THE TEK 4404:
THE FIRST PERSONAL
AI DEVELOPMENT
SYSTEM.

Tektronix
COMMITTED TO EXCELLENCE

VERSATILE, PERSONAL, AND AFFORDABLE: THE 4404 TALKS YOUR LANGUAGE.

The 4404 may be the first computing tool for AI software programmers that's as user-friendly and productive as the products they're developing.

Most AI programmers know the constraints imposed by time-shared mainframes. By overloaded minis. By underpowered micros. Pre-arranged scheduling and poor response times are obstructive to creativity and results.

The Tek 4404 changes all that. Not only is it designed to be a fast, fully capable AI software development system—it is priced to be a dedicated personal tool.

A significant advance in the ratio of price to performance among AI systems, it adds new potential for return on the AI investment.

The 4404 is flexible enough to support a full range of AI development applications, and fast enough to outperform many much more costly systems.

Featuring a 68010 32-bit CPU, virtual memory and bit-mapped display, the 4404 supports the Smalltalk-80™ programming environment, plus Prolog and the more traditional AI language, LISP. Thus, it allows AI groups to inexpensively analyze and adapt the language most appropriate to each project.

Using a proprietary high-speed Smalltalk-80 implementation, the 4404 runs the language at twice the speed of any other system currently available for less than $100,000. The 4404 architecture allows its 68010 32-bit microprocessor to operate at full speed with no wait states.

The 4404 is compact and highly reliable. Unlike larger systems, it is also exceptionally quiet. As you expect from Tektronix, it delivers display technology at its best.
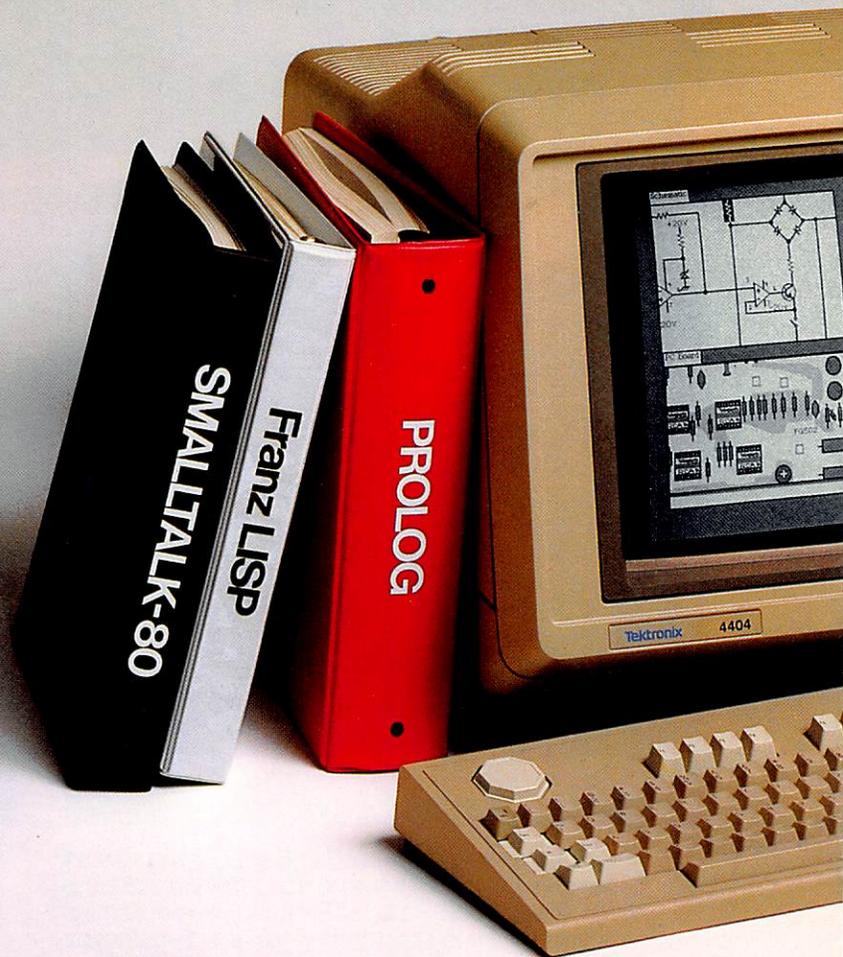
PRICED UNDER $15,000,*
THE 4404 IS AN UNMATCHED VALUE
FOR AI ENVIRONMENTS.

Standard 4404 configuration includes CPU, the Smalltalk-80 programming environment, bit-mapped display, mouse, a mega-byte of RAM, and a 40 megabyte hard disk with single floppy disk.

