

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	Reply to Comments of Victor Poor,
Amendment of Part 97 of the Commission's)	Richard Hacker,
Rules To Implement the Basis for Bandwidth)		and Steve Waterman
Based Bandplanning)	

Via the ECFS
Charles Young AG4YO

I. Introduction

1. Although many parties have commented on the ARRL Petition, RM-11306, the most elaborate support comes from Mr. Victor Poor and Mr. Steve Waterman who are developers of the Amateur Software known as WINLINK 2000 (WL2K). As other commenters have pointed out, the developers and supporters of WL2K have the largest investment in the petition and stand to gain the most from its adoption.

2. By now it is common knowledge that Mr. Poor served as the Chairman of the ARRL Ad-Hoc Committee that published the first report in this matter. The Committee meetings also ended with the resignation of two participants over the alleged manner in which the WL2K proponents ran roughshod over the meetings. They allegedly refused to hear other points of view and quickly drafted a report that exceeded their authority as granted by the ARRL Board of Directors. My desire in commenting here is to ensure that the Commission clearly understands the basis of the ARRL petition, and that it was railroaded through by a very small minority of Amateurs with self serving interests.

II Discussion

3. In the course of public debate over the merits of RM-11306, this same handful of Amateurs sought to obfuscate the simple fact that less than 1% of Amateur licensees were trying to push through spectrum reform to benefit their needs at the expense of the other 99% of Amateurs.

4. Indeed in comments made by Mr. Waterman he stated:

Put another way, wider band analog or digital modes, and especially, high speed, 100 percent error free wideband data transfer protocols under local and remote control have no business in the same space with the narrow band “conversational,” real-time typing speed modes, and experience is showing that combining such operations of different bandwidths just causes conflict regardless of the nature of the protocols involved.

This statement clearly shows that Mr. Waterman and WL2K et al believe that their wideband digital application does not belong in the same spectrum with narrowband conversational modes. This statement confirms that wideband digital users do not associate themselves with 99% of digital users who use narrowband modes.

5. If the common figure of 10% digital use is accepted by the Commission as it is throughout most of the Amateur community, and 99% of those Amateurs use narrowband conversational modes, that leaves a whopping 1% of Amateurs pushing for more spectrum.

III Interference

6. As stated above, Mr. Waterman acknowledges that wideband digital modes and narrowband digital modes will interfere. Yet he goes on to say that he sees no interference potential with SSB users.

7. From Mr. Waterman’s perspective this is true. Narrowband digital modes with a similar signal density as his wideband WL2K application would indeed interfere. But with a low signal density SSB would not interfere with WL2K and its high signal density. Why? Because the WL2K application would simply drown out the SSB application. Unfortunately, the converse is not true. SSB users would suffer equally at the hands of narrowband digital use as well as from a wideband digital signal.

8. This omission is but an illustration of the selfish thought process used by the “Digital Elite” the common name given WL2K users on Internet reflectors as they try to push through their self serving agenda. In reality, there would be a better chance of interference mitigation if all digital traffic were required to use the same spectrum as there is a better opportunity for one digital application to hear another application, than for a digital application to recognize a human voice using the SSB mode.

9. Mr. Poor states in his latest comments:

Separation by bandwidth is the most feasible means available without specifying specific signaling waveforms for avoiding conflicts due to radically differing mode of operating.

This is of course false. The best way to avoid conflicts (interference) between radically differing modes is to segregate the modes completely. If one would assume that having each mode with segregated spectrum would be an enforcement nightmare, the next logical step would be to group like modes together with spectrum allocation based on use patterns.

10. This would essentially call for the grouping of CW users together, data users together, and analog voice users together. Based on usage, this would result in the largest amount of spectrum assigned to analog voice users(60% of use), the next largest amount to CW users(30% of use), and the smallest amount to digital users (10% of use).

11. It should be clear that the current regulations in Part 97 accomplish this very task so completely that no change in today's rules are necessary. Indeed nearly 84% of comments made with reference to RM-11306 agree that the ARRL Petition should be dismissed in favor of current rules or another more equitable solution.

IV Bandwidth

12. In addition to the fact that 1% of users wish to take spectrum from 99% of users for the selfish use of WL2K, and in addition to the fact that this use would interfere with the quiet enjoyment of SSB as a mode, the Digital Elite also want the ability to use any bandwidth necessary for their purpose. In his comments, Mr. Victor Poor states in favor of bandwidth bandplanning:

"The freedom to use or combine voice, voice messaging, text, images, binary data (such as computer programs) in any bandwidth segment appropriate to transmission scheme used will clear up much of the ambiguity of the present rules and encourage more exciting and efficient modes of operation."

13. Along with Mr. Poor, other wideband digital elitists are calling for greater bandwidth for digital applications. In fact, in an article in the December 2005 edition of CQ Magazine, columnist Don Rotolo (N2IRZ) states:

...a flat bandwidth maximum of 3.5kHz is proposed (with an exception for AM), raising quite a ruckus in the digital community. . . Considering the service that the emergency response community wants and needs, which is a relatively fast data channel than can span one to three hundred miles, such a narrow bandwidth does not meet the need.

