

Winlink Express Overview and Installation



What is Winlink

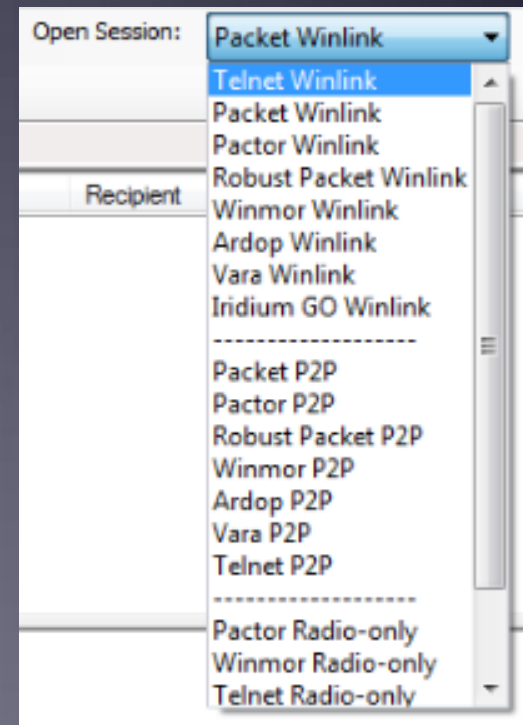
- Worldwide system for sending e-mail via radio.
- Provides e-mail from almost anywhere in the world.
- Entirely supported and operated by amateur radio volunteers (Amateur Radio Safety Foundation, Inc.).
- Winlink Express software is the preferred client application.
- Adopted for contingency communication by many government agencies.
- Used by infrastructure-critical NGOs such as International & American Red Cross, Southern Baptist Disaster Relief, DHS Tiered AT&T Disaster Response & Recovery, FedEx, Bridgestone Emergency Response Team, etc.

Winlink Connection Modes

- **Telnet** – Non-radio connection through the Internet. Good for training (no radio equipment required) and use if radio is down or network is busy.
- **VHF/UHF Packet** (local LOS propagation) –
 - **9600 baud** – Fast, reliable, range may be limited and requires \$400 modem (Kantronics or SCS Tracker) or a good soundcard (non-Signalink) modem. Radio must be 9600 capable.
 - **1200 baud** – Slower, but can use inexpensive TNC like Byonics TinyTrak-4, TNC-X, or even soundcard modems. Will work with virtually any FM radio.
 - **Experimental Speeds** – Between 1200 and 9600 using PSK and sound card interfaces

Winlink Connection Modes

- **HF WINMOR/ARDOP** – “Poor man’s Pactor”. Not as good as Pactor, but operates with an inexpensive sound card device (\$100), speeds between Pactor 2 and 3.
- **HF Pactor 1, 2, 3 and 4** – Fast and reliable but requires an expensive modem (\$1500+). Pactor 4 not permitted in US.
- **Vara** – Multi-carrier OFDM with 2.4kHz bandwidth. HF speeds approaching PACTOR 4 (possible optimization for FM coming)
- All RF modes can be Peer-to-Peer (P2P).



Resources Needed for Winlink Express

VHF/UHF Packet Radio

- Computer running Windows 7 through Windows 10.
- Microsoft .NET 3.5 framework.
- V/UHF radio with data port (1200/9600) or speaker/mic connection (1200 only).
- Packet TNC (Kantronics, TNC-X, MFJ, etc.), or USB soundcard interface (Signalink or similar). TNC might require a USB to RS232 Serial dongle.
- Note: Some new radios have built-in soundcards/TNC's.
- Software downloads:
 - <https://winlink.org/WinlinkExpress>
 - All software is free, donation is suggested.

Packet TNC

- Can be simple KISS mode, or full function.
- Cost from about \$100 to \$1500.
- Radio needs to have a data port (1200/9600), or use microphone and speaker connections (1200 only).
- Some radios include a built-in TNC or sound card.
- Might require a USB to serial adapter (built-in on TNC-X)
 - Use FTDI chipset devices for best results



Packet TNC

- Prolific chipset USB to serial converters have driver issues.
- Counterfeit Chinese products used Prolific product ID and “piggy backed” on official Prolific drivers.
- Prolific countered by changing the hardware/drivers so the counterfeit devices would not work with their drivers.
- This website may help:
<http://www.ifamilysoftware.com/news37.html>
- Adapters based on the FTDI chipset do not have this problem (yet anyway).

Signalink Soundcard Interface

- Simple device powered by USB connection.
- Cost is about \$100 including radio-specific cable.
- Radio needs to have a data (sound) port, or use microphone and speaker connections.
- Need to run “Software TNC” application such as Direwolf, or UZ7HO soundmodem.



Hardware TNC or Sound Card?

There are advantages to both

Hardware TNC

- Relatively low cost (TNC-X), old one in the closet?
- Probably the simplest connection.
- No additional software needed.

Sound Card

- Can be used for other digital modes besides Winlink.
- Software TNC has superior decode over older hardware TNC.
- Can be used for both Packet, Winmor, ARDOP and Vara.

Hardware TNC or Sound Card?

There are disadvantages to both

Hardware TNC

- Only does packet (or maybe Pactor too).
- Older units do not perform as well, no new development.
- Will require USB to serial adapter.

Sound Card

- Sound levels and other settings may be changed unexpectedly.
- Requires additional software, and a slightly more complex operation (more training?).

Hardware TNC or Sound Card?

Presenter Soapbox

1200b AFSK Packet must die!

While this mode is relatively easy to setup and get working, and we must retain this capability for certain conditions, it is time to move up to faster modes.

Both Direwolf and UZ7HO provide several options for higher speed communications using PSK modulation. 4800b should be easy to achieve for most setups. They also support G3RUH 9600b compatible with hardware TNCs. Modern radios should handle this speed.

Installing Winlink Express

- Download zip file:
 - <https://winlink.org/WinlinkExpress>
 - Search engines may send you to fakes
- Extract the .msi installer from the zip file and run it.
- Complete the setup screens (call sign, location, etc.).
- Browse C:\RMS Express\, right click on.
 - RMS Express.exe and select option to create a shortcut.
 - Change the shortcut name to Winlink Express.

Winlink Express Initial Setup

Winlink Express Properties

Call Signs

My Callsign: My Password: (Case sensitive) ☐ Show password

Callsign suffix (optional): (Used for country code)

Password recovery e-mail: (Non-Winlink e-mail address where lost password will be sent when requested)

Auxiliary Callsigns and Tactical Addresses

☒ AUBURN-EOC

My Grid Square:

Winlink Express registration key:

Path to propagation forecast program:

Service Codes

(Use PUBLIC for ham call signs. Separate multiple service codes by spaces.)
If you change service codes, you must update the list of channels.

Contact Information (Optional)

Name:

Street address 1:

Street address 2:

City:

State/Province:

Country:

Postal code:

Web Site URL (optional):

Phone number:

Non-Winlink e-mail:

Additional information (optional):

Recalculate HF path quality if SFI changes more than:

Keep logs for weeks. Keep deleted messages for days.

☐ Display list of pending incoming messages prior to download

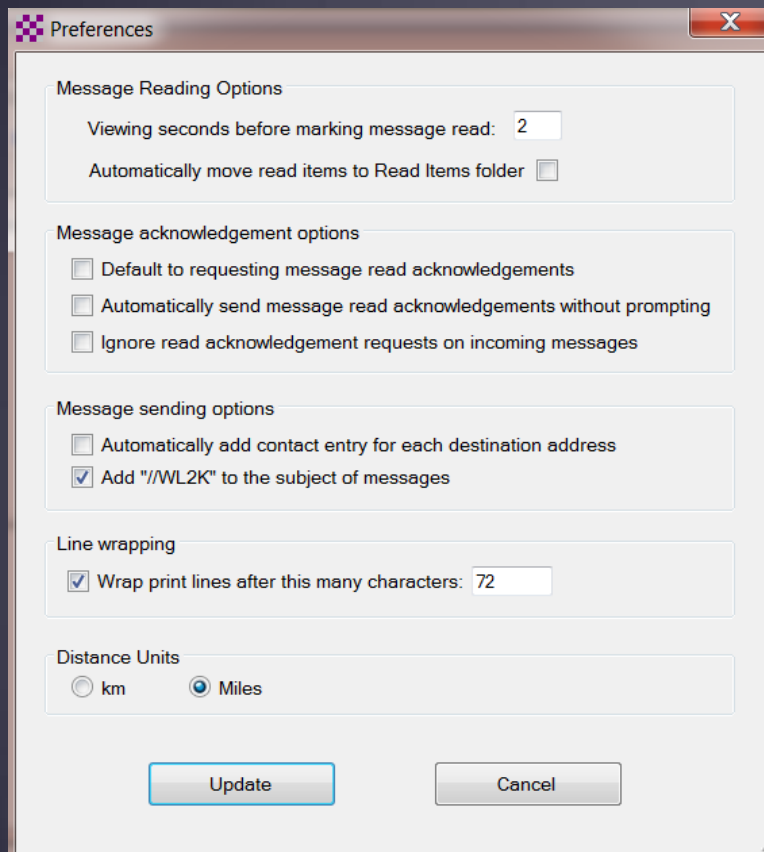
☒ Warn about connections to stations holding messages

☒ Allow diagnostic information to be sent to the Winlink Development Team

☒ Automatically install field-test (beta) versions of Winlink Express

User Preferences

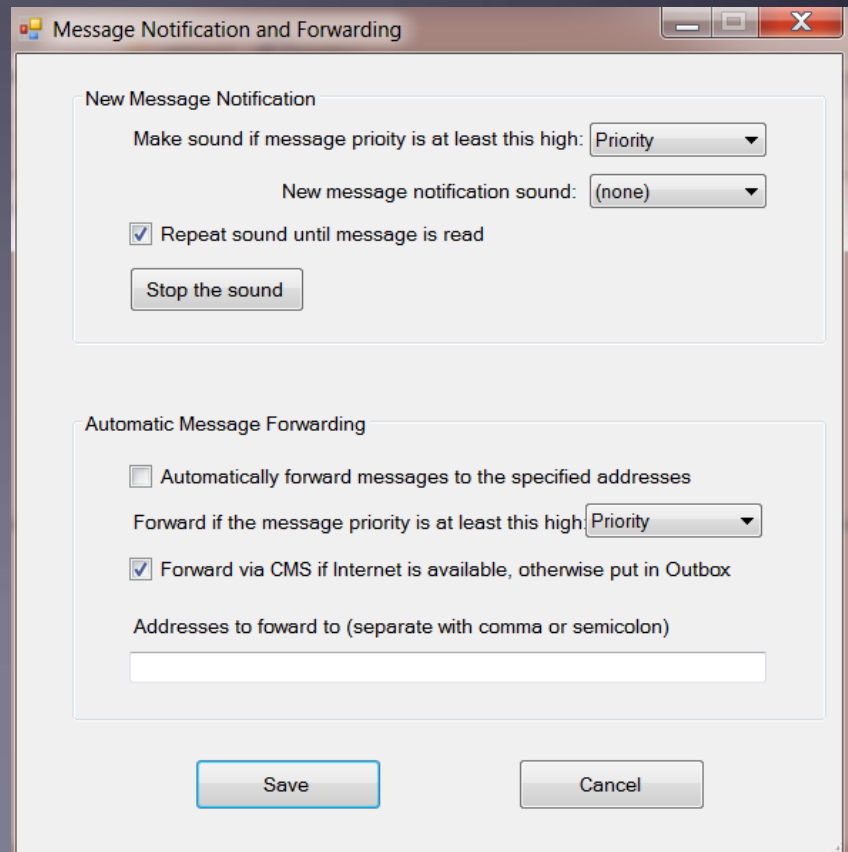
- Click “Files” followed by “Preferences/Message Notification”



The 'Preferences' dialog box is shown with the following settings:

- Message Reading Options**
 - Viewing seconds before marking message read: 2
 - Automatically move read items to Read Items folder: ☐
- Message acknowledgement options**
 - ☐ Default to requesting message read acknowledgements
 - ☐ Automatically send message read acknowledgements without prompting
 - ☐ Ignore read acknowledgement requests on incoming messages
- Message sending options**
 - ☐ Automatically add contact entry for each destination address
 - ☒ Add "//WL2K" to the subject of messages
- Line wrapping**
 - ☒ Wrap print lines after this many characters: 72
- Distance Units**
 - ☐ km
 - ☒ Miles

Buttons: Update, Cancel



The 'Message Notification and Forwarding' dialog box is shown with the following settings:

- New Message Notification**
 - Make sound if message priority is at least this high: Priority
 - New message notification sound: (none)
 - ☒ Repeat sound until message is read
 - Stop the sound
- Automatic Message Forwarding**
 - ☐ Automatically forward messages to the specified addresses
 - Forward if the message priority is at least this high: Priority
 - ☒ Forward via CMS if Internet is available, otherwise put in Outbox
 - Addresses to forward to (separate with comma or semicolon):

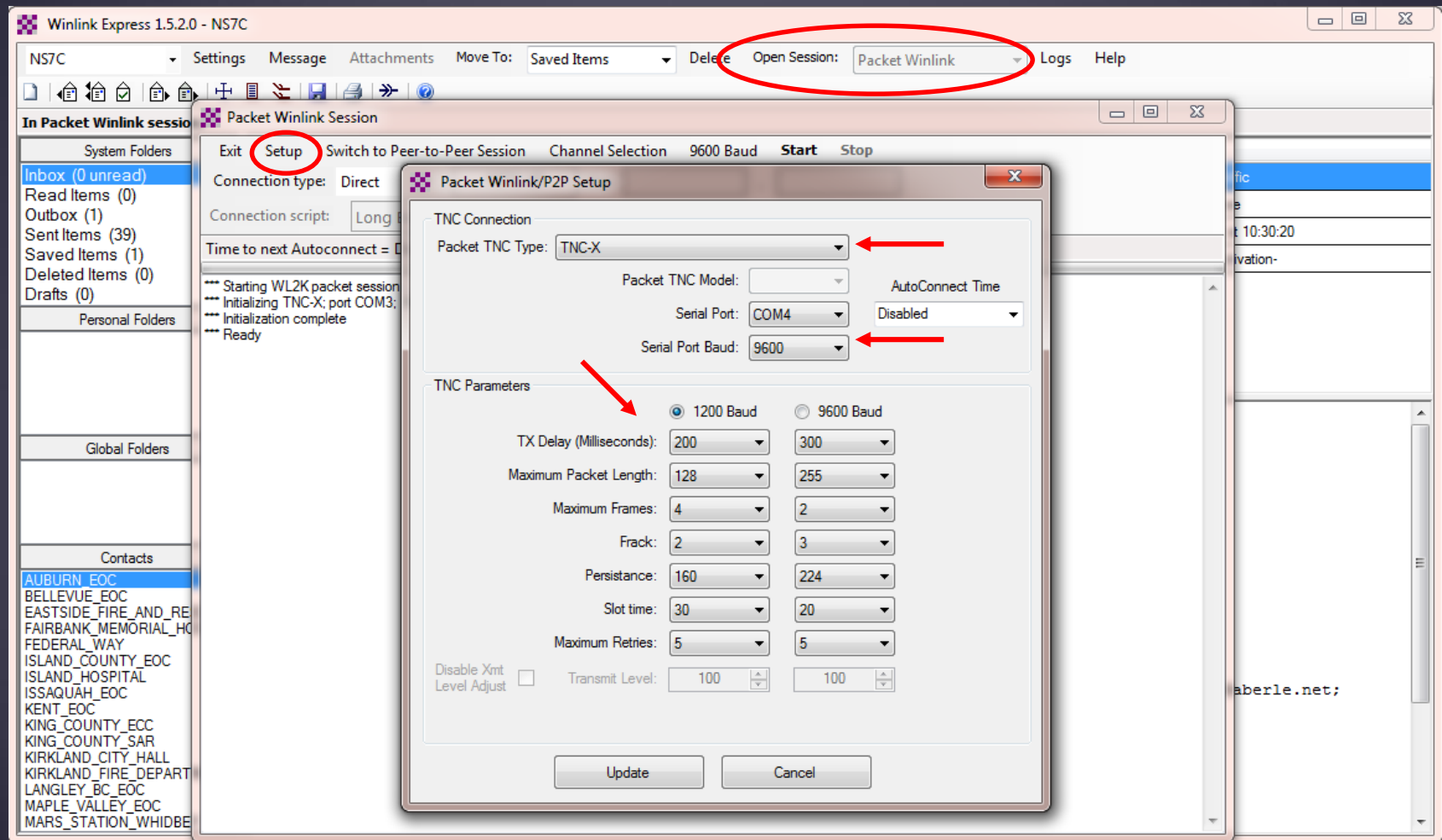
Buttons: Save, Cancel

Installing Winlink Express

- The first time you originate a message using Winlink Express, you will be registered in the Winlink system and will have a `callsign@winlink.org` address. This account remains active as long as you use it regularly. Inactive accounts will be purged after about 1 year.
- You will also have access to the Winlink Webmail system and other good tools on the Winlink.org website.

