

SIGGRAPH '83 Exhibition Slide Set Credits

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The images in the SIGGRAPH '83 Exhibition Slide Set are representative of the hardware, software and systems available on today's market. Participating exhibitors voluntarily submitted these images, which serve as a visual proceedings of the state-of-the-art graphics equipment on display at SIGGRAPH '83.

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- 1 ADAGE INC., 1 Fortune Dr., Billerica, MA 01821, (617) 667-7070, contact: Susan Cook; Adage 4250 Vector Refresh Workstation is featured.
 - 2 ADVANCED ELECTRONICS DESIGN INC. (AED), 440 Potrero Ave., Sunnyvale, CA 94086, (408) 733-3555, contact: Robin Ratajczak; This image illustrates a 3-D modeling application using the AED 767 hardware and Engineering System Corp. software.
 - 3 ANALOG TECHNOLOGY CORP. (ATC), 15859 East Edna Place, Irwindale, CA 91706, (213) 960-4004, contact: James Lawrence; ATC's controllers for the TI 810 RO Printer provides Tektronix 4014 emulation by means of a direct vector-to-raster conversion within the printer. High speed raster graphics and barcode, forms and label printing are also available.
 - 4 APOLLO COMPUTER, 15 Elizabeth Dr., Chelmsford, MA 01824, (617) 256-6600, contact: Mary Allard; The screen of an Apollor computer system illustrates multi-window text and graphics.
 - 5 APPLE COMPUTER INC., 20525 Mariani Ave., Cupertino, CA 95014, (408) 996-1010; The Lisa is a low-cost 16-bit personal office system featuring integrated common office functions and advanced graphics.
 - 6 ARTEL COMMUNICATIONS CORP., P.O. Box 100 - West Side Station, 93 Grand St., Worcester, MA 01602, (617) 752-5690, contact: Nancy Krakora; Artel's fiber optic systems handle a wide array of communications signals.
 - 7 AYDIN CONTROLS, division of Aydin Corporation, 414 Commerce Dr., Fort Washington, PA 19034, (215) 542-7800, contact: Johanna Manning; AYCON 16 solid model displays

achieve remarkably close resemblance to the prototype. High resolution and color shading provide visualization of complex objects and assemblies in over 16 million hues. Aesthetic changes to the display through fast look-up table selections are an excellent tool for the equipment designer.

- 8 AYDIN CONTROLS, con't.;
The AYCON 16 VDM-001 converts analog raster transmissions into digital picture data for CRT display purposes. Input to the VDM-001 is supplied by a standard TV camera or any device that produces RS170 synchronization and video signals. Digitized picture data is stored in the picture refresh memory of the AYCON 16 for processing by a host computer.
- 9 AZTEK, 23265 South Pointe Dr., Laguna Hills, CA 92653, (714) 770-8406, contact: Kevin Bull; This image was created on an AZTEK turn-key SlidesystemTM 20 featuring a 4000 line film recorder. The software used was Slidegraphics IITM, which is portable and runs on such computers as IBM, DEC and HP.
- 10 BAUSCH & LOMB, 1212 E. Anderson Lane, Austin, TX 78752, (512) 837-8952, contact: Ann Marette; The Bausch & Lomb Producer Drafting System has three separate workstations where drafters can work simultaneously.
- 11 HOUSTON INSTRUMENT, division of Bausch & Lomb, 8500 Cameron Rd., Austin, TX 78753, (512) 835-0900, contact: Mary Malmquist; The HiPad Digitizer, a graphics input device, is featured.
- 12 BENSON INC., 2690 Orchard Park Way, San Jose, CA 95152, (408) 945-1000, contact: S. Finfrock; The Model 1565 Radial-Bed 4-Pen Plotter draws on a lightweight radial drum using optical photo-encoder DC Servo logics for both X and Y displacement. An intelligent, integral microprocessor provides the unique CRT keyboard interface for operator dialogue with plotter.
- 13-14 CALCOMP, 2411 W. LaPalma, Anaheim, CA 92801, (714) 821-2142, contact: M. Schoenherz; CalComp offers a full line of belt-bed, drum and table-top plotters, digitizers, displays and CAD systems.
- 15 CHARLES RIVER DATA SYSTEMS INC., 4 Tech Circle, Natick, MA 01760, (617) 655-1800, contact: Donna Caruso; Universe 68 computers offer 32-bit power (OEM quantity one), plus UNIX-compatible UNOS real-time operating systems.
- 16 COMPUTER GRAPHICS LAB INC., 405 Lexington Ave., New York, NY 10017, (212) 557-5130, contact: Mark Miller; The IMAGES^R Bigpaint system is a digital, still-frame, high

resolution (2048) rendering device that allows any artist to mimic any conventional rendering medium. Reflective artwork may be scanned into the system for source, or artwork may be entirely system generated.

