

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

**In the Matter of** )  
 )  
**Amendment of Part 97 of the** ) **RM- \_\_\_\_\_**  
**Commission's Amateur Radio Service** )  
**Rules to Reduce Interference and** )  
**Add Transparency to Digital Data Communications** )

**To: The Chief, Wireless Telecommunications Bureau**  
**Via: Office of the Secretary**

**PETITION FOR RULEMAKING**

I, Ron Kolarik, licensee of amateur radio station K0IDT since 1987, pursuant to Section 1.405 of the Commission's Rules (47 C.F.R. §1.405), hereby respectfully requests that the Commission issue a Notice of Proposed Rule Making at an early date, proposing to modify Part 97.221(c) and 97.309(a)(4) of the Commission's Rules governing the Amateur Radio Service as specified below.

**I. INTRODUCTION**

1. The Commission has before it two proceedings regarding Part 97 changes; namely RM-11708 and WT 16-239. To date there has been no action on either one of these proceedings. Public comments filed in these proceedings show overwhelming opposition to both proposals, as they fail to provide any acceptable regulatory provisions for interference reduction and over-the-air digital mode transparency. The ARRL<sup>1</sup> and the FCC<sup>2</sup> recognize, in these two proceedings, increased “congestion” (interference) problems would result if either of these two proposals were enacted, given that both completely ignore the concerns filed in public comments.

2. RM-11708 and WT 16-239 fail to address or even acknowledge the vast majority of public concerns regarding:

(i) the ability to identify and monitor the radio transmissions of any data signal using readily available over-the-air interception methods by third parties, as required by Part 97.113(a)(4) and

<sup>1</sup> [ARRL WT 16-239 October 11, 2016 Final comment ¶ 9](#)

<sup>2</sup> [FCC WT Docket No. 16-239 July 28, 2016 ¶ 8](#)

97.119(a).

(ii) the technical requirements to ensure wide band data does not interfere with narrow band data.

While not specifically addressing wide band versus narrow band data interference, the FCC did recognize interference concerns when it issued PR Docket No. 94-59<sup>3</sup> on April 27, 1995, authorizing Part 97.221, and amateurs were tasked with coming up with “novel technical and operational” solutions to interference. RM-11708 and WT 16-239 contain no such statements or acknowledge the very real problems that exist today. Twenty three years later the interference generated by Part 97.221 authorized stations still plagues the amateur bands. Without regulatory solutions in place, the interference generated by wide band data will only make the congestion worse.

(iii) assurances that the amateur radio service will not be used to bypass commercial internet services or be used for commercial use as required by Part 97.1, 97.3(4), 97.113(a)(5), and

(iv) that in the case of third party digital traffic, there are questions regarding adequate vetting, by control operators of Message Forwarding Systems, of messages originating from the internet for transmission on the amateur bands, and likewise originating from an amateur radio operator for delivery to the internet, for content and sender identity, as required by Part 97.219(d)(1)(2).

3. Public commenters on NPRM WT 16-239, in a 9 to 1 majority, voiced opposition and concerns and cited current violations and widening, blatant violations regarding these four areas, nearly identical to the complaints issued by the public on RM-11306, which was rescinded by the ARRL on April 27, 2007<sup>4</sup>.

4. All of these issues, neglected in both proceedings despite a vast majority of public opposition and concerns, need to be addressed before any action is taken on either RM-11708 or WT 16-239 or this petition for rule making.

5. This instant petition seeks to resolve two of the outstanding issues: it proposes only minor rules changes to: i) reduce levels of amateur to amateur interference from stations operating under Part 97.221(c), and ii) ensure all transmissions remain open for over-the-air eavesdropping of station identification, message content, and capable of being fully decoded with publicly available methods as

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3 [PR Docket 94-59](#) April 27, 1995 ¶ 6

4 <https://www.fcc.gov/ecfs/filing/5514462273>

required by Part 97.113(a)(4).

## II. Interference reduction – Proposal to Delete § 97.221(c)

6. Interference from Automatically Controlled Data Stations (ACDS), operating under 97.221(c), continue to be a major problem on the amateur bands. Many examples of complaints may be found in prior FCC documents, RM-11306<sup>5</sup> and RM-11708<sup>6</sup> among others. The absence of formal complaints may be due to the fact most of these stations are difficult to identify and the FCC has limited resources to enforce Part 97 violations, depending on amateur radio operators to self-regulate<sup>7</sup>. There is a vital need for the amateur radio service to remain self-policing. Yet many ACDS and data stations are unable to be intercepted by amateur operators, eliminating any ability to self-police amateur stations that use such data transmissions.

