About the cover: applying computer graphics to architecture

The computer-generated rendering shown on our cover is the result of an experiment performed to explore one possible application of computer technology in architecture. Although imperfect in color and some fine details, the image demonstrates that advanced computer graphics could address such applications in the near future. The column, shown here at a preliminary design stage, is an integral component both structurally and architecturally of a delicate space frame for the New York Exposition and Convention Center. Designed by I. M. Pei & Partners, Architects and Planners, the project will be the largest exposition hall in the nation upon its scheduled completion in 1984.

The image was generated by Gray Lorig, with assistance from Alan Barr, at the RPI Center for Interactive Computer Graphics.

Lorig used a ray-tracing algorithm on a Prime 500 computer and displayed the image on a Raster Technologies Model One, a 24-bit-per-pixel, color raster display controller. A Dunn 631 Color Camera system was used to record the image and generate slides.

CAD/CAM workstation has programmable overlay

The Anvil 1200 IID is a CAD/CAM workstation that includes a 1024 x 1024 pixel raster monochromatic display, 320K bytes of RAM, a keyboard with joystick cursor control, alphanumeric overlay, an interactive tablet with stylus and overlay, and a custom workbench.

The system implements Anvil 2000 software, also developed by Manufacturing and Consulting Services, Inc.

Local menus and all their subsets are loaded into the workstation's RAM to facilitate local display without interaction with a host. In Tablet Select mode, a user can make menu choices with a stylus and the Anvil Workplane overlay. The overlay is user-programmable in an interactive mode, and includes all menu parameters, as well as discrete Anvil functions, a total of more than 280 functions. Entities on the screen may be selected or identified by light pen or cursor.

The workstation also features buffered data entry, with which an operator can enter numerical and/or textual information in lines of data, and then transmit the data to the host computer in a single block. The host is free from any interaction while data, including complex algebraic expressions, are being entered.

All discrete functions are user-selectable at the terminal. A user can select or delete entities from the screen without interaction with the host. A blank/unblank capability enables users to make selected entities transparent to the display and then call them for display as required.

The Anvil 1200 IID workstation is priced at $18,750.

Reader Service Number 21
Computervision enhances circuit design software

Computervision Corporation has enhanced its CADDS 2/VLSI integrated circuit design software with several features designed to increase productivity, the company says. A new design rules checking language can create DRC files. According to the company, these files are flexible, simple to create and modify, and easy to use. Commands can be entered interactively.

With the design rules checking pseudolayers function, the designer can move an entity to a special layer of the cell created by DRC. For example, the designer could specify that all entities beyond a certain width be moved to a particular layer of a cell. Computervision's list of properties can be expanded, defined, organized into files, and used to aid the design process.

A nested editing function edits a subcell within the top-level cell, making all changes relative to the top-level cell and also to the library copy of the subcell.

The new STATUS command allows the display of information about CADDS 2/VLSI parameters, in a format selected by the designer. Shape validation prevents the insertion of convoluted or self-overlapping shapes. If created by editing commands, such shapes will be fixed on output and caught before DRC or pattern generation.

A further enhancement can display a full cell on the entire screen of the workstation, without changing the parameters of the current cell. These enhancements are free of charge to established CADDS 2/VLSI customers.

Software provides local graphing capabilities

Local Easy Graphing is a new Tektronix package designed to support the recently introduced 4110 series of intelligent computer display terminals. The software runs without host connection to generate line, bar, and pie charts for presentations and reports. According to the company, its English-language command structure is easy to learn and use. With on-line help files the user can reference proper command formats quickly.

Local Easy Graphing produces special symbols, legends, titles, grids, dynamic placement and movement of annotation, calendar axes, and log axes. These functions are supported in color for the 4113 terminal, and the software maintains local plotter control for single- or eight-pen models including the Tektronix 4662 Option 31.

Technical center supports CAD/CAM software service

Gerber Systems Technology, Inc., is offering a personalized system of software service to users of the IDS-80 CAD/CAM system. Under the system, GST will assign a senior software professional to each customer account to monitor productivity and to ensure responsive software services.

In support of this service, GST has created a technical assistance center at its headquarters in South Windsor, Connecticut. This will become the communications center for worldwide GST software services, the company says. It includes a toll-free telephone service, telex, and facsimile facilities.

GST has also expanded its program for control of software releases and bulletins designed to inform GST customers about current CAD/CAM technology.