

Before the  
Federal Communications Commission  
Washington, DC 20554

In the Matter of )  
Revitalization of the AM Radio Service ) MM Docket No. 13-249  
)

#### REPLY COMMENTS OF Barry Magrill

The AM service has several major issues which render it impotent as a viable media for broadcasting today. 1) It is plagued with “static” and noise which has become greater and greater until few listeners remain. This is aggravated due to new technology moving in with far clearer types of audio via small computers and the Internet. 2) The AM band is full of stations that have very irregular patterns that were developed to reduce interference. While this was acceptable forty to fifty years ago it has become a big source of frustration to people who might listen. 3) The fidelity of AM broadcasting has been narrowed until it is a poor conduit for any music.

AM in the 1950s had a pleasing sound but it would never be as good as the FM broadcasts. Worse, with the advent of transistors it became practical to build an inexpensive FM radio. I remember when going off to college in the early 1970's, I bought a nice AM/FM radio. Imagine my shock when I found the AM bandwidth was 2.4 kHz. I could get better sound out of a telephone. When AM and FM were compared, the FM broadcasts were far superior. Young adults will not listen to AM because the top two octaves of music are missing. They cannot hear the high hats which provide the sizzle to a good music recording. The people in my age group normally cannot hear the top end of the music, so they care less about the loss of fidelity. In order to listen to the music they want, young listeners must adopt listening strategies that avoid AM and concentrate on digital techniques, like MP-3s and I-phones. If AM is to become competitive again, it must either embrace digital transmission or a myriad of new techniques such as DSP and auto correlation along with embedded software to regenerate the audio once it has been received. I don't see the analog option taking place so I would think the only fix for the standard broadcast band is to go fully digital using either complete digital Ibiqity or perhaps DRM. Which digital system is selected I'm sure, will provoke heated arguments, however, it

seems that both of these systems should be tested side by side along with any other digital technology that has come along in the past ten years, as it was done in the past. I agree with the Broadcast Warning Working Group that the competing digital systems must be retested based on what we know today. Lets learn from our mistakes. After an interval of some years we should sunset the analog transmissions which are no longer being listened to. There is one other option that makes sense. Extend the FM band down to 76MHz by adding 11MHz or an extra 55 channels to the bottom of the FM band. I am in almost complete agreement with using TV channels 5 and 6 which was proposed by Dave Hershberger. However, he mentions the TV channels 7-13 to augment the spectrum, whereas, I think channels 2-4 and the buffer could be used for that.

There are already receivers on this band (FM + ch5 & 6) because it is used internationally. AM stations could migrate to this section of the band and would not be subject to the high noise levels that are present in the current MW band. Added benefits would mean less land. AM arrays would not be needed and any new receiver that can pick up the FM band would now pick up the new "AM" stations. This would not be a temporary fix but could actually be a real improvement to the AM broadcaster. Because the range of frequencies is high there would be no nighttime and daytime switches (which is a big problem with AM). It also reduces the natural noise levels by a significant amount. Even if AM were used on this band, it would be much less noisy. Pilots are aware that VHF AM communications generally are not noisy or subject to a lot of static. This would also eliminate the need for complex antenna patterns and the numbers of towers that are so costly. In order for this to be an improvement, it has to be modest in price.

I believe the FCC's plan to open a filing window for translators to be used by AM stations is a good first step. It does not fix the AM band but does offer some relief to

the operators of AM broadcast stations. To clean up the AM band for the interim look at the issues of interference protection. To biggest problem many AM broadcasters have is Day/Night pattern change. Even if you are a large broadcaster in a top ten market, that change means a huge loss of audience when night comes, a loss of audience that will eventually migrate to the FM Band. When the "Standard" Broadcast band was allocated, the need for regional and clear channel broadcasting was necessary and practical. Now it seems, most little cities towns and burgs have at least one local station. There is very little gray or white area left unserved. The need for regional or country wide broadcasting is highly diminished. A more helpful, realistic approach would be to assume that the need for local broadcasting is imperative and to relax the very tight standards that protect regional and "clear" channels which are in place, which tend to hamstring local AM broadcasters. I disagree with the Clear Channel group that clear channels must be protected. This regulation has prevented local AM stations from covering their own city. Go out on any day and listen to the number of AM stations, then listen at night. If you can hear even half AM stations as in the daytime it would be surprising.

Respectfully submitted,

Barry Magrill, PE

FL 45305

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