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
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

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]