

73 Review

by Bill Clarke WA4BLC

The Solarcon A-99 Antenna

A very economical vertical for 10-17 meters!

A while back I was reading one of the ham magazines and saw an advertisement that really piqued my interest. It said, "World's top performing fiberglass omnidirectional base station antenna," then went on to say that it operates 12-10 meters. This was too much to let pass by, so I sent for one.

The box arrived via UPS and inside were three pieces of fiberglass-covered tubular antenna. I also found an instruction sheet and a few other papers. I quickly went about getting the antenna into the air for testing.

Assembly

This antenna is easy to assemble. The three pieces screw into each other and the bottom of the antenna has a metal sleeve which is then attached to a tower, post, or mast with U-bolts. Coax is attached to a weather-protected connector in the center of the antenna's base.

For the first few days of evaluation, I bolted the antenna to an eight-foot-long, two-inch-diameter wood rod and tied it to the side of my tractor, which was then parked about 75 feet from the house.

I ran a piece of RG-8X from the antenna into the shack and tuned up on 10 meters. The band was semi-open so I called a CQ and was immediately answered. From there on I played DX the rest of the day. By the time the bands went out I had worked about 40 countries, all with nice QSOs. Most impressive for an 18-foot piece of white fiberglass.

On-the-Air

It worked fine on 10 meters. After all, that's right next to 11 meters (the A-99 was originally designed for the Citizens Band). It should work there. The SWR was below 1.2:1 below 29 MHz. The next day I operated on 12 meters (SWR 1.8:1) and was pleased to find that the antenna performed as well on 12 as it did on 10.

Towards the end of the day I

became bored with 12 and decided to see what other surprises the A-99 held. I put the rig on 17 meters and heard all kinds of activity—the band was in very good shape.

The antenna loaded with a 2.5:1 SWR. My rig can handle this, but I smoothed it out with a tuner and went to calling CQ. Just like on 10 and 12 meters, I got responses from all over.

To make a long story short, I have now played with this antenna for about four weeks and have found that it works very well on 17 through 10 meters. It won't make it down to 20 meters or below, however.

My testing was done with and without the optional radial kit. I could find no particular difference in performance either way, although there were some very minor changes in the SWR curves.

A Best Kept Secret

In talking with European hams, I discovered that many of them were using CB antennas of one type or another, and that this practice was not only economical but easy as well, and prevented visual intrusion complaints from the neighbors. One chap claimed to have worked 214 countries during the past year with an antenna similar to the A-99.

Could it really be that bigger isn't always better? Could it be that in our search for simple and effective antennas, hams have overlooked the obvious? I doubt if I am crushing any rocks out there in the pile-ups, but I get my share of contacts with this antenna.

Alternatives to Spending \$300+

Although most of the competing antennas do offer 20 meter coverage, they also cost two to three hundred dollars more than the A-99. I'm not sure if using 14.313 MHz is worth the extra cost!

High Points

- The recommended retail price for the A-99 antenna is a very modest \$74.50 (cheap).
- There are no moving parts on the antenna to wear out.
- It comes in only three pieces which can be assembled in about that number of minutes (simple).
- It can be mounted on the ground, on a mast, or on a roof. I suppose it could even be hidden in a

tree. In fact, you can paint it to match the tree if you wish!

- No radials! The entire structure is a little less than 18 feet tall and about an inch in diameter.
- A nice info sheet about installing antennas is included, bringing out some areas of safety that should be revisited from time to time.
- The manufacturer's warranty policy is excellent. If the A-99 fails, it will be repaired or replaced, except in cases of damage or misuse, with no specified time limit.

Recommendations

The A-99 is a very economical and easy means for gaining access to 10-17 meters and getting a good signal out. Feed it with RG-8X for power levels under 200 watts, and RG-8 for higher power levels.

Although I experienced no stray RF problems, I placed an RF choke of six or seven turns of coax about six inches in diameter immediately at the base of the antenna.

You may want to use an antenna tuner to keep the SWR under control for solid-state rigs. If you place the antenna out in the open away from obstructions, you will probably only need a tuner when operating on the 17 meter band. I tried a rig with an internal automatic antenna tuner and found it loaded up easily into the A-99 on any band between 10 and 17 meters. In fact, the automatic tuner made a wonderful companion for the A-99. For a manual tuner, any of the inexpensive tuners should do quite nicely.

By the way, my A-99 is mounted on a 1-1/2 inch diameter galvanized pipe about four feet above ground level, and about 50 feet from the house.

Availability of the A-99

Solarcon has been manufacturing antennas for CB, cellular, and business users since 1975 and distributes worldwide. For the name of a dealer near you, contact Solarcon. **73**

A-99 Specifications

The following is a modified list of specifications which reflect my test results:

Description	Fiberglass-covered vertical antenna
Height	17'8" (separates into 3 sections)
Bands	17-10 meters
Power limits	2 kW
Mounting	1-1/2" mast max.
Grounding	DC grounded
Useful radiation angle	< 20 degrees 10-17 (as plotted with ELNEC)
Radials	Optional, but not needed
Safety	CPSC shock hazard standards to 14,500 volts
Gain: About 0 dBd (unity gain, compared with a dipole)	
SWR: < 1.2:1—10m (under 29 MHz) • < 1.8:1—12m • < 2.5:1—17m •	

NOTE: The SWR may vary depending on your antenna location.

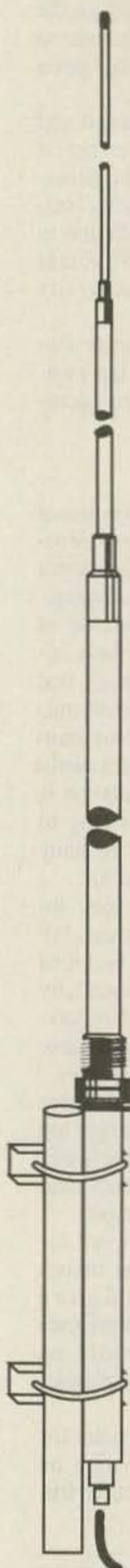


Figure. Diagram of the Solarcon A-99 antenna.