

E1-53: PC based data collection and process control systems for research and industry applications

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In Sri Lanka major research programmes use donated computer controlled equipment with pre-developed hardware and software systems to collect and analyse their data. These systems are not developed further or changed even when required due to the lack of knowledge as well as the lack of information given by the manufacturers. Often, it is not possible to change the given system since it is designed to carry out a specific task. This situation remains the same in industry applications.

A solution to this would be to develop data collection and process control systems locally. Ideally the system should be PC based to take full advantage of the processing power, storage capacity and the input/output capabilities of modern computers.

In this paper we report the implementation of small scale PC based data collection and process control systems which can be used in research and industry applications in Sri Lanka. We have successfully constructed and implemented 2 such systems which were designed in the form of plug-in boards (based on AD7569 IC and ADC0816 IC) for use in the standard 8-bit ISA bus. The control system software was also written for these systems. By changing the software, the functionalities of these systems can be changed. At present, one of the systems is used in research work related to digitizing sound signals and the other system is being further developed to work as a network centric data acquisition system.

Financial assistance by NARESA (Research grant RG/96/P/06) is acknowledged.