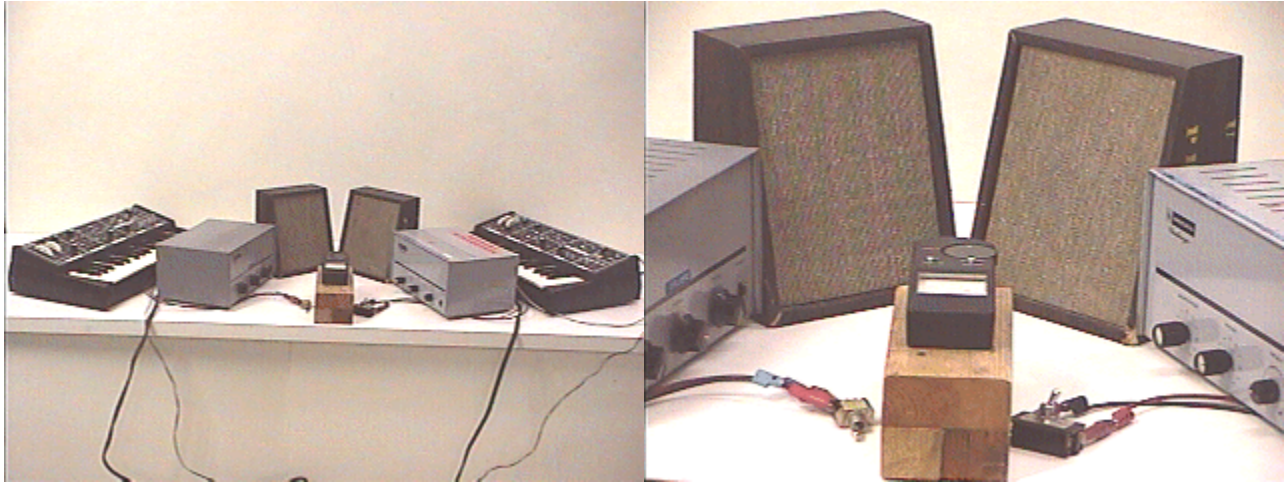


Question #149

The setup shown in the photographs below contains two synthesizers that produce broadband noise, each feeding its own noise into one of the power amplifiers and speakers (the left and the right respectively).



The sound level meter measures the sound level in decibels, as seen in the photograph below. Notice that the meter is reading 90 dB: the dial at the top of the meter tells the decibel value at the zero marker (center) on the scale, and the numbers on either side (+ or - 2, 4, or 6) tell how many decibels above or below that level. To read decibel levels less than about 80 dB or greater than about 96 dB the knob at the top of the meter is rotated in steps of 10 dB (eg, 60, 70, 80, 90, 100, etc.)



You can hear the sound from each of the two systems by clicking on [left](#) or [right](#). Note that when turned on each of the two speakers produces a 90 dB sound level.

Suppose the the right system is on, reading 90 dB. What will the meter read when the left system is turned on at the same level (90 dB), as seen in the video, so that their sounds reach the sound level meter simultaneously.

With both sources on, the sound level meter will read:

- (a) 90 dB, the same as with one.
- (b) more than 90 dB but less than 100 dB.
- (c) 100 dB.
- (d) more than 100 dB but less than 180 dB.
- (e) 180 dB.

Click here for [Answer #149](#) after April 28, 2002.

[Question of the Week](#)

[Outreach Index Page](#)

[Lecture-Demonstration Home Page](#)



For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).