Also standard are virtual memory operation; floating point accelerator; RS-232 interface supporting asynchronous serial communica-

tions to various hosts and periph-erals; a Centronics-style parallel port; SCSI peripheral interface; and 3-voice sound output capability.

The Smalltalk-80 implementation includes text and graphics editors, compiler, source-level debugger, multiple-window screen manage-ment and a dynamic memory man-ager, facilitating fast feedback during exploratory programming or pro-totype development.

As options, the system offers Franz LISP and Prolog; an additional megabyte of memory; 40 megabyte hard disk with streaming tape drive; and Ethernet interface.

In most AI environments the Tek 4404 can easily fit in to form a new tier of support, reducing the costs of mainframe processing and relieving the bottleneck at shared worksta-tions, while allowing access to host computer processing via RS-232 or Ethernet option. In addition, the 4404 can answer many AI developers' needs for a low-cost yet capable application delivery system.

Not least, the 4404 allows access to one of the most respected support teams in the world, including Tek's highly-trained technical specialists and its large field service organization.

By combining state-of-the-art manufacturing techniques and design input from its highly-regarded AI research group, Tektronix has achieved an unprecedented performance-to-price ratio that can significantly accelerate AI devel-opment and enrich the results.

SIMULATION
MEDICINE
GEOLOGY
NATURAL LANGUAGES
MODELING
ROBOTICS

ANYWHERE, ANY TIME: A SYSTEM YOU CAN USE WITHOUT RESERVATIONS.

From its basic concept as the first personal AI system, the 4404 is engineered for easy human interface and to facilitate clear and unconstrained thinking.

Don't let the low price and compact design mislead you: the 4404 is as fast or faster than any other 68000-based system presently available. The 640x480, 60Hz noninterlaced display features real-time hardware panning over a 1024x1024 address space. Use the mouse to move freely around the display, yet always know where you are relative to center-screen.

The bit-map supports icons and multiple windows, enabling fast, effective creation of graphics of all kinds, from bar charts to halftones.

The detached, programmable keyboard features low-profile design, sloped keys, and Tek's innovative joydisk as an integral pointing device.

Tek's Smalltalk-80 implementation includes text and graphics editors, compiler, source-level debugger, window management and dynamic memory manager. All the tools are at hand for moving quickly and interactively through all the stages of AI development.

Whichever language you choose to work with, and whatever your application, you'll appreciate a system that's fast, capable, and more personal than any other, and backed by Tek's commitment to reliable, thoroughly-supported products.

