

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

**In the Matter of** )  
 )  
**Amendment of Part 97 of the Commission's** ) **RM - \_\_\_\_\_**  
**Amateur Radio Service Rules to Facilitate** )  
**High-Frequency Data Communications** )

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

**PETITION FOR RULEMAKING**

ARRL, the national association for Amateur Radio, formally known as the American Radio Relay League, Incorporated (ARRL), by counsel and 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 various sections of Part 97 of the Commission's Rules governing the Amateur Radio Service as specified in the *Appendix* attached hereto. The rule changes proposed herein would, in the aggregate, appropriately facilitate Amateur Radio communications using modern High Frequency (HF) data transmission modes and protocols by making minimal but necessary changes in the subband allocations in two different HF Amateur bands. At the same time, the rule changes would promote compatibility among the various emission types in certain of the rule-specified "RTTY/data" subbands specified in Sections 97.301 of the Commission's Rules. The rule changes proposed herein are components of a comprehensive band plan revision incorporating both regulatory changes and changes in the voluntary consensus operating protocols that have been used with respect to HF operation for many years. The entire plan has been transparently and repeatedly vetted within the Amateur Radio community as they were developed over the past two years, and the rule change

proposals contained herein reflect the aggregate input of well over fifteen hundred radio Amateurs who have responded to ARRL's solicitations of comments on the proposals contained in various ARRL publications. ARRL suggests that the proposals contained herein are necessary to the effectuation of a fair, equitable and efficient "band plan" looking forward for the foreseeable future. In support of its Petition and the relief requested herein and in the attached Appendix, ARRL states as follows:

### **I. Introduction.**

1. This Petition for Rule Making seeks the modification of the Part 97 rules in the following respects only:

(A) To modify the 80-meter RTTY/Data subband defined in Rule Sections 97.301 and 97.305 so that it extends from 3500 kHz to 3650 kHz;

(B) To modify the 75-meter Phone/Image subband defined in Rule Sections 97.301 and 97.305 so that it extends from 3650 kHz to 4000 kHz;

(C) To provide that the 3600-3650 kHz segment of the 80-meter band will be made available for General and Advanced Class licensees, as was the case prior to 2006;

(D) To provide that the band segment 3600-3650 kHz will also be available to Novice and Technician Class licensees for telegraphy (consistent with the existing rules that now permit Novice and Technician Class licensees to use telegraphy in the General and Advanced Class RTTY/data subbands at 80, 40, and 15 Meters);

(E) To modify Section 97.221(b) of the Commission's Rules governing automatically controlled digital stations, so that the segment of the 80-meter band that is available for automatically controlled digital operation shifts from 3585-3600 kHz (as per the existing rules) to 3600-3615 kHz (consistent with the IARU Region 1 and Region 2 band plans); and

(F) To provide RTTY/data privileges to Novice and Technician licensees in their 15-meter band segment and their 80-meter band segment, the latter contingent on the rule changes at (A) and (B) hereinabove.

2. The above regulatory proposals stem from ARRL's January, 2014 request of its HF Band Planning Committee to communicate with radio amateurs regarding the increasing popularity of data modes in the HF bands; and to investigate ways to use Amateur Radio HF

allocations so that these data modes can more efficiently and compatibly coexist with other types of emissions in the RTTY/data subbands of various Amateur HF allocations now and in the near future. In response to that request, ARRL's HF Band Planning Committee developed proposals both for regulatory changes that might be beneficial or necessary, and also for changes in the voluntary, consensus-based band plans which are commonly observed by radio Amateurs in the United States. ARRL's committee obtained<sup>1</sup> and reviewed more than 400 comments on this subject, and conducted a comprehensive study of the band plans for the Amateur band allocations at 160 meters through 10 meters. The result of their analysis was that only minor adjustments to the existing band plans, and some minor changes to the Commission's rules regarding HF emission modes and the operating privileges associated therewith are necessary in order to accomplish the goal of better encouraging and seamlessly assimilating data modes into HF allocations.

3. Thereafter, ARRL vetted the Committee's tentative conclusions among ARRL members and asked for further comment thereon in various electronic and print media of ARRL, triggering well over a thousand responses.<sup>2</sup> Careful review of those responses revealed strong, collective support for the proposed, relatively minor rule changes initially proposed, but with some well-justified, slight modifications to the proposal. This valuable input has been incorporated in the final HF Band Plan recommended to ARRL's Board of Directors by the ARRL HF Band Plan Committee Report. The ARRL Board adopted the proposals in July of 2015 and directed the filing of the instant Petition to accomplish the rule changes needed in order to effectuate the overall plan. The basic conclusion of the ARRL Committee is that what is called

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<sup>1</sup> ARRL published a request for input on this subject in March of 2014 in the ARRL Letter and on its website.

<sup>2</sup> The print media referenced here included a three-page article on the subject in ARRL's Journal QST® for April, 2015 at pages 69-71. A copy of that article is attached hereto as **Exhibit A** by way of providing a comprehensive view of both the regulatory and non-regulatory band plan changes developed and proposed by ARRL.

for are modest adjustments to the existing regulatory band plan for the 80- and 75-meter subbands set forth in the Commission's Rules.

