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ATARI® COMPUTER INTRODUCES A GRAPHICS WORKSTATION

WITH TRUE 32-BIT PROCESSING: THE TT™

LAS VEGAS, NV (November, 1989) -- Atari Computer's most recent intro-duction to the personal computer/workstation market is helping to define standards in the graphics industry. Designed with graphics users in mind, the TT supports TOS, one of the most flexible operating system environments for graphics applications, as well as industry-standard UNIX® and X Windows™.

Although it is compatible with the thousands of applications packages already available for the Atari ST™ product line, the TT is much more than an enhanced ST. This powerful system provides the speed and the open architecture necessary to ensure that graphics users are not limited by their system hardware.

Powerful Processors

The TT, which features a true 32-bit microprocessor, maximizes the speed and power of the Motorola 68030 microprocessor, running at 16 MHz. In fact, the 68030 is one of the keys to the success of this system. It is the first chip to provide internal, parallel (Harvard-style) architecture, on-chip data and instruction caches, and dual modes of address.

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Among other features, the 68030 offers TT users complete compatibility with other processors in the 68000 family, allowing for smooth software migration. In addition, the processor includes a pages memory management unit that allows for multi-user and multi-tasking environments and supports complex operating systems and programs. The 256-byte instruction cache and 256-byte data cache ensure high processor performance.

Finally, the 68030 offers a sixteen 32-bit general-purpose data and address register for easy programming.

The TT also includes six proprietary chips for enhanced graphics and other features. An optional 16-MHz 68881 plug-in chip, for use as a math co-processor, is also available to TT users.

Advanced Graphics

The TT is Atari Computer's most flexible graphics system. With a floating point processor, which can speed floating point operations by a factor of 20; and the ability to output to RGB, VGA and monochrome monitors, the TT is the system of choice for a growing number of graphics applications.

Six graphics modes are available to TT users, including:

Resolution	Colors	Palette
320 x 200	16	512 or 4096
320 x 480	256	4096
640 x 200	4	512 or 4096
640 x 400	2	4096
640 x 480	16	4096
1280 x 960	Monochrome	

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TT users also have extended memory with this flexible system which includes 2 MB RAM (expandable to 8 MB), a 1.44-MB 3.5-inch floppy drive and an optional hard drive.

The new graphics modes, combined with the system's faster speed and extended memory, opens new doors for graphics users. The TT is ideal for producing high-resolution images, video overlays, animation, multimedia productions, retouched photos and 3-D drawings, as well as for more traditional graphics applications such as CAD and desktop publishing.

Compatibility the Key to Applications

Although the TT was designed to be a graphics systems, it is compatible with thousands of business, entertainment, educational, MIDI and other ST packages which are already available. In fact, the enhanced features of the TT make it ideal for a number of intensive processing environments, such as database management or engineering. In many cases, the TT runs these types of programs five times faster than the ST.

Like all of Atari Computer's 68000 ST systems, MIDI ports are standard on the TT. However, the TT also includes stereo 8-bit PCM sound. This digitized sound capability allows users to quickly play back sampled sounds, instead of having to use a sound generator. This is a key feature for users creating sound effects or creating a multimedia program or presentation.

When connected with the appropriate software, the TT's network-ready hardware allows users to tap into an AppleTalk™ or Ethernet™ network--significantly expanding the TT's potential applications. The TT is an economical alternative to adding MAC™ or IBM® systems to an existing network. In

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In addition, the TT offers more advanced features than either the MAC or an IBM system.

The TT is an ideal standalone, network or front-end personal computer for engineering, business and other advanced processing applications.

Third-party developers are already offering TT users emulators which enable them to run software from other operating system environments. In other words, the TT is the most flexible personal computer available. It can be used with TOS, DOS and even Macintosh applications software.

Open Architecture Expands Applications

In many respects, the TT is the most complete graphics system available to users today. However, for even greater flexibility, the system has been designed with on open architecture to ensure that users can expand the TT's application potential.

A VME bus with three single Eurocard expansion slots is standard on the system. In addition, an ACSI internal bus with external connector and a SCSI internal bus with external connector are provided as standard for expansion. Both are with DMA.

The system also boasts two serial ports, an asynchronous RSH 232 port and an asynchronous/synchronous RSH 232 port. Users may opt to add two additional serial ports.

In addition, the TT includes MIDI I/O, parallel, keyboard, mouse and joystick ports as standard. A stereo audio output jack is also included.

The TT includes a realtime clock with non-volatile RAM and includes a 145 watt power supply.

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Market Outlook

According to Dataquest, the worldwide workstation market saw a 53 percent growth in revenue in 1988, even though workstation penetration remained relatively low in terms of the total available market. The market grew from $2.7 billion in 1987 to $4.1 billion, yet only 20 percent of the worldwide engineering community, and less than 5 percent of the emerging office, university and financial markets currently have workstations.

Despite the small market penetration, acceptance of the graphics workstation is high and analysts project that by 1994, the graphics and CAD workstation market will reach $15 billion.

Dataquest's research also indicates that the graphics workstation market will continue to be technology-driven and that the key challenge suppliers will face is managing the rapidly changing technology. Atari Computer's TT provides the open architecture and compatibility necessary to ensure that it can easily be upgraded to meet user demands.

Atari Computer had made its mark in the small systems market by offering complete system solutions at an affordable price. The TT is Atari's answer to user demands for a complete, yet flexible graphics workstation.

The TT will be available in the first quarter of 1990.

For more information, contact Mike Morand, president, Atari Computer, 1196 Borregas Avenue, Sunnyvale, California 94088; (408) 745-2000.

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TT Technical Specifications

Processor: Motorola 68030 (full 32-bit microprocessor with FPU)

System Clock: 16 MHz

Internal RAM: 2 MB (expandable to 8 MB)

Internal ROM: 512K

Drive: 3.5-inch 1.44-MB floppy

Internal Bus: SCSI with DMA
                  ACSI with DMA
                  VME slot with 3 single Eurocard slots

Ports: Parallel, two Serial (expandable to four), MIDI, game, mouse,
                  keyboard and hard disk

Sound: Stereo 8-bit PCM

Graphics: RGB, VGA and monochrome

Resolutions: 320 x 200   16 colors   512 or 4096 palette
                  320 x 480   256   4096
                  640 x 200   4   512 or 4096
                  640 x 400   2   4096
                  640 x 480   16   4096
                  1280 x 960   Monochrome

System Clock: Realtime clock with NVRAM

Power: 145 watts