



Technical Bulletin

AC Power Line Noise - Stop the Madness

It's just plain awful. The buzzing racket that just won't go away except on rainy days and Mondays, constantly covering up the weakest of signals (the ones you really want to hear). Line noise is an insidious form of amplitude-modulated arcing noise produced by corona discharge around high voltage insulators and arrestors attached to the local power service delivery grid. Although some types of buzzing noises can be produced in your own house and even in your own equipment, most crackling and banging noises are from overhead power lines, usually the high voltage (3KV-10KV) wires.

Can it be dealt with? You bet, and here's how. First, recognize that electric power companies are busy places with lots of responsibilities. If you call and whine with your problems they may help you and they may not. They're not really responsible for small noises you have tolerated and there are usually more important priorities for work crews. So it's a big help to them and to yourself if you can provide them with critical information that will help locate the problem and hasten the cure.

First, listen to the noise on a receiver switched to the AM mode and rotate an antenna around if available, searching for the noise peak on the S meter. Getting a fix on the location of the noise is extremely valuable information. After locating the direction or if no directional capability exists, walk or drive out in the immediate vicinity or peak direction with a portable SWL receiver or AM BCB receiver. Listen for the loudest peak of the noise as you travel back and forth, trying to center the peaks on a certain location. If you are able to reach a verdict on a certain pole or locale, use a pair of binoculars and see if you can find an insulator on the pole's cross arm that is either arcing or is discolored from arcing, compared to the coloration of the rest. If the pole has a guy wire give it a shake and see if the noise changes in pitch or stops altogether. Record the pole number and notify the local power company of your findings. Never, ever, try to climb the pole and fix the problem yourself. It's illegal and dangerous almost beyond belief! When contacting the power company ask the switchboard operator who handles noise complaints and follow the company's procedures. Sometimes they will ask you to fill out a noise form with pertinent information. Do it, and try to be personable and diplomatic. Remember - they don't HAVE to help you, and they're human. They may just write you off if you're a noisy

nuisance. You need them but they don't need you, and they don't have competitors. Be patient and helpful anywhere you can.

Another trick that can be employed in your search for the noise is to look for it at dusk when arcing is more visible. A corona discharge is often a faint blue haze around a dirty or broken insulator. If anything like that is evident, record the street location and the pole number (the latter is usually found on a metal band wrapped around the pole about 6 feet above the ground).

Want to protect against further noises or future trouble? Here's a trick method of performing a power line noise audit. Use an AM radio in the car during the daytime and go up and down all the streets in your vicinity out to a distance of about 1 mile from your station. Hunt for small noises and record their positions, pole numbers, etc. Forward the information to the power company and see if they will act on the report over a period of weeks. A simple undertaking like that will provide you with years of quiet enjoyment with only a small time investment. Better yet, it's all free - even the instructions!

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