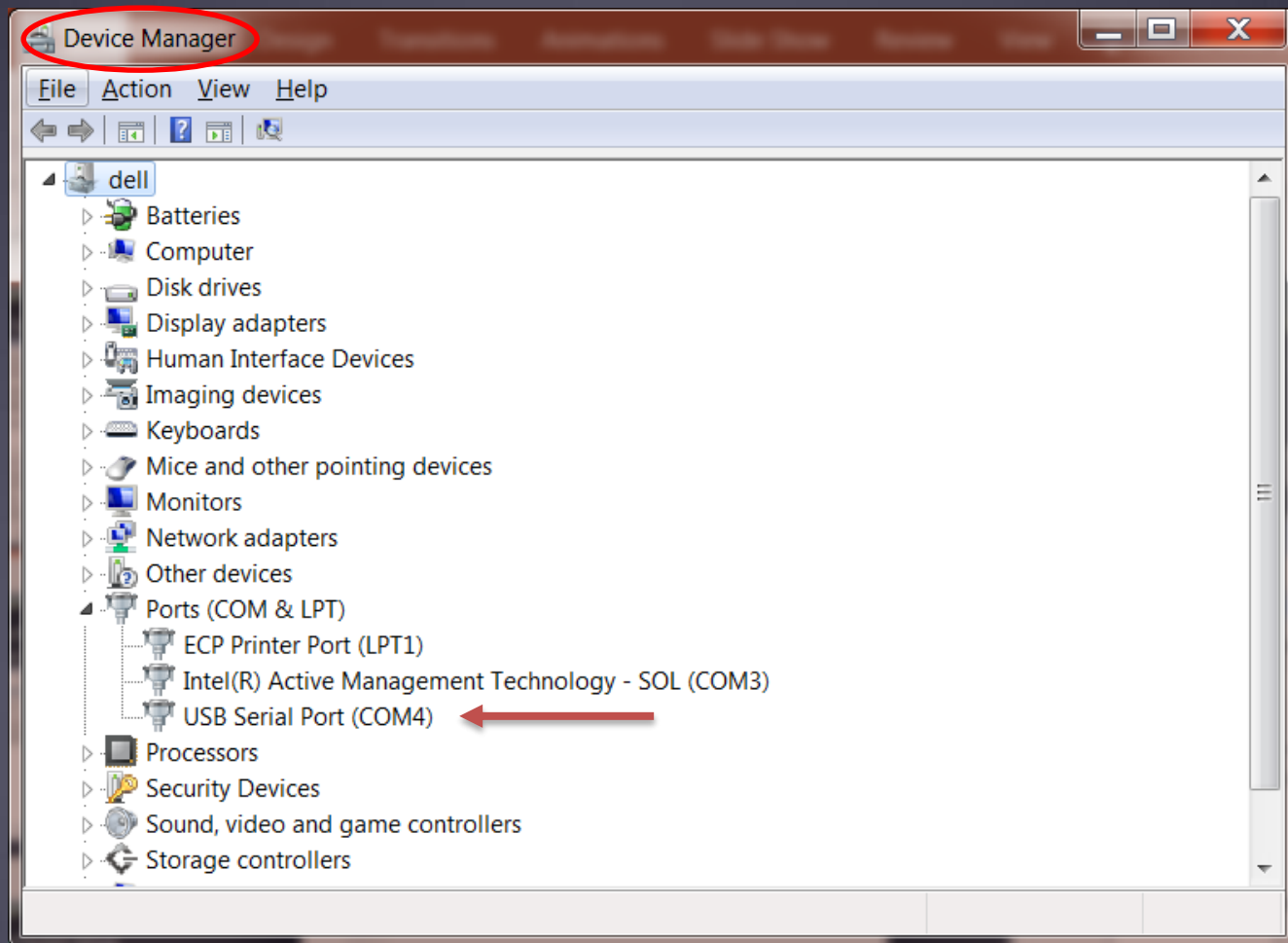
Initial Packet Setup

Hardware TNC



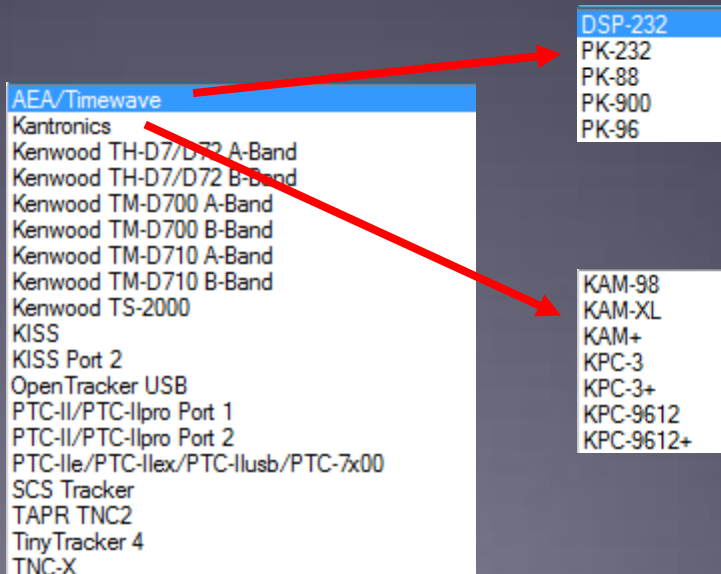
Initial Packet Setup

Hardware TNC COM Port



Initial Packet Setup

Hardware TNC Selection



Initial Packet Setup

Sound Card Interface

- Download zip file (UZ7HO low speed):
 - http://uz7.ho.ua/modem_beta/soundmodem97.zip
 - Extract the program from the zip file and run it.
 - Configuration settings from the drop down menus.
 - Windows only, firewall message.
- Download zip file (UZ7HO high speed):
 - http://uz7.ho.ua/modem_beta/hs_soundmodem15.zip
 - Extract the program from the zip file and run it.
 - Configuration settings from the drop down menus.
 - Windows only, firewall message.

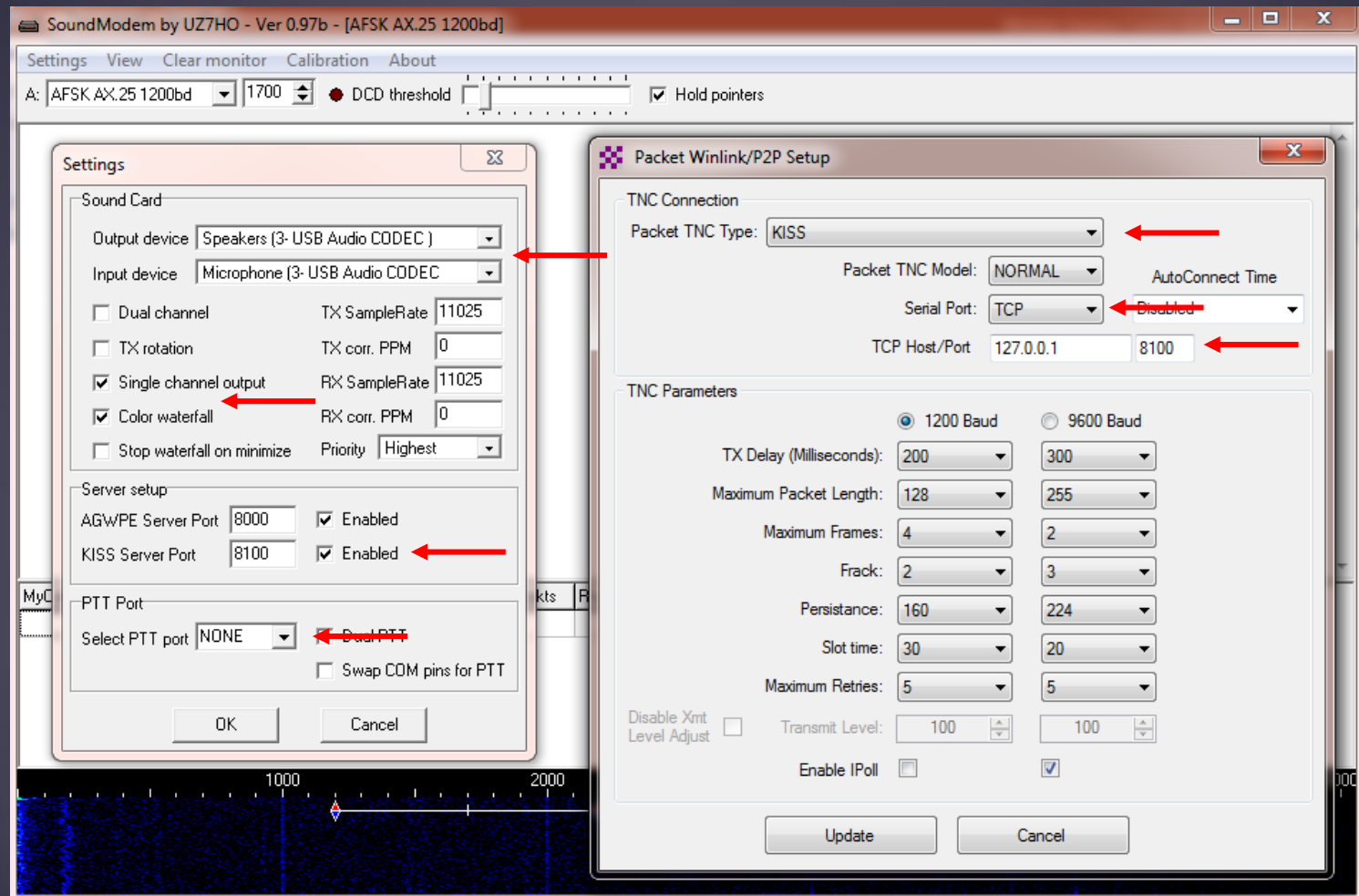
Initial Packet Setup

Sound Card Interface

- Download zip file (Direwolf):
 - <https://github.com/wb2osz/direwolf/releases>
 - Extract the program files from the zip file and run the app.
 - Edit the INI file to configure.
 - Multi-platform capable, for Linux/OS-X, download the source and compile (git clone, etc.)

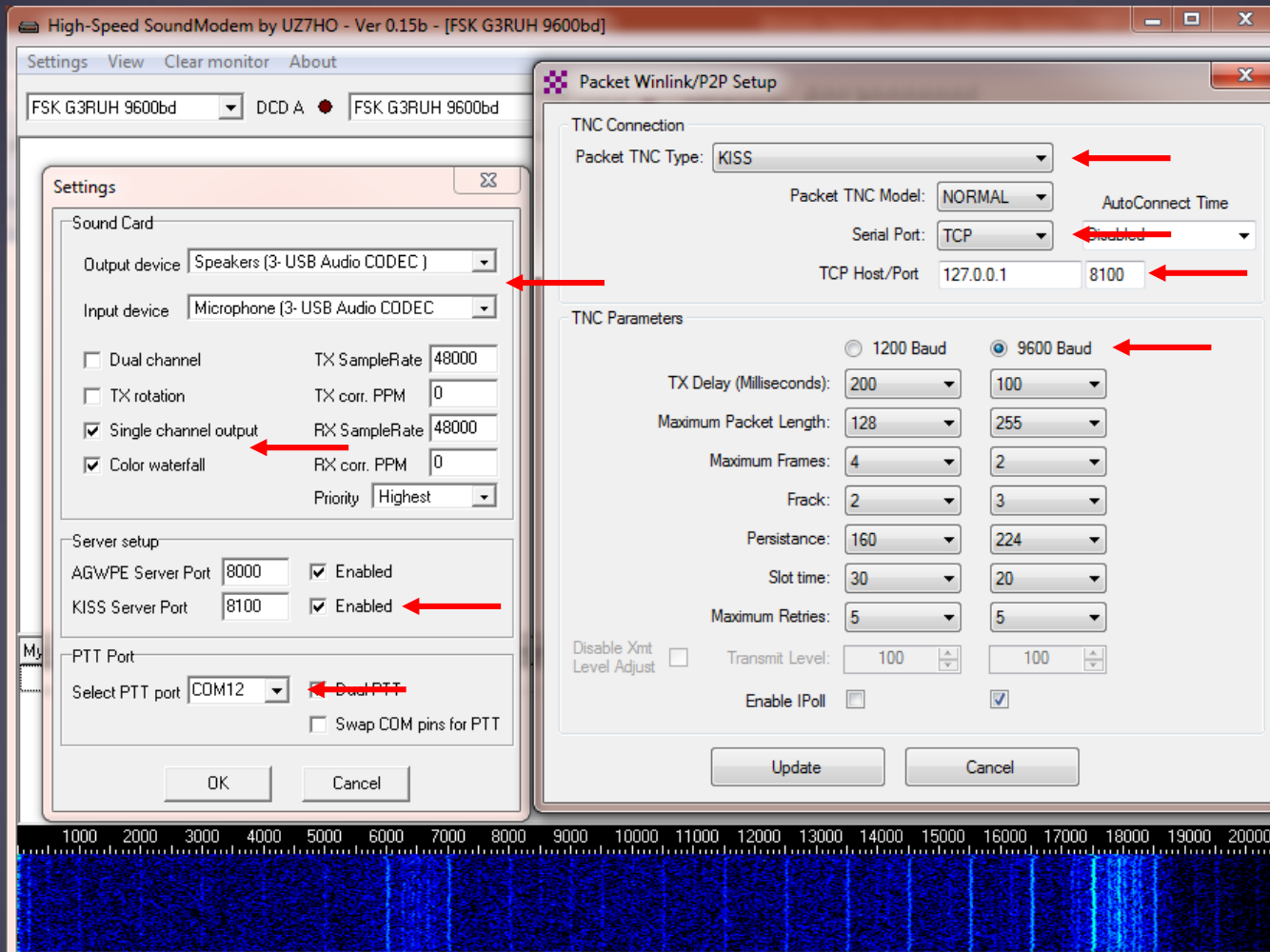
Initial Packet Setup

Sound Card Interface (UZ7HO and Signalink)



Initial Packet Setup

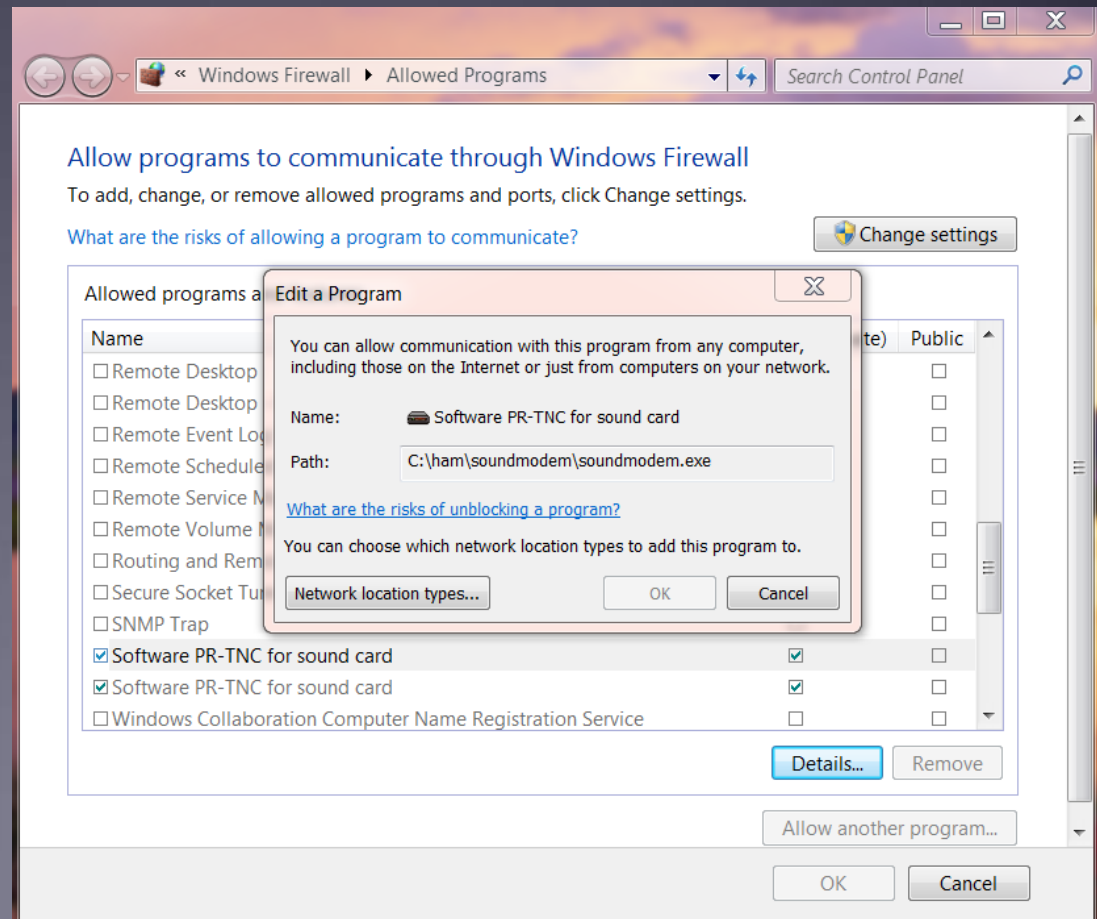
Sound Card Interface (UZ7HO High Speed)



Initial Packet Setup

Sound Card Interface (UZ7HO)

UZ7HO and Direwolf both create “KISS TNC” servers within the network stack, ports on the firewall must be opened to allow Winlink Express (and other applications) to use the virtual TNC.



