connect to an RMS Packet Gateway, you message will be sent.

# Packet P2P

As previously mentioned, enter all the information for your outgoing message as required, select "Peer to Peer" as the message type, then post to outbox.

As with any packet operation, soundmodem must be running. If it is not, close all programs, start soundmodem, then restart Winlink Express.

Select "Packet P2P" in the session type, then click on the "Open Session" button.
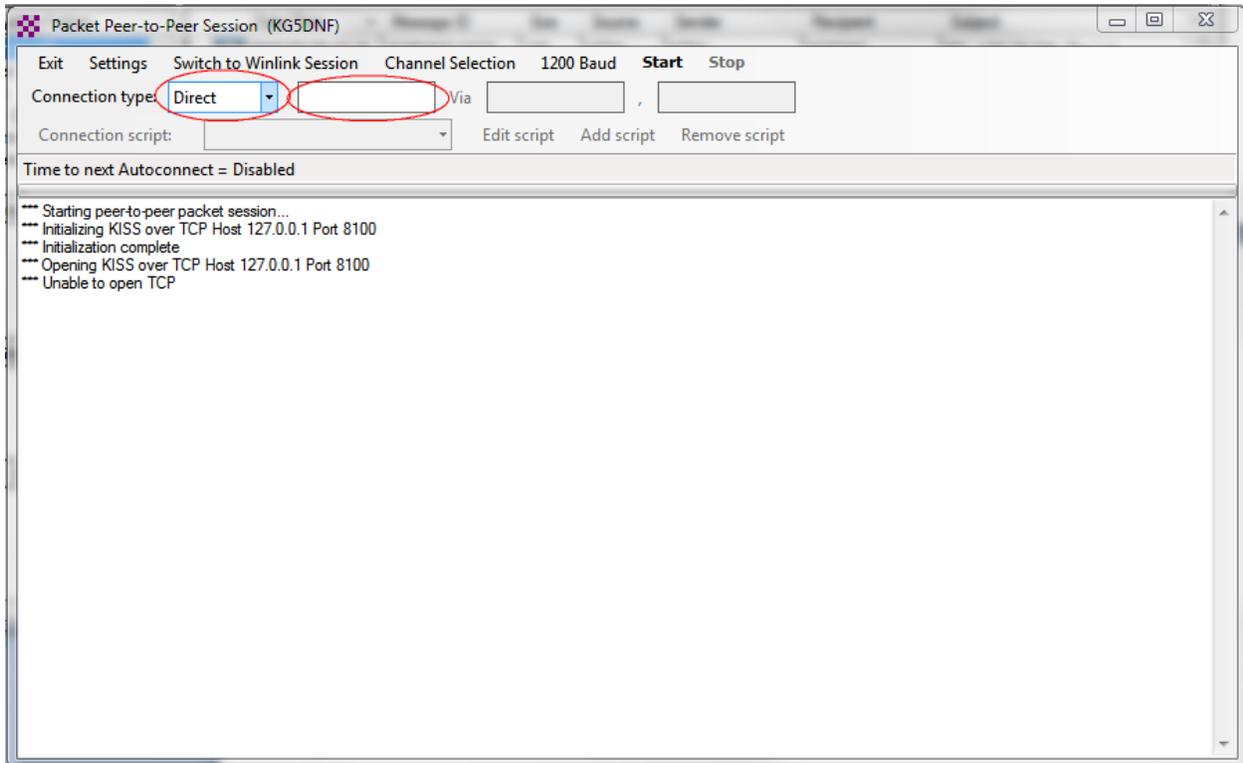


Ensure "Direct" is selected as the connection type, then enter the call sign of the operator you wish to connect to.

Tune your radio to the agreed upon frequency, (and ensure the intended recipient is also on frequency with Winlink Packet P2P running) then click "Start". The software will then take over and transmit your message to the other operator. When the comm is complete, close the window and check your inbox for any received messages.

## FLDIGI/FLARQ Installation

Download fldigi files from: https://sourceforge.net/projects/fldigi/files/ (fldigi-#### setup.exe). Save to your desktop, then move to a convenient location. While you are at sourceforge, also download FLMSG (save to your desktop, then move to a convenient location.)



