80286/80287 processor based workstation with superb resolution and speed. Featuring as standard equipment: Dynamically Converged display, firmware advances, fast draw and panel fill rates, local zoom and pan, 4110 compatibility. Easily expanded to produce 3D wireframe and 3D shaded surface graphics.

HIGH PERFORMANCE COLOR GRAPHICS WORKSTATION

The Tek 4125 Color Graphics Workstation incorporates advanced graphics with local processing power and ultra sharp display qualities to provide CAD developers and users with increased utility and performance. It speeds development and execution of the complex, high density graphics associated with mechanical and electrical engineering, cartography and other graphics-oriented professions.

Advanced Display

The Tek 4125 employs a 19-inch color raster display operating in a 60 Hz, non-interlaced mode for flicker-free performance. An addressable pixel matrix of 1280 by 1024 assures crisp, precise resolution of the finest detail in graphic images.

A precision in-line gun CRT is employed for maximum convergence stability. This is supplemented by dynamic convergence correction that adjusts convergence as the electron beam scans, delivering a convergence accuracy of 0.3 mm over the entire display area. A neutral density filter is bonded directly to the CRT faceplate to reduce reflections and enhance contrast. The result is precise, fringe-free color presentation of intricate graphics applications. A delta gun CRT, utilizing Tektronix' proprietary Autoconvergence, is optionally available.

Segments and Local Picture Storage

Embedded in the firmware and microcode of the Tek 4125 are convenient commands for segment editing, segment subroutines and pick operations that greatly reduce development time and augment productivity. Defined segments may be altered in whole or part by deleting unwanted portions, inserting additional graphics or replacing other information completely. This eliminates the redundant technique of totally erasing then recreating entire segments and offers a more natural and efficient method of editing.

Segment subroutine commands allow referencing a segment as part of another segment. This capability is particularly useful for local storage of pictures with many repeated elements such as integrated circuit design, schematic capture and mapping. Instead of describing each object in a repetitious fashion, the drawing may be built from primitive shapes which themselves are constructed of primitive elements. Editing time is significantly reduced and memory is saved.

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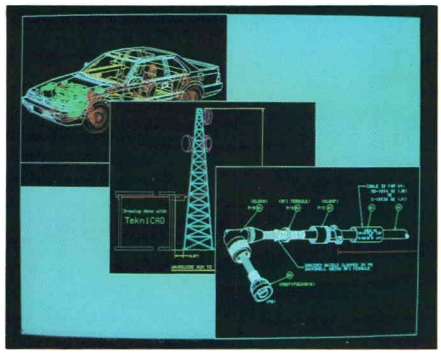


Multiple windows, each with their own scrolling dialog areas of user-defined proportions are displayable on the 4125. This flexible feature simplifies graphics development by reducing the access time necessary for referencing related files such as menus and program prompts. The underlying work in progress is left undisturbed.

The 4125 keyboard offers exceptional user interactivity. It features a numeric keypad, ports for a joystick and mouse, thumbwheels for graphic input and eight programmable function keys—each with four possible macro definitions. All GIN devices may be simultaneously activated and most keys are additionally programmable for complete user customization.

The 4125 also permits the graphic input function to report complete segment and segment subroutine information from within the pick aperature to the host. The viewport in which the cursor currently resides may also be reported. These pick operations supplement the 4125's ability to report the full tree of subroutine references, if desired.

Dialog Areas, Dynamic Menus, Circular Arcs

The 4125 can display up to 64 scrollable dialog areas on screen simultaneously, providing valuable new capabilities for host window management. The user can edit one text file while referring to others on screen at the same time. Since each dialog area has its own text buffer, it may be positioned to overlap others. And even though a dialog area may be partially obscured as a result, it may still be scrolled.

Pop-up menus are also supported. Small areas of screen text and graphics can be saved to local memory and then restored as required. This transient information may be brought up and down on screen at the touch of a key without disturbing the main graphics under development.

Another valuable command allows 4125 users to rapidly draw circular arcs by simply specifying three points. These arcs are automatically drawn as a series of vectors saving host computation and communication time. Granularity may also be specified, making the arcs as coarse or smooth as the application warrants.

