APPENDIX ONE
ICOM 7300 WINLINK SETTINGS

The ICOM 7300 is an exciting new transceiver that brings fully digital transceivers to the general amateur radio market. Packed with capabilities, getting it configured for disaster ministry communications, including both voice and data can take a bit of work. This Appendix discusses the settings that seemed to work well for the ICOM 7300 in the Florida Baptist Disaster Relief Comms Trailer.

Best to understand the different ways the ICOM 7300 can accept signals to be transmitted:

Input	Signal Type / Examples
Front panel microphone connector	Voice over the microphone -- electret mic element generates low-level (millivolt) analog audio frequency electrical signals from speech. (If necessary, analog signals from a TNC or external sound card could be injected here)
Rear Panel accessory connector	"Line Level" (100 mV) analog audio frequency electrical signals frm a TNC or external sound card can be injected here -- and here is where we inject the signal from the Pactor Modem
USB (Universal Serial Bus)	The USB connection on the ICOM 7300 accepts digital data (1's and 0's) to give the 7300's **internal soundcard** the information needed to synthesize the proper audio signals for the digital mode desired. (The USB connection also allow setting the band and frequency and other settings.) This is how WINMOR and ARDOP are utilized by WINLINK -- and also how one can make PSK31, FT8, or any other "soundcard" type signal.

Just to be clear, this table shows how each type signal for transmission is connected:

TECHNIQUE	PHYSICAL INPUT
Single Sideband Voice Transmissions	Microphone, connected to front panel mic input -- with transceiver in "SSB" mode (using whichever sideband is desired for the band)
PACTOR digital transmissions	Rear Panel Accessory socket -- with transceiver in "SSB" mode (using upper sideband)
All "soundcard" modes including both connected modes (ARDOP, WINMOR) and broadcast modes (PSK31, FT8, MT63, Olivia, etc)	USB (Universal Serial Bus) digital signals from the computer -- with transceiver in "SSB - Digital" mode

Because both the PACTOR digital and normal voice single sideband transmissions use the same ("SSB") mode -- the ICOM 7300 is configured to automatically accept analog input from either the front panel mic caonnector OR the rear panel accessory connector -- so if you are sending PACTOR and have talking noise in the room, it may be picked up by the microphone and go out along with the PACTOR transmissions (in the CW/DATA section of the band!) -- so an important suggestion:

PHYSICALLY REMOVE THE MICROPHONE TEMPORARILY WHILE CONDUCTING PACTOR DIGITAL COMMUNICATIONS WITH THE FLORIDA BAPTIST DISASTER RELIEF ICOM 7300 TO AVOID ACCIDENTAL MICROPHONE TRANSMISSIONS

Getting the right gain/volume and other settings for the incredibly-configurable ICOM 7300 external inputs, turns out to be rather

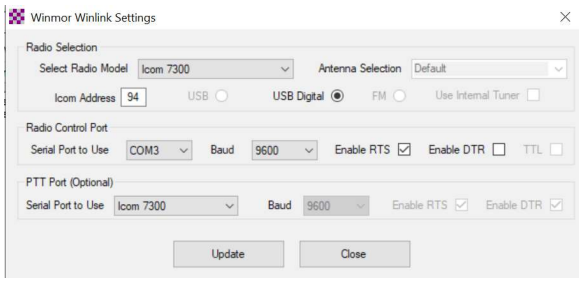
important! Before these adjustments, I was unable to get things to work out well at all for PACTOR. The solutions were found in a helpful post by Demetre Valaris SV1UY here: https://groups.io/g/pactor/topic/scs_pactor_config_with/14354355?p=,,,20,0,0,0::recentpostdate%2Fsticky,,,20,2,0,14354355.

Settings entered into the ICOM 7300 via its "MENU" and "SET" configuration menus:

ACC/USB AF Output Level	15%
ACC MOD Level	15%
DATA MOD	ACC

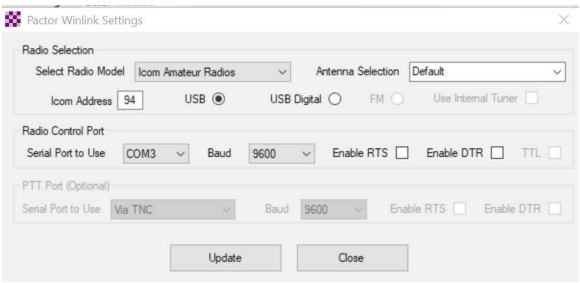
It is important to have adequate filter bandwidth for both the PACTOR (using SSB) and for the soundcard modes (which are set to use USB-D) -- do not change FIL1 (FILTER ONE) to anything narrower than 2400 Hz. Adjusting that filter setting takes a bit of getting used to, and recommendation is not to adjust further if it is set properly.

