# MADISON COUNTY ARES/RACES

## WINLINK2000
## RF EMAIL

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# What is Winlink2000?

- **A global messaging service**

From the beginning, **Winlink2000** was designed in a "Simple Mail Transfer Protocol" format so that it could provide direct radio users and Internet third-party users seamless, transparent email services with attachments of reasonable (_small_) size, efficiently and easily.

- Allows any mobile or portable operation to interface into the Internet e-mail system from virtually anywhere in the World over the various separate classes of users -  Army MARS or the Amateur Service spectrum.

- Email accessible thru radio to internet gateways on HF, VHF, UHF.

- Peer to Peer messaging mode between client stations.

Common WL2K speeds _over radio_ are 300, 500, 1200, 1600 and 9600 baud...plenty fast for text, not fast for file attachments like pictures. If attachment is necessary, less than 3kb in size works OK.

# What is Winlink2000?

- **Winlink2000** is a worldwide radio messaging system that, to conserve radio spectrum, takes advantage of the Internet where possible. Winlink2000 has been assisting the maritime community, NOAA, the United Nations, the US. Coast Guard and other agencies for over 8 years now. It is gaining attention of the greater emergency communications community due to recent domestic disasters.

- Several years ago, the Department of Homeland Security suggested to the **ARRL** that the Amateur community should design and maintain a national digital network for emergency communications purposes. Winlink2000 was their network of choice. Today, many ARRL Amateur Radio Emergency Service® (ARES) and Radio Amateur Civil Emergency Service (RACES) groups have been deploying Winlink2000 across the country.

# What is Winlink2000?

- **Internet, HF & VHF/UHF components :**
  The **Winlink2000** system is a "star" based network containing 5 mirror image, redundant COMMON MESSAGE SERVERS (**CMS**); located in San Diego (USA), Washington DC (USA), Wien (Austria), Halifax (Canada), and Perth (Australia). These ensure that the system will remain in operation should any chunk of the Internet become inoperative.

  Traffic goes in and out between the **CMS** and the Internet email recipient, and between the end users and the RADIO MESSAGE SERVER (**RMS**) gateways. Multiple Radio-to-Radio addresses may be mixed with radio-to-internet e-mail addresses, allowing good sender to recipient flexibility.

# Winlink2000 Network

**Winlink2000** appears complex, but each layer is simple.
This image will grow as additional layers are added,
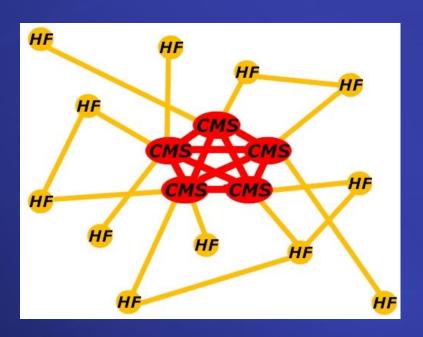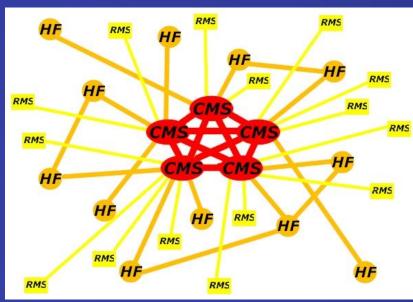representing the various Winlink components.



**Start** with 5 well-connected, mirror image, fully-redundant
COMMON MESSAGE SERVERS (CMS) for the core;
located in San Diego USA, Washington DC USA, Wien Austria, Halifax CA,
and Perth Australia.

These connect **Winlink2000** to the Internet and handle regular email
Communications for the registered winlink.org users around the world.

