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Subject: Radio broadcasting

Posted by [Wayne Parham](#) on Thu, 04 Apr 2024 14:17:30 GMT

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Recent discussions about the business of radio broadcasting brought me to a similar train of thought, which is the technology of radio broadcasting.

We are all so caught up in the advancements of digital technologies these days, we sometimes forget how very new any type of electronic information technology is. The internet is about 35 years old - at least the Hypertext Transfer Protocol (http) mechanism that makes it what people think of today as "the internet." But consider that radio broadcasting is barely 100 years old. That's pretty amazing. Fifty years ago, there was no internet. And fifty years before that, there was no radio.

In 1900, radio broadcasting of audio was still highly experimental. The only kind of sound that could be broadcast was very distorted, because the concept of a continuous wave hadn't been invented. Even making a continuous wave was difficult, as most experimental efforts used a mechanical alternator to do it. Before these mechanical alternators, transmitters used a spark gap, which could only make pulses and so weren't suitable for modulation. So between 1900 and 1920, a continuous-wave transmitter was pretty primitive, using a mechanically spinning alternator. Only after around 1920, were vacuum tubes used to build radio transmitters. That makes the technology 100 years old.

Kind of weird to think about that, isn't it?!!

So but now I want to diverge a little bit, and talk about amateur radio transmitters. Not the high-power amateur radio that some people call HAM radio. I'm interested in low-power transmitters, as described in Part 15 of Title 47 of the Code of Federal Regulations of the Federal Communications Commission. Basically, these are little 100mW transmitters with limited antennas that are legal to operate in the USA. They allow a person or organization to make their own "personal radio station" having limited range.

There are lots of products - both fully manufactured and kits - for AM and FM transmitters that operate on the standard commercial bands. So for all of us with tube radio receivers, it's easy to make your own little station that transmits whatever content you want. You can broadcast your favorite Pandora radio stream, or do what I do, which is to broadcast audio books and other spoken material. I mainly only care for a range that covers the house, but I find that my transmission can be easily heard at some distance. I suppose I should probably check that it isn't strong enough to violate Part 15 rules, but then again, I live in a fairly secluded area so I doubt I'll cause any concern.

Cool, huh?!!