

Winlink

From Wikipedia, the free encyclopedia

Winlink, also known as the **Winlink 2000 Network**, is a worldwide radio messaging system that mixes internet technology and appropriate amateur radio radio frequency (RF) technologies. The system provides radio interconnection services including: email with attachments, position reporting, graphic and text weather bulletins, emergency/disaster relief communications, and message relay. The system is built and administered by volunteers without pecuniary interests. Winlink 2000 is a project of the Amateur Radio Safety Foundation, Inc. (ARSFI), a charitable entity and 501c(3) non-profit organization registered with the US Internal Revenue Service.^[1]

Contents

- 1 Network
- 2 Amateur radio HF email
 - 2.1 Amateur radio HF email guidelines
- 3 Users
- 4 Supported radio technologies
- 5 Technical protocols
- 6 Amateur radio interference issues
 - 6.1 US amateur radio interference issues
- 7 US regulatory issues
- 8 See also
- 9 References
- 10 External links

Network

Winlink networking started by providing interconnection services for amateur radio. It is well known for its central role in amateur radio Emcomm messaging. The system runs several central message servers around the world for redundancy. During the past decade it increasingly became what is now the standard network system for amateur radio email worldwide. Additionally, in response to recent needs for better communications disaster response, the network has been expanded to provide separate parallel radio email networking systems for MARS and UK Cadet communities.

Amateur radio HF email

Generally, email communications over amateur radio in the 21st century is now considered normal and commonplace. Email via High frequency (HF) can be used nearly everywhere on the planet, and is made possible by connecting an HF single sideband (SSB) transceiver system to a computer, modem interface, and appropriate software. The HF modem technologies include PACTOR, Winmor, and Automatic Link Establishment (ALE).

Amateur radio HF email guidelines

Amateur radio users in each country follow the appropriate regulatory guidelines for their license. Some countries may limit or regulate types of amateur messaging (such as email) by content, origination location, end destination, or license class of the operator. Origination of *third party* messages, i.e., sent to an end destination who is not an amateur operator, may also be regulated in some countries; those that limit such *third party* messages normally have exceptions for emergency communications. In accordance with long standing amateur radio tradition, international guidelines and FCC rules section 97.113, hams using the Winlink system are advised that it is not appropriate to use it for business communications.

Users

The Winlink system is open to properly licensed amateur radio operators. The system primarily serves radio users without normal access to the internet, government and non-government public service organizations, medical and humanitarian non-profits, and emergency communications organizations. Duly authorized MARS operators may utilize the MARS part of the system. As of July 2008, there were approximately 12,000 radio users and approximately 100,000 internet correspondents. Monthly traffic volume averages over 100,000 messages.^[2]

Supported radio technologies

- 802.11 "WiFi"
- ALE (Automatic Link Establishment)
- APRS (Automatic Position Reporting System)
- AX.25 Packet Radio
- D-Star
- PACTOR
- PACTOR-II
- PACTOR-III
- TCP/IP (Other Wireless Technologies)
- WINMOR

Technical protocols

PACTOR, WINMOR, HSMM (WiFi), AX.25 packet, D-Star, TCP/IP, and ALE are non proprietary protocols used in various RF applications to access the Winlink network systems. WINMOR is a new open protocol. Two HF data protocols utilize proprietary-enabled publicly-documented modems: PACTOR-II and PACTOR-III. In amateur radio service, *AirMail*, an email software program used by the Winlink system, disables the proprietary compression technology for PACTOR-II and PACTOR-III modems and instead relies on the Open FBB protocol, also widely used by packet radio BBS forwarding systems in US.

Amateur radio interference issues

Like all modes of amateur radio, especially HF (High Frequency) ionospheric communications, where the spectrum is shared and the propagation is widely variable, users of the Winlink system have encountered potential for mutual interference. Normally, this interference is mitigated by various means,

including: operator initiated connections, frequency agility, alternative regional nodes, and smart over-the-air modem protocols. The HF environment is a difficult communication problem, but modern modem systems have enabled fast and efficient data transfers, providing good alternatives to those who have few other viable options for electronic messaging in remote areas of the world.

