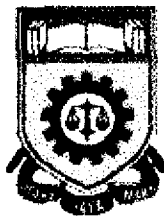# AUTOMATIC SPEED MEASUREMENT OF SERVOMOTOR SYSTEM

This project ilmiah is presented in partial fulfillment for the award of the

Bachelor of Electrical Engineering (Honours)

UNIVERSITI TEKNOLOGI MARA

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ABSTRACT

This project is concerned with the automatic speed measurement of servomotor using the MS 150 modular servo System, which is interfaced with personal computer (PC). The system consists of four major components such as the MS 150 modular servomotor system, microcomputer system, data acquisition (DAQ) card and terminal card. The overall process is controlled by software written in Visual Basic (VB-6.0) and assembled on the PC environment. The experimental results proved that the automatic speed measurement has the ability to plot the graph, acquire and process the real time reading of the servomotor speed.

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1.1 Background Study

At present, the instrumentation industry is upgrading the technique of speed measurement that is using personnel computer based instrument. This follows the revolution of computer technology in our daily life. This report described the automatic speed measurement of servomotor using MS 150 modular servomotor system, which is intended for experimental use by student.

This system involved the hardware and software modules. The hardware consists of a microcomputer system, DAQ (Data Acquisition) card, terminal card and MS 150-servomotor system while the software comprises of the utilities for communication and data representation. Using this software, readings obtained are accurate and precise. As a result, graphical plot can be drawn instantly. This software offers several advantages over manual measurement such as it gives faster result, efficient and reliable.

1.2 Objectives

The objectives of the developed project are as below:

i.   To be able to measure the servomotor speed automatically via the personal computer.

ii.   To be able to plot the respective graphs of speed and torque characteristic of servomotor.

iii.   To make use of visual basic programming on real time application. In this project, the visual basic version 6 has been used to communicate with the DAQ card that has been installed in the microcomputer.

1.3 Scope of Work

The project is divided into two parts: Hardware and Software. The hardware consists of the microcomputer, DAQ card, terminal card and the MS 150 modular

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