Configure
RMS Express
and
Winmor WL2K

Provided by

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Contents

Introduction

Winlink 2000™ (www.winlink.org) is a worldwide network for passing email traffic over radio. It does not depend on the internet but has connectivity to internet-based stations allowing you to send and receive to other winlink.org recipients AND to email account that are internet based. Winlink is used by mariners, RV enthusiasts, MARS, ARES, and many other agencies who need to communicate when the internet is not available.

The Winlink system consists of a group of Common Message Servers (CMS) placed at various locations around the world. These connect via the internet to Radio Message Servers (RMS) in many geographic locations to form a star network configuration. The RMS are the VHF, UHF, or HF RF gateway into the Winlink system. The final component is your station running the software to send/receive messages via your radio.

Winlink messages, like regular email, are sent to specific addresses and may contain file attachments such as pictures, weather maps, spreadsheets, ICS forms, etc.
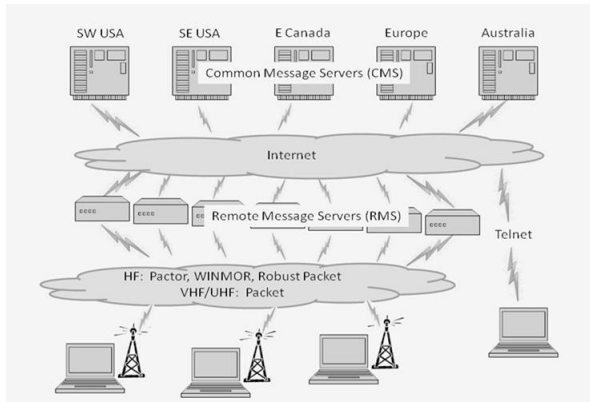
Since Winlink is a store-and-forward system, stations do not have to make simultaneous connections. This removes time constraints on communications.

Winlink is heavily used by the US and other governments, and many of the RMS servers are restricted to non-amateur operations since they operate on frequencies unavailable to amateur radio operators.

It is possible to make peer-to-peer connections between two client stations within propagation range of each other without going through an RMS. This might be useful in an emergency scenario where Winlink traffic is too heavy or where the RMS gateway is unreachable.

Emails sent through the Winlink on the ham bands must follow the usual rules for amateur radio communication and may not be used for commercial operations, encrypted, or third-party traffic. Winlink messages are monitored by Winlink administrators.

You can visit this site to check the current status of RMS servers:

http://www.winlink.org/RMSHFStatus

Click the link below for a tutorial providing background and explanation of the overall workings of WL2K. I encourage you to read both to understand how and why this excellent system works. The author provides a deeper explanation of the different modes and equipment required to take advantage of all that Winlink can do. There is a good troubleshooting section at the end of this document.

http://www.dtreg.com/Getting_Started_with_Winlink_and_WINMOR.pdf

Find detailed manuals, frequency lists, and other documentation at the winlink.org site

http://www.winlink.org/webfm#

MARS members can learn how Winlink supports their groups at

http://www.winlink.org/MARS
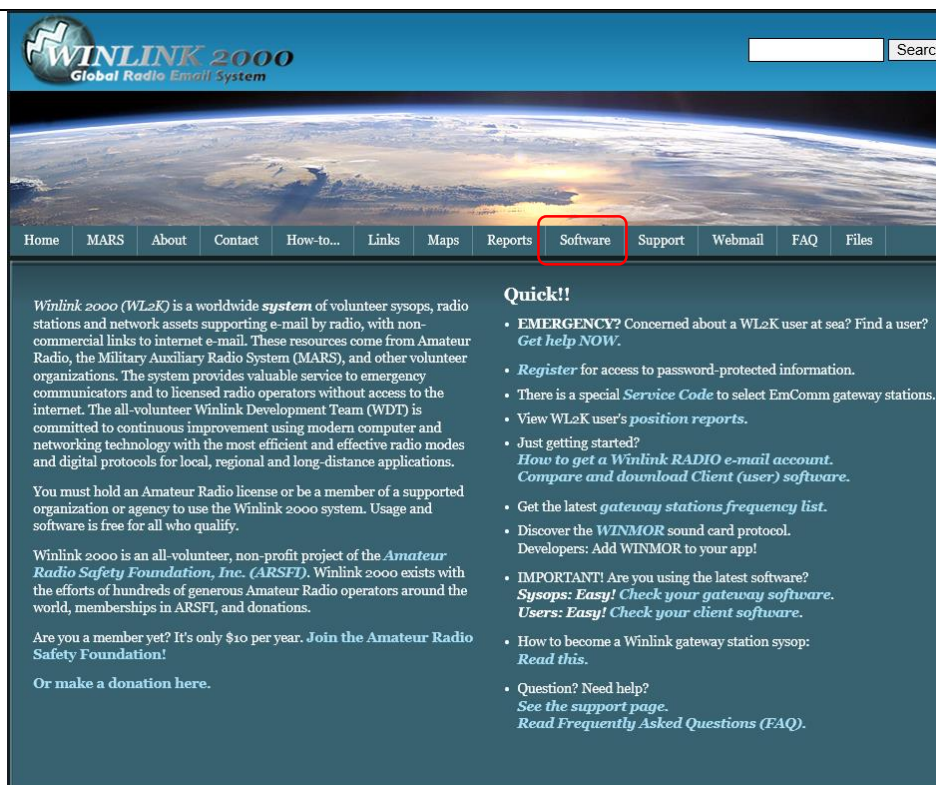
There is a Yahoo discussion group specifically for WINMOR and RMS Express:

