

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington D. D. 20554

In the matter of:)
)
National Radio Systems Committee's) DA 05-1661
"In Band/On Channel" Digital Radio) MM Docket No. 99-325
Broadcasting Standard NRSC-5)

REPLY COMMENTS OF

Ronald J. Brey

I am making these reply comments as a private citizen.

After reading some of the comments regarding IBOC, it appears that the Commission has to make a decision between large markets and small markets when it comes to the implementation of IBOC in the medium wave (MW) band. It seems likely that although fidelity will be improved with NRSC-5, station coverage will be reduced resulting in loss of service outside the major markets.

As a frequent and longtime listener to AM radio in the MW band, I have noticed the noise created by IBOC digital broadcasting in the MW band. The noise sticks out like a sore thumb on either side of a 50 kW station even 50 miles away. The sideband interference IS really as bad as people have been saying in the comments on this matter. The sideband interference is going to reduce the choices listeners have outside the large markets. Even the 50 kW stations will have adjacent channel problems at night. And I, for one, often tune 10 kHz at a time listening to stations across the country.

Amplitude modulation has something that digital will never have, and that is hope. The listener can still decipher a weak or badly faded nighttime signal with a miniscule signal-to-noise ratio, whereas the digital audio signal under low RF signal conditions gives up. By analogy with distant 8VSB digital TV reception I have seen the picture disappear for 15 minutes, whereas with NTSC you could often get some glimpses of program content to follow the plot, no matter how shallow. Amplitude modulation is quite likely the best natural fit for medium wave transmission.

The key to preserving MW band characteristics and raising audio fidelity may rest in correcting the amplitude demodulation using error correction signals broadcast on another band. Existing MW receivers would demodulate AM signals as always. Station interference levels would stay the same. But to receivers detecting a low data rate signal embedded in the MW carrier for identification, a second signal at a different frequency could supply error correction information to improve audio fidelity, but using less bandwidth than an entire redundant broadcast. If that second signal was broadcast via satellite, the correction signal could be available nationwide to receive skywave stations. If the enhanced receiver lost the second signal, the receiver would just pass along the uncorrected amplitude modulated signal. So rather than broadcasting two redundant signals with deleterious adjacent channel issues, MW interference levels would be maintained. (I vaguely remember a similar scheme proposed or in use in Europe. I am coming to the party a little late, so excuse me if I am engaged on a path well traveled by those before me.)

Hopefully the Commission realizes that a decision in favor of NRSC-5 for the medium wave band will have a negative impact on program choices outside the major markets. This is a big guy versus little guy decision. Some of the medium wave band's long distance coverage will be lost due to adjacent channel interference for both the AM and digital modulation. If the band eventually goes to only digital modulation, groundwave and skywave coverages will decrease due to the all-or-nothing characteristics of digital transmission.

NRSC-5 is not a good choice for the Medium Wave Band. Amplitude modulation is not perfect, but by itself, it serves the whole country better than NRSC-5 will. IBOC for the medium wave band is a great concept, but NRSC-5 is a faulty implementation. And that's a shame.

Sincerely,

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