

Warm-Weather Radio

By Hugo Gernsback

NOW that warm weather is again upon us—speaking for the great majority in this country, at least—it becomes necessary once more to see what the "dog days" have in store for us, so far as radio reception is concerned. It is a most healthy sign that, as year after year rolls by, activities in radio during the summer consistently increase in a most encouraging manner. When broadcasting first started, in 1921, and while we still had our crystal sets, summer played havoc with our radio reception.

To be sure, in those days we used head-telephone receivers, and it was not considered very healthy or prudent to sit with a pair of these clamped to your ears while lightning was playing around the house. Nowadays there are few people using head receivers (in this country, at least), because the loud speaker has taken the country by storm. Cases of injury by lightning, while the victims were using head receivers, have always been exceedingly rare all over the world; while, in fact, there is no case on record, during the past two years, in which a person has been injured by lightning when loud speakers were being used.

Several years ago, RADIO NEWS offered \$300.00 for authentic information concerning cases in which lightning had hit a radio aerial and damaged property or injured people as a result. No properly-authenticated instance was presented from the United States and, when the prize was finally claimed and paid, it went to Canada. Even in this case, the lightning did not hit the radio aerial first, but struck another piece of metal, from which a secondary discharge leaped to the aerial, doing the damage. It may therefore be said that, so far as the radio installation is concerned, people need not worry about lightning.

If the connections of the aerial have been made as prescribed by the insurance regulations, and a good lightning arrester has been installed, there is practically no danger, either to the radio set or to the person who uses it. As a matter of fact, most people use their radio sets throughout the summer and, unless lightning actually plays overhead, they go on using the instruments just the same.

One of the most encouraging things about radio in general, nowadays, is that summer static does not bother us as much as it used to when we had our crystal sets, or even our one- and two-tube sets in the early days of broadcasting. The reason is simple. When we were using crystal sets or one-, two- or even three-tube sets, and static was bad, the latter was sufficient to override the weak radio signals; and it became most annoying and tiresome to listen to a radio program under such circumstances. With our present-day high-powered sets, however, the situation is changed entirely. It is now possible to build up a signal to such an intensity that the resultant sounds will easily override the usual static, although the latter is amplified also. Unless there is a thunderstorm quite close by, the selectivity and amplifying power of the set are enough to discount the static and make the program at least enjoyable. This is particularly true this year; because our new alternating-current sets are generally of great power. With the volume control turned all the way up, there is little difficulty in getting practically any local program, and even some of the distant ones. Though static is at its worst when there are no signals from the station to which a receiver is tuned, when the signals are coming in strongly the static loses a great deal of its former importance.

Another factor of importance is the increased power of the broadcast stations themselves. With station outputs ranging up to 50,000 watts, the signal-to-static ratio is considerably higher today than it was five or six years ago, when a broadcaster with 500 watts in the antenna was inferior to no one.

It would seem, therefore, that at this time the static bugaboo is on the decline; at any rate it is not as worrisome as it was even a year ago. It would seem that, for the present, the answer to static is simply more power.

Then too, now that we have sufficient amplifying power in our up-to-the-minute receiving sets, it becomes possible to enjoy our programs, except during thunderstorms with lightning playing overhead, by following a simple procedure.

Most alternating-current sets have a power and volume which were not dreamed of, even a year ago. If static bothers us unduly, all we have to do is simply to disconnect our outdoor aerial. Probably few people go in for DX fishing in the summer time, anyhow, and what they are most interested in is a good program from a station within one hundred or two hundred miles. Signals with good intensity can then be brought in by dispensing with the usual outdoor aerial and using an indoor aerial, which may be run around the molding of a room. If this is not practical, a spiral made of about one hundred feet of ordinary bell wire, coiled on the floor of the room in which the radio set is kept and covered with a rug or carpet, makes an excellent indoor aerial.

Another excellent indoor aerial can be improvised by running a wire to any metallic part of a house telephone. If you are using an alternating-current set, it is a good precaution to put a one-microfarad fixed condenser between the telephone and the aerial binding post.

Then there is another favorite system, wherein the usual cold-water-pipe is used as a ground, and the aerial wire is run to the radiator system. In this case also the condenser just described should be used. This system does not always work, in every locality, and a little experimenting with it may be necessary.

By using indoor aërials or aerial substitutes such as those already mentioned, two things are accomplished: first, the static effects are cut down to a very large extent. Second, those who are nervous and afraid of lightning need be so no longer; because such aerial substitutes practically do away with any possible danger or risk from lightning.

A third substitute, which is coming more and more into favor, is the underground or buried aerial. This system was first devised by Dr. James Harris Rogers during the great war, when he discovered that signals from Europe could be brought into his receiving station in Maryland, while lightning actually played overhead. The buried underground aerial is remarkable in that it collects very little static; but, of course, aërials of this kind can not be used unless one lives in a residence with grounds, or has access to a backyard, where the device can be buried. It is also necessary, for best results, to run a shielded cable to the set.

When radio was a luxury, some years back, people did not think it was important to use their radio sets during the summer time; but today a radio set is a necessity, almost to the same extent as our telephones and automobiles, which also at one time were luxuries. Our radio broadcast stations are rendering a tremendously important service to the community. They give us weather and time reports, news bulletins, educational talks, recipes and domestic advice for the housewife, and other items of information; some of which, such as storm warnings and market prices, are of great importance to residents in certain sections of the country. Besides this, we get the radio entertainment thrown in for good measure and, as we know, this entertainment is steadily mounting to a higher and higher plane. I feel that all of us can afford to, and should, listen in to some of the more important radio features this summer. With the political conventions on the air, it would seem that no patriotic citizen has any right to shut off his set and put it away until the cold weather comes back.

All in all, it may be said that this is the first year in which summer radio is becoming of such real importance that to do without it is as disadvantageous as the old-time way of laying up the car through the winter.