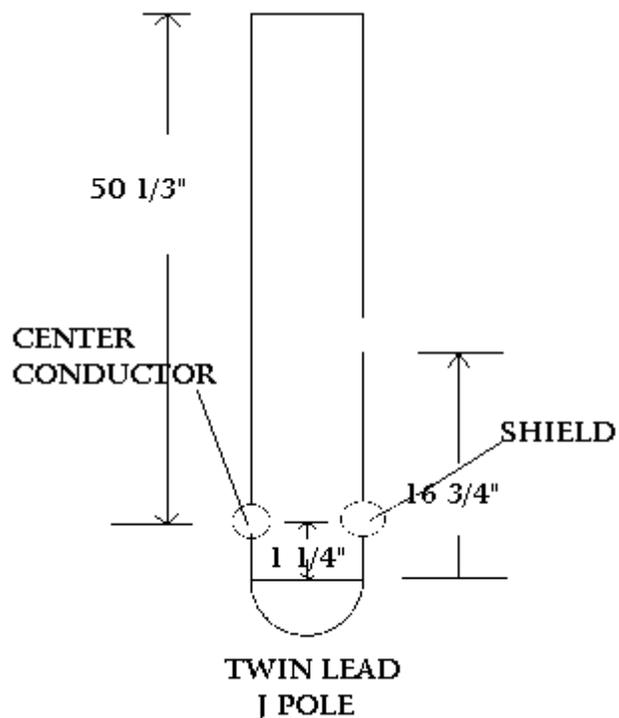
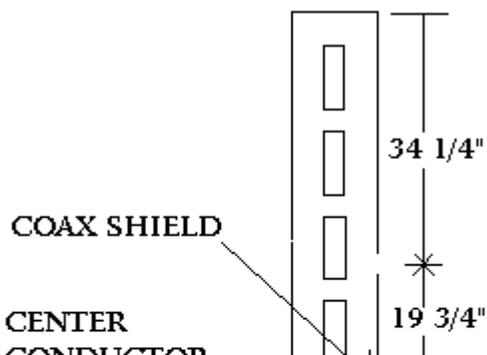


J-POLE ANTENNAS VARIATIONS ON A T H E M E

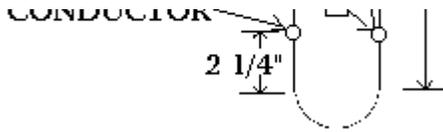
There are very good reasons why the J-Pole antenna has become so popular in the past few years. They are easy to build, cheap, and when they are built right almost indestructible. They can be built out of nearly any material the typical amateur can find around the house or purchase for just a few dollars. In this issue I am going to discuss a few different variations. The simplest I found was the TV Twin-lead version I downloaded from the internet. Brett, N5SQK brought over the ladder-line version. He said it will out-perform the one made of twin-lead. It was from an article by Ed Humphries, N5RCK. The super J-Pole came from a QST article by Jim McDonald, WB0JQH. He called it an End Fed Extended Double Zepp. However, call it what you may it is still a J-Pole. that article along with some interesting hints was supplied by my good friend Bruce Cameron, WA4UZM.



The Copper Cactus Two-band J-Pole was



from a 73 article by John Post KE7AX and was supplied by Brett N5SQK. There are some variations in the dimensions. The dimensions of the twin-lead and ladder line versions are different because of the different velocity factors. the dimensions of the Copper Cactus dual band were chosen to make the antenna usable on both 2 and 440. An interesting variation on the Copper cactus dual band unit that I did not draw up was to build two J-Poles. One inverted below the other. Only the top one was fed. He made the matching sections 1/2 inch longer than the single one. One short-coming I and others have