# Winlink2000 Network

Next add a series of HF listening stations that are connected to the internet.
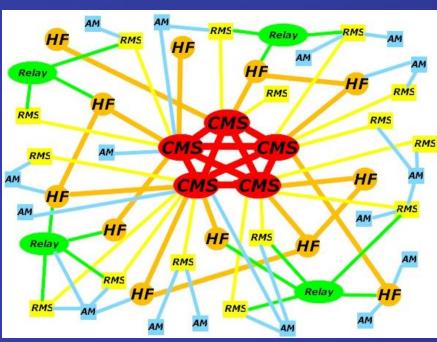


Add VHF and UHF RMS Gateways that listen for local traffic and are connected to the internet.

# Winlink2000 Network

To this expanding topology, we add your station, EOCs, my station , Emergency Management Agencies, and additional "Failover relays".
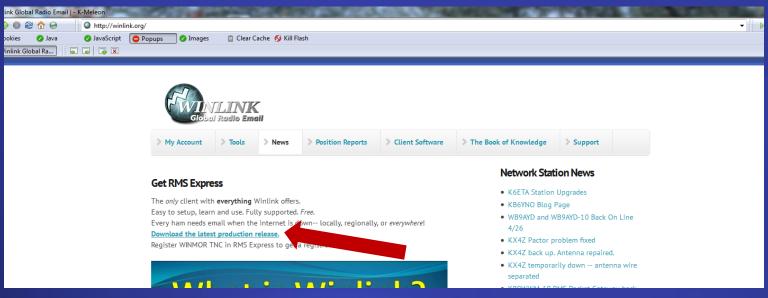


Dstar repeaters and numerous other linking stations make up a very robust and efficient network to move your email traffic whenever it's needed

# WL2K Relays and Gateways

- The basic idea is to get your (email) message to the internet, and allow retrieval of messages sent to you.

- Access thru various gateways on HF, VHF, D-Star, and even APRS.

- A 'Relay' program allows a gateway station to hold the messages during an outage for relay later, or by way of an alternate HF station… The relay software can even allow local traffic to deliver locally.

- Currently, there are more than 15,000 radio users on all the classes of users and approximately 100,000 Internet recipients. Monthly traffic averages over 150,000 messages. The system is in place, and is working.!.!.
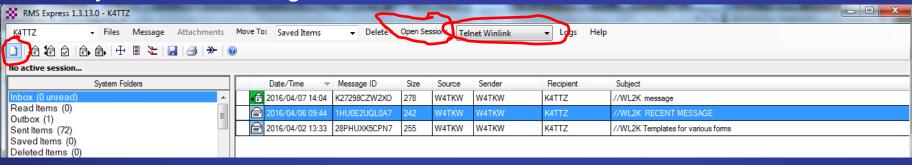
# Winlink.org

• The Winlink software packages are available at: http://winlink.org and at the top of that page you should see: "Download Latest Release".



Download the "zip" file to a known folder, extract, and install. Once installed, open the program and go to "Files > RMSExpress Setup" and fill out the information, Callsign, Aux Email, and Grid Square locator are essential. Leave password blank for the first time.
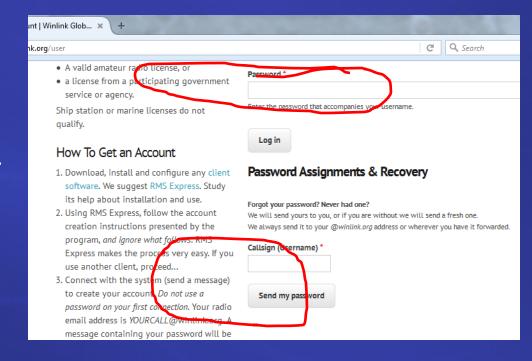
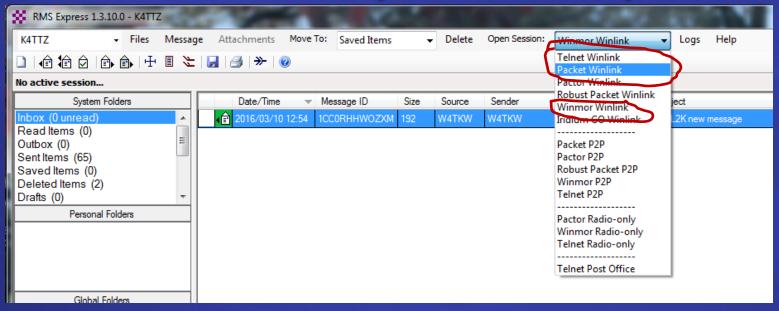# RMS Express Setup

