

Wherefore Art Thou, White Van?

Concluding a lengthy online discussion of interference to hams and support from the FCC, the ARRL's Lab Manager, Ed Hare W1RFI summed up the situation with some words of wisdom. It's important to have reasonable expectations when dealing with interference and it seemed to your editor that Ed's guidance would be of benefit to the *Contest Update* readership - 73, Ward NØAX

Many hams have an image of something that has never existed on a regular basis -- the thought that if they had interference, they could call the FCC, which would quickly send out a team to find the source of the noise. This has never happened on any regular basis and is less likely to happen now.

Under the FCC's rules, manufacturers of equipment are required to meet certain emissions-limit and labeling requirements. If the manufacturer does, it may market its products. Under these rules, most non-radio devices, other than personal computers, are "Verified" under Part 15 or Part 18 FCC rules, meaning that the manufacturer is required to test them, and to keep test results on file if ever asked for by the FCC. There are generally higher limits for commercial products than consumer products, and all sellers and marketers of products are required to market them into appropriate environments.

If these rules are met, the operators of devices, i.e. your electric utility, your neighbor, or even you, are required to use them in a way that does not cause harmful interference to licensed radio users.

Hams can get some support from the FCC, but generally only if the ham is able to identify what the actual source of a product is and who is operating it. The ARRL and FCC have, over years of time, developed a cooperative program where the FCC will generally ask the ARRL to help with a case, helping to determine what the source is, who is operating it and whether its noise is actually causing "harmful interference" as defined by the FCC's rules.

The FCC does expect that hams will make reasonable efforts to resolve problems with the operator of the device directly, before asking the FCC for help. If these efforts are not successful, ARRL has been asked to help document the case history and get the case to the FCC, which after its own review, usually sends an advisory letter to the operator of the device. The ARRL "power line" program is also used by the FCC as the first steps of a case involving a neighbor. See the various links on the ARRL's [FCC Part-15 Rules: Unlicensed RF Devices](#) page for more information.

ARRL also does what it can to try to address problems directly with industry. It has contacts in the cable industry and with a number of major manufacturers, such as AT&T, to deal with UVerse problems, for example. ARRL also sits on a number of major industry committees, keeping a seat at these important tables for Amateur Radio, often serving at the head of the table in leadership roles. At this point, for example, I serve on the Board of Directors of the IEEE Electromagnetic Compatibility Society, as a current member of the EMC Society Standards Development and Education Committee, as past Secretary of that committee and as the current Vice Chair of the ANSI accredited C63 Committee's

subcommittee on device immunity, for example. Although this work does not always result in Amateur Radio getting a pristine noise environment, it does ensure that industry is well aware of the needs of Amateur Radio, and that Amateur Radio is a part of the process.

This has often served us all well, as seen in the recent study of arc-fault-current-interrupter circuit breakers, where the manufacturer was very open ARRL in part because of the League's involvement with industry. The result was a site visit by the manufacturer, joint testing and a re-design of its products to no longer trip in the presence of typical amateur signals.

ARRL has been buying and testing various products, finding significant violations of the FCC limits. Unfortunately, the limits are rather high. This means that a "legal" device in the house next door, perhaps 100 feet away, could generate S7 to S9 noise on HF. So, the large majority of devices the League has tested have actually met the emissions limits. The interference was then addressed on the basis of harmful interference.

The ARRL does have to make some judgment calls about what products to buy and test, because of limited resources, especially staff time. So we look for the VERY loud noise, such as grow lights, some battery chargers and the like, then make purchases based on specific complaints in which the offending model numbers can be identified. We are looking more to the items sold in the big box stores, instead of the occasional eBay seller. To that end, we need good reports that are based on an actual complaint, with a model still in production and being sold. We can then do as we did with the grow lights and other products along the way and file formal complaints the FCC. The interference from the eBay item or the 1950s lighting fixture can still be addressed as an individual complaint.

In other cases, ARRL does take a broader approach. When CFLs and LED bulbs came on the scene, the posts about the doom of Amateur Radio were rampant, and to assess the problem, ARRL purchased a large number of products and measured them. As predicted, most complied, although a few problems were identified.

What the majority of the reports ARRL gets, however, involve an "unknown source." At that point for the most part, trying to identify WHAT it is becomes moot unless the ham can figure out WHERE it is. Without an identified device operator or model number, the only recourse is to find the actual source and work with a neighbor, then with the ARRL and FCC, to try to get it resolved.

I hope this is all helpful.

73, Ed Hare, W1RFI