



## It Seems to Us

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# A New Band is Born!

*“In February 2012, at the World Radiocommunication Conference (WRC) of the International Telecommunication Union (ITU), a new worldwide frequency band for the amateur service was born: 472 to 479 kHz, destined to be known as the 630 meter band.”*

One hundred years ago, when spark was king and the properties of the ionosphere were unknown, it was assumed that the way to maximize the range of radio communication was to operate on as low a frequency — that is, on as long a wavelength — as possible. This led to radio amateurs being “relegated” to wavelengths of 200 meters or less, in order to keep the supposedly more valuable wavelengths free for commercial and military purposes. Stations on land could be as big as budgets would allow, but of course stations on ships were constrained by the size of the vessels.

The wavelength of 600 meters — that is, 500 kHz — was chosen as the principal maritime calling channel and ultimately became an international calling and distress frequency for radiotelegraphy. So it remained for as long as Morse code was a communications medium of choice between ships and coast stations. That era came to an end at the 2007 WRC, where the provisions for the use of 495 to 505 kHz for maritime calling and distress were deleted and the band became simply a mobile allocation, limited to radiotelegraphy but with no specific purpose defined.

Seeing an opportunity to regain access to a part of the spectrum from which radio amateurs had been excluded for a century, amateurs in Germany persuaded their administration to propose at WRC-07 that the next WRC — initially scheduled for 2011 but later shifted to 2012 — “consider an allocation of about 15 kHz in parts of the band 415-526.5 kHz to the amateur service on a secondary basis, taking into account the need to protect existing services.” The proposed agenda item gained enough support to be accepted.

Then the real work began. The International Amateur Radio Union (IARU) is an active and respected member of the ITU community, both as an international organization and as a member of the Radiocommunication and Telecommunication Development Sectors. From 2008 to 2010 IARU volunteers worked with supportive telecommunications administrations to prepare studies showing how an amateur allocation could be accommodated without causing harmful interference to the incumbent services. Initially the focus was on 495-510 kHz, but the maritime mobile service developed its own concept for the future use of this band and it soon became clear that we would have to look elsewhere — specifically, below the NAVTEX frequency of 490 kHz. This put us into conflict with non-directional beacons (NDBs) operating in the aeronautical radionavigation service. While NDBs are seldom used by aircraft except in remote areas and for backup, they are still in operation and their proponents were understandably anxious to avoid any new sources of interference. Maritime mobile interests also remained protective of all of their allocations in this frequency range, not just 495-510 kHz.

At the Conference Preparatory Meeting in February 2011 three methods of satisfying the agenda item were crafted: a secondary allocation of 472-487 kHz, a secondary allocation in two separate segments of 461-469 and 471-478 kHz,

and no change — the last meaning that there would be no amateur allocation. Further work among European administrations resulted in a compromise proposal for an allocation of 472-480 kHz. At the beginning of WRC-12 each of the four approaches had its supporters. The challenge was to come up with a common position that could be accepted by all of the administrations, even those opposed to an amateur allocation.

It wasn't easy, but that's what eventually happened. The task of reconciling the disparate proposals was entrusted to a Sub Working Group (SWG) chaired by ARRL Chief Technology Officer Brennan Price, N4QX, in his capacity as a member of the US delegation. Brennan's SWG spent the first week of the conference in furious debate. Eventually the pro-allocation administrations and regional telecommunications organizations were able to combine their proposals into a single common proposal for 472-479 kHz with footnotes to provide protection for aeronautical radionavigation. However, some opponents remained intransigent and it was not until the issue went through its assigned Working Group and into Committee 4 — the last real opportunity to reach consensus — that they agreed to accept the adequacy of the footnote provisions.

Once the proposal of Committee 4 went through the Editorial Committee and was presented in Plenary on Friday afternoon, February 10, it was briefly derailed as a result of well-meaning efforts by some administrations to make editorial improvements. Fortunately, the proposed changes were able to be incorporated into a revised document that was presented in Plenary on the following Tuesday morning and sailed through without further comment, other than a pre-coordinated addition of one country name to one footnote. Thus the amateur service received a nice Valentine's Day present: a new opportunity to explore propagation and signal detection techniques in a historically significant portion of the radio spectrum. Of course we will have to wait for national regulations to be revised before amateurs can use the 630 meter band, but we are hopeful that the FCC will act promptly to implement the new allocation.

Many people deserve to be recognized for significant contributions to this success, including a number of professionals with national administrations who are not licensed radio amateurs but who nonetheless worked hard on our behalf. That recognition will have to wait for the next issue of *QST*.

There is much more to come about WRC-12. Indeed, it can be argued that there were even greater achievements for Amateur Radio at the conference. Stay tuned!