- 17 CRAY RESEARCH INC., 1440 Northland Dr., Mendota Heights, MN 55120, (612) 681-3248, contact: John Aldag; This is the CRAY X-MP, the most powerful of the Cray Research line of large-scale, high performance computers.
- 18 CULLINET SOFTWARE, 400 Blue Hill Dr., Westwood, MA 02090, (617) 329-7700, contact: Hugh Johnston; Cullinet's Trendspotter is a stand-alone graphics software system consisting of a microcomputer, a high resolution terminal and a sophisticated touch-sensitive retrieval device. This system interfaces with Cullinet's data base, applications and decision-support software.
- 19 DATAGRAPH INC., 2 West St., Weymouth, MA 02190, (617) 331-0803, contact: U.K. Burkheiser; Datagraph manufactures color graphic terminals VTC 8001 (and 8002) which have resolution 512 x 256 (and 640 x 480). They have a 60 Hz refresh rate, noninterlaced, and have Tektronix 4012 and VT100 emulation.
- 20 DICOMED CORP., 9700 Newton Ave. South, Minneapolis, MN 55431, (612) 887-7950, contact: Becky McManus; The Dicomed ImaginatorTM Presentation Graphics Design Console is featured.
- 21 DIGITAL EQUIPMENT CORP., 2 Iron Way MRO3-1/Q17, Marlboro, MA 01752, (617) 467-4046, contact: Bruce Bayuk; The VAX Station VS 100 is a high performance, high resolution graphics display subsystem that attaches to any VAX 11/7xx CPU. The VS 100, together with VAX Station software, provides a powerful workstation environment for technical and business professionals.
- 22 DIGITAL EQUIPMENT CORP., 146 Main St. MLO5-2/T53, Maynard, MA 01754, (617) 493-7213, contact: John Anderson; DEC's professional personal computers - the Rainbow 100, DECmate II, the Professional 300 and the Professional 350 - are the beginning of a new generation of personal computer. They have been designed to cover the complete range of application software, from industry-standard personal computer software up to the latest multi-tasking minicomputer software.
- 23 EIKONIX CORP., 23 Crosby Dr., Bedford, MA 01730, (617) 275-5070, contact: Thomas Bilotta; EIKONIXSCANTM 78/99 is ideal for storing, classifying and retrieving multi-colored maps. It is also ideal for scanning well logs and sand or rock sections.

- 24 ENGINEERING AUTOMATION SYSTEMS INC. (EASI), 936 Silas Deane Highway, Wethersfield, CT 06109, (203) 529-3200, contact: N. Denis Crowther; The EAS/700 series is a low cost, high functionality, high performance, color, PC CAD/CAE system, featuring automatic placement, automatic routing and real-time design rule checking, with a full megabyte of main memory for top productivity in PCB design.
- 25 ENVISION, 631 River Oaks Parkway, San Jose, CA 95134, (408) 946-9755, contact: Peter Moulds; The Envision 230 and its mouse can be used in business, scientific and engineering applications.
- 26 FLORIDA COMPUTER GRAPHICS, 1000 Sand Pond Rd., Lake Mary, FL 32746, (305) 321-3000, contact: Mary Jo Hunnicutt; Picture generation on Florida Computer Graphics interactive systems is featured.
- 27 GOULD/DeANZA, 1870 Lundy Ave., San Jose, CA 95131, (408) 263-7155, contact: Ben Jafek; Army "battlegame" command and control data is processed on a Gould/DeAnza Visacom 23 image processing system. A menu of tactical options is illustrated. Image is courtesy of Science Applications Inc.
- 28 GOULD/DeANZA, con't.
This illustrates the high resolution option on the Gould/DeAnza IP8400 image processing system; 1K x 1K window on 2K x 2K image. Picture courtesy of Hell Graphics.
- 29 GRINNELL SYSTEMS CORP., 6410 Via Del Oro Dr., San Jose, CA 95119, (408) 629-9191, contact: Kelly Carrothers; These images were produced on Grinnell Systems' GMR 275 Image Processing System, 512 x 512 raster display, 24-bit color, showing the artistic blending of graphics and image technologies.
- 30 HITACHI AMERICA LTD., 59 Route 17 South, Allendale, NJ 07401, (201) 825-8000, contact: David Sapper; The family of Hitachi RGB Color Display Monitors from normal (bottom 2) to high (Saturn) to ultra resolution units (auto). There is a Hitachi monitor to match any need and any budget.
- 31 IMAGING TECHNOLOGY INC., 400 West Cummings Park - Suite 4350, Woburn, MA 01801, (617) 938-8444, contact: Robert Wang; This image is 3 x 3 convolution high pass filtered.
- 32 IMAGITEX INC., 77 Northeastern Blvd., Nashua, NH 03062, (603) 889-6600, contact: Larry Hummel; This is an example of ImagiTex's Image Processing Spotcolor, an image scanning and processing system. The scan resolution is 4K pixels per line, 8 bits/pixel; the color display screen has a resolution of 640 x 512.

