基于单片机的汽车电动后视镜控制系统设计

本文设计的汽车后视镜电动控制系统主要的功能是驾驶者可以在车内通过电动开关按钮对左、右两个后视镜的角度进行调节。为了更好的实现汽车后视镜的电动开关调节和控制功能，在系统中特别加入了单片机。汽车后视镜系统的主要控制驱动单元为单片机，单片机的主要品牌和单片机的种类也有很多，综合分析考虑它们的产品价格、性能以及对系统软件设计的实际需求，本文选择和使用的是 stc89c52 单片机。经过比较分析，确定了本文设计的汽车后视镜系统的整体设计和结构。后视镜系统主要由 5 部分系统硬件组成:电动开关、单片机、驱动板、电机和传动装置。硬件调试的最后结果为:后视镜的切换开关主要能对左、右两侧的后视镜方向进行多角度的切换，当驾驶者按住后视镜方向调节的开关键时，后视镜切换开关能向左右相对应的后视镜方向进行转动，且驾驶者当左右后视镜切换开关转过的方向角度已经超出了设定值时，停止了转动，只能向相反方向转动。

关键词　车用后视镜　　单片机　　驱动芯片　　控制程序

Title <u>Design of automobile electric rearview mirror control system based on single chip microcomputer</u>

Abstract

One of the main functions of the automobile rearview Mirror Electric Control System designed in this paper is that the driver can adjust the angle of left and right rearview mirrors by electric switch button simultaneously. In order to better realize the electric switch adjustment and control function of the automobile rearview mirror, the designer specially joined the single chip microcomputer in the system. The main control and driving unit of the automobile rearview mirror system is a single-chip computer. There are many kinds of single-chip computers and the main brands of single-chip computers, this article chooses and uses is stc89c52 Monolithic Integrated Circuit. After comparison and analysis, the overall design and structure of the automobile rearview mirror system designed in this paper are determined. Rearview mirror system mainly consists of 5 parts of system hardware: Electric Switch, SCM, drive board, motor andtransmission device. In this paper. Then we are the system hardware debugging, including the system hardware debugging, software debugging and related system software overall debugging. The final result of the hardware debugging is as shown in figure: when the driver holds the switch of the steering wheel of the rear-view Mirror, , the rear-view mirror switch can rotate to the left and right side of the rear-view Mirror, and the driver can only turn in the opposite direction when the left and right side of the rear-view mirror switch has already turned beyond the set value.

目 次