## II. Background.

4. Currently, the Commission's rules authorize Amateur stations to transmit radio frequency (RF) emissions in nine HF bands.<sup>3</sup> The Rules also subdivide all but two of these bands<sup>4</sup> into a frequency segment in which amateur stations may transmit only emissions that require a narrow bandwidth, such as telegraphy, data or radio teletype (RTTY) emissions, and a frequency segment in which Amateur stations may also transmit emissions that require more bandwidth, such as voice or image emissions.<sup>5</sup> The class of operator license determines the frequency band, or segment of a frequency band, on which an Amateur radio licensee may operate a station.<sup>6</sup>

5. Prior to 2006, the Commission's rules divided the 75/80 meter band (3500-4000 kHz) evenly between RTTY/data and phone/image subbands.<sup>7</sup> The former subband extended from 3500 kHz to 3750 kHz and the latter extended from 3750 kHz to 4000 kHz. In WT Docket No. 04-140, however, this even division of emission types, which generally aggregated narrow bandwidth emissions including RTTY and data in a lower subband and wider bandwidth emissions in an upper subband, was substantially altered.<sup>8</sup> The "Omnibus NPRM" in that

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<sup>3</sup> See 47 C.F.R. § 97.305.

<sup>4</sup> See 47 C.F.R. §§ 97.303(s) and 97.305.

<sup>5</sup> See 47 C.F.R. § 97.305. See 47 C.F.R. § 97.3(c) for definitions of terms used to indicate emission types. Amateur Radio operators commonly refer to the segment of an Amateur Service band used for narrow bandwidth emission types as the "CW segment" of the band because this frequency segment is used for, among other things, Morse code telegraphy emissions. The frequency segment authorized for voice or image emissions is commonly referred to as the "phone segment" of the band.

<sup>6</sup> See 47 C.F.R. §§ 97.105(b), 97.301.

<sup>7</sup> Then and now, CW telegraphy was and is permitted throughout the 75/80 meter band, limited only by the portion of the band available pursuant to the licensee's license class.

<sup>8</sup> This was the so-called "Omnibus" Amateur rulemaking proceeding, because it dealt with a wide range of issues, most of them not particularly controversial. See, Amendment of Part 97 of the Commission's Rules Governing the

proceeding proposed to move the dividing line between the 80-meter RTTY/data subband and the 75-meter phone/image subband from 3750 kHz to 3725 kHz pursuant to a 2002 ARRL Petition for Rule Making.<sup>9</sup> ARRL's proposed expansion of the telephony subband at 75 meters, from 3750-4000 kHz to 3725-4000 kHz was a balanced proposal for a reasonable expansion of the crowded phone/image segment at 75 meters.<sup>10</sup> The ARRL proposal for that division of subbands, which had been the subject of an extensive survey of more than 5,000 radio amateurs at the time, represented a proposed shift in the ratio of spectrum between phone/image and RTTY/data segments at 75/80 meters from 50/50 to 55/45. This change was proposed in the Omnibus NPRM. In proposing this particular division, ARRL stated its reasoning in its Petition for Rule Making, RM-10413, as follows:

In essence, ARRL, with the support of almost 5000 survey respondents, proposes to substantially expand the telephony, or wideband, segments of three of the HF Amateur allocations, though not in every case as extensively as the survey results would support. ARRL believes that conversion to digital communications technologies in the Amateur Service is a critically important component of the future of Amateur HF communications. This conversion will be necessary in order to accommodate growth in the service and extension of Amateur leadership in the development and refinement of digital communications technology. While wideband

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Amateur Radio Services, *Notice of Proposed Rulemaking and Order*, WT Docket No. 04-140, 19 FCC Rcd 7293 (2004) ("Omnibus NPRM").

<sup>9</sup> See, RM-10413, filed March 22, 2002. ARRL requested therein that the Commission "refarm" the telegraphy subbands which had theretofore been reserved for Novice and Technician Plus licensees. Those subbands, which included the segment 3675-3725 kHz in the 80-meter band, were underutilized at the time. The Commission incorporated RM-10413 in Docket 04-140 and proposed to eliminate the Novice and Technician Plus class telegraphy subbands, thus freeing up some additional spectrum in several bands including the 75-meter band to allow expanded phone communications by General, Advanced, and Amateur Extra Class licensees in these bands. The Omnibus NPRM sought comment on whether the Commission should eliminate the frequency segments in the 80, 40, and 15 m amateur bands currently authorized to Novice and Technician Plus Class licensees pursuant to ARRL's 2002 Petition. The proposal was ultimately adopted by the Commission. To provide spectrum for Novice and Technician Plus Class licensees to replace the telegraphy frequency segments withdrawn for those licensees, at ARRL's request, the Commission proposed, and ultimately permitted those licensees to transmit telegraphy in any portion of the 80, 40, and 15 m amateur service bands that provide for telegraphy operation by General Class licensees.

<sup>10</sup> With regard to the division of the "refarmed" spectrum among General, Advanced, and Amateur Extra Class licensees, the Omnibus NPRM, at ARRL's request, proposed that in the 75 meter band, the spectrum authorized for phone communications be expanded by 25 kHz; and that Amateur Extra Class licensees be authorized the use of 3725-4000 kHz, Advanced Class licensees be authorized the use of 3750-4000 kHz, and General Class licensees be authorized the use of 3800-4000 kHz.

telephony remains the most popular operating mode in the HF bands, and that preference is reflected in the survey results, there is a somewhat offsetting issue of importance in these regulatory changes, which is to preserve portions of the narrowband segments for narrowband data communications.

Therefore, ARRL petitioned for, and the Commission proposed in the Omnibus NPRM, a reasonable, modified split intended to accommodate expanded telephony operation in, among others, the 75-meter band, and at the same time to preserve some of the “refarmed” spectrum to encourage conversion to narrowband digital communications.

