ACS 097S Fall 2002 Noise Measurements

Goal: For you to make noise measurements in and around the PSU campus and to collaborate with your classmates.

Due: Last class period, 11/19/2003, at the beginning of class.

Types of measurements:
A. A measurement set you choose yourself. (other than sets B and C)
B. A measurement set your group chooses. (other than set C)
C. A measurement set everyone in class will make: CATA Loop/Link Buses

Writeup format:
7 pages in length. Page 1 is title and name page. Page 1 should also indicate which group you were in. Pages 2, 4, and 6 should be brief descriptions of your procedures, your results, and your conclusions for the measurement sets A, B, and C listed above. Pages 3, 5, and 7 should give your actual measurement values in a table format. Give your raw data values AND their average.

Data averaging:
For measurement set A you collect your own data. Make a couple of readings, but no averaging is required.

For measurement sets B and C everyone in your group will need to make the same measurements. Then you will give your measurements to everyone in your group, and you should get the measurements of everyone else in your group. You should report your own data as well as the AVERAGE of everyone in your group.

Methods:
Use only A-weighting for this project. You can investigate C-weighting on your own. Don’t report C-weighted measurements.

Report both slow (1 s average) and fast (peak) levels for all measurements.

(over)
Measurement set C:

Make 12 measurements of the Centre Area Transportation Authority (CATA) Loop and/or Link buses. Make measurements on the newer, boxy buses powered by natural gas. Do not make measurements on the sleeker, older buses powered by gasoline. Make measurements while:

1. riding near the front of the bus while the bus is moving forward at a constant speed
2. riding near the front of the bus while the bus is accelerating
3. riding near the back of the bus while the bus is moving forward at a constant speed
4. riding near the back of the bus while the bus is accelerating
5. standing along side the road (10 feet away or so) as the bus drives by (not near a bus stop)
6. standing along side the road (10 feet away or so) as the bus is accelerating after a stop (a good example is right after the bus has stopped for a stop sign, and then it accelerates)

Again we want both slow and fast levels for each of these 6 cases. After you have your 12 pieces of data, you will then need to report your data and the AVERAGE value of your group. For information on bus schedules see www.catabus.com.

Measurement sets A and B:
Do not make measurements in places that is illegal for you to be. For example, do not make measurements in places where alcoholic beverages are sold if you are underage. Do not make measurements in places where you will be annoying anyone or your getting yourself in trouble. Do not make measurements where you will be endangering yourself.

Some good places to measure noise include: In front of old main; in your dormroom; outside your dorm room; in the white building; in the rec hall; in the HUB; in the library; beside a busy street; in a restaurant; etc.

For all measurements:
Protect your hearing! If the noise is really loud, use earplugs or get out of there.