

基于双CPU的便携式故障诊断仪的设计与开发

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收稿日期 2007-2-9 修回日期 2007-5-9 网络版发布日期 2008-4-22 接受日期 2007-5-9

摘要

针对中小型应用场合, 将故障诊断技术与嵌入式技术相结合, 开发了基于双CPU的便携式故障诊断仪。首先介绍了系统的硬件结构和软件设计, 重点描述了硬件的双CPU结构和通信软件机制。实验结果证明, 基于双CPU的便携式故障诊断仪性能稳定、成本低, 集采集存储、分析和通信等功能于一体, 可以广泛应用于各种设备的监测和诊断中。

关键词 [仪器仪表技术](#) [双CPU](#) [便携式故障诊断仪](#) [数字信号处理器](#) [单片机](#)

分类号 [TH703.8](#) [TP206](#)

## Development of portable fault diagnosis instrument based on dual CPU

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**Abstract** Combining the fault diagnosis technique and the embedded technology, a portable fault diagnosis instrument was developed for the miniature application. Its hardware configuration, dual CPU in special, and software structure, including the communication software, were described. The developed portable fault diagnosis instrument based on the dual CPU incorporates many functions, including the data acquisition, storage, and analysis as well as communication in a unit with low cost, can be widely used in the system monitor and diagnosis in various equipments and installations. The experiment results showed that its function is stable.

**Key words** [technology of instrument and meter](#); [dual CPU](#); [portable instrument of fault diagnosis](#); [digital signal processor\(DSP\)](#); [single chip machine\(SCM\)](#)

DOI:

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