

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Amendment of Part 97 of the Commission's	)	WT Docket No. 16-239
Amateur Radio Service Rules to Permit Greater	)	
Flexibility in Data Communications	)	RM-11708

**NOTICE OF PROPOSED RULEMAKING**

**Adopted: July 27, 2016**

**Released: July 28, 2016**

**Comment Date: (60 days after date of publication in the Federal Register)**

**Reply Comment Date: (90 days after date of publication in the Federal Register)**

By the Commission:

**I. INTRODUCTION**

1. In this *Notice of Proposed Rulemaking (NPRM)*, we propose, in response to a petition for rulemaking filed by the American Radio Relay League, Inc. (ARRL),<sup>1</sup> to amend Part 97 of the Commission's Rules regarding technical standards applicable to data communications that may be transmitted in the Amateur Radio Service. Specifically, we propose to remove limitations on the symbol rate (also known as baud rate)—the rate at which the carrier waveform amplitude, frequency, and/or phase is varied to transmit information<sup>2</sup>—applicable to data emissions in certain amateur bands. We believe that this rule change will allow amateur service licensees to use modern digital emissions, thereby better fulfilling the purposes of the amateur service and enhancing its usefulness.

**II. BACKGROUND**

2. Most amateur bands below 450 MHz are divided between radioteletype (RTTY)<sup>3</sup>/data<sup>4</sup> subbands and phone<sup>5</sup>/image<sup>6</sup> subbands.<sup>7</sup> The purpose of separating emission types into groups is to

<sup>1</sup> See Petition for Rule Making, RM-11708 (filed Nov. 15, 2013) (Petition). The petition was placed on public notice on November 21, 2013. See *Public Notice*, Report No. 2993 (rel. Nov. 21, 2013). Over 1550 comments were received.

<sup>2</sup> Comprehensive Review of Licensing and Operating Rules for Satellite Services, *Notice of Proposed Rulemaking*, IB Docket No. 12-267, 27 FCC Rcd 11619, 11661 n.177 (2012). As ARRL notes, “[i]n a digital system the symbol rate is the number of times per second that a change of state occurs. It should not be confused with the data rate (bit rate), though in a binary system the values will be the same.” Petition at 2; see also 47 C.F.R. § 101.3 (defining symbol rate as “Modulation rate in bauds. This rate may be higher than the transmitted bit rate as in the case of coded pulses or lower as in the case of multilevel transmission.”).

<sup>3</sup> RTTY emissions are narrow-band direct printing. See 47 C.F.R. § 97.3(c)(7).

<sup>4</sup> Data emissions are telemetry, telecommand, and computer communications. See 47 C.F.R. § 97.3(c)(2).

<sup>5</sup> Phone emissions are speech and other sounds. See 47 C.F.R. § 97.3(c)(5).

<sup>6</sup> Image emissions are facsimile and television. See 47 C.F.R. § 97.3(c)(3).

<sup>7</sup> See 47 C.F.R. § 97.305. Additional emission types are permitted in higher frequency band. See *id.*; 47 C.F.R. § 97.3(c).

relegate the transmission of certain inharmonious emission types to different segments of amateur service frequency bands,<sup>8</sup> while still allowing great flexibility in the types of emissions that may be transmitted by amateur stations.<sup>9</sup> Additional standards and limitations applicable to each band or subband are set forth in Section 97.307(f) of the Commission's Rules.<sup>10</sup>

3. The limitations on RTTY and data transmissions below 450 MHz vary depending on the frequency band, and on whether the digital code used to encode the signal being transmitted is one of the codes specified in Section 97.309(a) of the Commission's Rules—Baudot,<sup>11</sup> AMTOR,<sup>12</sup> and ASCII<sup>13</sup> (the "specified digital codes"). Section 97.307(f) limits the symbol rate for the specified digital codes, and the bandwidth for unspecified digital codes, as follows: the specified digital codes may be used with a symbol rate not exceeding 300 bauds for frequencies below 28 MHz (except the 60 meter (5.3305-5.4064 MHz) band<sup>14</sup>), and 1200 bauds in the 10 meter (28-29.7 MHz) band;<sup>15</sup> in the 6 meter (50-54 MHz) and 2 meter (144-148 MHz) bands, the specified digital codes may be used with a symbol rate not exceeding 19.6 kilobauds, and unspecified digital codes may be used with a bandwidth not exceeding 20 kilohertz;<sup>16</sup> in the 1.25 meter (219-225 MHz) and 70 centimeter (420-450 MHz) bands, the specified digital codes may be used with a symbol rate not exceeding 56 kilobauds, and unspecified digital codes may be used with a bandwidth not exceeding 100 kilohertz.<sup>17</sup> An amateur station transmitting a RTTY or data emission using one of the specified digital codes may use any technique whose technical characteristics have been documented publicly, such as CLOVER, G-TOR, or PACTOR, for the purpose of facilitating communications.<sup>18</sup>