Initial Packet Setup

Sound Card Interface (UZ7HO and Signalink)

UZ7HO and Direwolf both allow for multiple modems using a “stereo” sound card, for Signalink, only modem “A” is available. Set to AFSK AX.25 1200bd modem.

Both programs can try to correct single bit errors. This is NOT advised for EMCOMM.

The screenshot shows a 'Modem settings' dialog box with two main sections for 'Modem filters ch: A' and 'Modem filters ch: B'. Each section has a 'Show' button next to the filter settings. Below the filter settings are checkboxes for 'Default settings', 'PreEmphasis filter' (set to 'None'), 'KISS Optimization', and 'non-AX25 filter'. The 'Modem type ch: A' section includes a 'Mode' dropdown set to 'AFSK AX.25 1200bd', and fields for 'TXDelay' (250 msec), 'TXTail' (50 msec), 'Add. RX' (2 pairs), 'Add. RX shift' (30 Hz), and 'Bits Recovery' (set to 'SINGLE', which is circled in red). The 'Modem type ch: B' section includes a 'Mode' dropdown set to 'AFSK AX.25 300bd', and fields for 'TXDelay' (250 msec), 'TXTail' (50 msec), 'Add. RX' (0 pairs), 'Add. RX shift' (30 Hz), and 'Bits Recovery' (set to 'NONE'). At the bottom are 'Ok' and 'Cancel' buttons.

Modem filters ch: A	Modem filters ch: B
BPF Width: 1400	BPF Width: 500
TXBPF Width: 1600	TXBPF Width: 500
LPF Width: 650	LPF Width: 155
BPF Taps: 256	BPF Taps: 256
LPF Taps: 128	LPF Taps: 128
<input checked="" type="checkbox"/> Default settings	<input checked="" type="checkbox"/> Default settings
PreEmphasis filter: None	PreEmphasis filter: None
<input checked="" type="checkbox"/> KISS Optimization	<input type="checkbox"/> KISS Optimization
<input checked="" type="checkbox"/> non-AX25 filter	<input checked="" type="checkbox"/> non-AX25 filter

Modem type ch: A	Modem type ch: B
Mode: AFSK AX.25 1200bd	Mode: AFSK AX.25 300bd
TXDelay: 250 msec	TXDelay: 250 msec
TXTail: 50 msec	TXTail: 50 msec
Add. RX: 2 pairs	Add. RX: 0 pairs
Add. RX shift: 30 Hz	Add. RX shift: 30 Hz
Bits Recovery: SINGLE	Bits Recovery: NONE

Initial Packet Setup

Sound Card Interface (UZ7HO High Speed)

UZ7HO and Direwolf both allow for multiple modems using a “stereo” sound card. For initial setup, only use modem ch “A”. Set to FSK G3RUH 9600bd modem.

The image shows a 'Modem settings' dialog box with a title bar and a close button. It is divided into two main sections for 'Modem filters ch: A' and 'Modem filters ch: B'. Each section contains input fields for 'LPF1 Width' (7000), 'LPF1 Taps' (64), 'LPF2 Width' (9000), 'LPF2 Taps' (16), and 'TXLPF Width' (8000). There are 'Show' buttons next to the LPF1 and LPF2 Width fields. Below these are three checkboxes: 'Default settings' (checked), 'non-AX25 filter' (checked), and 'KISS Optimization' (unchecked). The bottom section, 'Modem type ch: A' and 'Modem type ch: B', features a 'Mode' dropdown menu set to 'FSK G3RUH 9600bd', and input fields for 'TXDelay' (100 msec) and 'TXTail' (50 msec) for channel A, and 'TXDelay' (150 msec) and 'TXTail' (50 msec) for channel B. At the bottom of the dialog are 'Ok' and 'Cancel' buttons.

Channel	Modem filters	Modem type
ch: A	LPF1 Width: 7000 LPF1 Taps: 64 LPF2 Width: 9000 LPF2 Taps: 16 TXLPF Width: 8000 <input checked="" type="checkbox"/> Default settings <input checked="" type="checkbox"/> non-AX25 filter <input type="checkbox"/> KISS Optimization	Mode: FSK G3RUH 9600bd TXDelay: 100 msec TXTail: 50 msec
ch: B	LPF1 Width: 7000 LPF1 Taps: 64 LPF2 Width: 9000 LPF2 Taps: 16 TXLPF Width: 8000 <input checked="" type="checkbox"/> Default settings <input checked="" type="checkbox"/> non-AX25 filter <input type="checkbox"/> KISS Optimization	Mode: FSK G3RUH 9600bd TXDelay: 150 msec TXTail: 50 msec

Initial Packet Setup

Sound Card Interface (Direwolf and Signalink)

The image shows the initial setup for Direwolf, a software-defined radio program. It consists of two windows: a Notepad window showing configuration files and a Packet Winlink/P2P Setup dialog box.

direwolf - Notepad

```
#####  
#  
#          TEXT TO SPEECH COMMAND FILE          #  
#  
#####  
#SPEECH dwespeak.bat  
  
#####  
#  
#          VIRTUAL TNC SERVER PROPERTIES          #  
#  
#####  
#  
# Dire Wolf acts as a virtual TNC and can communicate with  
# client applications by different protocols:  
#  
#   - the "AGW TCP/IP Socket Interface" - default port 8000  
#   - KISS protocol over TCP socket - default port 8001  
#   - KISS TNC via serial port  
#  
AGWPORT 8000  
KISSPORT 8100  
#  
# Some applications are designed to operate with only a physical  
# TNC attached to a serial port. For these, we provide a virtual  
# port that appears to be connected to a TNC.  
#  
# Take a look at the User Guide for instructions to set up  
# two virtual serial ports named COM3 and COM4 connected by  
# a null modem.
```

Packet Winlink/P2P Setup

TNC Connection

Packet TNC Type: KISS

Packet TNC Model: NORMAL

Serial Port: TCP

AutoConnect Time: Disabled

TCP Host/Port: 127.0.0.1 8100

TNC Parameters

☒ 1200 Baud ☐ 9600 Baud

TX Delay (Milliseconds): 400 300

Maximum Packet Length: 128 255

Maximum Frames: 4 7

Frack: 2 2

Persistence: 160 224

Slot time: 30 20

Maximum Retries: 5 5

Disable Xmt Level Adjust ☐ Transmit Level: 100 100

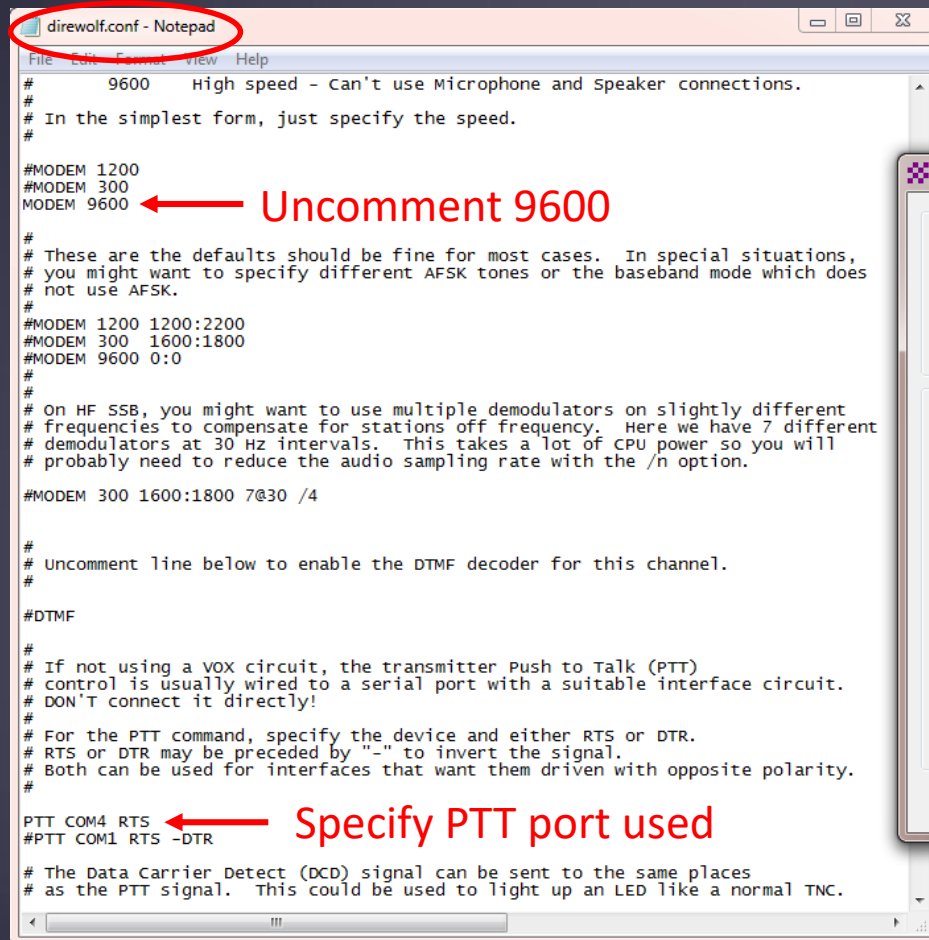
Enable IPoll ☐ ☐

Update Cancel

Red arrows point to the KISSPORT 8100 line in the Notepad window and the 8100 port field in the Packet Winlink/P2P Setup dialog.

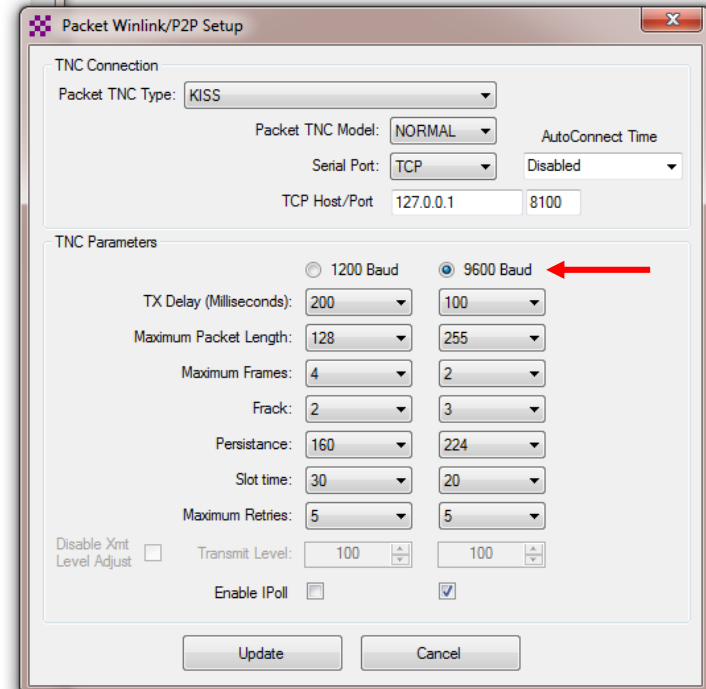
Initial Packet Setup

Sound Card Interface (Direwolf High Speed)



```
# 9600 High speed - Can't use Microphone and Speaker connections.
#
# In the simplest form, just specify the speed.
#
#MODEM 1200
#MODEM 300
MODEM 9600

#
# These are the defaults should be fine for most cases. In special situations,
# you might want to specify different AFSK tones or the baseband mode which does
# not use AFSK.
#
#MODEM 1200 1200:2200
#MODEM 300 1600:1800
#MODEM 9600 0:0
#
# On HF SSB, you might want to use multiple demodulators on slightly different
# frequencies to compensate for stations off frequency. Here we have 7 different
# demodulators at 30 Hz intervals. This takes a lot of CPU power so you will
# probably need to reduce the audio sampling rate with the /n option.
#MODEM 300 1600:1800 7@30 /4
#
# Uncomment line below to enable the DTMF decoder for this channel.
#
#DTMF
#
# If not using a VOX circuit, the transmitter Push to Talk (PTT)
# control is usually wired to a serial port with a suitable interface circuit.
# DON'T connect it directly!
#
# For the PTT command, specify the device and either RTS or DTR.
# RTS or DTR may be preceded by "-" to invert the signal.
# Both can be used for interfaces that want them driven with opposite polarity.
#
PTT COM4 RTS
#PTT COM1 RTS -DTR
#
# The Data Carrier Detect (DCD) signal can be sent to the same places
# as the PTT signal. This could be used to light up an LED like a normal TNC.
```



Packet Winlink/P2P Setup

TNC Connection

Packet TNC Type: KISS

Packet TNC Model: NORMAL

Serial Port: TCP

AutoConnect Time: Disabled

TCP Host/Port: 127.0.0.1 8100

TNC Parameters

☐ 1200 Baud ☒ 9600 Baud

TX Delay (Milliseconds): 200 100

Maximum Packet Length: 128 255

Maximum Frames: 4 2

Frack: 2 3

Persistence: 160 224

Slot time: 30 20

Maximum Retries: 5 5

Disable Xmt Level Adjust ☐ Transmit Level: 100 100

Enable IPoll ☐ ☒

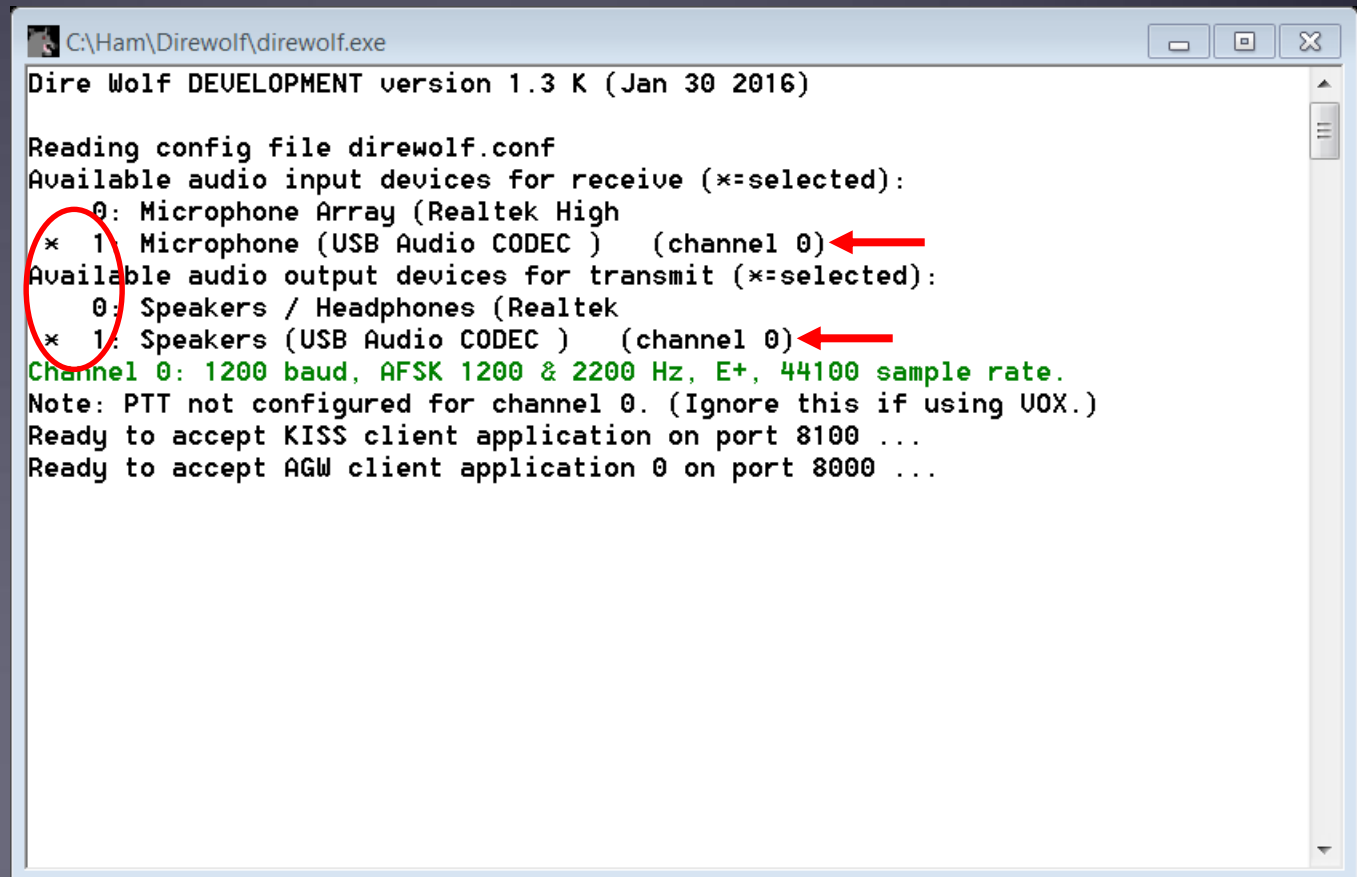
Update Cancel

Initial Packet Setup

Sound Card Interface (Direwolf)

Direwolf startup shows available audio devices. Signalink shows as USB Audio Codec.

