

F04 Resonance Tube Experiment



Resonance Tube Experiment

Experiments:

1. As the resonance occurs in open or closed pipe, the experienced nodes and antinodes of standing waves might be determined from the experiment as well as theory.
2. View from the ripple pattern, the crest and trough existing at sound wave profile will be characterized.
3. Based on the measured wavelength, the traveling velocity of sound wave could be calculated.
4. With the fallouts accessed from experiment, the discrepancy of resonance formations or open and closed pipe will be investigated.

Specifications:

1. Sine wave generator x1
 - 1-1 Sine wave signal
 - 1-2 Frequency: 0~1.5KHz

- 1-3 Two steps frequency increments, 100Hz/ 1Hz
- 1-4 Amplitude
- 1-5 RCA jack for single output
- 1-6 Power supply, Output DC19V /Input 110~240VAC x1
- 1-7 Size: 25x12x6 cm

- 2 Resonance tube with built-in speaker x1
 - 2-1 Glass tube with metric scale, Φ 9cm x 90cm fix on a aluminum base
 - 2-2 Speaker, 4 Ω /25W fixed in a plastic box close with the tube
 - 2-3 Tube cover one is close type another one is open type
 - 2-4 Size 100x12x13 cm

- 3 Small Styrofoam pack x1

- RCA connector x1