4. The baud rate limits were adopted in 1980, when the Commission amended the rules to specify ASCII as a permissible digital code. The Commission adopted the limits so that ASCII signals

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<sup>8</sup> See Reorganization and Deregulation of Part 97 of the Rules Governing the Amateur Radio Services, *Notice of Proposed Rule Making*, PR Docket No. 88-139, 3 FCC Rcd 2076, 2078 ¶ 19 (1988).

<sup>9</sup> See Reorganization and Deregulation of Part 97 of the Rules Governing the Amateur Radio Services, *Report and Order*, PR Docket No. 88-139, 4 FCC Rcd 4719, 4719 ¶ 2, 4720 ¶ 9 (1989).

<sup>10</sup> See 47 C.F.R. § 97.307(f).

<sup>11</sup> See 47 C.F.R. § 97.309(a)(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')").

<sup>12</sup> See 47 C.F.R. § 97.309(a)(2) ("the 7-unit code specified in ITU-R Recommendations M.476-5 and M.625-3 (commonly known as 'AMTOR')").

<sup>13</sup> See 47 C.F.R. § 97.309(a)(3) ("the 7-unit International Alphabet No. 5, code defined in ITU-T Recommendation T.50 (commonly known as 'ASCII')").

<sup>14</sup> In the 60 meter (5.3305-5.4064 MHz) band, there is no maximum symbol rate but bandwidth is limited to 2.8 kilohertz for data and 60 hertz for RTTY. See 47 C.F.R. § 97.307(f)(14).

<sup>15</sup> 47 C.F.R. § 97.307(f)(3), (4). For frequency-shift keying, the frequency shift between mark and space must not exceed one kilohertz.

<sup>16</sup> 47 C.F.R. § 97.307(f)(5).

<sup>17</sup> 47 C.F.R. § 97.307(f)(6), (13).

<sup>18</sup> 47 C.F.R. § 97.309(a)(4). CLOVER, G-TOR, and PACTOR are different techniques used to increase the efficiency of digital communications. Amendment of the Amateur Service Rules to Clarify Use of CLOVER, G-TOR, and PacTOR Digital Codes, *Order*, 10 FCC Rcd 11044, 11044 n.2 (WTB 1995).

would occupy no more spectrum than traditional radioteletypewriter signals associated with the use of Baudot code.<sup>19</sup>

5. The ARRL Petition requests that the Commission remove all of the symbol rate limits, and add a bandwidth limitation for RTTY and data emissions in the medium frequency (MF) and high frequency (HF) bands (*i.e.*, below 30 MHz) of 2.8 kilohertz.<sup>20</sup> It argues that the symbol rate limits are outdated, and hamper or preclude amateur radio experimentation with modern data transmission protocols that are available and in active use in other radio services.<sup>21</sup>

### III. DISCUSSION

6. *Symbol rate limit.* We tentatively agree with ARRL that the baud rate limits should be eliminated, and propose to amend Part 97 accordingly. As ARRL notes, digital emissions were “in their early stages and experimentation with them was limited” at that time,<sup>22</sup> and “the state of the art in HF digital communications has advanced substantially” since then.<sup>23</sup> Indeed, the Commission observed in 1993 that “as technology progresses the rules may become unnecessarily restrictive, particularly with regard to the permissible baud rate.”<sup>24</sup> For example, ARRL points out that PACTOR 3, which has a data rate of up to 3600 bits per second and a symbol rate of 100 bauds, is permitted in the HF bands; but PACTOR 4, which is capable of a data rate of 5800 bits per second without occupying any more spectrum, is prohibited at HF by the current rules because it has a symbol rate of 1800 bauds.<sup>25</sup> Thus, ARRL argues, the current baud rate limits permit, if not actually encourage, inefficient spectrum utilization.<sup>26</sup>