Sound card to use needs to be set in the configuration file (there are multiple ways to do this).



```
C:\Ham\Direwolf\direwolf.exe
Dire Wolf DEVELOPMENT version 1.3 K (Jan 30 2016)

Reading config file direwolf.conf
Available audio input devices for receive (*=selected):
  0: Microphone Array (Realtek High
* 1: Microphone (USB Audio CODEC ) (channel 0)
Available audio output devices for transmit (*=selected):
  0: Speakers / Headphones (Realtek
* 1: Speakers (USB Audio CODEC ) (channel 0)
Channel 0: 1200 baud, AFSK 1200 & 2200 Hz, E+, 44100 sample rate.
Note: PTT not configured for channel 0. (Ignore this if using VOX.)
Ready to accept KISS client application on port 8100 ...
Ready to accept AGW client application 0 on port 8000 ...
```

Initial Packet Setup

Sound Card Virtual TNC

```
C:\Ham\Direwolf\direwolf.exe

Reading config file direwolf.conf
Available audio input devices for receive (*=selected):
  0: Microphone Array (Realtek High
  * 1: Microphone (USB Audio CODEC ) (channel 0)
Available audio output devices for transmit (*=selected):
  0: Speakers / Headphones (Realtek
  * 1: Speakers (USB Audio CODEC ) (channel 0)
Channel 0: 1200 baud, AFSK 1200 & 2200 Hz, E+, 44100 sample r
Note: PTT not configured for channel 0. (Ignore this if using
Ready to accept KISS client application on port 8100 ...
Ready to accept AGW client application 0 on port 8000 ...

W7EFR-10 audio level = 64(30/19) [NONE] _|||||||_
[0.3] W7EFR-10>BEACON:EF&R Winlink RMS Packet Server<0x0d>
Unknown message type E, motorcycle

W7EFR-1 audio level = 63(30/18) [NONE] _|||||||_
[0.3] W7EFR-1>ID:Network Node (COUGAR)<0x0d>
Unknown message type N, Ambulance

K7CST-10 audio level = 92(44/23) [NONE] _|||||||_
[0.4] K7CST-10>BEACON:Winlink 2000 RMS Packet Server<0x0d>
```

SoundModem by UZ7HO - Ver 0.94b

Settings View Clear monitor About

Ch A 1700 Ch B 1700 DCD threshold ☐ H

1:Fm NS7C-5 To CQ <UI R Pid=F0 Len=19> [20:56:28R] [+++]
Making packets....

1:Fm NS7C-5 To CQ <UI R Pid=F0 Len=23> [20:56:38R] [+++]
And more packets.....

1:Fm W7EFR-1 To ID <UI R Pid=F0 Len=22> [20:56:41R] [+++]
Network Node (COUGAR)

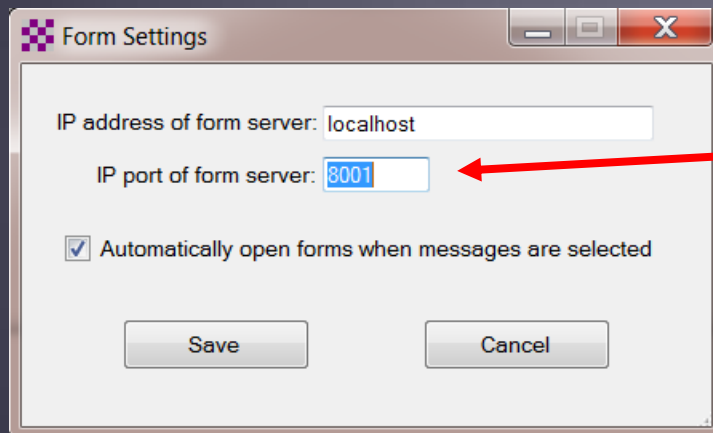
MyCall	DestCall	Status	Sent pkts	Sent bytes	Rcvd pkts	Rcvd byte	Rcvd FC	CPS TX	CPS I

1000 2000 3000

Initial Packet Setup

Sound Card Virtual TNC

Make sure your Virtual TNC server TCP ports do not conflict with the Winlink Express forms server (Direwolf default KISS port settings will).



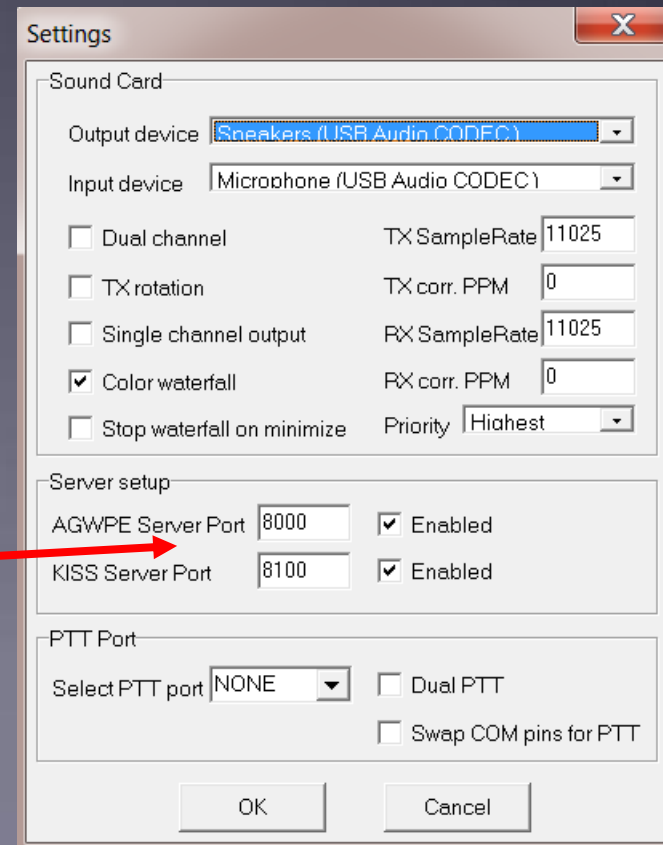
Form Settings

IP address of form server: localhost

IP port of form server: 8001

☒ Automatically open forms when messages are selected

Save Cancel



Settings

Sound Card

Output device: Sneakers (USB Audio CODEC)

Input device: Microphone (USB Audio CODEC)

☐ Dual channel TX SampleRate: 11025

☐ TX rotation TX corr. PPM: 0

☐ Single channel output RX SampleRate: 11025

☒ Color waterfall RX corr. PPM: 0

☐ Stop waterfall on minimize Priority: Highest

Server setup

AGWPE Server Port: 8000 ☒ Enabled

KISS Server Port: 8100 ☒ Enabled

PTT Port

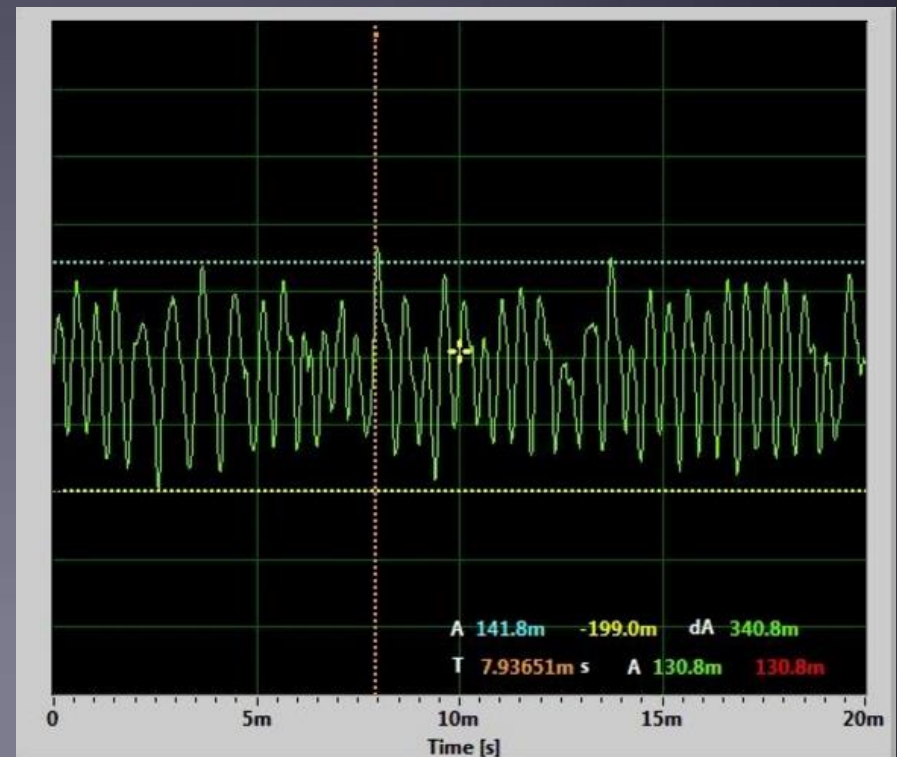
Select PTT port: NONE ☐ Dual PTT

☐ Swap COM pins for PTT

OK Cancel

Initial Packet Setup

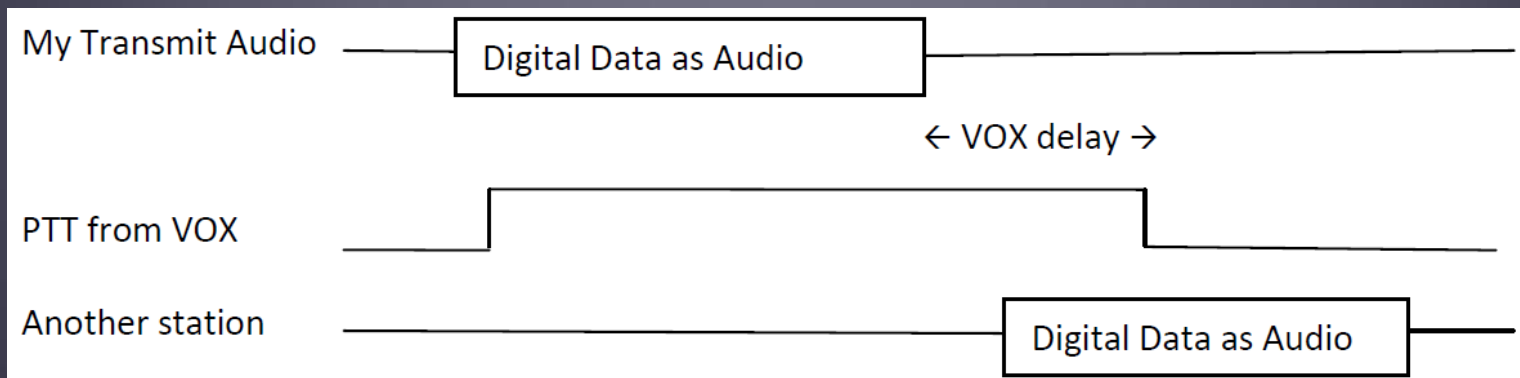
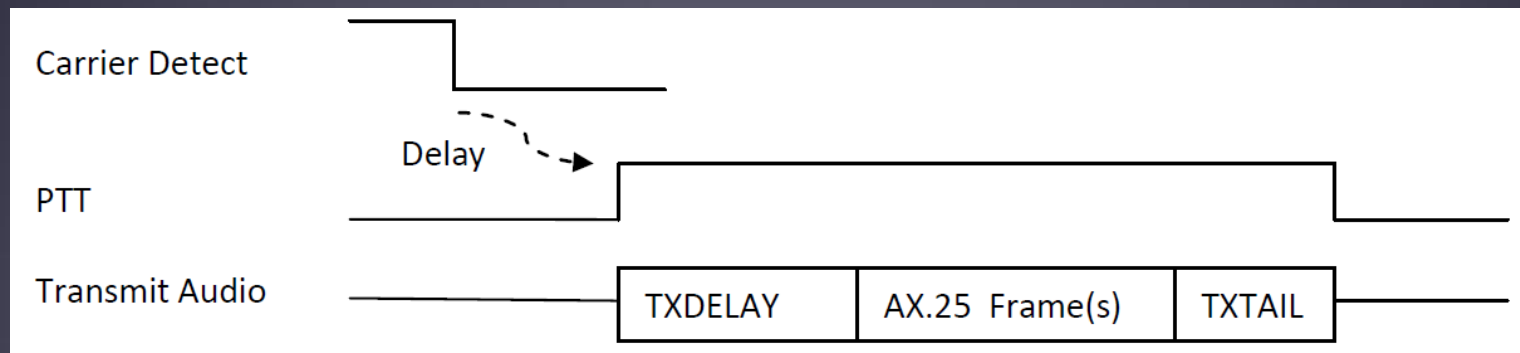
Set your transmit levels correctly! (It is not plug and play)



- <http://www.febo.com/packet/layer-one/transmit.html>
- http://www.zeitnitz.de/Christian/scope_en

Initial Packet Setup

Set your TXD and VOX correctly (This isn't plug and play either)



Initial Packet Setup

Important Parameters

- TX Delay (TXD)
- Packet Length
- Max Frames
- Frack
- Max Retries
- AutoConnect Time

Note: For soundcard configurations, TXD is set in the Software TNC application.

The screenshot shows the 'Packet Winlink/P2P Setup' dialog box. It is divided into two main sections: 'TNC Connection' and 'TNC Parameters'.

TNC Connection:

- Packet TNC Type: KISS (dropdown)
- Packet TNC Model: NORMAL (dropdown)
- Serial Port: TCP (dropdown)
- AutoConnect Time: Disabled (dropdown)
- TCP Host/Port: 127.0.0.1 (text field) and 8100 (text field)

TNC Parameters:

At the top of this section are two radio buttons: **1200 Baud** (selected) and **9600 Baud**.

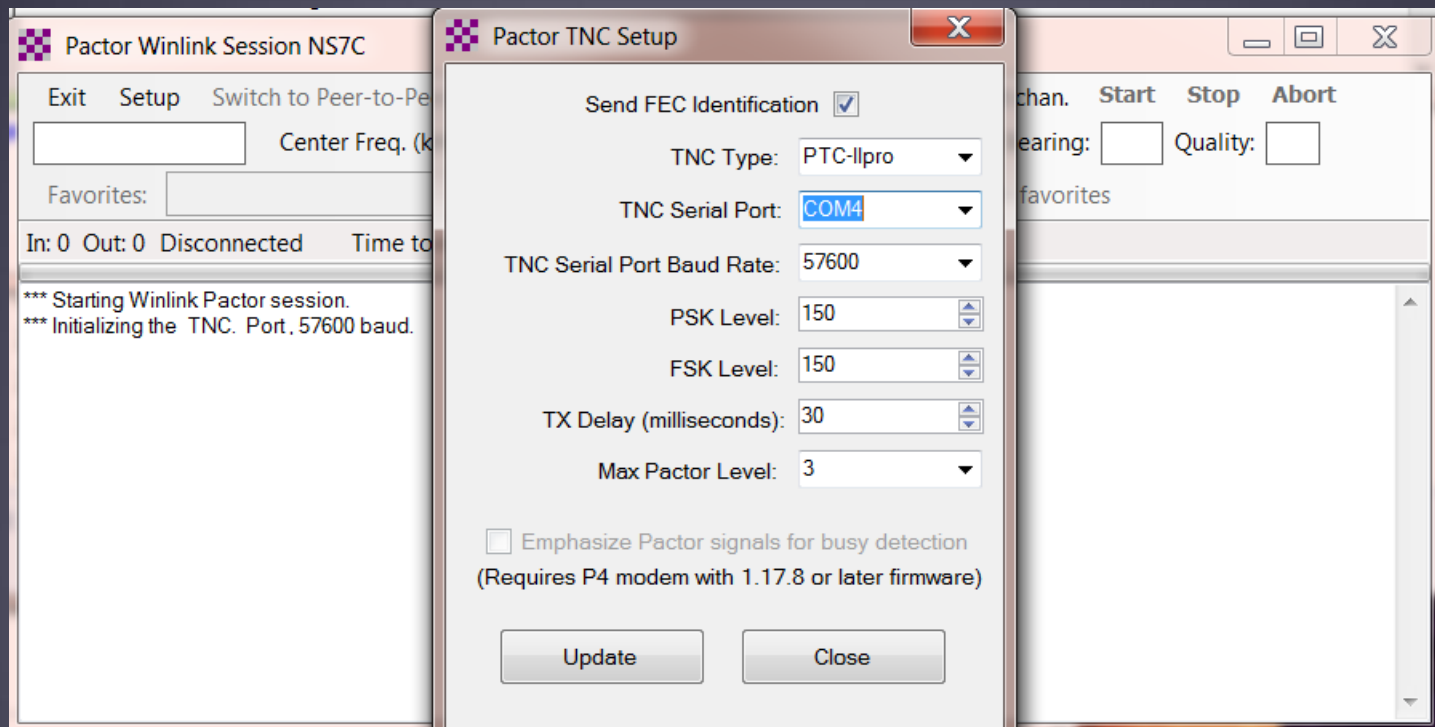
Parameter	1200 Baud	9600 Baud
TX Delay (Milliseconds):	300	300
Maximum Packet Length:	128	255
Maximum Frames:	4	7
Frack:	2	2
Persistence:	160	224
Slot time:	30	20
Maximum Retries:	5	5
Transmit Level:	100	100

At the bottom of the 'TNC Parameters' section are two checkboxes: **Disable Xmt Level Adjust** (unchecked) and **Enable IPoll** (unchecked).

