

# WINLINK THOUGHTS

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Winlink (RMS Express) offers many opportunities for service and fun but is not without technical challenges and an often steep learning curve.

It is highly suitable for Emcom as well as simple, small size, routine email traffic in mobile & fixed station locations. It is not intended to be a full replacement for regular, commercial email.

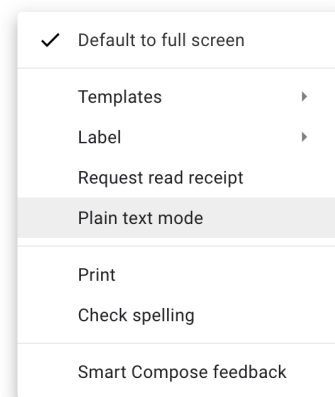


Winlink without RF is possible using the Internet (Telnet Mode) alone but that is not where you want to be.

Winlink is focused on handling message traffic...not voice. To most, Winlink messages are “email”.

There are **size** limitations for attachments to Winlink messages...be mindful of what you attempt to send. Do not expect to send LARGE files of any type.

Non-hams can send email to your Winlink email address as you can send messages to non-hams at their normal email addresses. This is a good thing if things go bad and your relatives or friends are not hams. Be mindful that ANYONE using Winlink messaging should use PLAIN TEXT MODE email...no HTML (fancy email). This helps with network loading and helps speed traffic along. Yes, you will have to show them how to send text-only email.



All Winlink messages are subject to **PUBLIC** inspection (reading) and Winlink Gateway Operators (OPs) have a responsibility to monitor all traffic sent via their gateway(s). Gateway OPs routinely sample (read) messages.



Winlink servers have strong provisions to block/trap messages that appear to be spam. Winlink users have options to “tag” outgoing messages in a way that the servers will not consider them to be spam. Spam is ALWAYS bad if it is truly spam. Spam can swamp a network if not closely monitored and controlled.

See: [https://winlink.org/content/how\\_manage\\_your\\_whitelist\\_spamcontrol](https://winlink.org/content/how_manage_your_whitelist_spamcontrol) for more information.

**Not Spam Tag Example:** Subject: **//WL2K** (then any other normal subject content to follow).

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Obfuscated meanings or quasi-encrypted message content is prohibited just as it is under normal FCC Regulations.

Winlink requires “registration” with strong suggestions for a donation. Please donate.

Winlink is a global network which uses radio (RF) and/or the Internet to handle traffic. Yes, this is good.

Winlink is highly automated but requires frequent attention (often because of other “players”).

Winlink offers two basic modes of operation: VHF/UHF and HF; (MESH usage is also available).

Winlink offers several communications protocols that are mode dependent.

Some protocols are free...others are not.

- **Vara FM/HF** are relatively new and are available in a free version or a much faster paid version. Vara works well and is very fast...almost a burst type transmission.
- **Pactor** is a long-established, proprietary communications protocol which is hardware dependent. That hardware is often expensive but it can “really haul the mail” in bad or marginal propagation conditions...it is truly amazing.

From a Winlink perspective, you are either a Client or a Gateway/Peer.

Client = You are using a gateway or a peer to connect with and send or receive traffic. Similar to using someone else’s repeater.

Gateway/Peer = You are the provider of a “connection” to clients of the Winlink Network.

Yes, your setup can be either...just load gateway software to be a gateway or client software to be a client...you can change back and forth fairly easily whether fixed or mobile. There are some considerations in doing that but it is possible and practical. For instance, your mobile comms can be a gateway to allow for closer, localized communication during emergencies rather than using a more distant gateway.

Winlink HF Gateways can operate in a multi-protocol setup, i.e., Vara, Pactor, ARDOP, etc. so that each gateway can be listening for traffic on a set of frequencies and different protocols (of the gateway operator’s choice). Such a setup is much like a scanner. It listens for so many

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seconds on a certain frequency using a specific protocol. Winlink.org identifies the protocols used by each gateway (callsign).

There is no real, hard & fast frequency coordination on Winlink Gateways (other than FCC/ARRL guidance). A best practice is to look at Winlink's list of gateways and see where they are and what frequencies they are using. HF frequency selection can get a bit trickier due to the likelihood of HF propagation.

UHF/VHF gateways are mostly the same range as traditional uses of UHF/VHF but connections to such gateways are usually less than 50 miles and more likely much less. So it's good to have a quiltwork of gateways that are somewhat nearby.

HF Gateways are less useful in short range unless you use an NVI (Near Vertical Incidence) antenna in which the HF signal is pretty much shot straight up and bounces back down for reception/transmission to and from Winlink Clients.

