

AUTOMATIC PROCESSOR FAN SPEED CONTROL VIA VARIABLE DUTY CYCLE PULSE WIDTH MODULATION (PWM)

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ABSTRACT

With the evolution of computer technology, computer processing speed is being focused on and is under rapid research and development. Computer nowadays is equipped with a very powerful processor due to the increasing requirement from users and applications. In conjunction with processing power of a processor, a major element which cannot be escaped from is heat generated by the processor. Thus, cooling is necessary to prevent the processor from over-heating. The basic cooling is achieved using a heat sink and fan, even water-cooled computers use fans on their radiator.

The trend in electronic enclosure cooling is to regulate the cooling fan speed according to the temperature inside the enclosure. Pulse Width Modulation (PWM) is the preferred method to regulate motor speed because no additional heat is generated, and it is energy efficient when compared to linearly regulating (voltage control) the motor.

The project title has been chosen is the Automatic Processor Fan Speed Control via Variable Duty Cycle – Pulse Width Modulation (PWM). This PM fan speed controller has dual mode operations which can be either automatic or manual, where users can switch between the two modes of operation.