http://groups.yahoo.com/group/WINMOR/

Download the RMS Express Software

Open **www.winlink.org** from your browser Click **Software**	

Click the **Software** button
At the dropdown, select **User Software**

Read the feature comparison for each of the options. At the time of printing, RMS Express seems to provide the best coverage, so that's the option we are going to install.

Scroll to the bottom of the RMS Express description

Click **Winlink FTP site**

Click **User Programs**	**FTP root at autoupdate.winlink.org** To view this FTP site in File Explorer: press Alt, click **View**, and th 11/18/2012 12:00AM Directory INFO 02/05/2013 11:16AM Directory Sysop Programs 01/26/2013 04:02PM Directory User Programs 09/07/2011 12:00AM Directory WINMOR TNC
Click on the **RMS Express Setup xxx.zip** link. Select **Save As** **Select the directory** where you want to save this file. Click **OK** Repeat the process for the **itshfbc xxx.zip** file. *This is the propagation software we install later.*	**FTP directory /User%20Programs/ at autoupdate.winlink.org** To view this FTP site in File Explorer: press Alt, click **View**, and then click **Open FTP Site in File Explorer**. Up to higher level directory 07/25/2012 12:00AM 3,233,022 itshfbc 120722.zip 10/10/2012 12:00AM 1,723,540 Paclink Setup 1 3 4 0.zip 06/29/2011 12:00AM 1,111 README Install Instructions.txt 07/16/2012 12:00AM 7,522,591 RMSMessageLog 1 4 1.zip 01/26/2013 03:57PM 9,558,541 RMS Express setup 1-2-9-0.zip 05/13/2012 12:00AM 12,176 SCS Ptc-IIusb and end of Ptc-IIusb IIpro IIex.pdf 06/23/2012 12:00AM 3,483,544 V4Chat 1.0.4.0 Full Install.zip 09/07/2011 12:00AM 200,155 WINMOR TNC 1.4.0.0.zip
Open the **RMS Express Zip** File. **Extract** the **RMS Express Setup.msi** file to the desktop	

Install RMS Express

Double click the file you extracted.	
Click **Next**	
Click **Next** *Use the default location unless you are very comfortable with software and Microsoft Windows.*	

Click **Next** to start the installation. If the User Access Control window pops up, Click **Yes** to allow it to install this application.	RMS Express **Confirm Installation** The installer is ready to install RMS Express on your computer. Click "Next" to start the installation. Cancel < Back Next >	
When complete, click **Close.**	RMS Express **Installation Complete** RMS Express has been successfully installed. Click "Close" to exit. Please use Windows Update to check for any critical updates to the .NET Framework. Cancel < Back Close	
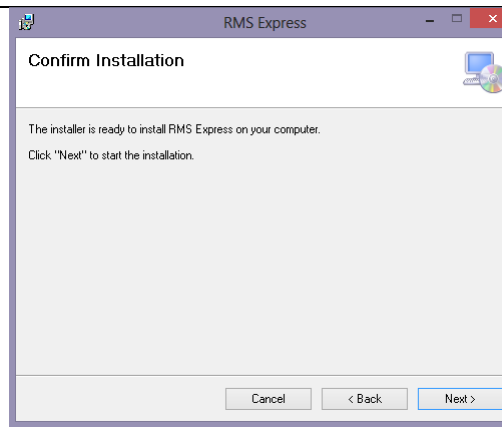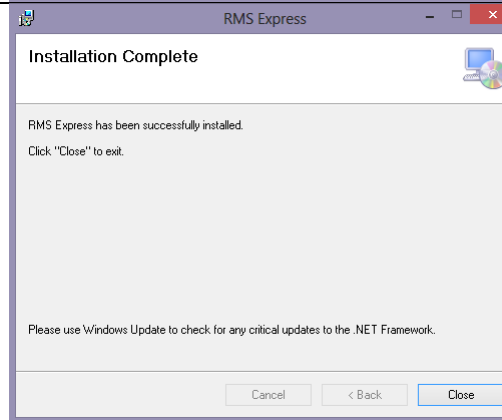
RMS Express has been installed on your computer. Now we need to configure this to work with your rig.