Double click on the FLDIGI setup file. Once the program opens, click on "Configure -> UI -> Operator"



Fill in the indicated areas, Station QTH is the name of your city and State, Station Locator is your maidenhead grid location. Once completed, click "Save"

Next, click on the Audio Tab.
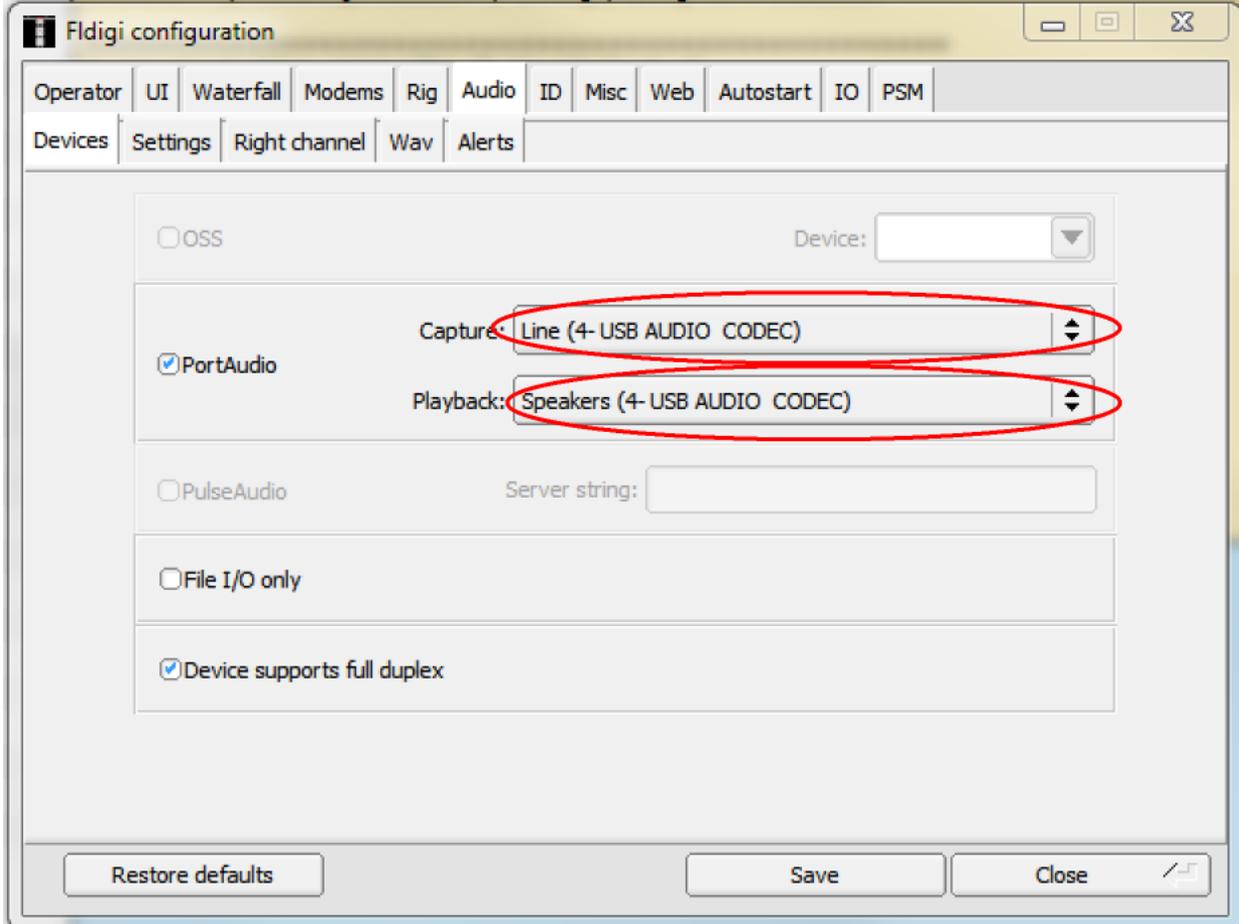


Select the appropriate entry associated with the USB Audio CODEC listed on your computer. (The number will probably be different on your computer.) Once completed, click "Save", then click "Close".

