

## Frequently Asked Questions (FAQ) about Winlink 2000

(Revised June 23, 2009)

Material from the Winlink 2000 EMCOMM and AirMail2000 Yahoo User Groups, and others

Please send new and revised material to [K7BFL@ARRL.NET](mailto:K7BFL@ARRL.NET)

*[use the "Find" feature of Adobe Acrobat to locate needed information]*

**Q**      **How is this FAQ group organized?**

A

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## General Questions about Winlink 2000

**Q102**      **All these new words: AirMail, Winlink, Paclink MP, Telpac, Telnet, RMS, etc. get me confused. Is there a “Winlink for Dummies” book?**

A102      Not yet! But there is a short “Winlink made Simple” publication available at:  
<http://home.earthlink.net/~k7bfl/tfctools.html>  
Bud Thompson, (N0IA) has written an online course “WL2K For Dummies” for those who have not yet installed the various client (end-user) programs for using the Winlink 2000 system. See: <http://www.winlink.org/node/23>  
This Group is specifically designed for those who have not yet installed the various client (end-user) programs for using the Winlink 2000 system. There is no TNC, data terminal, or radio required for this on-line course. When there is sufficient interest, this group may expand to details of wiring computer-TNC-radio for using the Winlink 2000 client software components over the air.

The first thing to do is go to the "FILES" section of this group, and look for E-Mail Assignments. Start working on the assignments at your own pace, and use the facilities of this Yahoo Reflector group to obtain assistance.

**Q104**      **What is a “PMBO”?**

A104      This is an amateur radio station which functions as a port to the rest of the Winlink 2000 infrastructure. It is a “bridge” between radio stations and the e-mail part of the internet. A PMBO performs the same function as a RMS. Use of the PMBO software was discontinued early in 2008. See Q107.

**Q107**      **What is a “RMS”?**

A107      “RMS” is a Radio Message Server. It is a direct radio port or gateway to a CMS site.

Early in 2008 software relating to PMBO and Telpac was replaced by software relating to RMS. PMBO software was replaced by RMS Pactor software. Telpac software was replaced by RMS Packet software.

A benefit to WL2K users of these changes is a reduction in the “latency” of messages, as they move between the user and the Common Message Server (CMS). See Q4010.

A “RMS HF” station is a gateway station to the WL2K system for pactor and WINMOR high frequency users. Previous names for this function have been “PMBO”, followed by “RMS Pactor”. For information regarding WINMOR, see Q930 and Q940.

The connecting procedure for users does not change.

**Q110**      **How do you suggest that I learn about Winlink 2000; and solve setup and operating problems that arise?**

A110      1. Use the most recent version of software to access the Winlink 2000 system (AirMail, Paclink).

2. Read the Installation and Operation instructions for the software program used.

3. Read the installation and operation instructions for your radio and modem equipment.
4. Read the Help files with the software.
5. Review the information in the Winlink 2000 web page:  
<http://www.winlink.org>
6. Read the remainder of this list of FAQ's.
7. Search the messages in the Winlink 2000 user discussion groups. See Q520.
8. Use an internet search engine to find relevant information on the web.
9. Ask your local RMS Packet station operator for assistance. See  
<http://www.winlink.org/RMSPacketStatus>
10. Ask a RMS HF station operator for assistance. View the AirMail "Frequency List" (text version] for contact information.
11. Ask a member of the Winlink 2000 Development Team for assistance.
12. Contact the Winlink 2000 System Administrator:  
Steve Waterman, [k4cix@comcast.net](mailto:k4cix@comcast.net)  
Home: 615-665-0952, Cell: 615-300-5296

**Q115 Is Winlink 2000 designed to replace the e-mail part of the internet, in case the internet fails?**

A115 No. Its original purpose (started in 1999) was to provide a very long range radio path for radio amateurs who did not have access to "land-line" communications needed to send and receive e-mail messages. Subsequent uses have been oriented toward providing partial backup of e-mail services for ARES/RACES "served agencies" during a local commercial communications outage or communications overload. Transfer speeds and available bandwidth do not allow for complete replacement of services. This may change with increased use of D-Star and RMS Packet satellite paths to the internet infrastructure.

**Q120 How do I register as a Winlink 2000 User?**

A120 "Registration" is automatically done when you connect to the Winlink 2000 system via radio or via a telnet session. Accessing the WebMail part of the WL2K web page does **not** automatically register a new user. Your User information will remain in the database for 400 days after your last interaction with the Common Message Server. User radio privileges are not checked by Winlink 2000 system staff. Use of WebMail does not "update" the 400 day limit; this must be done by using a RMS station, or connecting directly to the CMS.

**Q123 My e-mail account appears to be deleted after a period of non-use. Why?**

A123 Yes, your account was deleted automatically by the system after 400 days of non-use by radio or telnet. This has been a function of the Winlink system for many years now, and

helps validate our charter as a special radio e-mail service and separate WL2K from general-purpose internet e-mail services.

WebMail is a convenience available to radio e-mail account holders as long as their account is active. You can not reset the 400-day countdown clock by using WebMail. Only using telnet or RF keeps a WL2K e-mail account active.

As explained on the web site registration pages, an account for web site access does not link in any way to or create a radio e-mail account.

Establishing a new e-mail account is very easy. All it takes is connecting with an RMS station via RF or a CMS using telnet (no modem or radio required) and sending a message using a legitimate call sign. Your account is created automatically when you do this. Details and some additional ideas for getting started again are at <http://www.winlink.org/GetStarted>.

**Q125 How many Winlink 2000 users are there?**

A125 Early in December 2007 there were about 13,000 registered users....and growing!

**Q140 I just connected to a RMS, expecting an important message. WL2K says I have no mail.....why?**

A140 The RMS may be seeing you as Usercallsign-15, caused by your going through a Node (if using packet, with either AirMail or a terminal (keyboarding) program). See Q145. If that is the case, and you are using AirMail, you might try connecting to the Node as Usercallsign-15. See Q3510 if you are using AirMail or Q8550 if you are using a Terminal (Keyboarding) program.

**Q145 I would like to use my callsign with a SSID as my WL2K address. Is that possible?**

A145 Yes, in fact you can have multiple WL2K addresses, such as K3ABC@winlink.org and K3ABC-3@winlink.org. The system should treat those two call signs as separate users. There are some areas of confusion that need to be discussed.

- 1) In WL2K if you connect as a –ssid callsign and there is THAT –ssid registered in the system as a separate user it will treat you as a separate user. There are some specific reasons for this having to do with RMS's etc.
- 2) If you connect with a –ssid and THAT –ssid is NOT registered in the system it treats you as the BASE call sign ...no ssid
- 3) If you connect through a packet network or some switches (Nodes) that ALTER your –ssid then this can pose a problem. Paclink has an extended feature added (signified by the N in the SID) that tells the target RMS what your real –ssid is even if the packet network altered it in the connecting process. See Q3510 and Q8550.

If you want your Paclink to really operate as K3ABC and not as K3ABC-3, then simply change the call sign in the site properties. You will also have to change any accounts on Outlook Express, Outlook etc to match the new base call sign. See Q3560

**Q150**      **Are there any guarantees that the message I send via WL2K will get through to the intended person?**

A150      No guarantees, but if one of your intended recipients is NOT a WL2K user, you will get a service message from the CMS, telling you of that problem. Assuming that you have addressed the message correctly, there are still a multitude of reasons why the intended person might not get the message; or got it and has not read it. The WL2K system is good, but not infallible; ditto for the rest of the internet infrastructure.

Some e-mail servers' Spam Filters are very aggressive. Some may reject e-mail originating or from a server located in specific countries. It is the responsibility of the message originator to verify that the message path is working – **all the way** to the recipient of the message. See Q750.

“Receipt Confirmation” is discussed in a web page by K7BFL:  
<http://home.earthlink.net/~k7bfl/ReceiptConfirm.html>

**Q160**      **What happens if the Common Message Server (CMS) fails?**

A160      The CMS consists of five different computer systems in five different locations: San Diego, Washington, Halifax, Perth, and Wien (Vienna). They are backing each other up on a continuous basis. If a failure occurs at one location, all users using that location will be re-directed to one of the other locations.

**Q170**      **Are there any guidelines concerning the size of messages that WL2K will accept and process?**

A170      Due to the much slower transfer speeds of radio paths (compared to dial-up, etc) it is better if messages are kept as small as practical, while still accomplishing the communications objectives of both users. Following are approximate air times needed to transfer a 4K message (after compression) for several modes of operation, *under ideal conditions*:

Packet (1200) direct	2 minutes
Packet (1200) 1 Node	2.5 minutes
Packet (9600) direct	1 minute
Pactor 1	15 minutes
Pactor 2	5 minutes
Pactor 3	1 minute
Telnet (Internet Access)	seconds

Messages containing “emotions” and “backgrounds” contain embedded image files; which should be avoided, if possible. These images can be stripped from your incoming messages by setting your Attachments Limit to 0. However all other “useful” Attachments will be stripped also!

WL2K (except when using Keyboard or Web Message Access) will process Attachments of many file types. Some file types comes with significant “overhead”. This overhead can be reduced by changing the file to a txt, rtf, or csv file, if appropriate.

Image files should be as small as practical!

**Q180**      **After I download a message from a RMS how is it deleted from the WL2K system?**

A180      The message is immediately deleted from the CMS to which you are connected. Within several seconds that CMS sends a "delete" command to the other CMS locations to update their database.

**Q190**      **I have been using AirMail successfully for several days. Yesterday I installed a new version, and reset the "starting" message number [Tools...Options....Settings....Current Message Number] to the same number as was used for my first message. The RMS to which I connected would not accept my next message. Why?**

A190      Each message "alive" within the Common Message Server must have a unique message number, referred to as a "MID". You should not "reset" the starting message number when re-installing or updating the AirMail software.

However, if you are using multiple computers (like your laptop and your desktop) with the same callsign, keep the message numbers significantly different from each other in the two computers. To do otherwise your "new" message to another WL2K user might not be downloaded at its intended destination. If he is using AirMail, he might get a "Message Already Received", from your "other" computer, since AirMail keys on the message number of the Sender.

**Q200**      **What are some of the design principles of the WL2K system and associated software?**

A200      Principles include:

1. A message system compatible with SMTP e-mail.
2. Enable messages to be transferred to the destination party in a VERY accurate manner, within a short time duration (several minutes).
3. Enable use of the available internet infrastructure, if available.
4. Encourage use of VHF/UHF radio spectrum, if a "non-radio" path is not available.
5. Enable EFFICIENT use of HF radio spectrum, if VHF/UHF is not available. Use a small as possible "RF Footprint".  
See [http://home.earthlink.net/~k7bfl/RF\\_Footprints.pdf](http://home.earthlink.net/~k7bfl/RF_Footprints.pdf)
6. Enable e-mail type messages to be sent between two radio stations, without using any portion of the "internet". This is called "peer-to-peer".

**Q220 Does WL2K support Linux or Macintosh operating systems?**

A220 Yes, but since Windows operating systems are used by the majority of actual and potential users, we feel our limited man-power resources should be used to improve the present Windows based software.

There is a version of the RMS Packet software that runs under Linux and several have used this to add packet gateways to WL2K...again this is more of a server function than user access. See Q9100.

A Linux version of Paclink is being developed by N2QZ and KA1WPM. Contact them if you would like to help.

The Macintosh can now run AirMail just as well as any computer out there, especially, the new Intel based Macs. These new Macs can run Windows naturally through "Boot Camp", which comes with the operating system. You can also run Windows via VM Ware or Parallels. These programs basically run Windows just like a regular Windows machine except in many cases faster. One other advantage to these programs is you can also run multiple operating systems, such as Linux, Mac OS X, Windows, etc.

AirMail will also run on older Mac's using the Windows emulation, such as Soft Windows. This may be a bit sluggish, depending on the speed of your computer, but will work.

AirMail also runs fine on older Mac's under Virtual-PC. The only wrinkle has to do with USB/serial adaptors not AirMail, either map the serial port from the Mac side OR enable VPC's USB support and install the Windows USB drivers. But don't do both, that ties the serial ports into knots.

You can also run AirMail under WINE on Linux.

If you mean as a WL2K RMS HF station, the answer is no; those are only Windows .NET programs running on Win 2000 or Win XP. Perhaps someday there will be a .NET runtime for the Mac which would make things a lot more transferable.

As a last resort you can access WL2K via any dumb terminal program on packet in keyboard mode. This is not recommended...it is error prone, does not allow attachments etc; but it will work in an emergency. HF access via keyboard is very restricted due to its inherent inefficiency.

The WL2K Development Team is open to integrating other operating system software into User programs. If you are or know a good Mac programmer we will encourage him and help him if he would like to write a Native Mac client. It really isn't that hard. We will give the VB.NET source if they wish.

If you have such programming expertise and want to donate your time, please contact the System Administrator, K4CJX.

**Q240 Why doesn't WL2K use the TCP protocol?**

A240 Tests done early in the development process indicated that the B2F format we use resulted in higher throughput than using the TCP protocol, which has much unnecessary overhead for radio use.

**Q260**      **While monitoring transmissions from WL2K stations, I notice that the content appears as “gibberish”. Isn’t this illegal?**

A260      The content looks that way because it is a compressed binary format called “B2F.” This format is available to anyone, so the compressed data is not considered encryption or illegal for radio amateurs. Additional information about B2F is at:  
<http://home.earthlink.net/~k7bfl/B2F.htm>

Data transferred through Winlink 2000 is not considered to be Secure.

Data transferred through Winlink 2000 using the Keyboard method is not compressed; therefore it is readable by other listeners.

**Q280**      **What document(s) explain the components of a packet exchange in Paclink or AirMail? A question has been raised specifically regarding the “FF, FC, FS, FQ, EM, & YY” that shows up during a session. What do each of those mean?**

A280      What you're seeing is a BBS forwarding exchange where the two connected systems propose transmission of messages they have available for the other user, and list which messages they wish to receive of those proposed.

For documentation of the basic F6FBB BBS proposal exchange, see:

<http://www.f6fbb.org/protocole.html>

WL2K uses the standard FBB type protocol with a B2 extension. B2 is simply a specific mechanism for encapsulating a message which allows adding attachments, addressing multiple recipients, and mixing radio and e-mail (internet) recipients. Otherwise it is virtually identical to the FBB B1 protocol and it uses the exact same LZW compression algorithm as FBB B1.

The B2 protocol was developed in 1999 by the WL2K Development Team to be an efficient mechanism to move text and binary attachments using the FBB forwarding protocol. The FBB protocol and B2 is more efficient than the standard internet SMTP protocol in RF applications such as Packet or Pactor.

**Q300**      **I am active in MARS and the National Traffic System, handling messages using the “Winlink 2.9” software. Can I use this software with Winlink 2000?**

A300      No, it is not compatible. The Winlink 2000 system is an off-spring of Winlink 2.9. AirMail is similar to Winlink 2.9, but has MANY differences. A major difference is the message routing process. AirMail and Winlink 2000 do not support “H-routing”. Winlink 2000 is centered on the SMTP e-mail standard.

Winlink 2.9 was written by Victor D. Poor, W5SMM, who has continued to write software for Winlink 2000. You can read more about the history of Winlink at:

<http://www.winlink.org/node/1>

AirMail can be used to send and receive NTS radiograms via the NTSD system, by accessing the NTSD “Area Hub” pactor stations. See the instructions by AE5V at:  
[http://home.earthlink.net/~bscottmd/airmail\\_ntsd.htm](http://home.earthlink.net/~bscottmd/airmail_ntsd.htm)

**Q320 How can I send a Radiogram via Winlink 2000?**

A320 It either be embedded in the Body of the message, or Attached to the message.

AirMail can be used to send and receive NTS radiograms via the NTSD system, by accessing the NTSD "Area Hub" pactor stations. See the instructions by AE5V at: [http://home.earthlink.net/~bscottmd/airmail\\_ntsd.htm](http://home.earthlink.net/~bscottmd/airmail_ntsd.htm) Also see Q6100.

**Q340 How can I find the location of a WL2K user?**

A340 If you have access to the web, go to the WL2K web page....Maps....User Positions...  
<http://www.winlink.org/userPositions>

Click on the dot of the approximate position of the station you are looking for. Click again on "View Position Reports" to see all of the recent reports from that station.

If you do not have access to the web, and are using AirMail, send a "Position Request" message via Message Index....Window....Winlink-2000....Position Request.

**Q360 What are some of the Limits associated with WL2K?**

A360 Message size maximum, including Attachments: 120000 bytes (compressed)

*[If a message exceeds the absolute compressed size limit, a service message will be sent to the sender advising that the message has not been accepted. There are no limits on the number of messages for each user or the overall byte size]*

Attachment name size maximum: 50 characters (including extension)

Life of an Unread message: 21 days

Registration period for a WL2K user: 400 days since last access via radio or Telnet (Internet Access)

Life of a Tactical E-mail Address: 400 days since last use

Life of an e-mail address in your Whitelist: 400 days since you last sent a message to that address.

Tactical address name length: Current Tactical addresses are limited to 12 characters total (including any "-" preceding the "@winlink.org". See Q7030.

User daily time limit for HF users is defaulted to 60 minutes. The RMS operator may change that default, or customize it for different modes (pactor 1, pactor 2, pactor 3) and different users. If you have specific larger needs, e-mail your request to the RMS operator (RMScallsign@winlink.org).

There are no User daily time limits associated with a Winlink Gateway (packet) or Telnet (Internet Access).