- 33 INTECOLOR, an Intelligent Systems Company, Intecolor Cr., 225 Technology Park, Norcross, GA 30092, (404) 449-5961, contact: Louise McCloskey; The Intecolor^R IGS Workstation is featured.
- 34 INTERGRAPH CORP., One Madison Industrial Park, Huntsville, AL 35807, (205) 772-2000, contact: David Joffrion; This is an exploded isometric of an assembly drawing.
- 35 INTERGRAPH, con't.
This illustrates a package placement sequence. "Force vectors" are used to connect one package to others.
- 36 INTERNATIONAL IMAGING SYSTEMS, 1500 Buckeye Dr., Milpitas, CA 95035, (408) 262-4444; The I²S image processing hardware and software assist the geologist in differentiating between minerals. The LANDSAT image used in this example of the Goldfield, Nevada area, has been radiometrically stretched using the I²S System S75 Application Library functions. The use of the I²S Model 75 Image Processor significantly offloads the CPU host while improving the speed of image processing tasks, enabling the geologist to derive the best mineral differentiation possible.
- 37-38 ISSCO, 10505 Sorrento Valley Rd., San Diego, CA 92121, (619) 452-0170, contact: Jeff Anderson; These images were created using DISSPLA, a data representation software package that produces publication and presentation quality charts. DISSPLA is a library of high-level graphic subroutines that produce general purpose graphs, 3-D surfaces, maps and contours. ISSCO products feature ease-of-use, flexibility, field-proven performance, comprehensive maintenance and support and machine and device independence. DISSPLA has broad application in business, science and engineering.
- 39 LANG SYSTEMS, 1010 O'Brien Dr., Menlo Park, CA 94025, (415) 328-5555, contact: Bill Cliff; The original slide image was produced by the Lang Systems VideoslideTM computer graphics camera. The video image was created using a Raster Technology Model 1 Graphics System.
- 40 LEXIDATA CORP., 755 Middlesex Turnpike, Billerica, MA 01865, (617) 663-8550, contact: Joyce Anderson; Lexidata's System 8000 is used in the design of interactive CAD/CAM and other application-oriented systems.
- 41 LOGE/COMPUTER IMAGING SYSTEMS COMPANIES: LOGE/DUNN INSTRUMENTS INC., 544 Second St., P.O. Box 77172, San Francisco, CA 94107, (415) 957-1600, contact: Jane Miller; The ProColor Camera is designed for professional 35mm slide production with the accuracy of pin registration. It can also be used for cine animation formats.