7. ACDS, by design, must use a fixed frequency or channel<sup>8</sup>, apparently<sup>9</sup> with no effective means to determine if the channel is occupied before transmitting, which is in violation of Part 97.101(b)(d). Without the ability to detect channel activity, the result is interference to both the ACDS and any other station(s) already on the fixed frequency. If other amateurs already occupying the channel can not identify the ACDS—or the operator activating the ACDS—to resolve the interference issue, the interference persists. Furthermore, an amateur radio operator, involved in disaster relief and recovery, could be sending legitimate emergency traffic, but without a means to decode it, another station on frequency might continue transmitting, causing interference to the emergency communications, a

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5 RM-11306 See [Gorman](#); [Adams](#); [Campbell](#); [Garrett](#); [Bernstein](#); [Carling](#); [Teller](#); *et al.*

6 RM-11708 See [White](#); [Tyrlik](#); [Charette](#); [Ritter](#); [Offutt](#); [Gorman](#); [Rappaport](#); [Gerdes](#); *et al.*

7 FCC [DA-07-3069A1](#) Footnote 15 “We note that a hallmark of enforcement in the amateur service is “self-policing,” which depends on an amateur station hearing a message being able to determine the call sign of the transmitting station.”

8 In this instance a “fixed frequency or channel” is an amateur radio station that occupies a specific point in the amateur HF radio spectrum to enable other amateur operators to easily locate and connect to an ACDS for sending or receiving messages. Channel selection is non-assigned, according to Part 97.101(b), “Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station.”

9 See comments at 5-6

violation of Part 97.101(c).

8. Eliminating 97.221(c) would be a win-win for the ACDS and other spectrum users, and would satisfy the International Amateur Radio Union (IARU) recommendation to limit ACDS activity contained in the IARU Region 2 bandplan<sup>10</sup>. One band segment, Part 97.221(b), already designated for ACDS activity, is much easier to avoid than many channels scattered throughout the amateur bands, which can change as new ACDS come online or existing ones leave.

9. The foregoing considered, as the first part of this petition, eliminating Part 97.221(c) would solve long standing interference issues suffered by radio amateurs wishing to use the HF RTTY/Data sub bands for other mainstream and emerging digital modes rather than ACDS purposes.

## **II. Open monitoring and interference – Proposed Language Change to § 97.309(a)(4)**

10. The ever growing number of digital modes, most recently FT8 and FT8call<sup>11</sup>, present some unique problems for anyone attempting to monitor them, for instance: is the protocol easily identified by sound or appearance in a video waterfall<sup>12</sup>? Once the protocol is identified, is a decoding solution available to identify stations and verify content of transmissions<sup>13</sup>? Without open, over-the-air interception capability for **all** transmissions in the amateur radio spectrum, there is no way to determine if there is commercial, or other prohibited inappropriate content in ongoing communications over the amateur radio spectrum. In particular, there presently is no way to identify some digital stations if the callsign is sent only in the mode in use. Without out the intercept capability it is difficult, or impossible, to meet the self-policing aspect of amateur radio, a concern over the problem, as it currently exists,

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10 <https://www.iaru-r2.org/band-plan/>

11 WSJT <https://sourceforge.net/projects/wsjt/>

12 [https://www.sigidwiki.com/wiki/Category:Amateur\\_Radio](https://www.sigidwiki.com/wiki/Category:Amateur_Radio) 50 plus modes identified including sound samples.

[http://www.hfradio.org.uk/html/digital\\_modes.html](http://www.hfradio.org.uk/html/digital_modes.html) 20 plus modes with sound samples and other information.

13 Fldigi, <http://www.w1hkj.com/> lists decoding capability for 19 modes and variants in amateur use. Multipsk, [http://f6cte.free.fr/index\\_anglais.htm](http://f6cte.free.fr/index_anglais.htm) decoders for most used amateur radio modes, variants, and some commercial modes.

expressed by many commenters in RM-11306<sup>5</sup>, RM-11708<sup>6</sup> and WT 16-239<sup>14</sup>. The inability to decode and identify some transmissions is also related to the interference issue presented by stations operating under 97.221(c): If amateurs are unable to identify an interfering station, how can they let it know of its possibly unintentional interference?