- Q370**      **Is there somewhere I can see how many messages the WL2K system has handled last month?**
- A370      Yes. From the WL2K web page go to ...Reports .....CMS Status  
<http://www.winlink.org/CMSStatus>
- Q380**      **I just got a “message not delivered” service message from the WL2K Common Message Server. Why?**
- A380      The WL2K outbound E-mail (SMTP) client will try and send your outbound mail directly (no relays) to the end recipient 10 times over a period of 5 hours. If it still fails (in this case because it appears the ISP is not accepting or blocking the connection) it gives up and sends a failure notice to the originator.
- Most of the times these failures are due to:
- (a) Improperly listed public MX record for the destination domain
  - (b) Some form of spam or other filtering mechanism used by the ISP
  - (c) The server is off line or otherwise down. If multiple servers for a domain are available (as listed in the MX records) all are tried.
- Q400**      **What kinds of Attachments will the WL2K system accept?**
- A400      All except .exe and .zip. Attachments are not useable when accessing via the Winlink web page or when using the Keyboard Method.
- Q410**      **I can't seem to send an attachment. When I attempt to send, I get the message "(Attachment deleted, could not be sent in this mode.)" Tried in P2 same thing; tried different RMS's; same thing.**
- A410      Go to Tools....Options....Settings. Make sure that “B2F” is selected for the BBS Forwarding Protocol.
- Q420**      **Is there a document describing the Specifications of the WL2K System?**
- A420      There is a document named “Rules of Engagement for the Winlink 2000 System” (revised 1/31/2008). It describes some specifications of the system.
- <http://www.winlink.org/node/16>

**Q440 Please review for me all of the possible ways I can access my WL2K e-mail account.**

- A440
1. WL2K web page....WebMail (Attachments are not supported)  
<http://www.winlink.org/webmail> [Note: You must have accessed the WL2K system by radio or "Telnet" at least once after November 13, 2006 to enable this method of accessing your mail. Your default password for WebMail is your callsign.]
  2. Internet connection....Telnet...AirMail or Paclink AGW or Paclink MP or Paclink
  3. Radio....packet.....AirMail or Paclink AGW or Paclink MP or Paclink
  4. Radio... packet....Keyboard Access (Attachments are not supported)
  5. Radio...pactor...AirMail or Paclink MP or Paclink
  6. Radio...D-Star...Paclink AGW or Paclink MP or Paclink

**Q460 Is there any priority associated with the downloading of messages to a user?**

A460 Yes, smaller messages are downloaded before larger messages.

**Q480 What are the rules regarding WL2K and "Third Party Traffic"?**

A480 from: <http://www.winlink.org/node/3>  
Third-party traffic is any traffic transmitted over the Amateur bands that is either from or to a non-amateur. In the Western Hemisphere (with a few exceptions) there is no restriction on third-party traffic being passed over amateur radio. Many countries outside of the Western Hemisphere also now permit third-party traffic over amateur radio. Messages between amateurs even if they originate or are delivered over Internet are not considered third-party traffic. Third-party traffic only deals with that portion which is transmitted over the radio spectrum.  
Since there is no limitation on third-party traffic over Internet itself, messages passed between WL2K participating stations, or a participating station and the Internet are *not* restricted. Only when the message involves a non-amateur and is passed over a radio link is the issue a concern. For example: if a message originates in the U.K. on Internet but is delivered to a U.S. amateur over the radio from a U.S.-based station no third-party rule is broken even though the U.K. does not allow third-party traffic over amateur channels. Likewise, a message originating over the radio from a U.S. amateur and passed to a U.S. station is legal even if it is addressed to the Internet address of a non-amateur in the U.K.  
Users must make themselves familiar with these third-party rules for the country in which they are operating as well as linking with if they are exchanging messages with non-amateurs. See the country list for countries known to permit third-party traffic for U.S. stations and their reciprocals.

Q500

What are the differences between AirMail and Paclink?

A500

Attributes of Winlink 2000 User Software

	Generic Terminal	AirMail	Paclink
Useable for Telnet?	No	Yes	Yes
Useable for Packet?	Yes	Yes	Yes
Useable for Pactor?	No	Yes	Yes
Useable for "peer-to-peer"?	Yes	Yes	No
Can be used with a Sound Card?	Yes	Yes, with AMPE and AGW	Yes
Can "timeshare" with other packet software?	Maybe	Yes, with AGW	Yes, if different callsigns are used with each piece of software
Can be used with most any TNC on packet?	Yes	Yes, with AMPE and AGW	Yes
Can be used with older computers?	Yes	Yes; Windows 95	No; Windows XP
Ease of Initial Setup?	Yes	one self-extracting file	one self-extracting file, plus NET Framework, optional AGW
Ease of Use?	Entirely manual	Easy, with familiarization	Easy, with familiarization [Practice...Practice!]
Recommended for routine use?	No	Yes	Yes
Message Administration?	None	Built-in "Message Index"	Any e-mail client
Scripting for Connects?	No	No	Yes
Able to do a "Keyboard" connect?	Yes	Yes	No
Address Book?	No	Yes	Yes
"Catalog" of Weather, etc. messages?	No	Yes	No
Uses compression of data	No	Yes	Yes
Cost of software	\$0+	\$0	\$0-\$49

**Q580 Does WL2K comply with Part 97 of the FCC Rules?**

A580

RMS HF Stations, RMS Packet Stations, and WL2K users are governed by the rules and regulations of their own country.

***Winlink 2000 complies with §97.221 for an Automatically controlled digital station:***

- For Wider than 500 Hz: 97.221 (b) (b) A station may be automatically controlled while transmitting a RTTY or data emission on the 6 m or shorter wavelength bands, and on the 28.120–28.189 MHz, 24.925–24.930 MHz, 21.090–21.100 MHz, 18.105–18.110 MHz, 14.0950–14.0995 MHz, 14.1005–14.112 MHz, 10.140–10.150 MHz, 7.100–7.105 MHz, or 3.585–3.600 MHz segments.

***[Editor Note: “data” includes emission type J2D, which includes pactor 3 (3 kHz or less).]***

- For 500 Hz: 97.221 (c) A station may be automatically controlled while transmitting a RTTY or data emission on any other frequency authorized for such emission types provided that: (1) The station is responding to interrogation by a station under local or remote control; and (2) No transmission from the automatically controlled station occupies a bandwidth of more than 500 Hz.

***Winlink 2000 complies with §97.109 Station control, for 3rd Party traffic rules:***

- (e) No station may be automatically controlled while transmitting third party communications, **except** a station transmitting a RTTY or data emission. All messages that are retransmitted must originate at a station that is being locally or remotely controlled.

***Winlink 2000 complies with Section §97.219(c) for 3rd Party traffic Content Rules:***

- §97.219(c) provides protection for licensees operating as part of a message forwarding system. "...the control operators of forwarding stations that retransmit inadvertently communications that violate the rules in this Part are not accountable for the violative communications. They are, however, responsible for discontinuing such communications once they become aware of their presence.

***Winlink 2000 complies with §97.309 for data emission codes:***

- (4) An amateur station transmitting a RTTY or data emission using a digital code specified in this paragraph may use any technique whose technical characteristics have been documented publicly, such as CLOVER, G-TOR, or Pactor, for the purpose of facilitating communications.

***Winlink 2000 complies with Sub-Part E when so designated (i.e.: §97.403 Safety of life and protection of property):***

- No provision of these rules prevents the use by an amateur station of any means of radio communication at its disposal to provide essential communication needs in connection with the immediate safety of human life and immediate protection of property when normal communication systems are not available.

**Q590**      **Let's assume that there is a total internet crash; none of the RMS stations have a path to the Common Message Servers. Is WL2K of any use to me?**

A590      There seems to be confusion as to how WL2K deals with the loss of Internet. Let me address this question and see if I can bring a little clarity to it.

As presently designed and deployed, the assumption is made that Internet may fail regionally but not globally. A disaster may take out the Internet infrastructure over an area of as much as several states or a single country but not the entire world.

If Internet fails in a given region those RMS sites that implement RMS Relay in the region will be able to continue to exchange traffic locally on VHF and globally on HF. RMS Relay will provide the ability to reach WL2K stations on HF that are in areas where Internet is still functional and can still reach a CMS site. CMS sites are purposely geographically dispersed (Australia, Canada, U.S.) to provide the greatest possible redundancy.

Individual HF client stations using Paclink or AirMail will continue to be able to exchange traffic with out-of-region HF stations that can still reach any one of the CMS sites.

The whole idea is to keep users and the network entirely connected even when even large areas become isolated due to loss of Internet. The WL2K addressing would remain functional and anyone that can reach any functional HF or VHF port can exchange messages with anyone else anywhere in the system without thought about how it is routed.

It is argued by some that we should build a system to support total global failure of Internet. Army MARS has in fact plans to implement just such a system using HF accessible and interconnected CMS sites. I do not know the timetable for this implementation, but meanwhile the system outlined in the Winlink 2000 Roadmap document is currently being implemented, and will support any disaster scenario experienced to date.

An all-HF system, no matter how implemented, will have bandwidth and latency limitations that constrain its value. Served agencies need (and expect) a communications service will be able to handle a reasonable volume of complex traffic with good speed. To that end we need to provide a service that will make use of the best and fastest means available at any given time.

The WL2K mission is to provide, through a volunteer network, effective last resort communications in civil emergencies and personal communications in non-emergency conditions

By Vic Poor, W5SMM, AAA9WL  
February 13, 2008

**Q600**      **The SCS TNC's that do Factor 3 seem to be "expensive". Is there any "discount" program?**

A600      The TNC's made by SCS contain a LOT of technology. Discounts are available from Farallon Electronics for qualified users. See:  
<http://home.earthlink.net/%7Ek7bfl/SCSDiscount.pdf>

**Q610            How do I change my Attachments limit?**

A610            As of February 2008 the "Attachment Limit" concept has been replaced by a "compressed message limit". This can be changed via the WL2K web page....WebMail....User Settings. The limit is in bytes. The default value for new users is 120000 bytes (compressed). The limit can also be changed by sending an "Options" message to the Common Message Servers with the AirMail program.

Go to: Message Index....Window...Winlink-2000....Options Message.

[Note: the reference to "Attachment Limit" in the Options message is actually the "Compressed Message Limit".]

**Q620            I will not be accessing the WL2K system for several months. Is there a way to have all of my incoming WL2K e-mails diverted to another e-mail account?**

A620            Yes, using the AirMail software, go to Window....Winlink-2000....Options Message. Change the "Alternate Address". Send the message, either via radio or Internet Access (Telnet).

To return to receiving email at your Winlink address; send another Options Message from AirMail, with the "Alternate Address" blank.

**Q630            How does the WL2K system deal with Spam?**

A630            Messages incoming to WL2K users are filtered, using high level methods, by the Central Message Server (CMS). Winlink 2000 uses the information from SPAMCOP. It also requires a reverse DNS lookup. Each server IP address must return a PTR-record that matches the HELO or ELHO command received from that server and it must have an A-record that matches the host name shown in the HELO or ELHO command. If such a record exists, then it has entry to the Whitelist system.

In addition, each individual WL2K user uses a "Whitelist". Prior to August 1, 2008, use of the Whitelist was optional.

**After August 1, 2008, the Whitelist is turned "On" for all users, and cannot be turned "Off". As of September 2007 WL2K is no longer using a Spam Filter with a "Threshold". Ignore references to a Spam Threshold in the AirMail software.**

## Q650 How does the "Whitelist" function?

A650 The "Whitelist" option allows messages to be downloaded to you only if the message was sent from an internet e-mail address on **your** Whitelist; **or** if the message was sent to you from other WL2K user. If a message is rejected, the CMS will automatically send a "Rejection Notice" to the sender of the message.  
The data for your Whitelist is stored on the CMS computers. Decisions regarding rejecting messages to you are made by the CMS, independent of which user software you are using (AirMail, Paclink AGW, Paclink MP, Paclink, etc).

Data for your Whitelist is composed of four unique pieces:

- a) A logical switch to turn the Whitelist "On" or "Off". **[Ignore this after July 2008]**
- b) A logical switch to Notify you (or not notify you) of the "sender" of a message which has been rejected by the Whitelist. This is a one-time message for each sender. ". **[Ignore this after July 2008]**
- c) A list of allowed e-mail addresses or e-mail domains.
- d) A list of disallowed e-mail addresses or e-mail domains (the "Blacklist")

Since you have been using the Winlink 2000 system, the CMS has been accumulating e-mail addresses in YOUR "Whitelist", adding to the list each new address to which **you** send a message. This accumulation process continues even if your Whitelist has been turned "Off".

Addresses in your Whitelist remain there for 400 days after you last sent an e-mail to that address.

EFFECTIVE, FRIDAY, AUGUST 1, 2008 THE WHITELIST FOR EACH USER WILL BE DEFAULTED TO "ON" AND THE WHITELIST NOTICE WILL DEFAULT TO "OFF."

**Q670 Tell me more about the Whitelist change on August 1, 2008.**

A670 About 90% of the messages into the CMS from the internet are Spam! In order to combat this problem it was decided by the Winlink Development Team that use of the Whitelist should be required of all users.

ANY MESSAGE TO A WINLINK USER FROM THE INTERNET must be from a sender's address or domain name that is in the recipient's whitelist, OR AS AN OPTION, the sender must include the character sequence //WL2K in the subject line of the message. If //WL2K is found in the subject line, the message will be accepted and forwarded to all of the recipients of the message with amateur callsigns.

Example:

Subject://WL2K (then any other normal subject content to follow).

If the sender is not in the recipient's whitelist and no //WL2K is found in the subject line the message will be rejected with a reference to the Winlink WEB page where instructions for sending WL2K messages will be found. Whitelist notices will no longer be created and forwarded to recipients.

There will be certain exceptions. Messages from future listed specific domains will be accepted unconditionally except where a recipient specifically blocks the domain name in their whitelist.

Also, starting August 1, the following Message precedence system will be in use. It should be used ONLY when absolutely necessary for emergency priority messages when large amounts of traffic are expected to a specific Amateur radio Winlink 2000 address.

For the subject of a message for a Winlink 2000 user:

Subject://WL2K R/ (will be used for "Routine" Messages. This will be similar to the standard //WL2K above).

Subject://WL2K P/ (Will indicate a "Priority" precedence).

Subject://WL2K O/ (will hold a yet higher "Immediate" precedence). It should be saved for agency use.

Subject://WL2K Z/ will increase the precedence to its highest "Flash" level. It should be saved for agency use.

The above options mimic the Military Precedence system for message handling, and has worked successfully for over a year on the MARS side of Winlink 2000 for their internal communications as well as for Federal, State and NGO Agency use. It certainly helps keep the gremlins away.

Obviously, educating those potential EmComm users of Winlink 2000 is mandatory as it should be regarding message size, etc.

Q675

**How do I view or change the address or domain entries in my Whitelist or my Blacklist?**

A675

New e-mail addresses are automatically added to your Whitelist when the CMS receives the message **from** you, independent of which user program you are using. The list can also be changed by:

**A) If you are connected to the Winlink 2000 web page:**

- 1) WebMail...User Settings
- 2) Add or Delete specific addresses and/or domains to either the Whitelist or the Blacklist.
- 3) Hit the Save button

**B) Create a new message [the following is an example] to the CMS with the following format (not case sensitive):**

To: System  
Subject: Whitelist  
LIST *will return a list of all Whitelist and Blacklist entries for the user.*

ACCEPT: jblow@somewhere.com *will allow messages from jblow@somewhere.com to be accepted. You may send multiple lines, each containing one e-mail address.*

Reject: jblow@somewhere.com *will reject any messages from jblow@somewhere.com. You may send multiple lines, each containing one e-mail address.*

Delete: jblow@somewhere.com *will remove jblow@somewhere.com from the user's Whitelist. You may send multiple lines, each containing one e-mail address.*

ACCEPT: arrl.net *will allow all messages from xxxxxx@arrl.net to be accepted*

REJECT: Verizon.com *will reject all messages from xxxxxx@verizon.com*

*IMPORTANT NOTE: Domain Entries without the "@" will be treated as "domain names" only. For example if "Accept: sailmail.com" were entered, then ANY message from that "domain name" (sailmail.com) would be accepted.*

**Send the message**

**Beginning AUGUST 1, 2008, users with Amateur callsigns will have their Whitelist feature activated. USING THE WHITELIST WILL NO LONGER BE OPTIONAL.**

**Q680 I notice that messages sent from Paclink have modified my Subject, prefaced by //WL2K. Why? Do I need to always include the //WL2K in the subject line of all my messages going through the Winlink 2000 system?**

A680 The reason Paclink automatically puts //WL2K on the subject line is to implement one of our "good use tips", that is, to also use it on your outgoing messages, so that persons who click their 'reply' buttons and have an email setup that replies from a different email address than they receive on will have a good chance of having //WL2K in the subject line of their reply. Persons in these situations would otherwise have the reply mail rejected. This also goes for folks with ISPs who use some nonstandard message headers. You would be surprised how often this occurs.

No--you don't need //WL2K on outgoing messages. New addresses not already on your Whitelist are automatically added to it. But if you have internet recipients in the above categories, you sure will want it. See Q670.

**Q700 Even though recipients are on your Whitelist, some internet addresses get rejected by the CMS. Why?**

A700 Verify that the "From" address of the Sender is the same as the address you have in your Whitelist. This situation is common with folks who use services such as "ARRL.NET".

There is a standard in e-mail delivery designed to prevent spam sent from domain names that do not match the IP address. (This is a common way spam originates). It's called reverse-DNS lookup. WL2K central servers check with the DNS of every incoming internet sender to be sure the 'From' address matches the IP address from which the message comes. If not, it is rejected as incoming spam. This is our firm policy.

Some may point out that RFC 2821 states that SMTP servers (ISPs) may verify the match, but should not reject the message if verification fails. Our policy is tough for a reason; WL2K is a radio-based service for the benefit of our radio users. Each licensed radio user is bound to obey legal rules that govern them or they risk their license. In virtually every country these regulations strictly prohibit indecent or commercial content from being transmitted on the airwaves. Besides the normal spam problem for anyone with a mail server on the internet (less than 1% of messages hitting our system are valid), we MUST be bound by regulations more strict than RFC 2821. Also, the Winlink 2000 system is NOT an ISP. We are a private concern and are not legally bound to RFC 2821, or to accept any messages that are not of our choosing. We do not charge our users for the services we provide. We strictly obey the rules that govern amateur radio in every country our network stations and users operate.

