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Development of daq card with selected analog voltage input /
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**DEVELOPMENT OF DAQ CARD WITH SELECTED ANALOG
VOLTAGE INPUT**

By
Mohd Afiq Bin Zakaria

A thesis submitted in partil fulfilment of
the requirement for the award of the degree of
Bachelor of an Applied Science (Physics, Electronics and Instrumentation)

**FACULTY OF SCIENCE AND TECHNOLOGY
UNIVERSITI MALAYSIA TERENGGANU**

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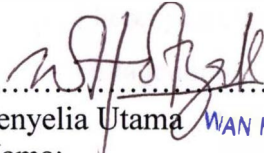
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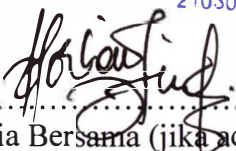
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DECLARATION

I hereby declare that this thesis entitled Development of DAQ card with selected analog voltage input is the result of my own research except as cited in the references.

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DEVELOPMENT OF DAQ CARD WITH SELECTED ANALOG VOLTAGE INPUT

ABSTRACT

Nowadays, signal conversion has become very useful process for data logging. There are several ways in which the data can be exchanged between instruments and a computer. In this project, DAQ card with selected analog voltage input is developed. There are three main part in this project which are voltage selector part, microcontroller part and computer monitoring part. This project is focus on displaying the converted analog input in range 0 volt to 30 volt to digital signal. In the microcontroller part, MC68HC11A1 is use as the main controller unit. This controller will send signal to transistor in order to make the BJT able to divide certain voltage. The main task for microcontroller in this project is to convert analog input voltage to digital signal. Then the converted digital signal is transmitted to computer for responds display. In the last part, the circuit will able connect to the computer for monitoring system for displayed the result. The proposed of this project are successfully achieve, this development has the advantages of flexibility in the case of changes while it can be easily operated and much easier to understanding.

PEMBANGUNAN TERHADAP KAD DAQ DENGAN PILIHAN MASUKAN ANALOG VOLTAN

ABSTRAK

Pada masa kini, penukaran isyarat telah menjadi proses yang sangat berguna untuk kemasukan data. Ada beberapa cara di mana data dapat ditukarkan di antara instrumen dan komputer. Dalam projek ini, kad DAQ dengan pemilihan voltan masuk analog telah dibangunkan. Terdapat tiga bahagian utama dalam projek ini iaitu bahagian pemilihan voltan, bahagian pengawal mikro dan bahagian pengawasan komputer. Projek ini memfokuskan pada pemaparan penukaran kemasukan voltan analog dalam julat 0 volt hingga 30 volt kepada isyarat digital. Dalam bahagian pengawal mikro, MC68HC11A1 digunakan sebagai unit pengawal utama. Pengawal ini akan menghantar isyarat kepada transistor supaya boleh membahagi voltan tertentu. Tugas utama bagi pengawal mikro dalam projek ini ialah untuk menukarkan kemasukan voltan analog kepada isyarat digital. Selepas itu, isyarat digital tersebut dihantar ke komputer untuk pemaparan tindak balas. Dalam bahagian terakhir, litar kad DAQ di sambungkan pada komputer untuk memaparkan hasil keluaran. Projek yang di cadangkan telah berjaya di hasilkan, di mana projek ini mempunyai kelebihan pada pemilihan voltan masukan yang fleksibel dan senang digunakan serta mudah difahami.