Winlink is mostly used with Windows though use of other operating systems (OS) is possible. If you choose a non-Windows OS, you should be prepared for a "deep swim" with little help available.

Some radios are more conducive for Winlink operations than others. Your choice of radio will make your Winlink experience good or otherwise...so choose wisely. Some radios are just not made for digital operation which always involves fast transmit/receive switching.

A Winlink setup requires a radio, antenna, connecting cables, soundcard/soundmodem/TNC (built-in or external like Signalink devices), Winlink software, PC, appropriate power supplies for radio and PC, and steady, repetitive use to make what you think you know -- stick!

Consistent with your budget, give consideration to a radio with data, com, aux, USB, and other ports over those that only have speaker/mic jacks. Connections that use mic jacks/RJ45s or speaker jacks may make it more difficult to use with Winlink and/or convert back to non-Winlink operation. For instance an inexpensive IC-2300H can be used for Winlink but precludes the simultaneous use of it for normal operations...the RJ45 mic jack is used for Winlink so you can't talk without unplugging the Winlink connections and plugging in the mic.

Selection of the correct cable for your specific radio(s) is critical. Label each cable to know what it works with so if you're in a hurry, it will be a relative no-brainer to hookup.



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Also give consideration to radios that are multi-band such as UHF/VHF/HF with the connections mentioned above. This provides an opportunity to operate Winlink on all bands. Remember that such operation will require a multi-band antenna as well.

If you are a Winlink Client User, leave your Winlink setup in place and operational 24x7. This will encourage frequent use as you can sit down and use it without worrying about reconnecting and it's ready to use if an urgent need comes along. Competency is achieved only through frequent, repetitive use. So get used to Winlink and it will become second nature to you.

Develop or create a "Winlink Friend" to send/receive/practice messages. This makes it much more pleasant to develop your Winlink skills and keep them up-to-date. Ham radio friends can be anywhere.

Frequent practice is mandatory so create ways to practice that are fun. Consider Winlink nets like the "Winlink Wednesday" Net.

RF-based Winlink is the "cream of the crop" with Internet a fallback option.

Yes, you can do Winlink in and from a mobile setting and it's fun to do!

Once you get comfortable with the basics of Winlink, there are many nuances such as Position & Status Reporting that you can use.

Winlink software provides for use of simple, inexpensive, plug-in, USB GPS antennas/modules.

In view of the newly-effective RF Exposure Regulations, please be mindful of RF when you set up mobile environments where humans may come into close contact with RF.

Power output on digital systems is often set to no more than one-half of normal operating power. Why? Digital signals are more efficient and travel further with less power. So throttle back your power output (it's good radio practice and an FCC rule) and high power isn't needed with digital signals...you can also damage your radio if it isn't "digital ready".

Don't forget the other basics of "good shack principles"...be mindful of SWR on all antennas, especially HF Winlink stations. Backup power sources and lightning mitigation devices should always be used for gateways. Remember...urgent communications do not always wait for the weather to be good.

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Don't expect the Winlink Organization to move quickly on any change...even one you think is good. Yes, there is a bureaucracy there...but a well-meaning one.

*Winlink (Client or Gateway) requires constant vigilance as to the effect of operating system updates. Some Windows updates have "broken" Winlink by affecting com ports. Adding new software for your own purposes can also affect Winlink so be watchful when changes come along. Expect to become very familiar with USB ports & settings.*

As with all ham radio-based communications, output power, frequency used, propagation, location, terrain, etc., can drastically affect range and/or coverage...remember that this is true on BOTH ends of the connection so Winlink may not always work on the first try. Try other gateways if one doesn't work.

If you intend to operate in a mobile or remote environment, make sure you have all needed files with you in case you have to reinstall software or need the documentation (PDFs) to remember how to do something. You can also download helpful videos to removable media. Placing such on removable memory devices is a good practice and helps if you need to refresh your own memory or share with others. Keychain-sized memory drives are inexpensive and can always be carried with you.

Remember that **peer-to-peer Winlink connections** are almost always arranged IN ADVANCE and are based on time, date, frequency, etc., and the permission of each operator.

User Groups are available on Google Groups and Groups.IO for Winlink help and questions in addition to the main Winlink.org website.

Before posting anything...read, read, read, and search, search, and search. Don't forget to search within forums before posting a questions that has been asked 100 times before.

Share verified knowledge...don't post what you think...post what you are confident is true and accurate.

Winlink.org is a great website and includes automated methods for tracking all connections made. It's very interesting to see traffic plotted on a map in near real time.

Use of Winlink is truly fun, fulfilling, and provides a vital capability when normal infrastructure is unavailable. So go have fun and make ways to use it often.

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