What can you do?

If your recipient's internet mail provider has not updated their DNS records to include reverse-DNS (PTR) records, the WL2K check fails, and incoming legitimate mail can be branded as spam and rejected. Advise your internet correspondents to tell their ISP to upgrade their service to current anti-spam standards by adding a PTR record (the reverse-DNS record) to their DNS servers. If they won't, your recipients can get a free email account with Yahoo or gmail (Google) that properly conform.

The good news is that most ISPs are diligent and have the same concerns about spam. For the few that don't, well, we wish they did. Sorry for the trouble, but internet spammers have made life complicated for us all!

**Q720** I just sent a message from my Blackberry to a W2K User. It was rejected by the CMS...."not on the Whitelist". The User has my correct email address in his Whitelist. What happened?

A720 The CMS may be seeing the message coming not from your email address, but from "----blackberry.com". You need to Setup your real email account on the Blackberry and delete the blackberry.com account.

Go to [www.blackberry.com](http://www.blackberry.com) and search for your email support from your provider. You can also delete a signature line there.  
You can also delete a signature line there.

**Q740** It seems that a friend of mine is just unable to get an important message to me through the WL2K Spam Filter? Any suggestions?

- A740
- a. Have them preface the Subject: with "//WL2K".
  - b. You send a message to them first.
  - c. You send a message to the email address that your friend uses as a "From" address.
  - d. Have your friend show their email Network Administrator the contents of FAQ700.
  - e. Have another friend (who is able to send emails to you) relay the email to you.

**Q750 Is there a good way to “Road Test” my WL2K equipment and software?**

A750 Yes; it takes some time, but is well worth the effort, especially if you do not use the Winlink system several times each week **WITH THE EQUIPMENT YOU EXPECT TO USE** during the situation for which you are planning to use WL2K.

It is NOT good enough to “ping” your local RMS gateway station. Messages need to be sent and received. You are using a digital system; which is only “one electrical connection” OR “one character of software code” away from Failure.

You need to test the entire “system”, which includes:

- 1) your equipment and software
- 2) the Winlink 2000 system
- 3) the equipment and software on the “other end”; the person with which you need to exchange messages.

Be as realistic as possible. If you (User1) expect to exchange messages with User2 during an “emergency event” by using your laptop with packet going through a Node, don’t make the Test with your desktop computer, using Telnet. If User2 expects to exchange messages during the “emergency event” using their Blackberry, the Test should not be done with their desktop computer.

The testing process:

- 1) User1 sends a message to User2
- 2) User2 confirms receipt of the message, by doing a “Reply”.
  
- 3) User2 sends a message to User1.
- 4) User1 confirms receipt of the message, by doing a “Reply”.

A successful test is the receiving of all four messages.

*Don’t forget to print one of the four messages! Your printer ink supply may have dried up!*

***The configurations of the systems you are testing are dynamic, living systems. Firewalls and Spam Filters are continually being changed. Test on a regular basis!***

***See Q150, 380, 610-740, 3510, 8550.***

**Q900 Who pays the expenses of creating and operating the Winlink 2000 system?**

A900 Winlink 2000 (WL2K) is (and always has been) all volunteer. No one is compensated for their contributions of time which now [2007] totals well over 20 man-years. We try to offset at least some of the costs of running servers, registering internet addresses and domains, licensing software etc with donations.

In 2006 we set up a not-for-profit public service corporation to handle the finances and contributions from the distributions of CDs and also as a vehicle to accept donations of equipment and services (e.g. retired commercial servers etc). This corporation is called the Amateur Radio Safety Foundation Inc. (ARSFI) see <http://www.arsfi.org/> The directors of the ARSFI are primarily the founders and developers of WL2K and no director receives any compensation. We are in the process of obtaining Public Charity status 501(c)3 for this corporation but that is a time consuming process and it is not guaranteed we will be granted this status.

The ARSFI is the mechanism we use to pay for the expenses of WL2K and to purchase what licenses, hardware and new development tools and software are required. It is also a mechanism to provide training for Emcomm groups and distribute information about WL2K and Amateur Radio Emergency services in general.

Interested parties or those wishing to contribute to the operation of WL2K can do so in one of a few ways. These mechanisms can all be reached via the ARSFI web site above.

- 1) Join the ARSFI (\$10/year). Your membership gives you a vote into how the organization is run and what it does. The contribution goes to the ARSFI and some of that is used to support Winlink 2000.
- 2) Make a cash donation through the ARSFI. Both Pay Pal and Secure Credit Card mechanism are available on the ARSFI.org web site. We request that personal donations be limited to \$100.
- 3) Purchase one of the CDs which we make available throughout the year to various boater, RV, and EMComm groups. These have convenient up-to-date software and other useful information. A nominal \$15 donation is suggested to cover duplicating and mailing costs. If you would like a CD configured to target a particular group or service please contact one of the directors and provide us information on what your target audience is.
- 4) Make a donation of equipment or services to the ARSFI. This can be in the form of retired but otherwise useable servers, radio equipment, software, facilities or services (e.g. legal, accounting, engineering, programming or documentation help) To make a donation of equipment or services please contact one of the directors of ARSFI.

Donations of cash or check are also appreciated and should be sent to:

ARSF Inc.  
c/o Rick Muething, KN6KB  
6143 Anchor Lane  
Rockledge, Florida USA 32955

Make checks payable to ARSF Inc. or Amateur Radio Safety Foundation Inc.

*Your support of WL2K and the ARSFI is much appreciated.*

*Rick Muething, KN6KB  
Director, Treasurer Amateur Radio Safety Foundation  
Winlink 2000 Development Team*

**Q920 What Discussion groups are concerned with WL2K?**

A920 <http://groups.yahoo.com/group/wl2kemcomm/>  
Purpose of the group is to share ideas, uses, methods and procedures of utilizing Winlink 2000 for Disaster Recovery/Emergency Preparedness; and to include any other organization/agency that deploys or is considering deploying Winlink 2000 for emergency communications.

<http://groups.yahoo.com/group/airmail2000/>  
A general purpose list for things like: Beginner questions on setting up, tips on using and connecting to the Winlink 2000 system, frequency updates, Winlink 2000 station status and new station additions are all welcome on this list.

[http://groups.yahoo.com/group/mars\\_wl2k/](http://groups.yahoo.com/group/mars_wl2k/)  
This Yahoo group is for the use of Army, Air Force and Navy - Marine Corps MARS (Military Affiliate Radio System) members interested in the establishment and use of Winlink 2000 network technology. It is not an official forum. Messages posted here, unless otherwise noted, are the opinions of the poster. Do not discuss matters such as specific frequencies or channel designators on this Group. This group is for technical assistance to WL2K users and sysops, NOT for arguments of whether we should/shouldn't run WL2K.

**Q930 What is the future of the Winlink 2000 System? Are their any new things on the horizon?**

A930 Yes! Several things will be happening, which will improve the system. See the paper "Winlink 2000 Roadmap", written by two members of the WL2K Development Team:  
<http://www.winlink.org/node/19>

WL2K Development Team member Vic Poor has written a comprehensive paper regarding the architecture of the Winlink 2000 System. See it at:  
<http://www.winlink.org/node/356>

There is new software being developed (WINMOR). It is Sound Card based. It will be used primarily on HF, as competition to pactor. See details at  
<http://www.winlink.org/node/349>

**Q940 When WINMOR is implemented, will I still be able to use my Pactor equipment?**

A940 Yes It is expected that the HF RMS stations will continue to service Pactor users, in addition to WINMOR users; same frequencies, same Connection procedures.

**Q950 Are there other sources of Help for WL2K users?**

A950 ARRL (ARES/RACES) – General FAQ concerning Winlink 2000  
<http://www.laarri.org/ARESFAQ1.htm>

Chester County (PA) ARES/RACES – W3EOC Radio E-mail Exercises  
<http://www.w3eoc.org/RadioEmail/#top>

Harris County (Texas) ARES/RACES – WL2K Resource Page  
[http://harriscountyares.org/resources/digital/dist\\_14\\_dig.htm](http://harriscountyares.org/resources/digital/dist_14_dig.htm)

AE5V – WL2K Implementation  
[http://home.earthlink.net/~bscottmd/wl2k\\_implement.htm](http://home.earthlink.net/~bscottmd/wl2k_implement.htm)

K4SET - The Winlink 2000 Network, Amateur Radio, and How It Could Help Your Work  
<http://radioministries.org/winlink.htm>

N0IA – Tuning Packet Parameters for Best Performance  
<http://home.earthlink.net/~k7bfl/TuningVHFpacket.pdf>

N7CW, KI5DR, VE3GFW – A Winlink 2000 Training Session  
<http://www.ioppe.net/dares/Winlink%202000%20Training%20Session.ppt>

SV2AGW – A discussion about packet TNC's built into radios  
<http://home.earthlink.net/~k7bfl/TascoModem.pdf>

Icom – D Star Specifications  
[http://www.aesham.com/display\\_pages/d-star.pdf](http://www.aesham.com/display_pages/d-star.pdf)

ARRL Lab (KC1SX) – Comparative Performance of Packet Radios at 9600 baud  
<http://home.earthlink.net/~k7bfl/RadioCompare.pdf>

The “Pactor Primer” and “RF Interference”; two excellent articles written by Jim Corenman, KE6RK; author of the AirMail software:  
<http://www.airmail2000.com/docs.htm>

AirMail Installation and Setup Instructions – W5IFQ  
[http://www.ke5exx.com/pdf/AirMail\\_HOWTO.pdf](http://www.ke5exx.com/pdf/AirMail_HOWTO.pdf)

AirMail Setup Instructions – San Diego ARES  
<http://www.sdqares.net/2%20AirMailSetup%20R3.pdf>

WL2K Information Resource pages:  
[http://www.activeham.com/winlink/wiki/index.php?title=Main\\_Page](http://www.activeham.com/winlink/wiki/index.php?title=Main_Page)

Florida Amateur Digital Communication Association  
<http://www.fadca.org/>

Each Wednesday night on the W8FSM EchoLink server at 8:00 PM EST, (7 PM Central, etc.) there is a group that meets to discuss WL2K and related topics.

## AirMail – Setup - General

### **Q1000      What kind of computer operating system do I need to run AirMail?**

A1000      Windows 95 is the “minimum” operating system, although a more modern Windows operating system is always encouraged.

### **Q1005      I see that there are several “modules” in addition to the “HF Terminal”. What are their differences?**

A1005      The “Telnet Client” module is used to communicate via the Telnet protocol, using an internet connection. The “setup” for this is via the Tools...Options...Modules...Telnet Client...Setup window. This module is the easiest to get setup, and is suggested as an initial means to get AirMail working. See Q4000.

The “Terminal” or “HF Terminal” module is used to communicate via HF, using pactor 1, 2, or 3. The “setup” for this is via the Tools...Options...Settings window. See Q2000.

The “VHF Packet Client” module is used to communicate via packet radio. The “setup” for this is via the Tools...Options...Modules...VHF Packet Client...Setup window. See Q3000.

### **Q1010      I having trouble getting AirMail to talk to my computer com port. Any suggestions? I am using a serial to USB converter between my computer and the TNC.**

A1010      Some serial/usb converters work ok; some don't. Good results have been reported for those brands of Radio Shack, Manhattan, Keyspan, Edgeport, IBM and Startech. Many folks are having difficulties with those sold by Belkin, but that may have changed.

The Keyspan and IBM devices have been tested and listed on the Microsoft Hardware Compatibility List (HCL). Since only “listed” hardware has been tested and found to be substantially compliant, buying unlisted equipment is a gamble at best.

You can find which converters are on the HCL by checking at:  
<http://www.microsoft.com/whdc/hcl/default.msp>

Things like COM ports floating (or, being able to be assigned and reserved unchanged by the driver) are symptoms of software that can't get on the approval list because someone wrote cheap drivers.

### **Q1020      I want to install a new version of AirMail. Do I need to uninstall the old version first?**

A1020      No; just copy the new file into your main AirMail Folder. Double click on the new file. Installation will begin. All of your previous settings and frequency lists will be preserved.

**Q1040 I can't seem to get the "Earthmate LT-20" GPS receiver to work with AirMail. Any suggestions?**

A1040 The original Earthmate was connected via a serial port, used a Rockwell chipset and a non-standard interface at 9600 baud. AirMail can communicate with that device if you check the "Earthmate" box.

The 2003-vintage USB Travelmate was different, and worked in NMEA mode if you told the DeLorme installer that you wanted to use the GPS with other applications also. If you made that selection when DeLorme was installed, then special drivers were installed that created a virtual com-port that would speak standard NMEA. In this mode the "Earthmate" box should NOT be checked, it is behaving as a standard NMEA GPS.

Apparently the same is true of the LT-20, except that the special NMEA-drivers are not part of the DeLorme installer. You can download the "DeLorme Serial Emulation Driver for USB Earthmate® GPS and Earthmate® GPS LT-20 Receiver" from <http://www.delorme.com/support/search.aspx>

After the new driver is installed, start AirMail and configure the proper COM port for the LT-20 in the Message Index.....Window....Position Report...Data Input....Setup window. Check the "GPS/NMEA Port Enabled" box, and select the proper COM port. Do NOT check the "Earthmate" box. Also, be sure the "Data Input...Enabled" box is checked.

**Q1060 Is it possible to get AirMail software to use on a Windows mobile PDA?**

A1060 No, sorry. Windows CE (for mobile devices) is completely different from the Windows 95/98/ME or Windows NT/2000/XP families.

**Q1080 I have been reading and now using the next generation of USB flash drives: the U3 smart drive. Has anyone setup the AirMail program to run under the U3 smart drive?**

A1080 [from WA9OTP] A handy way to transport the AirMail program between computers is in a small USB flash drive. These drives are very inexpensive now, compact, and durable. When AirMail 'installs' it copies programs to your computer, it does not add complex links (DLLs).

According to Jim Corenman, KE6RK, who wrote AirMail:

"The only caveat is that if AirMail has never been installed on the machine, then a library file might be missing- vcl50.bpl which normally lives in the Windows/System32 folder. The fix is to copy that file into the AirMail folder on the USB-drive. 73, Jim"

I have tried this, and included the vcl50.bpl file as Jim suggests, and found that AirMail will boot and run from the flash USB drive on any other machine.

Of course, you may have to adjust the com ports for your new situation.

**Q1090**      **Are there any special things I need to know to get AirMail to work with the new Windows Vista operating system?**

A1090      First, a comment on upgrading to Windows Vista: If your new computer came with Windows Vista then that's great. If you are contemplating upgrading your computer to Windows Vista then make sure that is what you want to do. Windows-XP is robust and reliable; if yours is not then something has been compromised. And upgrading a compromised system results in a compromised system with fancy new drapes. But if you have a fast processor and at least a gigabyte of memory, then go for it.

The next question is an upgrade-installation or a clean install. Generally we prefer a clean install, but only if the computer manufacturer supports Win-Vista for your computer, and provides driver updates. For example, upgrading our three-year-old IBM Thinkpad was a piece of cake-- do a clean install for Win-Vista, go to the Lenovo website support/downloads page and install the system-update file for Windows Vista. We were impressed, but your mileage will vary.

There are a couple of issues when running AirMail under Windows Vista, mostly related to new Vista security features. The short answer is that AirMail works fine under Win-Vista when run as an administrator. A new security feature of Windows Vista is "User Account Control" (UAC). Remember, if you can do anything useful with your computer, it is not sufficiently secure. "User Account Control" is a watchdog service that does two things: warns you if you are trying to do something useful, e.g. run a program. And, if a program attempts to write into protected areas (e.g. the "program files" folder), a virtual copy of the file or folder is created instead for that user. The result, for AirMail, is severe schizophrenia, and release-notes that just keep reappearing. Here's how to fix it:

First, install AirMail as usual: Download the file from the website and save it in a "downloads" folder, then open that folder and open the downloaded file. AirMail will go through the install steps, and Windows may show a "not installed properly" warning when finished-- click "Yes this installed normally" and continue.

Once installed, before running AirMail, right-click the AirMail desktop icon and select "properties", click the "Compatibility" tab, and check "Run as administrator". This allows AirMail to write into its own folders (otherwise prohibited). For AirMail versions prior to 3.3.090 also check "Run this program in compatibility mode" and select Windows-XP SP2 (this will enable com-port descriptions).

You will continue to get warnings from UAC about an "unknown program" each time you start AirMail, and you may want to disable UAC. You can disable UAC in Control panel: open "User Accounts" and turn "User Account Control" off.

Help file: Vista does not include the program to display the traditional help files, "Winhlp32.exe". This may be available for download, alternately it can be copied from Windows-XP C:\Windows folder. To do this you will first need to set the permissions for the C:\Windows folder to allow Administrators full access, and to do this you will need to first take ownership (right-click the Windows folder, select properties, then Security tab, Advanced button, Owner tab, Edit button). Then copy the complete (277KB) Winhlp32.exe from Win-XP over the 9KB "stub" Winhlp32.exe on Win-Vista.

The propagation program installs OK and runs properly under AirMail. It will not likely run correctly under its own desktop icon without some fiddling similar to the above.

Upcoming versions of AirMail will move the user-folders into Win-Vista's user-space, while maintaining the basic hardware settings in a common file. This will avoid issues with UAC as well as permitting separate "personalities" if desired. The Help file will also be converted to HTML format. The goal is for AirMail to run smoothly under Vista's highest security settings but this will take some effort.

