

# VHFSouth

VHF/UHF in the 5th Call District

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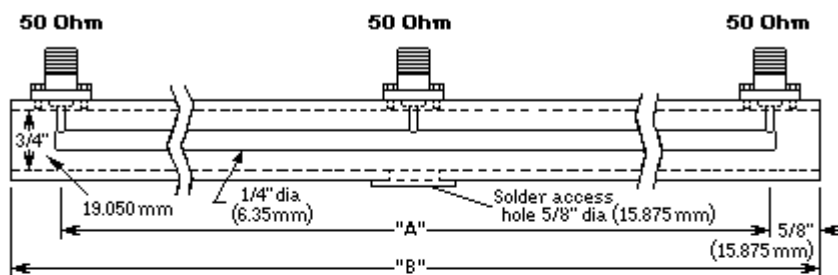
## 2, 3 & 4-Port Power Dividers...

### 50 Ohm – Power Dividers

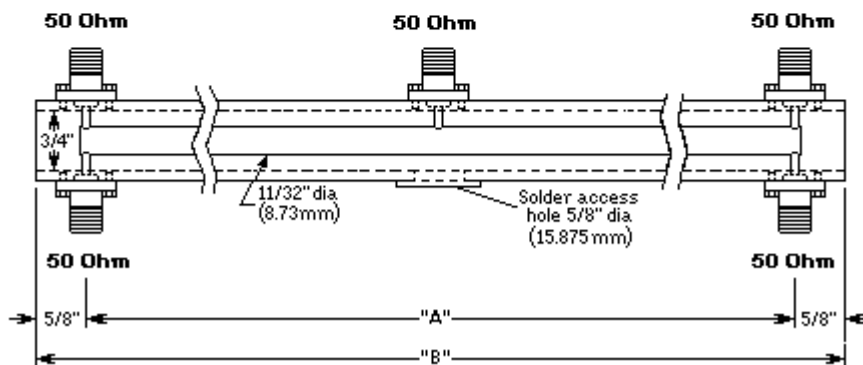
QST October 1973 pg 97

(with corrections of dimensional errors in original article)

#### 50-Ohm Two-Port Power Divider



#### 50-Ohm Four-Port Power Divider



Mhz	Dimension A	Dimension B	Dimension A	Dimension B
144	41.00"	42.25"	1041.4mm	1073.2mm
220	26.84"	28.09"	681.7mm	713.5mm
432	13.67"	14.92"	347.2mm	379.0mm
902/903	6.54"	7.79"	166.1mm	197.9mm
1296	4.55"	5.80"	115.6mm	147.3mm
2304	2.56"	3.81"	65.0mm	96.8mm

Described here and in the accompanying drawings are two- and four-port power dividers for 144-, 220-, and 432-Mhz bands designed by Don Hilliard, W0EYE. Don stresses that the design information should be exactly followed to prevent performance degrading. The two-port model uses a 1 inch square, 1/8 inch thick aluminum outer conductor and a 1/4 inch diameter round brass or copper tube for the inner conductor. The four-port

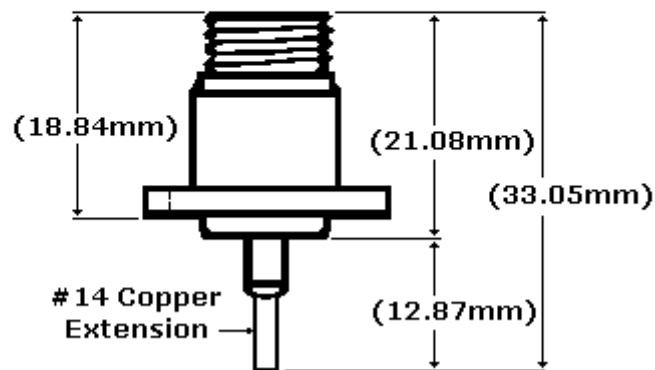
model uses the same outer conductor as the two-port model, but the inner conductor uses a brass or copper round tube, 11/32 inch O.D. All connectors are UG56A/U mounted in 5/8 inch holes with No. 4-40 screws, 1/4 inch long. Mounting screw holes are drilled with a No. 43 drill, taped for the 4-40 thread. The ends and solder access holes should be covered with 1 x 1 x 1/32 inch aluminum plates held in place with RTV sealant after assembly is completed. ( I used JB WELD as a sealant, W7CQ )

The rf handling capacity of the power divider is limited by the type - N connectors, but nevertheless is in excess of the legal amateur limits, being two kilowatts or better at 432 MHz.

Bandwidth of the devices is more than sufficient to cover the entire band of the design with less than 1.24 : 1 VSWR *from QST - October 1973 page 97*

If you drill a hole through one side of the brass 1/4 center conductor, the N connector shown below with a #14 copper wire extension will center the tube inside the 1 inch square outer conductor. This makes soldering the center connector much easier. W7CQ

### **1/4" Centering Extension for 50-Ohm Two-Port Power divider**



Sometimes it is useful to have a three port splitter, like when putting up a 6-yagi antenna array. Using the same techniques described above, one might construct a splitter according to the drawing below:

### 50-Ohm Three-Port Power Divider