# RMS Express Setup

- Now that you have installed and setup RMS Express, go to the upper left and choose "new message". Create a message with your Aux email address in the "To" box and your callsign in the "CC" box. The subject is Test. Add something like Test in the body of the message.

# RMS Express Setup

- Once your message is complete, click on "Post to Outbox" and it will show in the upper left of your screen in the Outbox(1),
- Select Winlink Telnet and then "Open Session"
- Once the open session window comes up, click on "Start".
- You will see the handshake between you and the CMS server and the message will be sent. The "Outbox" will now be empty.
- Now return to Winlink.org and choose "My Account" at the top left.

- Go to "Password Recovery, fill in your Callsign and click "Send Password".
- A new Winlink password will be sent to your **AUX email account**.
- Return to My Account, and enter it in the upper password area.
- Your account is now activated and you can change your password to something you like.

# RMS Express Setup



Once installed, it has the "look and feel" of a normal email program. We will normally use only three of the session options. Telnet Winlink=internet, Packet Winlink= 2 M VHF (N4WGY's Redstone Gateway normally), and Winmor Winlink=HF.

# RMS Express Setup

Complete video setup instructions are under "The Book of Knowledge" tab on the Winlink.org page

| ❯ My Account | ❯ Tools | ❯ News | ❯ Position Reports | ❯ Client Software | ❯ The Book of Knowledge | ❯ Supp |
|---|---|---|---|---|---|---|

## The Winlink Book of Knowledge

Submitted by w3qa on Mon, 2014-04-07 19:43

The Winlink Documentation Project AKA "The Book of Knowledge"
*Edited by The Winlink Team*

**"Getting started" links for new users**

- Read Winlink's Wikipedia article for a a rounded introduction.
- Watch the K4REF video tutorials.
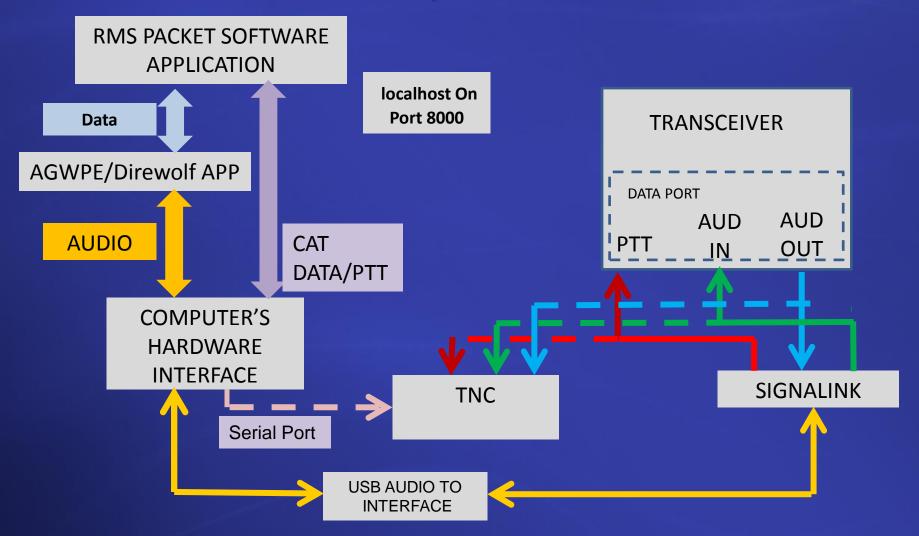
**Popular site shortcuts**