[from Jim Corenman, author of AirMail; February 1, 2007]

**Q1150 I am having trouble getting AirMail to install. I followed the instructions on the web site, but after I start the install it never seems to complete unzipping the files it grays out and an Airmail button appears in the tray, but it doesn't do anything. No Airmail folder is created in the Programs file. I've left it running for over a half hour and still nothing and if I hit cancel a popup tells me that "install.exe is still running". Help please!**

**A1150** [from KF6PNA] Some versions of InstallShield have a problem working with screens that have resolutions above 1024x768.

I have a desktop computer with 2 monitors connected. The primary is a 19" with resolution 1280x1024. The secondary is a 22" widescreen with resolution 1680x1050. With nothing left to lose, and since I'd tried everything else I could find, I changed the resolution on the 19" to 1024x768, reran the installation and lo and behold, the setup dialog boxes appeared on my monitor and I was able to complete the install.

I changed the resolution back and tried to do another install and noticed that I could just barely see the dialog box along the right side of the screen. I was able to grab the setup dialog window and drag it back onto the screen and was able to complete the installation. Then I figured one more test was in order. I changed the configuration of the video card to only use the 19" monitor and ran another install, with the resolution set to 1280x1024, and everything worked perfectly as it had in the past.

The bottom line... The setup dialog boxes were displaying "off the screen" giving the appearance that the install was hanging, when it was actually just waiting for a response. Problem solved! I'm using an NVIDIA GeForce 8400GS video card with the latest drivers.

## AirMail – Use - General

**Q1500**      **There seems to be a very large message trying to download to me. My message pipeline is plugged! It will take too much time to download. How can I delete the message before it downloads?**

A1500      Sometimes a very large message (with or without Attachments) gets sent to a WL2K user and the attempted downloading of it results in very long air time and the inability to download other messages. There are several methods available to fix this problem:

### Method 1

Have someone who has access to your WebMail account read and off-load the message; then Delete the message

### Method 2 (See Q8510, Q8515)

a. Set your program to the "Keyboard" mode. (AirMail is normally in the "Handshake" mode.

b. After connecting to a RMS station, type LM. This will give you a listing of the messages waiting for you, complete with Message ID, size, and origination.

c. Find the number of the offending message. Copy and Paste its Message number into a line to be sent back to the CMS as:

K xxxxxxxxxxxxxx [xxxxxxxxxxxxxxx is the Message ID]

d. The message will then be Killed (Deleted). You will get a confirmation of that back from the CMS.

e. Repeat (b) to confirm that the message is no longer in the queue for you.

f. Disconnect (Disconnect Button or type BYE)

g. Connect again, in the normal Handshake mode. The Pipe will be unplugged!

h. Send a note back to the offending Sender.....

### Method 2a

The KM command will work also, but ALL of your messages will be deleted.

### Method 3

Download the message via Telnet (Internet Access) or the WL2K web page, if an internet connection is available.

### Method 4 (not recommended)

In the AirMail Message Index Window, go to Tools...Options...Settings  
Change either "Defer Incoming larger than..." or  
Reject Incoming larger than... to a small number larger than 0

Method 5: Request the System Administrator to delete the message.

**Q1540** I want to use AirMail with “Internet Access”, Packet, and Pactor. Do I need three different computers, or three “instances” of AirMail on one computer?

A1540 No, a single installation of AirMail on a single computer will handle your needs. The three communications access methods each have their own unique communications “Module” within the main AirMail software. If you expect to have the Packet Module and the HF Terminal (Pactor Module) open at the same time, they each need to have different port numbers.

**Q1580** What is the “Catalog” part of AirMail?

A1580 AirMail's "Catalog" window can be used to request weather bulletins and other documents from the Winlink 2000 system for hams, and also from the Saildocs server operated by the Sailmail association but also accessible via e-mail by WL2K users. The AirMail catalog is found under the Window menu, Catalog selection. The catalog window is divided into two panels- on the left is a "tree" showing various folders, similar to AirMail's message-index tree or Windows Explorer. These folders represent categories of documents which can be requested.

The catalog entries are organized first into sections for "WL2K" and "Saildocs". Clicking the little "+" will expand a selection, clicking a "-" will collapse it (just like Windows Explorer). The right and left-arrow keys can also be used to expand and collapse folders.

Under "WL2K" are a folder for "global" bulletins, plus a folder for each station which has been seen, containing that stations local bulletins as well as the "update" listings. Under the "global" folder are folders for each bulletin category, click on these (or use the arrow keys) to open that folder and show the contents in the list on the right side. Bulletins or documents are requested by checking the corresponding check-box, see Winlink 2000 Bulletins for more information.

Of particular interest and use for WL2K users are the WL2K\_Help and WL2K\_Users folders. These folders contain messages that can request specific Help files and specific “current” information regarding WL2K users.

Under "Saildocs" is a series of category-folders. The "Grib files" category is a special folder which brings up a grib-request window with a world map for requesting grib weather-data files. See "Grib Weather Files" for more information on requesting grib data. Saildocs also includes a large number of text weather-bulletin documents which can be requested. These are organized into folders under "Saildocs" for the different ocean regions. Some areas have sub-folders to further divide the selection for easy browsing. Also, many bulletins are listed under more than one heading, for example Atlantic hurricane bulletins are listed under both "Atlantic" and "Tropical". See "Saildocs Catalog" for more information on requesting documents from Saildocs.

**Q1600      How do I update the list of messages in the Catalog?**

A1600      Every time there is a small change, deletion or addition to the WL2K Catalog displayed in the AirMail menu "Window>Catalog," the list should be updated to take advantage of the changes and additions.

The Update is relatively short, while obtaining a new List is a bit longer. Either way, once the change is received, AirMail automatically updates your existing Catalog list. The proper method for updating or obtaining a new list is as follows:

1. Go to the AirMail menu item "Window>Catalog."
2. On the left, expand the directory tree to show "catalog>WL2K"
3. Under Catalog, expand "WL2K' further to show some of the RMS or CMS call signs.
4. Pick a RMS or CMS that you wish to use and Click on that callsign.
5. On the right hand side you will see both "LIST" and "UPDATE."
6. Check "UPDATE" or "LIST." If you choose "UPDATE," all changes & additions will be shown, BUT the deletions will NOT be taken away. However, if you choose "list," then you will have a fresh new shorter list. Unless otherwise instructed, an update will be adequate.
7. Post and Send your request.
8. Wait, and then at another time, check back into any RMS or CMS and retrieve the information you requested. NOTE: Once the update or new list has been received, it will automatically update your AirMail Catalog List. If it does not, then YOU did something incorrectly.

**Q1610      What is GRIB weather data?**

A1610      GRIB is a file format and stands for Grid In Binary. It is used for the storage, transport and manipulation of gridded meteorological data, such as Numerical Weather Prediction model output. It is designed to be self-describing, compact and portable across computer architectures. The GRIB standard was designed and is maintained by the World Meteorological Organization.

GFS is a mathematical model developed from USA weather offices. GFS stands for Global Forecast System and is a global numerical weather prediction model run by NOAA/NWS. This model runs four times a day. It is "pointed" to USA. It means that every mile AWAY from the "center" has less probability of a correct prediction. In USA and Atlantic the probability is more than 75% that is really good. In Mediterranean it is around 50%. It means that if the grib says "South" it has the same probability than "North"; and it is not good! The local bulletins in the WX\_ area is the best solution for Mediterranean sailors

Grib files are extracted from a computer forecast model (GFS). While such computer data can provide useful guidance for general wind flow, there are limitations which must be understood. The file is a weather prediction generated by a computer run by NOAA/NCEP (GFS, WW3 models) or the US Navy (comaps, nogaps) and downloaded and processed by Saildocs (a service of Sailmail). The network is complex, and any computer network is subject to hardware and software failures or human error which can effect accuracy or availability of data. In particular, if servers were not able to download a current data file then the grib-file may be based on old data.

Also remember that grib data is not reviewed by forecasters before being made available. You are getting a small part of the raw model data that the forecasters themselves use when writing a forecast, and it is your responsibility to make sure that the data is consistent with your local conditions and with the professionally-generated forecasts (e.g. text bulletins and weather-fax charts).

Grib data also has limitations along shore, where local effects often dominate and may not be adequately modeled. In addition these models cannot provide adequate prediction for tropical systems, frontal activity or convergence zones. For example, while global models can provide useful data on the likely track of hurricanes, they grossly underestimate the strength of hurricanes because of their small size compared to the model grid. For hurricane/cyclone forecasts, carefully monitor the appropriate warning messages and do not rely on grib data from any source.

That all said, grib data can provide useful guidance not available elsewhere. Understand the limitations and use the data carefully. Grib data should be considered supplemental to other forecasts, and not be relied upon in lieu of professionally-generated charts or forecasts.

Airmail does not understand the Euro coamps lat-lon limits, you will need to format the request manually. You can create a "GFS" request and then change the code from "GFS" to "coamps", and change the grid if desired.

See [www.saildocs.com/gribinfo](http://www.saildocs.com/gribinfo) or send a (blank) email to: [gribinfo@saildocs.com](mailto:gribinfo@saildocs.com) for more info on formatting grib requests.

Additional info regarding grib files can be obtained from the AirMail Help file or from <http://www.saildocs.com/gribinfo> or from <http://www.grib.us/>

**Q1630      Is there a maximum number of addresses that can appear in the AirMail "To" line?**

A1630      No; however keep in mind that most folks use some sort of spam-filter on the receiving end, and most spam-filters are sensitive to messages with a bazillion "to" or "cc" addresses- lots of cc's is something often used by spam. So keeping the number of

recipients down to a reasonable number per message will increase the chances of getting it through.

**Q1660      How s it possible to view all addresses in the “To” line as I add them to it?**

A1660      Save the message, then select View menu, Message-header, and re-open the message. You will see the complete headers with word-wrap, easy to check or copy.

**Q1700      How can I select multiple addresses in the address book?**

A1700      Create an address-book entry called "Group" or whatever, enter one to-address and as many cc-addresses as you want, one per line. To copy/paste; use the right-click menu (or the usual windows shortcut ctrl-V to paste).

**Q1720**      **How can I print out a message, if I don't have a printer connected to my computer?**

A1720      If you have a "thumb drive" and another computer (with printer) is available in your vicinity, try this:

1. Select the message (do not Open).
2. Select File.....Import/Export.....Export email format.      This will enable you to Save the message as a text file on your thumb drive.
3. If the message has Attachments, "Save As" them on your thumb drive, by right-clicking with the mouse.
4. Move your thumb drive to the other computer.      Open the files and Print.

## AirMail – Setup (HF Pactor)

**Q2000** I have connected to a RMS HF station, with a Posted message to go out, but it won't go. Why?

A2000 You may not have your BBS Forwarding Protocol set to "B2F". See Tools...Options...Settings...System Settings

**Q2050** I have heard talk about my PK232MBX not working on Pactor. What is this all about?

A2050 The early PK232mbx models with firmware rev. of 7.0 have code in them that effects how binary files are transferred. The WL2K folks found that the B2F protocol is the most effective way to transfer files. However with older code in the firmware, the PK232 cannot use this protocol so it switches to the FBB protocol, which is slower.

The whole point is that you get a slower throughput with the older firmware. In revision 7.1 the code has been changed to accommodate B2F, but do not expect to see a major increase in throughput because it is still only Pactor 1. To see a major increase in throughput you need to go to Pactor 2 or 3 (with a SCS tnc).

The PK232mbx will not support use of the GetFAX function.

## AirMail – Use (HF Pactor)

### **Q2500 How do I choose which RMS HF Station to use?**

A2500 Use the data from the AirMail propagation module (View...Propagation) to give you guidance on which stations and frequencies are better than others, at the time of day you want to connect.

Do NOT try to connect on a frequency that is in use!

Use RMS HF stations which should have a very strong signal with you, according to data from the propagation module.

Use lower frequencies (80 and 40 meters) if possible.

30 meters is a very useable “forgotten” band.

Use Pactor 3 or Pactor 2 if you have them. It saves everyone time, and makes more RMS time available for other users.

Use one of the stations that are not quite so “busy” as others. You can get a feel for this by going to the WL2K web page....Reports.....RMS HF Station Status;  
<http://www.winlink.org/RMSpactorStatus>  
Click on the station symbol callsign....

### **Q2510 I am not getting solid Connects with any RMS HF Station. What could be wrong?**

A2510 Several items could affect the performance:

See the AirMail Help files

Does the LSB/USB configuration of your radio match that of your TNC?

Are you on the correct EXACT center (not dial) frequency? The main frequency chart is listed as center frequency. In the lower right hand corner of the Terminal screen on the AirMail Terminal form, you will find the actual dial frequency. The dial frequency varies with modem type and other factors, while the center frequency is always the same, regardless of mode of operation or sideband used.

The TNC to computer baud rate should be set as high as possible, given the specs of your computer and TNC.

Over modulation of the transmit audio? You should barely see any ALC with full output to your transceiver. This can be set up in AirMail. Read the AirMail help files. Reduce the transmit audio gain level. Less is Better.

Turn off all processors, compressors and filters on both the receiver and transmitter.

Is your receive bandwidth filter wide enough for the mode used? Pactor 3 needs 2.4 KHz.; Pactor 2 needs 0.7 KHz; Pactor 1 needs 0.6 KHz.

Some radios do not perform well with both the microphone and the TNC connected simultaneously to the radio. Disconnect the microphone.

Maybe you have an "RF or Audio" problem due to RF feedback into your system. A symptom on this problem would be a "better" signal, when using a very low power output. Use ferrite chokes and/or less power output. This feedback can also be reduced by Increasing the audio level from the TNC and decreasing the transmit audio gain at the transmitter.

If you are using a battery for power, is the battery voltage too low? In this case maybe a lower power output setting may work better.

Listen to your transmitted signal with another receiver. Does it sound like that of a public RMS HF station? See above.

Maybe you need a better antenna?

Install a better earth ground connection or counterpoise.

**Q2520 I am not getting solid Connects with one particular RMS HF Station. What could be wrong?**

A2520 Several items might improve the performance:

See the AirMail Help files

Change to a difference frequency band for that RMS HF Station

Try a connection at a different time of day.

Use another RMS HF Station. It does not matter. They are all transparent to the system.

If the audio from the RMS HF Station sounds distorted or "different", that station may have a problem. Notify the Sys Op by sending an email to: [RMSCallsign@winlink.org](mailto:RMSCallsign@winlink.org)

**Q2530 I have connected to a RMS HF Station and messages are flowing, but VERY SLOWLY. Any suggestions?**

A2530 If you are "almost done" with the transfers, hang in there and wait for the finish.

If you will have a significant estimated time left to finish the transfer, do a Hard Disconnect (hit the Button twice). Pick another RMS HF Station, another frequency for the same RMS HF Station, modify your equipment for a better signal, or wait until propagation conditions improve. There are many RMS HF Station's and frequency bands available; something usually works better...now. The Magic of WL2K!

When you make the next connection, AirMail tells the RMS HF Station how much of the message(s) have already been transferred, and the process will continue from where it left off on the previous connection.

See Q2680.

**Q2533 I have heard that there may be problem, using my Icom 706MkIIIG with Pactor 2 and Pactor 3?**

A2533 The very early (you would have to check with Icom to get the serial number range) versions of the 706 MkIIIG have issues with a slow transmit rise time which adversely affects Pactor 2 and Pactor 3 performance. Apparently it occurred during the first month of production. There is a mod required which will correct the problem. An article describing a fix for this problem is in the Yahoo WL2K Emcomm User Group. See Message numbers 9735 and 9736 at: <http://groups.yahoo.com/group/wl2kemcomm/>

As of January 2009, Icom will modify these radios at no charge as long as that model is still in production. A 706 MkIIIG with serial number 01718 had this problem and it was remedied with this modification, done by Icom.

**Q2535 When using the HF Terminal window I constantly have to use the scroll bar to keep up with the information showing in the window. How can I keep that from happening?**

A2535 To fix the scrolling problem:  
1. Maximize the Terminal window.  
2. "Restore Down" the Terminal window (the box next to the Close Box)  
3. Scroll down to the bottom of the Terminal window.

The Terminal window should then scroll up automatically, with new information

**Q2540 After a message for me arrives at the CMS, how does a RMS Station initiate a connect with me?**

A2540 It doesn't. RMS HF Stations are "listeners" only, scanning several frequencies on several bands. They do not send out any beacon messages. They just sit and scan and scan and scan, waiting for someone to call them. You need to call the RMS HF Station to initiate a Connect,

RMS Packet Stations are also "listen only" stations. You must initiate the Connect.

**Q2545 Are RMS HF Stations considered to be "automatic robot" stations?**

A2545 That depends on your definition of "robot" and "automatic". RMS HF Stations have their transceivers and TNC's controlled by the station computer. They are usually "unattended" by their Control Operator. Transmissions will begin ONLY after the receiver detects being called by another station AND in the moments before the call the frequency was deemed to be "not occupied" by the RMS HF Station (this is a new feature). Loss of a satisfactory receive signal will time out the transmitter and Disconnect with the user station.

Possible modes and frequencies are enabled by software, abiding to government regulations. The list of scanned frequencies may change, depending on time-of-day. Get the RMS HF Station Frequency List from ZS5S or the WL2K website for the latest information (see Q2560).

**Q2550      How do I find what frequencies the RMS HF Stations are scanning?**

A2550      AirMail has a built-in frequency list of all public RMS HF Stations. The scanned frequencies of a particular RMS HF Station show up in the HF Terminal Window, when the RMS HF Station is selected. Be sure to set your radio dial to the "Dial Frequency" shown at the bottom of the Terminal Window. The frequency shown above is (depending on setup) the Center Frequency.

**Q2560      How can I keep the Frequency List up-to-date?**

A2560      Download the list of Public RMS HF Stations List from this site at <http://www.winlink.org/PublicRmsHFList>

EmComm operators can receive a special EmComm RMS HF list from their local RMS sysop. These lists are compiled by the WL2K server from actual on-air stations reporting in within the last 48 hours of the time you download them.