6. However, the *Report and Order* in Docket 04-140 made a very substantial, and in ARRL’s view unjustifiable departure from the Omnibus NPRM proposal with respect to the 75 and 80-meter bands. The *Report and Order* in Docket No. 04-140, which the Commission released on October 10, 2006,<sup>11</sup> among other actions authorized amateur stations to transmit voice communications on additional frequencies in various bands including the 75- meter band. The phone/image subband at 75 meters was changed from 3750-4000 kHz to 3600-4000 kHz. This commensurately reduced the 80-meter RTTY/data subband from 3500-3750 kHz to 3500-3600 kHz. This changed the entire dynamic of this band substantially. The ratio of wideband phone spectrum to narrowband RTTY/data emissions went from 50/50 to 80/20, rather than the 55/45 split that the Omnibus NPRM had proposed. In other words, the phone/image subband was expanded by 125 kilohertz more than the Omnibus NPRM had proposed.

7. The adverse effects of this 2006 Commission action on various classes of licensee were significant and immediate. It constituted a reduction of 100 kHz in the spectrum between 3500 and 4000 kHz that was previously available to General Class licensees (i.e. from 3525-3750 kHz and 3850-4000 kHz prior to the Omnibus R&O to 3525-3600 kHz and 3800-4000 kHz afterward). The Omnibus NPRM had proposed for General Class licensees an increase of 25 kHz

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<sup>11</sup> 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 (2006) (*Omnibus R&O*).

(i.e. 3525-3725 kHz and 3800-4000 kHz, representing a reduction of 25 kHz of RTTY/data in exchange for an increase of 50 kHz of phone/image spectrum). Advanced Class licensees suffered a reduction of 75 kHz in the spectrum between 3500 and 4000 kHz that was available to them before the Omnibus R&O (i.e. 3525-3750 kHz and 3775-4000 kHz prior to the Omnibus R&O, to 3525-3600 kHz and 3700-4000 kHz afterward). The Omnibus NPRM had proposed no change in the amount of available spectrum for Advanced Class licensees, simply shifting 25 kHz from RTTY/data to phone/image. Though both the Omnibus NPRM and the Omnibus R&O indicated that no operating privileges were being removed from incumbent licensees, clearly there were operating privileges that were adversely affected for certain classes of incumbent licensees.

8. By far, however, the most substantial adverse effect of the unexpected and vast expansion of the 75-meter phone/image subband in Docket 04-140 was the complete elimination of access to 3620-3635 kHz by automatically controlled digital stations (ACDS) which was provided for in Section 97.221(b) prior to and after the Omnibus R&O. The Omnibus R&O rule changes limited the 80-meter band to 3500-3600 kHz. Section 97.305(c), which was unchanged by the Omnibus R&O, limited RTTY and data emissions to the 80-meter band only. Therefore, RTTY and data were no longer authorized emissions above 3600 kHz. Section 97.221 was not modified by the Omnibus R&O and so its provision for automatically controlled digital stations in the subband 3620-3635 kHz was rendered a nullity. This was clearly an oversight by the Commission at the time.

9. ARRL Petitioned for Reconsideration of the extent of the 75-meter phone/image subband expansion and sought a partial stay of the new rules as they affected the 75/80 meter

bands.<sup>12</sup> This was effectively denied by the Commission in a multiple-docket *Report and Order and Order on Reconsideration*, FCC 06-178, released December 19, 2006. However, the Commission replaced the inadvertently deleted automatically controlled digital station segment at 3620-3635 kHz with a replacement segment at 3585-3600 kHz. About this, the *Report and Order and Order on Reconsideration* stated in part as follows:

As a consequence of this expansion of the 75 m band, the 80 m band, which is authorized for radio teletype (RTTY) and data communications, was reduced from 3500-3750 kHz to 3500-3600 kHz. Section 97.221(b) of the Commission's Rules, however, provides that a station may be automatically controlled while transmitting a RTTY or data emission on, among other frequency segments, 3620-3635 kHz. Because 3620-3635 kHz will no longer be authorized for RTTY and data communications due to its inclusion in the expanded 75 m band, the failure to specify an alternative frequency segment in the 80 m band for automatically controlled stations transmitting a RTTY or data emission would prevent amateur service licensees from using any portion of the 80 m band for such stations. The ARRL argues that we should protect automatically controlled stations transmitting a RTTY or data emission in the 80 m band by expanding the 75 m band only to 3635-4000 kHz, rather than 3600-4000 kHz. We conclude that the expansion of the 75 m band should not be so limited, because of the need, discussed above, for more spectrum for voice communications. We agree with the ARRL, however, that the Commission did not intend to reduce the amount of spectrum available for automatically controlled digital stations. To correct this unintended consequence of the rules adopted in the [Omnibus R&O], we amend Section 97.221(b) to again authorize a segment of the 80 m band to be used for automatically controlled digital stations. Specifically, we authorize these stations to transmit in the 3585-3600 kHz frequency segment. We believe that because this frequency segment is very near the 3620-3635 kHz frequency segment now authorized for RTTY and data communications and because licensees generally have frequency-agile equipment, they will be able to shift their operations to this frequency segment with minimal difficulty. We also note that this frequency segment, like the previously authorized frequency segment, is in the band segment authorized for RTTY and data communications, and that it provides the same amount of spectrum as was previously authorized for automatically controlled digital stations in the 80 m band.