7. Many commenters agree that the baud rate restriction should be eliminated, and we seek comment on the reasons supporting such a view. For example, one commenter states that “part of the purpose of the amateur radio service is the advancement of radio and communications technology. Denying the ability to research and implement higher symbol rates directly contradicts the very purpose for amateur radio.”<sup>27</sup> Another commenter notes that “[t]he rest of the amateur radio operators in the world do not have this restrictive symbol rate requirement that is in the current Part 97”<sup>28</sup> and eliminating this restriction will allow the Emergency Communications Community to “benefit by being better able to meet its mission.”<sup>29</sup> Many commenters cite permitting PACTOR 4 at HF as a reason for changing the

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<sup>19</sup> See Deregulation of Part 97 of the Rules Regarding Emissions Authorized in the Amateur Service, *Third Report and Order*, Docket No. 20777, 45 Fed. Reg. 8990, 8991 ¶ 4 (1980) (*ASCII Report and Order*).

<sup>20</sup> See Petition at 1.

<sup>21</sup> See *id.* at 1-2.

<sup>22</sup> See *id.* at 4.

<sup>23</sup> *Id.* at 2; see also *id.* at 8 (“modern digital emissions are capable of much more accurate and reliable transmissions at greater speeds with much less bandwidth than in 1980”).

<sup>24</sup> See Allocation of the 219-220 MHz Band for Use by the Amateur Radio Service, *Notice of Proposed Rule Making*, ET Docket No. 93-40, 8 FCC Rcd 2352, 2356 ¶ 30 (1993).

<sup>25</sup> See *id.* at 8.

<sup>26</sup> *Id.* at 3.

<sup>27</sup> Richard B. Emerson Comments at 1; see also James Edwin Whedbee Comments at 1; John B. Johnston Comments at 1; Jim Jones Comments at 1.

<sup>28</sup> David J. Struebel Comments at 1.

<sup>29</sup> George Roth Comments at 1; see also Don West, Communications Director for the Response Division of the Indiana Department of Homeland Security, Comments at 1 (“expanding the bandwidth [sic] of digital (continued....)”).

rule, particularly to facilitate more efficient transmission of emergency communications.<sup>30</sup> Other commenters, however, are concerned that facilitating faster data throughput will actually increase congestion by encouraging the transmission of larger amounts of data and new types of content.<sup>31</sup>

8. We tentatively agree that a baud rate restriction has become unnecessary due to advances in modulation techniques, and no longer serves a useful purpose. Our rules do not impose a symbol rate limit on data emissions in any other amateur bands or in any other radio service. In addition, removing the baud rate restriction could encourage individuals to more fully utilize the amateur service in experimentation and could promote innovation, more efficient use of the radio spectrum currently allocated to the amateur service, and the ability of the amateur service to support public safety efforts in the event of an emergency. Facilitating the ability of the amateur service to transmit and experiment with technologies currently used in consumer and commercial products furthers this goal.<sup>32</sup> Consequently, we propose to remove the baud rate limits in Section 97.307(f). We seek comment on this proposal. In particular, we seek comment on whether eliminating the baud rate limits would improve amateur communications, or would instead increase congestion. To the extent the elimination of the baud rate limits is likely to increase congestion, we seek comment on whether the costs of such an increase are outweighed by the benefits that are likely to flow from the elimination of the limits, and whether there are ways to mitigate these costs without losing the benefits of the proposed initiative. More generally, we seek comment on whether there are other costs and benefits to the proposal and, when weighing all the factors, whether the benefits of the proposal outweigh its costs. Commenters opposed to eliminating the baud rate limits should also explain whether their concerns relate to all of the bands at issue, or only certain spectrum.

9. *Data emission bandwidth limitation.* We decline, however, to propose to add a 2.8 kilohertz bandwidth limitation for RTTY and data emissions in the MF/HF bands as requested by the ARRL Petition. ARRL concedes that the question of whether a bandwidth limitation is necessary is “reasonably debatable,”<sup>33</sup> but proposes the limitation because it “may be necessary in order to ensure equitable and efficient sharing among Amateur licensees of very limited and heavily used Amateur Radio spectrum (especially at HF).”<sup>34</sup> It cites the 60 meter band as precedent for imposing a 2.8 kilohertz bandwidth limitation on data emissions, which ARRL states “would accommodate the HF data emissions that are in common use today.”<sup>35</sup> The commenters who support eliminating the baud rate restriction also generally agree with the ARRL’s requested 2.8 kilohertz bandwidth limitation,<sup>36</sup> but others who support

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communications in the Amateur radio HF spectrum would likely result in a significant increase in the number of citizens and emergency management agencies which would still have access to email during a significant disruption of Internet service, potentially saving a significant number of lives and property”).