11. Almost all digital modes in common amateur radio use are capable of being monitored by third parties, either through an integrated developer provided software package, or with a stand alone software decoder. Problems arise when protocols and devices used in commercial, government, and marine services are used in the amateur service with no adequate means to fully decode transmissions<sup>15</sup>. Further complicating the situation are security and privacy features of the specific modulation and networking protocols which are not subject to rules governing amateur radio. Said features preclude the amateur radio community from attempting to monitor the Part 97 spectrum by denying them ability to eavesdrop. The method of modulation, such as PSK, MFSK, FSK, or OFDM, may sound similar to an amateur produced signal, but can not be decoded by amateur operators with open source decoding tools or available software. Is it an amateur transmission or an intruder? Intruders in the amateur bands are reported on a daily basis by IARU Intruder Watch groups.<sup>16</sup>

12. The Commission has long-recognized that, “The primary protection against exploitation of the amateur service and the enforcement mechanism in the amateur service is its self-regulating character.”<sup>17</sup> and, “To ensure that the amateur service remains a non-commercial service and self-regulates, amateur stations must be capable of understanding the communications of other amateur stations.”<sup>17</sup> Being able to understand communications of other amateur radio stations is especially critical when amateurs provide assistance supporting disaster communications. While current violations

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14 WT 16-239 [Thorne](#); [Barletto](#); [Talbot](#); [White](#); [Clouse](#); [Kazmakites](#); *et al.*

15 <https://www.codanradio.com/lrdr/>  
<https://www.nytimes.com/2001/11/22/technology/radio-e-mail-connects-ships-to-shore.html>  
<https://www.cruisingworld.com/staying-connected-at-sea>  
<https://sailmail.com/>

16 <http://www.iarums-r1.org/> See Latest intruder News in the left panel.

17 See FCC [DA 13-1918](#) ¶ 6

occur regularly, with no consequences, both the ARRL and FCC proceedings would create an immediate increase in such problems. To rectify the current situation in the amateur radio service, digital mode developers *must be required, by Part 97 rule, to provide the means to fully decode their product in amateur use to enable monitoring and self-policing.* The amateur radio community, the FCC, and intruder monitoring groups should not be put in a position of having to develop decoders for any digital protocol destined for use in the amateur radio service. The protocol developers should be solely responsible for providing a decoding solution to ensure Part 97 rules compliance. Any necessary software provided by developers must be open source, unencumbered by patent, licensing fees, royalties or copyright, in keeping with the intent and spirit of the amateur radio service as exemplified in Part 97.1(b)(c).

13. Because the protocols defined in § 97.309(a)(4) are outdated and no longer widely used, simplifying the language would remove ambiguity about what constitutes “publicly documented technical characteristics” by requiring any protocol to be freely decodable.

Proposed language simplification:

§ 97.309 RTTY and data emission codes.

(a) Where authorized by §§97.305(c) and 97.307(f) of the part, an amateur station may transmit a RTTY or data emission using the following specified digital codes:

(1) The 5-unit, start-stop, International Telegraph Alphabet No. 2, code defined in ITU–T Recommendation F.1, Division C (commonly known as “Baudot”).

(2) The 7-unit code specified in ITU–R Recommendations M.476–5 and M.625–3 (commonly known as “AMTOR”).

(3) The 7-unit, International Alphabet No. 5, code defined in IT–T Recommendation T.50 (commonly known as “ASCII”).

(4) An amateur station transmitting a RTTY or data emission using a digital code specified in this paragraph may use any technique whose technical characteristics have been documented publicly, ~~such as CLOVER, G-TOR, or PacTOR,~~ and the protocol used can be monitored, in its entirety, by 3<sup>rd</sup> parties, with freely available open source software, for the purpose of facilitating communications.

14. The minor language change requested in this part would ensure amateur radio digital modes remain openly decodable and available for monitoring by the FCC, the amateur community at large, and any intruder watch groups, for purposes of rules compliance and in the case of amateur operators,

self-policing. This request changes nothing in the “specified codes section” authorized by Part 97.309.

15. In conclusion this petition only addresses two very specific areas of concern expressed by many amateur radio operators in prior proceedings:

- i) interference created by stations authorized under Part 97.221 and
- ii) amateur digital mode transparency, present and future.

Therefore, the above considered, I, Ron Kolarik, respectfully request that the Commission issue a Notice of Proposed Rule Making at an early date, proposing to delete Section 97.221(c) and modify Section 97.309(a)(4) of the Commission' s rules as specified above.

Respectfully submitted,

/S/

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