*Report and Order and Order on Reconsideration*, at ¶¶ 26-27 (Footnotes omitted)

Far from fixing the problem created by the error in the Omnibus R&O, the moving of the inadvertently deleted digital subband downward in frequency below 3600 kHz made the situation

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<sup>12</sup> *Petition for Partial Reconsideration*, filed December 11, 2006; modified by a correction filed December 15, 2006.



in the 80-meter RTTY/data subband even worse than it was. Among other things, it resulted in a sudden and severe dislocation of traffic handling nets using telegraphy without advance planning or notice. While radio Amateurs are permitted to use Morse telegraphy (CW) anywhere they have frequency privileges, net participants with General and Advanced Class licenses would have been excluded from participation had the many networks that regularly met on frequencies above 3600 kHz elected to remain where they were. Had they done so, they would as well have suffered interference from and caused potential interference to telephony operations above 3600 kHz. That result was precisely the situation that the division of the 3500-4000 kHz band into two subbands (80 meters and 75 meters) was intended to avoid. The *ad hoc* relocation of the automatically controlled digital subband downward in frequency in order to correct the error made in the Omnibus R&O was without any record support at all, since it was never proposed in Docket 04-140 or elsewhere, and it worsened the overexpansion of the 75-meter phone/image subband by making even less spectrum available for locally controlled narrowband digital emissions. The result, as it has developed in the past nine years has been a shortfall in available RTTY/data spectrum at 80 meters, and that shortfall has become a significant obstacle to and disaccommodation of narrowband digital data communications and experimentation in this band.

### **III. Modifications to the 75/80-meter Subbands are Necessary Now, in Order to Achieve a Balanced, Compatible Band Plan for the Future.**

10. The Commission's actions in 2006 reduced the 80 meter RTTY/data subband from 250 kilohertz to 100 kilohertz, and limited access to the 3600-3700 kHz segment of the 75-meter phone/image subband to Amateur Extra class licensees only. This has, increasingly over the past 9 years, caused significant problems for CW, RTTY and data operators in this band due to the growing popularity of HF data modes, both in terms of the number of operators using them and the variety of modes being used. Unless and until the regulatory adjustments proposed herein are

implemented, there are no non-regulatory changes in the consensus band plan for 3500-3600 kHz that will improve the situation. It is the studied conclusion of ARRL's HF Band Planning Committee, which has been vetted numerous times with a good deal of support received each time, that the separation between the 80 meter RTTY/data subband and the 75 meter phone/image subband should be relocated from 3600 kilohertz to 3650 kilohertz; and that subband should be restored for use by General and Advanced class licensees. While ARRL received overwhelming support for the proposed 50 kilohertz expansion of the 80-meter band, concern was expressed by a few Extra Class licensees about the proposal, inasmuch as those licensees enjoy the inordinately large, exclusive 3600-3700 kHz segment for phone/image operation. Extra Class licensees, however, should be reminded that the 3700-3800 kHz segment of the 75-meter band is and would continue under ARRL's proposal to be available only to Extra and Advanced Class licensees. Only 7 percent of the Commission's licensees hold Advanced Class licenses, and that number will continue to decline toward zero as this license class is no longer being issued. Even if the phone/image subband at 75 meters is reduced in size from 400 kilohertz to 350 kilohertz as herein proposed, it will still be the largest phone/image subband among all of the HF Amateur allocations.

11. If the RTTY/data subband at 80 meters is expanded upward to 3650 kHz, the Commission should also shift the ACDS band segment from 3585-3600 kHz to 3600-3615 kHz, which would make such operation consistent with the International Amateur Radio Union Region 1 and 2 band plans (which is not the case now). It is good spectrum management in these very small allocations at HF, due to their inherent worldwide communications capability at various times to internationally harmonize automatically controlled digital operation where possible. Since the 2006 move of that segment from 3620-3635 kHz to 3585-3600 kHz was an

*ad hoc* patch to correct a conceptual and editorial error at the time, there is no logical reason to perpetuate the error created in 2006.

12. The expansion of the 80-meter RTTY/data subband upward to 3650 kHz and the restoration of operating privileges for General and Advanced Class licensees between 3600-3650 kHz as proposed herein will also permit the extension of the current Novice/Technician CW segment of 3525-3600 kHz to be expanded to include 3600-3650 kHz. While perhaps few individuals would make use of these privileges as a practical matter, it would be consistent with the existing rules that permit Technician and Novice Class licensees to utilize Morse telegraphy in the General/Advanced Class portions of the 80, 40, and 15-meter RTTY/data subbands.

13. Finally, ARRL proposes (contingent on the expansion of the RTTY/data subband at 80 meters from 3600-3650 kHz) to add RTTY/data operating privileges for Novice and Technician class licensees, both in the 80-meter and 15-meter band segments that are available to those classes of licensee. It is urged that to do this will encourage entry-level licensees to have at least a minimal opportunity to be exposed to digital communications emissions. The privileges proposed are not so substantial as to discourage upgrading to a General or Amateur Extra Class license, but they would be sufficient to provide an introduction to digital communications emissions and encourage technical self-training and permit the licensee to experience the propagation characteristics for digital communications in a variety of limited HF Amateur allocations. The Commission, in 2006, declined to permit Novice and Technician Class licensees to utilize phone/image emissions in certain segments of the 80, 40, 15 and 10 meter bands. The Commission stated, in the Order on Reconsideration in Docket 04-140:

Additionally, we are declining ARRL's request that Novice and Technician Class licensees be given voice and image privileges in certain segments of the 80, 40, 15 and 10 m bands. Our action today giving Technician Class licensees the same privileges as Technician Plus Class licensees does effectively provide some of the relief ARRL seeks because Technician class

licensees now have voice and digital privileges in the 10 m HF band. However, we are concerned that giving Novice and Technician class licensees voice privileges in the other HF bands would be a disincentive for these licensees to improve their knowledge and skills and attain a higher class license.

