

# Apartment Dweller's Antenna System

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The basic requirements for an apartment dweller's antenna system are

- 1) the antenna shall put out a good signal, i.e. if a station can be heard he can usually be worked, and
- 2) the antenna shall be as inconspicuous as possible so that neighbours and your landlord do not object, particularly where the apartment lease forbids antenna installations.

### System Testing

The antenna is tested during a period of high activity on the various bands - during a contest. The contest period is chosen so that reports from a large number of stations can be obtained in a relatively short period of time. Note that the failure of a station to respond to a call is a valid "negative" report.

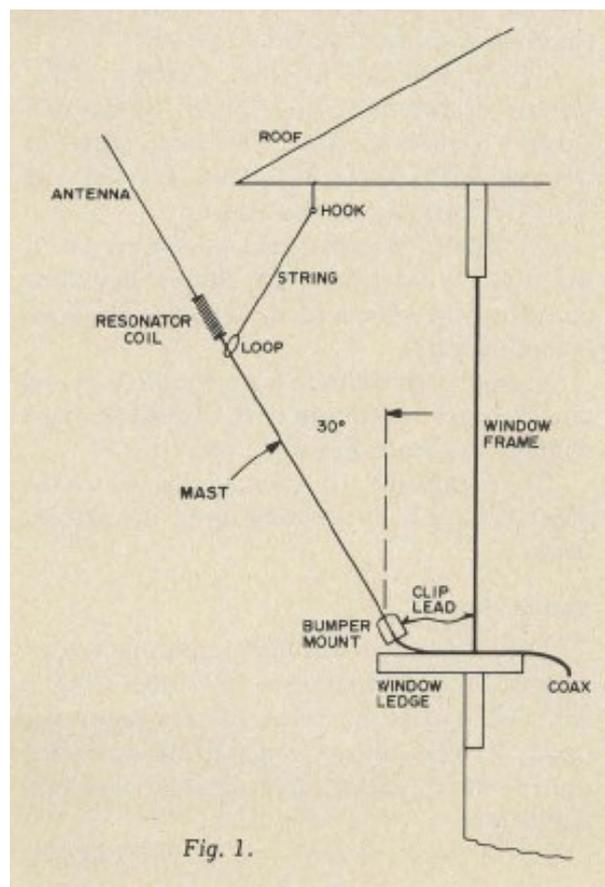
The invisibility of the antenna is tested by usage. It is only visible during actual operating periods. If at those times it is inconspicuous, then no complaints will result. If after a month or so no complaints have been received, the test is successful.

### System Description

The antenna used is a Hustler mobile whip, operated out of an apartment window at about 25 ft above ground as shown in the sketch. This antenna system was chosen in preference to others because it was easily collapsible and did not fall down under the weight of ice or due to the effects of winds or large trucks, as did earlier long thin-wire arrays.

### Setting Up

Attach a hook or other fastening element to the wall or roof outside the building above the window. If a convenient tie point is available, it may of course be used. A piece of string is tied to the hook and a loop about 3 in. in diameter is tied in the other end of the string. The mast is screwed onto the bumper mount and laid to one side. The resonator element is passed through the loop, then screwed to the mast. The antenna is then pushed out of the window



and the bumper mount placed on the window sill. The mast is supported by the string. The window is then closed, wedging the antenna in place.

The first time the antenna is used, the length of the whip is adjusted for minimum SWR in the same way as is done in a mobile installation.

Dismantling the antenna just requires opening the window and pulling it in. The string may be left hanging or tied down to the window frame by catching it between the window and frame when the window is closed. The whole operation of erecting and dismantling the antenna takes only a matter of seconds.

## Using the Antenna

In order to keep the antenna inconspicuous, the 75 and 40 meter resonators are used only during the hours of darkness when the whole antenna cannot be seen. By day, the small size of the 15, 20 and 10 meter resonators keeps the antenna inconspicuous.

In use it is possible to alter the effective angle of radiation of the system by varying the length of the string so as to change the angle of the antenna with respect to the vertical position.

## Results

Any antenna system is judged by its performance. This one was tested during two contest periods driven by a Yaesu FT 101 barefoot with the following results:

- (1) CQ WW DX Contest, October 1971, worked Europe, Africa, North, South and Central America. Did not hear Asia or Oceania. CR6, XX6, 8P6, 9Y4, EA, ZF and CT were worked on 20m alone.
- (2) ARRL Sweepstakes, November 1971, worked 63 Sections, 45 States including California on 40m, and all Canadian Sections including VE8.

During both of the above contests several pile-ups were heard and with careful timing a contact was made in most cases. No comments or complaints as to the antenna have been received up to the present time.

## Conclusions

The apartment dweller's antenna system puts out a good signal on all bands. While it will not replace or outperform a beam or a quad, it does allow transmitting operation under many unfavourable (to the amateur) conditions.

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