Computers and Electronics

Edited by Philip H. Abelson and Mary Dorfman

LETTERS

EDITORIAL
Computers and Electronics

ARTICLES
Computers and Electronics

The Revolution in Computers and Electronics: P. H. Abelson

Electronics and Computers: An Overview: L. M. Branscomb

Computers: A Survey of Trends and Limitations: J. S. Birnbaum

Graphics and Software

Some Recent Advances in Computer Graphics: T. Whitted

Software: G. Bacon


Scientific Research and Medicine

Computers in Scientific Instrumentation: C. G. Enke

Microelectronics and Computers in Medicine: J. D. Meindl

Ultrafast Phenomena in Semiconductor Devices: C. V. Shank and D. H. Auston

University Role in the Computer Age: J. G. Linvill
Business and Industry

Office Automation: R. J. Spinrad........................................... 808
Advances in Process Control: D. L. Morrison, R. H. Snow, J. P. Lamoureux 813
Computers in Manufacturing: C. A. Hudson........................................... 818
Japan-U.S. Competition: Semiconductors Are the Key: J. Walsh...................... 825

Communications and Personal Services

Evolution of the Intelligent Telecommunications Network: J. S. Mayo ............. 831
Business Use of Satellite Communications: B. I. Edelson and R. S. Cooper ... 837
Computer Networks: Prospects for Scientists: A. Newell and R. F. Sproull... 843
Computers and Electronics for Individual Services: R. M. Davis................. 852

Information Storage and Retrieval

Computing in Documentation and Scholarly Research: W. J. Haas .................. 857
Optical Disk Technology and Information: C. M. Goldstein....................... 862
Database Systems: M. W. Blasgen........................................... 869
Captions for Divider Pages ................................................... 873

NEWS AND COMMENT

Report Absolves Harvard in Case of Fakery.......................................... 874
"Institutional Response" ........................................................................ 875
"Prevention of Dishonesty in Science" ................................................... 876
Reactor Mishap Raises Broad Questions ................................................... 877
Antinuclear Movement Gains Momentum ................................................... 878
Briefing: Firm Offers to Finance a Space Shuttle; Armageddon Closer; Congressman Wants Millar, Head of NIOSH, to Move ...................... 879

RESEARCH NEWS

Tracing Sources of Acid Rain Causes Big Stir ........................................... 881

PRODUCTS AND MATERIALS

Vector Processing Software; Micro-Analog to Digital Converter; Database Management; Color Graphics Terminal; Image Analyzer; Scientific Data Station; Software for Symbolic Processing; Floppy Disk Drives..... 882

COVER

Fractal surface shown in this image has statistical properties that approximate those of natural terrain. See page 767. [Loren Carpenter, Lucasfilm Ltd., San Rafael, California]