WINLINK WINMOR OR ARDOP "**RADIO SETUP**"



(ARDOP is similar) **Note that USB Digital is selected**. This allows the computer to control to send and receive via the USB (universal serial bus) connection.

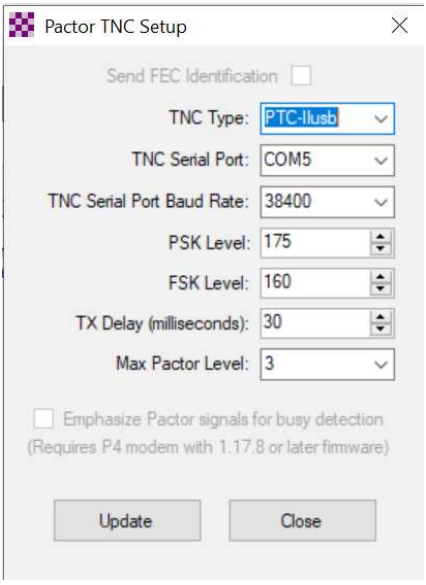
WINLINK PACTOR "**RADIO SETUP**"



Note that "USB" rather than the USB-Digital is selected -- this allows the external PACTOR modem to send and receive signals via the analog cable to the rear panel ACCESSORY connection.

For proper linear (non-distorted) operation of the transmitter, the gain settings for the audio signals to be transmitted should be adjusted so that the signals don't cross into the "red" portion of the Power Output scale (or little to no ALC action if this is monitored). This has been preset for the WINMOR/ARDOP USB-Digital. For the PACTOR, the transmission levels of the individual Pactor modem are set as shown in the following figure:

WINLINK PACTOR TNC SETTINGS:



The proper com port for the Bluetooth connection from the PACTOR modem could possibly change and requires a bit of experimentation and examination of the WINDOWS SETTINGS "Device Manager" Com-Ports displays to figure out. Bluetooth connections from Pactor Modems always TWO sequential com ports. The one to select in the WINLINK tnc setup is the higher, or ODD number. Leave the TX Delay at 30 milliseconds, and for USA operation, the max pactor level is 3. The Serial port Baud Rate must be set to 38400 (the rate the Pactor Modem prefers)

APPENDIX TWO
EXPORTING AND IMPORTING WINLINK MESSAGES

A strength of many disaster ministry organizations is they have planned on truly MASSIVE operations for feeding thousands of disaster survivors.

Planning for outbound so-called "health & welfare" communications from disaster areas to let loved ones know the status of survivors, has to be approached with the same planning for truly large numbers of messages. Just planning to "use the comms trailer computer to type them in" probably isn't adequate planning. One person can probably read a hand-scribbled message and type it into WINLINK in a minute or two, allowing for a throughput of perhaps 30 messages per hour. If you just received 300 messages by return delivery from several shelters, you could be looking at 10 hours of typing on one locked-down computer.

Luckily WINLINK provides a system allowing division of labor -- which can be replicated into as many windows-based computers as you can muster.

WINLINK allows for XML EXPORT of one or even a batch of messages -- and then IMPORT into the actual computer doing the radio transmission.

Let's look into how this work, and how it can be integrated into a significant ministry service to large numbers of persons.

PHOTOCOPY. Have a large number of copies of blank, self-explanatory message forms that can be delivered directly to disaster survivors, or by delivery (perhaps with ready-to-serve food) to shelters being managed by other service organizations. Consider using a form such as that on page 23 of this text.

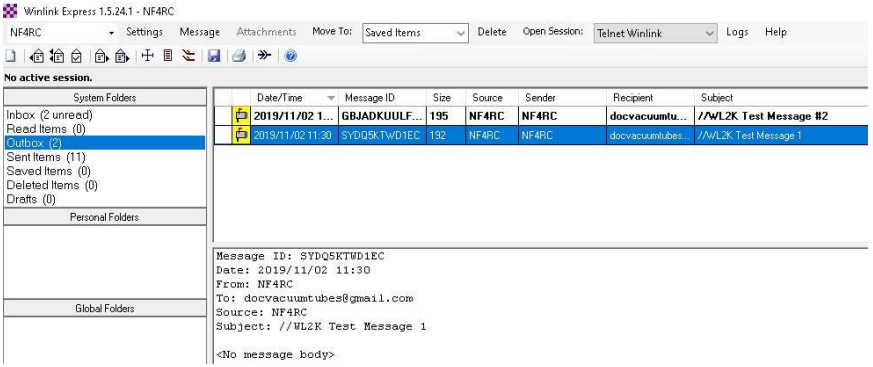
COLLECT. Arrange for the orderly collection of responses and return to your disaster ministry, so that none are lost.

