

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Amendment of Part 97 of the Commission’s) WT Docket 16-239
Amateur Radio Service Rules to Permit Greater)
Flexibility in Data Communications)

**Reply Comments of ARRL, The National Association For
Amateur Radio**

ARRL, The National Association for Amateur Radio, also known as the American Radio Relay League, Incorporated (ARRL), submits these reply comments in response to the Further Notice of Proposed Rulemaking (FNPRM) issued in the above-referenced proceeding¹ and comments filed thereon. ARRL filed comments supporting deletion of the symbol (baud) rate limitations on the subject bands as proposed, and also requested that the Commission delete the existing bandwidth limits on those same bands. Those submitting comments overwhelmingly supported both actions.

Symbol Rate Should be Deleted

Support for deleting the symbol rate limitations on the subject bands was unanimous.

The comments of Josh Shupack were typical:

I strongly support eliminating baud limits for all bands. This will help encourage experimentation, especially for the digital modes. As a relatively young operator, the use of digital in amateur radio is very interesting and attractive for me. It’s important to keep amateur radio relevant for the incoming generation of digital natives.²

¹ Report and Order and Further Notice of Proposed Rulemaking, WT Docket No. 16-239, FCC 23-93, at paras. 20-23 (released Nov. 13, 2023), 88 Fed.Reg. 85171 (publ. Dec. 7, 2023).

² Comments of Josh Shupack, filed Jan. 5, 2024.

Similarly, Benjamin E. Kuhn stated:

I concur with the removal of baud (symbol) rate limitations on all Amateur Radio bands. These limitations no longer serve a useful purpose and hinder experimentation and innovation by American amateur radio operators.³

Another example comment was submitted by Lance Murdock:

I would like to add my comment that I concur that the existing symbol rate limits be removed. The symbol rate limits create a similar bottleneck to these bands as they did on the HF bands where this topic was already addressed. I believe that the ability of radio amateurs to advance the state-of-the-art with regards to communications protocols is inhibited by the current limits.⁴

Amateur Radio Digital Communications, Inc. (ARDC), an organization that has as its mission “to support, promote, and enhance digital communications and broader communication science and technology,” agrees:

We therefore propose that the symbol rate restriction on the VHF and UHF bands, as well as 630 and 2200 meters should be fully lifted, enabling freedom to innovate with advanced emission types, and data encoding techniques.⁵

For these and other reasons set forth in the record, ARRL respectfully reiterates its request that the Commission remove the symbol (baud) rate limits on the subject bands, as proposed.

Bandwidth Limits Should be Deleted

Support for also deleting the bandwidth limits that apply to digital modes was overwhelming. As ARRL stated in its comments,⁶ the limited propagation range on these bands distinguishes them from the congested High Frequency (HF) bands where signals traverse thousands of miles with strengths and intelligibility that often change and are initiated by

³ Comments of Benjamin E. Kuhn, filed Jan. 8, 2024.

⁴ Comments of Lance Murdock, filed Jan. 14, 2024.

⁵ Reply Comments of Amateur Radio Digital Communications, Inc. (ARDC) at p.2, filed Jan. 22, 2024.

⁶ Comments of ARRL, The National Association For Amateur Radio, filed Jan. 8, 2024.

operators impossible to track down from hundreds or thousands of miles away. A digital bandwidth limit is appropriate under such conditions.

In contrast with HF, signals on the LF and VHF/UHF bands by-and-large are limited to line-of-sight (LOS) distances. Directional antennas on the VHF/UHF bands are much more effective at directing signals in a single direction and protecting communications in other directions. The geographic proximity of the operators also means that the operators are more likely to know each other, which enhances voluntary compliance with the rules whether mandatory, such as those of the FCC, or voluntary, such as ARRL's band plan or local agreements on usage.

The Commission recognizes the differences between the two categories of bands in its Rules by not subdividing the subject bands by mode, unlike the HF bands that are subdivided into subbands with mode restrictions. With the exception of CW on 50-50.1 and 144.0-144.1, there are no such restrictions by mode on the bands that are the subjects of this proceeding.

One commenter notes that Canada has bandwidth limits on these bands and suggests following the Canadian approach, but no justification or reason is offered for doing so than that they “seem reasonable”.⁷ We must note that in Canada there are no subband boundaries based on modes as we have here in the U.S. – no phone bands separate from CW, etc. All bands in Canada are open to all modes based solely on signal bandwidth, including the HF bands.⁸ Comparing the U.S. and Canadian regulatory schemes is an attempt to “compare apples to oranges.”

In addition, the history of the first phase of this proceeding demonstrated the difficulty of accommodating fast-paced technological change in the Part 97 Rules, whereas in Canada the process is flexible and much less formal, allowing for fairly quick adjustments to the rules when

⁷ Comments of Michael D. Adams, filed Jan. 9, 2024.

⁸ See Innovation, Science and Economic Development Canada (ISED), Standards for the Operation of Radio Stations in the Amateur Radio Service (RBR-4, Issue 3, July, 2022).

changed circumstances justify changes to the rules. This is because the Radio Amateur rules in Canada are established by the “Regulation by Reference” (RBR) process rather than by the more formal regulatory process (approval by the Cabinet).

The vast majority of commenters agree that bandwidth limits also should be deleted for these bands. For example, Benjamin E. Kuhn recommended that there be no digital bandwidth limitation on any of the subject bands, arguing that “Amateur Radio Operators have demonstrated their ability to coordinate and share the band[s] effectively” and that “removing the bandwidth restrictions will encourage exploration of digital and data modes.”⁹

Similarly, Steven Truffer wrote that he supports “removing all rate and bandwidth limits on all bands” because “The bands are a shared resource which the amateur community effectively self-polices.”¹⁰

ARDC also supports removing all bandwidth limits on the subject bands:

We...recommend eliminating all bandwidth limits on data emissions in the VHF and UHF bands, and on 630 and 2200 meters. We believe these limits work against our goals of open access, innovation, and scientific research. A limit on bandwidth and symbol rate would set entirely artificial limits, a so-called “paper ceiling” to true innovation that is beneficial to the amateur radio community and ultimately to society.¹¹

⁹ *Supra* note 3.

¹⁰ Comments of Steven Truffer, filed Jan. 8, 2024.

¹¹ *Supra* note 5.

Conclusion

ARRL supports removing both the symbol (baud) rate and the bandwidth limitations on the bands addressed in the FNPRM. As explained above, all commenters agree that the symbol rates should be deleted and most urge that the bandwidth limits also should be deleted. Both limitations constrain Amateur experimentation with new modes and techniques at a time of rapid technological progress without countervailing benefits.

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Respectfully submitted by:

A handwritten signature in blue ink that reads "DR Siddall". The signature is written in a cursive style.

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