Configure RMS Express

Double Click the **RMS Express Icon**	
The RMS Express Properties Dialog will appear. If this does not appear, click Files, RMS Express Setup to see this window. *Setup basic information as follows* My Callsign: **\<your callsign\>** My Grid Square: **\<Your Locator\>** Set Service Codes to **PUBLIC EMCOMM** *Service Codes determine the type of RMS you connect with. If you are a MARS member or affiliated with a non-ham organization, changing this code will provide access to other stations. If you are not working with EMCOMM, you can simply leave this as PUBLIC.* Click **Update**	
At this point, You have RMS Express Installed. The client software is comparable to gmail, Hotmail, AOL or other email software. On the left you have your folders including inbox, sent mail, outbox, saved, and deleted items. *Across the top you have some options. For now, note the Open Session: button and the Drop-down list beside it.* ***Telnet WL2K*** *requires an active internet connection and is useless when infrastructure is failing. However, Telnet is fast and helpful during normal at-home use. We will use this mode in a little while to test the RMS Express system.*	

| **Winmor WL2K** is the mode we will configure. This enables you to use low-cost sound card interfaces to network with the Winlink 2000 system. | |

Send a Message using RMS Express

Click the **Message** button at the top of the RMS Express window. Select **New Message** from the drop-down values *The Compose Message box will open. This is comparable to the compose message options when using gmail, hotmail, or other commercial mail software.*	
The Enter a New Message dialog should look slightly familiar. Enter information as follows: To: K4MNJ@WINLINK.ORG Subject: Test Message from <your callsign> Body of message: <Whatever you want to say to me> Click Post to **OutBox**. *You may also send your first message to your own commercial email box. Once you have done this, you can send email from your commercial mailbox to your winlink mailbox by including //WL2K in the beginning of the subject. For MARS messages, add //MARS X/subject where X is the appropriate priority code.*	
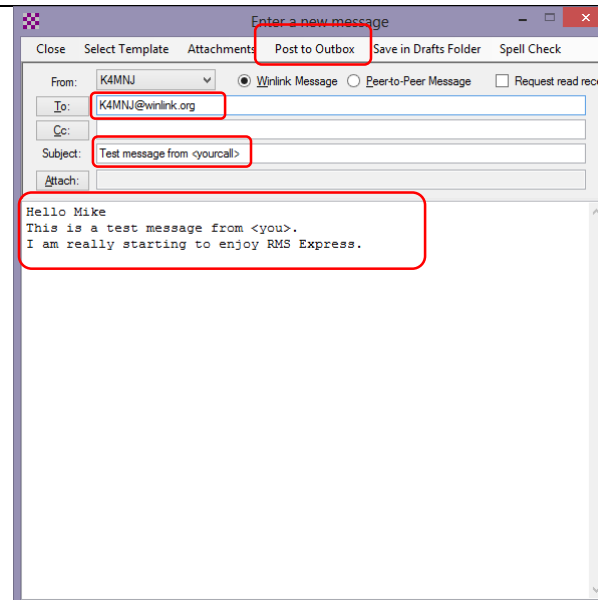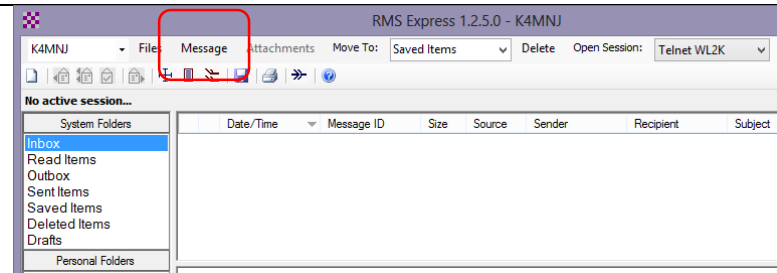
Click the **Outbox** system folder. *The message you created is waiting in your outbox to be sent to me when you next connect to the Winlink network.*	
Be sure **Telnet WL2K** is selected In the Session dropdown, Click **Open Session:**	
Click **Start** to initiate the telnet mail transfer session. *THIS WILL NOT WORK if you do not have a fast internet connection.*	
The Telnet session will connect to a remote telnet server and will create your Winlink email account. You have to send a message at least once every 400 days or so to keep this account active. *If there are messages waiting for you, it will retrieve them and place them in your inbox system folder.* Click **Exit** to close the Telnet window. *You have successfully created a Winlink account and sent your first winlink message.*	
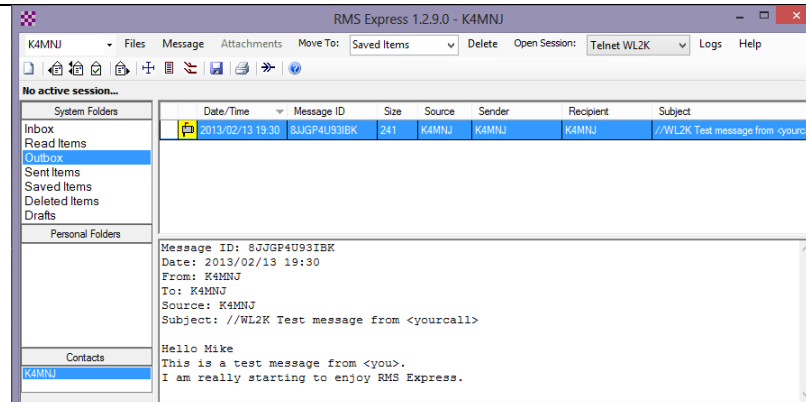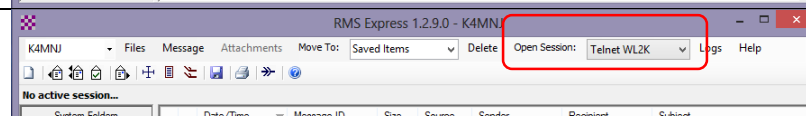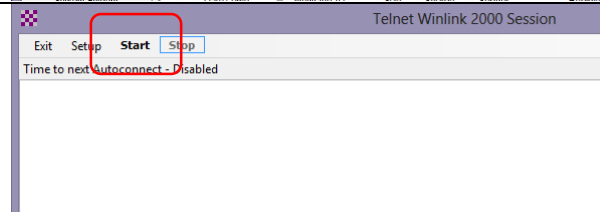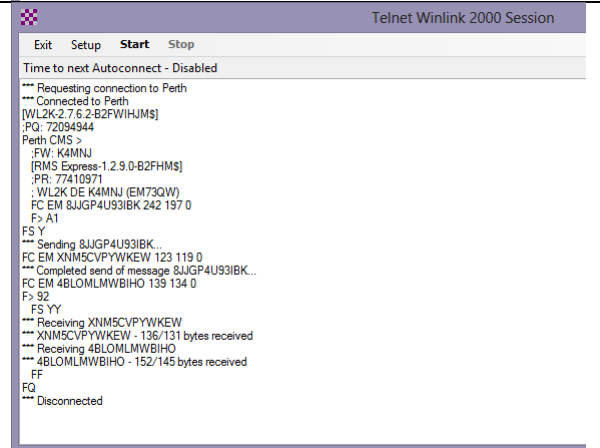
Configure Winmor WL2K

