

Model One Graphics Systems

The Model One Graphics Systems offer a range of graphics workstations combining the powerful Model One graphics controller with a choice of compatible monitors and input devices. Systems are available in 512 x 512, 768 x 576, and 1024 x 1024 resolutions. Packages are available for a broad range of applications, including CAD, imaging, land resource analysis, and presentation graphics.

The Model One Graphics Systems have been configured to give the user quality color graphics and optimal price/performance.

Features

- **Software compatibility across all Model One Graphics Systems**
- **Wide range of monitor resolutions, color support, and video refresh rates**
- **Complete package allows simple, rapid installation**
- **Graphics application development firmware package speeds application development**
- **Wide selection of monitors and input devices**
- **Local display list management capability**
- **Simple, high-speed RS-232 serial host interface up to 38.4K baud standard**
- **Optional DMA interfaces available**

Optimal System Performance

Each Model One Graphics System is designed for the highest possible performance. The Model One Graphics System includes the Raster Technologies Model One graphics controller, an intelligent controller designed specifically for interactive graphics and ease of applications development, monitor, and a graphics input device.

Interactivity

Model One Graphics Systems are designed specifically for interactive applications. The Model One graphics controller offers a complete interactive environment. Graphics input devices are handled locally, and many user commands can be executed locally without interrupting the host computer. The user sees fast response and immediate screen updating.

Local Display List Management

Optional Display List Firmware for the Model One Graphics System performs independent local scaling, rotation, and translation of up to eight views into a two-dimensional 64,000 by 64,000 graphics database. The Display List Firmware provides rapid manipulation of a graphics database for the user, without interrupting the host computer. The graphics database uses a nested segment structure and supports CORE and GKS functionality.

Rapid Execution of Host Commands

Multiple pipelined processors within the Model One Graphics System interpret and execute the host command stream. A 16-bit central processor, combined with a hardware vector generator and pixel processor, provide the fastest possible execution of graphics commands.



High-Speed Interfaces

The Model One Graphics System includes a standard RS-232 serial interface which operates at speeds from 75 to 38,400 baud, an optional IEEE-488 interface, or an optional DMA interface.

Ease of Applications Development

Multiple Alphanumeric Windows

The Model One Graphics System supports up to nine scrolling text windows. These windows can be used for text or combined with a local keyboard to eliminate the need for a separate alphanumeric terminal. Windows can be any size and placed in any screen location. Text can be set to any height and width required.

Local Debugger

The Model One Graphics System's local debugger allows the programmer to step through program execution, list defined macros, execute graphics commands—including macros—locally, and return to normal execution whenever desired.

Command Stream Translator

The Command Stream Translator translates the host command stream—whether a serial or DMA interface is being used—into easy-to-read command mnemonics. This allows the programmer to check the actual command stream, greatly simplifying debugging. The local debugger and Command Stream Translator can be used together to provide a complete view into the internal workings of the graphics system.

Macro Programming

The Model One Graphics System allows the programmer to define and store sequences of graphics commands, to be executed with a single command. These *macros* can be downloaded from the host and executed entirely without host interaction, allowing rapid response and off-loading complex graphics command sequences from the host. Complete graphics command menus may be written using these macros.

Macro programming requires no special training or programming skills, and is designed to complement the user's existing host software development tools.

Local Command Execution

The Model One Graphics System allows the programmer to execute graphics command locally, if desired. Thus, command sequences and macros can be defined and tested completely without host intervention, eliminating time-consuming editing and recompilation.

Help Facility

The Model One Graphics System includes a complete help facility. The HELP subsystem guides the application developer with on-line prompts and command references, saving valuable time for both the new and the experienced programmer.

Many Possible Configurations

Raster Technologies Model One Graphics Systems are available in a broad range of configurations.

Medium Resolution

The Model One/25 Graphics System is designed for high-quality color graphics; configurations are available for 4 to 24 bit planes of 512 x 512 pixels, supporting from 16 to 16 million simultaneously displayable colors. The monitor is 19" RS-170 long-persistence, and shows the entire 512 x 512 image. Support for a local terminal or keyboard is also included.