<sup>30</sup> See, e.g., David Freitag Comments at 1.

<sup>31</sup> See, e.g., Richard E. Stealey, BSEE (Stealey) Comments at 2; John Hestenes Comments at 1.

<sup>32</sup> See Amendment of the Amateur Service Rules to Provide for Greater Use of Spread Spectrum Communication Technologies, *Report and Order*, WT Docket No. 97-12, 15 FCC Rcd 1481, 1481 ¶ 1 (1999); *ASCII Report and Order*, 45 Fed. Reg. at 8990 ¶ 1.

<sup>33</sup> See Petition at 11.

<sup>34</sup> *Id.* at 2; see also *id.* at 10-11 (“Notwithstanding the ideals of allowing higher HF data rates and facilitating experimentation with data emissions, and notwithstanding the fact that there are commercial and military interests in use of data emissions at HF that would allow higher HF data rates absent any bandwidth limitation, ARRL seeks to balance the laudable goal of minimal regulation in this instance against the need for equitable access to limited spectrum by hundreds of thousands of Amateur licensees....”).

<sup>35</sup> See *id.* at 3, 11.

<sup>36</sup> See, e.g., A.C. Fulcher Comments at 1; James Carter Comments at 1.

eliminating the baud rate restriction favor a narrower bandwidth limitation in order to protect low-bandwidth modes of communication.<sup>37</sup>

10. After reviewing the record, we tentatively conclude that a specific bandwidth limitation for RTTY and data emissions in the MF/HF bands is not necessary. We note that only the digital codes specified in Section 97.309(a) may be used for MF/HF data emissions, and our rules do not impose any specific bandwidth limitation on use of the specified digital codes in any frequency band other than the 60 meter band. The 60 meter band cited by ARRL is a special case, however, given that amateur operators are permitted to operate only on specific frequencies rather than across the entire band,<sup>38</sup> and are permitted to use only particular data and RTTY emission designators,<sup>39</sup> in order to protect primary Federal voice operations in the band.<sup>40</sup> Section 97.307(a) of the Commission's Rules already provides that no amateur station transmission shall occupy more bandwidth than necessary for the information rate and emission type being transmitted, in accordance with good amateur practice,<sup>41</sup> and Section 97.307(c) already prohibits interference from spurious emissions (*i.e.*, emissions outside the necessary bandwidth<sup>42</sup>).<sup>43</sup> The methods to be used in calculating the necessary bandwidth of various emissions are specified in Section 2.202 of the Commission's Rules.<sup>44</sup> We tentatively conclude that such rules are sufficient to help protect against inefficient use or other abuse of the spectrum identified by commenters, and will accomplish ARRL's stated reason for proposing a bandwidth limitation of facilitating sharing among amateur licensees.<sup>45</sup>

11. We also observe that while a 2.8 kilohertz bandwidth limitation would accommodate HF data emissions that are in common use today, such a limitation could, at the same time, undermine the goal—fundamental to the amateur service—of encouraging advances in technology if amateur radio

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<sup>37</sup> See, e.g., Martin Allred Comments at 1; see also Denton Hyder Comments at 1; Mile High DX Association Comments at 1; Robert D. Underwood Comments at 1; Sam Leslie Comments at 1 (noting “the 2.8 KHz bandwidth proposal . . . is the same bandwidth as a SSB [single-sideband voice] signal and it is incompatible with narrowband, typically less than 500 Hz wide signals, in the digital portions of our bands”); Stealey Comments at 1 (“the rationale for selecting 2.8 KHz (that it is in use on the 60 meter band) has no merit whatsoever when we are talking about narrowband portions of bands such as 20 and 40 meters”).

<sup>38</sup> See 47 C.F.R. § 97.305(c).

<sup>39</sup> See 47 C.F.R. § 97.307(f)(14)(i). An emission designator describes an emission's characteristics. A minimum of three symbols is used to describe the basic characteristics of the radio emission. See 47 C.F.R. § 2.201(b). The first symbol designates the type of modulation of the main carrier. The second symbol designates the nature of the signal modulating the main carrier. The third symbol designates the type of information to be transmitted.