*Report and Order and Order on Reconsideration*, at ¶¶ 26-27 (Footnotes omitted)

The affording of digital operating privileges for entry-level licensees is qualitatively different from telephony privileges. The former permits experimentation with digital operating techniques early in the self-training and education process for entry-level Amateur Radio operators, and actually encourages upgrading one's license class to expand the flexibility that the licensee has with digital operating modes. Permitting RTTY/data emissions in but two additional small band segments will facilitate that experimentation without discouraging the license upgrade process. Thus, ARRL proposes the addition of RTTY/data privileges for Novice and Technician class licensees in their existing 15- and 80-meter segments, where they're now limited to telegraphy.

#### **IV. Conclusion.**

14. As can be seen from Exhibit A attached, ARRL has conducted a careful examination of voluntary band plans for the HF Amateur allocations and as well the regulatory components of those plans. ARRL has analyzed the regulatory limitations as part of a comprehensive effort to make more efficient the use of those HF allocations, especially with respect to encouraging further experimentation and proficiency in narrowband digital communications technologies. The recommendations for modified band plans developed by ARRL necessitate the few, but important regulatory changes proposed herein. ARRL has repeatedly sought and obtained input from a large cross-section of the Amateur Radio community and in general there is support for each and all of these proposals. The HF allocations, and especially the 75/80 meter band, are very small relative to the number of licensees who regularly use them at all times of the day and night. There are compromises in their deployment no matter how band plans for those bands are

approached. Nevertheless, looking forward, it is necessary in order to encourage experimentation with and expand the use of digital communications techniques to rebalance the 75-meter and 80-meter subbands. ARRL suggests that the proposals contained herein achieve the proper balance and do not create any burden on incumbent users of the 75-meter phone/image subband.

Therefore, the foregoing considered, ARRL, the national association for Amateur Radio, respectfully requests that the Commission issue a Notice of Proposed Rule Making at an early date, proposing to modify Sections 97.221, 97.301, and 97.305 of the Commission's rules as specified in the *Appendix* attached hereto.

Respectfully submitted,

**ARRL, the national association for Amateur Radio**

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January 8, 2016

## APPENDIX

The rule sections referenced hereinbelow should be revised as indicated.

1. Section 97.221 is amended by revising paragraph (b) thereof to read as follows:

**§ 97.221 Automatically controlled digital station.**

(a) \*\*\*

(b) A station may be automatically controlled while transmitting a RTTY or data emission on the 6 m or shorter wavelength bands, and on the 28.120–28.189 MHz, 24.925–24.930 MHz, 21.090–21.100 MHz, 18.105–18.110 MHz, 14.0950–14.0995 MHz, 14.1005–14.112 MHz, 10.140–10.150 MHz, 7.100–7.105 MHz, or 3.600–3.615 MHz segments.

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2. Section 97.301 is amended by revising paragraphs (b), (c), (d) and (e) to read as follows:

**§ 97.301 Authorized frequency bands.**

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(b) \*\*\*

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See § 97.303, (Paragraph)
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<u>HF</u>	<u>MHz</u>	<u>MHz</u>	<u>MHz</u>	
80 m	3.500-3.650	3.500-3.650	3.500-3.650	(a)
75 m	3.650-3.800	3.650-4.000	3.650-3.900	(a)

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(c) \*\*\*

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See § 97.303, (Paragraph)
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<u>HF</u>	<u>MHz</u>	<u>MHz</u>	<u>MHz</u>	
80 m	3.525-3.650	3.525-3.650	3.525-3.650	(a)

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(d) \*\*\*

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See § 97.303, (Paragraph)
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<u>HF</u>	<u>MHz</u>	<u>MHz</u>	<u>MHz</u>	
80 m	3.525-3.650	3.525-3.650	3.525-3.650	(a)

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(e) \*\*\*

Wavelength band	ITU Region 1	ITU Region 2	ITU Region 3	Sharing requirements See § 97.303, (Paragraph)
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<u>HF</u>	<u>MHz</u>	<u>MHz</u>	<u>MHz</u>	
80 m	3.525-3.650	3.525-3.650	3.525-3.650	(a)

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3. Section 97.305 is amended by revising paragraph (c) to delete the references to Section 97.307(f)(9) from the 80-meter and 15-meter RTTY/data subbands so that the table following paragraph (c) as modified, reads as follows:

**§ 97.305 Authorized emission types.**

(a) Except as specified elsewhere in this part, an amateur station may transmit a CW emission on any frequency authorized to the control operator.

(b) \*\*\*

(c) \*\*\*

Wavelength band	Frequencies	Emission types authorized	Standards See § 97.307(f), (Paragraph)
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<u>HF</u>			
80 m	entire band	RTTY, data .....	(3)
75 m	entire band	Phone, image .....	(1), (2).

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15 m            21.0-21.2 MHz        RTTY, data .....        (3)

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# EXHIBIT A

# Member Input Sought on Draft HF Band Plan Proposals

Last year the ARRL HF Band Planning Committee sought suggestions on how the growing variety of HF data modes could coexist more compatibly. Review of some 400 comments resulted in a set of “strawman” proposals for updates to the ARRL HF band plans. Here they are, for another round of input from our membership.

**David Sumner, K1ZZ**  
ARRL Chief Executive Officer

At its January 2014 meeting, the ARRL Board of Directors instructed the HF Band Planning Committee “...to reach out to membership regarding concerns pertaining to the increasing popularity of data modes, and furthermore investigate and suggest ways to use spectrum so that these data modes may compatibly coexist with each other.” The committee’s report to the July 2014 meeting of the Board provided an overview of some 400 comments received in response to a solicitation made in early March on the ARRL website and in *The ARRL Letter*.

