

FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of)
)
Revitalization of the AM Radio Service) MB Docket No. 13-249
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COMMENTS OF PETER R. NEWELL

Juggling the AM broadcast rules is fine, but any serious attempt to revitalize AM broadcasting must include reducing the level of interference from non-broadcast sources.

Wideband FM certainly has greater fidelity but the combination of FM and VHF also has the advantage of lower interference from other sources. Even when high fidelity is not required (i.e. news and talk radio), no one wants to listen to man-made noise.

Radio Frequency Interference (RFI) is increasing due to the proliferation of electronic devices such as computers, (and particularly the switching power supplies of laptop computers), poorly designed switching power adapters in general, routers, cable modems and other network gear, LED lighting, poorly designed ballasts, aging power distribution infra structure, leakage from cable systems, and many intentional and unintentional radiators.

RFI is not limited to the AM broadcast band, but it is generally worse at MF and HF.

A single source of RFI can virtually wipe out reception on any radio receiver.

This is a problem which must be addressed if *any* over-the-air broadcasting is to survive.

I have personally experienced this problem on both AM and FM broadcast bands as well as on Amateur Radio HF and VHF frequencies. A high noise level makes reception of all but the strongest signals virtually impossible.

I find that driving through some populated areas it is virtually impossible to listen to AM broadcast radio. In my neighborhood I have problems with AM broadcast reception as well as reception of both HF and VHF Amateur Radio reception due to high levels of interference.

In the 15 years that I have lived in the same location, the general level of interference has increased greatly - and I am in a small village, not in an industrial area.

It is generally not possible for the radio user to control or mitigate interference generated by devices not owned by the radio user. It is also generally not possible for the average consumer to do so. Requests by radio receiver users to owners and operators of interference-producing equipment to rectify problems are generally ineffective.

FCC regulations must be structured and enforced to curb this interference.

As stated by the Society of Broadcast Engineers: "The only source of regulatory reform that has a meaningful chance to positively affect the noise floor over time are regulations that create obligations on manufacturers and importers and dealers, prior to the point that the consumer or user of the device or system comes into possession of it, and before it is deployed"

The SBE also noted that while the FCC has strongly supported unlicensed low-power RF devices over the years, it "apparently does not have a clear understanding of the aggregate effects" of these devices on the MF noise environment. In addition, the power grid has expanded, imposing its own family of electrical noises on the radio spectrum. I must say I agree with this observation. Interference is increasing,

Additionally, SBE notes: "much unintentional interference is local in nature, but the cumulative impact can be extensive. In the case of power line interference, the impact is extreme on automobile radios, whose travel path often parallels electric distribution and transmission lines."

While I do not listen extensively to AM broadcast radio, as an Amateur Radio operator and member of the Military Auxiliary Radio System operating both fixed, mobile, and portable equipment, I can say from direct experience that this is the case.

AM broadcast and other HF reception is difficult if not impossible in some places while driving, even in some very rural areas. I drive in many mountainous areas where FM reception is poor, but I also can't listen to AM broadcast or HF either, due to power line noise. As an electronics engineer and Extra class Amateur Radio operator, the source of this interference is very obvious.

It is very clear to me from personal experience that most interference on MF and HF is from local non-radio sources, whether power lines or electrical/electronic equipment. The difference between operating near "civilization" and miles away from commercial power is like night and day.

Any serious attempt to revitalize AM broadcasting must include reducing the level of interference from non-broadcast sources. The side benefit will be the reduction of interference to other licensed services, including public safety radio communications.