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虚拟频谱分析仪中断程序的开发

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摘 要：虚拟仪器是1种以计算机为工具,以各种新型软件为平台的新型电子测试仪器.为了开发友好界面,系统操作平台普遍采用Windows 9x系统.但该操作系统不能由用户直接控制硬件,需要开发专门的硬件设备驱动程序,即通过一系列的虚拟设备驱动程序来管理硬件,如进行中断响应、I/O端口读写或直接存储器存取(DMA).为此,研究了Windows 9x平台的虚拟环境、虚拟设备驱动程序VxD的基本方法,比较了在Windos 9x中实现硬件中断的2种方法,结合开发工具VtoolsD得出了用C++语言编写的硬件中断的具体编程实例.通过该仪器的开发,成功地解决了数据采集的实时性和安全性问题.

关键字：Windows 9x; VtoolsD;虚拟设备;驱动程序;虚拟仪器

Interrupt program development for virtual frequent spectrum analyzer

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Abstract: Virtual instrument is a new type of electronic test instrument based on computer and various new software. It has widespread applications in all fields of society. The platform of operating system adopts windows 9x system. But the operating system does not recommend users to control the hardware directly, thus causing much trouble for the developing programmers. It needs specialized hardware device driver programming. In this paper, the virtual environment of windows 9x and the basic method of virtual device driver programming are introduced, two methods for realizing hardware interrupt are compared, and the program example for hardware interrupt is given using C++ language based on V tools developing tools , V tools D. The results show that the real time and safety problem of data acquisition are solved through the development of virtual instrument.

Key words: Windows 9x; VtoolsD; virtual device; drive program; virtual instrument

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