

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

In the Matter of)
)
Amendment of Part 97 of the Commission's) RM-11708
Amateur Radio Service Rules to Permit Greater)
Flexibility on Digital Data Communications)

COMMENTS by Donald B. Chester

I am a licensed amateur radio operator, and hold the call sign K4KYV. I have been licensed since August, 1959, and Extra Class since December, 1963. I primarily operate phone and CW on the HF bands, and do not presently operate any of the digital data modes.

While I am not opposed to the concept of removing symbol or Baud rate limitations for data transmission on frequencies below 29.7 MHz and generally support the elimination of unnecessary regulations and restrictions on amateur radio operation, I believe the Commission should explore other alternatives to the changes proposed in the subject petition.

Under the existing rules, there are no specific numerical bandwidth limits imposed on signals transmitted by amateur stations below 29.7 MHz, except in the 5 MHz band. Instead, bandwidths are limited non-specifically under the standards of "good engineering and amateur practice". Bandwidth limits are intentionally left vague in this manner to allow amateurs the maximum flexibility for experimentation and self-instruction in the radio art. The precedent of specific numerical bandwidth limitations within the HF bands would not be in the best interests of the amateur service.

The 2.8 kHz bandwidth limitation in the 5 MHz band, as cited by the Petitioner, is a special case imposed to keep amateur signals compatible with the primary users who are required to follow standards imposed by NTIA, and therefore irrelevant to this proceeding.

Under this proposal, 2.8 kHz wide data transmission would be permitted throughout the CW/RTTY/data sub-bands (subsequently referred to in this filing as the CW sub-bands). This is identical to the bandwidth occupied by the majority of SSB phone signals, effectively permitting amateurs to transmit SSB signals anywhere in the CW sub-bands as long as the modulation is a digital data stream and not the human voice. As a matter of fact, most amateur digital data transmission is accomplished by feeding the digital stream through the microphone port of an ordinary SSB transceiver.

Under the present rules, digital slow-scan TV and digital voice modes are permitted in the phone sub-bands but other digital data transmission is prohibited. A digital stream is a digital stream regardless; the only difference between the digital modes that would be permitted in the CW sub-bands under this proposal, and the ones presently permitted in the phone sub-bands, is the content of the data being transmitted. Since data content does not necessarily affect the bandwidth or interference potential of the transmitted signal, if data signals of equal bandwidths are to be permitted in the phone and CW sub-bands, the regulatory distinction between digital voice and image, and other forms of digital data, serves no useful purpose.

Digital data signals usually have uniform modulation density across the entire width of the signal, allowing these signals the capability of causing even greater interference to narrow-band modes like CW, than voice signals of the same bandwidth. If data signals can transmit up to the same bandwidth as a SSB voice signal within the CW sub-bands, then what is the point of separating the HF amateur bands into CW and voice sub-bands at all? The sub-bands that presently separate modes of emission might just as well be eliminated altogether, permitting all authorized modes to be

transmitted anywhere within each band, as is presently allowed in the 1.8-2.0 MHz band. Furthermore, I have experienced interference from digital signals both to my phone and CW operation, and can attest to the devastating effect this interference can have on analogue signals, particularly when good operating practice is not observed.

One suggested solution has been to add a new "data" sub-band between the existing CW and phone sub-bands. This might help maintain a protected zone for narrow-band modes like CW and alleviate harmful interference from phone and wide-band data signals. However, it would impose an additional enforcement burden on the FCC, and I doubt that the Commission is interested in further micro-managing the internal affairs of the amateur service with additional regulation of operations limited entirely to frequencies within the amateur bands.

A better solution might be to eliminate the distinction between the contents of data streams, and restrict wide-band digital data to the phone sub-bands on the condition that the bandwidth would not exceed that of a communications quality SSB signal. Narrow-band data could still be transmitted in the CW sub-bands on the condition that the bandwidth would not exceed that of a narrow-shift RTTY signal transmitting at the current Baud-rate limit. This would continue to offer protection to narrow band modes like CW, RTTY and PSK, but allow the Baud-rate cap to be deleted for wide-band data without imposing additional sub-bands or specific numerical bandwidth limits.

The phone portions of certain HF bands could be moderately expanded to accommodate the additional data signals that would share these sub-bands with voice operation. This should cause no harm to users of CW and other narrow-band modes, since they would no longer have to share their protected frequencies with wide band digital signals. I would suggest, for example, expanding the 7 MHz phone sub-band down to 7100 kHz, and the 14 MHz phone sub-band down to 14,100 kHz, since at present, the 7100-7125 and 14100-14150 segments are sparsely occupied by US amateurs using any mode.

The American Radio Relay League did not seek input from its members before announcing its intention to file this petition on behalf of the minority of amateur licensees who currently operate digital modes. Instead of proposing the changes to the rules requested by this petition, I would suggest that the Commission release a Notice of Inquiry with an extended comment period, to receive further input from the greater amateur community before deciding on a specific course of action to eliminate what may be outdated caps on Baud/symbol rate for digital streams transmitted on the HF amateur frequencies.

Respectfully submitted,

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