It's a QuickDraw program! It's a PostScript program! It's a paint program! It's a CAD program! Actually, it's all four, plus a lot of other bells and whistles, too. It's the new release of Canvas from Deneba Software. Sounds like Canvas is trying to be the-only-graphics-package-you'll-ever-need? Perhaps. Deneba is confident enough of their product to offer to take your old copy of Freehand, Illustrator, MacDraw or MacDraft off your hands and replace it with Canvas 3.0 for $149.00 (the full retail price is $399.00, street price about $249). For the person who has not yet bought a sophisticated drawing program, Canvas may indeed be the only one you'll need.

The program requires a Mac Plus or later, 2 megs of RAM, a hard drive and System 6.0 or later. There are work-arounds for the memory and hard drive requirements, but they limit the operation of the program. I tested Canvas on an LC with 6 megs of RAM, using System 6.07. With all tools installed, you will have used about 5 megs of hard drive space. Installing Canvas took about a half an hour as the installer decompressed the multitudes of files on four disks. Canvas is designed with an "open architecture" which allows the user to load as many of the tools as needed for a particular project.

While it is not a full-featured paint program or CAD program, its drawing capabilities are quite complete. It supports bezier curves and gradient fills as well as the polygon shapes common to QuickDraw programs. It has the basic tools necessary to create paint objects (yes, I know that's an oxymoron) at 72 to 300 pixels per inch and supports dimensioning for CAD drawings. It also has a terrific feature called Smart Mouse which is similar to AutoCad's Osnap mode in function. It allows the user to snap to predefined attributes such as midpoint of a line or side of an object, tangent of a circle or draw a line segment of a specified length.

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Canvas' text handling capabilities are impressive, too. You can set tabs within text paragraphs, wrap text inside or outside a shape, bind text to an object or slant the margins of a text block. It has a spell checker and you can convert Type 1 and TrueType fonts to bezier curves.

Another feature is MacrObjects which lets you save frequently used objects as macros. These user-created objects are saved in sets which can be loaded into or cleared from the document as needed.

MANUAL

So okay, this program is filled with features. It must be a pain to learn, right? Well, that depends. If you have a good background with drawing programs and perhaps a little page layout or word processor experience, you should be able to jump right in to Canvas and use the manual to aid you in learning specific commands. If you're a graphics novice, don't despair. Canvas' manual is very thorough! Weighing in at just under five pounds, it covers all of Canvas' features and also helps the rank beginner through some basic Mac processes step by step. Deneba provides a tutorial which uses Voice Navigator and a complete documentation section in the manual. I did not use the tutorial. After skimming through the tutorial section in the manual, I decided I could get along without it. I'm sure a beginner will find it quite useful, however.

The experienced user will appreciate the fact that the bulk of the manual is arranged as a reference, to be accessed as needed. Commands and procedures are listed in alphabetical order. I found it easy to use.

The person who hates manuals will be happy to know that Canvas possesses an Online Help feature, accessible through the Apple menu It does away with frequent trips to the manual. It uses a Hypercard-like format in which clicking on the icon of the desired tool brings up an information box which tells you about the tool.

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EASE OF USE

My approach to learning a new program is to discover how it is similar to and where it is different from other programs that I already know how to use. I read the manual to learn new features and tools as I need them. (Nothing I like better than curling up with a good manual.) If I use a tool or command a lot, I memorize it and if I don't use it often, I refer back to the manual when I need it. Using this method, I found Canvas fairly easy to learn.

FEATURES

Since it takes up 5 megs of Hard Drive space, you'd expect Canvas to be loaded with features and it is. Okay, so what are all these many and wonderful features? It really seems that the people at Deneba have been listening to gripes and suggestions from graphics program users of all types. Here's a list which is by no means exhaustive, but will give you an idea of what Canvas can do.

General
- Zoom in or out 32x. Zoom in/out to 14x in 1x increments: 2x, 3x, 4x, 5x etc. You can define a particular view of a portion of your document page to which you can then return by choosing from the menu.
- Horizontal and vertical guides pull out from rulers. You can grab an object handle that is resting on top of a guide and drag it without dragging the guide. Rulers can be peeled away from the edges of the window and placed anywhere within the document.
- Tear-off menus: zillions of tear-off menus and submenus.

- Tools can be loaded or not using Tool Picker. This is convenient if you have limited memory or want to increase speed or open large documents.
- Information bar tells x- and y-coordinates, changes in dimension and angles in whichever measurement system you're using, including architectural.

Drawing Tools

- The standard drawing tools—rectangles, ovals, lines, arcs, polygons plus bezier curves and freehand drawing.
  There are a lot of options available in editing points and control points. This means a lot of commands to remember. I'm used to working in Freehand, so working with Canvas' beziers becomes a matter of relearning methods of controlling points. I refer to the handy Quick Reference Card frequently. The person starting out with Canvas as a first bezier program will enjoy its precision editing of control points.
- An object tools palette lets you draw stars or "multigons" with any number of points, 3-D rectangles, parallel lines and user-defined grids. You can put register marks anywhere on the document with the register mark tool.

