

# Inland Empire VHF Club – Winlink Gateway

By Don Felgenhauer (K7BFL) August 17, 2010

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The club has installed a radio email connection to the internet. It is functionally a “gateway” between a packet radio user and the email part of the internet. It is NOT a Bulletin Board Station (BBS). This “replaces” the BBS which used to be a part of WR7VHF, It is a way to use your vhf or uhf radio equipment to send and receive regular [short] emails....kind of like using a Super Long Distance Wi-Fi system. The internet end of the gateway is connected to the “Winlink.org” email server. Individual users of the gateway each have their own unique email address ([yourcallsign@winlink.org](mailto:yourcallsign@winlink.org)). This email address registers “automatically” when the user first sends an email message, using the gateway packet radio system, to another email address, That same email address can be used when accessing any of the several hundred Winlink Gateway RMS Packet stations throughout the world. Your email address is valid for 400 days after the date of its last use.

The Winlink term for the gateway is a “RMS Packet” station. “RMS” is an abbreviation for Radio Message Server”. All RMS stations connect (via an internet connection) to a “Common Message Server” (CMS). There are four redundant servers, located in the USA, Canada, Australia, and Austria. Winlink 2000 (WL2K) is a volunteer organization dedicated to creating and operating an email system for radio amateurs which seamlessly exchanges emails with other email servers throughout the world, using standard email protocols. It is funded by volunteer contributions.

The radio part of the WR7VHF-10 gateway is a uhf radio, operating on a frequency of 440.125 MHz (the same frequency as the Spokane area packet “backbone”. 9600 baud packet is the mode used on that frequency. The gateway radio and internet connection are physically located in the Deer Park area. Users can access the gateway via several methods.

## Connecting to the WR7VHF-10 Gateway

- **9600 baud packet, using 440.125 MHz.** This can be done by connecting directly to the gateway (WR7VHF-10)
- **9600 baud packet, using 440.125 MHz via the “backbone” Nodes,** located on Mt. Spokane (WR7VHF-5) or Krell Hill (WR7VHF-2). After a connection is made to either of these Nodes, then a second Connect is made to the gateway (WR7VHF-10).
- **1200 baud packet, using the “North Stack” on Mt. Spokane.** This is a three step process. First connect to WR7VHF-4 on 145.09 MHz, then connect to WR7VHF-5, then connect to WR7VHF-10. A Winlink Express Script for this would be: C WR7VHF-4 Connected C WR7VHF-5 Connected C WR7VHF-10 Connected.
- **1200 baud packet, using the “South Stack” on Krell Hill.** This is a three step process. First connect to WR7VHF-3 on 145.01 MHz, then connect to WR7VHF-2, then connect to WR7VHF-10. A Winlink Express Script for this would be: C WR7VHF-3 Connected C WR7VHF-2 Connected C WR7VHF-10 Connected.

- **Software Used to access the Gateway (only one of the following is needed)**

There are four recommended pieces of software which may be used to access the packet gateway.

**Winlink Express** – this software is free from [www.winlink.org](http://www.winlink.org). It normally uses its own message database, operating independently from other email programs you may be using. It communicates with the outside world via 1200 or 9600 baud packet, to a RMS Packet station, such as WR7VHF-10. It can also communicate directly with the Common Message Server (CMS) if the user has a “normal” internet connection. It also may be used to Connect, using the pactor or WINMOR modes, to a high frequency (HF) RMS Station.

A hardware based radio modem (TNC) is needed; or a software based radio modem (sound card device) may also be used with this software.

Email Attachments may be sent and received.

The oldest PC operating system which will work with this program is Windows 7.

**AirMail** – this software is free from [www.winlink.org](http://www.winlink.org). It normally uses its own message database, operating independently from other email programs you may be using. It communicates with the outside world via 1200 or 9600 baud packet, to a RMS Packet station, such as WR7VHF-10. It can also communicate directly with the Common Message Server (CMS) if the user has a “normal” internet connection. It also may be used to Connect, using the pactor mode, to a high frequency (HF) RMS Station. A nice feature of this software is the ability to Send and Receive email type messages directly with other AirMail packet users, WITHOUT using any part of the internet. It can also “Keyboard” interactively with other packet users and Nodes, similar to common packet Terminal software.

A hardware based radio modem (TNC) is needed.

**Paclink** – this software is free from [www.winlink.org](http://www.winlink.org). It uses your normal email client software (Outlook, Outlook Express, Thunderbird, etc) as the message database. It communicates with the outside world via 1200 or 9600 baud packet, to a RMS Packet station such as WR7VHF-10. It can also communicate directly with the Common Message Server (CMS) if the user has a “normal” internet connection. A nice feature of this software is the ability to use “scripts” which can be used in a “automatic” multi-step Connection process to a RMS Packet Station.

A hardware based radio modem (TNC) is needed. A software based radio modem (sound card device) may also be used with this software.

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**Packet Terminal Software** – “Normal” packet software such as Hyperterminal, Winpack, or KaWin can be used to access the gateway station, using a manual “keyboarding” method. This software works in a pinch, but is not recommend for normal use. Attachments are not supported. See “[Winlink Made Simple](#)” for a description of the process to Connect to a RMS Packet station, using packet terminal software; and to Send and Receive emails via that station.

## **Miscellaneous Hints (applicable to all user software)**

Paclink, AirMail, and Winlink Express all use a “hands free” approach to Sending and Receiving emails. New outgoing messages should be created prior to the radio Connection being made. New incoming messages are automatically received after outgoing messages are sent. After the last email is received the radio Connection with the RMS Packet station is automatically terminated. All three programs use the “B2F” method of compressing messages prior to them being sent. This can reduce the transmission time as much as 80%, depending on the message.

Messages may be sent to multiple addresses, using the normal cc method of addressing emails.

The size of each email message is limited to about 100K (actually 120K bytes of “compressed” data). Normal emails sent and received using packet should be much smaller. *The time needed to send or receive a 100K message, using 1200 baud packet via WR7VHF-10, is about 50 minutes!*

The Winlink email system has a Spam Filter which includes a “Whitelist” of addresses which [Yourcallsign@winlink.org](mailto:Yourcallsign@winlink.org) will accept. The logic and use of this Whitelist is described in a rather extensive FAQ. The FAQ includes many more helpful facts and tips for Winlink users. This FAQ is HIGHLY RECOMMENDED for all users of WR7VHF-10. Download it from [winlink.org](http://winlink.org)

In addition to WR7VHF-10, there are several other redundant Winlink Gateway RMS Packet Stations located in the Spokane area. Access information for these stations can be obtained from the “Winlink Gateway” page of the [Spokane ARES web site](#).

If you have any Winlink software, setup, or Connection difficulties, contact Don Felgenhauer K7BFL (509-290-2472, [donk7bfl@gmail.org](mailto:donk7bfl@gmail.org)) or David Harper WB6JHF (509-276-8351, [harperdavid43@yahoo.com](mailto:harperdavid43@yahoo.com)) or Michael Carey KD7GHZ ([ekimyerac@fastmail.fm](mailto:ekimyerac@fastmail.fm)).