Department of Mechanical Engineering

Aligarh Muslim University, Aligarh

E-mail: yaqoob.yasin@gmail.com, yaqoobyasin.me@amu.ac.in,

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Notice Inviting Tender

Tenders are invited from reputed manufacturers / suppliers for the supply, instillation, testing and commissioning of the Real Time FFT Analyzer with Acoustic analysis capability (**Quantity 01 No.**).

1. FFT Analyzer suitable for measuring vibrations, impact signals in light weight structures.
2. The Analyzer shall be handy, robust, and compact in size & USB powered.
3. The Analyzer shall be capable for sound level measurements, frequency analysis, 1/1 & 1/3 octave analysis, machine vibrations, building acoustic and modal analysis for future requirement.
4. The Analyzer shall have multiple inputs for future requirements for Vibration, Noise, Impact Hammer, Voltage etc.
5. Nos. Of Input Channel Required: 8 Channels
6. The Analyzer shall have LabView Driver for the compatibility with Labview Software.

7. **Specifications:**
   Input channel:
   Resolution: 24 bits or better, Dynamic range: 110 dB, Real time bandwidth: DC...20 kHz, Sampling Rate: 51.2KHz, Random noise: <3 μV(A), very small phase mismatch (<1° @ 20Hz ... 20kHz), adjustable offset and input coupling.
   Output channel:
   Resolution: 24 bits or better, Real time bandwidth: DC...20 kHz.

8. **Physical Characteristics:**
   - Weight: not more than 1000gms
   - Dimensions: Compact (not more than 250 mm x 150 mm x 30 mm)

9. The Analyzer shall be able to operate with any Windows-based PC, Laptop (or Tablet) with Windows 7 or higher via USB 2 or USB 3 interface.

10. **Analysis Software:**
    The Software shall have multi analysis features including:
    - 1/3 Octave + FFT Analyzer
    - Sound & Level Recorder
    - Measurement of reverberation time
    - Windows for: time signal, level, 1/3 octave, FFT, Sonogramm, Waterfall,
    - Data export to MS Excel, UFF, wav, ASCII file formats
    - Sound Level Meter IEC 61672 class 1
    - Sensor error detection (detects cable breaks for ICP sensors)

11. **Scope of Supply:**
    a) Main instrument with Analysis Software & LabView driver.
    b) Four (4) Nos. ICP Accelerometers, miniature, light weight (< 1gm), 100 mV/g sensitivity, 1 to 8k Hz, Aluminium housing, and having a minimum of 10-ft cable
    c) One (1) No. Modal Analysis Impact hammer, 8 kHz frequency range 500 lb, Amplitude range 10 mV/lb sensitivity. (of reputed brand like BNK, PCB etc)
    d) Four (4) Nos. Scope input adaptor with BNC plug, etc