During October and November 2014, under the leadership of First Vice President Rick Roderick, K5UR, the committee conducted a review of the band plans<sup>1</sup> for the 160 through 10 meter bands, with the exception of 60 meters, in a series of six teleconferences. The committee concluded that most of the concerns voiced by members could be addressed by modest adjustments to the existing band plans, and mainly by confining data modes with bandwidths greater than 500 Hz to the FCC-designated segments for automatically controlled digital stations (ACDS) and to parts of the RTTY/data subbands above those segments. The committee’s conclusions, band by band, are shown in the accompanying figures and discussed below. Once member feedback has been received and analyzed, the committee will make its final recommendations to the Board.

**Important note:** Nothing described here is cast in stone. Please tell us what you like and don’t like, using the feedback mechanism described at the end

of the article. Band plans are voluntary guidelines; observing the FCC Rules is mandatory. If you haven’t read Part 97 of the FCC Rules recently, give yourself a refresher — especially §§ 97.221, 97.301, 97.305, and 97.307. For additional background on band plans, see page 9 of the March 2015 issue of *QST*.

## An Explanation of the Figures

Only the “RTTY/data” subbands — that is, the portions of the band where RTTY and data are permitted — are depicted here. The “phone/image” subbands are not shown. CW is permitted throughout the bands. The following abbreviations are used:

**ACDS:** Automatically controlled digital stations (by FCC Rule; see §97.221(b))

**CW (G, A, E):** Segment available only to General, Advanced, and Amateur Extra class (by FCC Rule; see §97.301)

**Narrow RTTY/Data:** Bandwidth of no more than 500 Hz

**“Packet”:** Current band plan specifies packet, but wider variety of data modes in use

**RTTY/Data:** Bandwidth up to 2700

Hz, otherwise limited by FCC Rule (see §97.307(f))

**Wide RTTY/Data:** Bandwidth 500 – 2700 Hz, otherwise limited by FCC Rule (see §97.307(f))

A maximum bandwidth of 2700 Hz for data emissions would be consistent with the IARU Region 1 and Region 2 band plans.<sup>2,3,4</sup> In the absence of an FCC-prescribed bandwidth limit, some limit on bandwidth is needed in the ARRL band plans.

## 160 Meters

The existing 160 meter band plan was reaffirmed by the Board as recently as January 2008. The committee found no reason to recommend changes at this time.

## 80 Meters (see Figure 1)

The committee concluded that the FCC’s action in 2006 to reduce the 80 meter RTTY/data subband from 250 kHz to 100 kHz and to limit access to 3600 – 3700 kHz only to Amateur Extra class licensees has created significant and unnecessary difficulties for CW, RTTY, and data operators, and has left 3600 – 3700 kHz underutilized. Unless and until the

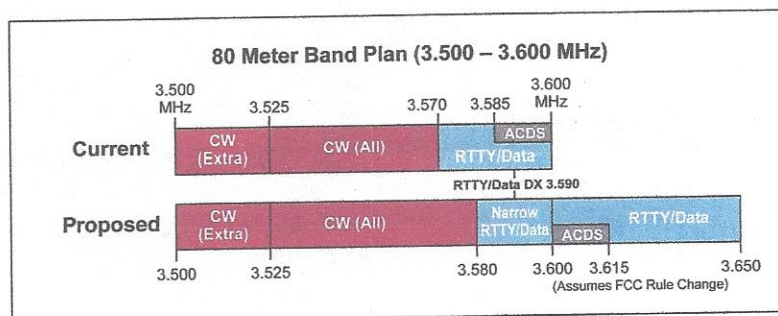


Figure 1 — Proposed 80 meter band plan.

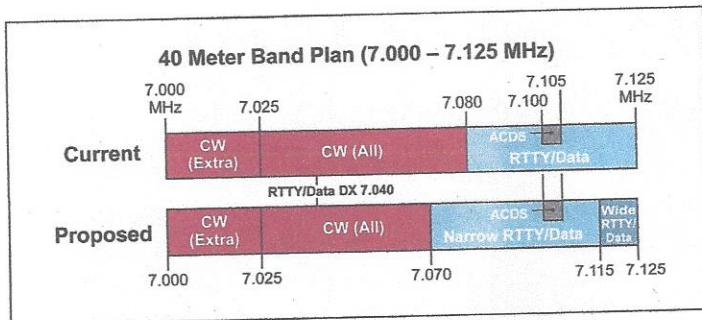


Figure 2 — Proposed 40 meter band plan.

FCC Rules are modified, changes in the band plan for 3500 – 3600 kHz will not improve the situation. This conclusion was supported by numerous comments from members.

Accordingly, the committee has recommended that the FCC be petitioned to move the boundary between the 80 meter RTTY/data band and the 75 meter phone/image band from 3600 to 3650 kHz, with the 3600 – 3650 kHz segment restored to General and Advanced licensees. Members are asked to comment on this, as well as on whether or not the ARRL should petition for these related FCC rules changes:

- Shift the band segment for automatically controlled digital (data) stations (ACDS) from 3585 – 3600 kHz to 3600 – 3615 kHz. (While it was 3620 – 3635 kHz before 2006, 3600 – 3615 kHz would be consistent with the IARU Region 1 and Region 2 band plans.)
- Extend the current Novice/Technician CW segment from 3525 – 3600 to 3525 – 3650 kHz. (While Novice/Tech CW activity is very limited, this change would make 80 meters consistent with 40 and 15 meters where Novices and Techs can operate CW throughout the General/Advanced portions of the RTTY/data subbands.)