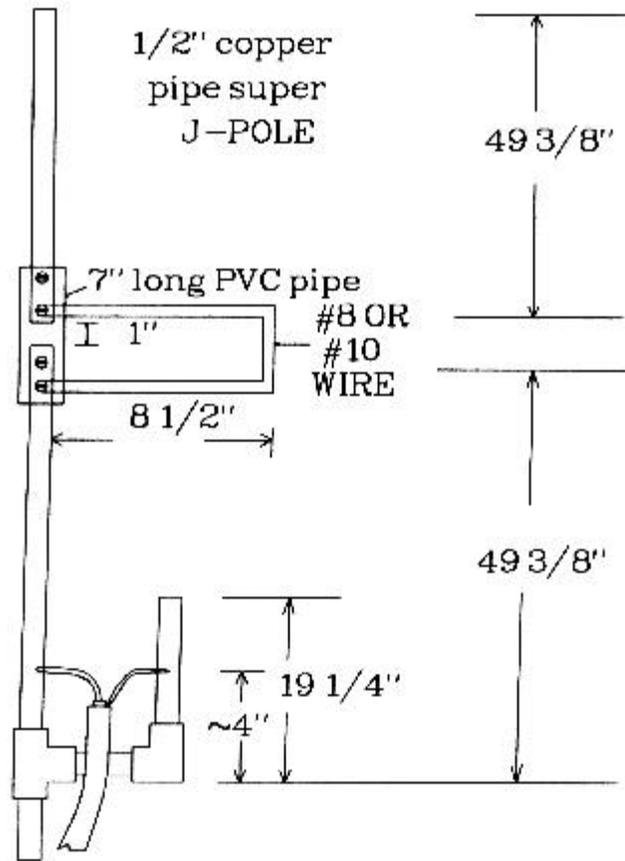


LADDER LINE
J POLE

found with the J-Pole is that they do not like to be near metal. thus, if you side mount it on the tower it must be well away from it. About 2 years ago I tried to stack 4 J-Poles on a 25 foot mast. I had thme spaced about 7 inches from the mast. It did not work at all. The double Cactus, since the section normally used to support the J-Pole is now the lower element, must be spaced well away from the tower and supported

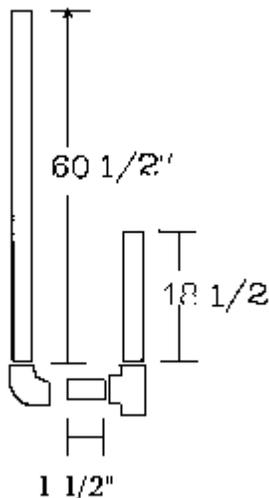
by an insulated support. Post used a five foot length of 1 1/2 inch PVC. My experience with PVC antennas tells me that if you do that put a wooden dowell inside because PVC tends to flow over time and if you don't it will droop..

The usual way of feeding a J-Pole is to solder the coax directly to the elements. I have seen some more ingenious feed methods, but the simplest is the one shown by Jim Post on the Copper Cactus. He attached an SO239 directly to the main element with a pop-rivet and then soldered it. According to Post you can use a machine screw just as well. A length of #10 wire across to the stub and you have a strong attachment.



Most designs attach the shield to the main

element and the center conductor to the stub. But not all, I guesse it doesn't make a great deal of difference. Actually, since this is a ballanced feed, a balun would make sense. I tried it and didn't find much difference. I ran across an article that used an invloved matching-stub-balun system. But it looked too complicated. I would have to be convinced it is worth all the trouble,

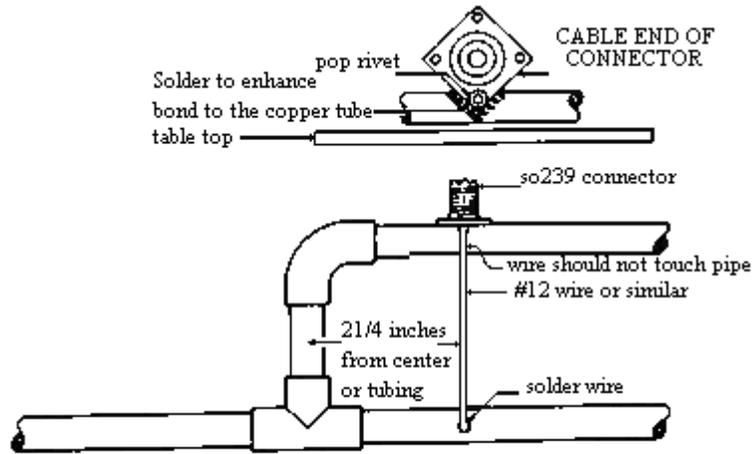


MATERIAL LIST FOR
COPPER CACTUS J POLE

The Super-J-pole is electrically equivalent to the Ringo Ranger. It is a favorite of Bruce, WA4UZM and he claimed that it out-performs the Ringo. I believe it, but then I don't particularly like the Ringo-Ranger. My experience is that it

works well until about the second rain-storm. By then the gama-match is shot. KC4HAZ had good luck with his by mounting it upside-down on the side of his tower. I have had about 4 of them over the years and was happy to be rid of each of them.

Another design I didn't draw up was the J-Pole beam. This was a simple 4 element beam except that the driven element was a J-pole. It has the advantage that the beam is supported by the driven element. If you try to mount a single vertically polarized 2 meter beam above your low-band beam you have to use an insulated mast. This obviously overcomes that problem. If you haven't tried building a J-Pole yet you aren't really living the Ham life. Run down to that your favorite hardware store and get yourself some 1/2 inch copper pipe and give it a whirl.



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