

KCM Products

P. O. B O X 8 8 • M I L W A U K E E 1 3 . W I S C O N S I N

88 & 44 Mhy TOROIDS

GENERAL: The toroid coils consist of two windings on a common core. Each 88 mhy toroid has two windings of 22 mhy each with an approximate DC resistance of 4.2 ohms per winding. The 44 mhy toroids are similar with two 11 mhy windings, each with an approximate DC resistance of 2.3 ohms. Doubling the number of turns on a common core quadruples the inductance. By joining two leads on one side as shown in Figure 1, both windings are connected series-aiding to obtain the desired inductance.

In manufacture, colored plastic or cardboard spacers are used to separate the two toroid windings. The color of these spacers does not identify the inductance. Each toroid is identified on the wrapper by color; blue spot for 88 mhy, red spot for 44 mhy or a label stating the value.

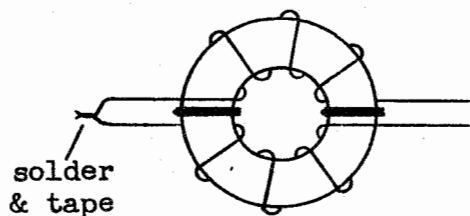


FIG. 1

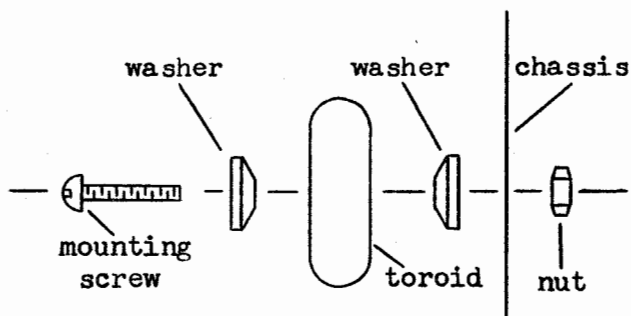


FIG. 2

MOUNTING: Figure 2 shows a suggested mounting method using the hardware supplied. If another method is used, it should not produce a shorted metallic turn about the core. Toroids may be stacked one on top another with a common mounting screw without suffering interaction as most of the magnetic path is confined to each core.

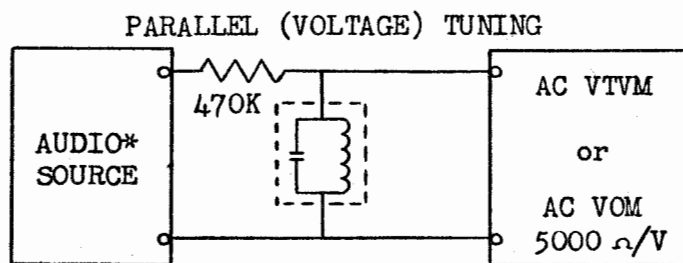


FIG. 3

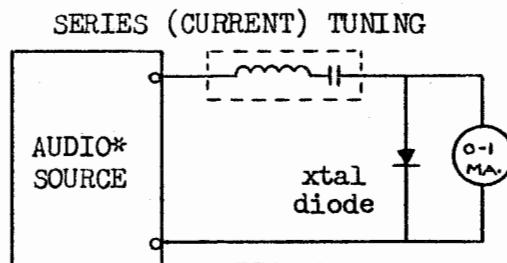


FIG. 4

*Tuning Fork Standard or accurately calibrated Audio Generator.

