

## A compact electronic marvel for under \$2000

By Jack and Sue Drafahl

**L**et's face it, electronic imagery is here to stay. It's no longer just a passing trend expected to quickly disappear. This changing technology has transferred the amateur movie market almost totally away from film, and even still cameras use electronic displays for information or recording images onto disk.

One of the most impressive advances in the use of electronic images is computer generated graphics. Although it is not a newcomer to the electronics field, most systems are not available to the general public because of size and cost. Even today, high-quality computer graphic systems may cost from \$50,000 to \$250,000.

Until now, photographers with lower budgets have been forced to contend with images photographed off personal computer screens, but Polaroid has heard their cries and come to the rescue by creating the Polaroid Palette Computer Image Recorder.

This compact electronic marvel fills the hole in the computer graphic systems priced under \$2000. It enables you to create text slides, pie charts, bar charts, and line graphs, to draw

freehand or select symbols from a library and record them onto 35mm slides.

### WHAT IT IS

The Polaroid Palette consists of a 35mm motorized camera with a small macro lens attached to the front of the Palette box. Inside is a motorized filter wheel which contains red, green, and blue filters. In the center of the box is a miniaturized, high-resolution black-and-white video monitor that displays images from the computer. The remainder of the interior consists of complex electronic circuitry that operates the monitor, filter wheel, and camera.

The Palette is connected to the computer via two cables. The first is an RS232 cable that allows communication between the computer and the Palette recorder. The second is an RCA cable that transmits the video image to the Palette recorder.

### IN ACTION

To operate the Polaroid Palette camera, load the DOS disk (Disk Operating System) into the computer. Next load a computer graphics software program. (See the software review that follows.) Follow the instructions included with each software program. After you have created a picture, save it on a picture disk, to be photographed later.

After all the pictures have been creat-

ed, select the Palette menu that requests information on film type, exposure (over, normal, under), cable hookup (if you are using other devices with the computer), color combinations (up to 64 colors), and whether you want test the Palette recorder before taking any pictures. These parameters are saved on the master disk so each time the program is loaded, they are automatically set for your Palette recorder.

Once a picture is selected from the picture disk, it is sent electronically to the Palette camera. Each color is converted to a black-and-white image where it is exposed through the colored filters. As each part of the picture is displayed, the filter wheel turns until all parts are correctly exposed. Then a signal is sent to the camera to advance to the next frame. Some programs allow batch processing of pictures so you may select several pictures to be sent one after another automatically.

The secret to the Palette recorder is its method of creating color on the film. If you were to photograph a red rectangle off a normal computer screen you would get two blank dots followed by one red dot. The two blank spots are where the green and blue dots should be. The resulting picture would be an uneven pattern of blanks and red dots re-

## SOFTWARE FOR THE PALETTE

A variety of software is available for use with the Polaroid Palette recorder. Of all the software available for testing, we narrowed the list down to the following ten IBM-compatible programs which seemed to work very well with the Palette recorder.

### PAINT PROGRAMS

The easiest to use are the paint programs. A device called a mouse is used with these programs to move the cursor (pointer) across the screen for topic selection and ease in drawing. All menus and drawing aids are displayed on the screen surrounding the picture. Preview of colors

is usually limited to four colors at any one time, and the Palette shoots the image off the screen as is. The resolution of this type of program is the lowest (320x200). **PC PAINTBRUSH:** This program is usually included with the Microsoft Mouse package. The drawing screen includes a color palette, edit functions, style menu, toolbox, text sizing, and a misc. menu. The edit function allows the user to cut and paste various parts of the picture with other pictures or save them as a separate file.

The style and size menu is the best part of this program. Not only can you pick from a variety of text fonts, but you can also select point sizes from a tiny 8-point to the monster 89-point typeface.

The toolbox allows the user to make a variety of shapes from circles to polygons

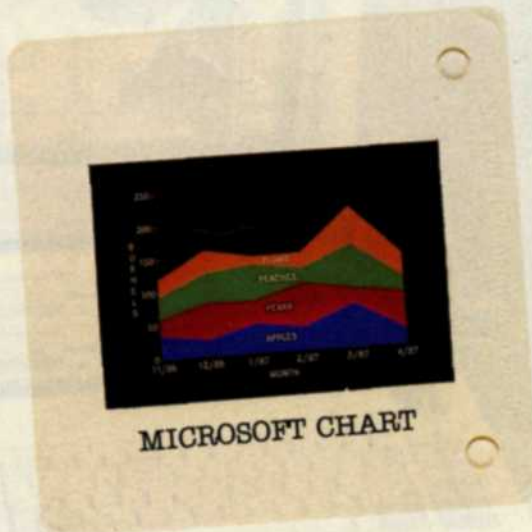
and fill them with various fill patterns and colors. **PC PAINTBRUSH** is available from Microsoft Corporation, 16011 N.E. 36th Way, Box 97017, Redmond, WA 98073-9717. List price is \$195 with the mouse. **PC PAINT PLUS:** This is another piece of software that comes with the purchase of a mouse. The picture menu is almost identical to the previous program except for a few changes in the menu. The four options at the top of the program include file, edit, tools, and fonts. The fonts for this program are fancy fonts that can be set to small, medium, and large as well as justified left, center or right.