You can also subscribe to a monthly updated list from ZS5S. See: <http://users.iafrica.com/z/zs/zs5s/bulls/PMBO.TXT>

**Q2570      How do I download a new Frequency List, using AirMail?**

A2570      See the AirMail Help files; or you can order a Help file from the Catalog: [from the AirMail Message Index Window.....Window....Catalogs...WL2K...Global...WL2K Help..."How to Download and Import a new PMBO Frequency List"]

To download a new Frequency List for inclusion in AirMail, follow the instructions below:

1. Go to Inbox and delete any previous Frequency list message (subject) INQUIRY:LIST.
2. Go to Menu items: "Windows>Catalog"
3. Double Click on folders: "WL2K>Global>ZS5S\_Bulls" and then check "PMBO" (on right screen.)
4. Check into a RMS HF Station to send the request.
5. Check back into any RMS HF Station to obtain a new frequency list, subject: "ZS5S Directory of Winlink-2000 PMBOs (INQUIRY:LIST)"
6. Go to inbox and highlight the Frequency List, "SERVICE@WL2K INQUIRY:LIST"
7. Go to menu item "Tools>Make Frequency List." The list will appear on the screen.
8. Click "Update" and then "Save" the frequency list [see Q2580].

**Q2580      After I have downloaded the new Frequency List, how do I install it in AirMail?**

A2580      See the AirMail Help files; or ---:  
1. Make sure that the new list is in the "Program Files...AirMail...Import" folder.  
2. Open AirMail. The new list should be in your In Box. Select it [do not Open]

3. Go to "Tools....Make Frequency List".
4. Scroll through the list; verify that it is the "new" list.
5. Copy and Paste the info for any Emcomm RMS HF stations you want to include. See Q2590.
6. Click the "Update" button, the program will go into a frenzy of formatting.
7. Click "Save" the frequency list.
8. Go to "View....Frequency List"
9. Check the stations what you would like to include in your HF Terminal window list.
10. Update....Save....Ok
11. Close AirMail....Open AirMail

**Q2590      Where can I find a list of RMS HF stations which are primarily supporting "emergency communications"?**

A2590      See the list of active public and emcomm RMS HF stations at:  
<http://www.winlink.org/RMSpactorStatus>  
 Send an email to one of the emcomm stations in your local area, requesting the list and your intended use of the list.

Merge the Emcomm list with the Public list, in the same text file. Install in AirMail in the "HAM" System. See Q2580

**Q2595      I have been trying to send a message via an Emcomm RMS HF Station (N7YRT). It will not go. It is Posted to WL2K. Why won't the message be sent?**

A2595      You probably have your Emcomm RMS HF stations in a unique AirMail "System", other than "HAM". The message will be sent if you either Post it to N7YRT, or Post it to WL2K and include the station data for N7YRT in the "HAM" System.

**Q2600**      **Are there some “maintenance” things I should be doing to keep AirMail and my part of WL2K running smoothly?**

A2600      Yes, like most hardware and software, revisions occur.

a) Frequency List. See Q2560 and Q2570. This should be done every 1-2 months, only if you are using the HF part of WL2K

b) AirMail Catalog. You should probably update this 2-3 times each year. See Q1580 and Q1600.

c) If you are using a TNC, update the Firmware. If you have a SCS TNC, it is updated about every year. Check the SCS web page for news about a new release. The latest is version 3.9. Your version number will show on the Terminal Window when you start up. The updating process is a shore chore, using the internet

a) download from the SCS web page

b) start AirMail

c) Tools....Update PTC Firmware

d) AirMail software. The latest version is 3.3.081. Available from the WL2K web page at: <http://www.winlink.org/software>

e) Winlink 2000 FAQ file. This is a pdf user "help", revised several times each year. Download from [www.spokares.org](http://www.spokares.org) or the WL2K website. Please send new material to [K7BFL@winlink.org](mailto:K7BFL@winlink.org) as you learn things that other folks might not know. You are now using that file!

**Q2650**      **It seems like there are not many RMS HF stations that will accept a Connect from my pactor 1 equipment. Why?**

A2650      The throughput of pactor 2 is about 3x the throughput of pactor 1. The throughput of pactor 3 is about 30x the throughput of pactor 1. See Q170. If a particular RMS HF operator can keep his station relatively “busy”, accepting only pactor 2 or 3 connects, he will probably choose to go the “no pactor 1” route. By doing that, his station is providing the “most data transfer” for the “most users”. Each RMS HF station owner/operator independently makes a decision regarding the use of pactor 1. RMS HF stations have given special considerations to pactor 1 users during unique events. E-mail a RMS HF Station with your special requests. They have the software ability to accept pactor 1 Connects on specific bands, and/or during specific times during the day.

The overall goal is to maximize the throughput on any given available band segment. The addition of Emcomm RMS HF stations will provide additional support for pactor 1 users.

**Q2680**      **Is pactor 3 the best mode to use, all the time?**

A2680      Not always. Sometimes pactor 2 has a better throughput than pactor 3; usually when using a narrow (0.5 kHz) receive filter to improve the signal/noise ratio of the received signal. This may occur during “noisy” band conditions or when the band is particularly crowded.

## AirMail – Setup (VHF/UHF Packet)

**Q3000** I have one of the new Kenwood radios (D700) with a built-in TNC. Will it work with AirMail (Packet Client module)?

A3000 Yes, but proceed very cautiously. The first versions of the D700, TH-D7, etc. have a very small buffer.

Other radios which have this same packet performance are the Kenwood TS-2000, TH-D7, and Alinco DR-135. The radios will work fine if used with an external TNC supported by AirMail. See <http://home.earthlink.net/~k7bfl/TascoModem.pdf>

The built-in TNC will can also access WL2K via the “Keyboard” method (see Q8000).

It can also access WL2K in a limited manner by using the special APRSLINK method described at: <http://www.activeham.com/winlink/wiki/index.php?title=APRSLink>

A process for using the Kenwood DR-135 (with internal TNC) with AirMail is described in Q3005; or with PaclinkW, described in Q7016.

The newer model radios (D710A, etc) have a larger buffer and work better with AirMail and Paclink, if they are used in the KISS mode.

From K6ACJ -----

The TH-D7, D700 and D710 all work on Packet using the KISS mode and actually the same KISS configuration; I use the TAPR2 TNC in AGWPE.

The difference in buffers between each will cause problems but the D710 has been tested extensively and seems to work fine. The TH-D7 will work on very short messages but sometimes lock up. When the TH-D7 locks up a FULL RESET must be performed and all the settings and memory are returned to Factory default. So, if you want to experiment with the D7, use the Free Kenwood Memory configuration program to READ and SAVE the D7 settings making it very easy to restore after the inevitable crash.

The D700 didn't lock up but if I recall I keep maxframe to 1 and paclen to 64, same as I used for the D7.

The D710 worked fine on packet and Winlink 2000, I was able to extend maxframe and paclen settings out for longer messages, so in my opinion the D710 is Ok for packet and Winlink 2000.

**Q3005 How do I configure my AGWPE software to enable AirMail to be used with the Kenwood DR-135, using its internal TNC?**

A3005 K7CPO has had good results with the following setup procedure, using AirMail 3.3.081. AGWPE or AGW Packet Engine Pro is also needed with AirMail (with the addition of AMPE or AMPEstreams22 (see Q3015). It has been successfully tested with several RMS Pactor stations, both directly and via Nodes.

If your computer is "old and slow" it may not have enough cpu speed to handle all of the needed software.

Edit the AirMail ini file; set Packet Length=126. Save the file.

Use a DB-9 male/female cable between the DR-135 and the serial port (or serial/usb adapter) on your computer.

The Port setup for AGWPE or AGWPE Pro is:

9600 baud radio to computer

TARP TNC2 [blank]  
KISS ON  
RESTART

Kiss Simple

ExitKISS on Exit

Single Port

Persist=200  
Slottime=15  
MaxFrame=1  
Retries=10  
TxDelay=55  
TxTail=4

Frack=4  
RespTime=2  
Check Every 120

1. Use the VFO to determine the packet frequency
2. Turn on the radio; get into the Data mode by pushing the Function key, then the Squelch key.
3. Start AGWPE
4. Start AMPE (or AMPEstreams22) and the Airmail Packet Client.
5. Operate the AirMail Packet Client as "normal".
6. It is VERY helpful to use the "monitor" part of AGWPE to monitor the health of the software, hardware, and packet frequency activity.

The radio/software will "lockup" if any of the following (there may be others) are done:

- a) Changing power level
- b) Changing from Data to Voice to Data

To recover: restart the radio; restart the software.

**Q3010** I am using AirMail 3.3.048. I would like to use the Packet Client module with my Sound Card, using the AGW-PE "TNC" selection. It doesn't seem to work at all. What am I doing wrong?

A3010 Nothing. The reference to "AGW-PE" was mistakenly left in the code by the AirMail author, who is in the process of writing code to enable FUTURE versions of AirMail (Packet Client module) to work with Sound Cards and TNC's using KISS, with the addition of the AGW-PE software. However KG9OG has come up with additional software to enable the AirMail Packet Client to work through the AGW software to your Sound Card. See Q3015

**Q3015** So, is there a way that the AirMail Packet Client can be used with Sound Cards and TNC's that are not on the pull-down setup list?

A3015 Yes! KG9OG has come up with additional software to enable the AirMail Packet Client to work through the AGW software to your Sound Card device or any TNC that can be placed in the KISS mode. **An additional benefit of using this method with any TNC is that you will be able to monitor all packet traffic on the frequency, using the Monitor function of the AGW software.** N7XOO has written the following instructions to use for AirMail 3.3.081 or 3.4.034 Beta and Windows XP, 2000, or Vista.

## Configuring AirMail Packet Client to work with AGWPE or AGW Packet Engine Pro

For Windows XP, 2000 and Vista 32-bit (Vista 64-bit is untested):

The purpose of this process is to enable the AirMail software "Packet Client" module to work with most any sound card device or TNC that can be placed in the KISS mode, and with enough buffer memory to handle the demands of AirMail, and your computer CPU is quick enough for AGW.

This configuration requires the addition of one or two additional pieces of software, each approximately 3M in size. Both are free-ware. The following assumes that you already have AGW working well on your computer.

### **1. Download, unzip, and install the "AirMail to Packet Engine" program (AMPE), AMPE162.zip (AMPEstreams22 may be substituted for AMPE as required, see web page listed below for download and configuration instructions)**

The link to the AMPE program (written by Brian Smith KG9OG) is;

<http://www.qsl.net/mararc/ampe.htm>

After installing, read the excellent Help File and look for the Startup Command string. You now need a way to start AMPE; do either (a) or (b)

#### **(a) AMPE Shortcut**

If a shortcut for AMPE is not on your desktop, create a shortcut on your desktop to AMPE16.EXE. Then edit that shortcut, by right clicking, selecting "Properties" and then on the "Shortcut" tab in the "Target" box add the information as below; substituting the call you are using in AirMail for MYCALL, click Apply and then Ok. (NOTE: Be sure to add a space after AMPE16.EXE before entering the first letter of MYCALL)

C:\ampe\AMPE16.EXE MYCALL,1,TRUE,8000,8100 where MYCALL is the call you are using for AirMail, and "1" is the AGW Port you are using

#### **(b) AGW Packet Engine "Other Software Autostart"**

AGW Packet Engine or AGW Packet Engine Pro may also be used to define the Command String. Within AGW, select Setup...Auto Start other programs....ampe16.exe

the Startup Command String would be "MYCALL,1,TRUE,8000,8100"

[you need to scroll to the right to see the column for the Command String information]

### **2. If you are using AirMail 3.4.034 Beta, go to Step 3. If you are using AirMail 3.3.081, continue:**

Start AGWPE, then AMPE, then AirMail;

In AirMail click Tools...Options...Modules....VHF Packet Client Setup

Enter KAM+ for the TNC type and T8100 (T8200 for AMPstreams) for the Com Port

Click OK and then Apply and Ok to close the AirMail Options window. You may not really be using a KAM+ but that's what is recommended for a choice. [The actual interface with your TNC is determined by the port settings in AGW, except for Packet Length].

Start the AirMail Packet Client Module. The Packet Client window should say "Packet initialized OK"

Go to Step 10. [the port redirector software is not needed if you are using AirMail 3.3.081]

### **3. Download and install the Lantronix CPR (Com Port Redirector) version 3.1.0.4**

The link to the Lantronix file is;

[http://ltxfaq.custhelp.com/cgi-bin/ltxfaq.cfg/php/enduser/std\\_adp.php?p\\_faqid=928](http://ltxfaq.custhelp.com/cgi-bin/ltxfaq.cfg/php/enduser/std_adp.php?p_faqid=928)

Be sure to use the 3 version; the 4 version doesn't seem to work for this application. The purpose of this software is to enable you to create a "Virtual Com Port" on your computer (with a number than is not already being used), and to "re-direct" that Virtual Com Port to the actual Port number (1, 2, 3, etc) that you have previously configured as part of the AGW software.

***IGNORE all the install and setup error messages when installing on Vista 32-bit. The program will still install. Unblock ports in any Windows Firewall messages.***

#### **4. Reboot the computer.**

**5. Open the Lantronix Com Port Selector Program** and click the "Com Setup" button. Select a com port number that is not used by your computer.

Click the Port settings box and check "Raw", click the "Add IP" button and enter 127.0.0.1 for Host and 8100 for Port. Click "OK" and then click "Save".

***IGNORE any setup error messages when installing on Vista 32-bit.***

**6. Reboot Again.** The Lantronix software will now be running in the background. Verify the existence of your new "Virtual Port" by looking at Control Panel....System...Hardware...Device Manager....Ports.

***NOTE: For Vista 32bit, Device Manager will not show the Virtual Com Port, but it IS operational.***

**7. Configure AirMail Packet Client** to use the virtual com port you set up in the Lantronix CPR and choose KAM+ for the TNC. You may not really be using a KAM+ but that's what's recommended for a choice. [The actual interface with your TNC is determined by the port settings in AGW, except for Packet Length]

## **8. Close AirMail and edit the Airmail.ini file**

Backup your airmail.ini file; then do the following editing.

Within the [Packet Client] section “comment out” lines by inserting a semi-colon at the beginning of these lines. See the Example below. Note that in this example COM12 is your “Virtual Port”; not the com port of the device you will actually use.

All other settings remain the same, just add semi-colons starting with Tx Delay and ending with Packet Length 2.

```
[Packet Client]
DecoderType=KAM+
Port Settings=COM12:9600,N,8,1
Show Link Messages=1
Packet Length=126
;Tx Delay=600
;Persistence=64
;Slot Time=300
;Max Frames=2
;Frack Time=6000
;Max Tries=10
;Response Delay=2000
;Check Time=30000
;Radio Baud=1200
;Tx Level=500
;Tx Delay 2=600
;Persistence 2=64
;Slot Time 2=300
;Max Frames 2=2
;Frack Time 2=6000
;Max Tries 2=10
;Response Delay 2=2000
;Check Time 2=30000
;Radio Baud 2=1200
;Tx Level 2=500
;Packet Length 2=120
```

Save and Close the airmail.ini file

## **9. Start AGWPE, then AMPE, then AirMail; then start the AirMail Packet Client Module.**

You should see a pop-up message from the Lantronix Com Port Redirector, and then in the Packet Client window it should say “Packet initialized OK”.

**10. You should now be up and running with the Packet Client window. When you click “Connect”; AirMail will be using the port and device you have configured in AGWPE (or AGW Packet Engine Pro).**

*[written by Gary Harrison, N7XOO; January 9, 2008, revised February 17, 2009]  
[edited by Don Felgenhauer, K7BFL, April 26, 2009]*

**Q3020**      **I have the Packet Client module configured, but I can't seem to be able to connect to any RMS Packet stations. Help!!!**

A3020      You may have some basic packet setup deficiencies. With the same equipment, can you connect to ANY other packet stations? Are you on the correct frequency? Is your transmit audio level set properly?

Some radios do not perform well with both the microphone and the TNC connected simultaneously to the radio. Disconnect the microphone.

There are a couple of books available which describe some of the basics of setting up and operating a packet station. They are: "Your Gateway To Packet Radio" and "Practical Packet Radio", both written by Stan Horzepa, WA1LOU. Both books are out of print, but can be obtained at reasonable prices from your local used book store or on-line book sellers.

N8UR has excellent basic packet audio level setup information available at:  
<http://www.febo.com/packet/layer-one/transmit.html>

VK1OD has an excellent web page on "Amateur Radio application of Frequency Modulation" at:  
<http://www.vk1od.net/FM/FM.htm>

KC2RLM has a great web page regarding "Sound Card Packet" at:  
<http://www.kc2rlm.info/soundcardpacket/>

Larry Kenney (WB9LOZ) has an excellent "Introduction to Packet Radio", available from:  
<http://www.choisser.com/packet/>

**Q3023**      **Is there an "optimum" Packet Length, when using the AirMail Packet Client?**

A3023      Yes, 126 is the magic number. Numbers larger than 126 bytes will result in alternate "large" and "small" packets being sent; with the average being 126.

Q3025

**I get a major amount of RF noise generated somehow from my laptop. This often interferes with the ability of the PTC IIe modem from linking with the incoming WL2K station. Some of the noise is reduced when I simply get out of AirMail. This leads me to think it might come down the USB/serial ports for controlling the rig and/or the USB/serial port for the SCS PTC modem.**

**I switched to a newer laptop and found the noise level significantly less. However the laptop still seems to bump up the RF noise level.**

**I have several RF choke coils around the power leads, the serial computer control cable, and the PTC modem serial cable. Any solutions?**

A3025

Laptops DO generate an incredible amount of noise. If you are using an HT the best solution is to use an external antenna. This puts some distance between the laptop and the transceiver's antenna. A 20 foot distance may help.