The optional pixel mover and DMA interface are also available, as is a host-resident library of FORTRAN-callable subroutines. Two overlay planes and supporting commands are yet another option.

A *broadcast-compatible* 512 x 484 line NTSC configuration is also available for video taping and mixing.

The Model One/25 Graphics System uses three 8-bit-in, 8-bit-out programmable look-up tables. It is supplied with the complete Advanced Graphics Application Development firmware.

High Resolution

The Model One/40 Graphics System is designed for graphics applications which require very high resolution, and includes up to six bit planes of image memory at 1024 x 1024. The Model One/40 Graphics System drives an RS-343 long-persistence monitor, either 13" or 19", displaying the entire 1024 x 1024 image memory. The controller can also show a 512 x 512 60 Hz non-interlaced window into the 1024 x 1024 image memory.

The 6-bit-in, 24-bit-out programmable look-up table allows up to sixty-four simultaneous colors. As with all the Model One Graphics Systems, support for a local terminal or keyboard is available. The Model One/40 Graphics System is supplied with the Advanced Graphics Application Development firmware.

Flicker-Free High-Resolution

The Model One/60 Graphics System is a flicker-free 60 Hz refresh display system for high-resolution applications. The visible display window is 768 x 576, into a total image memory of 1024 x 1024. The off-screen image memory may be displayed using hardware panning, or may be used for symbols, fonts, menus, and other applications. With up to six bit planes of image memory and a single 6-bit-in, 24-bit-out programmable look-up table, the Model One/60 Graphics System allows up to sixty-four simultaneous colors, chosen from a palette of over 16 million. Support for a keyboard or local terminal is included.

The monitor is RS-343 standard, 19" short-persistence. The controller's 60 Hz refresh rate assures that the image is flicker-free, while the 768 x 576 area of the monitor provides a large viewing window into the 1024 x 1024 image memory.

The Model One/60 is supplied with the Advanced Graphics Application Development firmware.

Simple Installation

The Model One Graphics System is a complete package, thoroughly tested before it is shipped. All configurations are set to the most commonly used settings before shipment for easy installation; if they need to be changed, a few simple commands are all that are necessary. As a complete package, Model One Graphics Systems provide the fastest possible setup time from system arrival to productive use.

Single-Source, Easy to Order

The complete Model One Graphics System is a single graphics package, selected for high performance and integrated operation. The complete package is supplied by Raster Technologies, assuring that when it arrives, it will be ready for use. All components of Model One Graphics Systems are covered by Raster's standard warranty and service plans.

\$10K → \$25K

Technical Specifications

	Model One/25	Model One/40	Model One/60		Model One/25	Model One/40	Model One/60
Picture Resolutions	512 x 512 or antialiased 1024 x 1024 with dual mode	1024 x 1024	768 x 576 window into 1024 x 1024 image memory	Firmware	Advanced Graphics Application Development Firmware	Advanced Graphics Application Development Firmware	Advanced Graphics Application Development Firmware
Refresh Rates	30 Hz Interlaced	30 Hz Interlaced or 60 Hz Non-Interlaced on 512 x 512 window	60 Hz Non-Interlaced	Keyboard or Local Terminal Support	Yes	Yes	Yes
Bits per Pixel	Up to 24 bits per pixel	Up to 6 bits per pixel	Up to 6 bits per pixel	Optional Pixel Mover and DMA	Yes	Yes	Yes
Video Monitors	19" RS-170 long-persistence phosphor	13" or 19" RS-343 long-persistence phosphor	19" RS-343 short-persistence phosphor	FORTRAN Library Available	Yes	Yes	Yes
Data Tablets	11" x 11" with 1, 4 or 16 button cursor	11" x 11" with 1, 4 or 16 button cursor	11" x 11" with 1, 4 or 16 button cursor				