- RMS Express, the popular Winlink user client program.
- RMS Express HTML Forms Library
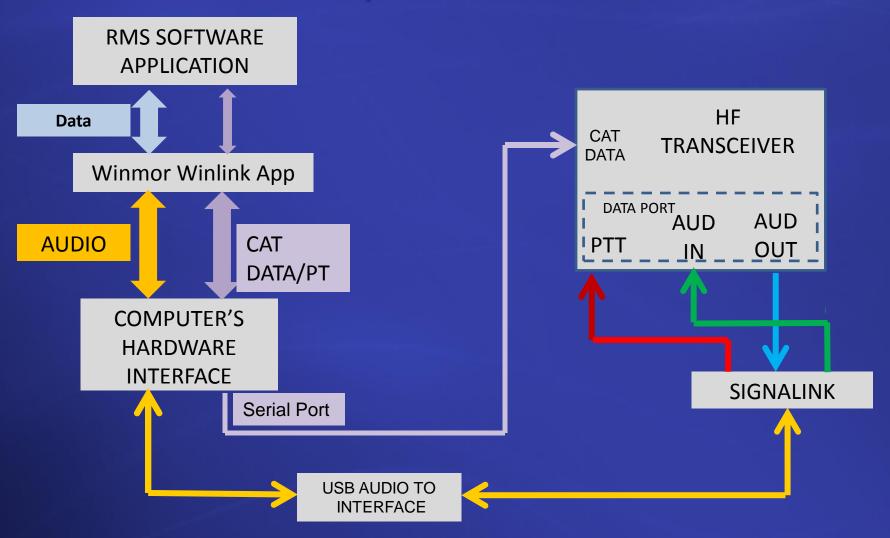
# RMS Express Hardware

- Winlink "Telnet" session only requires the RMS Express software on a computer with an internet connection.

- Winlink "Packet" session requires a UHF/VHF radio, a TNC (Terminal Node Controller) or Audio interface, inter-connect cables, and a computer with RMS Express installed. If you use an audio interface, you will need additional software such as AGW Packet Engine, Direwolf or AGW Express Interface.