FLDIGI is now configured to work with your Kenwood radio through your Signalink USB soundcard on the TM-V71A!
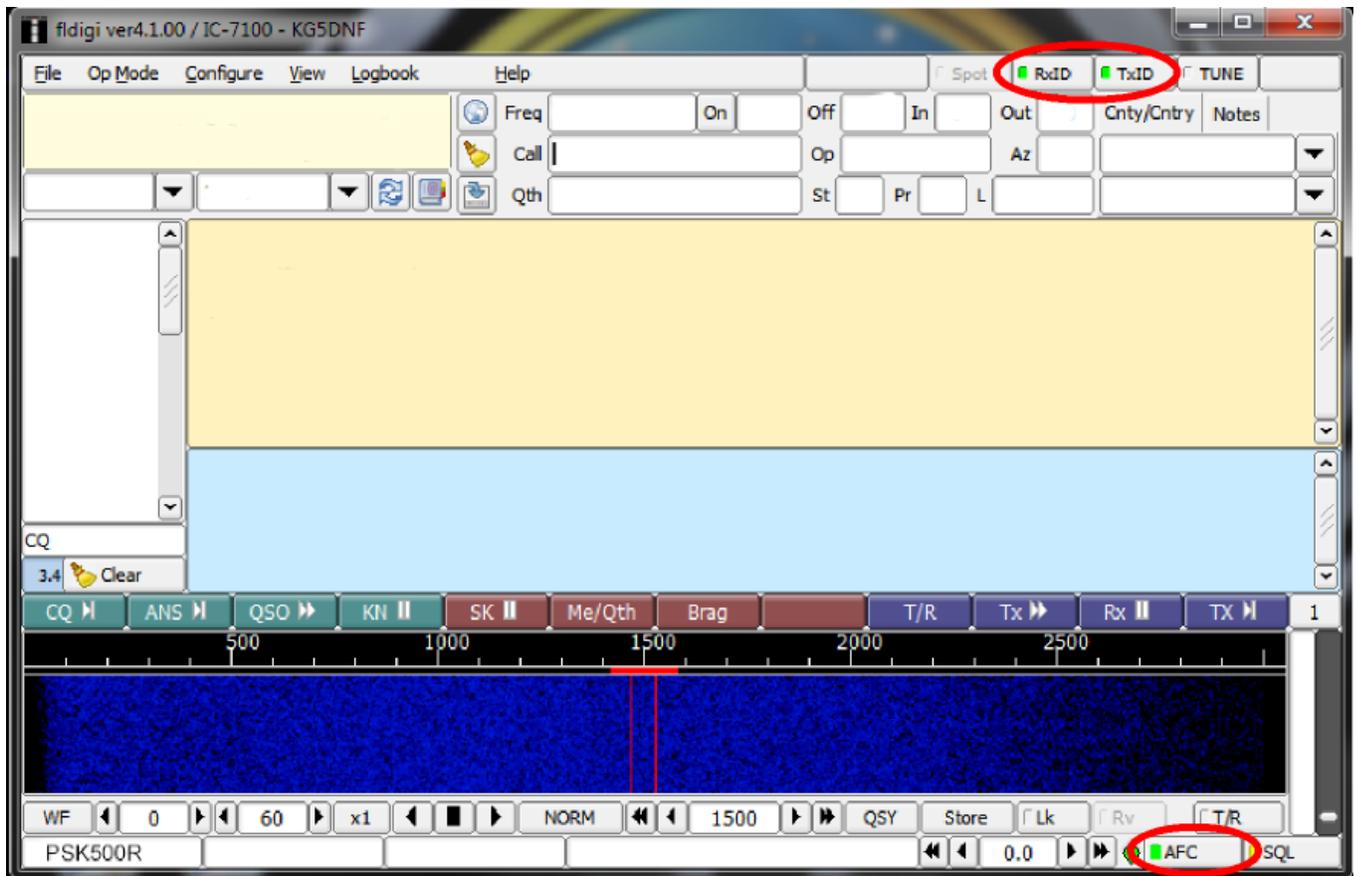
Please ensure that both RxID and TxID are checked to allow for automatic mode switching.
If using HF or 6 meters, ONLY Upper Side Band is used (6 meter FM can also be used).

