Report of the HF Band Planning Committee
ARRL Board of Directors
July 2015

This report completes the study initiated at Minute 47 of the January 2014 Board Meeting. At that time the Board 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 2014 on the ARRL website and in the ARRL Letter. With those comments as a basis, during October and November 2014 the committee conducted a review of the band plans 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, were presented to the Board at its January 2015 meeting. The committee recommended that additional membership input be solicited on these adjustments to the band plans as well as on these possible amendments to the FCC regulations:

- Moving the boundary between the 80 meter RTTY/data band and the 75 meter phone/image band from 3600 kHz to 3650 kHz with appropriate adjustments to the frequency privileges of all licensees;
- Moving the 80 meter ACDS band from 3585 – 3600 kHz to 3600-3615 kHz; and
- Adding RTTY/data privileges for Technicians and Novices in the portion of the 80 meter band in which they are allowed to operate CW.

The Board added its own request that the solicitation include the possibility of adding RTTY/data privileges for Technicians and Novices in the 15 meter band, as had been recommended by the Executive Committee after a study requested by the Board at Minute 37 of the July 2014 Board Meeting.

These proposals were shared with the membership for review and comment immediately after the January 2015 Board meeting, in a web article that was posted on February 15; a March *QST* editorial that explained the band planning concept; and a 3-page article in April *QST*. Members provided ample feedback: 1,024 responses via an online survey form and 82 by direct email. The responses are summarized in the attachment, which shows that members were supportive of the

proposed changes. All of the questions posed in the online survey received majority affirmative responses. The narrowest margins were with regard to adding data privileges for Technicians and Novices on 80 and 15 meters.

Several hundred members offered additional comments that helped identify particular areas of concern. Input also was received from the Radio Amateurs of Canada with regard to the potential impact on our northern neighbors.

After reviewing all of the input received, and keeping in mind the broad support that has been expressed for the proposed changes in the band plan, the committee is recommending only slight adjustments to the January 2015 proposals. These are discussed, band by band, below. The committee does not recommend petitioning the FCC for RTTY/data privileges for Technicians and Novices on 80 and 15 meters at this time. The online survey results were as follows:

80 meters: 52% in favor, 45% opposed
15 meters: 53% in favor, 42% opposed

The narrow margin of support suggests that such a petition would be quite controversial. Realignment of the 80 and 75 meter bands has much greater support and should be pursued first, as discussed below.

160 Meters

The existing 160 meter band plan was reaffirmed by the Board at Minute 40 of the January 2008 Board meeting. The committee found no reason to recommend changes and did not solicit input with regard to 160 meters.

80 Meters

As reported in July 2014, 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. Unless and until the FCC Rules are modified, changes in the band plan for 3500-3600 kHz will not improve the situation. In the online survey such a modification was endorsed by a margin of 59% to 29% with an additional 4% supporting an increase in the 80 meter band of more than 50 kHz and another 4% supporting an increase, but of less than 50 kHz. In other words 67% supported realignment vs. only 29% who were opposed, with 4% offering no opinion.

While there was overwhelming support expressed for some correction to the FCC's 2006 action that reduced the 80 meter band by 60%, the open-ended comments included a number of dissents by Extra Class licensees who enjoy the "elbow room" in the 3600 – 3700 kHz portion of 75 meters. Radio Amateurs of Canada also expressed concern on behalf of Canadian amateurs. Amateurs who object to the realignment should be reminded that the 3700 – 3800 kHz segment

is limited to Extra and Advanced Class licensees. Just 7% of all FCC licensees hold Advanced tickets, and this figure will continue to decline toward zero as this class of license is no longer being issued. Even if narrowed from 400 kHz to 350 kHz, the 75 meter band will still be by far the widest HF phone band with the exception of 10 meters.

Accordingly, the committee recommends 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 also supported extending CW privileges for Technicians and Novices to this segment by 58% to 38%; while few would make use of these privileges, this is consistent with the existing rules that permit Technicians and Novices to use CW in the General/Advanced portions of the 80, 40, and 15 meter RTTY/data subbands. Therefore, the committee recommends including this change in the petition.

By a margin of 60% to 35%, members endorsed moving the ACDS subband on 80 meters from 3585 – 3600 kHz to 3600 – 3615 kHz. This would make the subband consistent with the IARU Region 1 and Region 2 band plans, which permit ACDS with bandwidths of up to 2700 Hz at 3600 – 3620 kHz and 3600 – 3625 kHz respectively. The committee recommends that this be included in the petition to the FCC.

The implementation of changes to the band plan for 80 meters must await favorable FCC action on such a petition.