Tip: If you have sound modes working on other software such as Ham Radio Deluxe, open the software, find the menu where you identify your sound card interface, and make a note of four things: *1) The COM port used to control your rig* *2) The COM port speed* *3) The sound card capture device (the device that sends sound INTO your computer)* *4) The sound card playback device (The device that plays sounds OUT of your computer)* *Write this information down →*	1) COM Port _____ 2) COM Port Speed _____ 3) Sound Capture Device _____ 4) Sound Playback Device _____
Select **Winmor WL2K** is selected In the Session dropdown, Click **Open Session:**	
The WINMOR Setup window will appear. *This is where it gets a bit tricky.* *If you are using a Signalink USB or other USB-style sound card interface, select the options that include the words USB.* *If you are using a computer sound card, select the options that best match.* Select the appropriate **Capture Device** Select the appropriate **Playback Device** Click **Update**	
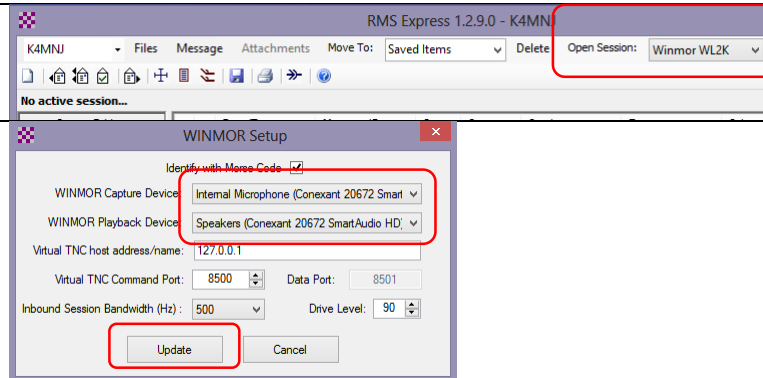
Three Screens will open. Click Remind Me Later to remove the Registration Reminder	
Set the TNC to display **Spectrum.** *This is optional. I find it easier to follow the sending RMS signal using the spectrum view. Experiment with both views until you are comfortable with this concept.*	
Then select the **Winmor Winlink 2000 Session** window. Click **Setup**, then **Radio Setup** from the top window	
Select your **Radio Model** The **Serial Port (COM)** to Use for Radio Control (*See tip*) The **Serial Port Speed** If your rig uses a second serial port to control PTT, set this here. Click **Update**. *This closes the Setup window and returns to the Session window.* If you cannot automatically control your radio, **manually tune to the dial frequency and set to USB SSB mode.**	
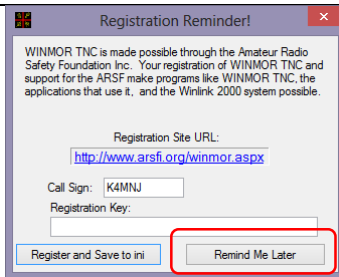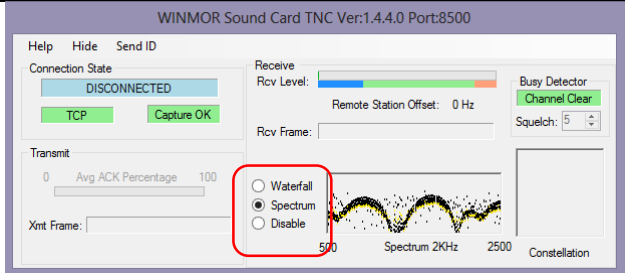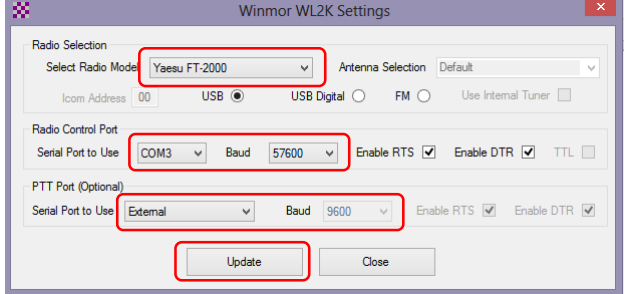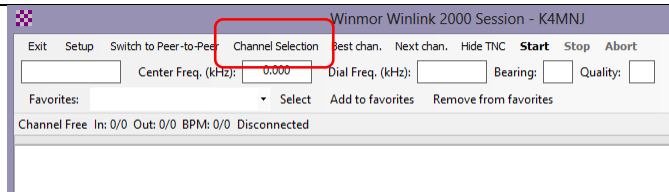
Click Channel Selection.	
Click **OK** to ignore the propagation software warning for now. We will install this later.	
Click **Update Table** to load the Winmor stations list. *Wait patiently while this table downloads.* *If you are not connected to the internet, you can click Update Table Via Radio. This will send a message to Winlink network and the next time you connect, it will download a large file. Do not use this unless you are mobile and you need to refresh this list.*	
Select the row for the station that is closest to your location or select the station showing the best propagation. *If your rig control is properly configured, your radio will shift to the frequency indicated.* Click **Select**. *The Channel Selector window will close.*	
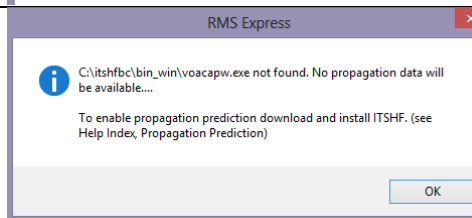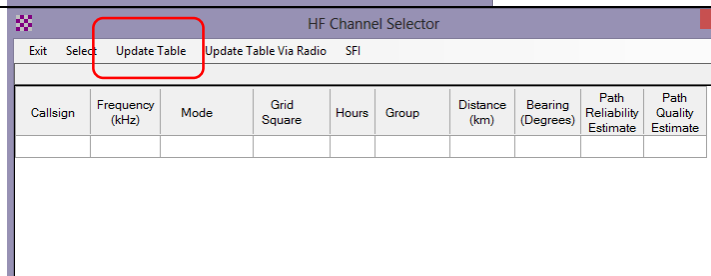
Connect to the Winmor Station to Send/Retrieve Mail

