

FOX HUNT RADIO DIRECTION FINDER

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How often have you wished for a simple RDF which could work on just about any band and provide you with both an aural and visual means of determining the direction of a signal? You may have wanted to find an errant transmitter, QRM source or just have fun finding the "FOX" or more seriously search and rescue or recovery. Now you can do it. The author is chief engineer for WTTV channel 4 in Indianapolis. He and several other ATV'ers in the area have built and use the unit described here. Success in finding transmitters is easy with the unit. Recovery of WB8-ELK's balloon ATV transmitters was done with these units. Construction is not critical just use good construction techniques. You will undoubtedly want to build it in a rugged manner to survive the environs of mobile/portable operation and trekking through the wilds.

NOTES: Battery voltage =8 when readings were taken. V on LM339 pins 1, 2, 4, 5, 6, 7, 13, 14 depends on setting of VR 1 & 2. Battery drain = 7 ma with no signal and about 13 ma with signal with either LED lit. Antenna and receiver jacks should be mounted as close together as possible. Use short leads on the two .001 caps and the 4.7k resistor. Mount the 4.7k resistor at the antenna jack. The length of the coax between the antenna and the switching diodes is not critical however, they should be EXACTLY the same length. With no signal, adjust the meter ZERO pot for zero meter reading then adjust VR 1 and 2 so that the LED's just extinguish. With signal applied rotate the antenna for max meter deflection. Adjust the receiver audio level to just produce full scale meter deflection. The size of the cap between pins 2,6 of the 741 can be picked for desired sensitivity. For example, a .05uF cap will require a higher volume setting on the receiver

for a full scale deflection than will a .001uF. Adjust the osc frequency for equal left-right meter deflection with signal supplied. Use S4 in the "A" position for averaging meter flutter when in high multipath areas and in "B" position to store LED left-right readings when DF-ing ker-chunkers. Leave the switch in the center off position for normal DF-ing.

PARTS LIST

Quantity	R/S	P/N
1		276-1718 555 timer
1		276-007 741 op amp
1		276-1712 LM339 cmos 5
		276-1603 2N3904 or equiv.
2		276-1604 2N3906 or equiv.
1		276-041 red led
1		276-002 green led
1		276-168 pcb
1		270-286 box (user choice)
2		274-253 mini jack
1		274-286 mini plug
1		274-1565 coax jack
2		278-239 SO-239 jack
1		40-245 2" speaker
2		270-325 bat snap conn.
2		23-126 9V nicad bat
2		270-326 9V bat holder
1		272-1434 1mF 35v tant.
2		272-158 / 272-135 .1mF
1		272-157 / 272-134 .047mF
6		272-126 .001mF use 3=.003
3		272-156 / 272-131. 01mF
1		272-957 470 mF 16V
1		272-998 4.7 mF 50v nonpol
2		272-1028 100mF 33v ele.
2		271-339 500K min pot
1		271-217 5K pc pot
1		270-047 8 ohm spkr vc
1		271-338 100K min pot
3		275-625 mini spdt switch
1		275-325 spdt center off
1		271-019 470 ohm
3		271-1330 4.7K
2		271-1312 150 ohm
3		271-1321 1K
1		267-565 5.1V zener
2		271-1335 10K
4		271-1332 47K
7		271-1347 100K
2		271-1356 1 meg
2		276-1122 1N914
2		ecg 553 pin diode