At the very bottom of the dialog are two buttons: **Update** and **Cancel**.

Initial Pactor Setup

PTC modem



Resources Needed for Winlink Express

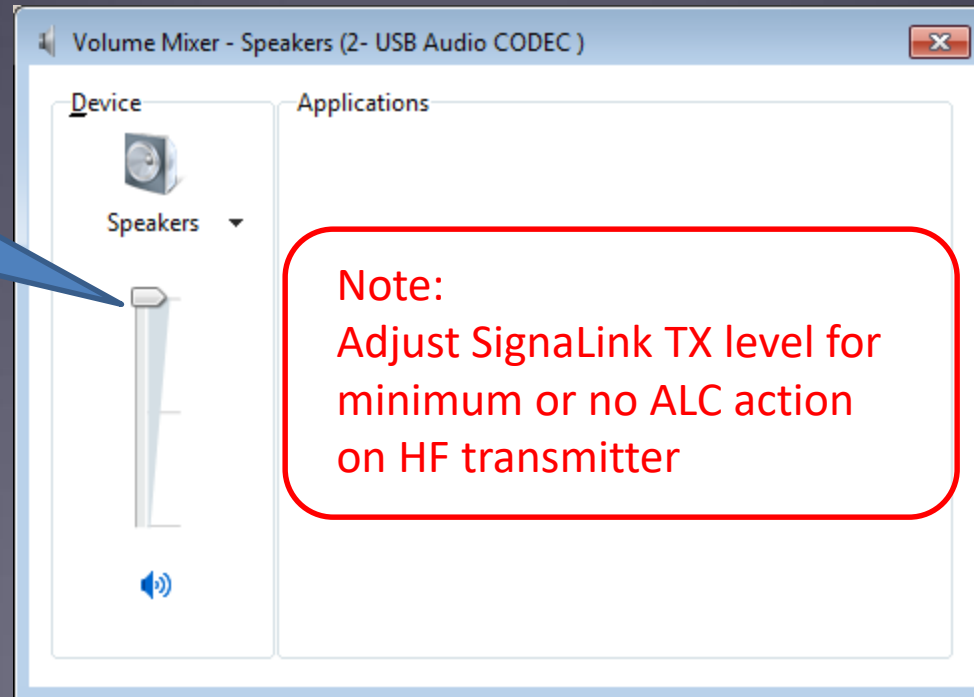
HF Winmor/ARDOP/VARA

- Same computer and software requirements as V/UHF Packet. Winmor and ARDOP modems are included with Winlink Express.
- ITSHF propagation prediction program. Note, you will be prompted to download this on first Winmor run. A link to the software will be provided.
- HF radio with data (sound) port and optionally computer control (CI/V, CAT, etc. for rig control).
- Signalink or similar soundcard interface, may be built-in on newer HF radios.
- All software is free, donation is suggested.

Configuring Sound Levels

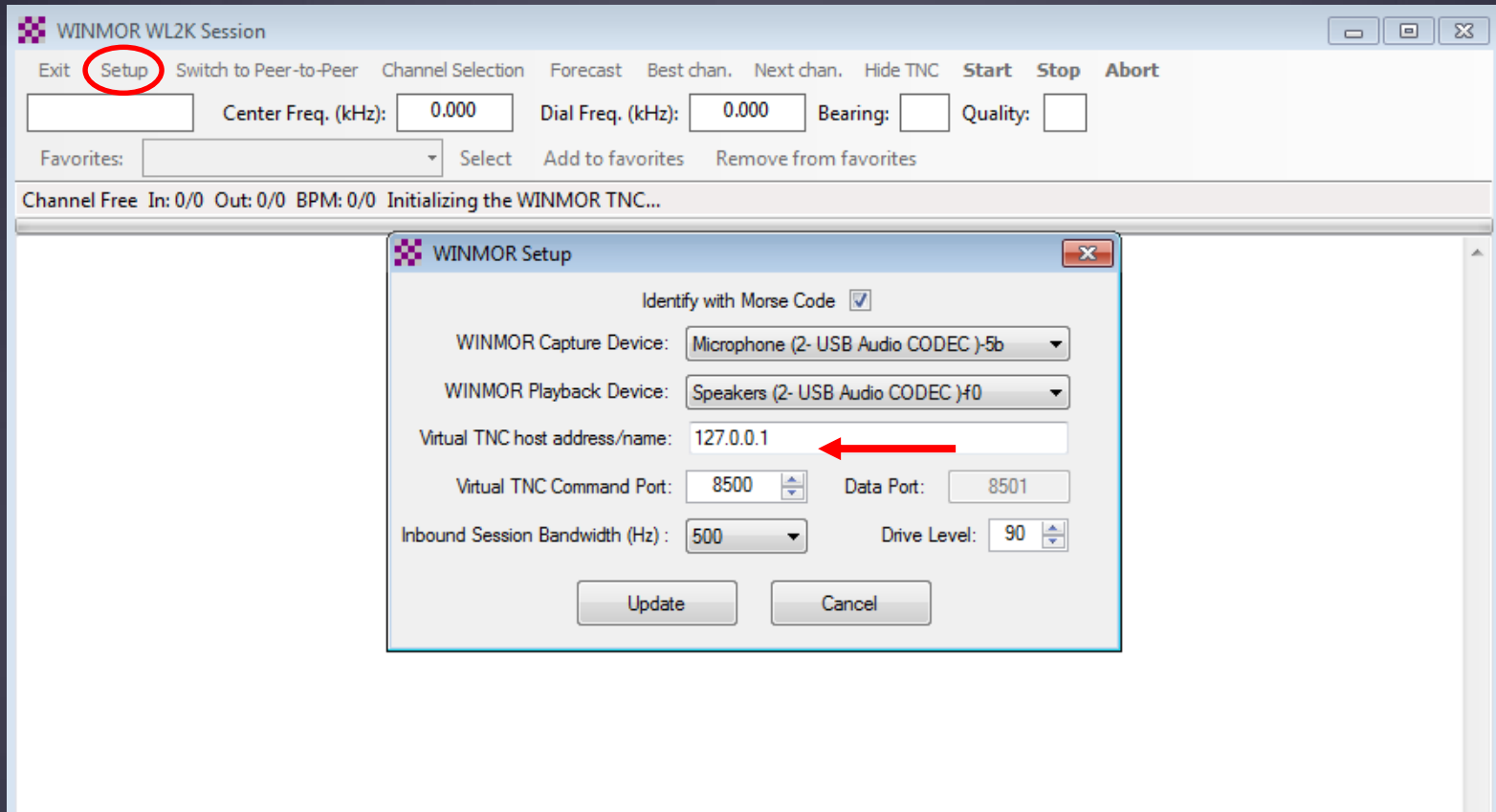
Watch drive/ALC levels on transmitter

Set to
Max



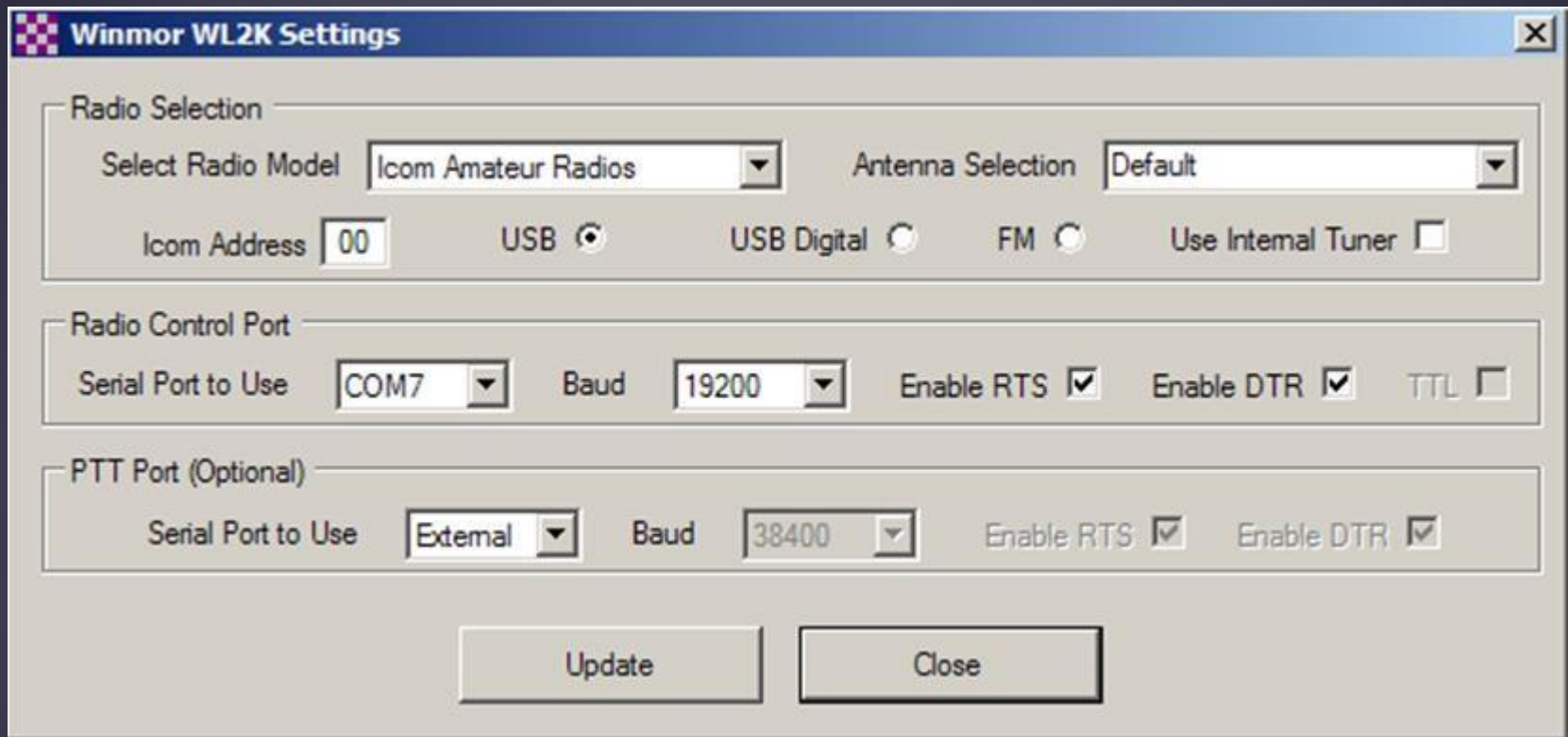
Initial Winmor/ARDOP Setup

Selecting the Audio Device



Winmor/ARDOP Radio Setup

Rig Control Parameters



The image shows a screenshot of the 'Winmor WL2K Settings' dialog box. The dialog has a title bar with a standard Windows icon and a close button. It is divided into three main sections: 'Radio Selection', 'Radio Control Port', and 'PTT Port (Optional)'. The 'Radio Selection' section includes a 'Select Radio Model' dropdown menu set to 'Icom Amateur Radios', an 'Antenna Selection' dropdown menu set to 'Default', an 'Icom Address' text box containing '00', and four radio buttons: 'USB' (selected), 'USB Digital', 'FM', and 'Use Internal Tuner' (unchecked). The 'Radio Control Port' section includes a 'Serial Port to Use' dropdown menu set to 'COM7', a 'Baud' dropdown menu set to '19200', and three checkboxes: 'Enable RTS' (checked), 'Enable DTR' (checked), and 'TTL' (unchecked). The 'PTT Port (Optional)' section includes a 'Serial Port to Use' dropdown menu set to 'External', a 'Baud' dropdown menu set to '38400', and two checkboxes: 'Enable RTS' (checked) and 'Enable DTR' (checked). At the bottom of the dialog are two buttons: 'Update' and 'Close'.

Winmor WL2K Settings

Radio Selection

Select Radio Model: Icom Amateur Radios

Antenna Selection: Default

Icom Address: 00

USB ☒ USB Digital ☐ FM ☐ Use Internal Tuner ☐

Radio Control Port

Serial Port to Use: COM7

Baud: 19200

Enable RTS ☒ Enable DTR ☒ TTL ☐

PTT Port (Optional)

Serial Port to Use: External

Baud: 38400

Enable RTS ☒ Enable DTR ☒

Update Close

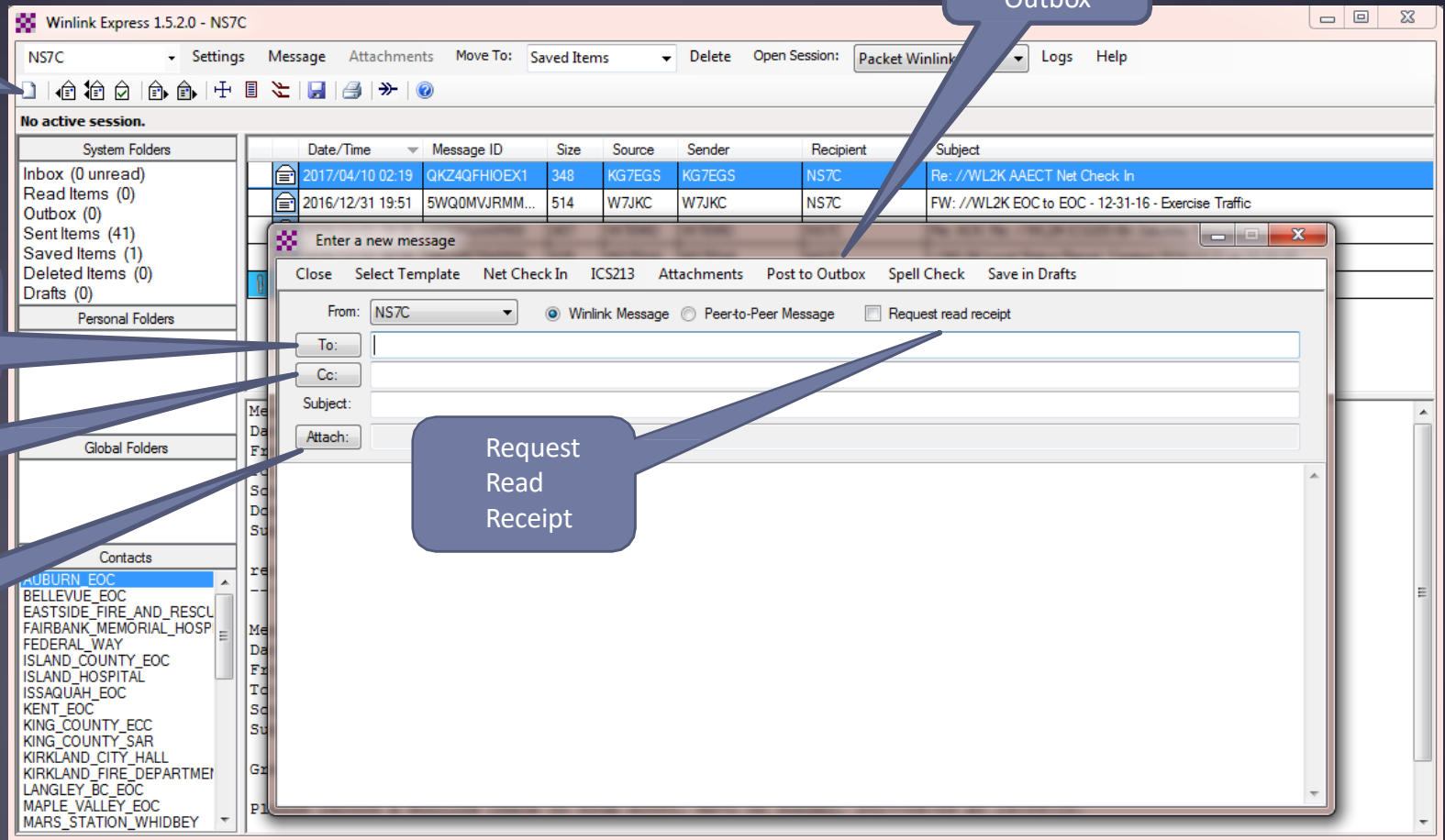
Winmor/ARDOP Radio Setup

Adjust TX level for minimum ALC action



Changing frequencies/bands may require level changes too

Composing A Message



Pending Message In Outbox

Open Session

Winlink Express 1.5.2.0 - NS7C

NS7C Settings Message Attachments Move To: Saved Items Delete Open Session: Packet Winlink Logs Help

No active session.