Other possible remedies:

- 1) Switching power supplies for Laptops. Use an Aircraft grade supply.
- 2) Put ferrite chokes (snap ons) on all the cables coming from the computer serial, mouse, power etc.
- 3) Use a RF filtered DC source for the Transceiver....make sure it has 20+ ampere capability.
- 4) Bypass other sources (Refrigerators, bilge pumps, chargers, alternator etc) at the source with good quality RF bypass capacitors.

Get a good book on RF Interference. Read the AirMail Help files.

There is usually no one silver bullet...normally several things each reduce the noise a smaller amount.

Useful information about RF ground systems is available at:  
<http://www.radioworks.com/nbgnd.html>

Q3030

**I am using a KPC3+ with AirMail Packet Client, telling AirMail that it is a "KPC3". The TNC uses software (XMITLVL) to set the audio transmit level. I set the value to 130 with another program, before starting the packet client module. Everything works fine, until the next time I start the packet client module; the value has been reset to 100 (default). How can I get AirMail to not change the XMITLVL value?**

A3030

Tell AirMail that you have a KAM+.

Here is another solution to the problem (from VA3RSA):

**REASON FOR THE PROBLEM:**

When setting up the "VHF Packet Client", the KPC-3+ user will usually select the KPC-3 type TNC (nearest to KPC-3+). The TX Audio Level selection box is "greyed out" (can't be changed) with a fixed value of 500 (millivolts).

The results are saved to the AirMail.ini file under the [Packet Client] section with TX Level 500. When the "Packet Client" is started, AirMail will initialize the TNC. The value that has been set for XMITLVL will be 280 (a result of the KPC-3+ converting 500 into digital setting 280). This can be verified by closing the "Packet Client" and opening the "Dumb Terminal". At the command prompt cmd: type 'xmitlvl' and it reports 280.

**SIMPLE FIX (WORKAROUND):**

On my own KPC-3+ (ver. 9.1 ROM) I use XMITLVL 48 in combination with the radio's digital drive level setting (other users may have completely different settings). I observed that the "TX Audio Level" box can be "ungreyed" (i.e. made active/changeable) by selecting the TNC type as any one of the PTC-II types. Non-PTC-II TNC's leave the box "greyed out" (unchangeable). I selected the PTC-IIe (one-port type) and set the drive level to desired value (may require experiment etc.). In my case entering 24 millivolts sets my XMITLVL to 48 which is what I want. Go back and select the "KPC-3" TNC and save all settings.

**CONFIRMING THE CHANGES:** Checking AirMail.ini will confirm the setting TX level 24 (which will get converted to xmitlvl=48). Next, start up the "Packet Client" and let the TNC initialize. Then close down the "Packet Client" and start the "Dumb Terminal". You should find that XMITLVL is 48.

**NOTE:** The user must determine by experiment the correct setting of XMITLVL for their KPC-3+/radio combination resulting in the correct TX deviation level (for my radio it happened to be 48). Then adjust AirMail's "TX audio level (millivolts)" setting to give the required XMITLVL number (for my case it was 24 millivolts).

**Q3050** I am having trouble with AirMail talking to my PK232MBX. My terminal program works ok. What is the problem?

A3050 Most likely the problem is that your serial port was configured using your Terminal Program and those settings do not match those required by AirMail. There are a few different approaches to fixing this problem. Here is one.

1. In you Terminal Programs, such as WinPack, go to the cmd mode and type RESET. This will reset you TNC.
2. Change the setting in your program to the following: Baud rate=9600, Start bit=8 parity=none, Stop bit=1 and Handshake=Hardware. Save the changes.
3. Now send the Autobaud "\*" cmd to the TNC and you should get the sign on message.
4. Close your Terminal Program and open AirMail. Make sure you have AirMail set up to the correct serial port and the right baud rate. You can check this by going to "Tools-Options" and going to the "connection tab" and check the settings. Also go to the "module tab" then to VHF Packet Client and then to the "setup" box and check the settings there. Make changes if needed and save the setting. Now AirMail should work for you.

NOTE: Make sure you make the changes before you send the Autobaud command or you will be right back to where you started from.

**Q3060** I have been trying for some time now to get my PK232mbx to send and receive Pactor. I have upgraded the PK232 to the latest firmware and DSP and USB port. It works fine in the "Dumb Terminal" mode. Help?

A3060 There is a passage in the manual 4.3 #5 that states that the DCD must be off unless packets are received. It must be on when receiving packets.

*When the channel is quiet, the DCD LED must be OFF.  
If the DCD LED stays on when the packet channel is quiet, your  
PK-232 will never send packets to other stations.*

The original DCD pot is prone to seize up and self-destruct. It is a 1000 ohm pot and can be easily replaced. If it is grinding or hard to turn it time to replace it. Otherwise you won't be able to receive signals sent back to you. Timewave will send you a replacement that has three wires soldered to a panel mounted potentiometer and a new knob. They need five bucks and a padded envelope.

Sounds like you may have a reversed DCD problem. Funny enough the fix for that is to NOT use the SQL line between the TNC and the radio. Then the TNC will behave normally.

**Q3080**      **When I close AirMail and open my Terminal Program not all the functions work right. What may be wrong?**

A3080      AirMail turns off several functions that it does not need, such as Monitor. To restore those functions you need to reset the TNC. Here is how:

1.      Close the Packet Client window
2.      Go to Tools....Dumb Terminal and wait for the cmd prompt to come up.
3.      Type RESET and hit the Enter key. You will see many boxes with zeros and eight's in them.
4.      Now send the auto baud command and you will see the TNC sign on message. Now close the dumb terminal and close AirMail.
5.      Open your terminal program. You may need to enter you call and the date/time again. Your terminal program should be ready to go.

**Q3100** I can not get the Packet Client window to connect to a local VHF ham station, in fact the Icom 706 MkII G doesn't transmit. (The window shows that AirMail's Packet Client is connected to the SCS IIe modem).

**AirMail works great for me on HF, with the same equipment. What am I doing wrong?**

**A3100** The 13 pin DIN on the back of the Icom 706 and IC-7000 normally has one PTT pin for HF control, and another pin for VHF/UHF control. You can solve your problem three ways:

1. Obtain another cable that uses the VHF transmit control pin.
2. Obtain another cable that connects to the microphone jack on the 706; that cable will work for both HF and VHF control.
3. Use the software menu on the radio to enable the HF control pin and the VHF/UHF control pin to be the same pin [from Gary Wood (K6AUD) of Farallon Electronics]

#### 706MKIIG

Set menu item 30 (see page 54 in the ICOM manual) to the OFF position. This activates H-Send (PTT) on pin 3 for all bands. The 13 pin input on the 706MKIIG will work for both Pactor and packet operation with the SCS PTC-IIe, PTC-IIEX, and the PTC-IIUSB modems.

If you're using a PTC-II or a PTC-IIPRO containing a plug-in DSP packet module, then you will need to use our #8120 cable for 1200 Baud, or our #8050 cable for 9600 Baud, which will connect from the Packet port on the modem to the 6 pin mini-DIN packet connector on the rig. [NOTE: this menu option is not available on the 706MKI or 706MII.]

#### IC-7000

Set menu item 20 (see page 131 of the Icom manual) to the OFF position. This activates H-Send (PTT) on pin 3 for all bands. The 13 pin input on the 706MKIIG will work for both Pactor and packet operation with the SCS PTC-IIe, PTC-IIEX, and the PTC-IIUSB modems.

If you're using a PTC-II or a PTC-IIPRO containing a plug-in DSP packet module, then you will need to use our #8120 cable for 1200 Baud, or our #8050 cable for 9600 Baud, which will connect from the Packet port on the modem to the 6 pin mini-DIN packet connector on the rig.

## AirMail – Use (VHF/UHF Packet)

### Q3500 How do I find a working RMS Packet Station in my local area?

A3500 Where are two pages on the WL2K web site that will give you the information. The first one is a map of RMS Packets that have reported to the Common Message Server within the past 24 hours. It is a link off of the “Maps” tab. The link is:  
<http://www.winlink.org/RMSPacketPositions>

Select the station symbol on the map or select the station call in the list to obtain detailed information about the station’s location, frequency, etc.

A “RMS Packet Station Status” tells you the time since a station last checked with the Common Message Server. It is from the “Reports” tab:  
<http://www.winlink.org/RMSPacketStatus>

Another option is you can request of list of nearby RMS Packet stations from the AirMail “Catalog”.

- 1) To use this you must have a recent update of the WL2K catalog. You can do a list update or a full list in AirMail. Once the list is updated you will find a new bulletin called WL2K\_PACKET under the category WL2K\_USERS.
- 2) To use the new WL2K\_PACKET function you will need to have posted a position report. This can be done with AirMail using the position report menu. If you have posted a report recently (within 30 days) and have not moved substantially that will be sufficient.
- 3) Now request bulletin WL2K\_PACKET using AirMail’s catalog feature. This will put the request out and it should be available for pickup in a few minutes. The request will have all active RMS Packet stations and all RMS Packet servers within 100 miles (statute miles) of your posted position. The call sign, Grid Square, distance and bearing, Frequency and Baud rate will be in the list (example follows this message). Only those or RMS Packet stations that have reported in the last 30 days will be considered in the list....normally stations report about once per hour or so.

### Q3510 I have heard that there are special “Posting Rules” needed when I use AirMail with a Node. What is that all about?

A3510 Depending on the software used by the Node, you may need to do the following, when using AirMail:

You need to use two Connect sessions; one to Receive messages, and another to Send messages. This “problem” is associated with the packet Node modifying Yourcallsign when talking to the RMS Packet station.

When receiving messages, “Connect As:” Yourcallsign-15. This will cause the CMS to download messages to [Yourcallsign@winlink.org](mailto:Yourcallsign@winlink.org).

When sending messages, “Connect As:” Yourcallsign. This will cause your messages to be sent out as coming from [Yourcallsign@winlink.org](mailto:Yourcallsign@winlink.org).

The Paclink software is not affected by this modification; messages can be sent and received in a single session.

Note: When using AirMail with a Node, try this "one step" Connect process; it may download messages fine, without the above process:

Connect To: RMSPacketCallsign NodeCallsign *[no v or via used]*

**Q3520 I just connected to a RMS Packet Station (K7BFL-10) through a node (WR7VHF-4). I had Posted three messages via K7BFL-10. None of my messages got sent. Why?**

A3520 The messages also may need to be Posted to the FIRST station (WR7VHF-4) you connected to in the connection process. It is best if you Post to WL2K.

**Q3530 I am attempting to connect to a RMS Packet Station through a node called SEATAC. I cannot connect to the node because I get an error message "AirMail not licensed to this call sign". Does AirMail need a license?**

A3530 No, AirMail does not need any special licenses for amateur radio use. You got that error message because you tried to connect to a node "alias" name, instead of the node's call sign.

**Q3540 Will AirMail work with more than one Node?**

A3540 AirMail will work with more than 1 node. The procedure:

1. Select the Keyboard mode.
2. Enter the Call [NOT the Alias name] of the first node in the "Connect To:" box
3. After connecting to the first node, type in the lower split screen  
c node2callsign
4. After getting a connection confirmation..
5. repeat steps 3 and 4 until you are connected to the RMS Packet Station
6. Select the Handshake mode

Messages will now flow automatically (but SLOW....). Use MAXFRAME=1

**Q3550 Will AirMail work with a Digipeater?**

A3550 Yes, AirMail will work when going through another packet station acting as a digipeater. The procedure:

1. Select the Handshake mode.
2. Enter into the "Connect To:" box...gatewaycall via digicall

Messages will now flow automatically (but SLOW....). Use MAXFRAME=1

**Q3555 What is the difference between a packet “Node” and a packet “Digipeater”?**

A3555 **Node** - any terminal on a network, more specifically for Amateur Radio packet, this is a higher function than a digipeater because a packet node acknowledges to the sending station and makes connects to the next station. Most commonly used node software/firmware includes G8BPQ (also known as BPQ node), KaNode (Kantronics controllers), and others (TheNet).

**Digipeater** - the lowest level of networking in packet radio. Not used much since the introduction of the node function, except for APRS, which nearly requires it. Generally, using a packet node (see above) does not add functionality to a packet network EXCEPT when it is used to link different frequencies. Experience has shown an approximately 50 percent data transmission speed reduction when using the node function, versus a simple digipeater, when all transmissions are done on the same frequency. *[from KK5CA]*

*[and the following from VE1YZ]*

A "digi" is a short name for "digipeater", or digital repeater. This name came into being in the very early days of Packet radio before the evolution of the network node. Digipeating was built into the firmware (and still is) of all TNCs

The basic digi had no networking smarts in it. It was simple Packet store and forward system. You don't connect to a digi, but rather connect to your destination station "via" the digi callsign. You had to manually build your route to destination by daisy chaining digipeaters. A digi is very inefficient.

Then came the network node... First came the Netrom, and later it's clones, TheNet, X1J, etc. There were software nodes, most notably BPQ that ran in a computer.

All of these network nodes share one thing in common. You connect to them, then connect to the destination node, or destination node, then connect to the desired station. Network nodes contain elaborate automatically updated routing tables. Most support TCP/IP.

More importantly, a network node on a LAN (VHF) controls all the traffic on the LAN, since it is usually in a commanding position. For this reason, it is always better to connect to the LAN node, rather than connect directly to another station on the LAN.

Then there are simple nodes such as the KANode and the AEA one built into some manufacturers TNC firmware. You also connect to them but they have no automatic network routing. They work very well, and are much better than a simple digipeater.

To confuse the issue, all nodes usually support digipeating, but its use is generally frowned upon for connection purposes. It is there mostly for beaconing.

So, if someone talks about a "digi", in this day and age, you have to ask them to be more specific.

There are other networking systems such as Rose, plus many more. I'm not familiar with them.

**Q3560 I am using AirMail to send an e-mail to K6SSS-4. He doesn't get it, but he does get it when we use Paclink. Is there a problem?**

A3560 AirMail versions prior to 3.3.048 will not support dash-number calls (as a WL2K user). 3.3.048 will support dash-number calls as independent user callsigns (not to be confused with packet dash-number SSID's). Note that for Pactor use, 6-char callsigns can only use a single-digit suffix (i.e. 6 letters plus a dash plus 2 digits won't work for Pactor, but will work for packet).

All recent versions of AirMail will support the use of packet SSID numbers for packet connection purposes only.

See Q140.

**Q3580 How do I set up a Tactical e-mail account for AirMail?**

A3580 Tactical e-mail accounts are not useable with the AirMail program.

**Q3600 In the Packet Client window; how do I delete some of the entries in the "Connect To" list?**

A3600

1. Stop AirMail
2. Navigate to C:\Program Files\Airmail
3. Open airmail.ini with Notepad.
4. Scroll down until you see a bunch of CONNECT TO entries.
5. Delete at will.
6. Renumber the list, in sequence.

**Q3640 Is there a maximum number of addressees that can appear in the AirMail "To" line?**

A3640 See A1630

**Q3660 Is it possible to view all addresses in the "To" line as I add them to it?**

A3660 See A1660

**Q3680 How can I select multiple addresses in the address book?**

A3680 See A1700

**Q3700 I am using a PK232mbx TNC, with the latest firmware (7.2). It is working fine with WL2K packet for normal messages. However when I try to send a message with a 15K Attachment, the process hangs up. Why?**

A3700 That particular problem has been experienced by many others; the cause is unknown. Downloads TO you are ok; uploads FROM you hang up if the compressed attachment is greater than about 5K. You can accomplish the task by re-connecting to the RMS Packet station. AirMail will continue sending the remainder of the file.

You can permanently solve the problem by configuring the PK232mbx in the KISS mode. See Q3015.

**Q3720**      **During a recent Emergency Drill several of us were simultaneously trying to access a local RMS Packet station through our local Node. We each experienced lots of Retries. What can be done to solve this problem?**

A3720

Consider these items:

- a. WL2K users with Telnet capability should not be using radio channels for WL2K.
- b. Digital use should be prioritized and coordinated by a voice Command Net.
- c. Temporarily change the frequency of some VHF Winlink Gateways to a non-Node frequency, as necessary.
- d. Use Nodes, 1 user at a time. AGWPE enables the AirMail and Paclink user to monitor the channel.
- e. Users should access the WL2K Gateway directly, if possible.
- f. Decrease the MAXFRAME value to 1 for all users of the Node, including the RMS Packet Station. All users should reduce their Persist value.
- g. As always, those users with more options might migrate to open pactor channels on HF.

## AirMail – Setup (Telnet via internet connection)

### Q4000 What is a “telnet” connection?

A4000 Telnet is an Internet protocol that allows the user to connect to a remote computer. AirMail has a communications module called the “Telnet Client”, or in later versions “Internet Access”. This module enables the AirMail user to send and receive messages directly with the Common Message Server, using an internet “non-radio” path. This results in a much faster throughput speed.

### Q4010 How do I setup AirMail to use a Telnet (Internet Access) connection?

A4010 (Similar information may also be found in the Global Catalog under WL2K\_Help).

AirMail Telnet Client setup. Go to AirMail menu item: "Tools>Options>Modules" and check the Telnet Option. If you wish you can also set the module to initialize when bringing up AirMail by also checking "autostart." However, if you wish to start the module manually, then go to menu item: Module>Telnet client."

The setup for accessing the CMS (as routed by CMS logic to one of the 5 locations) is:

WL2K	(Remote Call Sign; <i>not case sensitive</i> )
server.winlink.org	(Remote Host; <i>not case sensitive</i> )
8772	(TCP Port Outbound)
30	(Timeout in seconds)
CMSTelnet	(Password; <i>not case sensitive</i> )

Remote Call Sign and Remote Host information (*case insensitive*) for the specific CMS Sites are:

WL2KS	SanDiego.winlink.org	(San Diego)
WL2KH	Halifax.winlink.org	(Halifax)
WL2KP	Perth.winlink.org	(Perth)
WL2KW	Washington.winlink.org	(Washington)
WL2KV	Wien.winlink.org	(Wien [Vienna])

All of the active Common Message Servers are continually updating each other with new information.