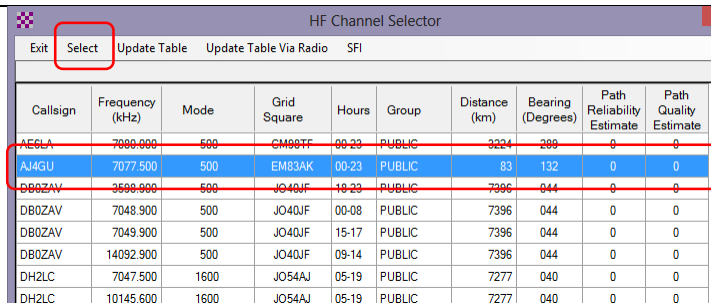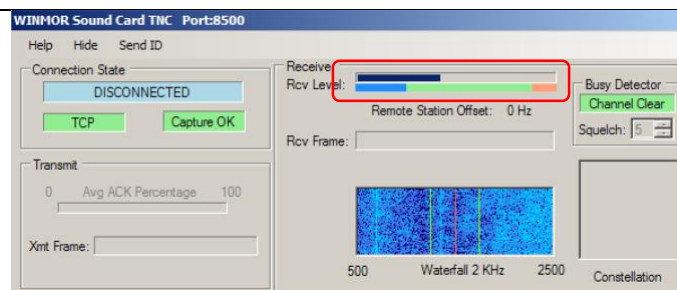|	
Set your incoming sound level. *The receive level should be adjusted so it hits right in the middle of the green area on the TNC window. Adjust the sound card interface of the Windows Sound card controller until your levels fall into the green area. If the level is blue, the sound is not loud enough. If in the pink, it is too loud.* *If you use your sound card for other software, the levels should be adjusted already.*	
Set your transmit level. *Transmit Audio Setting is measured using the ALC (Automatic Level Control) screen in your radio. The SignaLink TX control should be set so that the automatic gain control (AGC) in your radio's menus shows about 25% from the bottom. Make sure you turn off audio compression in your radio. Basically, you want TX set as low as possible but high enough that your radio can deliver its full power. Once you find the ALC screen in your radio, you can click "Setup" on the RMS session control screen and select "Transmit Level Test" from the drop-down menu to start a 4 second transmission. Make sure you aren't transmitting on a busy channel when you do this test.*	
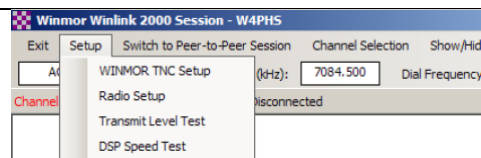
|	
At the Winmor Winlink 2000 Session window. Check to confirm the channel is not busy. If you see a signal in the spectrum, or hear a signal over the air, wait for this to finish before proceeding. Click **Start** *This will attempt to handshake your system with the Winlink Station you selected. If everything works, you will hear some sounds similar to fax or modem connections and the two stations will start talking to each other.* If the station isn't connection, you can cancel by clicking **Abort** **Do not click ABORT** once the two stations have connected. Use **Stop** to cancel the session.	
If everything is working properly, the handshake will initiate and there will be a peak in the center of the Spectrum indicator from the remote system. A solid signal will appear as an X in the 4FSK / 74 window.	
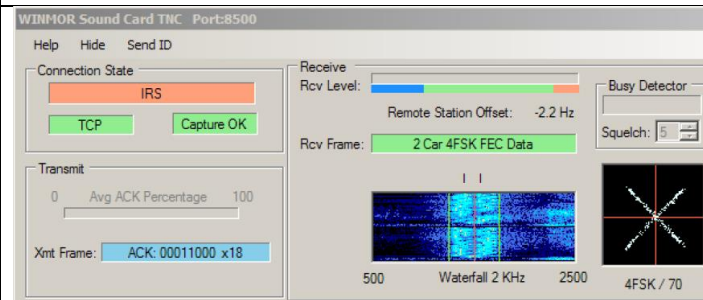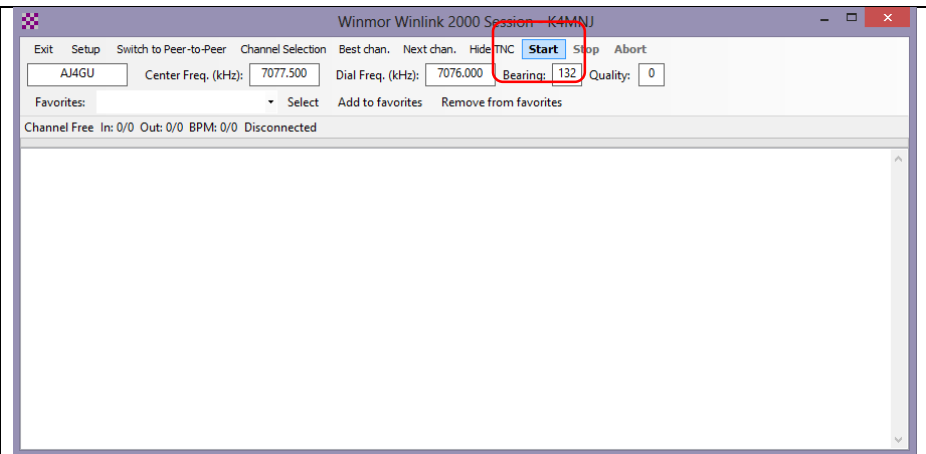
The full transaction will look similar to the description shows here. FQ is the Quit command indicating it has worked.	
Click **Exit** to close the Winmor Session. Clicking the **X** will also close the session.	
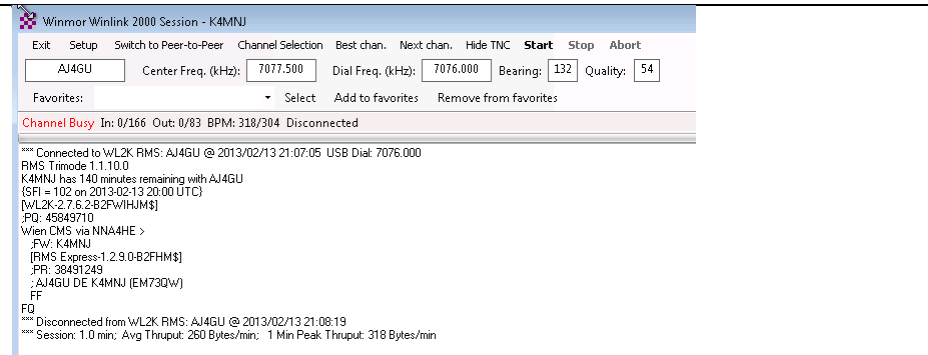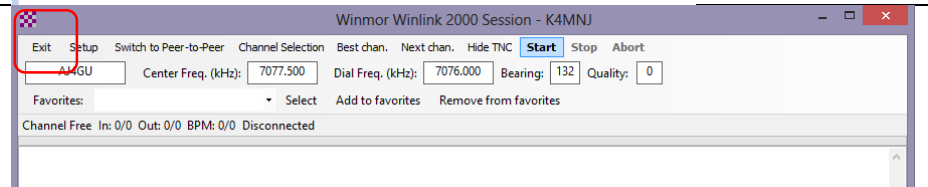
Installing the ITS HF Propagation Software

