NOVICE

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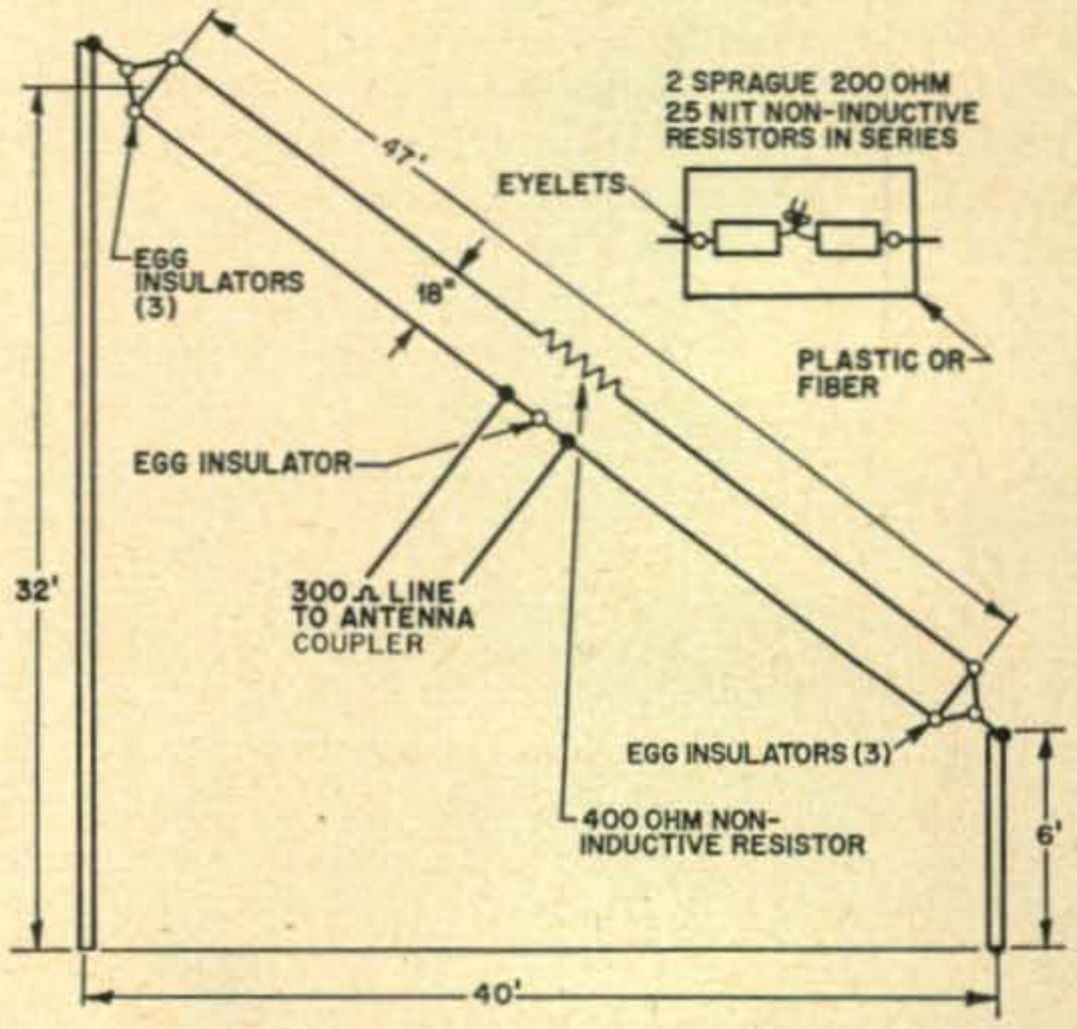
Comes that time of the month again, so as Jackie Gleason says, away we go. As mentioned last month we are going to discuss a small space antenna and a simple control system for your rig.

The T2FD

CQ magazine, in another of its "firsts" brought out the "Terminated Tilted Folded Dipole" (T2FD for short) several years ago. The antenna was extremely popular and is still used today by many operators. The tremendous advantages of the T2FD make it a natural for the Novice, especially when the backyard space is at a premium (as I was reminded in the letters column last month). What are these tremendous advantages? Well, first of all, unlike the horizontal dipole, it is relatively non-directional. This means that it receives and radiates in all directions. Of course, that *can* be a disadvantage when the QR mary is coming in pell-mell from all directions. The T2FD can be used on several bands. The dimensions given here will produce the best results on the 80, 40, and 15 meter Novice bands. The antenna takes only slightly more room than a 40 meter dipole and only 40 feet of ground length. Since it operates as efficiently as most 130 foot 80 meter dipoles, it is a boon to the "hemmed in" novice. From the reports on the T2FD, it appears to be a real DX hound on the 15 meter band.

How can I make the T2FD? The accompanying diagram explains it pretty well, but a few words of explanation may aid the constructor. First obtain a 100 foot roll of stranded copper antenna wire and cut two 47 foot lengths. Cut each 47 foot length in the center (23½ feet) and between two of the pieces, install an "egg insulator." Mount the two Sprague non-inductive 200 ohm resistors on a piece of fiber or plastic and connect them in series. Connect the resistors on this strain relief plate in series with the other two 23½ foot wires. From the scraps left over, cut two 19 inch wires and use these to "short" the ends of the dipole. Across the egg insulator in the center of the antenna, connect enough 300 ohm twin lead (TV lead-in) to reach into the ham shack. The length is not critical. The antenna should be mounted on "mutt and jeff" poles, one roughly 6 foot high, and the other 32 foot high. Quite often it is possible to extend the antenna from the peak of the house to a convenient 6 foot high object in the backyard. Preferably, neither pole (or object as the case may be) should be of metal construction. The "shorted ends" of the antenna must be insulated from the supporting structure with at least three egg insulators as shown in the diagram. Use rope to reach from the egg insulators to the supporting structures.

Once inside the ham shack, the 300 ohm feed line should be connected to an antenna coupler much as those described in the Handbook. Most modern transmitters use low impedance coaxial transmission line and since TV twin lead is a relatively high impedance balanced line, a device like the antenna coupler is necessary. A "balun," such as the Air Dux all band model, would work satisfactorily also. Although it is possible to use a link around the final tank coil, I would not recommend it where the possibility of TVI exists. Since this is a multiband device, second harmonic radiation will be high, unless an antenna coupler is used. In extremely rough locations one should use a *low pass filter* (a TVI filter as they are commonly called).



The antenna loads up about the same as any other. However, when adjusting the antenna coupler, try to get maximum loading with maximum capacity in the pi network output adjustment.