- 42 LUNDY ELECTRONICS & SYSTEMS INC., One Robert Lane, Glen Head, NY 11545, (516) 671-9000, contact: William Waller; UltraGraf^R, Lundy's 3-D vector refresh workstation, responds instantly to operator commands. It has the largest display screen in the industry (19" x 15" viewing area).
- 43 MacDONALD, DETTWILER AND ASSOCIATES LTD., 3751 Shell Rd., Richmond, British Columbia, Canada, (604) 278-3411, contact: Daniel Murray; The color Fire 240 is a digital film recorder with maximum resolution of 8K x 8K pixels. It has a recording time of 13 minutes with a 1.7 Mbyte/sec-ond computer interface.
- 44 MEGATEK CORP., 3985 Sorrento Valley Blvd., San Diego, CA 92121, (619) 455-5590, contact: Gerry MacDonald; Megatek Corp. has pioneered dynamic interactive refresh graphics systems for years. The WHIZZARD 7200, 6200 and 1600 Family Series offers the latest in stroke and raster refresh graphics for CAD/CAM/CAE applications. Megatek teams its WHIZZARDS with a long list of peripherals and field-proven software, including TEMPLATE, Megatek's computer and device independent software package. This slide illustrates the WHIZZARD 1650.
- 45 MEGATEK CORP., con't.
This slide illustrates the WHIZZARD 7200.
- 46 NEC INFORMATION SYSTEMS, 5 Militia Dr., Lexington, MA 02173, (617) 862-3120, contact: Peggy Kinton; NEC's Advanced Personal Computer graphics option is based on NEC's powerful Graphic Display Controller. Using this chip the APC displays a real graphic window with a resolution of 640 x 475. The APC is currently being used in such graphic applications as business presentations, graphic design and CAD/CAM.
- 47 NICOLET ZETA CORP., 2300 Stanwell Dr., Concord, CA 94524, (415) 671-0600, contact: Beverly Aquino; The Zeta 887 connects directly to an IBM 3274/76 cluster controller, allowing you to produce superior hardcopy graphics.
- 48 NIPPON COMPUTER CO., LTD., Naito Bldg. Nihonbashi Hamacho 2-25-1, Chuo-ku, Tokyo 103, Japan, (03) 669-3066, contact: David Winchester; This high resolution (1024 x 780) plot of a multi-layered printed circuit board design is displayed on the NJC-C1421 14" color graphics terminal.
- 49 OPTRONICS INTERNATIONAL INC., 7 Stuart Rd., Chelmsford, MA 01824, (617) 256-4511, contact: Karen Polvinen; The C-4500 is a color scanner and color film recorder. Precision rotating drum technology, 8-bit per color intensity level discrimination (scanner), 256 intensity levels modulated per color (recorder).

- 50 ORCATECH INC., 2680 Queensview Dr., Ottawa, Canada K2B 8H6, (613) 820-9602, contact: Jennifer Trimm; The high performance Orca3000 graphic computer workstation is the most powerful combination of graphics and processing power available today. Application processing is based on the MC 68000/68010 32-bit microprocessor giving a programming address range of 16 Mb and a real local memory capacity of 8 Mb.
- 51 PERITEK CORP., 5550 Redwood Rd., Oakland, CA 94619, (415) 531-6500, contact: Pat Markovich-Treece; Peritek's complete line of DEC-compatible graphics equipment and subsystems is targeted to the OEM and sophisticated end-user.
- 52 PHOTONICS TECHNOLOGY INC., 6967 Wales Rd., Northwood, OH 43619, (419) 666-0033, contact: Donald Wedding; This illustrates a 2000 character AC gas discharge (plasma) display terminal with bezel keyboard, EL backlight and interactive touch membrane. The terminal measures 11.5" wide x 7.5" high x 2.8" thick.
- 53 POLAROID, 575 Technology Square, Cambridge, MA 02139, (617) 577-2000, contact: Iain Gilmore; Polaroid Palette computer image recorder is an interactive menu-driven system to make 3 x 4 inch print and 35mm transparency photographic hardcopy from small business and personal computers.
- 54 PRECISION VISUALS INC., 6260 Lookout Rd., Boulder, CO 80301, (303) 530-9000, contact: Diann Pang; This 2-D contour image was produced using Precision Visuals' Contouring System, which features color filling between contour lines.
- 55 QUALITY MICRO SYSTEMS INC., 57 S. Schillinger Rd., Mobile, AL 36608, (205) 633-4300, contact: Lisa Busby; This image represents hardcopy output from the QMS Lasergrafix 1200 Printer.
- 56 RAMTEK CORP., 2211 Lawson Lane, Santa Clara, CA 95050, (408) 988-2211, contact: Robert Varga; The Ramtek 6221 is featured.
- 57 RAMTEK CORP., con't.
The Ramtek 9465 is featured.
- 58 RASTER TECHNOLOGIES INC., 9 Executive Park Dr., North Billerica, MA 01862, (617) 667-8900, contact: Diana Dickenson; The Model One Graphics System is featured.
- 59 RECOGNITION CONCEPTS INC., 924 Incline Way, Incline Village, NV 89450, (702) 831-0473, contact: John Sample; Edge detection is performed using Roberts Operator on a Trapix 5500 system, 7.5 times per second. The edges are displayed in pseudo color.

