Winlink

www.winlink.org   by: W8XG Brent Parker

What is Winlink? Winlink is email for hams.

RMS Express is our preferred software choice on our computer. It's a windows based program and available at: www.winlink.org .

There are many other usable software choices, but RMS Express has the most features and compatibility in one package. www.winlink.org is an excellent source for both information and free downloading of the software, but can be overwhelming, to a new user. This is Sarasota Digital's attempt to simplify and expedite the new user in getting up and running with RMS Express quickly. There are great links to tutorials on the web, many of which are YouTube videos, but they are scattered all over. Our group has been thru this learning curve and compiled this document with links to this training.

Winlink is a system of servers, accessed both via radio and the internet for moving email around the world. Winlink, while it is linked to the internet, was developed for transmission of packets (email) via radios. All email whether send over a radio or on the internet, is actually send in chunks (packets, hence the early tag of "packet radio"). When the receive station gets a successful packet, it's acknowledged, and the sending station then sends the next packet. On the internet it's very, very fast (and silent). On a radio, you can turn the volume up and listen to the packets being sent. If you were involved in computers in the 80's, and had 1200 baud or even 9600 baud modems, you'll be right at home!

You'll hear a lot of new terms, packet, pactor, winmor, telnet, TNC, soundcards etc.

Here is a brief list (glossary) of some terms you'll likely encounter in "packet land".

Glossary:

- Airmail: An older version of email. Still in use in some communities, but most have upgraded to RMS Express.
- Packet: The method of transmitting/receiving packets of digital information (email) on vhf/uhf radio. (It's all packet, but packet typically refers to the VHF mode)
- Pactor: A method of transmitting/receiving packets of digital information on HF radio. Pactor (boxes) are sold by one company, are very robust, but quite expensive ($1,500). A lot of mariners us Pactor to email home.
- RMS Express: The standard email program in use by the typical Ham.
- Soundcard: An external box (Soundcard) used to interface sounds from a VHF radio, to a computer. Note this is an external USB soundcard, not an internal one build into your typical computer.
- Telnet: A method of transmitting/receiving packets of digital information (email), directly to the internet and the Winlink system.
- TNC: Terminal Node Controller (external box) was the "standard" method of converting radio audio to signals the computer could deal with. In recent years the Soundcard solution has shown up, with is cheaper (by about ½), but maybe just a little more complicated to setup (just one more software to install).
- Winmor is a software alternative to getting on HF, without a Pactor box. It uses the same soundcard as above (or if you have a radio like a Flex which has build in sound, that you just interface to). However it's not as robust, much slower. Finally, Winmor and Pactor don't "talk" to each other. (Bummer)

You don't need to memorize these, but it sometime helps as you encounter all these new terms, to have an idea what they are.

Again, Winlink is the network of amateur radio email (packet) systems. The system is accessible via radio and via the internet. You can send and receive email from an amateur call sign (via a radio), to/from any "normal" email account on the internet. In the initial videos, you will quickly see after just installing RMS Express, how "(Bob) KX4XXX" can send a test email from KX4XXX (in his RMS Express program) to bob@comcast.net (at his home computer). When Bob get that email at home, he'll see two things. One it came from KX4XXX@winlink.org. On the radio the @winlink.org is suppressed (you can send just call sign to call sign), but as it hits the internet the system inserts the @winlink.org. Two, in the subject is //w2lk. That "//w2lk" is the method of telling the system that the email is not spam.

Simply download and install RMS Express. Install in on a computer and with a few clicks be up and running. You will initially use telnet (which is IT speak to just use the internet). Note you haven't used a radio yet.

The quickest way to get up and running is to watch the first two videos and get up and running with RMS Express just on the internet. However as you will soon want to use a radio to communicate with the system (and not the internet), know you will be making a choice that affects your setup and installation. So read about the TNC vs. Soundcard choice you will be making, to link your computer to your radio. It affects what software you are going to install.

TNC or Sound Card:

Before you install that first software you need to know you will be making a choice of how to hook up your radio to the computer. You can choose a sound card or a TNC.

If you decide to use a sound card, review the AGWE setup below and read (Link to John's article here). If you are going this route, the AGWE setup does a "coordinated" install of all the software, including RMS Express.

If you think you are going the TNC route, you can proceed with the sequence just below.

If you buy a TNC (like a Kantronics KPC-3+) you'll need a cable from the computer to the TNC. The KPC-3+ needs a 25 pin serial connector to your computer. If you want to use USB on the computer side, pick up an "EZSync FTDI Chip USB to RS232 cable". You'll also need a second cable to go from the TNC to the radio. You can make one or go to: https://www.packetradio.com/catalog/index.php?main_page=index&cPath=4 and look up your radio and they make a cable for it.