40 Meters

As noted in the January 2015 committee report to the Board, 40 meters has the least global consistency in band planning of any of the HF bands. 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, i.e. a single channel).

In its January 2015 report the committee tentatively 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 and did not propose doing so. The only significant change to the ARRL band plan that the committee recommended was to make the RTTY/data segment 7070 – 7125 kHz instead of 7080 – 7125 kHz to align it with the “Considerate Operator’s Frequency Guide” (COFG) that is published occasionally in *QST* and is available on the website. This approach was supported by 56% of members with 38% opposed.

A number of commenters called attention to slow-speed CW activity in the remaining part of the old Novice band, 7100 – 7150 kHz, now effectively narrowed to 7105 – 7125 kHz by the

expansion of the phone band down to 7125 kHz and the 5-kHz ACDS segment of 7100 – 7105 kHz. Monitoring shows there is indeed such activity, which is not currently recognized in the COFG. The committee recommends that such recognition be added to the COFG.

National Traffic System Digital (NTS-D) representatives submitted comments calling generally for more recognition of their operations in the band plan. On closer examination, the main issue appears to be the very limited provision of just 5 kHz for ACDS on 40 meters. An additional 5 kHz, i.e. 7105-7110 kHz, would address the NTS-D requirement. This is an FCC regulatory issue, not a band plan issue. Because the possibility of such a change in the FCC rules has not been broached with the membership, the committee recommends that the Board do so at the earliest opportunity. Some amateurs oppose the concept of ACDS, so even such a modest proposal is likely to arouse controversy.

30 Meters

The FCC-mandated ACDS segment of this band is 10.140-10.150 MHz. The committee continues to recommend that in the band plan, wideband data be confined to this segment and separated from narrowband data and RTTY at 10.130-10.140 MHz.

20 Meters

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 wideband ACDS in the upper segment and narrowband 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. An appropriate note should be added to the COFG.

The graph depicting the proposed band plan for 20 meters that appeared in April *QST* and on the web showed RTTY/Data extending all the way up to 14.150 MHz. Of all the bands, 20 meters is probably where global alignment of band plans is most important. An upper limit of 14.125 MHz would be consistent with the Region 1 band plan, which provides for all modes with bandwidths up to 2700 Hz in the 14.112-14.125 MHz segment, and would at least partly address the concerns of our Canadian colleagues. The committee therefore recommends this change from its original proposal.

17 Meters

The committee continues to recommend that in the band plan, wideband data be confined to the FCC-mandated ACDS segment of 18.105-18.110 MHz and separated from narrowband data and RTTY 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. Indeed, a number of commenters observed that ACDS and

data emissions with bandwidths greater than 500 Hz should not be used at all in the 17 and 12 meter bands because they are so narrow.

15 Meters

The ARRL band plan puts RTTY/data at 21.070-21.110 MHz. The committee continues to recommend that 21.070-21.090 MHz be used for RTTY and narrowband data, the FCC-mandated ACDS segment of 21.090-21.100 MHz be used for narrowband and wideband ACDS, and any additional wideband data activity take place above 21.100 MHz.

12 Meters

The considerations on 12 meters mirror those on 17 meters, as discussed above.

10 Meters

The FCC-mandated segment for ACDS is 28.120-28.189 MHz. The committee recommends that wideband data be confined to this segment and separated from narrowband data and RTTY at 28.070-28.120 MHz.

While not a part of the committee's study, it was pointed out in comments that the satellite segment of 29.300-29.510 MHz is specified as "downlink" in the ARRL band plan but no longer has this limitation in any of the regional band plans. Dropping the reference to "downlink" is not controversial, so the committee recommends that it be done in conjunction with the other changes.

Motions to implement the committee's recommendations will be offered at the July meeting. The committee members have enjoyed working together on this rather challenging assignment.

Respectfully submitted,

The ARRL HF Band Planning Committee
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Attachment:

Final Tabulation of Online Comment Submissions: Graphic Representation

References:

ARRL band plan: http://www.arrl.org/band-plan

Considerate Operator's Frequency Guide: http://www.arrl.org/considerate-operator

IARU Region 1 band plan:

http://www.iaru-r1.org/index.php?option=com_content&view=article&id=305&Itemid=210

IARU Region 2 band plan: http://www.iaru-r2.org/band-plan/

IARU Region 3 band plan: http://iaru-r3.org/r3bandplan.doc

"Band Planning," *QST*, March 2015, p 9

"Member Input Sought on Draft HF Band Plan Proposals," *QST*, April 2015, pp 69-71