- 60 RIDGE COMPUTERS, 586 Weddell Dr., Sunnyvale, CA 94086, (408) 745-1714, contact: Carol Byram or Lexy Gilmore; An engineer is pictured using the Ridge ThirtyTwo in his office.
- 61 SAS INSTITUTE INC., 1 SAS Circle, Woodfield Office Park, Cary, NC 27511, (919) 467-8000, contact: Patti Sigmon; The SAS/GRAPH software system includes capabilities for producing charts, plots, maps, 3-D graphs and other displays for information and presentation graphics.
- 62 SEILLAC CO. LTD., Ginza Bldg. 1-17, Tsukiji 4-Chome, Chuo-ku, Tokyo 104, Japan, (03) 545-2077, contact: Tsuneo Ikedo; The Seillac 3-D Graphic System is featured.
- 63 SUMMAGRAPHICS CORP., 35 Brentwood Ave., Fairfield, CT 06430, (203) 384-1344, contact: Pamela Wilkey; The MM Series of digitizers are available in 6" x 9", 12" x 12" and 15" x 20" units. Resolution is selectable from 100 to 500 lines per inch. The standard RS232 or TTL interface is included.
- 64 SUPERSET INC., 11035 Roselle St., San Diego, CA 92121, (619) 452-8665, contact: Jerry Donaldson; Superset presents the Portable Graphics Mainframe, the base for a complete computer graphics system. This system is able to produce publication quality graphics for applications such as business graphics, engineering graphics and animation. The software products demonstrate the versatility and the power of this integrated system. This cube, produced on a high resolution (4K x 4K) camera system, was created with INTERACT, a truly interactive front-end to DISSPLA^C (DISSPLA is a trademark of ISSCO) and PICKPERSPEC, an interactive program which allows a 3-D transformation of a 2-D plot.
- 65 SYMBOLICS INC., 9600 DeSoto Ave., Chatsworth, CA 91311, (213) 998-3600, contact: Bob Stone; The Symbolics 3600 professional workstation includes the 3600 processor cabinet, the user's console and a monitor for the optional color display system.
- 66-67 TEKTRONIX INC., P.O. Box 500, Beaverton, OR 97077, (503) 685-3907, contact: Jody Peake; The Tektronix 4105 Computer Display Terminal and the 4695 Color Graphics Copier are intended to provide personal graphics tools to technical and professional users. The 4695 provides 120 dots per inch resolution using on-demand ink jet technology. The 4105 has a 64 color palette and displays 16 colors simultaneously. The 4105, along with the 4107 and 4109 terminals, feature extensive alphanumeric capability as well as graphics functions.
- 68 TEKTRONIX INC., con't.
The Tektronix 4115 Computer Display Terminal features a high performance color raster scan display which displays

1280 x 1024 pixels at a 60 Hz non-interlaced refresh rate. Its high density graphics and fast display speed enables the 4115 to effectively address applications, including integrated circuit design, finite element modeling and cartography.

- 69 TERAk CORP., 14151 N. 76th St., Scottsdale, AZ 85260,
 (602) 998-4800, contact: Nick Temple; The Terak Design
 Graphix Color CAD System is featured.

- 70 VECTOR AUTOMATION INC., Village of Cross Keyes, Baltimore,
 MD 21210, (301) 433-4202, contact: Phillip Adams;
 Graphicus-80 is a terminal that features superior
 4096 x 4096 resolution, an enormous 66,000 short vector
 capability and powerful firmware packages neatly configured
 into a 128 Kbyte processor expandable to 1.0 Mbytes.

- 71 VECTRIX CORP., 1416 Boston R., Greensboro, NC 27407,
 (919) 294-6640, contact: Liz Stotler; This raster image
 is 672 x 480 resolution and was created using a Vectrix
 VX384 color graphics frame buffer. This piece is entitled
 "In the Beginning" by Richard Katz.

- 72 VERSATEC, 2710 Walsh Ave., Santa Clara, CA 95051,
 (408) 748-3103, contact: Annette Stransky; The Versatec
 Expert Series combines CAD capabilities, unlimited expan-
 sion potential and office automation. The Expert 1000
 has application in system design and PCB layout. The
 Expert 2000 is used in mechanical design and drafting.

- 73 VERSATEC, con't.
 Versatec multi-media plotters offer high speed and
 reliable plotting combined with a selection of output films
 and paper. Plotters are available in 22 to 44 inch
 models.

- 74 XEROX CORP., 880 Apollo St., El Segundo, CA 90245,
 (213) 615-6155, contact: Sheri Penney; The Xerox 6500
 Color Graphics Printer is featured.