PREPARE TYPISTS AND COMPUTERS. Get WINLINK installed on several typists' computers. Messages will "go out" under the callsign chosen on the instance of WINLINK into which they were created -- so install the desired callsign, etc., on each typist's computer. They can all be the same callsign, or they can be different -- doesn't really matter.

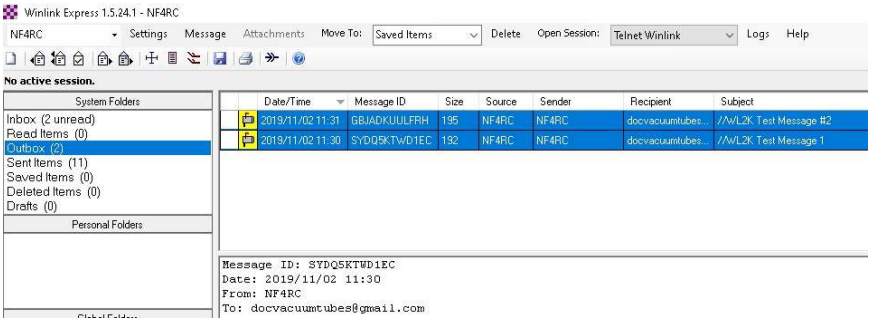
Have the typists go to work entering all the messages. It is simplest just to have them "post out outbox" even though the messages won't be sent from that computer

TRANSFER FROM TYPISTS' COMPUTER TO RADIO COMPUTER:

1. Select the OUTBOX of a typist's computer.

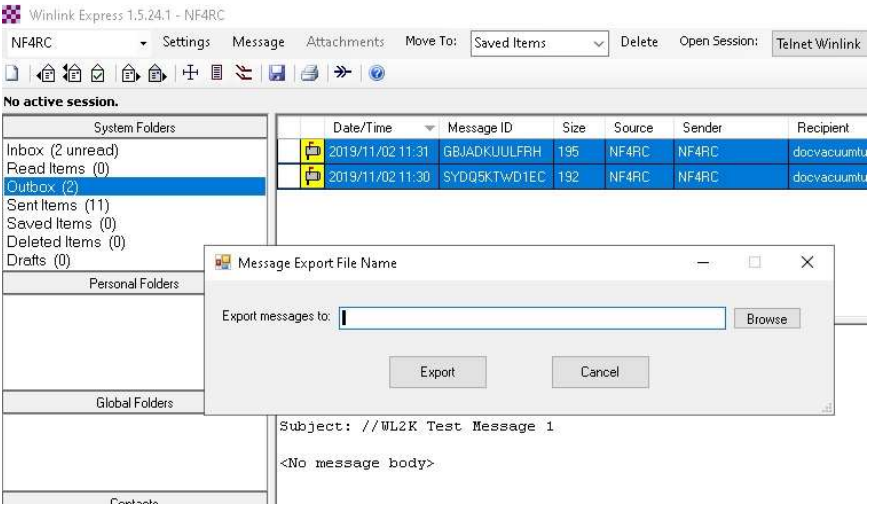


2. Select ALL the messages that you want to export (click on the top one, then SHIFT-CLICK on the bottom one, for example).

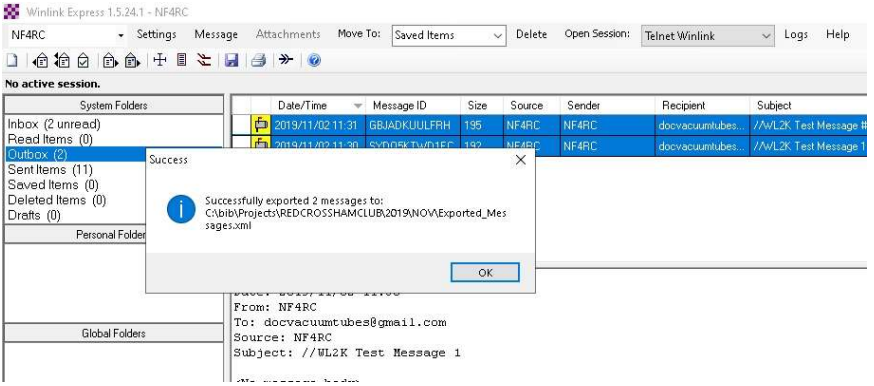


3. Select **Message | Export messages**

4. When offered, BROWSE to find the location of your transport location (**might be a simple USB thumb drive**, or a networked directory if you have your computers on a local area network). Export the files.