US amateur radio interference issues

In 2007, a US promoter of HF packet radio founded a website to publicize interference with Winlink, with the stated intent of complaining to FCC, and included a small forum for users to discuss interference disputes.^[3] FCC has taken a pragmatic view of such reported interference complaints.

US regulatory issues

In 2007, a US ham formally petitioned the Federal Communications Commission (FCC),^[4] in what became popularly known as *The Digital Stone Age Petition*, aimed at abolition of Winlink, HF PACTOR, and other popular HF automatic data systems or modes; but, in May 2008 FCC ruled firmly against the petition.^[4] In the Official Order, FCC said, "Additionally, we believe that amending the amateur service rules to limit the ability of amateur stations to experiment with various communications technologies or otherwise impeding their ability to advance the radio art would be inconsistent with the definition and purpose of the amateur service."^[5] *Moreover, we do not believe that changing the rules to prohibit a communications technology currently in use is in the public interest.*"^[5]

See also

- PACTOR
- WINMOR
- ALE
- Amateur Radio Emcomm

References

- ¹ ^ "Amateur Radio Safety Foundation, Inc." (<http://www.arsfi.org>) (html). ARSFI.org. <http://www.arsfi.org>.
- ² ^ "Winlink System Traffic" (<http://www.winlink.org/SystemTraffic>) (html). Winlink.org. <http://www.winlink.org/SystemTraffic>.
- ³ ^ Charles Braham. "AR Watch" (http://www.arwatch.com/watch/w_winlink.htm) (html). http://www.arwatch.com/watch/w_winlink.htm.
- ⁴ ^a ^b "Digital Stone Age FCC Petition RM-11392" (http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF) (PDF). US Government Federal Communications Commission FCC. http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF.
- ⁵ ^a ^b "FCC Order on RM-11392, p.6" (http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF) (PDF). US Government Federal Communications Commission FCC. http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF.
 - Josuweit, Robert (January 2006). "Hams to The Rescue!" (http://www.conformity.com/artman/publish/printer_27.shtml) . *Conformity*. http://www.conformity.com/artman/publish/printer_27.shtml. Retrieved 2008-03-24.
 - Arland, Rich (February 2006). "It's More Than Ham Radio Volunteers!". *Popular Communications*.

- "A Failure of Initiative: The Final Report of the Select Bipartisan Committee to Investigate the Preparation for and Response to Hurricane Katrina" (http://www.katrina.house.gov/full_katrina_report.htm) . February 2006. http://www.katrina.house.gov/full_katrina_report.htm. Retrieved 2008-03-24.
- Josuweit, Robert (May 2006). "High Level Recognition for Hams". *CQ Amateur Radio*.
- "Digital Stone Age FCC Petition RM-11392" (http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF) (PDF). US Government Federal Communications Commission FCC. p. 6. http://www.hflink.com/fcc/digitalstoneage/FCC_denies_digital_stone_age_petition.PDF.
- "Winlink System Traffic" (<http://www.winlink.org/SystemTraffic>) (html). Winlink. <http://www.winlink.org/SystemTraffic>.
- Josuweit, Robert (March 2005). "Tsunami!". *CQ Amateur Radio*.
- Linden, Lou (December 2004). "Winlink 2000 In The Jungle". *QST* :*url=http://www.winlink.org/node/293*.

External links

- The official Winlink Web Site (<http://www.winlink.org>)
- Winlink Research Project by KB3JUV (<http://www.kb3juv.com/winlink2000project>)
- HFLINK Automatic Link Establishment (<http://hflink.com>)
- Winlink Watch Interference Page (http://www.arwatch.com/watch/w_winlink.htm)

Retrieved from "<http://en.wikipedia.org/wiki/Winlink>"

Categories: Packet radio

- This page was last modified on 25 April 2010 at 12:41.
- Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. See Terms of Use for details.
Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.