EXPERIMENT No.13

AIM: Study the working of distortion meter.

APPARATUS REQUIRED : Caddo 4092 distortion Meter.

THEORY: The **Caddo 4092** distortion Meter was developed for the measurement of non linear distortion in the audio frequency range. Due to its low residual distortion and noise of 0.005% it is ideally suited for tests and measurements of high quality audio systems.

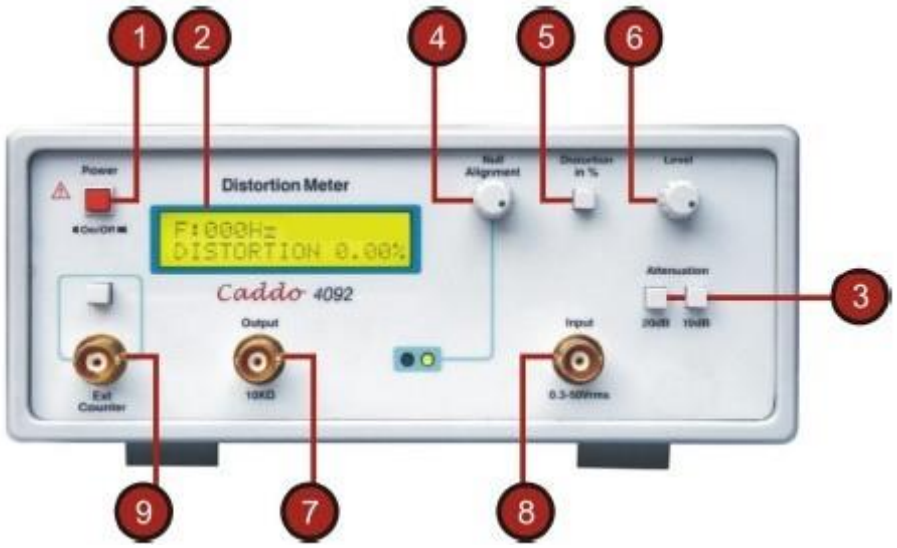
The **Caddo 4092** features an LCD Display readout with a resolution of 0.1 % to simplify and enhance distortion measurements. A calibrated distortion output is provided for visual inspection or spectral analysis of the input signal after the fundamental has been filtered out.

Together with pushbutton frequency range selectors and single control frequency tuning, the automatic frequency nulling with 20% capture range ensures quick and easy measurements with the **Caddo 4092**.

Features

Frequency Range 20 Hz to 20 KHz
Distortion Measurement up to 0.1%
LCD Readout For Frequency and Distortion Measurement
Automatic Frequency Ranging & Nulling Facility
Output for Distortion Analysis
In built 50 MHz Frequency Counter

Front panel



1) **Power:** Push button, selects instrument to switch

2)LCD Display: LCD Readout for indication of the measured distortion factor in %.

3)Attenuator (Pushbutton): Input signal attenuation with two pushbuttonswitches of 20dB or 10dB attenuation, respectively. They can be used separately. Both push button switches activated, together with the variable attenuator (9) must enable a 100% reading when in the calibration mode; otherwise the input voltage should be adjusted.

4)Tuning control with LED Indicator (LED): If the built-in filter is incorrectlytuned, one of the two LEDs will indicate in which direction the filter frequency deviates from the input frequency. Turn tuning Knob (5) (N.A) in the opposite direction until the LED goes out.

5)Level\Distortion (Pushbutton switch): Adjustment for 100% reading withLevel and then selection for 100% full scale.

6)Level (Adjusting knob): Continuous attenuation of input signal up to max.50dB to achieve 100% reading when in the calibration mode.

7)Output (BNC Connector): Monitor output for distortion factor. (Residual distortion). Output voltage is 1mV/digit.

8)Input (BNC Connector): Input for measurement signal. The permissible input voltage range is 0.3V-50V for a valid measurement.

9)External Counter: It is the input for external signal whose frequency is to be measured.

PRECAUTION:

Use proper Mains cord : Use only the mains cord designed for this instrument.Ensure that the mains cord is suitable for yourcountry.

Ground the Instrument : This instrument is grounded through the protectiveearth conductor of the mains cord. To avoid electric
shock the grounding conductor must be connected to the earth ground. Before making connections to the input terminals, ensure that the instrument is properlygrounded.
Observe Terminal Ratings : To avoid fire or shock hazards, observe all ratings and marks on the instrument.

Use only the proper Fuse : Use the fuse type and rating specified for thisinstrument.

Use in proper Atmosphere : Please refer to operating conditions given in themanual.

1. Do not operate in wet / damp conditions.
2. Do not operate in an explosive atmosphere.
3. Keep the product dust free, clean and dry.