New Keyboard

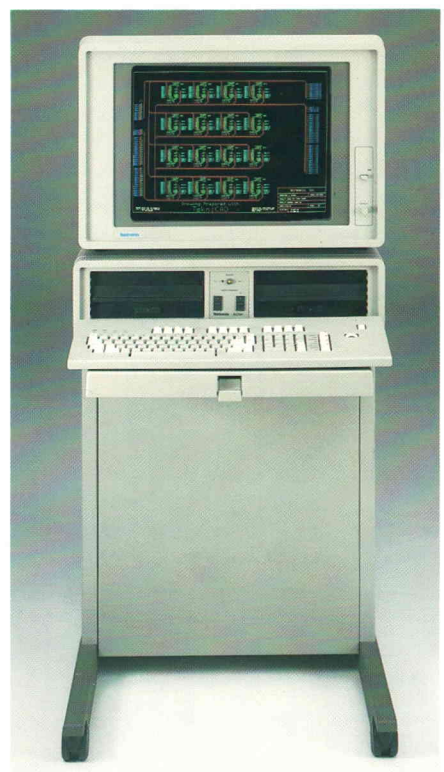
The Tek 4125 is supplied with an advanced keyboard featuring a numeric keypad with 10-key functionality, thumbwheels, 8 dedicated programmable function keys, and ports for a joystick and mouse. Extremely user interactive, this keyboard permits each graphic input device to be simultaneously activated. Additionally, most keyboard keys are programmable. Consequently, the entire keyboard may be easily customized to any configuration needed.

Fast Program Execution

The 4125 employs the Intel 80286 processor and 80287 co-processor for increased response and fast execution of programs without host support. When host communication is indicated, data can be rapidly transferred at rates up to 38.4kbps.

The Option 05 IBM 327X Coax Interface (also available as the 4100F05 field kit) provides a direct coaxial connection to IBM 3274 Cluster Controllers. The data is received from the controller at the coax data burst rate of 2.1 mbps. This input data is buffered, then delivered to the terminal at the 4125's maximum RS-232C, 38.4kbps, rate under flagging control.

The 4125 is supplied with 288K RAM, expandable to 800K. Its standard two bit planes are upgradeable to eight. And the 32 bit coordinate space of the 4125 allows addressability of 4 × 4 billion points. Local zoom and pan are implemented to make full use of this large address space. Users can isolate and display any detail within a picture's matrix all at maximum resolution and with a redraw rate of 50,000 vectors per second.



The 4125P (pedestal configuration) is ideally suited to environments where floor space is at a premium.

The Tek 4692 Color Graphics Copier can process up to 100 sheets of plain paper or 50 sheets of transparency material automatically. It delivers low cost, superior renditions of 4125 graphics with precise color registration and rich, saturated hues.

4110 Compatibility

Because the 80286/80287 processors share the same instruction set of the earlier 8086/8087 employed in the Tek 4110 series, the 4125 offers all the familiar and powerful graphics functions of that popular family. Local picture segments, fast panel fill, patterning and 2D image transformations are all supported. Local programmability is additionally available as an option. Through this compatibility, other graphics software is readily available, including Tek's own PLOT 10® software plus software from other sources.

Configurations—Expandability

The 4125 is available in a pedestal configuration (4125P) to conserve workspace or as a modular workstation for a more flexible layout. Also available are an adjustable table, display stand and chair to create an ergonomically optimum workstation for increased productivity and reduced fatigue.

An installed 4125 can be expanded to 3D wireframe performance with the 4115F58 Option 2 enhancement—giving it the functionality of a Tek 4128. Further expandability to 3D shaded surface capability is possible with the addition of the 4100F59 enhancement. Tek's commitment to compatibility and expandability allows the 4125 to grow in graphics capability and sophistication as users' needs change, protecting their investment in hardware, software and training.

Color Copier

An ideal companion product for the 4125 is the Tek 4692 Color Graphics Copier. This versatile, high performance ink jet device offers excellent hard copy reproduction of 4125 graphics with push button ease. With a resolution of 154 DPI, the 4692 delivers the most vivid, highly saturated colors available outside of color photography.

The Option 19 Color Copier Interface (also available as the 4100F19 field kit) gives the 4692 copier a color palette comparable to that of the 4125 workstation. A color matching process is used to generate a new color map that compensates for the characteristics of the 4692 copier's inks and coated papers and the differences between the color system used by the 4125 workstation. Then a dithering (or halftoning) algorithm is used to determine which color dot to print. The result is hard copy output that comes a quantum leap closer to matching the colors on the screen.

