

R O T A T O R Z E B E D E E

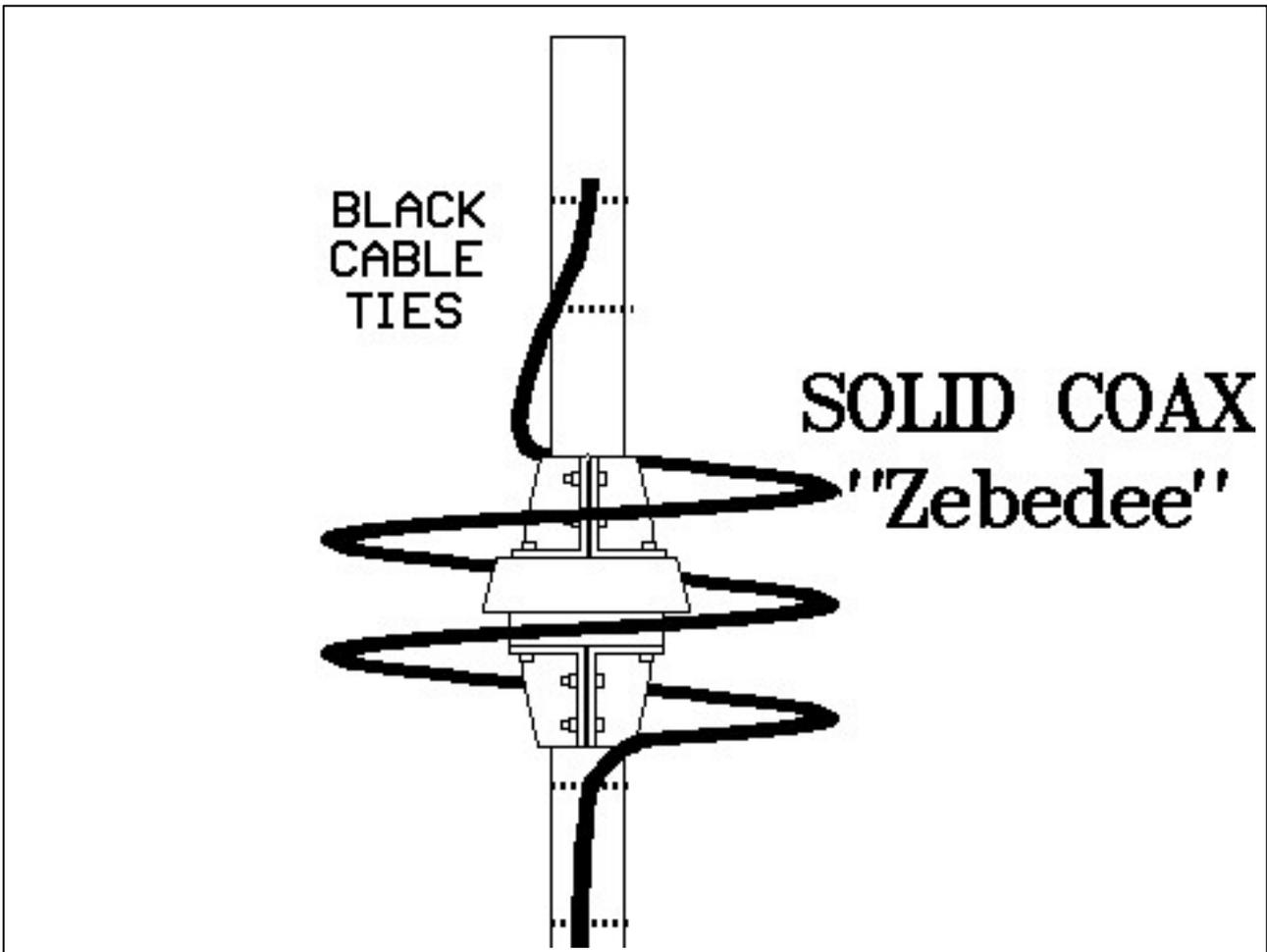
By G8MNY

Having used a spiral of low loss LDF450 coax around my rotator for many years on 70 & 23cms, I employed it another amateurs QTH after testing the loss of alternatives on a very weak signal from GB3HV.

TESTING AT G6ZHC's

Barry QTH is in Cholsey near Wallingford the other side of the 260M ASL Stokenchurch hill and GB3HV at 26KM is only just there at P1 occasionally with the aerial at 10M. Various heights and several aerial have been tried. The signal did not improve much as the aerial was raised as high as 19M, as QTH is several KM from any local obstructions other than a few trees. The best aerial tested was a home made long 55 element loop yagi made by G3MPS (similar to a G3JVL design). Originally he used a 3M length of UR67 coax from the aerial to past the rotator and then connected to 10M of 1/2" Cellflex to the shack. The UR67 was flexible enough but even a short length from the aerial to past the rotator with connectors is quite lossy when your just about getting P1. Using some more of the very flexible 1/2" Cellflex type coax for around the rotator to the aerial looked like the right thing to do. But it was found to be very lossy on 23cms and it could not beat my low loss test H100 coax that was 6M longer! Patching either piece of Cellflex out with H100 or WF103 improved the picture.

So another day was spent testing with single 14M piece of LDF450 straight from the aerial to the Rx. At last success, P1-2, peaking to P4 with a good preamp and aircraft.



USING SOLID COAX

Using just a small loop of solid coax around the rotator will stall the rotator or worse still tear the outer solid conductor of the coax. The solid coax behaves like copper Pipe and can not be twisted at all. However if you use 3 or more turns 1/2M dia of the coax, the coax will offer little resistance, should withstand the rotary stain form many years without fatigue fractures of the coax. The additional loss of the extra length needed easily beats the loss of the alternative shorter flexible coax and connectors.

Although solid coax is generally unfriendly long lengths are surprisingly flexible and are easy to use. Using the right plugs is important but expensive. I have found some of the very large UR67 type plugs can be made to fit and provide good match if care is taken to the ensure the impedance (diameter ratios) are maintained.