

AN OPEN LETTER TO THE ARRL BOARD OF DIRECTORS AND FCC OFFICIALS

Dear ARRL Leadership, FCC officials, and amateur radio colleagues:

I write this open letter to support Joe Subich's comments to the ARRL Board of Directors that suggest the ARRL immediately withdraw RM 11708 from the FCC docket, so that a more thorough and consensus-driven policy may be developed to meet the objectives of many ARRL constituencies.

Growing commentary at the FCC website for RM 11708 and discussions throughout amateur radio circles in the US are revealing that Rulemaking 11708 was ill-conceived, as it did not include proper technical oversight or consensus building with due consideration for incumbent narrowband amateur radio operators who rely on the low ends of HF to operate CW/RTTY/J9/PSK31/J65, etc. modes (narrowband data modes). Amateur operators who use these narrowband modes of communications, including RTTY and CW, generally do not use more than 200 Hz - 350 Hz of spectrum in carrying out their communications with other amateur radio operators.

RM 11708 attempts to undo a fundamental protection afforded by the FCC, the sacred 300 baud limit (300 symbols per second) that protects human-to-human communications using CW and RTTY. Instead of replacing this 300 baud limit with a narrowband bandwidth protection on the order of 350 Hz to 500 Hz, RM 11708 instead urges the FCC to allow unlimited baud-rate data signals with up to 2.8 kHz bandwidths, 10 to 14 times wider than most all of today's narrowband signals. Such unlimited baud rate signals offer data rates far above what humans can generate, and would introduce large walls of interference when compared to today's narrowband users. This makes apparent the ARRL's desire to support wider band, faster data rate signals that could be used for computer file transfers, digital voice, image, mixed mode, internet connectivity, and other applications on the HF bands.

The arguments made on the ARRL FAQ and in its filings are unfortunately not technically credible, are one-sided, and pander to extreme corner cases and emotion, rather than dealing head-on with the technical facts and true motivations of this Rule Making. The technical facts are such that this RM is a spectrum grab to benefit proponents of higher data rate data communications on the backs of existing narrowband US amateur operators who rely on FCC regulations to ensure that narrowband amateur operators of modest means are protected from wider band interference.

The RM is a legal proceeding, and as such, the ARRL has taken a legal action that impacts all amateur radio users that presently rely on the current FCC rules. The ARRL proposal attempts to strip incumbent amateur users of the FCC protection afforded by this 300 baud ("narrowband") rule. The 300 baud limit ensures that humans can talk with each other in morse code and through teletype/keyboard without large amounts of interference from faster data rate users that are currently prohibited by FCC rules. In suggesting RM 11708, and in introducing its request for a 2.8 kHz bandwidth limit, the ARRL cites a "red herring" mythical wideband signal that could today be 300 baud but could be of "infinite" bandwidth, and uses this mythical straw man argument to claim that RM 11708 "protects" narrowband users with its proposed 2.8 kHz limit on bandwidth. This "mythical" signal of "infinite" bandwidth (see the ARRL FAQ) is a fictitious situation that does not presently exist and is not practically or technically viable for many reasons, including the fact that such inefficient modulations of "infinite bandwidth" are illegal under Part 97.307(a), are not of interest for computer-to-computer enthusiasts that want higher data rates well above 300 baud, and cannot be made to work efficiently as is evidenced in the real world and in numerous technical works and textbooks by myself and others. Specifically, when multi-tone modulation exceeds 8 parallel tones, spectrum efficiency rapidly degrades in the best of noise-limited channels (see Chapter 6, Wireless Communications: Principles and Practice, Rappaport, 2002, or Ziemer and Tranter, 2001) and is much less viable in the HF-fading and multiuser interference world of amateur radio with incumbent users and interference. In fact, in RM 11708, there was no evidence provided for the existence of such mythical signals, nor was there any evidence for the need to "protect" CW users with the

installation of a 2.8 kHz bandwidth limit. The ARRL would have been more technically accurate and fair to suggest a bandwidth limit of 350 Hz or 500 Hz if it earnestly wished to protect CW/Data users, but such a position would have not met the ARRL's stated goal of requesting this rule change to allow wider band digital data into the lower HF bands.

Objectively speaking, the ARRL is not being technically fair and is not accurately representing the needs of the huge numbers of existing narrowband CW/RTTY/data amateur users when it claims that CW/RTTY/narrowband users need to be protected from "infinite" bandwidth signals with a 2.8 kHz limit. The ARRL simply cannot provide such evidence, since such signals are illegal already in the US through Part 97.307, have not evolved in other countries that currently do not have a baud rate limit, do not exist and are not in use today, and are simply not practical and cannot be used meaningfully in the amateur bands.

