

基于单片机的电子万年历设计

摘 要

万年历的主要作用就是确定日期，辅助人们管理自己的行程安排，有很重要的社会意义。传统的月份牌、石英钟等计时工具，需要人为的干预，内容单一且可靠性差。因此需要一种可靠性强、内容丰富且成本不高的万年历来便利生活。

本文设计了基于单片机的电子万年历，该单片机采用 STC89C52，从硬件仿真、软件设计和电路连接焊接完成了本课题。以 STC89C52 单片机为核心控制器，DS1302 来完成时钟获取、采集时间信息，并采用专门的子程序计算星期、阴历日期。显示部分采用 LCD12864，行显示电子万年历的信息，月日和温度占一行，时分秒和星期占一行；农历干支纪年、月日、信息占一行；闹钟单独占一行，总共四行信息。

关键词：单片机；STC89C52；万年历；LCD12864

Abstract

The main function of the perpetual calendar is to determine the date and assist people in managing their own itinerary, which has very important social significance. Traditional timing tools such as month cards and quartz clocks require human intervention, with single content and poor reliability. Therefore, a kind of Wannian calendar with strong reliability, rich content and low cost is needed to facilitate life.

This paper designs an electronic perpetual calendar based on a single-chip microcomputer. The single-chip microcomputer uses STC89C52 to complete the subject from hardware simulation, software design and circuit connection welding. With STC89C52 single-chip microcomputer as the core controller, DS1302 completes the clock acquisition and collection of time information, and uses special subroutines to calculate the week and lunar calendar dates. The display part adopts LCD12864 to display the information of the electronic perpetual calendar. Month, day and temperature are on one line, hour, minute, second and week are on one line; Lunar calendar, year, month, day, and information are on one line; alarm clock is on one line, totaling four lines of information.

Keywords: MCU; STC89C52; perpetual calendar; LCD12864

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