- Winlink "Winmor" HF session requires an operational HF radio with multi-band capabilities (depends on band conditions), an audio interface, appropriate cabling, and RMS Express software on a computer.
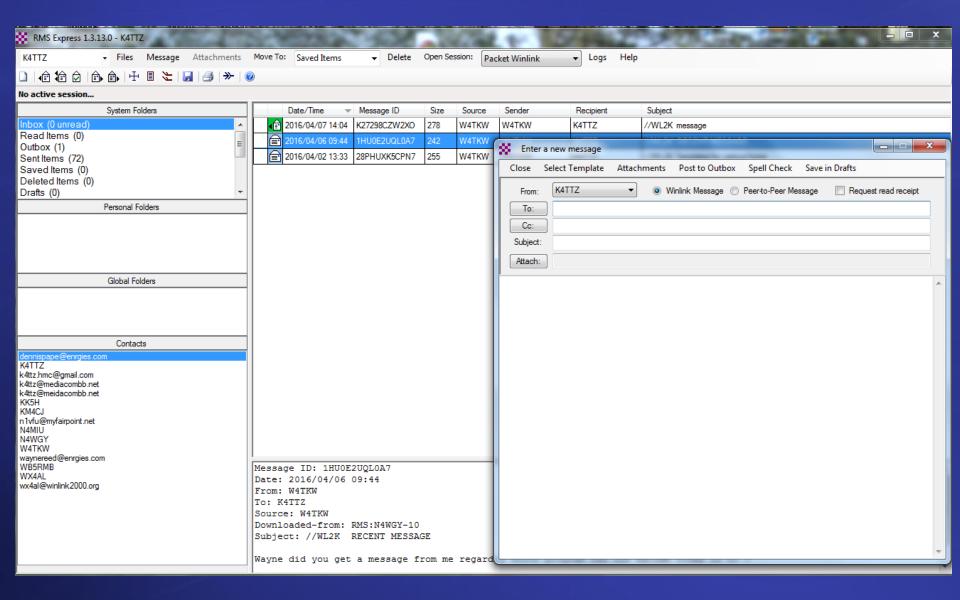
# RMS Express Hardware
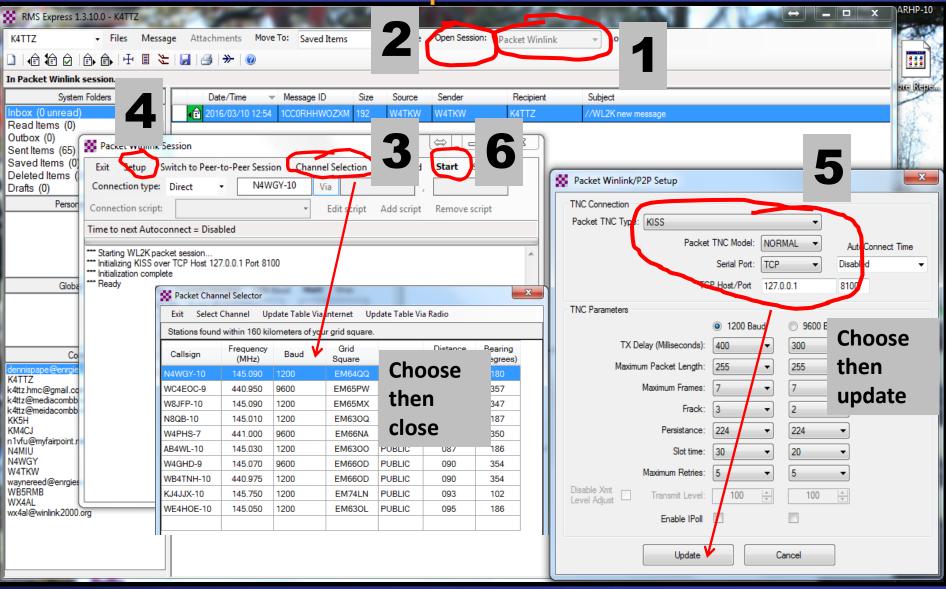## RMS Express Packet