- Add 80 meter RTTY/data privileges for Novices and Technicians.

If the FCC can be persuaded to make the change from 3600 to 3650 kHz, it would be desirable to shift the boundary between CW and RTTY/data in the ARRL band plan from 3570 to 3580 kHz in order to be consistent with the Region 1 and Region 2 band plans. This would provide an opportunity to resolve a conflict between W1AW CW transmissions on 3581.5 kHz to PSK31 activity near that frequency by shifting the W1AW frequency below 3580 kHz. Previous attempts to find a better CW frequency for W1AW failed after the FCC's ill-considered 2006 action because so much CW activity, including traffic nets, had to be squeezed into 3525 – 3570 kHz.

#### 40 Meters (see Figure 2)

Of all of the HF bands, 40 meters has the least global consistency in band planning. This is the result of amateurs having been limited to 7000 – 7100 kHz in Regions 1 and 3 prior to 2009 and to 7000 – 7200 kHz today.

In the rest of the world, including most of Region 2, data modes operate below 7060 kHz. The Region 1 and Region 2 band plans provide for ACDS at 7047 – 7050

kHz (up to 500 Hz bandwidth) and 7050 – 7053 kHz (up to 2700 Hz bandwidth, ie, a single channel).

After reviewing members' comments, and bearing in mind the fact that most communication on 40 meters by American amateurs is with other stations in North America and not DX, the committee concluded that it is not realistic to try to bring the ARRL band plan for 40 meters into alignment with the rest of the world. While 7040 kHz is recognized as a RTTY/data DX frequency in the band plan, the best place for other RTTY/data activity in this country is above 7070 kHz.

Currently the "Considerate Operator's Frequency Guide" (COFG) that is published occasionally in *QST* and is available on the ARRL website shows 7070 – 7125 kHz for RTTY/data, while the ARRL band plan shows 7080 – 7125 kHz.<sup>4</sup> The committee proposes that the band plan be aligned with the COFG. Within that range the FCC-mandated ACDS segment is 7100 – 7105 kHz. In order to put "wide" (greater than 500 Hz bandwidth) data as far as possible from narrowband activity the committee proposes that non-ACDS "wide" activity take place at 7115 – 7125 kHz.

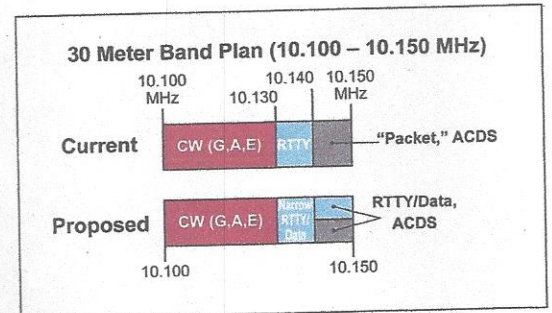


Figure 3 — Proposed 30 meter band plan.

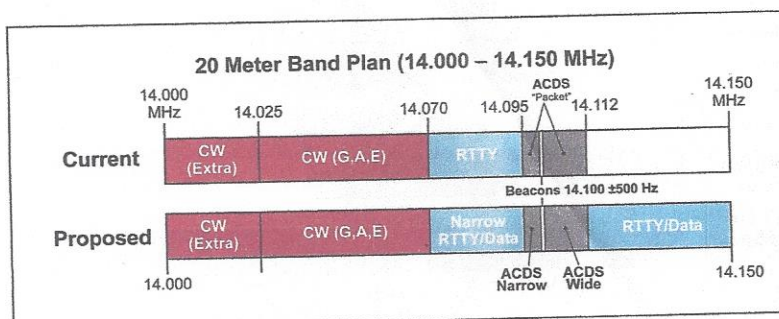


Figure 4 — Proposed 20 meter band plan.

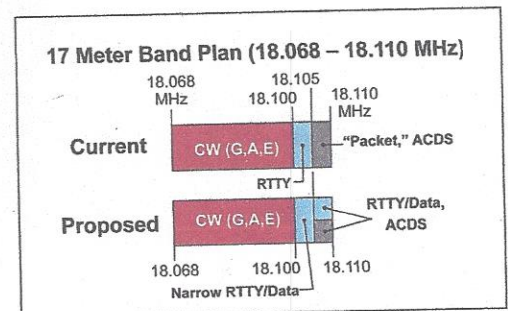


Figure 5 — Proposed 17 meter band plan.

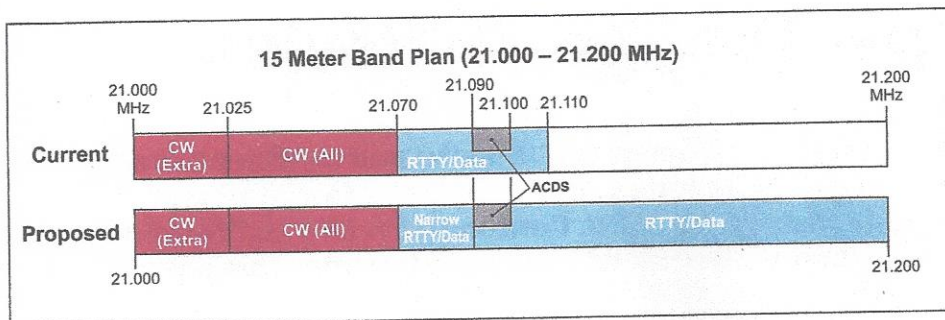


Figure 6 — Proposed 15 meter band plan.

