Subject: Re: AM and FM frequencies
Posted by drake on Thu, 31 Aug 2017 05:51:17 GMT
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gofar99 wrote on Wed, 30 August 2017 21:55Hi, Yes big time. AM radio in the US spans the frequency range from about 525KHZ to 1650KHZ. The method of transmission is amplitude modulation and the usual band width allowed by regulation is 10KHZ (essentially =/- 5KHZ). So the frequency response of AM radio is pretty much 30HZ to about 4.5KHZ. A really clean signal can provide a signal to noise ratio of about 40db. Not bad, but certainly not hi-fi. The stations are normally monaural. I seem to recall there were a few that tried a type of stereo, but it never caught on. FM radio is a different animal. In the US it is transmitted from about 88 MHZ to 108MHZ. The method of transmission is via frequency modulation not amplitude modulation. If you want the learn about the differences (too much for this answer) I would Google it. The allowed bandwidth was nominally 20KHZ, but channel spacing was 50KHZ so it was easy to get nearly the whole audio band of sound. Most good receivers seemed to respond in the 30HZ to 15KHZ range. Signal to noise is in the 60db range. Stereo is the norm and there are additional signals (called sub carriers) in many FM transmissions. HDFM exists still, but is a minor player. It is carried as a sub carrier on some FM stations. A different receiver is needed to get it. I have a Sony XDR-F1HD that is designed for that purpose. It is a digitally controlled FM/FM Stereo and HDFM Stereo tuner. A really amazing piece of gear. It was cheap (under $100) and made the Sterophile recommended components as a "B" group. There is serious stuff at that level. On standard FM/FM stereo I can get stations from Phoenix (150 air miles) in clean stereo. The HDFM stations are few, but sound terrific. I took it apart to see what it had inside as it is tiny (about 8X8X2 inches). It looks like something for pro satellite reception not typical consumer gear. For anyone who wants to explore that mode of reception I highly recommend one.
Quite an explanation gofar. I haven't come across any HDFM stations but I guess when that time comes, the experience will be amazing. Nowadays, it seems that there are really few stations on the AM frequency.