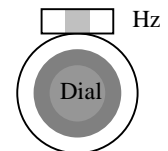# Distortion Measurement: (LEADER 171)

First setup the **LDM-171** front panel as follow:

1. In **FUNTION** Control, Push down **DISTORTION**
2. In **SET LEVEL**, set Range **1** for input voltage range from 350mV to 1V. Range 3 for input voltage range from 1V to 3V
3. In **SET LEVEL VERNIER**, tune fully **counter clockwise**.
4. In **RANGE**, Push down **SET**
5. In **MODE**, Push down **AUTO**
6. In **DIAL FRAQ RANGE**, tune the **frequency of input signal**
7. In **FREQ FINE**, set in center position
8. In **BALANCE**, set in center position
9. In **HPF**, Push down if input frequency >1kHz
10. Switch Power **ON**
11. Connect the signal to be measured to the **INPUT** terminals
12. Tune the **SET LEVEL VERNIER** control to adjust the pointer to the full scale
13. Press the **100%** range switch
14. Tune **DIAL** to change the frequency to obtain the minimum reading
15. Tune **COARSE BALANCE** control to further minimize the reading
16. If the meter reading falls below 1/3 of full scale, Press the **30%** range switch
17. Repeat steps (14) and (15)
18. If the meter reading again falls below 1/3 of full scale, Press the **10%** range switch, Repeat steps (14) and (15), then press **3%** range switch
19. If the reading falls below 1/3 of full scale in the 3% range, change the range to **1%**. And change the mode to **MANUAL**, Tune **FREQ FINE** and **BALANCE FINE**
20. If the reading falls below 1/3 of full scale, change the range to **0.3%**, then **0.1%**.
21. Take the reading.

Hz

Dial

Range(%)	Scale	Multiplier
100	0-1	100
30	0-3	10
10	0-1	10
3	0-3	1
1	0-1	1
0.3	0-3	0.1
0.1	0-1	0.1

If the meter reads 1.5 in the 0.3% range,

for example, the distortion value is *1.5x0.1 = 0.15%*