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基于ARM9的海底观测网节点电路硬件设计

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摘要:

为满足海底观测实时获取数据的功能需求,设计了一种基于ARM9的海底观测网节点电路控制系统。采用嵌入式系统硬件模块化设计,构建了包括节点串口扩展通讯、ADC数据采集、以太网通讯、电平转换及USB接口的电路系统。现场试验证明,该节点电路运行稳定可靠,且易于岸站监控与维护。

关键词: 海底观测网 节点电路系统 ARM9

Hardware design of ARM9 based sea floor observatory network node circuit

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Abstract:

The paper devises a control system for ARM9 based sea floor observatory network node circuit to satisfy the real time acquisition requirement of submarine observation data. This system employs the modular design method of an embedded system to construct a circuit system including extended UART communications circuit, analog to digital conversion circuit, ethernet communications circuit, voltage level conversion circuit and USB interface circuit. Simulation and application results prove that this node circuit system has better stability and reliability, and easy to be monitored and maintained by a shore station.

Keywords: sea floor observatory network node circuit ARM9

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