URN etd-0407109-183702-93
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Statistics This thesis had been viewed 81 times. Download 73 times.
Department
Year 2005
Semester 2
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title Remote Control on The Mixing RGB Colors of LED Light Bulbs
Date of Defense 0000-00-00
Page Count 70
Keyword
PWM
DUTY CYCLE
R/G/B
LED
light bulbs

Abstract
A set of light bulb that implements on a remote-controlled LED display with a wireless remote control was studied in this thesis. First, the lamplight source was composed of individual-connected high brightness LED with R/G/B, the three primary colors, and the circuit was driven by electric transistors connected individually. It also triggered the controller by the micro-controller software simulation, where PWM（pulse width modulation）regulated the pulse wave duty cycle. We used the method of mixing lamplight chromaticity and regulating the R/G/B to a brightened and mixed color LED light. Concerning the micro-controller input of inner light bulbs, we used the radio transmitter receiver module and the decoder IC to receive the key button message controller from a wireless remote-controlled launcher. Second, the wireless remote controller was mainly composed of a radio transmitter launcher and an encoder IC. It also contained the function of a human-machine controlled and remote-controlled LED display via a key-button switch.
To reduce the cost and promote the products to universal acceptance, micro-controller does not contain the PWM hardware design on those chips of EM78P458P, EM78P459P, etc. It can be applied with a lower priced EM78P153S chips with software PWM simulations to remotely control the mixing colors function of LED light bulbs. The LED light bulbs are applied by the market electricity AC 110V with the alternated current to transform the electric capacity to the DC constant voltage regulator mode, which supplies the whole LED light bulbs with the control system, the light lamplight source, and the single crystal. In order to extensively replace or provide landscape and stage lamplights, energy saving lamps and spiral shells can be used in the E27 type of lamp holders. Hopefully we will achieve the purpose of saving energy and power rate expenses.
Advisory Committee Yuan-Tai Hsieh - advisor

Files etd-0407109-183702-93-001.pdf

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Date of Submission 2006-06-27