

President's Corner

Apr 2008

My last article mentioned our increasingly technological and "wireless" surroundings. In fact, the number of radio signals being added to our environment is increasing at a staggering rate, with cell phones, wireless internet points, cheap radio-controlled toys and what-have-you becoming commonplace. Certainly this is of interest and concern to our hobby!

Among amateur and shortwave radio enthusiasts, one of the most talked about concerns these last few years has been the introduction of BPL, or broadband over power lines. For those of you who aren't already aware, BPL is a brainchild of the power industry, and is a method which is supplying high-speed internet access through power lines, primarily targeted at those in rural areas beyond phone and cable-TV access. The problem, as any of you who understand the rudiments of radio propagation will quickly gather, is that power lines, being unshielded, are basically HUMONGOUS LONGWIRE ANTENNAS! What's worse (especially for hams, but also emergency services that rely on long-distance radio contact such as the Red Cross), BPL utilizes the shortwave spectrum.

For those of you who are new to this subject, I'd like to bring you up to speed on this important development. For those of you who have been following the controversy, I'll bring you up to date on the latest developments.

Luckily for us, BPL is not in use by any utilities in our region. As a matter of fact, it is used far more commonly in Europe than in the U.S.* But when it was rolled out experimentally around the year 2000, several amateur radio groups (most notably the ARRL) began a thorough analysis of the potential threat to the airwaves. It was immediately obvious that close proximity to BPL components indeed led to interference problems on shortwave. Utility companies responded by using filters to block their signals from propagating on particular bands that were reportedly causing interference.

With proper filtering in place, it appears that BPL does not constitute the interference threat that was once feared. A 2001 joint study by the ARRL and HomePlug powerline alliance (see *Citation*) concluded that "moderate separation" of one's antenna from BPL devices rendered interference "barely perceptible". The ARRL still considers BPL a threat to the shortwave spectrum, however, and continues to lobby against its use. As recently as this past October the ARRL was in the U.S. Court of Appeals facing the Federal Communications Commission over their perceived lack of properly regulating the technology, but the FCC does occasionally go after utilities which flagrantly ignore major interference issues associated with their BPL systems. The ARRL maintains a web page at <http://www.arrl.org/tis/info/HTML/plc/> which details the latest on this controversy.

If BPL were to be rolled out far more widely I might be concerned about more interference, but for the time being technological hurdles and cost issues appear to

render that prospect unlikely any time soon. Even still, I recommend (if you don't already) that you support the ARRL, as these folks appear to be the only serious voice raising legitimate concerns over the potential of BPL to seriously pollute the shortwave spectrum.

73! -allen lutins KC2KLC

*For those who are interested - the technical reason that BPL is more common in Europe than in the U.S.: BPL doesn't transmit well through transformers (due to high impedance), so each transformer in the line requires a small repeater to be installed to boost the BPL signal. In the U.S. there are small transformers at the pole for every few houses (and often for each individual house), while in Europe transformers generally serve far more (tens or hundreds) of dwellings at a time. It is therefore more cost-effective to roll out BPL in Europe because of the need for far fewer repeaters.

Citation:

HomePlug & ARRL Joint Test Report, January 24, 2001

Online at http://www.arrl.org/tis/info/HTML/plc/files/HomePlug_ARRL_Dec_2000.pdf