<sup>40</sup> These limitations were requested by the National Telecommunications and Information Administration. See Amendment of Parts 2 and 97 of the Commission's Rules to Facilitate Use by the Amateur Radio Service of the Allocation at 5 MHz, *Report and Order*, ET Docket No. 10-98, 26 FCC Red 16551, 16552 ¶ 5, 16559 ¶ 27 (2011) (5 MHz *Report and Order*). We do not propose to change these limitations.

<sup>41</sup> See 47 C.F.R. § 97.307(a). In addition, emissions must be confined to the RTTY/data subband. See 47 C.F.R. § 97.307(b).

<sup>42</sup> See 47 C.F.R. § 97.3(a)(43).

<sup>43</sup> See 47 C.F.R. § 97.307(c).

<sup>44</sup> 47 C.F.R. § 2.202(b)-(g).

<sup>45</sup> Cf. 5 MHz *Report and Order*, 26 FCC Red at 16559 ¶ 26 (noting, in connection with amending the rules to permit PACTOR 3 in the 60 meter band, that any potential disruption can be minimized by careful operating practices).

operators were thereby prevented from stepping beyond today's radio science.<sup>46</sup> Imposing a maximum bandwidth would result in a loss of flexibility to develop and improve technologies as licensees' operating interests change and new technologies are developed.<sup>47</sup> We seek comment on these tentative conclusions.

12. While we tentatively conclude that a specific bandwidth limitation for RTTY and data emissions in the MF/HF bands is not necessary, we nonetheless request comment on whether we should establish emission bandwidth standards for amateur service MF/HF RTTY and data emissions. Commenters favoring such action should address what the maximum bandwidth should be, the basis for the particular limitation the commenter proposes, and whether the limit should apply across the bands or only in particular subbands. Commenters should explain the grounds for departing from the generally applicable standards.

#### IV. CONCLUSION

13. In summary, we believe that the public interest may be served by revising the amateur service rules to eliminate the current baud rate limitations for data emissions consistent with ARRL's Petition to allow amateur service licensees to use modern digital emissions, thereby furthering the purposes of the amateur service and enhancing the usefulness of the service. We do not, however, propose a bandwidth limitation for data emissions in the MF and HF bands to replace the baud rate limitations, because the rules' current approach for limiting bandwidth use by amateur stations using one of the specified digital codes to encode the signal being transmitted appears sufficient to ensure that general access to the band by licensees in the amateur service does not become unduly impaired.

#### V. PROCEDURAL MATTERS

14. *Initial Regulatory Flexibility Certification.* The Regulatory Flexibility Act (RFA)<sup>48</sup> requires an initial regulatory flexibility analysis to be prepared for notice and comment rulemaking proceedings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."<sup>49</sup> The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."<sup>50</sup> In addition, the term "small business" has the same meaning as the term

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<sup>46</sup> See 47 C.F.R. § 97.1(b) (listing "[c]ontinuation and extension of the amateur's proven ability to contribute to the advancement of the radio art" as one of the fundamental purposes of the amateur service).

<sup>47</sup> Mark Miller, *Order*, 23 FCC Rcd 7449, 7454 ¶ 11 (WTB MD 2008) (denying rulemaking petition proposing to replace symbol rate limits on HF data emissions with bandwidth limitations); Rulemaking under Part 97 of the Communications Act of 1934, as Amended to Establish Technical Standards for Certain Amateur Radio Telephony Transmissions, *Order*, 19 FCC Rcd 22815, 22818 ¶ 9 (WTB PSCID 2004) (denying rulemaking petition proposing to impose 2.8 kilohertz bandwidth limitation on J3E emissions below 30 MHz, as inconsistent with the Commission's objective of encouraging the experimental aspects of amateur radio service); see also Amendment of Part 97 of the Commission's Rules Governing the Amateur Radio Services, *Report and Order*, WT Docket No. 04-140, 21 FCC Rcd 11643, 11653 ¶ 19 (2006) (clarifying that the Commission did not intend to impose a new bandwidth limitation on data emissions when it amended the rules to permit image emissions in data bands, but subject to a bandwidth limitation).

