

THE AM BROADCAST BAND

While crystal sets are designed, built, and used for the AM broadcast band and shortwave bands, the vast majority of hobbyists in the US focus their activities on the AM band, defined by the FCC to span from 530 through 1,700 kHz. As of January 1, 2008, there were roughly 4,793 AM stations active on the band, and this number of stations hasn't changed much over the last ten years. Power output assigned by license to these stations varies, from as little as 250 watts to a maximum of 50,000 watts. Format, i.e. the content broadcast by each station, varies. As noted in Figure 1, the concentration of AM stations assigned at each increment of 10 kHz in frequency varies across the band, numbering 25 at 540 kHz, averaging about 30 from 550 through 1200 kHz and about 65 from 1210 through 1600 kHz. Just a smattering of stations occupy segments from 1600-1700 kHz.

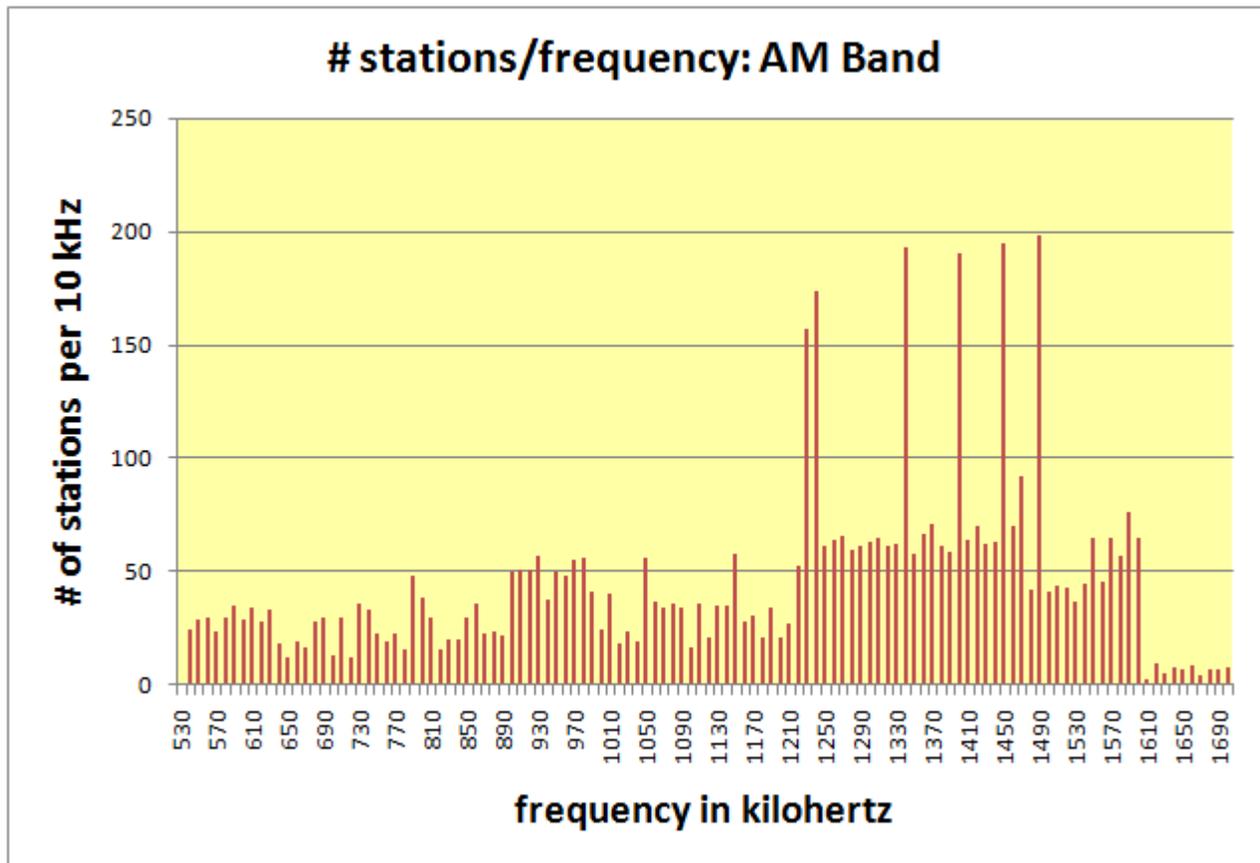
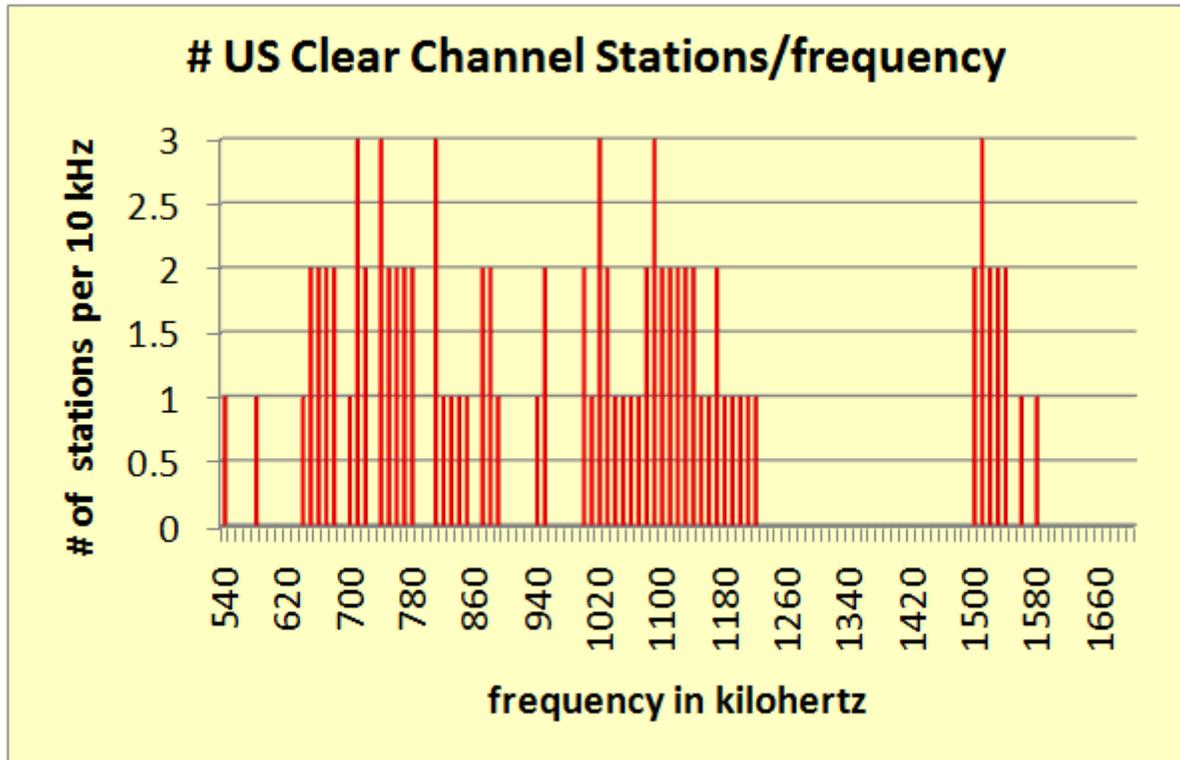


Figure 2 displays the concentration per frequency for the 50 Kilowatt stations that operate day and night. These stations - often called clear-channel stations - can cover a wide area at night as their radio signals reflect off the ionosphere. During the day, local stations are those most often heard, as long-distant reflections off the ionosphere are reduced. Clearly, we can use these facts

to improve our listening and logging activities. During the day is the best time to receive or log those stations that are within a given radius of our location. At night the clear-channel stations will dominate and we'll tend to hear those whose antenna pattern (direction of transmission) and reflection pattern (for that day) off the ionosphere is aimed at our location. These patterns vary which is part of the fun of chasing stations, called DXing.



You can do a bit of research before listening to improve your chances. Compile a list of the stations near you and a second list of stations within a thousand miles of you. These data can be found at a number of websites that specialize in radio station data.

For beginners, you'll want to look up the stations in your town or nearest city. Note these and adjust your crystal set to make sure that it is tuning these frequencies. You might check out the list of 50 Kilowatt nighttime powerhouses too and give them a try before bedtime! For you crystal set regulars, you likely know the drill already. You'll want to dig into the FCC data to determine which stations have an antenna pattern that will reach your location. You'll then be armed for listening. You have also or will likely study propagation phenomena to determine best time to listen. Happy DXing!