الآية

قال تعالي:

وَلَسَوْفَ يُعْطِيكَ رَبُّكَ فَتَرْضَىٰ)

صدق الله العظيم

سورة الضحى

رقم الآية 5

Dedication

I dedicate my simple effort to:

My Parents

The greatest pyramids in my life, the candles which burning to light my life, the warm hands which making me comfortable and happy all the time. God preserves you.

My brothers and sister

Who truly helped my

Acknowledgement

First and foremost, I would like to express my gratitude to the most Gracious and Most Merciful ALLAH S.W.T for helping me to complete this project.

It has been an honor and pleasure to me to have Dr. Mudathir Abdallah O.Fagiri as my supervisor. I am grateful to him for the time given to me to make this requirement and for his valued suggestion. In addition to his huge knowledge and experience. I enjoyed his support and patience during the very tough moment of the research work and writing of the report.

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Abstract

The remote control has a significant impact on the ease of life, it is a device that has the ability to control devices from a distance using the signals, but all remote control is used to control only one device, leading to the difficulty of using a number of them at the same time, especially for people with disabilities physical and limited mobility. Therefore this research aims to design a remote control a low-cost and easy to use to control the number of electrical appliances.

The machine consists of two circuits which are the sender circuit and receiver circuit. Electromechanical sensor was used to measure the acceleration to convert hand tilt to signals. This signal is received by the microcontroller to translate it and then send commands through encoder to the transmission circuit. After that the command is sent to the receiver circuit for decoding it to a command to control the desired device. Practical results obtained demonstrated the efficiency of the system.

مستخلص

جهاز التحكم عن بعد له الأثر الكبير في تسهيل الحياة، هو جهاز له القدرة علي التحكم في الأجهزة من مسافة بإستخدام الإشارات ، و لكن كل جهاز تحكم عن بعد يستخدم للتحكم في جهاز واحد فقط مما يؤدي لصعوبة إستخدام عدد منها في نفس الوقت خصوصا للأشخاص ذوي الإعاقة الجسدية و محدودي الحركة. لذلك يهدف هذا البحث لتصميم جهاز تحكم عن بعد منخفض التكلفة و سهل الإستعمال للتحكم في عدد من الأجهزة الكهربائية.

يتكون الجهاز من دائرتين أساسيتين هما دائرة المرسل و دائرة المستقبل. تم إستخدام محساس كهروميكانيكي لقياس التسارع لتحويل ميلان اليد إلي إشارات. هذة الإشارة يتم إستقبالها بواسطة المعالج الدقيق لمعالجتها ثم إرسال الأوامر عن طريق مشفر البيانات إلي دائرة الإرسال. بعد ذلك يتم إرسال الأوامر إلي دائرة الإستقبال ليحولها فاك الشفرة إلي أوامر للتحكم في الجهاز المطلوب. النتائج العملية المتحصل عليها برهنت كفاءة النظام.

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List of Abbreviations

PDA Personal Digital Assistants

URC	Universal Remote Control
RF	Radio Frequency
3D	Three Dimensional
2D	Two Dimensional
A/C	Air Condition
MEMS	Micro Electro Mechanical System
IR	Infrared Radiation
GSM	Global System Mobile
HACS	Automation Control System
TV	Television
HMI	Human Machine Interaction
HCI	Human Computer Interaction
TX	Transmitter
RX	Receiver
LED	Light Emitting Diode
CPU	Central Processing Unit
RAM	Random Access Memory
ROM	Read Only Memory
EPROM	Erasable Programmable Read Only Memory
UV	Ultra Violet
OTP	One Time Programmable
I/O	Input Output
ADC	Analog to Digital Converter
DAC	Digital to Analog Converter
UART	Universal Asynchronous Receiver/Transmitter
USART	Universal Synchronous Asynchronous Receiver

	Transmitter
ALU	Arithmetic and Logic Unit
AVR	Avon Valley Railway
RISC	Reduced Instruction Set Computer
EEPROM	Electrical Erasable Programmable Read Only Memory
PIC	Programmable Interrupt Controller
M	Mega
Hz	Hertz
MIPS	Millions of Instructions Per Second
LCD	Liquid Cristal Display
USB	Universal Serial Bus
K	Kilo
V	Volt
ASK	Amplitude Shift Keying
Bps	Byte per second
PC	Personal Computer
IC	Integrated Circuit
I2C	Inter Integrated Circuit
AMR	Anisotropic Magneto Resistive
ASIC	Application Specific Integrated Circuit
LCC	Leadless Chip Carrier
µ	Micro
A	Ampere
AC	Alternating Current
DC	Direct Current
mm	milli meter

DVD	Dissociated Vertical Deviation
MCU	Micro Controller Unit
GCC	GNU Compiler Connection
PWM	Pulse Width Modulator