System Folders	Date/Time	Message ID	Size	Source	Sender	Recipient	Subject
Inbox (0 unread)	2017/04/10 22:44	IDAOHYIHSV9G	2064	NS7C	NS7C	WA7AUB	FW: //WL2K WA R4 EOC Sitrep-12/31/16 Quarterly Activation-
Read Items (0)							
Outbox (1)							
Sent Items (41)							
Saved Items (1)							
Deleted Items (1)							
Drafts (0)							

Personal Folders

Global Folders

Contacts

AUBURN_EOC
BELLEVUE_EOC
EASTSIDE_FIRE_AND_RESCU
FAIRBANK_MEMORIAL_HOSP
FEDERAL_WAY
ISLAND_COUNTY_EOC
ISLAND_HOSPITAL
ISSAQUAH_EOC
KENT_EOC
KING_COUNTY_ECC
KING_COUNTY_SAR
KIRKLAND_CITY_HALL
KIRKLAND_FIRE_DEPARTME
LANGLEY_BC_EOC
MAPLE_VALLEY_EOC
MARS_STATION_WHIDBEY

Message ID: IDAOHYIHSV9G
Date: 2017/04/10 22:44
From: NS7C
To: WA7AUB
Source: NS7C
Subject: FW: //WL2K WA R4 EOC Sitrep-12/31/16 Quarterly Activation-

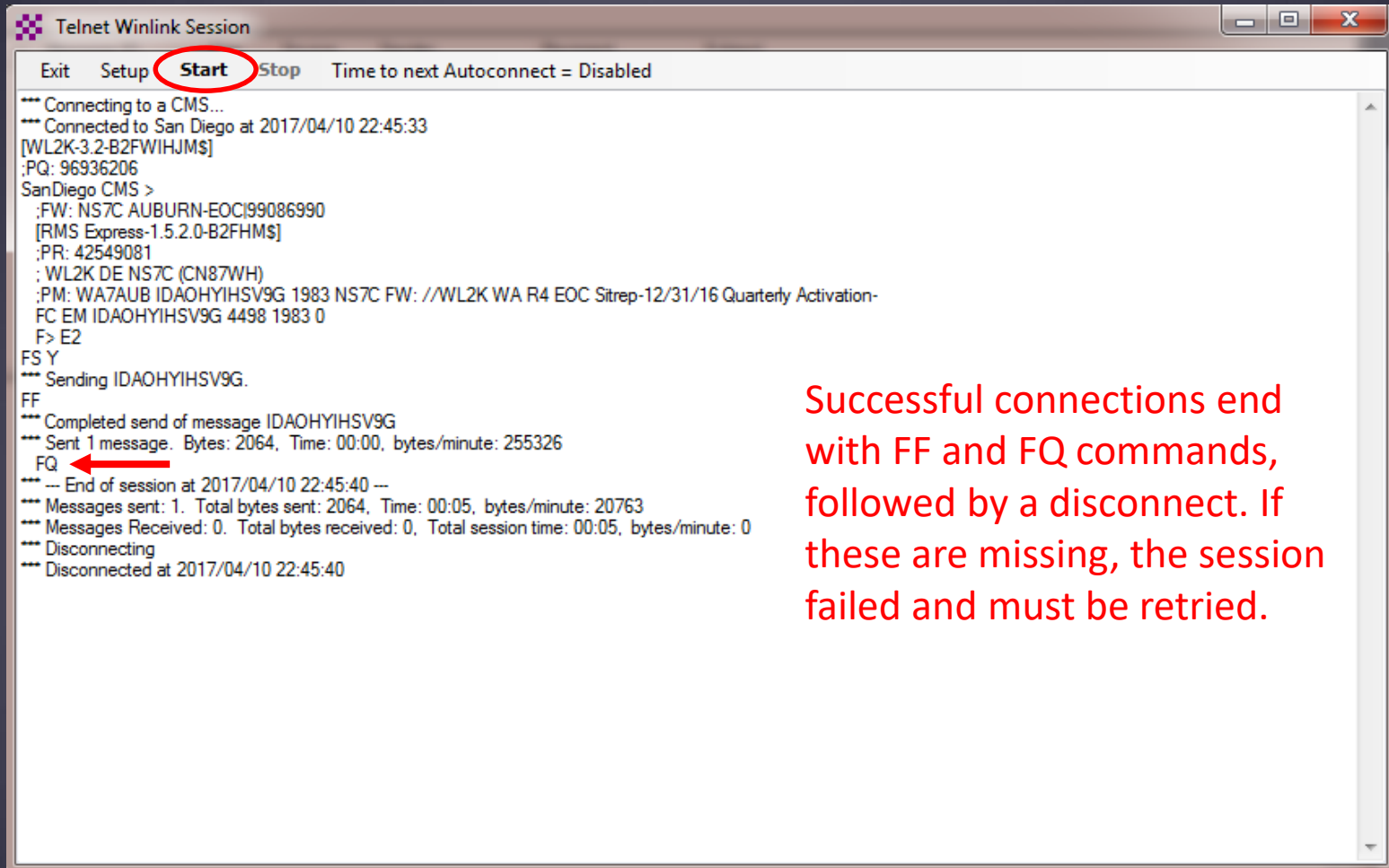
----- Message from KF7UXB sent 2016/12/31 18:31 -----

Message ID: P20BG2KK0913
Date: 2016/12/31 18:31
From: KF7UXB
To: NS7C
Source: KF7UXB
Subject: //WL2K WA R4 EOC Sitrep-12/31/16 Quarterly Activation-

Originating EOC: [Region 4]
To: NS7C

Telnet Session

Connect, login, send message, log off



The screenshot shows a 'Telnet Winlink Session' window. The menu bar includes 'Exit', 'Setup', 'Start' (highlighted with a red circle), and 'Stop'. The status bar indicates 'Time to next Autoconnect = Disabled'. The session log shows the following steps:

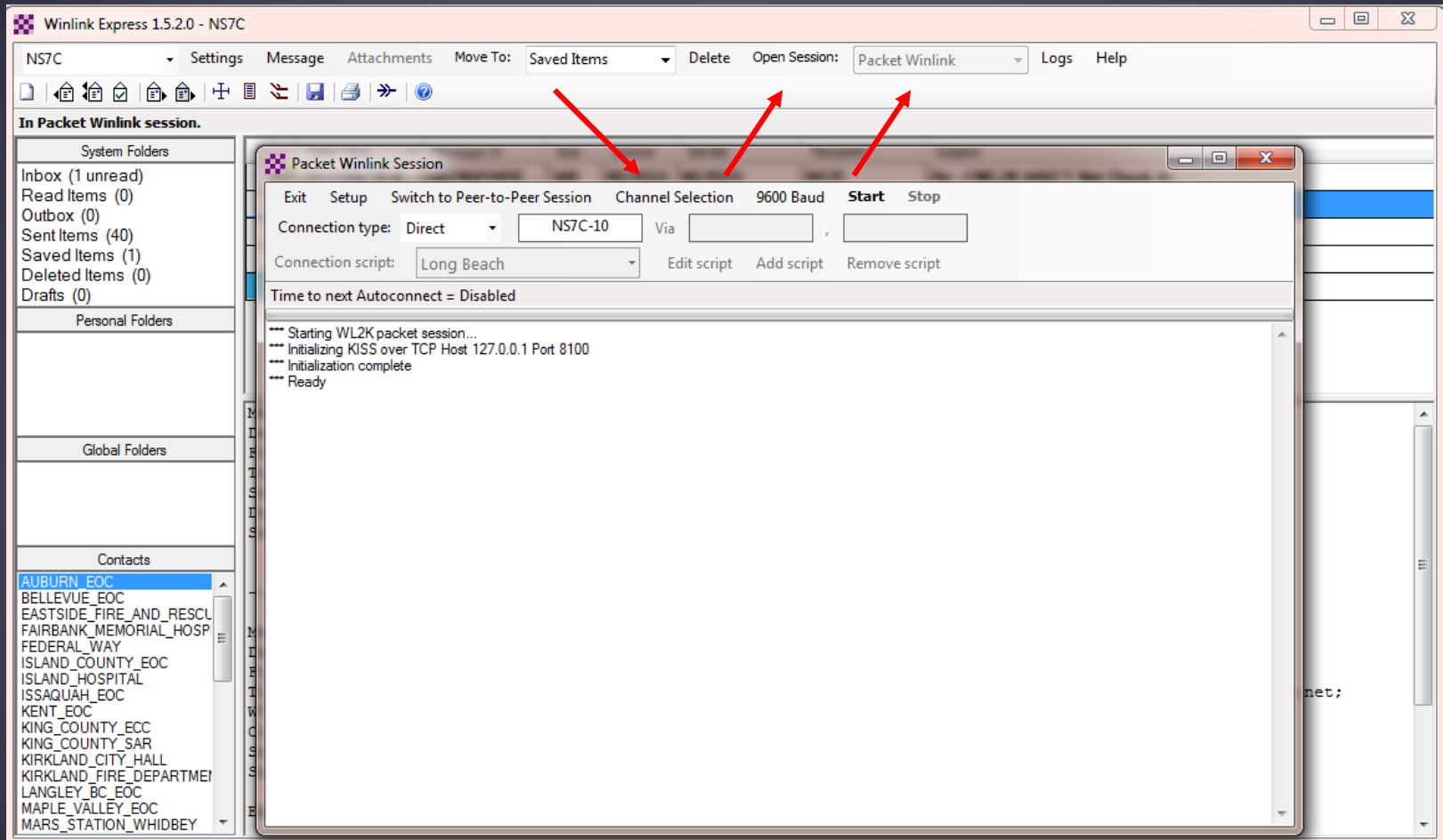
```
*** Connecting to a CMS...
*** Connected to San Diego at 2017/04/10 22:45:33
[WL2K-3.2-B2FWIHJM$]
:PQ: 96936206
SanDiego CMS >
:FW: NS7C AUBURN-EOC[99086990
[RMS Express-1.5.2.0-B2FHM$]
:PR: 42549081
:WL2K DE NS7C (CN87WH)
:PM: WA7AUB IDAOHYIHSV9G 1983 NS7C FW: //WL2K WA R4 EOC Sitrep-12/31/16 Quarterly Activation-
FC EM IDAOHYIHSV9G 4498 1983 0
F> E2
FS Y
*** Sending IDAOHYIHSV9G.
FF
*** Completed send of message IDAOHYIHSV9G
*** Sent 1 message. Bytes: 2064, Time: 00:00, bytes/minute: 255326
FQ
*** -- End of session at 2017/04/10 22:45:40 --
*** Messages sent: 1. Total bytes sent: 2064, Time: 00:05, bytes/minute: 20763
*** Messages Received: 0. Total bytes received: 0, Total session time: 00:05, bytes/minute: 0
*** Disconnecting
*** Disconnected at 2017/04/10 22:45:40
```

A red arrow points to the 'FQ' command in the log.

Successful connections end with FF and FQ commands, followed by a disconnect. If these are missing, the session failed and must be retried.

Packet Radio Session

Select Mode and Open Session



Packet Channel Selection

Based on your grid square

Packet Channel Selector

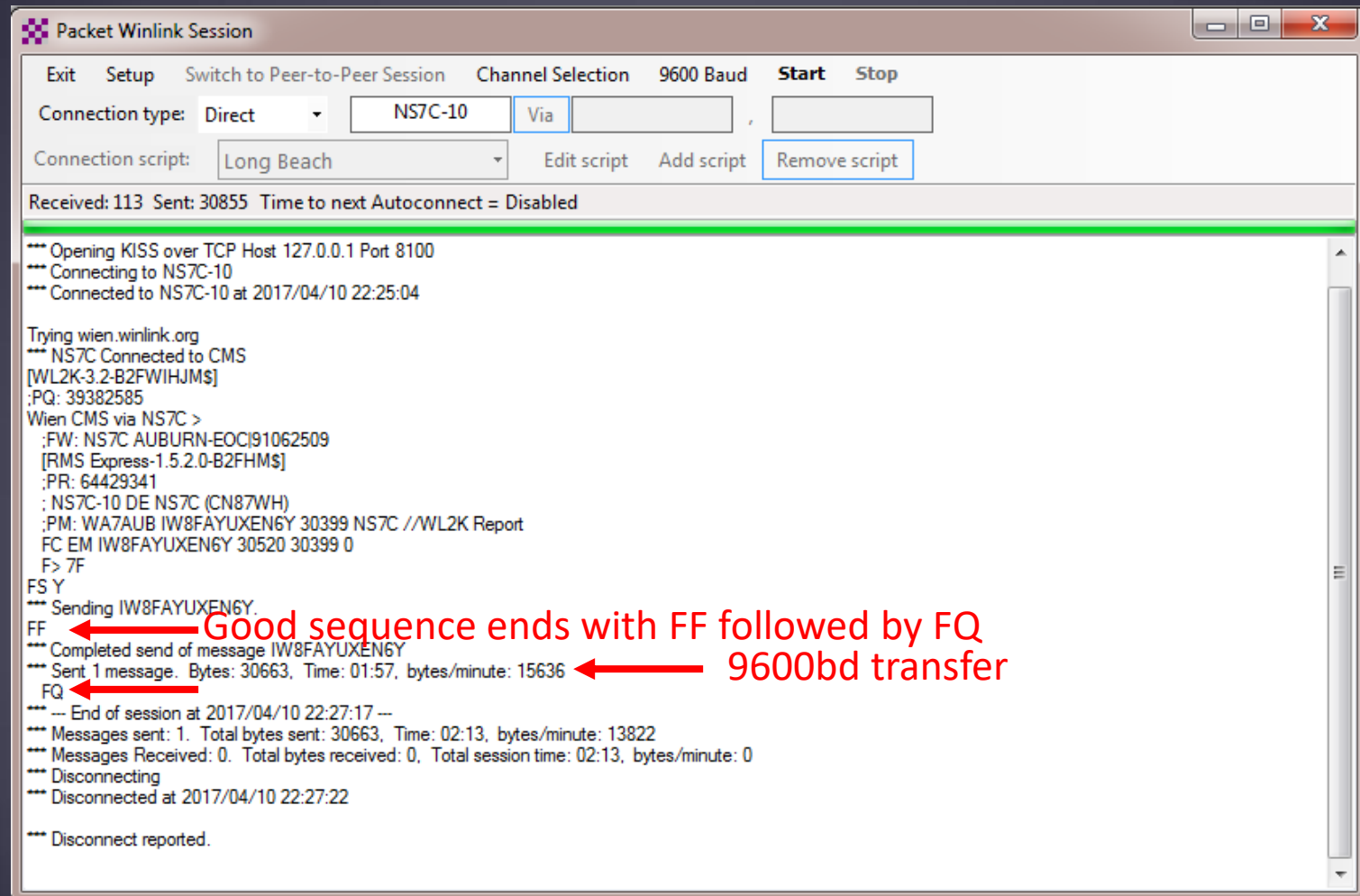
Exit Select Channel Update Table Via Internet Update Table Via Radio

Stations found within 160 kilometers of your grid square.

