

DESIGN AND IMPLEMENTATION OF A MUSIC BOX
USING FPGA

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DESIGN AND IMPLEMENTATION OF A MUSIC BOX USING FPGA

by

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APPROVAL AND DECLARATION SHEET

This project report titled Design and Implementation of A Music Box Using FPGA was prepared and submitted by Tan Kian Yiak (Matrix Number: 031010561) and has been found satisfactory in terms of scope, quality and presentation as partial fulfillment of the requirement for the Bachelor of Engineering (Microelectronic Engineering) in University Malaysia Perlis (UniMAP).

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REKACIPTA DAN PERLAKSANAAN KOTAK MUZIK DENGAN PENGUNAAN FPGA

ABSTRAK

Suatu rekacipta dan pelaksanaan kotak muzik dengan menggunakan FPGA telah dipersembahkan dalam laporan ini. FPGA merupakan satu cip digital logik yang boleh diprogramkan kepada pelbagai penggunaan digital. Usaha telah diberikan untuk menjadikan FPGA berfungsi sebagai kotak muzik. “Altera Education Board” yang mengandungi FPGA pelbagai fungsi telah digunakan. Program ditulis menggunakan kod Verilog HDL. Perisian Quartus II digunakan untuk simulasi dan memindahkan program ke dalam “FPGA Board”. Halangan-halangan wujud dalam “FPGA Board” menghadkan saiz program. Sungguhpun, kotak muzik berfungsi dengan baik secara amnya.

ABSTRACT

A design and implementation of music box using FPGA is presented in this report. FPGA is a digital logic chip that can be programmed to do almost any digital function. An effort has been carried out to make the FPGA to perform like a music box. An Altera Education board which contains variety function FPGA is used. The program is written in Verilog HDL coding. Quartus II software is used to simulate the program and downloaded it into the FPGA board. Some limitations exist in the FPGA board which limits the size of the program. However, the music box functions well in general.

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