Continuing, below are the initial quick videos on RMS Express, with just a computer and the internet:

Initial RMS Videos:

1) What is Winlink? This is an overview.
   https://www.youtube.com/watch?v=qGhUfW8pjY8

2) RMS Express setup. Just a computer, no radio yet.
   https://www.youtube.com/watch?v=Kb_cEUyYF9o

Now that you have RMS Express running, on a computer, to the internet you'll want to learn how to link in a radio. So far, to use RMS, you've opened a session to "telnet Winlink". Notice all the other choices.

Packet Winlink is how you use vhf radios. As stated before, you can interface with a TNC (box) or a sound card (box).

HF radios use either Pactor or Winmor. Pactor is a box, fast (that's a relative term here) and expensive. Winmor is cheap (it uses your soundcard) and slow and the two methods don't talk to each other over the air.

Rick Frost's video below starts with an overview of cabling and proceed sequentially thru the various modes. However he doesn't do packet with a sound card, so if you are going that route, skip to that section below. Rick covers a lot. He takes you thru all the modes, and it's a lot to absorb at once. If you are just going to do vhf (recommended for now), watch that portion and stop.

K4REF Rick Frost training (Detailed videos of Packet, Pactor and Winmor)

1) **Cables and connections**. This is an overview of how to set up a station, connecting the computer to all of the radios (HF Pactor and VHF Packet). This is a good overview, but you probably want to get RMS Express running first on a computer using Telnet, before you tackle connecting it to radios. Rick cable up every configuration and you may only be interested in a portion of this.
   https://www.youtube.com/watch?v=tI7G0WFLhIo&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr&index=1

2) **Settings and Software.** Setting of a Kenwood TS2000 radio and installing the software. Assuming you don't have this radio, you can skip to about ½ way for the install, if you haven't done that above.
   https://www.youtube.com/watch?v=A4AZfQhc9UA&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr&index=2

3) **RMS Express Part 1** (basic RMS Express setup, Web setup)
   https://www.youtube.com/watch?v=_3IHZofQrPI&index=3&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr

4) **RMS Express Part 2** (sending messages)
   https://www.youtube.com/watch?v=ahE2YWoSgpc&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr&index=4

5) **RMS Express Part 3** (sending with a radio)
   https://www.youtube.com/watch?v=58e3uH6x0DI&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr&index=5

6) **RMS Express part 4** (more HF, Winmor starts half way thru)
   https://www.youtube.com/watch?v=6nJJkhCMNkw&index=6&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr

7) **RMS Express Part 5** (HF with Winmor) (this link is right in word, but get's broken when send to pdf?? Test please)
   https://www.youtube.com/watch?v=yXV-EjkkXnw&list=PL0-gH_7Nm60b3nQFIYKOFoAlgOw4whhXr&index=7

Sound Card alternative interface:

1) John, KM4EJE has written up his experience with installing and getting up and running via the soundcard route here.(need to link)

2) Also, Den W2DEN as written extensively on the N4SER website on this technique. http://n4ser.org/2014/winlink-getting-air-without-modem/

3) Finally below are video tutorial links from the AGWE site.

   There are 8 videos here of about 25 minutes total, that take you thru setting up RMS Express, completely from scratch, with a sound card. These are wmv files. They don't play like YouTube. I found it easiest to click and download and store on my hard drive (in a folder) all the movies, then click and play them.

   Again, if you are going to go this route, you may not want to start out just installing RMS Express from the above instructions, but to download AGW and it will install everything in one coordinated effort. By using the single install all the software gets installed in the proper location, where each piece knows where other is.

AGW sound card interface   http://w2ygsoftware.com/Home/AGWE

http://w2ygsoftware.com/Home/Downloads

Forms:

Once you are up and running you'll want to understand about forms. Basically a form is a template that everyone already has locally stored on their computer. It creates a very nice template, where you just fill in the boxes. Only the "boxes" get transmitted (keeping the bandwidth down), but with the form on both end, it looks great and is easier to understand.

Forms are typically used in an emergency deployment. ICS forms are very common. As a team "Sarasota Digital" will formalizes their choice and publish those. For now, standard emergency communication forms (ICS) forms are used.

How to use forms.   https://www.youtube.com/watch?v=SWuBmkCK_CQ

Forms link: http://www.winlink.org/RMSE_FORMS