IEEE Computer Graphics and Applications

Senior Editor
Michael J. Wozny

Editorial Board
Norman Badler
Franklin Crow
Charles Csuri
John Dill
José Encarnação
James E. George
Bertram Herzog

Steven C. Krantz
Frank Linhagen
Carl Machover
Richard Riesenfeld
Jerry Schneider
John Staudson
Herbert Voelker

Publisher
True Seaborn

Associate Publisher
Ginger Conrad

Managing Editor
Joe Schallan

Editorial Assistant
Noel Dooley

Contributing Editor
Ware Myers

Art Director
Frank Yanai

Production
Larry Bauer

Advertising Director
Dawn Peck

Advertising Production
Barbara Cunningham

IEEE Computer Society
Publications Committee

Oscar N. Garcia (chairman), D. Agrawal,
B. Berra, T. Estrin, S. P. Kartashev,
G. J. Lipovsks, J. F. Meyer, E. A. Parrish,
C. V. Ramamoorthy, T. R. N. Rao,
S. Rosenbaum, R. L. Russo, J. N. Snyder,
R. G. Stewart, C. L. Wu

Ex officio:
L. Belady, T. Booth, N. Prywes, K. S. Fu,
P. Isaacsion, R. C. Jaeger, R. Rice,
P. R. Rony, H. T. Seaborn, M. Smith,
M. J. Wozny

CIRCULATION: IEEE Computer Graphics and Applications (ISSN 0272-1716) is published in January, April, July, and October by the IEEE Computer Society, 10662 Los Vaqueros Circle, Los Alamitos, CA 90720; (714) 821-8300. Annual subscription: $8.00 in addition to society member dues; nonmembers $23.00. Single-copy prices: members $6.00; nonmembers $12.00. This journal is also available in microfiche form.

UNDELIVERED COPIES, CHANGE OF ADDRESS:
Address all correspondence to IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854.

POSTMASTER: Send form 3579 to IEEE Computer Graphics and Applications, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. Application to mail at second class postage rates is pending at New York, NY and at additional mailing offices.

COPYRIGHT AND REPRINT PERMISSIONS: Abstrating is permitted with credit to the source. Libraries are permitted to photocopy beyond the limits of US Copyright law for private use of patrons: those post-1977 articles that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through the Copyright Clearance Center, PO Box 765, Salem, MA 01970. Instructors are permitted to photocopy isolated articles for noncommercial classroom use without fee. For other copying, reprint, or republication permission, write to Editor, IEEE Computer Graphics and Applications, 10662 Los Vaqueros Circle, Los Alamitos, CA 90720. All rights reserved. Copyright © 1981 by The Institute of Electrical and Electronics Engineers, Inc.

EDITORIAL: Unless otherwise stated, bylined articles, as well as products and services offered in New Products, Application Briefs, and Displays on Display, reflect the author's/ or firm's opinion; inclusion in the publication does not necessarily constitute endorsement by the IEEE, the Computer Society, or the NCGA.

IEEE Computer Graphics and Applications seeks your suggestions for improving and expanding the technical coverage of future issues.

You can help us better meet your needs by completing our 1981 Readership Survey.

See page 65 for details.

The GRAPHICS SYSTEM for the 80's

RDS-3000 Graphics Processor and Raster Display System

If your graphics and imaging applications are demanding, the IKONAS RDS-3000 series is the system that can meet your needs. The RDS-3000 offers:

POWER
- High Speed Architecture designed for computer graphics and image processing
- Fast 32 bit processor for graphics data generation
- Hardware Matrix Multiplier for 3-D transformations, vector products, and filtering operations
- Real Time Video Processing Module for image processing applications
- Video Input Module for real time "frame grabbing"

FLEXIBILITY
- Software selectable 512x or 1024x display format
- Variable frame and line rates: 200-2000 lines/frame
- Pan and scroll in pixel increments, zoom in integer ratios
- Full Window and Viewport Control

PROGRAMMABILITY
- Graphics Processor is completely user micro-programmable and executes the highly parallel code needed for real time and near real time applications
- IDL, the IKONAS DISPLAY LANGUAGE, is a high level command language which makes the IKONAS package of standard graphics routines easy to use.

EXPANDABILITY
- RDS-3000 components are modular allowing easy expansion of systems
- Small frame buffer systems can be upgraded at a later time by adding processing modules and image memories up to 1024x x 32

IKONAS strives to meet the graphics requirements of advanced, high technology research groups with our standard products or custom design. Call IKONAS for high performance raster graphics equipment.

Photo credits: TerrainModel/R. Wilson, B. Marshall, Computer Graphics Research Group, Ohio State University Mountain/Loren Carpenter, Boeing Computer Services.