基于堆叠式组装技术的微小型多处理器系统

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摘　要：
针对贫点阵探测器，设计了一套多处理器信息获取系统。介绍了系统的总体架构，着重讨论了多处理器模块功能实现方法和小型化设计方案。采用分时复用技[术进]行多通道信号采集，采用SMBus总线进行数据传输，采用三单片机协同工作方式提高系统速度，采用双频工作模式降低系统功耗，采用堆叠式组装技术减小系[统体]积。该系统探测帧率大于1KHz，峰值工作电流小于30mA，最大功耗小于100mW，体积控制在F 10mm×12mm的空间内，适用于微小型光电目标探测领域。关键[词：]光电目标探测；多处理器；堆叠式组装；低功耗；微小型化

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Micro Multiprocessor System Based on Stacked Assembly Technology

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Abstract:
A multiprocessor system is designed for acquiring the output of poor pixels detector. First the gerneral structure of the system is introduced. Then the scheme to implem[ent] the function and miniaturization of the multiprocessor module is expatiated. The technique of time division multiplexing is used to acquire multi-channel signals, SMBus t[o] transfer data, three pieces of MCU which work cooperatively to enhance the speed, the dual-frequency mode to reduce the power consumption, and stacked assembly technology to minish the bulk. At last, the performance index in application is given. This system can be used in the field of micro photoelectric target detection.

Keywords: Photoelectric Target Detection; Multiprocessor; Stacked Assembly; Low Power Consumption; Miniaturization