

**SUGGESTIONS TO MEET THE STATED OBJECTIVES FOR BPL
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A. WHO ARE WE?

- 1 The Academy of Model Aeronautics (AMA) is the organization that is the US representative to the National Aeronautics Association that, in turn, represents the US with the Federation Aeronautics Internationale for aeromodeling activities and international competition.
- 2 Current AMA membership is approximately 175,000. We also represent the interests of model car, boat, robotics, and other hobby uses of radio control (R/C) with the FCC. Some 12,000 of our membership are also active in amateur radio. AMA and ARRL have enjoyed a long relationship.
- 3 There is an estimated body of over one million R/C modelers in the US.
- 4 R/C modelers enjoy the use of spectrum at 27 Mhz; The 50 and 53 Mhz amateur bands; 72 to 73 Mhz; and 75 to 76 Mhz. A total of some 100 narrowband channels in those bands are designated by the FCC exclusively for control of models.
- 5 Every one of those frequencies falls within the potential spectrum identified for use by BPL.
- 6 R/C modeling is acknowledged by the FCC to be of great educational value. Many of our modern aviators and astronauts found that interest from model building.
- 7 A vigorous industry has grown to nearly \$1 billion per year on the strength and success of the AMA in acquiring and safeguarding the spectrum we now enjoy. The current spectrum allocation has stood since 1982. R/C systems are sophisticated control systems more complex than many weapon guidance systems and much more reliable. System technical capability has grown steadily in that stable environment.

B.WHY ARE WE CONCERNED ABOUT BPL?

- 1 R/C AIRCRAFT models range in size from 3 ½-inch span to 12 Ft span in, e.g., 50% scale of fully aerobatic CAP 21 and the like. R/C Models are flown in gymnasiums, parks, schoolyards, and backyards as well at established club fields all over the country. AMA limits weight to 55 lbs. There are a number of turbojet models available that can operate at over 180 mph. Safety is a major concern.
- 2 Obviously, a model AIRCRAFT that weighs more than a few ounces and that can fly at over 50 mph can cause bodily harm if it departs from controlled flight. Because of the quality and sophistication of the radio equipment extant, fatalities over the last 40 years of RC popularity are approximately three; an outstanding safety record. We want to keep it that way.
- 3 BPL has the potential to disrupt this activity that has enjoyed FCC approval for nearly 70 years since Drs William and Walter Good first used radio control of a model in pursuit of their doctorates. In most instances, R/C is a secondary user. Our systems survive well in the Part 15 environment, but may not if faced with unknown, random occupancy of spectrum by BPL systems radiating, not from a well-defined point source or even a poor antenna, but rather a distributed and undefined multi-point radiator traversing areas of model airspace.

C.WHAT DO WE WANT?

- Our obvious first choice would be for BPL to disappear!
- 2 Barring that, BPL must not be allowed to disrupt other legitimate uses of spectrum such as ours already allocated by the FCC.
 3. In the same manner that all other users are required to define and control the base band signal as well as occupied spectrum, it is requested that standards for BPL require control of the modulating signals, sub-carriers, or other information carriers in the BPL spectrum. Definitely, BPL must meet Part 15 requirements. Recognize that other users can, if necessary, design equipment that can live within the BPL environment, but not if that environment is a constantly changing in an undefined base band that creates an ever-changing and unknown spectrum.

4. The present Notice of Proposed Rulemaking (NPRM) to which many of you have probably responded, places the onus on the user of spectrum, not BPL owners, to resolve issues. In attempts by ARRL and AMA jointly to see what the spectrum is from BPL systems, the response from BPL operators has already been "telegraphed"; total lack of cooperation.
5. Few other users are in any reasonable position to make an independent assessment of the spectrum from BPL. After all, few of us own several miles of power line!
6. The only reasonable way to measure the radiated spectrum from BPL systems is to establish standards for that spectrum and then have that spectrum measured by an authoritative, independent organization such as the IEEE Standards Association in behalf of all other users of the spectrum.
7. Once the spectrum that can be expected from a BPL installation is known, other users can design and test equipment or develop new procedures operating in that environment. We ask only that the "fear factor" be removed.
8. The expected radiation from BPL can then be monitored and validated by other users to see if standards and FCR specifications are being met. The NPRM does require the BPL operator to take action to resolve issues of interference. Have you ever tried to straighten out errors in your electric bill?