Distortion Measurement: (LEADER 171)

First setup the LDM-171 front panel as follow:
1. In FUNCTION 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 FREQ 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.

<table>
<thead>
<tr>
<th>Range(%)</th>
<th>Scale</th>
<th>Multiplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>0-1</td>
<td>100</td>
</tr>
<tr>
<td>30</td>
<td>0-3</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>0-1</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>0-3</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>0-1</td>
<td>1</td>
</tr>
<tr>
<td>0.3</td>
<td>0-3</td>
<td>0.1</td>
</tr>
<tr>
<td>0.1</td>
<td>0-1</td>
<td>0.1</td>
</tr>
</tbody>
</table>

If the meter reads 1.5 in the 0.3% range, for example, the distortion value is $1.5 \times 0.1 = 0.15\%$