



RADIO NEWS

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Summer Radio Reception

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AS summer after summer rolls around, the broadcast listeners, as well as the professionals, are becoming more and more accustomed to the idea that summer reception, after all, is in no wise different from reception in the winter.

In the statements which I shall make in the following discussion, it must be understood that when I refer to "summer reception" I really mean reception in the north temperate zone. Below the Tropic of Cancer, receiving conditions are, of course, vastly different from those in northern countries. Thus, for instance, reception in the tropics is notoriously poor, due to the frequent heavy thunderstorms that abound, many days in succession, during the so-called "rainy season". But in the temperate zone this is not at all the case.

I have pointed out many times before that reception in the summer-time is really better in many cases than during the winter. Did you, for instance, try for DX (long-distance stations) this past winter? DX reception was so notoriously poor that even stations 100 miles away could hardly be received consistently. Even with an excellent set it was almost impossible, for days and weeks at a time, to log the usual DX stations that were easy to reach, right along, during the summer of 1925.

As a matter of fact, I make bold to assert that the radio fraternity at large logged 50 per cent. more DX stations last summer than they did during the winter just past. For instance, the International Tests in February were notoriously unsuccessful, and that at a time when radio reception is supposedly at its best. The reason for this lies, not in static, as the term is commonly understood, but, rather, in disturbances that have their origin in the sun.

The sun, as we well know, goes through certain sun-spot cycles; and such a cycle reached the maximum of solar activity last winter. I, for one, am of the firm opinion that the sun was directly responsible for cutting down DX reception. The explanation is probably that increased solar activity caused an increased ionization of the earth's atmosphere, as well as of the earth (soil) itself; and the two, coupled together, probably have much to do with the greatly-reduced reception.

The objection might be advanced that the sun is not shining at night, when most reception is had; but to this argument I will say that the ionization, which is nothing but an electrical charge, is not dissipated at once, but persists for quite some time. It is the same with thunderstorms, which make themselves felt for hours, and sometimes days, before they register their effect on a radio set.

As to the so-called "static" during the summer, I make bold to assert that there is less static during the summer than during the winter, as a whole. This may seem to be a very extravagant statement, but a little reflection will show that it is not. Every one, located either in the city or in the country, will have noticed that in the winter time, particularly when snow is falling, long sparks can be drawn from the antenna, showing that the aerial is collecting a tremendous charge. This is an almost unheard-of thing during the summer, except when a thunderstorm is actually under way, with the thunder clouds in sight.

Time and again, last winter, right in New York City, I have drawn sparks from a quarter to a half an inch long from my antenna, which is only sixty feet long, but I do not remember such an occurrence during all last summer, with the single exception of one time when a thunder cloud was overhead.

All radio listeners will bear me out in my statement that static was more violent during the past winter than it has ever been before;

certainly very much more than during most of our summers. In our temperate latitudes, during summer, heavy static charges occur, practically, only when there is a thunderstorm in the offing, or right upon us. Otherwise, reception is usually good; moreover, it is often extraordinarily good, immediately after a heavy rain or thunderstorm.

On the other hand, how many thunderstorms are there during the summer? Certainly not more than the number of snowfalls or rainstorms during the winter. Possibly a good many less, if we except some storm belts in certain parts of the world.

When it comes to static, however, there are two classes, natural static and man-made static, with the latter very much in the lead. Every time some one in your neighborhood rings a bell, starts an electric vibrator, or a heating pad, or an electric fan, or rings a telephone, operates a vacuum cleaner, or an X-ray machine; every time that an automobile, electric train, or trolley car passes, small electric charges are let loose, all of which produce a static level usually far in excess of that produced by nature. And this static is *always* with us, winter as well as summer.

Naturally, this man-made static is very much more severe in congested centers, such as our big cities, than in suburbs or sparsely-settled districts.

Next in our discussion we have the good old-fashioned fable of the danger of lightning. Why so many people should be afraid of lightning hitting their aerials is a great and unsolved mystery.

The lightning danger during the summer is, in the vernacular, pure and undiluted "Bunk", with a capital B. Last year I announced a prize contest in RADIO NEWS, in which this magazine offered prizes of \$300 for authentic proof of lightning doing material damage to dwellings. Although the contest was advertised not only in the United States, but throughout the world, having

been given a tremendous amount of publicity through the daily newspapers and the press in general, there were only sixty entries received. A mighty poor showing.

Now, if all these entries had actually been able to show material damage, each one of them would have been entitled to \$300. But this was not the case. There was only one case, the prize winner, where the building had actually been kindled into flames and the roof destroyed; but even in this case it should be noted that lightning did not strike the antenna directly, but struck a flagpole first.

All the other cases submitted were ones in which lightning, or, rather, a secondary charge, did some damage to the radio outfits; but in no case wrecking the sets beyond repair.

The chances of your aerial being hit by lightning are about one in eighty-four thousand—practically nil.

Long before this prize contest started, I usually operated my set with an outdoor antenna—plus a good lightning arrester,—during a thunderstorm; and while I admit that reception during the height of the storm has been almost impossible at times, in no case was I ever forced to discontinue operation entirely. Of course I don't wear headphones, but with the loud speaker going I do not feel that I am taking much risk. While I do not recommend this procedure to the everyday broadcast listener, who will usually find it best to turn off his set, still I have merely tried to show here that radio reception during the summer need not worry us at all.

As for danger from lightning, everyone knows that broadcast stations with their big aerials and steel masts—a wonderful target for lightning—never think of shutting down, just because there is a thunderstorm raging overhead.

¶ . . . in which the Editor makes the assertion that Summer reception is better than Winter reception,—why sun spots affect radio reception,—why man-made static is worse than natural static,—why lightning danger is the "grand Bunk"—and why he operates his radio throughout a thunderstorm. . . .