NOTE: you will see a red rectangle on your waterfall. This is the center frequency for the passband. It is easy to change by clicking with your mouse (or tapping with your finger), but changing this location will make the difference between being able to decode incoming transmissions/messages and not (conversely, transmitting with the center of the passband changed will make it difficult for other stations to decode your transmission.) The small Lock [Lk] button will lock your center frequency in place.
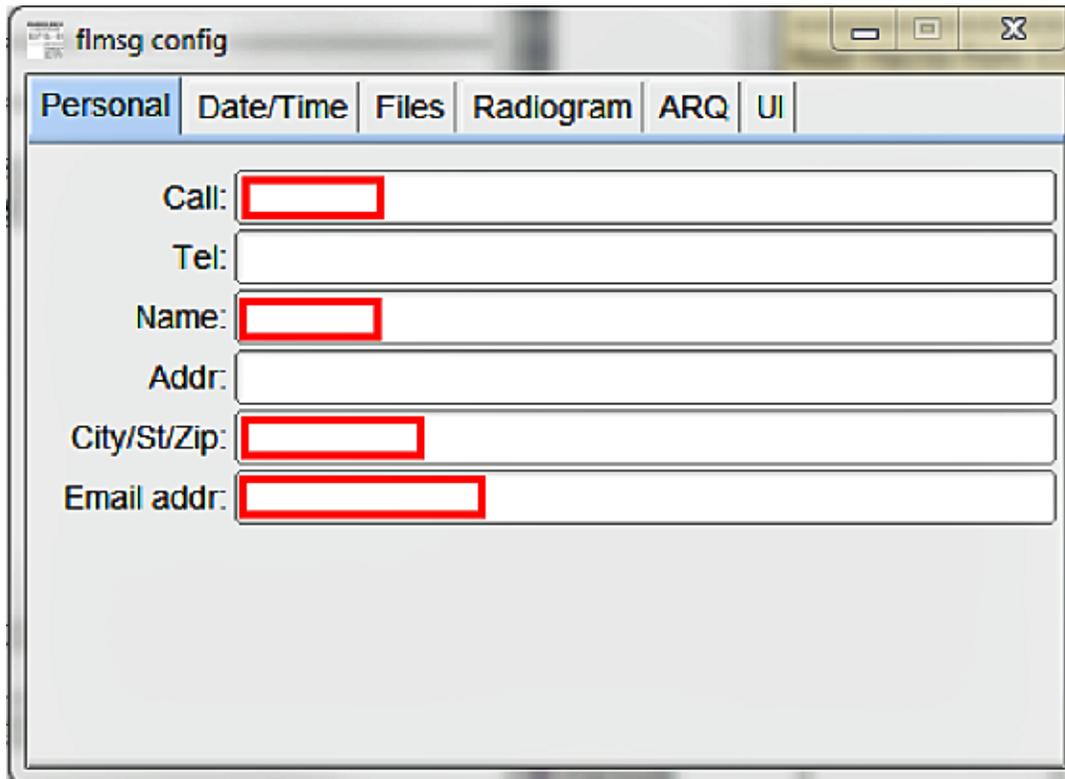
Once you have either typed a message or pasted text into the blue window for transmitting, then press the indicated transmit [Tx] button.

Receiving is simple – watch the yellow part of the screen.
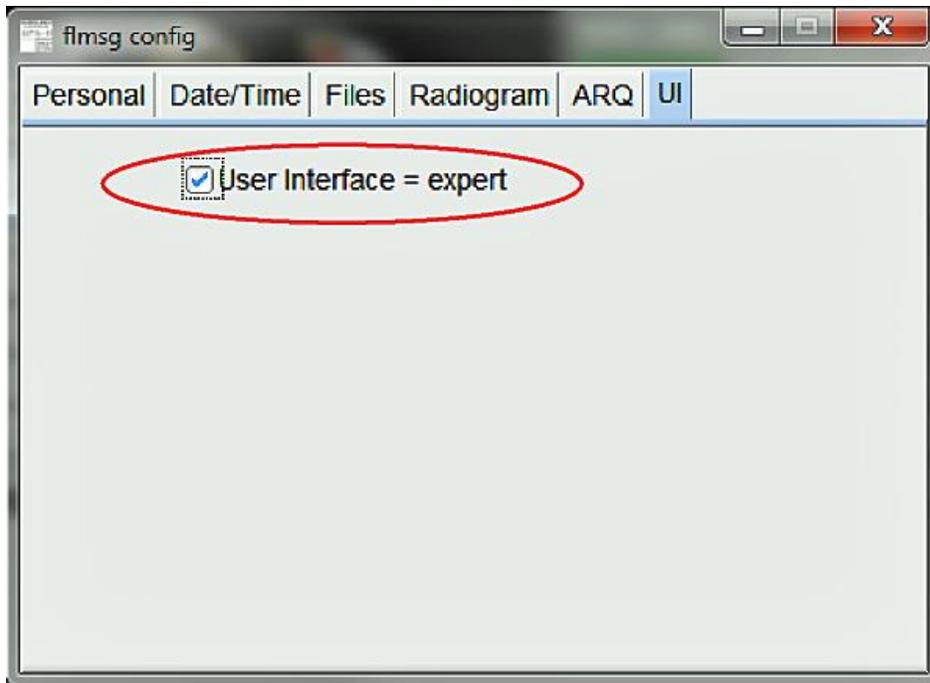
## FLMSG Installation

Maneuver your way to where you downloaded FLMSGsetup.exe and execute the set up file following the routine installation suggestions. This will place a FLMSG shortcut icon on your desktop.