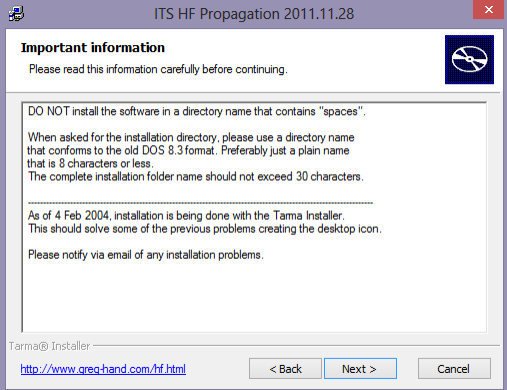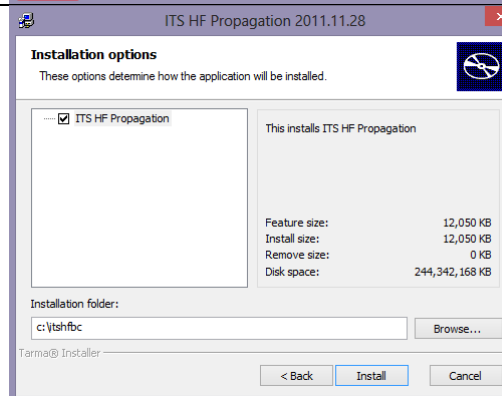|	
Install the HTS HF Propagation software you downloaded earlier.	
Click **Next.**	
Read the **Important Information** Click **Next.**	

