THEME FEATURES

7 Guest Editors’ Introduction: Hardware Test Technology
   Kenneth R. Anderson and Harley A. Perkins

9 Testing Logic Networks and Designing for Testability
   Thomas W. Williams and Kenneth P. Parker

   VLSI has brought exciting increases in circuit density and performance capability. But it has also aggravated the problem of chip, component, and system testing. Here are some approaches to dealing with that problem.

23 Techniques for Memory Testing
   James M. Crafts

   Semiconductor memory production relies heavily on test technology. One testing technique—real-time bit mapping—offers more advantages than any other.

32 The Effects of the Microelectronics Revolution on Systems and Board Test
   Eugene Foley

   Increasing device complexity has brought increased responsibility both for test engineers and design engineers: design engineers must create testable designs; test engineers must report testability problems back to the designers.

40 Automatic Analog Testing—1979 Style
   W. A. Plice

   The bewildering changes currently facing designers and users of analog test equipment are leading to new techniques and improved hardware that should reduce test time by a factor of four within the next decade.

49 Self-Testing Computers
   J. B. Clary and R. A. Sacane

   Built-in-test techniques exploit hardware redundancy to provide continuous on-line monitoring of computer performance. Hardware’s declining cost makes these techniques attractive, especially for modular computers.

SPECIAL FEATURES

61 Microdare: A Fast, Direct-Executing High-Level Language System for Small Computers
   Granino A. Korn

   Embedded in an advanced Basic dialect, this system promises to simplify end-user applications in areas such as simulation and laboratory automation.

75 Learning with Computer Simulations
   Alfred Bork

   For successful classroom use, simulations must be integrated with other educational materials. The examples and methods described here have all been used in large introductory courses.

87 Open Channel: Software Engineering and Computer Science
   Pei Hsia

   Was Edouard Lucas the First Pattern Recognizer?
   Selim G. Akl

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Coming Next Month:
Medical Data Bases for Patient Care
Reader Service Cards and Order Form, pp. 113-114.

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