<sup>48</sup> See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

<sup>49</sup> See 5 U.S.C. § 605(b).

<sup>50</sup> See 5 U.S.C. § 601(6).

“small business concern” under the Small Business Act.<sup>51</sup> A “small business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).<sup>52</sup>

15. In the *NPRM*, we propose to amend the amateur service rules to change a technical rule applicable to data emissions that an amateur radio operator may use in his or her communications with other amateur radio operators. Because “small entities,” as defined in the RFA, do not include a “person” as the term is used in this proceeding or an individual, the proposed rules do not apply to “small entities.” Rather, they apply exclusively to individuals who hold certain Commission authorizations. Therefore, we certify that the proposal in this *NPRM*, if adopted, will not have a significant economic impact on a substantial number of small entities. The Commission will send a copy of the *NPRM*, including a copy of this Initial Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the SBA.<sup>53</sup> This initial certification will also be published in the Federal Register.<sup>54</sup>

16. *Paperwork Reduction Analysis.* This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4).

17. *Ex Parte Presentations.* The proceeding this Notice initiates shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules.<sup>55</sup> Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native

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<sup>51</sup> *See* 5 U.S.C. § 601(3) (incorporating by reference the definition of “small business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

<sup>52</sup> *See* 15 U.S.C. § 632.

<sup>53</sup> *See* 5 U.S.C. § 605(b).

<sup>54</sup> *See id.*

<sup>55</sup> 47 C.F.R. §§ 1.1200 *et seq.*

format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

18. *Comment Dates.* Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12<sup>th</sup> St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12<sup>th</sup> Street, SW, Washington DC 20554.

19. *People with Disabilities:* To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to <[FCC504@fcc.gov](mailto:FCC504@fcc.gov)> or call the Consumer and Government Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY). This *NPRM* also may be downloaded from the Commission's web site at <<http://www.fcc.gov/>>.

## VI. ORDERING CLAUSES

20. IT IS ORDERED that, pursuant to Sections 4(i), 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(r), and 403, that this *Notice of Proposed Rulemaking* is HEREBY ADOPTED.

21. IT IS FURTHER ORDERED that, pursuant to Section 1.407 of the Commission's Rules, 47 C.F.R § 1.407, the Petition for Rulemaking, RM-11708, filed by the American Radio Relay League, Inc., on November 15, 2013 IS GRANTED to the extent indicated herein, and is otherwise DENIED.

22. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Notice of Proposed*

*Rulemaking*, including the Initial Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch  
Secretary

**APPENDIX  
Proposed Rules**

Chapter 1 of Title 47 of the Code of Federal Regulations is proposed to be amended as follows:

Part 97 - Amateur Radio Service

1. The authority citation for part 97 continues to read as follows:

**Authority:** 48 Stat. 1066, 1082, as amended; 47 U.S.C. 154, 303. Interpret or apply 48 Stat. 1064-1068, 1081-1105, as amended; 47 U.S.C. 151-155, 301-609, unless otherwise noted.

2. Section 97.305 is amended by revising the entry for 28.0-28.3 MHz in the table in paragraph (c) to read as follows:

**§ 97.305 Authorized emission types.**

\* \* \* \* \*

(c) \* \* \*

Wavelength band	Frequencies	Emission types authorized	Standards see §97.307(f), paragraph:
* * * * *			
HF:			
* * *			
10 m	28.0-28.3 MHz	RTTY, data	(3).
* * * * *			

3. Section 97.307 is amended by reserving paragraph (f)(4) and revising paragraphs (f)(3), (5), and (6) to read as follows:

**§ 97.307 Emission standards.**

\* \* \* \* \*

(f) \* \* \*

(3) Only a RTTY or data emission using a specified digital code listed in § 97.309(a) of this part may be transmitted.

(4) [Reserved]

(5) A RTTY, data or multiplexed emission using a specified digital code listed in § 97.309(a) of this part may be transmitted. A RTTY, data or multiplexed emission using an unspecified digital code under the limitations listed in § 97.309(b) of this part also may be transmitted, provided the bandwidth does not exceed 20 kHz.

(6) A RTTY, data or multiplexed emission using a specified digital code listed in § 97.309(a) of this part may be transmitted. A RTTY, data or multiplexed emission using an unspecified digital code under the limitations listed in § 97.309(b) of this part also may be transmitted, provided the bandwidth does not exceed 100 kHz.

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