

Beverage Hub Box

After being out in the elements for about 5 years now, it still looks pretty good. Visible in View1 are the homebrew Derlin feedthroughs, which are a two-piece telescoping arrangement, made by yours truly on a lathe for this type use. The long overlapping arc path insures directed control in case of a lightning strike. Also on the connector bulkhead are mounted three SO-239's. Two of them receive the signal from remote Bev Hubs, similar to this one, where further switching is done on other 1000' wires. Because of the remote location (up to 1000' away), the signal is converted to 75 Ohms and brought in on the double-shielded Triax cable seen on one of the SO-239s. In the corner is a "FAT" connector; it's the output feeding the preamp. It's odd shape is because it is also a lightning arrester.



Before going into the main coax to the shack (also Triax), we pass through a BCB filter and preamp designed for 75 I/O and powered up the feedline. From the output, the cable travels about 300 feet into the shack areas and is terminated at the main Bulkhead/Patchpanel. A MIL E rated connector allows quick disconnect of the control wiring, in case of service. Of course the short groundwire is attached directly to a brass stud on the box.

View2 is an inside shot showing the other side of the Derlin feedthroughs, and their brass screws. An appreciable gap is left between the panel and the relays. This gap is bridged on each circuit by a 4" piece of #30 ga, wirewrap wire, bent into a U. That wire is a fuse, and would melt in case of a direct hit, saving a lot of energy from entering the house. Once the fuse melts, the arcrpath is shortest

directly to the box, and hopefully then to the local groundrod.



A lot of switching goes on with those few relays, and when power is switched off, all external connections go to ground. In the case of incoming Beverage wires, they are individually selected, and transformed to 75 Ohms before filtering and preamplification. In the case of 75 Ohm signals, they are merely selected, and passed along/ A further function is when the E-W Bev SElected by this box, it is terminated at the far end and fed from this end. When it is DEselected by this box, it is terminated at this end and fed from the other end, ironically via one of the 1000' coax runs that comes right back here for selection. You can see the little hb un-un mounted on the terminal strip.

In View3 the diode logic part of the switching circuit is apparent. Multiple and combination functions can often be accomplished on one conductor by a careful selection and application of polarity and voltages.



73 and Happy Building, Geo, K0FF