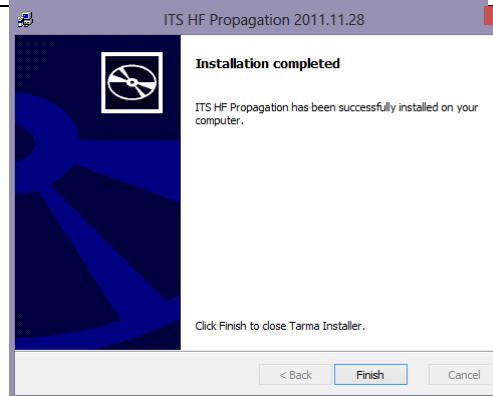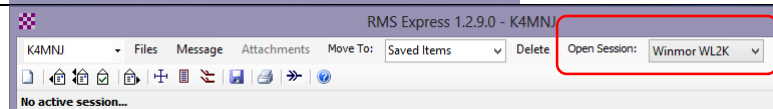|	
Read the License Agreement. **Check** the **I Agree** to these terms and conditions Click **Next.**	ITS HF Propagation 2011.11.28 **License agreement** Please read the license agreement carefully before continuing. LICENSE AGREEMENT *** Disclaimer: The software contained within was developed by an agency of the U.S. Government. The US Department of Commerce NTIA/ITS has no objection to the use of this software for any purpose since it is not subject to copyright protection in the U.S. No warranty, expressed or implied, is made by NTIA/ITS or the U.S. Government as to the accuracy, suitability and functioning of the program and related material, nor shall the fact of distribution constitute any endorsement by the U.S. Government. *** Tarma® Installer ☑ I agree to these terms and conditions < Back Next > Cancel
Click **Install**	ITS HF Propagation 2011.11.28 **Installation options** These options determine how the application will be installed. ☑ ITS HF Propagation This installs ITS HF Propagation Feature size: 12,050 KB Install size: 12,050 KB Remove size: 0 KB Disk space: 244,342,168 KB Installation folder: c:\itshfbc Browse... Tarma® Installer < Back Install Cancel