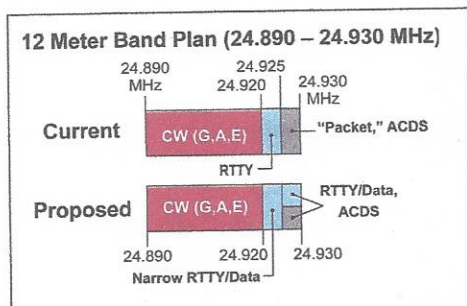


Figure 7 — Proposed 12 meter band plan.

### 30 Meters (see Figure 3)

The FCC-mandated ACDS segment of this band is 10.140 – 10.150 MHz. The committee recommends that “wide” data be confined to this segment and separated from other RTTY/data at 10.130 – 10.140 MHz.

### 20 Meters (see Figure 4)

The FCC-mandated ACDS segments of 20 meters are 14.095 – 14.0995 MHz and 14.1005 – 14.112 MHz. The 1 kHz in between is set aside for the IARU/NCDXF beacon network. The committee recommends using the beacon frequency as a “hard break” line between “wide” ACDS in the upper segment and “narrow”

ACDS in the lower segment. The recommended segment for RTTY and narrowband data is 14.070 – 14.095 MHz. It should be noted that so-called “weak signal” data modes (PSK31, JT65A, JT9, etc.) are used between 14.070 and 14.078 MHz; these signals may not be audible to other operators. While the current band plan does not show RTTY/data above 14.112 MHz, the committee suggests this as the best place for non-ACDS “wide” RTTY/data.

### 17 Meters (see Figure 5)

The committee recommends that “wide” data be confined to the FCC-mandated ACDS segment of 18.105 – 18.110 MHz and separated from “narrow” RTTY/data at 18.100 – 18.105 MHz. The FCC rules do not permit RTTY/data above 18.110 MHz so the options for this band are limited.

### 15 Meters (see Figure 6)

The ARRL band plan puts RTTY/data at 21.070 – 21.110 MHz. The committee recommends that 21.070 – 21.090 MHz be used for “narrow” RTTY/data, the FCC-mandated ACDS segment of 21.090 – 21.100 MHz be used for both “narrow”

and “wide” ACDS, and any additional “wide” data activity take place only above 21.100 MHz.

In addition, the Board asks that members comment on the desirability of petitioning the FCC to add RTTY/data privileges for Novices and Technicians in their existing 15 meter band, in which they are now limited to CW operation.

### 12 Meters (see Figure 7)

The committee recommends that “wide” data be confined to the FCC-mandated ACDS segment of 24.925 – 24.930 MHz and separated from “narrow” RTTY/data at 24.920 – 24.925 MHz. The FCC rules do not permit RTTY/data above 24.930 MHz so the options for this band are limited.

### 10 Meters (see Figure 8)

The FCC-mandated segment for ACDS is 28.120 – 28.189 MHz. The committee recommends that “wide” data be confined to this segment and separated from “narrow” RTTY/data at 28.070 – 28.120 MHz.

### How to Comment

The ARRL has established a web page to make it easy to record your preferences and comments. You will find it at [www.arrrl.org/bandplan](http://www.arrrl.org/bandplan). If you feel that you need to submit comments in a longer, more detailed form, you can e-mail them to [bandplan@arrrl.org](mailto:bandplan@arrrl.org).

The comment deadline is **April 19, 2015**. This should give the HF Band Planning Committee sufficient time to analyze members’ input and prepare its final report prior to the July 17 – 18 meeting of the Board.

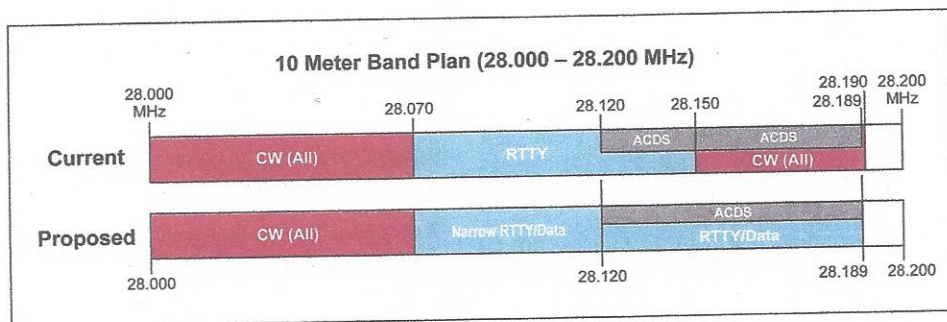


Figure 8 — Proposed 10 meter band plan.

### References

- <sup>1</sup>ARRL band plan: [www.arrrl.org/band-plan](http://www.arrrl.org/band-plan)
- <sup>2</sup>IARU Region 1 band plan: [www.iaru-r1.org/index.php?option=com\\_content&view=article&id=305&Itemid=210](http://www.iaru-r1.org/index.php?option=com_content&view=article&id=305&Itemid=210)
- <sup>3</sup>IARU Region 2 band plan: [www.iaru-r2.org/band-plan/](http://www.iaru-r2.org/band-plan/). Also see the IARU Region 3 band plan at [iaru-r3.org/r3bandplan.doc](http://iaru-r3.org/r3bandplan.doc)
- <sup>4</sup>Considerate Operator’s Frequency Guide: [www.arrrl.org/considerate-operator](http://www.arrrl.org/considerate-operator)