AI DEVELOPMENT AT THE SPEED OF THOUGHT. AT THE PRICE OF A PERSONAL SYSTEM.
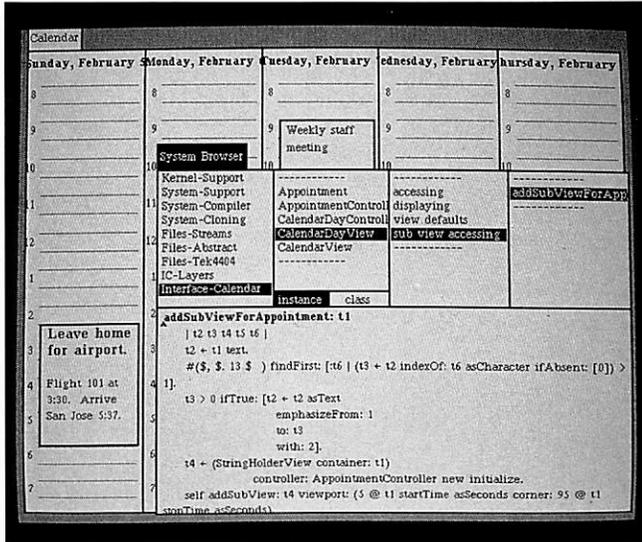

The 4404 facilitates quick, efficient prototyping. Page-on-demand memory management provides a large, 8-Mbyte virtual memory address space that permits development of complex programs without segmentation or overlays.
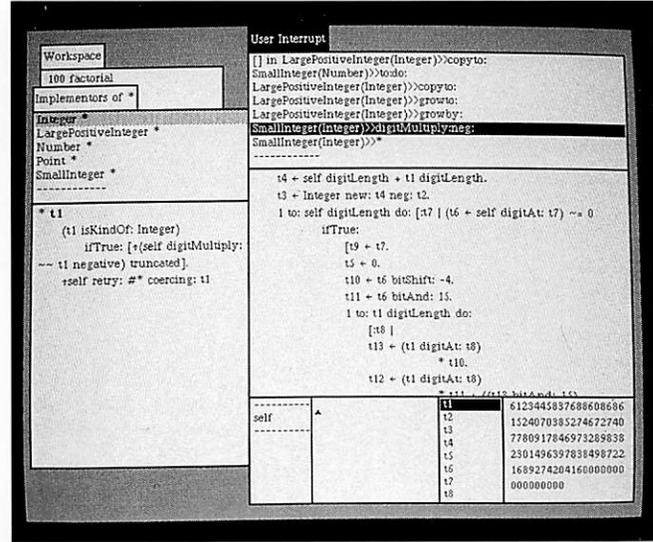
The bit-mapped display facilitates advanced user information concepts such as overlapping windows, "pop-up" menus, and mouse input.
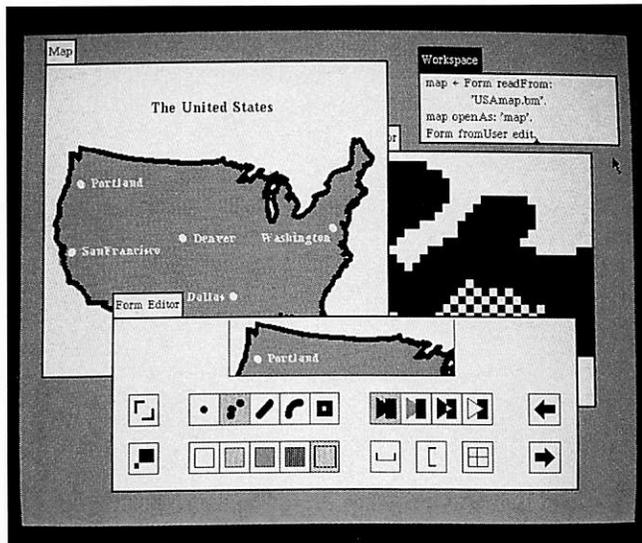
The 4404's 640x480 display functions as a window into a 1024x1024 bit-map memory, with smooth panning whenever the cursor reaches a physical display edge. Users also have the ability to point with the mouse and integral joydisk.
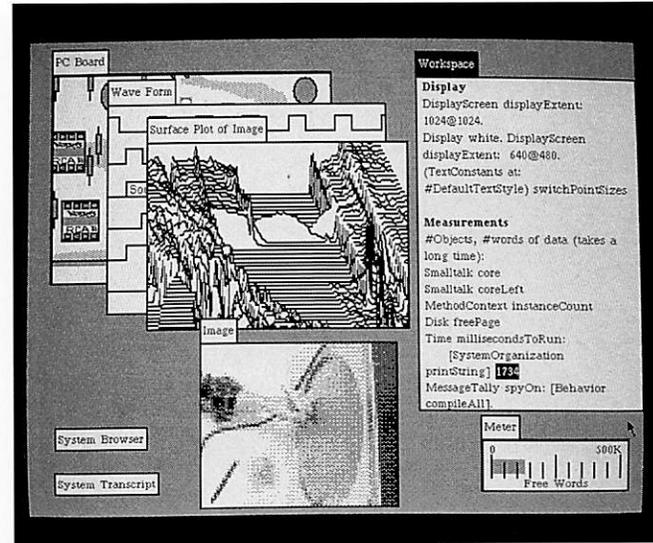
With its proprietary Smalltalk-80 implementation, graphics performance on the 4404 makes on-screen animation possible. The Smalltalk-80 package offers advantages of a highly integrated programming environment and object-oriented language with an excellent user interface.

SPECIFICATIONS

The Tek 4404 Artificial Intelligence System offers the following standard features:

Smalltalk-80 programming environment.

Motorola 68010 32-bit microprocessor with hardware.

Hardware floating point accelerator.

1 Mbyte high-speed dynamic RAM memory.

Operating system with multi-tasking and hierarchical file system.

C compiler with a standard I/O library provided.

Virtual memory management for 8 Mbyte address space.

640x480 monochrome, bit-mapped display, 60 Hz, non-interlaced.

1024x1024 display bit-map with smooth panning.

Three-button mouse.

40 Mbyte, 5¼" hard disk and 320 Kbyte, 5¼" floppy disk.

SCSI interface.

RS-232C communications interface with host communications/file transfer utility.

Centronics parallel hard copy interface.

Low-profile detached keyboard with programmable function keys and joydisk.

Programmable sound generator.

Crystal-controlled clock/calendar with battery backup.

ROM/EPROM expansion sockets.

Available options include:

Additional 1MB memory.

Ethernet interface.

40MB hard disk with tape streamer.

Franz LISP programming language.

Prolog programming language.

EMACS Editor.

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