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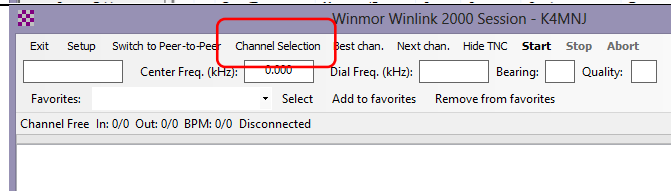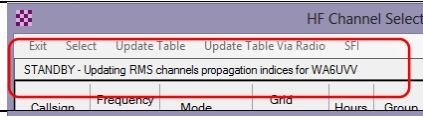|	
Note: If you change the location of the installation folder, you must also change the location of this software in the RMS Express Properties window.	
Click **Finish**.	
At the RMS Express Window, Open **a Winmor WL2K Session**	
Click **Channel Selection**.	
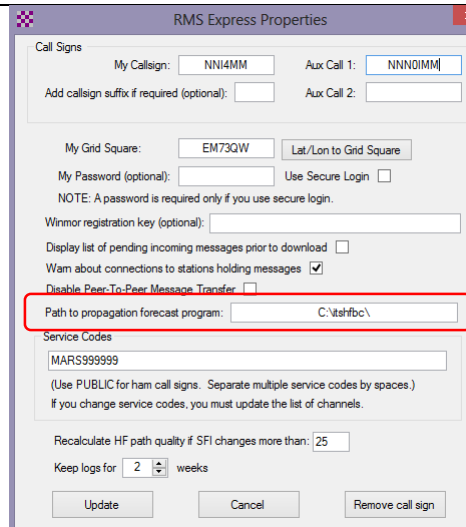
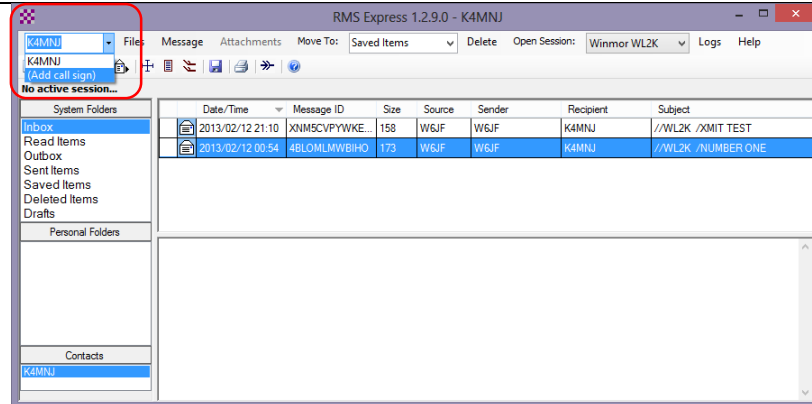|	
Wait for the indexes to stop updating	
Now you have the option to select the "best" station based on your location, time of day, and propagation calculations.	

Add a MARS Station to Your Profile

If you are a not MARS member, you are done.

At the RMS Express window Click the **dropdown box** on the left edge. You should see two options. Select the **Add Callsign** option.	
The Winlink 2000 system has been designed to work with 6 character callsigns. NAVY MARS callsigns are 7 characters long. The workaround for this is to use the first two characters of the prefix, the first letter of the suffix, the region digit, and the last two letters of the suffix. *For example, my MARS callsign is NNN0IMM* *First two letter of prefix = NN* *First letter of suffix = I* *Region = 4* *Last two letters of suffix = MM* *My Winlink Callsign is NNI4MM*	

Enter **Your Callsign.** Enter your full MARS callsign in the **Aux Call 1.** Enter your **Grid Square**. Enter the appropriate **Service Code**. *Note: The Service code shown is not the actual code. MARS members can register on the Winlink.org site to get access to the MARS Service Code.* Click **Update**.	
You select the **callsign** you want to send/receive Winlink messages by picking from this **dropdown** list. *NOTE: Do not use your MARS callsign on the HAM frequencies and do not use your HAM callsign on the MARS frequencies. This is controlled by setting the Service Code in the prior window. If you have done this properly, the system will automatically control this for you.* *Using a MARS call on a HAM frequency will get you in trouble with your State Director. I learned this the hard way so you don't have to.*	
Follow the same steps you followed in the **Configure Winmor WL2K** section for your MARS callsign.	