Presentation graphics systems come of age

The "information explosion" in the second half of this century greatly increased demand for the visual representation of facts, statistics, and even ideas in the form of business and presentation graphics. The increasing volume of data required faster, less expensive production methods than conventional manual graphic arts techniques. In the early seventies, computer technology and film recording technology merged in the development of computerized graphic-producing systems, which, it was clear, would in time meet these needs.

The slides on this month's cover and on these pages illustrate how far computer graphics systems have come since the days when they could generate only simple bar charts and line graphs according to fixed formats, such as the membership charts shown in Figures 1 and 2. Today, systems have capabilities such as curve smoothing, interpolation functions, iconic interfaces, and image entry through scanning and "paint" and "air brushing" programs. All these artistic tools combine to give aesthetic quality to visual representations of data and processes, such as those on the cover and the third version of the membership chart, shown in Figure 3.

Early business graphics systems were cumbersome, had limited formats, and were noninteractive. Image quality was also a problem because high-resolution film output was difficult to obtain, and because the equipment required experienced computer operators, who often lacked the artistic training necessary to
make good decisions about color and design. It soon became clear that people trained in graphics—production artists with a good sense of color and design—were needed to produce business graphics. It also became clear that, to reach a wider market, graphics systems would have to offer “free-form” capability to accommodate the production of company logos, unconventional diagrams and charts, and creative illustrations.

Today’s high-resolution systems merge data communication with artistic sensitivity (see, for example, Figure 4). Of course, the capabilities of current systems must be used with care—the chart shown in Figure 5, for instance, tends to lose its data-communicating effectiveness in its overuse of illustration.

One reason we can successfully merge the artist, usually untrained in computer operation, and an automated graphics system, is the development of sophisticated interactive interfaces. Although production artists were used to create business graphics on the earlier, more limited systems, these systems were actually too limited to be considered artists’ tools. With increased capabilities and ease of use, these systems have become a new medium for production artists and fine artists alike. See the Escher-like design in Figure 6, for example.

The images here and on the cover were produced at Dicomedia Corporation by Mike Newman, who used a variety of Dicomedia design stations. He recorded the designs on 64 ASA 35mm film, using a Dicomedia D148SR color film recorder with 4096-line resolution.