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- Simple alignment options are accessible from the toolbox, making them quicker to use. A welcome feature is the ability to center objects with respect to the page.
- Calligraphic pen effects can be used in QuickDraw mode by selecting a pen size which has height different from width. Arrowheads can be customized; several default shapes are built in. Dash patterns of lines are also customizable.
- The usual array of fill patterns is available, plus gradient fills which can be customized. Among the user-definable options is the ability to set the center of a fill.
- RGB, process and Pantone color sets make color definition compatible for print or audio-visual applications. You can also create your own color palettes.
- An interesting and useful feature is the combine function. It allows the user to combine several objects in several ways including:
  outline–creates an outline object around the selected objects
  add–joins two objects where they overlap
  intersect–removes everything except shared portions of two or more objects

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  subtract–A portion of bottom objects is removed by an object covering them.
  slice–topmost object "cuts" objects underneath it, creating two or more objects

Import/Export

- Canvas supports a wide array of file formats: Canvas, Canvas 2.1, Canvas Prefs (if you want to save document settings for use as a template), CGM, DXF, IGES, Illustrator 1.1 and 88, EPS, MacPaint, PICT and PICT 1, Separations (saves 4-color separations as a single file, 4 separate files or 5 separate files in the DCS format), StartupScreen, TIFF, or UltraPaint. Whew!

    I particularly liked the ability to import and export CGM files, since I have occasion to create graphics for that other computer platform. I was able to export files from Corel Draw! in CGM format and open them in Canvas with little loss of information. I could also create files in Canvas, save them as CGM and import them to Corel. The main glitch is that all typefaces default to the same font and line weights tend to be kind of quirky. But color information seems to be preserved accurately.

System 7

- Canvas supports System 7 Publish and Subscribe and Balloon Help. Since I'm running System 6.07, I'll have to pass on rating these features.
- Canvas is also the only program at this writing which truely supports Apples's IAC

Text Handling

- Lots of text handling goodies, as mentioned above. Adobe Type Manager is not necessary to convert text to outlines.

Slide shows

- You can create simple animations in Canvas using the slide and layers functions. By assigning objects to different layers and cycling through the layers at a predefined time delay, motion effects can be created.

Technical Illustration

- Dimensions can be created to conform to any of five international standards. Dimension settings are editable through the Dimension Manager. The user can set such attributes as type (linear, radial, etc.), precision, leaders, tolerance, units and scale. You can create baseline or chain dimensions, too.
- The Smart Mouse feature includes about a dozen functions that help in precision drawing. When Smart Mouse is on, various small icons indicate when an object you are drawing or dragging meets the Smart Mouse constraints you have set. You can set the priority in which the Smart Mouse constraints will be activated.

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- There are 18 pre-defined industry standard hatch patterns. Yes, these patterns can be customized, too.

EVALUATION

With all these features, reviewing the program is a mind-boggling task. I've used just about all the features to see how they work and how well they work. Every time I refer to the manual, I discover something new that I missed before. However, I think I can make some generalizations and some specific comments as well. All in all, I'm really impressed with what Canvas can do. It seems that Deneba has taken some time to talk with graphic designers, technical illustrators and other users of drawing programs to find what they like and dislike about the programs they currently use, and has attempted to incorporate a lot of that information into this new version of Canvas. While using the program, I frequently notice a feature or way of doing something that causes me to think "Wow, It's about time someone did this." Examples: Ready-made register marks positionable anywhere on the page, guides that don't get in the way of object handles, MacrObjects that can be added over and over to a document without having to go through the Scrapbook one at a time, just to name a few that readily come to mind.

Is there anything I don't like about this program? Well, yeah, there are a few things. F'rinstance, Canvas continues in the QuickDraw program tradition of using a predefined page size. I like to be able to set the exact dimensions of my layout. Also, it can make bleeds a real pain. Next, there is no direct import or export for Freehand files. Documents can be exported as EPS files in Freehand and opened in Canvas, but they are largely uneditable. Files saved in the Illustrator 1.1 format are supposed to be openable in Freehand, but Canvas' version of Illustrator 1.1 won't open in my version Freehand (2.02). I have to open them in Illustrator, save them as Illustrator 1.1 with color Macintosh screen display and then open them in Freehand. These Illustrator 1.1 (and Illustrator 88) files open properly in Illustrator 3.0, though. Canvas does not support spot color separations, something I use a lot.

In the technical illustration department, the dimensioning tool seems to have somewhat of a glitch. You create dimensions by clicking on start and end points of the length to be measured. Then Canvas measures this length and one final click places that dimension on your drawing. But if you have zoomed in to an area of your drawing to dimension an object, and then zoom out again, the dimension may change at the smaller screen size. Fortunately, You can convert dimensions to objects, which turns the dimension into a text object.

One other problem. I could not get my printer to print even a rectangle from Canvas. This prompted a call to Canvas technical support. They have an 800 number and the wait to talk to a technician was not extremely long (two very nice and very appreciated services). The Deneba technician diagnosed the problem as not enough printer memory. He also said that Texas Instruments will be coming out with a new printer driver soon. My printer, having a

measly 1.5 megs of RAM, certainly falls into the minimal memory category. Canvas' handling of printing seems to be more bulky than other comparable programs, which will print to my printer if I don't use too many effects.

Despite the above problems, I recommend Canvas 3.0 to anyone looking for an all-around graphics program or to those who need the ability to move among several graphics formats. It is a very well-thought-out program that successfully addresses a large number of problems that crop up in many types of graphics creation.