

# SELECTED TOPICS IN ADVANCED ELECTRONICS

Edited by  
Khalid A. S. Al-Khateeb



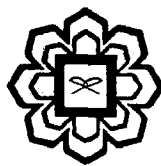
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**ADVANCED ELECTRONICS**

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## CHAPTER 23

# ELECTRONIC REMOTE MONITORING OF INDUSTRIAL SYSTEM

By

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### Synopsis

Remote monitoring and control of a multiunit industrial facility can be achieved by utilizing the Internet. Electrical, mechanical and a variety of devices are switched on, off, and regulated from distant terminals. Commercially available components were used to build the system. Various aspects related to the method of access, security, standards, and current trends are discussed. An eight unit system has been implemented and tested. The system proved to be effective and easy to operate with a user friendly program, which can be readily adapted to deal with 256 units simultaneously. The wiring is reduced by using the ordinary power lines of the building to convey messages to and from the respective units. The system is also suitable for implementation by security and SCADA systems.

### 1. Introduction

The Internet is gaining grounds rapidly and finding new applications in a variety of fields. Distributed Internet access is the foundation for a broad set of applications and solutions that will save time, effort and cost. Once the infrastructure is made available, the possibilities are enormous. The wide spread use of PCs or any other subscriber station, and wireless connectivity has lead to the popular use of high-tech devices in applications, which were not thought possible a decade ago. The Internet