The tools allow the user to magnify the image and edit dot by dot on the screen. With the edit function, this program can also cut and paste parts of images to be

# IMAGE RECORDER



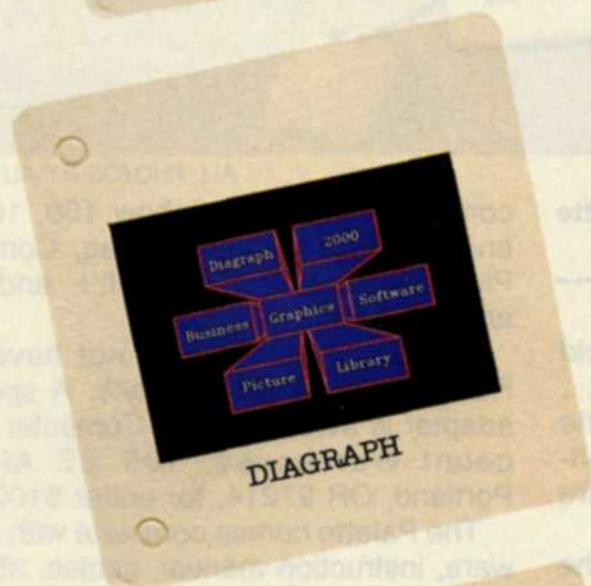
35mm EXPRESS LIBRARY



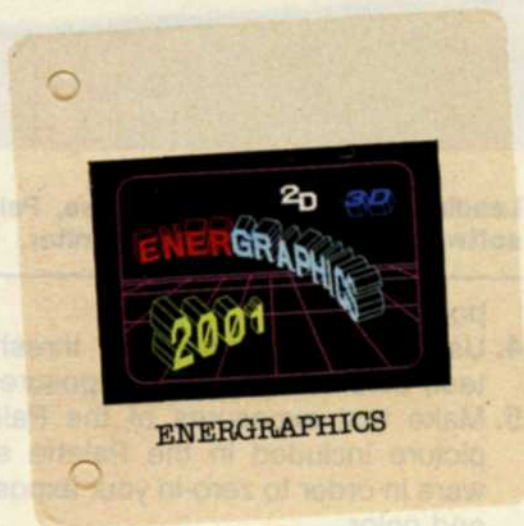
MICROSOFT CHART



FREELANCE



DIAGRAPH



ENERGRAPHICS



POLAROID PALETTE



PC PAINTBRUSH



TELEPAINT



PC PAINT +

transferred to other pictures. The file menu allows manipulation of the picture files as they are created.

The unique part of the program is contained on a special disk included with the mouse. This program expands the pictures from 4 to 16 colors. It will also copy other paint pictures from other paint programs and convert them to 16 colors. PC PAINT PLUS is available from Mouse Systems, 2600 San Tomas Expwy., Santa Clara, CA 95051. List price is \$99.

**TELEPAINT:** This is the most complex paint program we tested with the Palette recorder. Its complexity, however, also allows the most control over the picture. Image controls include text alignment, magnification, airbrushing, color swapping, scrolling, overlays, rotation, undo, outline,

and rubber stamping. The rubber stamp creates a streaking effect by making duplicate images as you move the cursor across the screen. **TELEPAINT** comes with a small image library of pre-drawn images. Larger libraries of images ranging from animals to architectural layouts are available for under \$50. These libraries have enough shapes to allow the user to create complex business charts and freehand drawings. **TELEPAINT** is available from LCS/Telegraphics, 261 Vassar St., Cambridge, MA 02139, and carries a list price of \$149.

**POLAROID PALETTE SOFTWARE:** This is not really a paint program, but more of a program that captures pictures from other paint programs, which may or may not have the ability to run on the Polaroid Pal-

ette Recorder. This program can adjust the Palette camera, run color tests, display pictures from other programs, capture images off the screen, and helps the new Palette user to get used to the system.

A special program call **ONE-STEP** allows the photographer to select a two-key combination on the computer to trigger information directly to the computer memory. When any IBM program is run, pressing these two selected keys will send the screen image directly to the Palette camera. For example, if you have a word processing program or accounting program that you need to show certain information, then this function is perfect.

**POLAROID PALETTE SOFTWARE** is only available with the Palette Computer Image Recorder.

# POLAROID PALETTE

## SPECIFICATIONS

WEIGHT: 10 lbs.

HEIGHT: 5.9 in.

WIDTH: 7.8 in.

LENGTH: 13 in.