The Option 06 Projector Interface (also available as the 4100F06 field kit) provides interface capability for connecting 4125 workstations to high-performance video projectors for large screen projection of high resolution graphics images. The 4100F07 Camera/Display Interface, available only as a field upgrade kit, allows connection of a suitable electronics camera to produce a photographic copy of the 4125 screen.

Reliability and Service

Like all Tek products, reliability was a major design goal for the 4125—as indicated by some of the most aggressive design specifications in the industry. Tek products have proved themselves in countless applications, in every conceivable environment. In the unlikely event of system failure, Tek service is there to back up every product sold.

Ordering Information

Standard Accessories:

Host Programmer's Reference Manual
Operator's Manual
4110/4120 Series Command Reference Manual
4110/4120 Series Command Reference Guide
4120 Introduction Brochure
Two Power Cords
Six Keyboard Overlays
Display cables and RS-232C Cable
RS-232C Loopback Connector

Options:

Opt. 01 Extended Communications Interface
Opt. 05 4115/4120 Series IBM 327X Coax Interface
Opt. 06 4115/4120 Series Projector Interface
Opt. 2A Additional 256K Bytes RAM with ECC
Opt. 2B Additional 512K Bytes RAM with ECC
Opt. 3A DMA Interface for DEC PDP-11 and VAX Computers
Opt. 3B 30 Foot Cable for Opt. 3A (must be ordered separately)
Opt. 3C RS-422 Interface
Opt. 4K Katakana Keyboard
Opt. 4M Mouse
Opt. 10 Three-Port Peripheral Interface
Opt. 19 4690 Series Color Copier Interface
Opt. 22 Additional 2 Bit Planes Display Memory
Opt. 23 Additional 4 Bit Planes Display Memory
Opt. 31 Autoconverged Display
Opt. 42 Single Flexible Disk and Controller
Opt. 43 Dual flexible Disk and Controller
Opt. 45 Mass Storage Interface
Opt. 46 8MB Winchester Disk (4125 modular configuration only)
Opt. 47 Dual 8MB Winchester Disk (4125 modular configuration only)
Opt. A1 Universal European Plug—220V/16A 50 Hz Operation
Opt. A2 United Kingdom Plug—240V/13A 50 Hz Operation
Opt. A3 Australian Plug—24V/10A 50 Hz Operation
Opt. A4 North American Plug—240V/15A 60 Hz Operation
Opt. A5 Switzerland Plug—240V/6A 50 Hz Operation

4125 modular configuration includes display, module and keyboard—workstation table, display stand and ergonomic chair are all optionally available.

Enhancement Products

4100H01 Workstation Table
4100H02 Display Stand
4100H03 Ergonomic Chair

Field Upgrade Kits

4100F01 Extended Communications
4100F2A Adds 256K ECC Memory
4100F2B Adds 512K ECC Memory
4100F3A DMA Interface for DEC VAX* Computers
4100F3B 30 Foot Cable for Opt. 3A/4100F38
4100F3C RS-422 Interface
4100F3E DMA Controller
4100F3Q 4120 Series DMA Interface to DEC Q-Bus*
4100F4M Mouse
4100F4E APL Keyboard
4100F05 4115/4120 Series IBM 327X Coax Interface
4100F06 4115/4120 Series Projector Interface
4100F07 4115/4120 Series Camera/Display Interface
4100F10 Three Port Peripheral Interface
4100F19 4690 Series Color Copier Interface
4100F22 Two Additional Planes of Display Memory
4100F23 Four Additional Planes of Display Memory
4100F42 Single Flexible Disk Drive and MS1B
4100F43 Dual Flexible Disk Drive and MS1B
4100F45 Mass Storage Interface Bus
4100F46 Single 10MB Hard Disk
4100F51 Adds 256K ECC RAM
4100F52 Adds Second 8" Flexible Disk
4100F53 Adds Second 10MB Hard Disk
4100F59 3D Shaded Surface Kit
4115F58 Opt. 2 3D Wireframe Kit, Upgrades 4125 to 4128

*DEC VAX, MicroVAX II and Q-Bus are trademarks of Digital Equipment Corporation.
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OEM prices and leasing programs (U.S. only) may be available.

Some of the products, options or services mentioned in this brochure may not be available outside the USA. Contact your local Tektronix representative for details.

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