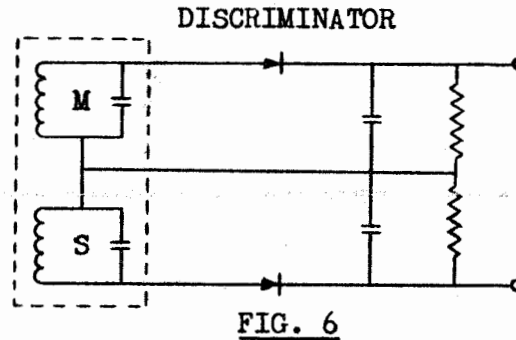
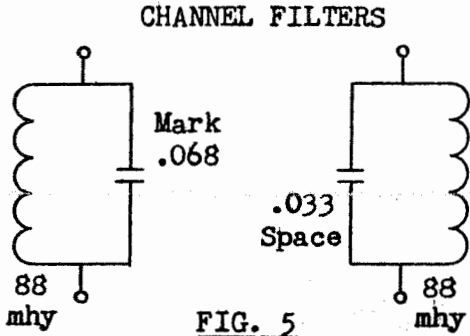
TUNING: Toroid-capacitor combinations listed in Table 1 will tune close to the frequencies given without alteration. With the QRM often encountered on Amateur low frequency bands, it is desirable to tune filters to the exact frequency required. Connect toroid-capacitor as in Figure 3 or 4. If possible, vary audio source frequency to determine if resonance (peak meter reading) occurs above or below the required frequency. If above, adding turns to toroid lowers resonant frequency; if below, removing turns will raise the frequency. Set audio source to required frequency (level adjusted for mid-scale meter reading) and add or remove turns, as previously determined, until peak meter indication occurs. When tuned as in Figure 4, toroid and capacitor will function properly in parallel.

TOROID RTTY KIT

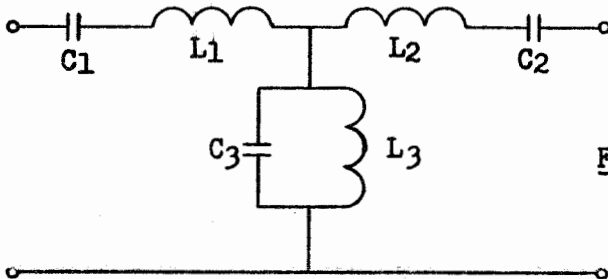
CONTENTS:

(4) 88 mhy Toroids	(1) .33 mfd 100 VDC Mylar	(1) .033 mfd 200 VDC Mylar
(1) 44 mhy Toroid	(1) .15 mfd 100 VDC Mylar	(1) .068 mfd 200 VDC Mylar
(1) Bag hardware		(2) .047 mfd 100 VDC Mylar

CHANNEL FILTERS/DISCRIMINATOR: Channel filters, Figure 5, tuned to Mark (2125 cycles) and Space (2975 cycles) are usually combined as in Figure 6 to form a Discriminator. Table 1 lists the proper toroid-capacitor combination for the standard 850 cycle shift. For precise adjustment refer to TUNING.



BAND-PASS FILTER: The band-pass filter, Figure 7, is designed to provide a pass-band of 2 to 3.1 Kc at the 3 db "down" points with good "skirts". Input and output impedances are 600 ohms but may be matched to any other impedance with suitable audio transformers. When assembled with the components supplied, the filter will produce acceptable results. A more uniform "nose" response will be obtained if the toroid-capacitor combinations (L₁-C₁, L₂-C₂, L₃-C₃) are individually tuned as described in TUNING to the geometric center frequency of 2490 cycles.



L ₁ , L ₂	88 mhy
L ₃	8.5 mhy
C ₁ , C ₂047 mf
	100 VDC
C ₃33 + .15 mf
	100 VDC

Table 1. TOROID-CAPACITOR COMBINATIONS

<u>Frequency</u>	<u>Toroid</u>	<u>Capacitor</u>	<u>Frequency</u>	<u>Toroid</u>	<u>Capacitor</u>
2125 (Mark)	88	.068	2490 (BPF)	88	.047
2975 (Space)	88	.033	2490 (BPF)	8.5*	.33 + .15
2550 (Scope)	88	.047 - used in cathode ray tube tuning indicators.			

*Use one winding of 44 mhy toroid with 5 ft. of wire removed.

TOROID RTTY Filter Kit - one 44 mhy & four 88 mhy toroids with mounting hardware, Info Sheet and six Mylar capacitors - \$5.00 postpaid.

TOROIDS - 88 mhy uncased, like new with Info Sheet and mounting hardware. 5/\$4.00 or \$1.00 each - postpaid. 44 mhy toroids also available, same as above. Orders may be mixed, such as: 3-88 mhy & 2-44 mhy for \$4.00 postpaid.