POWER: 120/220V

COLORS: 64 colors

CABLES: 25-pin RS232 cable RCA video cable

CAMERA: 35mm autoloader, auto advance

RESOLUTION: 640×400-pixel images with 8-64 simultaneous colors; 320×200 pixels with 4 colors from a template of 72; 920×700-pixel capability, limited by hardware and software

LIST PRICE: \$1999

sulting in poor image quality.

The Palette computer program makes all the dots in the rectangle white, and sends them to the camera to be photographed through a pure red gel resulting in a smooth red rectangle. If the rectangle is to be yellow, the Palette program simply sends a second white rectangle image to the Palette camera when the green filter is in place. The Palette camera would have then received a red and green exposure, resulting in a yellow rectangle. In addition, the software and camera electronically move the image slightly, to blend the scan lines on the monitor, so they almost disappear.

### DO'S & DON'TS

We tested the Palette recorder with over ten different pieces of software and we would like to point out a few basic do's and don'ts:

1. Make sure that you use the cables supplied with the Palette, as the wiring may be different from the cables you use for similar pieces of equipment.
2. Make sure the camera is turned on before you start the program.
3. If the camera works for a while then displays an error, turn off the camera for a few seconds and then return



ALL PHOTOS BY AUTHOR.

Leading Edge Computer: Mouse, Palette software, Palette Recorder, Monitor.

power.

4. Use the test setup (video threshold test) before making any exposures.
5. Make test exposures of the Palette picture included in the Palette software in order to zero-in your exposure and color.
6. To save time and frustration, use the new Polaroid HC color film to run basic tests before exposing any large amount of film.

### COMPATIBLE COMPUTERS

The Polaroid Palette is compatible with about 90% of today's personal computers such as: IBM PC, XT, AT and PC Portable; AT&T 6300; most Zenith/Heathkit, Leading Edge and most IBM

compatibles, DEC Rainbow 100, 100+ and Pro-300 series, Compaq, Compaq Plus and DeskPro; Apple II+ and IIe; and ITT Xtra.

Some computers may not have an RCA connector on the back. A special adapter is available from Computer Discount Warehouse, 109 SE Alder, Portland, OR 97214, for under \$100.

The Palette comes complete with software, instruction manual, cables, 35mm camera, and a Polaroid film pack holder which enables you to make small color prints or the Type 691 mini-overhead transparencies.

Polaroid also offers a special Palette Technical Assistance Hotline for users who have questions or problems with their systems. If you get in trouble, call 1-800-225-1618; otherwise, have fun! □

## BUSINESS PROGRAMS

If your slide presentation requires business graphics as well as text slides, then consider the next four pieces of software. These programs usually have a variety of formats that include bar, pie, line, combination, and text charts. The user simply selects the desired chart, fills in the required data, previews a rough image on the screen and saves it to disk. The picture is then transmitted to the Palette camera where it is converted into a high quality business graphic slide.

**MICROSOFT CHART:** This is an extremely versatile program that allows the user total control over all parts of the graphic. The data for the specific slide is entered into a basic data chart which includes labels and legends. You select the desired chart type from the "Gallery," which includes bar, column, line, mixed, pie, scatter, and area charts. After making your selection, preview your data as it is automatically inserted into the chart format. If you find

you don't like the format you selected, simply return to the "Gallery" and select a different format and re-insert the data.

Edit function allows you to move any or all parts of the graph as well as change the style, color, or text font. Data information from other programs such as Multiplan, Lotus 1-2-3, Lotus Symphony, dBase II, and dBase III can be loaded into MICROSOFT CHART and quickly turned into business charts and text slides. MICROSOFT CHART is available from Microsoft Corporation, 16011 N.E. 36th Way, Redmond, WA 98073-9717. The list price is \$295.

**ENERGRAPHICS:** If 3-D graphic charts are what you had in mind, then give this software a try. All the data for labels and legends are entered into a basic data chart. From here you may select one of the four types of charts: pie, bar, line, or text. From this point on the program differs considerably from all the others. Not only can you select a 3-D function but also the depth of the 3-D effect. This allows for the creation of charts that don't fit into the typical chart programs. The bar chart program for

instance displays 3-D rows of bars standing in front of other rows of 3-D bars.

The basic 3-D drawing program comes complete with a large symbol library allowing the addition of extra shapes and text on top of a business chart.

When in the edit function of the program, the user has total control over all parts of the chart. Because 3-D effects take a lot of disk space, the program takes longer than most programs to make the pictures, but it is worth the wait. We highly recommend the use of a hard disk with your computer when using this program.

**ENERGRAPHICS** is available from Enertronics Research Inc., 5 Station Plaza, 1910 Pine St., St. Louis, MO 63103. The list price is \$595.

**35mm EXPRESS:** Of all the business programs we tested, 35mm EXPRESS is one of the easiest to learn and use. The program uses *icons*, which are symbols that visually depict the function they represent. For example, the file utility program is portrayed as a small file cabinet. If you want to work with this function, simply