Callsign	Frequency (MHz)	Baud	Grid Square	Group	Distance (mi)	Bearing (Degrees)
NS7C-10	145.030	1200	CN87WH	EMCOMM	000	000
KC7KEY-10	145.030	1200	CN87XI	EMCOMM	005	057
K7CST-10	144.950	1200	CN87VJ	EMCOMM	007	329
K7RFH-12	223.460	1200	CN87VJ	PUBLIC	007	329
K7RFH-10	145.630	1200	CN87VJ	PUBLIC	007	329
KC7HXC-10	145.050	1200	CN87WK	PUBLIC	009	000
K7JGM-10	223.460	1200	CN87UK	PUBLIC	012	320
NK7N-10	145.010	1200	CN87XL	PUBLIC	012	020
W7MIR-10	145.030	1200	CN87VN	PUBLIC	017	348
W7MIR-11	430.825	1200	CN87VN	PUBLIC	017	348
W7EFR-10	144.950	1200	CN87WN	PUBLIC	017	000
W7VMI-10	145.070	1200	CN87SK	PUBLIC	018	300
K7NHV-10	144.350	1200	CN87SK	PUBLIC	018	300
N7CFO-11	223.480	1200	CN87WO	PUBLIC	020	000
KG7SQP-10	145.730	1200	CN87WO	PUBLIC	020	000
N7CFO-10	145.690	1200	CN87WO	PUBLIC	020	000
WA6PXX-10	145.790	1200	CN87VO	PUBLIC	021	349
WA6PXX-10	145.790	1200	CN87VO	PUBLIC	021	349

Packet Session (TNC)

Connect, login, send message, log off



The screenshot shows the 'Packet Winlink Session' window. The top menu bar includes 'Exit', 'Setup', 'Switch to Peer-to-Peer Session', 'Channel Selection', '9600 Baud', 'Start', and 'Stop'. The 'Connection type' is set to 'Direct', 'Channel' is 'NS7C-10', and 'Via' is empty. The 'Connection script' is 'Long Beach'. Below the menu bar, it shows 'Received: 113 Sent: 30855 Time to next Autoconnect = Disabled'. The main text area displays the session log, which includes the connection process, login attempts, and the successful transmission of a message. Red arrows and text are overlaid on the log to highlight specific parts: 'Good sequence ends with FF followed by FQ' points to the 'FF' and 'FQ' characters, and '9600bd transfer' points to the '9600bd' in the 'Sent 1 message' line.

```
*** Opening KISS over TCP Host 127.0.0.1 Port 8100
*** Connecting to NS7C-10
*** Connected to NS7C-10 at 2017/04/10 22:25:04

Trying wien.winlink.org
*** NS7C Connected to CMS
[WL2K-3.2-B2FWIHJMS]
;PQ: 39382585
Wien CMS via NS7C >
;FW: NS7C AUBURN-EOCI91062509
[RMS Express-1.5.2.0-B2FHM$]
;PR: 64429341
; NS7C-10 DE NS7C (CN87WH)
;PM: WA7AUB IW8FAYUXEN6Y 30399 NS7C //WL2K Report
FC EM IW8FAYUXEN6Y 30520 30399 0
F> 7F
FS Y
*** Sending IW8FAYUXEN6Y
FF
*** Completed send of message IW8FAYUXEN6Y
*** Sent 1 message. Bytes: 30663, Time: 01:57, bytes/minute: 15636
FQ
*** -- End of session at 2017/04/10 22:27:17 --
*** Messages sent: 1. Total bytes sent: 30663, Time: 02:13, bytes/minute: 13822
*** Messages Received: 0. Total bytes received: 0, Total session time: 02:13, bytes/minute: 0
*** Disconnecting
*** Disconnected at 2017/04/10 22:27:22

*** Disconnect reported.
```

Connect, login, check for message, log off

High-Speed SoundModem by UZ7HO - Ver 0.15b - [FSK G3RUH 9600bd]

Settings View Clear monitor About

FSK G3RUH 9600bd DCD A FSK G3RUH 9600bd DCD E

```

Y@QYB#iK@BjIAJE 4#l
P/IIU8mS)1ulW5]ia0gu/ qj>x05a%qQyMIB mo80&c=I 3IBF,IIqf:q@I)ja\Yyu/66G1>
d(+@An+I %$sún@&u p$N -'sRFxL&u'Za1P'ÁIzIK/6ÁFI-ejIGE~<.)jQ?uL S-yU0q
1:Fm NS7C-10 To NS7C<RR R F R5> [15:27:09R] [AA] [++++++]
1:Fm NS7C To NS7C-10<I C R5 S5 Pid=F0 Len=255> [15:27:09T]
HMB <0NA2@xh0I'x%Ej'ciUiz0EicEi)oz'y'663i0[m0'5c#aaXIQ0%aiN0:7b0jQFZLg
Yjue0a)áaak[460% IIEH6Cp] kka lew$?3voII6Izaa6a>1z#7IK ph[Ik/Qj]I40s-Iic41'
1:Fm NS7C To NS7C-10<I C P R5 S6 Pid=F0 Len=255> [15:27:09T]
EÁÁE'1B0o'1cl6l jB Á.á=IR?á0IeebIT'áh(ÉTRml'1ái(HI%8Báua, "eür?u ?vÁNqaeH b
%U0YR-1a"iU 7>D*YIjVáa f0Q'60nU060Nk9ikápA)NYN6AIEI0C601-x0$6P_
1:Fm NS7C-10 To NS7C<RR R F R7> [15:27:10R] [AA] [++++++]
1:Fm NS7C To NS7C-10<I C R5 S7 Pid=F0 Len=63> [15:27:10T]
i:6URp'x'7T Y#aw/sAÁ)P(0IS0 f98GuW[Lg8QI137CÁa)ü 6
1:Fm NS7C-10 To NS7C<I C P R0 S5 Pid=F0 Len=3> [15:27:13R] [AA] [++++++]
FF

1:Fm NS7C To NS7C-10<RR R F R6> [15:27:13T]
1:Fm NS7C To NS7C-10<I C R6 S0 Pid=F0 Len=3> [15:27:13T]
FQ

1:Fm NS7C-10 To NS7C<RR R R1> [15:27:16R] [AA] [++++++]
1:Fm NS7C-10 To NS7C<DISC C P> [15:27:22R] [AA] [++++++]
1:Fm NS7C To NS7C-10<UA R F> [15:27:22T]
1:Fm NS7C-1 To ID<UI C Pid=F0 Len=0> [15:32:54R] [AA] [++++++]

```

MyCall	DestCall	Status	Sent pkts	Sent bytes	Rcvd pkts	Rcvd

1000 2000 3000 4000 5000 6000 7000 8000 9000 1

Packet Winlink Session

Exit Setup Switch to Peer-to-Peer Session Channel Selection 9600 Baud Start Stop

Connection type: Direct NS7C-10 Via

Connection script: Long Beach Edit script Add script Remove script

Received: 113 Sent: 30855 Time to next Autoconnect = Disabled

```

*** Starting to call NS7C-10
*** Opening KISS over TCP Host 127.0.0.1 Port 8100
*** Connecting to NS7C-10
*** Connected to NS7C-10 at 2017/04/10 22:25:04

Trying wien.winlink.org
*** NS7C Connected to CMS
[WL2K-3.2-B2FWIHJMS]
:PQ: 39382585
Wien CMS via NS7C >
:FW: NS7C AUBURN-EOC91062509
[RMS Express-1.5.2.0-B2FHMS]
:PR: 64429341
: NS7C-10 DE NS7C (CN87WH)
:PM: WA7AUB IW8FAYUXEN6Y 30399 NS7C //WL2K Report
FC EM IW8FAYUXEN6Y 30520 30399 0
F> 7F
FS Y
*** Sending IW8FAYUXEN6Y.
FF
*** Completed send of message IW8FAYUXEN6Y
*** Sent 1 message. Bytes: 30663, Time: 01:57, bytes/minute: 15636
FQ
*** -- End of session at 2017/04/10 22:27:17 --
*** Messages sent: 1. Total bytes sent: 30663, Time: 02:13, bytes/minute: 13822
*** Messages Received: 0. Total bytes received: 0, Total session time: 02:13, bytes/minute: 0
*** Disconnecting
*** Disconnected at 2017/04/10 22:27:22

*** Disconnect reported.

```

HF Channel Selection Screen

HF Channel Selector

Exit Select Update Table Via Internet Update Table Via Radio Forecast SFI All RMS

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (mi)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
VA7DEP	7088.500	1600	CN89ND	00-23	PUBLIC	132	345	57	44
N7MO	7082.000	500	DN06LJ	00-23	PUBLIC	159	112	57	44
K6JGL	7100.000	500	DM03TU	00-23	PUBLIC	949	167	54	41
K6JGL	7103.500	1600	DM03TU	00-23	PUBLIC	949	167	54	41
AJ7C	7102.000	1600	DM04TA	00-23	PUBLIC	938	167	54	41
XE2BNC	10144.000	1600	DM12MM	00-23	PUBLIC	1056	163	54	42
XE2BNC	7068.000	1600	DM12MM	00-23	PUBLIC	1056	163	49	40
K6SDR	10146.200	1600	CM87RX	00-23	PUBLIC	644	182	49	40
K2RDX	10147.000	1600	CM97AH	00-23	PUBLIC	690	179	49	40
KD6OAT	10141.700	1600	DN40BO	00-23	PUBLIC	687	129	46	39
KD6OAT	10145.000	1600	DN40BO	00-23	PUBLIC	687	129	45	39
AB7AA	7103.400	1600	DM42KH	00-23	EMCOMM	1186	147	42	38
AB7AA	7066.500	500	DM42KH	00-23	EMCOMM	1186	147	42	38
KC5GOI	14113.500	500	EM13KG	00-23	PUBLIC	1622	118	36	37
N0MTH-10	14093.000	500	EM48UM	00-23	PUBLIC	1706	099	30	34
XE2BNC	14095.500	1600	DM12MM	00-23	PUBLIC	1056	163	30	33
W9FE	14098.000	1600	EM59AA	00-23	PUBLIC	1703	098	29	34
N0LCR-1	7103.500	1600	EN47DA	00-23	PUBLIC	1419	080	29	36
N0LCR-1	7113.500	500	EN47DA	00-23	PUBLIC	1419	080	29	36
AJ7C	14100.000	1600	DM04TA	00-23	PUBLIC	938	167	54	41

All RMS or radio-only

Click Header to Sort

Green: good
Yellow: fair
Red: bad

Update channel list

Double click to select

WINMOR HF Session

The screenshot displays the Winlink Express 1.5.11.3 - NS7C interface. The main window shows the connection state for a session with KC7COL. The connection is established, and the session is in the 'In receiving state'.

Winlink Express 1.5.11.3 - NS7C

NS7C Settings Message Attachments Move To: Saved Items Delete Open Session: Winmor Winlink Logs

WINMOR Sound Card TNC Ver:1.5.10.0 Port:8500 NS7C / KC7COL

Help Hide Send ID

Connection State

IRS

TCP Capture OK

Transmit

0 Avg ACK Percentage 100

Receive

Rcv Level: [Progress Bar]

Remote Station Offset: -6.5 Hz

Rcv Frame: 2 Car 4FSK FEC Data

Busy Detector

Squelch: 5

Waterfall Spectrum Disable

Winmor Winlink Session - NS7C

Exit Settings Switch to Peer-to-Peer Channel Selection Forecast Best chan. Next chan. Hide TNC Start Stop Abort

KC7COL Center Freq. (kHz): 3597.500 Dial Freq. (kHz): 3596.000 Bearing: 198 Quality: 60

Favorites: KC7COL @ 3596.500 Select Add to favorites Remove from favorites

1600 In: 0/176 Out: 0/0 BPM: 0/0 Tune: -6 Connected - In receiving state

*** Connected to Winlink RMS: KC7COL @ 2018/03/17 02:25:59 USB Dial: 3596.000 at 2018/03/17 02:25:59
RMS Trimode 1.3 18.0 Welcome to the Columbia County ARES RMS gateway
NS7C has 120 minutes remaining with KC7COL
(SFI = 069 on 2018-03-17 02:00 UTC)
[WL2K-5.0-B2FWIHJMS]

Recipient	Subject
7C	//WL2K Testing the Signalink
7C	//WL2K VARA Registration Code
ECC	//WL2K ICS214A-5th Saturday EOC
7EMD...	//WL2K ICS205-EOC to EOC Comm
7EMD...	//WL2K ICS213-EOC to EOC Drill
ITP k7ecc@w...	//WL2K ISNAP from City of Auburn,
7C	Re: //WL2K signalink set up config

ARDOP HF Session

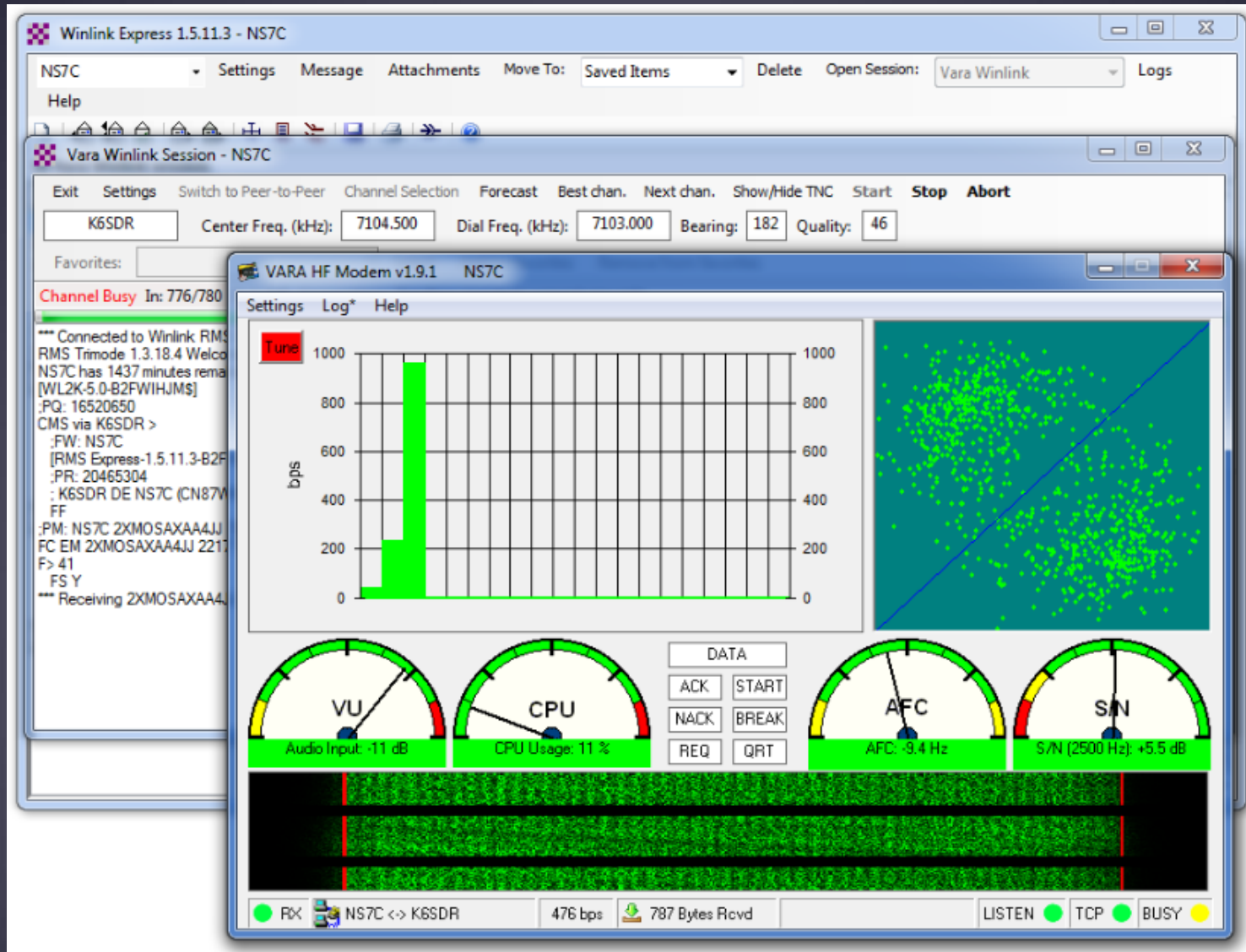
The screenshot displays the Winlink Express 1.5.11.3 - NS7C application window. The main window has a menu bar (File, Settings, Message, Attachments, Move To, Saved Items, Delete, Open Session, Ardup Winlink, Logs) and a toolbar. A sub-window titled "ARDOP_Win Virtual TNC Ver: 1.0.2.5" is overlaid, showing a "Connected K6SDR" status. It includes a "File" menu, a "Graphics" section with a waterfall plot, and a "Send" section with a "Send" button. The "Send" section shows "Rcv Level: -9.3 Hz @ 3dB", "Offset: -9.3 Hz @ 3dB", "State: IRS", "Rcv Frame: 4PSK.500.100.E", and "Xmt Frame: 4PSK.500.100.E". The "Graphics" section shows a waterfall plot with a frequency range from -1200 to +1200 Hz, a center frequency of 1.5 KHz, and a 4PSK Quality of 90. The "ARDOP_Win Virtual TNC" window also shows a "Host: TCP/IP on port 8200.8201".