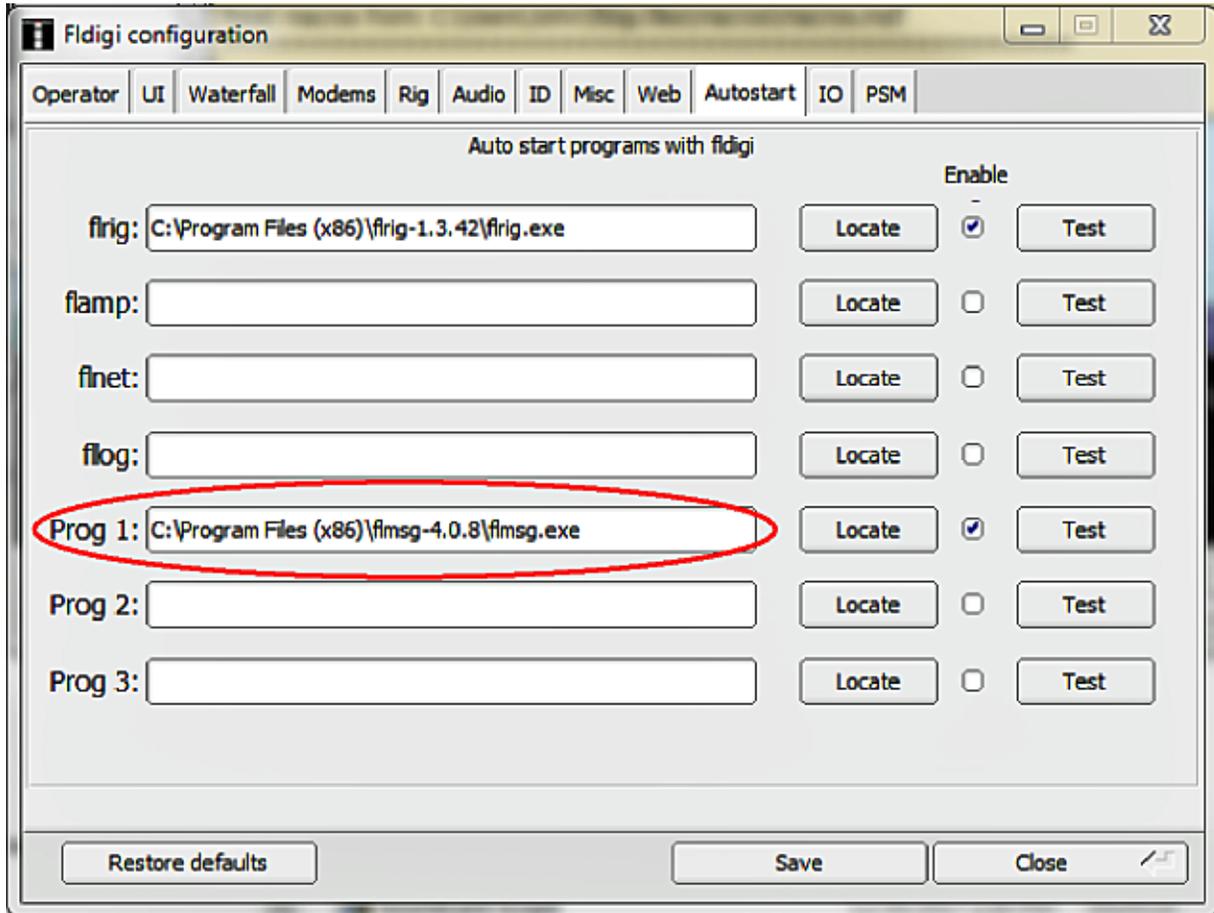When you open FLMSG very little configuring will need to be done,



After you enter your information in the personal tab, click on the [UI] tab.

Ensure the box [User Interface = expert] is checked to ensure you have full capability with the forms function.

FLMSG can be included to auto-start when FLDIGI is opened. To do so, click on [Configure] [UI] [Operator] [Autostart].



In the "Prog 1:" section, click on the [Locate] bottom and browse your way to c:\Program Files (x86)\flmsg x.x.x (x.x.x is the most current version number)\flmsg.exe and click [Open]. The blank field next to Prog 1 should now contain the proper path to the location of the flmsg.exe file. Please remember to click the[enable] box so starting with the next time you open fldigi, all your associated programs will start automatically.