When successful, you'll get a notice like this:



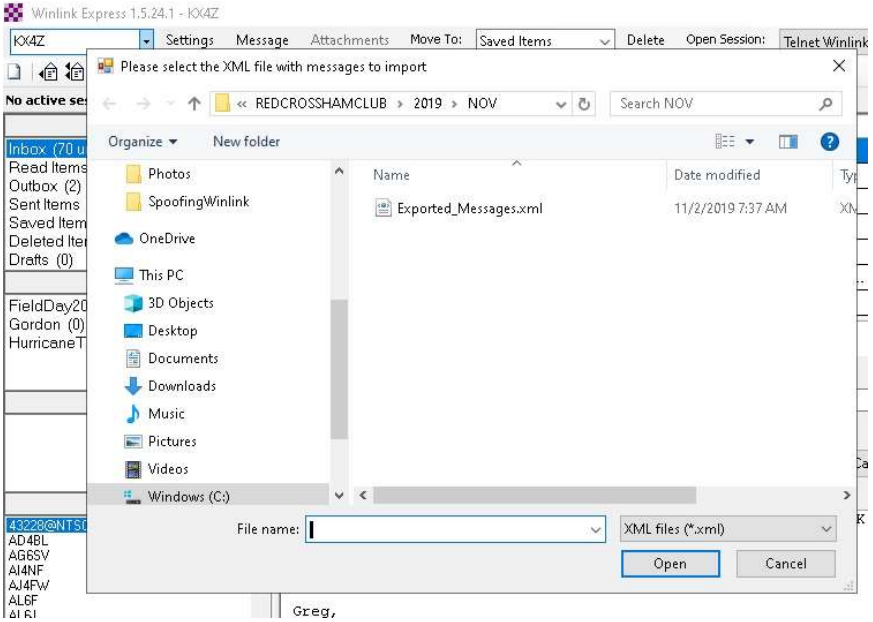
AT THE RADIO COMPUTER

5. Move to the actual computer that will do the WINLINK connection.

6. Select **Message | Import Messages.**

7. Find the location where the messages were exported to, select the XML file, and import -- the messages will automatically go into your

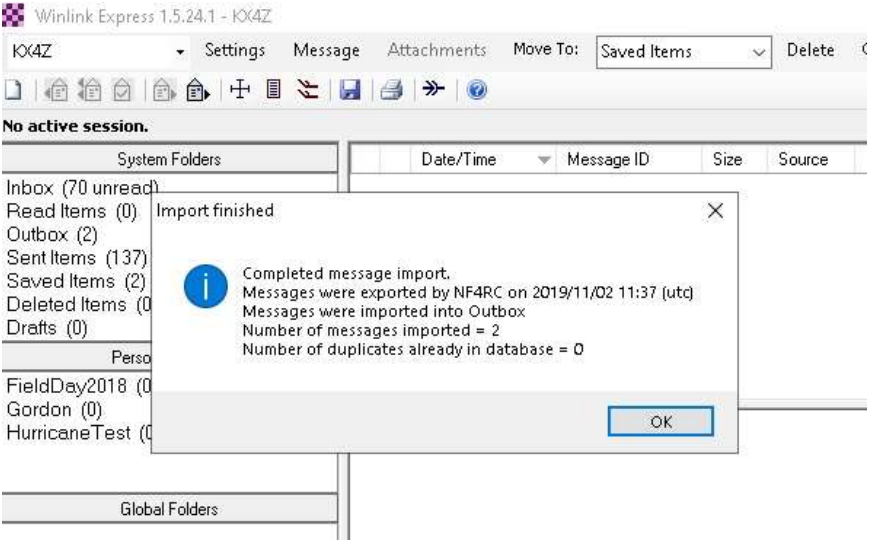
OUTBOX, but to be safe, it might be wise to already have selected that System Folder in WINLINK.



NOTE FOR TRAINERS: If those messages already exist ANYWHERE in that WINLINK system, they don't seem to import. **This can trip you up in training demonstrations** -- delete them even from the "deleted" folder if you want to re-import them as part of a demo!

NOTE FOR OPERATORS: If the messages were created under a different WINLINK callsign, you won't be able to edit them -- but you can still send them.

8. When the messages import successfully into the radio-connected computer, you'll get a helpful notice telling you how many you imported.



9. Initiate a radio session (e.g., WINMOR, ARDOP or PACTOR) make a connection to an RMS station, and all your messages will transfer out of the disaster area. If you lose your connection at any point, messages that were not fully and correctly transferred will still be there in your outbox. Make another connection and the transfers will resume. A little practice at this is helpful!

THANKS for your ministry to others!