14. Mr. Rotolo also went on to arrive at a thumbnail estimate of the need for 25kHz spectrum chunks for his applications.

15. A credible “rule of thumb” verified by tests in the Cellular Industry show that users over an RF link can expect an average of 2.0bps of throughput per 1Hz of spectrum. Based on this number, bit rates can be predicted and practical use ascertained:

100Hz = 200bps	Good for Text Typing
500hz = 1.0kbps	Fast Text, Email Transfer, Text Files
2.5kHz = 5.0kbps	Email, slow binary file transfer, Text
25khz = 50.0kbps	Data service that rivals “dial-up” at about 28.8kbps
150kHz = 128kbps	(Icom D-Star/ID-1 Specifications) Rivals Cellular Data, passable Internet Interconnect.
200kHz = 400kbps	Rivals Cellular data rates, Internet Interconnect.

This data clearly shows that estimates of needed bandwidth by the digital community are grossly understated where they desire data rates that rival commercial services.

16. Mr. Poor confirms the desire for higher data rates when he commented:

“Efficient higher speed modes of operation make the spectrum accessible to more users than would otherwise be possible with the limitations of available space on HF bands. Many more users can have access to amateur radio services using fast ‘get on and get off semi-automatic modes such as are offered using Pactor and Winlink than by keyboard, SSB, or CW modes.”

In essence he is suggesting that WL2K and other wideband digital modes supplant keyboard digital modes, SSB and CW. How much more clear can the intention of the Digital Elite be? The 1% of all Amateur users using wideband digital technologies do not want a fair slice of spectrum based on their current use, they want it all.

17. It is my belief that current regulations are sufficient to allow digital experimentation and offer little or no barrier to potential digital users. In fact, in his comments Mr. Poor admits:

“By way of example, today’s rules permit digital operation anywhere SSB operation is allowed and no overrun of SSB operation has taken place and there is no reason to think it would occur if the proposed new rules were enacted.”

18. He confirms with his statement that (with 1% of Amateurs) there is no mandate or reason for bandwidth bandplanning nor a need for any but minor changes in the rules. In fact, the only known issue today is with an application that uses data transfer and seeks to use analog voice at the same time. A simple change in the mode boundary tables in the current rules could address this issue by defining a 10kHz or 20kHz overlap at the bottom of the phone bands and at the top of the data bands.

19. If the phone bands simply begin 10kHz-20kHz earlier while allowing digital use also in the same area, Amateurs of all license classes could use these mixed modes with no further changes. If the goal is experimentation and not spectrum grabbing, this solution should be sufficient.

20. But the Commission should note that any offer to compromise was and has been ignored by the Digital Elite. This lack of the willingness to compromise was the root cause of the resignation of two original ARRL Ad Hoc Committee members. In subsequent discussions publicly, the Digital Elite could not justify the need for the amount of spectrum they sought, refused to consider other solutions more amicable to CW and SSB users, and avoided any type of compromise.

V Enforcement

21. It does not take much imagination to predict the result of the introduction of automatic stations and more data applications in the current phone segments. With the inability of digital software to

recognize the human voice, the only method of preventing interference will be for Amateurs to “play well” with each other. Mr. Poor confirms this when he says:

The potential for completely incompatible modes resulting in pervasive interference can, should, and will be addressed by volunteer band planning by the amateur community. Social pressure is a very strong force and, of course, deliberate and willful interference will still be proscribed by the rules.

22. Besides the slip of the tongue in characterizing SSB and wide band digital as “completely incompatible modes” he confirms that his plan will require a new bandplan and the cooperation of Amateurs. The alternate interpretation of his statement could be that the interference between narrowband conversational modes and wideband digital modes that he claimed earlier were incompatible could be mitigated today by a simple bandplan. Either way, the statement shows that the Digital Elite position is skating on thin ice where they (as 1% of users) seek to widely expand their access to spectrum. Mr. Poor’s statement is tantamount to admitting that current regulations which do not limit digital signals today could also work with a bandplan adjustment to meet his needs.

23. Regardless, the current regulations have the history of use in their favor. Amateurs are familiar with current regulations and these rules present the best chance for voluntary compliance. To change the rules to incorporate bandwidth bandplanning would open the door to problems being seen in Region 1. The following quotes are from recent bandplanning meetings in Region 1:

General Conference, Davos, 11 to 16 September 2005, IARU Region 1 HF Bandplan Principles from the "Key points and proposal" section: “The HF bandplanning basis, on which the current IARU Region 1 HF bandplan is based, accepts CW QSO’s across all bands, except within CW beacon segments. Experience shows that telephony and digital modes cannot share the same segments, and should be assigned separate segments in the HF band plan. **The establishment of all mode segments, mixing analog and digital modes, should be avoided** because of mutual interference. Digitized speech should be considered a digital mode in bandplan matters, because such a mode is transmitting digital signals determined by a digital protocol (recommended by the IARU Region 1 Interim Meeting 2004).”