RMS PACKET SOFTWARE APPLICATION

Data

localhost On Port 8000

TRANSCEIVER

AGWPE/Direwolf APP

AUDIO

CAT DATA/PTT

DATA PORT

PTT   AUD IN   AUD OUT

COMPUTER'S HARDWARE INTERFACE

TNC

SIGNALINK

Serial Port

USB AUDIO TO INTERFACE

# RMS Express Hardware
## RMS Express Winmor HF

RMS SOFTWARE APPLICATION

Data

Winmor Winlink App

AUDIO

CAT DATA/PT

COMPUTER'S HARDWARE INTERFACE

Serial Port

HF TRANSCEIVER

CAT DATA

DATA PORT

PTT    AUD IN    AUD OUT

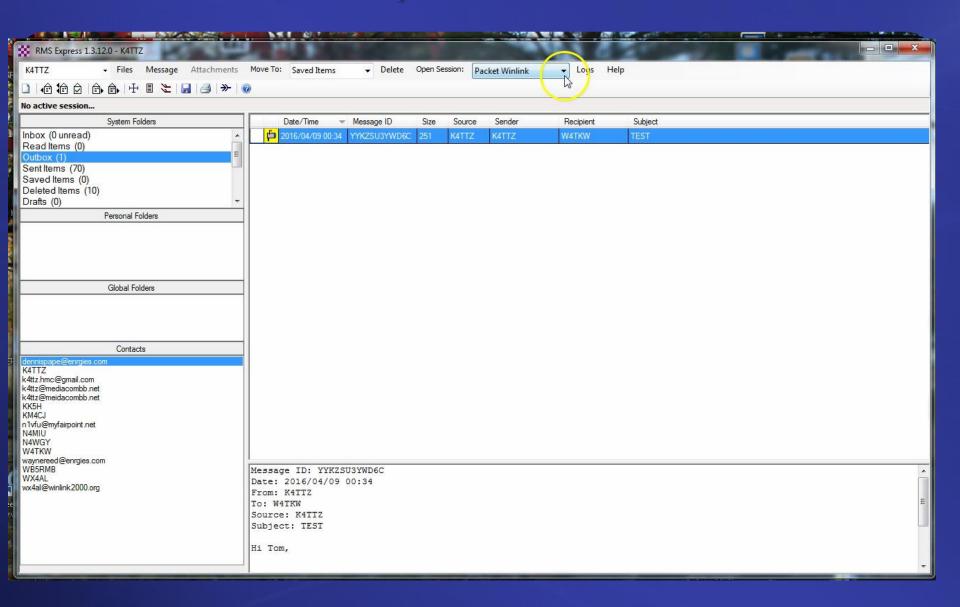SIGNALINK

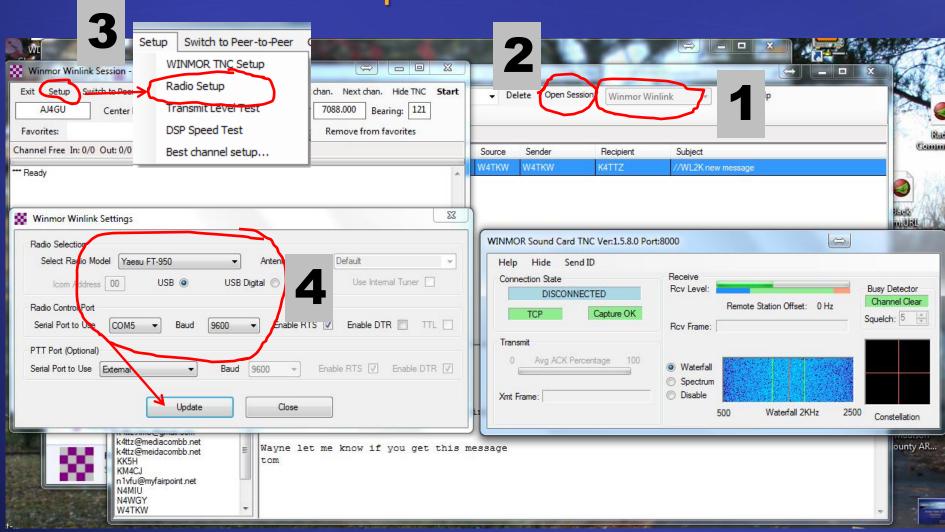USB AUDIO TO INTERFACE

# RMS Express Software

# RMS Express Software
## RMS Express Packet

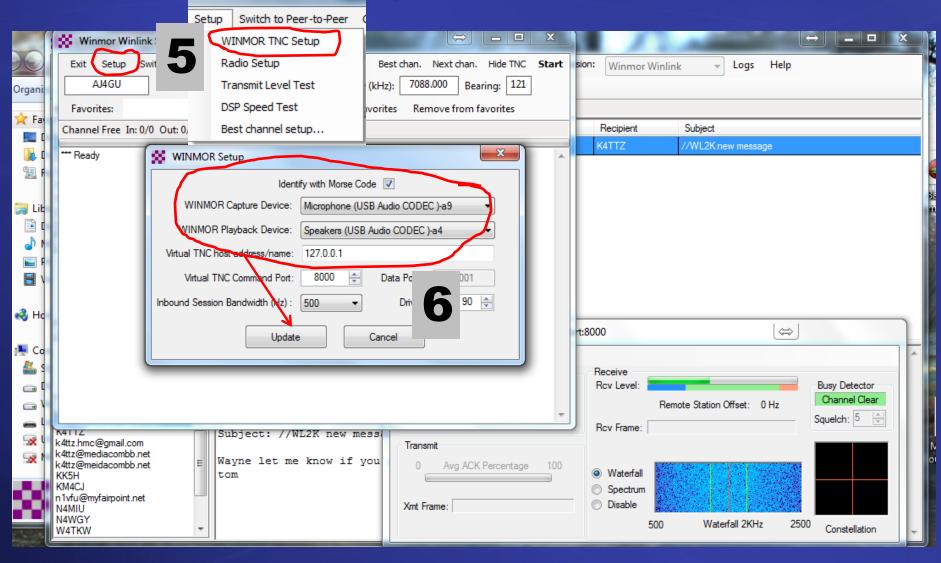# RMS Express Software

# RMS Express Hardware
## RMS Express Winmor HF

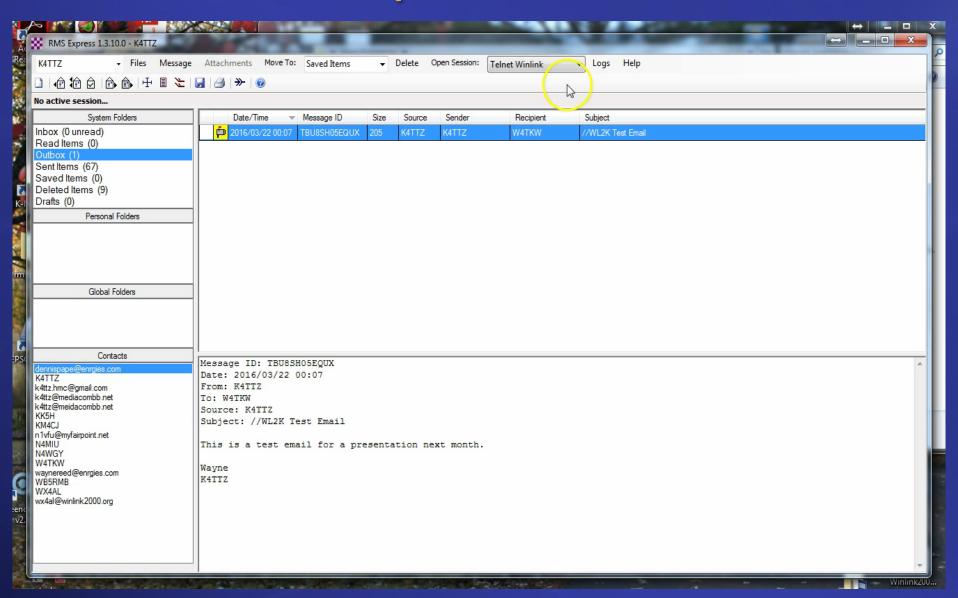# RMS Express Hardware
## RMS Express Winmor HF

# RMS Express Hardware
## RMS Express Winmor HF



Choose the closest station with the best propagation for given band conditions then double click. This will set your transceiver to the proper center freq.

# RMS Express Software

# RMS Express Software
## RMS Express Winmor HF

- This demonstration uses transceiver CAT control
- If Radio is not automatically controlled, then the operator must set the dial and center TX frequencies manually.
- Once set on the gateway frequency from the list, all that is needed is PTT, Audio-in, and Audio-out.
- If using a Signalink, PTT is handled by the device.
- RMS Express can use most standard ICS and HICA forms.  At Winlink.org >"Book of Knowledge"> Forms Library.  Watch the recommended videos on Use of Forms.

NOW LET'S WATCH A FULL TRANSMISSION!

# RMS Express Software
## RMS Express Winmor HF

# RMS Express Software

## *Thanks for Watching!*
## *QUESTIONS????*