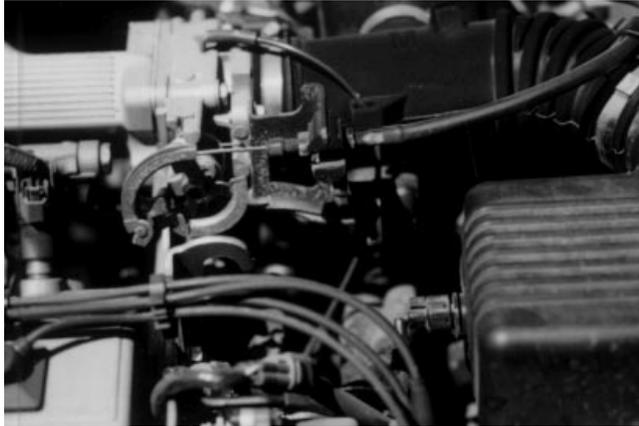


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# Automotive Relay Modules Testing

Application Note 1270-12



## Description

Automotive relay modules are tested in production on a pass-fail criteria on a variety of parameters including contact closure, impedance and current leakage.

## Problem

A fast, easy to operate yet economical test system is required to test different types of relay modules in a production environment. The relay modules are subjected to a variety of operating conditions through simulation by applying corresponding stimuli and loads to the device under test (DUT) and measuring their performance. To accommodate a large variety of different types of relay modules, the test system must be easy to reconfigure and reprogram.

## Solution

An HP VXI components based data acquisition system provides the configuration flexibility and ease of programmability required to accommodate a variety of relay module types, and test conditions. The HP test system, coupled with customer provided DUT holding fixtures and load components, provides all needed stimuli to be applied to the DUTs via electronic switches and measure the DUTs performance under the applied conditions. An HP Vectra PC collects and interprets the measured parameters, issuing a pass-fail result to the system operator and prints a bar coded label to be applied to the passing DUTs. The operator interacts with the system via the computer mouse. The system keyboard, normally locked in the system cabinet, allows test supervisors and engineers to request statistics on test runs and to reprogram the system for other test configurations and conditions.

## Applications

Automobiles  
Truck and Vans

## Departments

Production

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## Key System Features

Clear and Easy Operator Interaction  
Ease of Reconfiguration and Program Loading  
Maintenance of Test Run Data

## Typical System Configuration

Data Acquisition System	Qty
7 Slot Mainframe	1
Multiplexer Channels	32
Form C Switch Channels	16
Digital I/O Channels	4
Programmable Power Supply	1
Fixed Output Power Supply	1
High-Speed DVM	1

## Computer/Software

HP Vectra 486/66 MHz PC  
Keyboard, Monitor and Mouse  
Disc Drive and Printer  
Software - HP Visual Basic

## Other Equipment

Test Fixture  
Leak Tester  
Label Printer