

To the FCC, in the matter of RM-11708

Numerous comments have been made that claim that Winlink allows access to the Internet for browsing, and continue the claims that it exists for the sole purpose of providing a free alternative to SailMail or Satellite Internet; none of the individuals have offered conclusive proof that either claim are true. However, I can provide some information that will clarify things for the Commission. The SailMail Association, who established and maintain the network of HF radio nodes throughout the world did so after using an early version of Winlink, for the express purpose of providing a means for marine vessels a means of communication to do things that were not legal on Amateur Radio frequencies. That many marine users have Amateur Radio licenses in addition to the required marine radio licenses and utilize Winlink in addition to SailMail is due to the fact that SailMail restricts user time on the system to 90 minutes per week, while Winlink allows 60 minutes a day. This allowance enables marine users to always have a means of staying in contact with family on land. While SailMail has a yearly fee for use and Winlink does not, this does not mean that the marine users have not made voluntary contributions to the maintenance of the Winlink system, as they have been very supportive in that regard.

In the comments of Charles Moizeau, he asks the Commission to determine why the ARRL believes there is a “huge increase in data based traffic that needs to be passed via Amateur Radio”, and further requests to know the origins and appropriateness to the Amateur Radio service. The ARRL has in fact answered these questions within the framework of the initial proposal, but many people are brushing those answers aside; the ARRL clearly is asking for these limits to allow for experimentation with new forms of digital data communications and attempting to protect incumbent users from those that would use Software Defined Radio technologies to develop extremely wide bandwidth digital communication modes that would do even more damage than the possible damage from Pactor 4 and STANAG that opponents of this proceeding are claiming will “immediately result” from implementation of the requested bandwidth restriction. He also asks that they acknowledge the “definite likelihood” of interference and for a means of mitigation of that interference. The most appropriate answer to this would be for the FCC, and its international counterparts, to put pressure on Spezielle Communications Systeme GmbH & Co. KG, the developers of Pactor 4, to provide a firmware upgrade to their hardware that will provide the following things before allowing the mode to be used in the US Amateur Bands; a listen before transmit algorithm that will either limit bandwidth used when other signals are detected in the main 2.4 kHz passband or fully disable transmission, and a means of locking the modem to Pactor 2 mode when operating in frequency ranges that are specifically set aside for narrow bandwidth communications. These things are possible to accomplish, as the P4 Dragon modems are fully capable of controlling the frequency of suitably capable modern radios. Similarly, these requirements should apply to any applications on computers that act as servers for message passing systems such as Winlink.

In the comments of Gregory Thompson, he brings up several points that are flawed. The first is that using EmComm as a crutch to justify the existence of Amateur Radio is not good; this is flawed because that is in fact one of the primary reasons that the FCC itself gives for the existence of Amateur Radio. The second is that relying on HF for Emergency Communication is “insane”; the truth is that relying on the Internet through any means of connection in an emergency is the insane thing, so much so that the Military Auxiliary Radio Service made a request of the Winlink development team to create a means of communication that did not rely on the Internet, or they would suspend the use of the system. The Winlink Hybrid Network exists because of this request, and is a quite useful addition to the Emergency Communication systems used by many states. The third point is that SailMail and Winlink

use the exact same hardware and software; this is incorrect. SailMail exclusively uses AirMail and Pactor 3 and 4; Winlink has numerous other client applications and modes available to it, as it is not an exclusively HF communication system as SailMail is. The one point that I agree with him on is that we need to develop new modes that do more with less, but not at the expense of effective utilization of data communications during international emergency operations.

In the comments of Dan White, he makes the claim that the current 300 baud symbol rate limit acts to keep the hobby aspect of Amateur Radio intact because it has prevented narrower bandwidths from being overrun by wider bandwidth Pactor and STANAG modes. What this claim ignores is that the cost of Pactor Modems is a major factor in the limited adoption of those modes; it also makes the assumption that the vast majority of hams that would want to use a mode that has no means to visualize the spectrum around them before using it, as is the case with Pactor. He also suggests, as have others, that the FCC place Pactor and other new modes in the same segment of the bands that currently are occupied by Single SideBand; this is not the right answer to the issue at hand, as it creates yet another type of interference for SSB operators to deal with. He also claims that fundamental communication theory states that occupied bandwidth is proportional to symbol rate; in actuality, maximum data rate in bits per second is a function of the signal to noise ratio at a given bandwidth. This is referred to as the Shannon Theorem, after Claude Shannon, the researcher that developed it in the 1930's; it has since been proven by practical applications in the past 20 years. All the current limitation does is keep the US Amateur Radio community, and by extension the international Amateur Radio community, from being able to develop new and exciting modes of communication; the reason this happens is because, as he notes, the US has a very large percentage of the world's Amateur Radio operators, and the rest of the world is in general reluctant to develop modes that US hams cannot use. Unfortunately, I believe that if a change does not occur in the FCC regulations, there is every chance that, as has already occurred with ROS, hams in other parts of the world will begin to develop modes that we cannot use instead of waiting any longer for us to join the 21st century.

Thank you for your patience, and please consider carefully the international implications of retaining the current limitations, without at least attempting to deal with the potential interference in the way that I have suggested in these comments.