



Amateur Radio

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Subj: "Power Play" article 3/23/04

To the editor:

As a journalist and an amateur radio operator (I am the editor of CQ Amateur Radio, the world's largest independent amateur radio magazine), I was distressed at the number of significant inaccuracies in Ken Brown's March 23 article, "In This Power Play, High-Wire Act Riles Ham-Radio Fans":

#1) "The nation's vocal but shrinking population of ham-radio operators" isn't shrinking. The number of licensed hams in the United States is near its all-time high (it peaked last summer at more than 685,000 and is currently around 684,000, according to FCC statistics. In contrast, there were 673,000 licensed hams at this time five years ago; in 1980, there were about 382,000. Far from shrinking, amateur radio in the United States is growing and has nearly doubled its ranks in the past 25 years.). The American Radio Relay League's membership may have fallen sharply in the past decade, but that has more to do with how the organization is perceived by many hams than with the number or licensed or even active hams.

#2) While "a clash between the dots and dashes of the telegraph and the bits and bytes of the Web" makes for nice copy, it doesn't paint a very accurate picture. While Morse code certainly continues to be popular among hams – it gets through in marginal conditions when virtually nothing else will, and you need only your brain to decode it, not a computer – hams primarily communicate using voice, digital modes (we invented wireless e-mail networks in the 1980s) and yes, even the internet to connect with other hams around the world. I am currently reviewing a device that generates and decodes digital voice signals that are sent through standard analog transmitters and receivers.

#3) "Not too many decades ago, ham-radio operators were on the cutting edge of communications technology ... They spread word of disasters that otherwise might have taken days to reach the public." No, not too many decades ago at all - in fact, the correct number of decades is zero. There is a permanent ham station at the National Hurricane Center that's staffed whenever a hurricane is near land. Why? Because when power lines and telephone lines go down in a storm, ham radio is STILL the only means of communication that reliably gets through in those critical early hours. When the attacks of 9/11 destroyed New York City's ultra-high-tech Office of Emergency Management, officials relied on ham radio during those critical early hours to relay vital communications between agencies. One FCC official has correctly described amateur radio as America's "fail-safe communications system."

#4) As for suggestions that we are losing our edge in technology, how many other hobbyist groups have their own fleet of communications satellites ... that they've built themselves? Hams around the world have built and launched about 60 satellites since 1961, when we launched the first non-government satellite ever placed into orbit. Hams today are extending the distance limits of high-microwave frequencies, the next "frontier" for wireless communications; and experimenting with laser communications. Today's "hot ticket" technologies such as wide-area wireless computer networking; and text-messaging and still-picture transmissions via cell-phones, were pioneered by hams.

#5) "To become a fully-licensed ham operator, people still need to learn Morse code..." ... not since 1991, when the code requirement was dropped for the Technician class license, which gives full privileges in the VHF and UHF amateur allocations. Hams with Technician licenses are "fully-licensed." Other license classes with additional privileges continue to require a code exam, but at only 5 words per minute, and that only because it was required by international rules until last summer. The FCC is currently considering more than a dozen petitions to bring US rules into line with the new international regulations.

#6) "Aging hams ... are dying." Yup, along with aging non-hams. Not much we can do about that, except to note that hams and non-hams alike are living longer today so they're not dying quite as soon as they might have a couple of decades ago. "Fewer youngsters are replacing them." This is hard to quantify since new privacy rules no longer allow the FCC to collect and release birth dates of licensees. But there are two factors at play here that skew the average age figures: a) there are fewer youngsters, period. The baby boom created a huge population bubble that is working its way into its 60s, and the average age for any activity that includes baby boomers is inexorably rising; b) many of those

boomers are becoming hams for the first time in their 50s and 60s, pushing up the average age. With today's advances in health care, these new hams often have 20-30 years in which they can be active, contributing members of the ham radio community. And since many of them are retired, they have the time to give to staffing emergency operating centers, etc., and providing vital communications in disasters. These older-newer hams are assets, not liabilities.

7) Hams "haunt a series of short-wave radio frequencies set aside for them by the federal government in the 1930s." While some frequency bands were assigned to amateurs (internationally) in the 1930s, we have seen a steady growth in those allocations in more recent decades. Three new allocations were made in the 1980s and one was made just last year. The picture Mr. Brown paints of hams as ghosts of communications past ("haunting" frequencies since the '30s, for example), is just plain inaccurate.

#8) "One favorite game: trying to contact someone in each of the 3,000-plus counties in the U.S." As sponsors of the primary award for contacting all 3,077 U.S. counties, we are proud that it's a favorite activity. But it's much more than a game. Since many remote counties don't have many resident hams, "county-hunters" often put them on the air by driving there and operating from their cars. This gives hams around the world experience in communicating with stations whose signals might be weak - signals Broadband over Power Lines would likely wipe out; and it gives the hams who drive to those counties a knowledge of places from which they can operate and get signals out - essential knowledge in an emergency or disaster. Better to take the hours you might need to find those locations while pursuing the hobby aspect of amateur radio than to waste time searching for a spot in an emergency when every minute counts.

#9) Mr. Brown poses a question asked by FCC Chief Engineer Ed Thomas, "Why is this thing a major calamity?" but he doesn't try to get an answer. Here's the answer: One of the many things hams have discovered over the years about the short-wave frequencies where BPL wants to operate is that you don't need a lot of power to communicate over very great distances. Under the right conditions, a few milliwatts might get you a contact thousands of miles away. BPL signals are essentially low-power radio transmissions. Under those same conditions, they may bounce off the ionosphere like any other radio signal and come back down hundreds or thousands of miles away. Rather than enhancing communication, though, they will block it. Hams tuning around the short-wave frequencies searching for a weak signal from some remote corner of the globe won't be able to hear it - and they also won't be able to hear the weak distress signal from a boat in the middle of the ocean somewhere that's in danger of sinking, something that happens at least once or twice a year.

#10) Hams are not the only ones threatened by BPL interference. Every other user of spectrum between 2 MHz and 80 MHz is at risk. This includes international short-wave broadcasters, the US military, the Federal Emergency Management Agency, long-distance airline pilots, Citizens Band (CB), some radio-control airplanes and boats, some baby monitors and cordless phones, and some police and fire departments. The FCC and BPL industry say they'll avoid using certain frequencies where interference occurs, but with so many spectrum users, and the possibility of interference occurring hundreds or thousands of miles from the signals' source, this "notching" technique will soon result in "all hole and no doughnut." It just won't work. Someone inevitably will suffer interference. And once BPL is widely deployed, it will be virtually impossible to un-deploy.

Perhaps a better question for Mr. Brown to be asking than "Why is this thing a major calamity?" is "Why is BPL so important to the FCC?" It is FCC policy not to promote any one particular technology, yet from Chairman Powell on down to the staff level, this policy is being violated with regularity as the FCC has become cheerleaders for a technology with potential for massive interference to a host of long-distance radio services and whose economic potential is unproven at best. Why is BPL so important to the FCC? It's a question that may well be worth the curiosity of the Journal's excellent investigative staff.

Thank you for the opportunity to correct the inaccuracies in Mr. Brown's article.

Sincerely,



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