With such a one-sided approach used to develop and promote RM 11708, narrowband amateur operators in the US cannot be faulted for validly pointing out that the ARRL simply could not implement band planning between the new 2.8 kHz wideband digital signals it attempts to introduce while removing the vital 300 baud narrowband protections that allow human beings to enjoy today's narrowband HF modes in only 200 - 350 Hz bandwidths. The discrepancy between the new desired digital wideband signals and the existing incumbents is more than an order of magnitude in bandwidth!

The ARRL, through its filing and its FAQ, is either naive or intentionally hiding the repercussions of harmful interference that occurs when wider band signals (more than 10 times in bandwidth) are allowed to coexist in the same subband with narrowband signals. Surely the League and most amateur operators are well aware of this fact from past 40 m AM Shortwave station interference and debates regarding Broadband over Power Line --BPL. In short, RM 11708 attempts to introduce walls of digital interference wider than SSB signals directly into the narrow band data spectrum, and at the same time tries to take away the FCC-provided 300-baud protection for incumbent narrowband hams who need protection from the very same kind of wide band interference the ARRL wishes to introduce!

It is becoming readily apparent by a rapidly growing number of amateur operators that only the FCC, through regulation of the baud rate limit or through allocation of spectrum sub-bands that match the bandwidths of different modes of amateur users, must maintain the public's interest that the amateur spectrum and interference is properly managed. The ARRL, in this Rule Making 11708, has revealed the potential for unintended consequences if a non-governmental authority with commercial and donor interests like the ARRL is given the responsibility of trying to set, manage or enforce spectrum policy. Already, amateur operators have noticed improper use of computer data interference in the amateur radio service, and there is mounting evidence of interference problems that already exist due to wide band data users and WinLink modems interfering with narrowband amateur service users. The proposed RM 11708 will immediately create unmitigated interference to narrowband users by immediately legalizing broadband signals 10 to 14 times wider than today's incumbent narrowband users.

It is a well-known spectrum policy fact that users of comparable bandwidth should share spectrum together, yet the proposed RM wants to introduce new wideband digital signals with an acknowledged greater power spectral density and wider bandwidth than SSB signals, even though the FCC has prohibited SSB signals themselves from using the amateur radio subband where narrowband users are presently protected through the 300 baud limit.

Scrutiny regarding how RM 11708 came about within the upper levels of the ARRL, how the ARRL is addressing concerns by those who have technical disagreements with the Rulemaking, and new revelations about concerns within our hobby about existing interference from Factor 3, the pending impact of interference from Factor IV, the proper or improper use of WinLink and automated stations in the amateur radio service, the proper and improper use of "listen before transmit" activity detectors,

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concerns about encryption and the ability for Official Observers to self-police the amateur radio service, and additional concerns about the amateur radio spectrum being used to preempt and even subvert today's CW and RTTY/narrowband human to human communication modes with digital file and digital voice modes that compete with commercial internet services provided by other available radio services, all point to the need for the ARRL to immediately withdrawal its RM 11708 proceedings at the FCC, and to work with many constituencies within the hobby and at the FCC to draft a new approach that reaches a better balance.

I join Joe Subich in asking that the ARRL consider an immediate withdrawal of the RM 11708 rulemaking. Now that the ARRL has the attention of a larger number of amateur operators in the US on this issue, an immediate withdrawal of RM 11708 can lead to a new consensus-based rule making procedure that could involve many constituents, could bring strong technical oversight, could build strong consensus in the hobby, and could fairly address the needs of all concerned parties, while solving current and expected future interference problems with automated stations. I personally would be pleased to volunteer in any such consensus-building activities, as I and others who are against RM 11708 on a technical basis are indeed interested and motivated to help preserve our hobby and wish to help maintain the ARRL's credibility and leadership of our hobby for future growth.

In this one instance, the ARRL and its board would do well to critically consider the technical oversight and internal processes that may have failed when introducing RM 11708, acknowledge the opportunity now exists to solve some of the obvious technical flaws that have been brought out by many competent parties over the past several months, and pull RM 11708 immediately from consideration at the FCC so that the amateur radio community can rework the plan, ideally with involvement and cooperation with the FCC from the onset.

Sincerely,
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