**Q4370**

**I have an Iridium SatPhone. How can I use it with Telnet?**

A4370

Winlink 2000 Telnet (Internet Access) Set-up Instructions with Airmail for Iridium SatPhone Users (Please see the source information at <http://saildocs.com/iridiumppp>, courtesy of Jim Corenman and Sailmail)

**WL2K Access via Iridium SatPhone/Telnet**

This document describes how to set up an Iridium PPP connection for use with the WL2K Telnet servers, and is a modified version of a non-copyrighted Iridium document entitled *PPP DATA Installation/Configuration*.

Prior to using your Iridium phone as a modem for PPP Data, you need to do the following two things:

1. Install a Standard 19200 bps modem driver on your computer (instructions below).
2. Set up and configure a dial-up networking connection for the PPP service (below).

The modem driver must be configured with the following Extra Initialization String: AT+CBST=71,0,1. In the dial-up networking connection, TCP/IP should be the only enabled network protocol. You must have an available serial port on your computer (e.g., COM1). You must have Administrator privileges if using Windows NT, 2000 or XP Professional. Horizontal rule. Windows XP Setup (others similar).

**Step 1: Install the Modem Driver**

- close all applications
- choose Start > Control Panel
- double-click on Phone and Modem Options
- select the Modems tab and click Add...
- check Don't Detect My Modem; I will Select It from a List; then click Next
- click Standard 19200 bps Modem; then click Next
- click the Selected Ports button and click on an available COM Port (e.g., COM1)--this is the port to which you will connect your Iridium phone; click Next, then Finish.
- click the Standard 19200 bps Modem to highlight it and then click Properties
- select the Advanced tab
- in the Extra Initialization Commands box, enter: AT+CBST=71,0,1 11; click OK, then OK again to close.

**Step 2: Configure Dial-Up Networking**

choose Start > All Programs > Accessories > Communications > Network Connections

click Create a New Connection, and click Next

select Connect to the Internet and click Next

select Set Up My Connection Manually and click Next

select Connect Using a Dial-up Modem and click Next

if a Select a Device window appears, check the box next to Standard 19200 bps Modem, and uncheck all other devices; then click Next

enter a connection name (e.g., Iridium PPP) and click Next  
in the Phone Number box, enter 008816000023 and click Next  
a username and password are not necessary, but will keep Windows from asking each time you dial.

click Next, then Finish

click Properties for the new dial-up connection, then the Networking tab  
make sure Internet Protocol (TCP/IP) is checked; uncheck all other components

click OK, then close the connection box.

For use with AirMail's Telnet window, the simplest way to make the connection is to check the Dial First box in the Telnet window, then select the Iridium PPP connection. Don't forget to check the Hang up box.

First go to AirMail's Tools/Options menu, Modules tab, and check the box to the left of Telnet Client. Click OK. Then go to the Modules menu and select Telnet Client. This opens the Telnet window, very much like the Terminal window except it operates over an Internet connection. Click NEW and enter the following parameters:

(As example)

Remote callsign: WL2KS

Remote host: sandiego.winlink.org

Port: 8772

Local callsign: Set to your ham callsign

Password: CMSTELNET

Click OK to save settings.

To check mail, go to AirMail's Modules/Telnet menu, make sure WL2KS is selected in the call sign box, and click the green Connect button. AirMail will dial the phone, contact the server, exchange mail and hang up.

Note: To make use of the Dial First feature, you need AirMail version 3.1.948 or later. Point your browser to: <http://siriuscyber.net/update> and download amup948.exe to a Downloads folder. Make sure AirMail is closed, then open that file and install it into the same C:\Program Files\AirMail folder.

If you want to place a PPP Data call manually, you must open the Dial-Up Networking window and select the dial-up connection you created for your Iridium phone. Make sure the phone is set up, then open the Iridium PPP dial-up connection and click Dial. Don't forget to disconnect when you are finished!

**AirMail – Use (Telnet via internet connection)**

**Q4500            When I hit the “Connect” button nothing happens? Why?**

A4500            The CMS location you are trying to connect to may be having trouble. Try connecting to another Common Message Server location.

You may have lost your connection to the internet.

## AirMail – Peer-to-Peer - Setup

### **Q5000      What is “Peer-to-Peer”?**

A5000      Peer-to-Peer is a process by which two radio stations, using AirMail, connect to each other without using any of the WL2K infrastructures. The two stations can exchange messages “automatically” using the B2F forwarding protocol (Handshake) or exchange information in a conversational mode (Keyboard).

### **Q5020      How do I set up AirMail to do Peer-to-Peer, using the Packet Client module?**

A5020      Go to Tools.....Options.....Autoanswer. Make sure that “Accept Incoming Connects” is checked. . Just connect to the other station, as if you were connecting to a RMS Packet or RMS HF station. If you want to exchange information conversationally, select the Keyboard mode.

### **Q5040      How do I set up AirMail to do Peer-to-Peer, using the HF Terminal module?**

A5040      You need to create a new “System”. Use any name other than “Ham”.

1. Go to View....Station List (Systems will be selected)
2. Select “New”
3. Enter a new system name of your choice.....then Ok
4. Select the NEWSYSTEMNAME.....Settings
5. Enter your Callsign.....then Ok
6. Close AirMail, then Open AirMail
7. Go to Tools...Options...Settings. Select the tab for your new system. Make sure that the B2F box is checked.

You also need to add the Peer-to-Peer HF stations to which you will be connecting to the NEWSYSTEMNAME system.

1. Go to View....Station List....NEWSYSTEMNAME
2. Select “New”
3. Enter the callsign of the first Peer-to-Peer station.....then OK
- 4 The NEWCALLSIGN will then be Selecting in the Station List
5. Select “Settings”
6. Enter information about this new callsign.....then Ok.
7. Repeat for additional new stations.
8. Close HF Terminal
9. Open HF Terminal

The passive station “being connected to needs to have “Accept Incoming Connects” checked. See Q5020.

## AirMail – Peer-to-Peer - Use

### **Q5500 I am using Packet Client. How do I connect to a Peer-to-Peer station?**

A5500 Select either the Handshake mode or the Keyboard mode. If it will be a direct connection, just enter the station's callsign in the "Connect To" box.

If the connection will be through one or more digipeaters, Nodes, K-Nodes, etc.; See Q3540

### **Q5510 Is there a way that I can set up my AirMail software to act as a "relay" between two other stations?**

A5510 Yes, through making using of the "Tools....Options....Routing" screen. Make a new line entry for each "relay". See the Help files in AirMail 3.3.080 (or later). The messages coming In to your station will be stored in the Transit Box.

### **Q5520 I connected to another station, using Peer-to-Peer. He sent me 4 messages, but I don't see them in my In Box. Why?**

A5520 They were probably addresses to someone other than YourCall. Check the Transit Box, if you think the messages were actually sent to your station. If the messages were not sent, then they were not "Posted" to you.

### **Q5530 How do I send a message to the station to which I am Connected; Peer-to-Peer?**

A5530 You create the message as normal. The word on the "To:" line can be anything, even though AirMail gives a Warning Message for non-callsigns. You MUST Post the message to the station to which you will Connect. If you are using packet and are using a Node or Digipeater you may need to Post the message to either the first Node, or the ultimate Callsign-15.

### **Q5550 I am using pactor (HF Terminal window). How do I connect to a Peer-to-Peer station?**

- A5550
- a. In the Terminal window, select the correct "system" and the callsign of the station you would like to connect (see Q5040).
  - b. Select either the "Handshake" or "Keyboard" mode of interaction with the other station.
  - c. Hit the green "Connect" button. After the station answers, the contact should proceed as with connecting to a CMS station, if you are using the "Handshake" mode. If "Keyboard" is being used, you will be the initial "sending" station. Send a CTL O to transfer control to the other station.

If you both are in the "Handshake" mode, messages in the Out Box and the Transit Box will automatically flow to the other station, IF they have been Posted to the other station, and have not been previously sent to that station.

**Q5580**      **Are there any operating advantages from using the “Keyboard” operating method, when connected to another station Peer-to-Peer?**

A5580      Not really. The “Keyboard” method is very slow, compared to using the “Handshake” method. Handshake results in a MUCH higher efficient use of a frequency channel, and results in a complete “saved” documentation of the information shared between the two stations. If possible, use a voice channel for Chatting, especially on HF.

**Q6000**      **I have a message Posted for another station. The message will not “Send” automatically. Any suggestions?**

A6000      a. The other station should make sure that its “Tools...Options....AutoAnswer” box is checked for “Accept Incoming Connects”.

b. Both stations should be using the Handshake mode.

c. The message should be Posted to the Receiving station.

**Q6100**      **How do I send an ARRL Radiogram to a NTSD Station?**

A6100      NTSD (National Traffic System – Digital) stations are NOT the same as WL2K RMS HF stations. They scan different frequencies, and do NOT “automatically” forward messages to other NTSD stations. NTSD generally does not make use of the internet....radio only. See the web pages by AE5V: [http://home.earthlink.net/~bscottmd/airmail\\_address.htm](http://home.earthlink.net/~bscottmd/airmail_address.htm)

Also see Q320.

## Paclink – Setup - General

### **Q7000      What is Paclink?**

A7000      Paclink is a third generation version of Paclink AGW and Paclink MP. It has the ability to send and receive messages using packet and pactor 1, 2, or 3, when using an appropriate TNC. Another significant addition is the ability to use many TNC's directly, without the need for the AGW software.

NET 2.0 also needs to be installed (available free from Microsoft).

See <http://www.winlink.org/software> for free download information.

Paclink has replaced Paclink MP and Paclink AGW; the earlier software has minimal support.

### **Q7005      I have one of the new Kenwood radios (D700) with a built-in TNC. Will it work with Paclink?**

A7005      See Q3000 and Q7016.

### **Q7010      What kind of computer operating system do I need to run Paclink?**

A7010      Windows 2000 is the "minimum" operating system. See Q500

### **Q7015      I would like to use my SCS TNC for Paclink. Can I get the TNC into the KISS mode?**

A7015      Yes, if you have installed firmware 3.7, or greater. The process is described by N6KZB in the document at: <http://home.earthlink.net/~k7bfl/SCSKiss.pdf>

**Q7016 How do I configure my AGWPE software to enable Paclink to be used with the Kenwood DR-135, using its built-in TNC?**

A7016 K7CPO has had good results with the following setup procedure, applied to PaclinkW. AGWPE or AGW Packet Engine Pro is needed. It has been successfully tested with several RMS Pactor stations, both directly and via Nodes.

If your computer is “old and slow” it may not have enough cpu speed to handle all of the needed software.

Edit the appropriate Paclink AGW Channel Configurations. Set Packet Length =126; Maxframes=1. Save the file.

Use a DB-9 male/female cable between the DR-135 and the serial port (or serial/usb adapter) on your computer.

The Port setup for AGWPE or AGWPE Pro is:

9600 baud radio to computer  
TARP TNC2 [blank]  
KISS ON  
RESTART

Kiss Simple                      ExitKISS on Exit

Single Port

Persist=200	Frack=4
Slottime=15	RespTime=2
MaxFrame=1	Check Every 120
Retries=10	
TxDelay=55	
TxTail=4	

1. Use the VFO to determine the packet frequency
2. Turn on the radio; get into the Data mode by pushing the Function key, then the Squelch key.
3. Start AGWPE
4. Start Paclink
5. Operate Paclink as “normal”.
6. It is VERY helpful to use the “monitor” part of AGWPE to monitor the health of the software, hardware, and packet frequency activity.

The radio/software will “lockup” if any of the following (there may be others) are done:

- c) Changing power level
- d) Changing from Data to Voice to Data

To recover: restart the radio; restart the software.

- Q7018 I am having trouble with Paclink working with my TNC and AGWPE. Do you have any troubleshooting suggestions?**
- A7018 Forget about AGWPE and Paclink until you can confirm that your TNC/AGWPE works on AGW Terminal; and you can make a connection to a packet station using AGW Terminal.  
Some simple rules to get AGW to work:  
1) ALWAYS start AGW with the TNC in normal Terminal mode (command prompt) and at a fixed baud rate.  
2) Check the manual for your TNC to make sure AGW is sending the correct commands. The default command AGW puts in are often (but NOT always) correct. Check your TNC Manual and use the commands necessary to put the TNC in KISS mode. (e.g. I found my older KPC3 required a different command sequence than what AGWPE defaulted.  
3) Set up the TNC and radio correctly for either open squelch or normal squelch before starting AGWPE.  
4) Always have AGW set to "exit KISS on exit" ...this returns the TNC to terminal mode.  
Finally if you can't make AGW work with AGW Term you are setting up something wrong. Try AGW Pro (easier to set up) at least the 30 day demo. IMHO it is worth the \$50 for the simplicity and better support ....but AGWPE (free) will work.
- Q7020 What is a "telnet" connection?**
- A7020 Telnet is an Internet protocol that allows the user to connect to a remote computer. Paclink has a communications module called the "Telnet Client". This module enables the Paclink user to send and receive messages with a Common Message Server, using an internet "non-radio" path. This results in a much faster throughput speed.
- Q7030 What is a Tactical E-mail Address? How do I get one?**
- A7030 A Tactical Address is something like "REDCROSS-22@winlink.org". A tactical address may consist of alpha characters only, or alpha characters, followed by a dash, followed by alphanumeric characters. An address name may not exceed 12 characters (including the - ). Valid tactical address examples: MLBSherter, RedCross-123, Police-99A.  
  
More information about Tactical E-mail Addresses and how to get one are included in the Paclink Installation Instructions.  
  
or from a file by K4CJX  
<http://home.earthlink.net/~k7bfl/TacticalAddresses.pdf>
- Q7040 Is a Tactical Address good forever?**
- A7040 No. It lasts for 400 days after its last use.
- Q7050 I having trouble getting AGWPE to talk to my computer com port. Any suggestions? I am using a serial to USB converter between my computer and the TNC.**
- A7050 See Q1010

- Q7060**      **I have the Paclink configured, but I can't seem to be able to connect to ANY RMS Packet stations. Help!!!**
- A7060      See A3020
- Q7080**      **Is the Icom D-Star equipment compatible with Winlink 2000?**
- A7080      Yes, it can be used with the Paclink software. See Rick, KN6KB for setup details.
- Q7100**      **I am trying to use my KPC3+ with Paclink and AGWPE. How can I get it into the KISS mode?**
- A7100      Using the AGWPE software, on the TNC Setup page under Properties (for the com port being used):  
"Tnc Sub Type": XKISS (Checksum)  
Under "Tnc Control Commands":  
"IniKiss1": XKCH ON  
"IniKiss2": INTERFACE XKISS  
"IniKiss3": RESET  
"ExitKiss On Exit": box is Checked  
[from KF4BXT]
- Q7140**      **Can I use Paclink with my CompuServe account? If so, how?**
- A7140      The only interaction possible between the Winlink 2000 system (including the use of Paclink) and CompuServe would be to exchange emails between your WL2K address and CompuServe email addresses.
- Q7160**      **I have heard that there may be problem, using my Icom 706MkIIIG with Pactor 2?**
- A7160      See Q2533

**Paclink – Use (VHF/UHF Packet)**

**Q7500**      **How do I find a working RMS Packet Station in my local area?**

A7500      See A3500

**Q7515**      **My “Connect Script” times out, with a resulting Dirty Disconnect. How can I fix it?**

A7515      Try shortening your Script lines, such as:

```
C NODEONE  
CONNECTED  
C NODETWO  
CONNECTED  
C N1XYZ-10  
CONNECTED
```

**Q7530**      **Can I do “Peer-to-Peer” communications with Paclink?**

A7530      No, Paclink is only used to exchange messages with a RMS Packet station, a RMS HF station, or directly with the CMS.

**Q7540**      **Can I use Paclink on HF pactor?**

A7540      Yes, Paclink is useable on pactor, with the appropriate TNC. HF pactor is not possible with Paclink AGW.

**Q7580**      **How can I get a “Catalog” of Help Files and Worldwide Weather bulletins, which is available with the AirMail software?**

A7580      1. From Paclink and using Outlook, Outlook Express, or whatever you are using with Paclink as a user interface, send a message as follows:

To: [INQUIRY@winlink.org](mailto:INQUIRY@winlink.org)

SUBJECT: REQUEST

In the message body on a new line, type the word, LIST, and nothing else.

2. Send that message. Wait about 1 to 3 minutes. It WON'T work to send a request over the Internet using normal e-mail. Just through a RMS HF or RMS Packet station using the WL2K system pathways.

3. Either wait until your automatic poling takes place, OR manually connect with Paclink. You will get a 72K text file with all the catalog items. The first column will be the "category" and the second column will be what you request.

**Q7600**      **During a recent Emergency Drill several of us were simultaneously trying to access a local Winlink Gateway through our local Node. We each experienced lots of Retries. What can be done to solve this problem?**

A7600      See Q3720

**Paalink – Use (Telnet via internet connection)**

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## Keyboard Access – Setup

### **Q8000      What is the “Keyboard Access” method all about?**

A8000      It enables a user to send and receive messages (without Attachments), using very basic packet or Pactor software. It is VERY SLOW, compared to the normal AirMail and Paclink software “Handshake” protocol. It should only be used on HF Pactor for special situations, such as deleting a very large message before it is downloaded. See Q2540. The method is acceptable for normal use on VHF/UHF packet. Users are STRONGLY encouraged to receive increased communications benefits by upgrading to either AirMail or Paclink.

Data is not compressed, so a casual listener will be able to easily see all of the data being transferred.

