

LEMI-67 Apparatus for Testing Human Reaction Time



The time interval between the receptor receiving stimulus and the effector to react is called the reaction time. By measuring the reaction time, the functional level at different aspects of the reflex arc of human nervous system can be understood and evaluated. The faster the body reacts to stimuli, the shorter the reaction time, and the better the flexibility.

Among the many factors that cause traffic accidents, the physical and mental status of cyclists and drivers is particularly important, especially the speed of their reaction to traffic lights and car horns, often determines the occurrence and severity of traffic accidents. Therefore, it is of great significance to study the reaction speed of cyclists and car drivers in different physiological and psychological conditions for reducing the occurrence of traffic accidents and ensuring the safety of their own lives and others.

This apparatus is designed with reasonable and practical configuration. Its experiment content is rich, that can simulate the driver's actions on handbrake or footbrake respectively, and can study human reaction time from both aspects of vision and auditory. At the same time, this apparatus can be used to analyze the reaction characteristics of drunken driving behavior. It can still be used to test the reaction time of people of different age ranges.

Using this apparatus, students can perform the following experiments:

1. Study the braking reaction time of cyclist or car driver when the signal light is changed,
2. Study the braking reaction time of cyclist when hearing the sound of a car horn.

Specification

Description	Specifications
Car horn	volume continuously adjustable
Signal light	two sets of LED arrays, red and green colors respectively
Timing	accuracy 1 ms
Time range for measurement	unit in second, signal may appear randomly within the set time range
Display	LC display module

Parts

Description	Qty
Main electric unit	1 (horn mounted on its top)
Simulated car braking system	1
Simulated bicycle braking system	1
Power cord	1
Instruction manual	1

Procedures for Automotive Test

1. On main menu, press "Up" or "Down" key to select "Automotive Test".
2. Press "Set" key to enter the test interface.
3. Press the "Set" key again to start the test.
4. Follow the screen prompt to press gas pedal down. Note: release gas pedal before red light ON will be considered as foul.
5. Follow the screen prompt to press brake pedal down at the time red light ON.
6. The screen shows the reaction time of this test. Press "Set" to return to step 3 to test again.
7. Press "Up" key to enter the statistics interface, the screen shows the average reaction time and the number of fouls.
8. Press the "Set" key to enter the historical record interface, the screen shows the last 20 test results, press the "Up" or "Down" key to turn the page.
9. Press the "Return" key to return to the test interface.
10. Press the "Down" key to empty the history record. Press "Set" to return to step 3 to test again.
11. Press the "Return" key to end the test and return to the main menu.

Similar procedures for bicycle and sound tests.