QUICK SHEET

VERNIER Sound Level Meter (SLM-BTA)

LOCATION of EQUIPMENT:

Hardware: See lab attendant

Software: Requires handheld Vernier LabQuest 2 unit; see lab attendant

INSTRUCTIONS FOR USE:

1. Plug sensor via the *Sound Level Meter Cable* into one of the three side analog ports of the handheld unit (Vernier LabQuest 2)
2. The unit will automatically enter the appropriate screen to observe sound levels
    a. If it does not, press the home button in the bottom right corner of the handheld unit's display, then press the LabQuest App option in the top left corner
3. Turn the sensor on and set it to the correct settings for the environment desired to be measured:
    a. Slide the red power switch on the sensor up to set the measurement range and begin detecting sound levels. To set the switch to the correct range for the most accurate measurements, follow below:
        i. When set to the 35-90 range (LO), the sensor is designed to measure sound levels in the range of 35 to 90 dB
        ii. When set to the 75-130 range (HI), the sensor is designed to measure sound levels in the range of 75 to 130 dB
        iii. A range warning will appear if the measured sound is beyond the range of the current setting; if this warning appears continuously, set the switch to the appropriate range
    b. The "Time Weighting" switch (S/F) sets the time weighting:
        i. For normal measurements set the switch to the slow setting (S)
        ii. For fluctuating noise, set the weighting to fast (F)
    c. Set the MAX/RESET switch:
        i. MAX sets the sensor meter to show the maximum, weighted sound level recorded during any period of measurement
        ii. RESET sets the display to continually display the sampled reading
    d. Set the "Frequency Weighting" switch (A/C):
        i. "A" weighted setting is the sound level value that most closely matches that of the human hearing range
            1. It is the weighting scale most commonly used for Occupational Safety and Health Administration (OSHA) and Department of Environmental Quality (DEQ) regulatory measurements
        ii. The "C" weighted scale is useful for monitoring sources such as engines, explosions, and machinery (i.e. artificial ventilation/conditioning/heating units)
4. Decibel (dB) readings will begin to appear on the handheld unit as well as the sensor's screen
5. For data logging options, refer to the quicksheet on the Vernier LabQuest 2
6. When done recording/logging, slide the red power switch to the off position (O) and unplug the sensor from the handheld unit

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OVERVIEW:

The Vernier Sound Level Meter measures sound level in decibels and can be used for activities such as environmental noise studies, sound level comparisons, investigating room acoustics, sound isolation modeling, and sound propagation modeling.

SUGGESTED APPLICATIONS:

- Investigating the acoustics of a room in order to determine whether or not they are beneficial or detrimental to the inhabitant program
- Measuring noise levels of specific areas as a means to determine whether or not they meet DEQ or OSHA standards of proper noise levels and exposure

RELEVANT TOPICS:

Post-Occupancy Studies, Performance of Buildings in Eliminating Exterior Sound (Types of Construction)