If possible, please use either Paclink or AirMail (Handshake mode). They are faster, give more features, don't make syntax errors and use up fewer system resources. 99% of all the WL2K system problems are due to keyboard entry and keyboard users make up less than 1 percent of WL2K users.

### **Q8020      What kind of computer operating system do I need to use Keyboard Access?**

A8020      Most any computer and operating system will work (with packet). Some folks have used Palm devices.

**Q8100      When I try telnetting to the server.winlink.org telnet server, I get an error message saying that 'transparent mode' is required. This occurs with the default telnet that ships with my Mac's OS X operating system. I've tried some other telnet applications off of the internet, but get the same message.**

**I tripped over a note on the Outpost webpage that indicated that placing a '.' in front of my callsign can work around a 'transparent mode' problem. And indeed, when I did this, I was able to log in to server.winlink.org.**

**I only see this documented in the Outpost release documentation.**

**While I don't intend to use the telnet interface for long, it'd be nice to know if this is a solution advocated by winlink.org, or whether I need to find another telnet client on OS X that doesn't have the 'transparent mode' problem.**

A8100      The telnet RFC requires that the user name be preceded with a "." if the connection is to be in transparent (8-bit binary) mode rather than 7-bit alpha mode. Since the CMS Telnet server requires an 8-bit binary mode to handle the B2F protocol the initial login requires the "." in front of the users callsign when logging in.

Client programs such as AirMail and Paclink take care of adding the "." automatically. If you are using a simple telnet client terminal program you need to add the "." yourself.

## Keyboard Access – Use

### **Q8500 How do I find a working RMS Packet Station in my local area?**

A8500 See A3500

### **Q8510 How do I access the WL2K system, using Keyboard Access?**

A8510 Connect to a RMS Packet Station:

LM List all messages for me.  
RM Read all messages for me.  
KM Kill (delete) all messages for me.  
R xx Read content of message number xx.  
K xx Kill message number xx. (don't forget any underscore which may be in the number!)

SP Send a message (see A8520)  
H Help File  
Bye Disconnect

### **Q8515 Are there any special Keyboard restrictions when using pactor?**

A8515 Yes, it is not possible to Read or Send a message when using keyboard pactor. This is because of the VERY low throughput speed of pactor, when using Keyboard. The Keyboard feature is included with HF pactor primarily to enable a User to Delete a message that is "clogging" his mailbox. See Q1500. The commands which are available are:

H (yields a special pactor help file)  
LM List mine  
K xx Kill message number xx (don't forget any underscore which may be in the number!)

B Disconnect

### **Q8520 How do I send a message, using Keyboard Access?**

A8520 SP or SENDPERSONAL <Destination(s)> Send a personal text message to the destination(s) indicated. Destinations may be a Radio callsign (without H-route) known to the WL2K system or "SMTP:<e-mail\_address>"

Multiple destinations should be separated by ";" or ","  
e.g. SP W4ABC;SMTP:Johndoe@aol.com

Be careful to enter addresses correctly and include the required prefix "SMTP:" in front of any e-mail address.

You will be prompted for a subject of the new message: And then prompted for the message body:

For the message body enter any text. use Cr for multi-line. End with /EX on a separate line. No attachments. Acceptance of the message will be confirmed.

Attachments are not supported by Keyboard Access.

- Q8530** I have connected to a RMS Packet Station, using Keyboard Access. Nothing is happening on the screen. Why?
- A8530 The software does not have many “prompts” to let you know what to do next. You need to take the lead. It will not tell you if there is mail for you unless you type LM.
- Q8540** I made a typing error. Apparently the program does not coach me about my errors?
- A8540 Your assumption is correct. If you type something and you do not get a response within a minute, assume you made a typing error. Correct the error and try it again. If that does not help, then Disconnect and start over.
- The “Keyboard Access” program was meant to be a VERY SIMPLE, intro type program. It is not intended to be a heavy duty message transfer program, like AirMail or Paclink. Programming enhancements to this software should not be expected. However if you programming skills and have time to donate for such a project, contact K4CJX.
- If possible, please use either Paclink or AirMail. They are faster, give more features, don't make syntax errors and use up fewer system resources. 99% of all the WL2K system problems are due to keyboard entry and keyboard users make up less than 1 percent of WL2K users.
- Q8550** In my terminal program MyCall has been defined as W6ABC. When I originate and send a message via WL2K, using Keyboard Access, it arrives at the other end as coming from W6ABC-15@winlink.org. Why?
- A8550 You are probably using a packet Node to get to a RMS Packet station. The Node is changing your callsign to W6ABC-15, which is what the RMS Packet station sees. The WL2K system sees W6ABC@winlink.org and W6ABC-15@winlink.org as two unique e-mail addresses.
- The “workaround” procedure which will enable you to send messages from MyCall@winlink.org, and to download messages for MyCall@winlink.org is:
- prior to starting your terminal program, change MyCall to MyCall-15. This will enable you to Send messages from MyCall@winlink.org and Receive messages for MyCall@winlink.org.

## **RMS Packet Station – Setup**

### **A9000 Just what is a “RMS Packet” Station?**

A9000 It is an amateur radio station which provides a communications path between a VHF or UHF packet “WL2K user” and the Winlink Common Message Server (CMS). The RMS Packet does not store any information. It is not a BBS. It is not a Node.

### **Q9050 What kind of computer operating system do I need to run the RMS Packet software?**

A9050 Windows XP is the “minimum” operating system.

### **Q9100 Is there a version of RMS Packet available for Linux operating systems?**

A9100 Yes. DL5DI and W3SG have a working Linux RMS Gateway using the Linux operating system. More information is available from:

<http://www.winlink.org/SysopSoftware>

### **Q9120 I am a casual user of the WL2K system. Do I need to install the RMS Packet software on my computer?**

A9120 No. You only need to install either AirMail or Paclink to send and receive messages. RMS Packet is for advanced WL2K users, who want to provide something back to the WL2K System; that being a VHF/UHF Gateway for access from local WL2K users.

### **Q9140 If I decide to install the RMS Packet software, do I have any obligations to the WL2K system?**

A9140 No. You can choose to operate it as many hours a day as you want. 24/7, As Needed, etc.

### **Q9160 What call letters should I use for my RMS Packet station?**

A9160 If possible, use a quasi standard of yourcall-10.

**Q9180 Are there any frequencies that I should avoid for my RMS Packet?**

A9180 The WL2K Development Team recommends that you avoid 144.39 MHz, which is a common frequency for APRS use. If possible, coordinate your frequency choice with other local packet users.

AirMail and Paclink, if in use, require a very intense use of a channel. They both work best if they are not competing for channel use from other users.

AirMail and Paclink will both work with a digipeater and a node. In order to maximize throughput for all users, all WL2K users of the digipeater should refrain from connecting when another WL2K user (using AirMail or Paclink) is connected.

If possible, stay off of frequencies which have heavy use of DX Clusters.

An ideal community arrangement would be to have multiple RMS Packet Stations on different frequencies, using different internet service providers, located in diverse parts of the local geographical area.

**Q9190 Is there a “good” way to utilize several local RMS Packet stations during a “high loading emergency event”?**

- A9190
1. If you have local internet access, use the WL2K System, instead of doing peer-to-peer message transfers.
  2. Encourage Users to use the commercial internet (Telnet) if available.
  3. If possible, access RMS Packet stations directly, instead of through a Node.
  4. If you have more than one RMS Packet station, put them on different frequencies.
  5. Encourage Users to listen to RMS Packet activity. Things go quicker if a RMS Packet station is servicing one User at a time, even though they may be programmed to handle many simultaneous Connects. The activity level of Paclink, AirMail, and RMS Packet is very quick and intense, compared to keyboarding BBS type activity.
  6. If Users have Pactor 3 capability, encourage them to use Pactor 3, instead of a local RMS Packet station.
  7. Pactor Users should be encouraged to use different RMS HF stations.
  8. Pactor 1 Users should be encouraged to use packet, if possible.
  9. Use the cc ability of AirMail and Paclink to send copies of a message to multiple recipients.
  10. Use Reply, Forward, “Copy and Paste” to minimize typo errors.

**Q9200 Can I run more than one RMS Packet Gateway on a single computer?**

A9200 Yes, several "instances" can be running simultaneously if there is sufficient memory and horsepower in your computer. There is a protection mechanism to keep from running multiple copies of the same instance number. For each separate instance you will have a completely independent setup (call sign, TNC parameters, log file, etc). Each instance must of course refer to a different Com Port and TNC/radio when you are using direct modem control. Also each instance must have its own .aps file and own sign-on banner file. For example the filenames for a KAM TNC aps file for instance 2 would be KAM\_2.aps. The sign-on banner for instance 2 would be the file banner\_2.txt.

Setting up a second "instance" is described in detail in the Help section of the RMS Packet software.

**Q9220 It is possible to install the RMS Packet software on a laptop and use it to run a "portable station".**

A9220 Yes, that is an excellent application. With the addition of a WiFi card and external antenna, these stations can be deployed to any hotspot (or, heck to any neighborhood or commercial area where connections may be found easily these days) to set up an instant gateway for other Paalink or AirMail stations.

Having your free hotspots pre-surveyed and several operators capable of deploying portable RMS Packet stations is a very viable strategy that can bring depth and flexibility to organizations that can afford little permanent infrastructure.

**Q9260 I need to change some of the station description information about my RMS Packet, which was given when I originally registered the station. How do I change the information?**

A9260 Update the "Site Properties" page in your copy of RMS Packet.

A new Linux client gateway version is needed that matches the status and registration methods implemented in RMS Packet. Please correspond with Lee (K0QED) (lee.inman@gmail.com) to work on facilitating these changes.

**Q9300**      **Are there any guidelines for which Common Message Server or RMS/RMS Relay station to use as my primary telnet host?**

A9300      We can make some recommendations. See Q4010 for the procedure to connect to a Common Message Server.

If yours is an EmComm RMS Packet station in a community of similar stations, you probably have a local "hubbing" station (PMBO or RMS/RMS Relay). If this is the case, choose this station as your primary host for all RMS Packet stations in your local network. Secondary and tertiary hosts can be another EmComm hubbing station located outside your area, or the closest CMS. This setup insures that, if the internet connection is lost among some of your local stations, that you can continue to exchange messages between local users.

Otherwise, it makes little practical difference as long as internet service is available. It will pay to examine the local scenarios for how your internet service might fail, and how a failure might affect all or some of your local stations. Then set up your hosting priorities accordingly.

**Q9320**      **My RMS Packet software is running 24/7 and seems to “go to sleep”, with an associated shutdown of the software. Any suggestions on a solution?**

A9320      It may be caused by the “Power Management” switch on your serial or usb connection going into a sleep mode (independent of the “Power Options via the Control Panel).

The serial and usb Power Management switches can be turned off via Control Panel....System....Hardware....Device Manager....Universal Serial Bus Controllers....USB Root Hub....Properties....Power Management.

Q9350

**I am using a KPC3+ as my TNC, with the “direct” RMS Packet software option. Our local node operator says that my RMS Packet is sending out a beacon with a call alias of DISABL, which messes up the Node Table on the Node. How do I get that turned off?**

*[info from KB5WBH and KG4VUB]*

The beacon comes from the setting for NETCALL. NETCALL is associated with the K-Net feature of the TNC (firmware newer than 8.3). This feature enables the TNC to become part of a network of Nodes.

The default factory value is lowercase "disabled" >> NETCALL disabled <<

When RMS Packet initializes and reads the original TNC settings, it saves that setting in the registry as "disabled". If you select "restore TNC settings on exit" in the RMS Packet settings, then RMS Packet will issue the cmd "NETCALL DISABLED" when you close the program (along with restoring all the other saved settings.)

The TNC sees the value "DISABLED" for the NETCALL cmd and sets that value, thinking it's a node alias. This turns on the K-Net feature in the TNC and results in the automatic beacon DISABL . I guess it only holds 6 chars for the alias.

According to a phone call with Kantronics, the only way to turn it off is with a hard reset.  
cmd: restore -d

In RMS Packet just make sure "restore TNC settings on exit" is unchecked.  
Another sure way to solve the problem (from KE6AFE) is to modify the aps file, including the following:

IDINT 0 ; this disables the Node ID timer

NETCALL % ; this clears both the nodes and routes tables

Finally, another way to solve the problem is to run RMS Packet with AGW. This also lets you use AGW Term for keyboarding on the same radio/tnc as the RMS Packet. The Monitor function of AGW is also available to monitor all activity on the frequency

Q9360

**I am using a KPC3+ as my TNC, with the “direct” RMS Packet software option. When I start RMS Packet, it hangs up, just after the first item of the aps file, "8bitcon ON". There is no response from the TNC, it just freezes. RMS Packet has to be shut-down by CTL-ALT-Delete. I have tried a different KPC3+, a different aps file, and reinstalled RMS Packet. How can this be corrected?**

A9360

This problem has been solved by installing “Port Monitor” software on your computer.

**Q9400      The "autoupdate" feature of RMS Packet is giving me fits! How can I get updates without having my computer shut down?**

A9400      Every Tuesday night is known among geeks who deal with Microsoft systems as "Update Tuesday." In the wee hours, all Microsoft systems will contact their update servers and download the latest OS updates, patches and security updates if "autoupdate" is turned on. In most cases when the OS is patched your system will reboot itself. Unless you configure your system to automatically log in a privileged user and start all the applications, it will appear just as was reported.

There are numerous ways to configure your system to come up online and operating after a reboot. This is a good thing to do, not only to support automatic updates (you can turn it off, but that leaves your system vulnerable to security issues--NOT recommended), but also to facilitate remote administration and remote booting.

I suggest you start by downloading a little applet from the WL2K site (downloads > Software--Utilities > AUTOLOG.exe and save it on your system. Run it and it will configure your registry to automatically log in after a reboot, making it ready to run programs without any intervention.

Next, Windows should be set to use an NTP server to set the real-time clock in the computer. Search Windows help for "NTP" and choose an item named "Synchronizing the time clock" or something similar, where you will find directions on how to do this in windows. There are also third party applications that will do this. We like to use one of the Naval Observatory servers on the internet to synchronize with.

Afterwards, move shortcuts for all applications (RMS Packet, RMS Relay, etc.) you want to run to the "startup" folder. Make sure all shortcuts work properly first.

Last, add the Remote Desktop server to the system so that you can administer the system from a distance over the internet connection. The server software component is on the Windows distribution disk for XP Pro and needs to be installed separately. This item is optional and may work differently on different versions of Windows. See the Windows Help documentation on "Remote Desktop" or "Remote terminal" or "terminal services" for information.

There are many other ways to accomplish the same result, but these are the painless ways and the ones most available users with average Windows skills.

## RMS Packet Station – Use

**Q9500 Do you have some suggestions on how to maximize the throughput of a RMS Packet when it has multiple “simultaneous” users?**

A9500 When using RMS Packet stations WITHOUT using a digipeater or node:

We advise hams to take a moderately aggressive approach to setting packet parameters, both users and gateway stations. We also advise users to listen before they transmit, pass their traffic and get off for the next guy, believing that to be more efficient than when several stations share airtime. The RMS Packet Stations in our area are advised to set Maxframes at 4-6. This is to allow multiple packets to be acknowledged at once, rather than adding an Ack for each packet or two. Less channel overhead.

When using RMS Packet Stations WITH using a digipeater or node:

Same as above, but reduce the MAXFRAME value to 1 or 2.

**Q9520 I have been getting intermittent “hang-ups” from RMS Packet, with multiple users. I have reviewed all of the literature, but can’t solve the problem. What should I do next?**

A9520 Save the RMS Packet Log of events prior and during the incidents. Send the Log to KN6KB.

**Q9540 I have a RMS Packet Station up and running. I can't seem to figure out how to "monitor" or audit the content of the messages, due to the compression of each message; in order to comply with FCC Rules. Or has that duty been delegated to someone else in the WL2K organization that is able to see the actual words?**

A9540 No. - §97.219(c) provides protection for licensees operating as part of a message forwarding system. "...the control operators of forwarding stations that retransmit inadvertently communications that violate the rules in this Part are not accountable for the violative communications. They are, however, responsible for discontinuing such communications once they become aware of their presence.

[RMS Packet stations in non-USA countries are bound by the rules and regulations of their country]

**Q9550 A User of my RMS Packet Station timed out during a session. He was downloading a large message. Why did that happen?**

A9550 It probably happened because the “Connection Timeout” number in your RMS Packet Setup refers to the time between interactions of your RMS Packet station and the Common Message Server that you are using. In this case the entire message was moved from the CMS to your RMS Packet very quickly. Then the process of moving the message to your User began. During that process your RMS Packet had no interaction with the CMS; hence the timeout.

Your User can obtain the entire message by doing additional connections. Or, you can increase the Connection Timeout value.

**Q9570**      **I noticed the WL2K map position of my RMS Packet station is incorrect. How do I change it to show my correct position?**

A9570      Positions of RMS Packet stations are calculated by the CMS servers and plotted at random positions within the 6-character grid square configured in the RMS station's packet channel. This is done so that stations each other do not overlap on large scale displays, and to make them quickly distinguishable.

The real-time RMS maps are intended as tools for users to find on-air stations to contact, not as an exact location marker for sysops and their stations.

If your map position is outside your grid square, then correct the grid square information in the Packet Channel dialog of your RMS software. All reported information about your RMS station is controlled by editing the Packet Channel and Site Properties dialogs in the RMS software. The web-accessible database of station information for Telpac software is no longer available or supported.

**Q9580**      **I am using the Telpac software for my Winlink Packet Gateway station. How long will that software be supported?**

A9580      Effective March 1, 2009 support for the Telpac software will cease by the Winlink Development Team. Also, at that time, the CMS will no longer accept Connects from Telpac software. The RMS Packet software replaces the Telpac software.