

Micronta Frequency Counter (Radio Shack Cat. No. 22-351)

by R.M.

Discontinued a 'bunch' of years back..... very good portable counter. The only misgiving is it's affinity for 9V batteries, will gobble them up.

I use these units all the time, even on the test bench. Bought 3 of them when closed out at \$25 apiece. Since then have repaired about a dozen additional units at a good profit.

Originally built by Continental Specialties Corporation for 'Radio Shack'...(address was/is: POB 1942; New Haven, CT 06509). Their part number for the Micronta Freq. Counter is: 15-0001.

Following guide may be used for trouble-shooting..

Display Problems.....

One digit 'on' only, or others dim: C13 (.0047) open

Shorts near Q7-Q12

Missing digit or segment: Driver transistors shorted Q4-Q12

330 ohm open (R1-R7)

Display bad

7031 I.C. (A1)

4511 I.C. (A2)

Decimal points missing: R19 open (8.2K)

Q4 open

Display pins open

Bad Display

Q4-Q12 shorted

No display or display dims after warm up: C14, C17, C18 shorted or reversed

7805 bad (A10)

Completely dead: Jack or jack wires open

C14, C17, C18 shorted

Switch Open

78L05 bad

Battery snap shorted

7031 bad (A1)

I.C. shorted internally

Bad display

Counting Problems.....

Freq. double what it should be: Time base not adjusted

Bad 7031 (A-1)

Displays all zeroes: Time base dead-check 5369 (A4), and 4017 (A5).

Bad 74C02 (A7)

Bad 7031 (A1)

Erratic reading: Check CR1, CR2, Q1, Q2, Q3, 74LS90, and 7031.

Won't read 500Hz or low freq. unstable: Check CR1, and CR2.

Q2, Q3 bad

C3, C5 open

R9 (2M ohm, open)

C1, C2 shorted

74LS90 bad

Won't read 45MHz or high frequencies: 74LS90 bad

7031 bad

1K ohm pull up on pin 1 74LS90 open.

Reading does not update or just decimal points appear: Q2, Q3 bad

C3-C6 open

Time base dead

(see, displays all 0's)

Can't adjust 10MHz, time base erratic: trimmer cap open

78L05 defective