From the RSGB, Improving Bandplan Compliance, paper number 138: “An increasing proportion of the Amateur Radio community is using non-CW modes and deploying beacons within the CW communication sub-bands. National societies could do more to improve compliance with IARU bandplans. Note: The authors believe that the degree of compliance within the CW sub-bands in

*particular is indicative of the respect for IARU bandplans in general. The IARU Region 1 HF Bandplan has served the amateur community very well for many years, and has always been made available by the IARU member societies through a range of printed publications and internet resources. However, **in recent years, it has been observed that an increasing number of Amateur Radio operators can be heard operating data and telephony modes as well as beacons that transmit position and propagation data within the CW communication subbands. Non-Morse stations within the CW sub-bands are getting more aggressive and more confident, believing that they are "entitled" to do what they do.***

24. It should be clear that bandwidth bandplanning is in its infancy, and that with many more amateurs in the United States, it is easy to predict the chaos that would ensue if bandwidth regulations are adopted based only on the good will of amateur operators. As stated before, the best chance at voluntary compliance is to maintain current regulations albeit with a minor change to the mode segment boundaries.

VI Scare Tactics

25. In reality, the Digital Elite have no firm ground to argue a proposed bandwidth regulation petition. When you remove compromise as a possibility and in light of the obvious intent of 1% of Amateurs to take over the bands for their selfish needs, the ridiculous nature of their request is obvious. Indeed on Internet reflectors, the ratio of Amateurs against RM-11306 to those for the petition are easily 8 to 1.

26. The primary tactic used on Internet reflectors was to try to obfuscate the obvious selfishness of the plan with double talk. While some opponents sought to address the red herrings thrown down by the very few wideband digital supporters, others kept the focus on the simple issue that 1% of users were engaging in a spectrum grab. The other issue of focus was the incompatibility of automatic station use (termed "robot" stations by some amateurs) with analog voice operation.

27. This persistence on keeping the simple issues in front of the Amateur community did not sit well with the few supporters of bandwidth bandplanning. For example, in the comments of Richard Hacker he states:

I did want to comment on some very disturbing practices now taking place over the Internet meant to sway comments from the status quo. Bandwidth segmentation is certainly the most reasonable means available for mode segregation without specifically

defining specific waveforms for avoiding conflict due to differences in modes of operation. There has been much discussion on the major Amateur public WEB sites, based on incorrectly stated suppositions regarding RM-11306, which is obviously purposely meant to push negativity toward those supporting the proposal.

Indeed from his position I would agree that comments were negative to his goals. In reality, the gentleman leading our opposition to the technical and political aspects of RM-11306 was Skip Teller, one of the members of the original Ad Hoc Committee who felt he was compelled to resign over the alleged overt politics of the WL2K supporters.

28. There is little doubt that internet discussion participants had the opportunity to hear from both sides, and there most assuredly was no "arm twisting" when people commented from the privacy of their home or office. In fact we posted links to the ECFS system so that people could comment either way. Even a cursory reading of the discussions he mentions may indicate a lot of passion on the issue, but a lot of fairness as well.

VII Conclusions

29. Mr. Poor is the main developer of WL2K. He also was chairman of the Ad Hoc committee where the members were allegedly pressured to adopt a plan clearly favoring WL2K. The reaction of the ARRL was denial. They opened up the AD Hoc report for comments by members via email and refused to publish the results. Attempts to contact my ARRL Director, Frank Butler, were ignored.

30. With no information on sentiment within the Amateur Community, the ARRL Directors rubber stamped the proposal and it was filed and accepted as RM-11306. No vote of the ARRL membership was ever taken. On internet reflectors, the opinions ran clearly 8 to 1 against the plan, and the people supporting the plan were the same WL2K supporters who comment here.

31. In comments, simple internet searches confirmed that the greatest percentage of supporters for RM-11306 were developers or users of WL2K. Even if the Commission were inclined to ignore the comments of Amateurs asking for RM-11305 and RM-11306 to be dismissed, the best solution beyond current regulations would be for a fair and impartial group of Amateurs to file a consensus petition after polling all Amateurs.

32. Whatever the FCC decides, it should know that a majority of Amateurs who are aware of this issue (the ARRL has been very low key in QST Magazine presumably not to stir questions) do not support this plan. The only supporters are ARRL officers, WL2K users and a very few impressionable Amateurs who will and are saying anything to turn the tide in their favor.

33. To say the least, the conduct of the ARRL was unconscionable, the alleged conduct of the WL2K supporters reprehensible, and the need for bandwidth bandplanning manufactured. I urge the Commission to disregard the misleading comments of the WL2K supporters and dismiss both RM-11305 and RM-11306 as soon as possible.

34. I also humbly request that the Commission consider all issues related to digital operation including the amount of allowable encryption, interconnection with the Internet, competition with commercial services, interference by automatic stations to incompatible modes, and clarification of third party traffic rules where email is concerned before taking any action that would encourage more digital use.

Respectfully,
(Signed Electronically)

AG4YO

Charles L Young, Jr
13805 Timbercreek Dr
Cantonment FL 32533