The main window also displays a table of messages:

Recipient	Subject
NS7C	//WL2K Testing the Signalink
ros@...	NS7C
NS7C	//WL2K VARA Registration Code
K7ECC	//WL2K ICS214A-5th Saturday EOC
W7EMD...	//WL2K ICS205-EOC to EOC Comm
W7EMD...	//WL2K ICS213-EOC to EOC Drill
SMTP:k7ecc@w...	//WL2K ISNAP from City of Auburn,
NS7C	Re: //WL2K signalink set-up confi

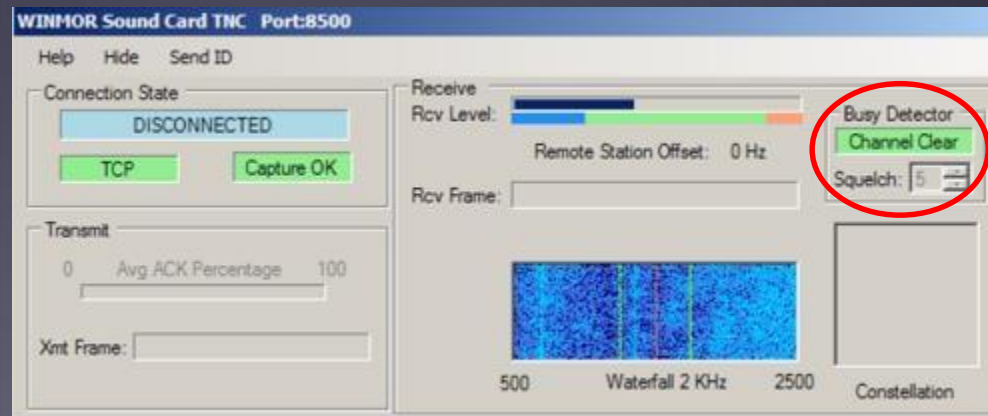
The "Ardop Winlink Session - NS7C" window is also visible, showing a "K6SDR" session. It includes a "Center Freq. (kHz): 7104.500", "Dial Freq. (kHz): 7103.000", "Bearing: 182", and "Quality: 46". The session status is "2000 In: 0/0 Out: 0/0 BPM: 0/0 Connected - In receiving state". The log shows: "*** Connected to Winlink RMS: K6SDR @ 2018/03/17 02:35:01 USB Dial: 7103.000 at 2018/03/17 02:35:01 RMS Trimode 1.3.18.4 Welcome to K6SDR in San Rafael, CA NS7C has 1439 minutes remaining with K6SDR [WL2K-5.0-B2FWIHJMs]"

Vara HF Session

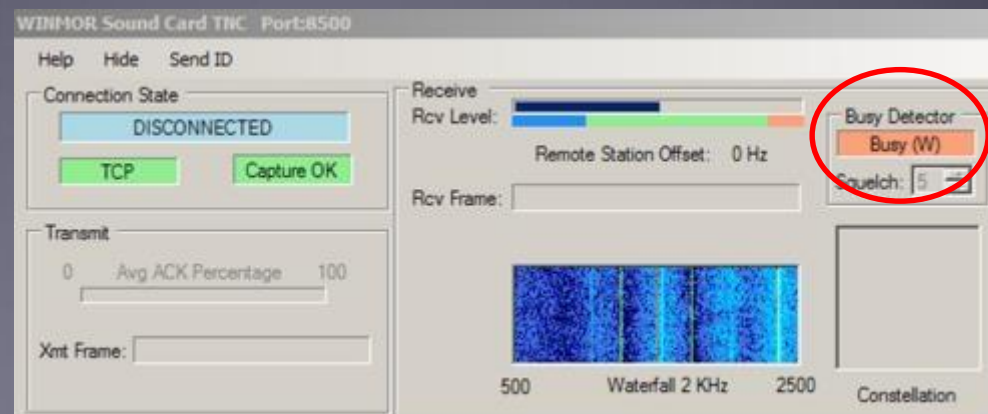


Check If Channel Is Free

Free Channel:



Busy Channel:



Winmor Session Log

Connect, login, send message, log off

```
Winmor Winlink Session - NS7C
Exit Setup Switch to Peer-to-Peer Channel Selection Forecast Best chan. Next chan. Hide TNC Start Stop Abort
VA7DEP Center Freq. (kHz): 7088.500 Dial Freq. (kHz): 7087.000 Bearing: 345 Quality: 61
Favorites: Select Add to favorites Remove from favorites
Channel Free In: 0/0 Out: 0/0 BPM: 552/408 Disconnected

*** Connected to Winlink RMS: VA7DEP @ 2016/02/15 23:51:03 USB Dial: 7087.000 at 2016/02/15 23:51:03
RMS Trimode 1.3.4.0
NS7C has 180 minutes remaining with VA7DEP
{SFI = 108 on 2016-02-15 20:00 UTC}
[WL2K-3.2-B2FWIHJM$]
:PQ: 12037150
Perth CMS via VA7DEP >
:FW: NS7C
[RMS Express-1.3.9.0-B2FHMS]
:PR: 03525532
:VA7DEP DE NS7C (CN87WH)
FC EM 9KBNFO8500X9 265 226 0
F> CA
FS Y
*** Sending 9KBNFO8500X9.
FF
*** Completed send of message 9KBNFO8500X9
*** Sent 1 message. Bytes: 260, Time: 00:14, bytes/minute: 1088
FQ
*** -- End of session at 2016/02/15 23:52:13 --
*** Messages sent: 1. Total bytes sent: 260, Time: 01:09, bytes/minute: 224
*** Messages Received: 0. Total bytes received: 0, Total session time: 01:09, bytes/minute: 0
*** Disconnecting
*** Disconnected from Winlink RMS: VA7DEP @ 2016/02/15 23:52:35
*** Session: 1.4 min; Avg Thruput: 0 Bytes/min; 1 Min Peak Thruput: 552 Bytes/min
```

Packet P2P Session

Connect, send/receive messages, disconnect

The screenshot displays the Winlink Express 1.5.11.3 - NS7C interface. The top menu bar includes 'NS7C', 'Settings', 'Message', 'Attachments', 'Move To:', 'Saved Items', 'Delete', 'Open Session:', 'Packet P2P', 'Logs', and 'Help'. The 'Open Session:' dropdown is circled in red. Below the menu bar, the 'In Packet P2P session.' section shows a table of messages. A red arrow points from the 'K7WVI (P2P)' entry in the 'Recipient' column to the 'K7WVI' field in the 'Packet Peer-to-Peer Session (NS7C)' dialog box. The dialog box also has a 'Start' button and a 'Stop' button. The 'Connection type' is set to 'Direct' and the 'Connection script' is 'aub v sea'. The 'Time to next Autoconnect' is 'Disabled'. The log window at the bottom shows the following text:

```
*** Starting peer-to-peer packet session...
*** Initializing KISS over TCP Host 127.0.0.1 Port 8100
*** Initialization complete
*** Opening KISS over TCP Host 127.0.0.1 Port 8100
*** Ready
```

Station connection
must match message destination

Winlink Express HTML Forms

- HTML forms are efficient and professional looking.
- Forms can be simple or very complex.
- Forms can look as good as any web site.
- Forms are easy to use.
- Attractive forms are difficult to create unless you understand HTML, cascading style sheets and JavaScript.
- The Winlink team is building a library of forms.
- We need good HTML/JavaScript programmers.

HTML Form and Template Set

- A full form set has three components:
 - A template that displays the form and generates the text message to be sent.
 - An input form that solicits input from the user.
 - A display form that formats and displays the information on the recipient's computer.
- The form itself is not transmitted, only the data entered on the form.
- Forms may be very complex and feature rich, but the actual data transmitted is very compact.
- Receiving station must have the display form installed for proper display, but they will still receive a text-only version.

Winlink Express Forms

ICS form for data entry in browser

Tracking # <input type="text" value="123"/> (Optional)		GENERAL MESSAGE	ICS213 RMSE Vers 2.36
1. Incident Name: <input type="text" value="Big Fire"/>			
2. To (Name / Position): <input type="text" value="Ops Chief, KCECC"/>			
3. From (Name / Position): <input type="text" value="Ops Chief, Auburn EOC"/>			
4. Subject: <input type="text" value="Status Update"/>		5./6. Date / Time: <input type="text" value="2016-03-21 08:44:43"/>	
7. Message: <div>Auburn brush fire has expanded to 200 acres and is only 20% contained. Crews are working the west side of the fire to protect homes in the area. <u>WX</u> calls for continued east winds at <u>15-25MPH</u> which will hamper progress on containment. Next update will be at 15:00 or sooner if conditions warrant.</div>			
8. Approved by: <input type="text" value="Scott Currie"/>		Position / Title: <input type="text" value="EOC Manager"/>	
<input type="button" value="Submit"/>			

Winlink Express Forms

Completed form ready to send

Enter a new message

Close Select Template Attachments Post to Outbox Spell Check Save in Drafts

From: AUBURN-EOC ☒ Winlink Message ☐ Peer-to-Peer Message ☐ Request read receipt

To: K7ECC;

Cc:

Subject: ICS213-123-Status Update

Attach: RMS_Express_Form_ICs-213_TwoWay_Initial_Viewer.xml; ← Captured data entry

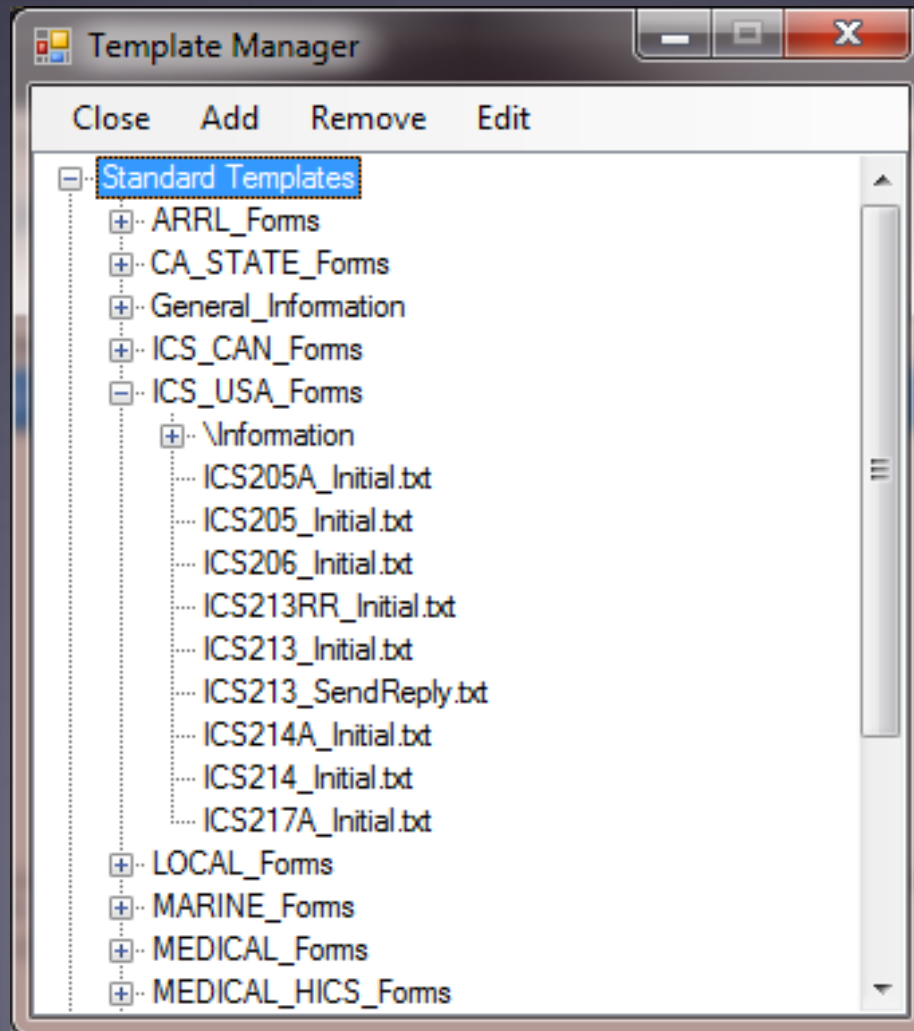
Tracking #: [123]

1. INCIDENT NAME: Big Fire
2. TO: Ops Chief, KCECC
3. FROM: Ops Chief, Auburn EOC
4. SUBJECT: Status Update
5. / 6. DATE & TIME: 2016-03-21 08:44:43
7. MESSAGE: ← Plain text version

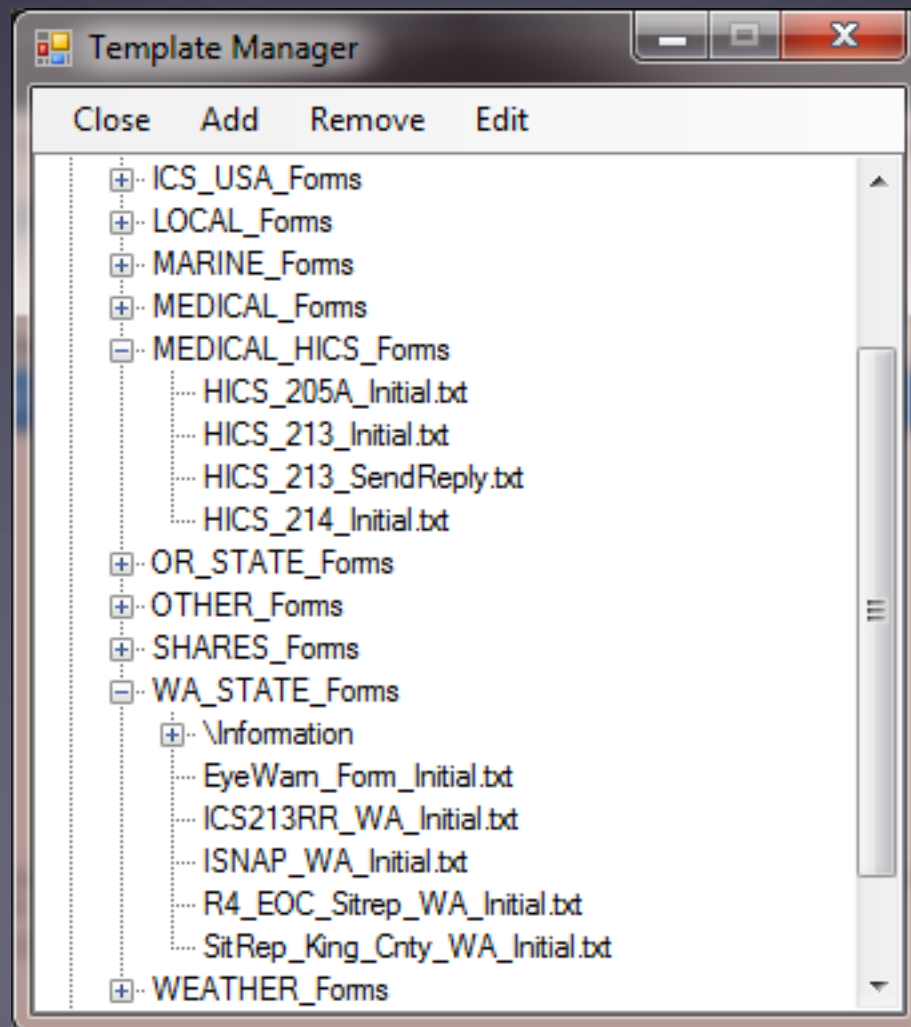
Auburn brush fire has expanded to 200 acres and is only 20% contained. Crews are working the west side of the fire to protect homes in the area. WX calls for continued east winds at 15-25MPH which will hamper progress on containment. Next update will be at 15:00 or sooner if conditions warrant.

8. APPROVED BY: Scott Currie
POSITION & TITLE: EOC Manager

Available Winlink Express Forms (ICS)



Available Winlink Express Forms (general)



Available Winlink Express Forms

- A full set of standard forms are included
 - Installed with the application
 - Maintained by WDT
 - Updates are downloaded whenever Winlink Express is started (via Internet)
 - Forms can be requested via radio
- Locally developed forms must be maintained by users
 - If there are enough users, local forms can be added to the distribution

Generated ICS-309 PDF Message Log Report

This is a separate application provided by the WDT, and must be downloaded and installed

[illegible]

Conclusion

- Winlink Express use continues to grow, especially for EmComm.
- The Winlink Development Team continues to enhance capabilities to adapt to changing needs.
- Installation and set up is relatively easy.
- Familiar “e-mail” like interface.
- Supports multiple radio transfer modes.
- Support for both hardware and software interfaces.



Questions?