AUTO SIMULATOR
SIGNAL SIMULATED EQUIPMENT FOR AUTOMOBILES AND MOTORCYCLES

Model: MS005

(Updated 09/02/2015)

❖ IMAGE

❖ INTRODUCTION

- Today, the cars & motorcycles control by microcontroller technology. The checking and find fault of the ECUs and electronic system is very difficult and complex. It cannot found by traditional clinical method such as mechanics control system before.
- Most sensors, electronic processing unit and actuators communicated together by electrical signals. It is interconnected logic and closed. Therefore, the repairs of electronic units are separate independent, detached is very difficult to do when you have no special tools.
- One other problem, most electronic technician for automotive, motorcycles need to have signal simulator test samples to confirm their diagnosis is absolutely correct before the ordering several days to buy new replacement parts. Example as ECT / EOT sensor, MAF, MAP, TPS, O2S, CKP, IAC valve, injectors, ECU
- Moreover, the automotive electronics engineers required a signal pulse generator for automobile, motorcycle that it able adjust values to examine, diagnose, checks, calibration and repair function electronic blocks such as the ECU, analog solenoids valves, electronic injectors, step motors ....
- To solve the problems mentioned above. We would like to introduce new products: simulation tools for electronic signals automobiles and motorcycles/ scooters: short name: **AUTO SIMULATOR** *(Model: MS005)*. This is a cheap spend, reliable and easy solution to check, repair ECUs on automobiles & motorcycles/ scooters

❖ APLICATION

- Used for checking and repairing ECUs of automobiles & motorcycles/ scooters and electronic system
- Being educational trainer for automobile/motorcycle electronic in vocational training centers

❖ FUNCTION

1. Simulate input signals of ECUs

- Simulate digital and analog signals, pulses

Generating TTL pulse signals *(Square and SIN signals)* to simulate the electrical signal from electromagnetic sensor and Hall-effect sensors such as: Vehicle speed sensor *(VSS)*, wheel speed sensors *(for ABS)*, Crankshaft Sensor *(CKP)*, camshaft sensor *(CMP)*, etc ... The signals can be changing frequency and amplitude number of teeth number of rotors.

- **Analog voltage signal slow variation including the wide and narrow band** Generating signal in the TTL range voltage *(0V to 5V)* to simulate the signals such as engine temperature sensor *(ECT)*, intake air temperature sensor *(IAT)*, throttle position sensor *(TPS)*, Manifold absolute pressure *(MAP)*, Intake air flow sensor *(MAF)* and narrow voltage range as O2S Oxygen sensors

2. Simulate output signals of ECUs to control actuators

Generating power electromagnetic pulses control actuators such as relays, solenoid valves with continuum open angle, ignition coil, injectors

3. Special function

- Check fuel injection time *(ti)* and analyze fuel injector control pulse
- Measure and check voltage signal - Adjust amplitude and frequency of simulated signal pulses
- Adjust pulse shapes of CMP sensor and CKP sensor

Screen select function table

Screen measure & check pulse to control injector

Screen measure pulse width to control injector

Screen analyze pulse to control injector

Screen simulate Digital pulse signal

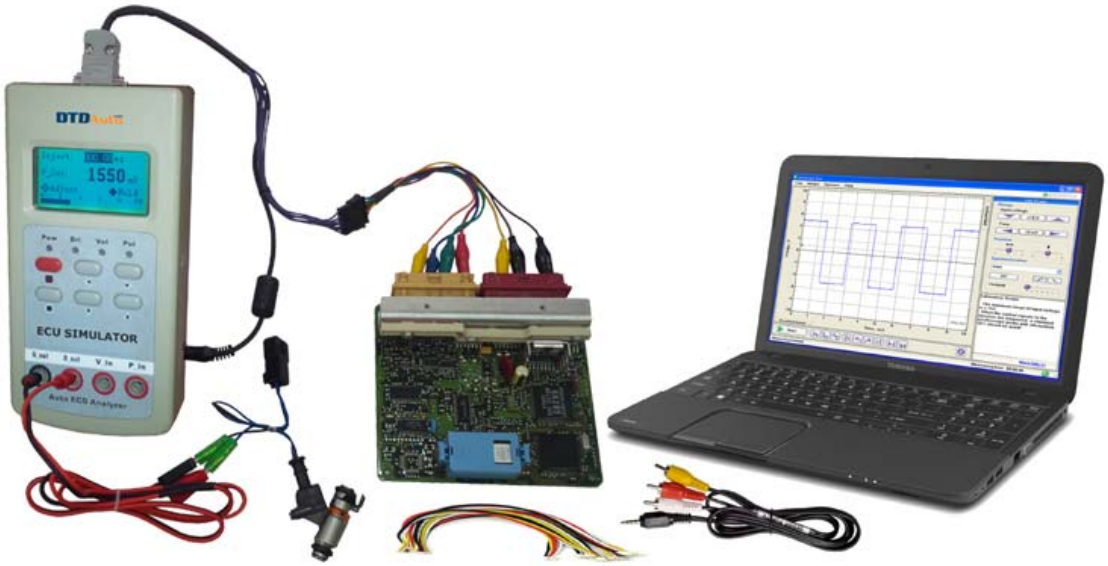
Screen simulate sine shape pulse

Screen simulate Analog signal

Screen simulate voltage signal

Screen measure & check voltage signal

Screen simulate signals to control actuators



Structure image of equipment

❖ PACKAGE

No.	DESCRIPTION	IMAGE
01	Main machine	

02	Connections cables	
03	Quick guide	
04	Case	

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