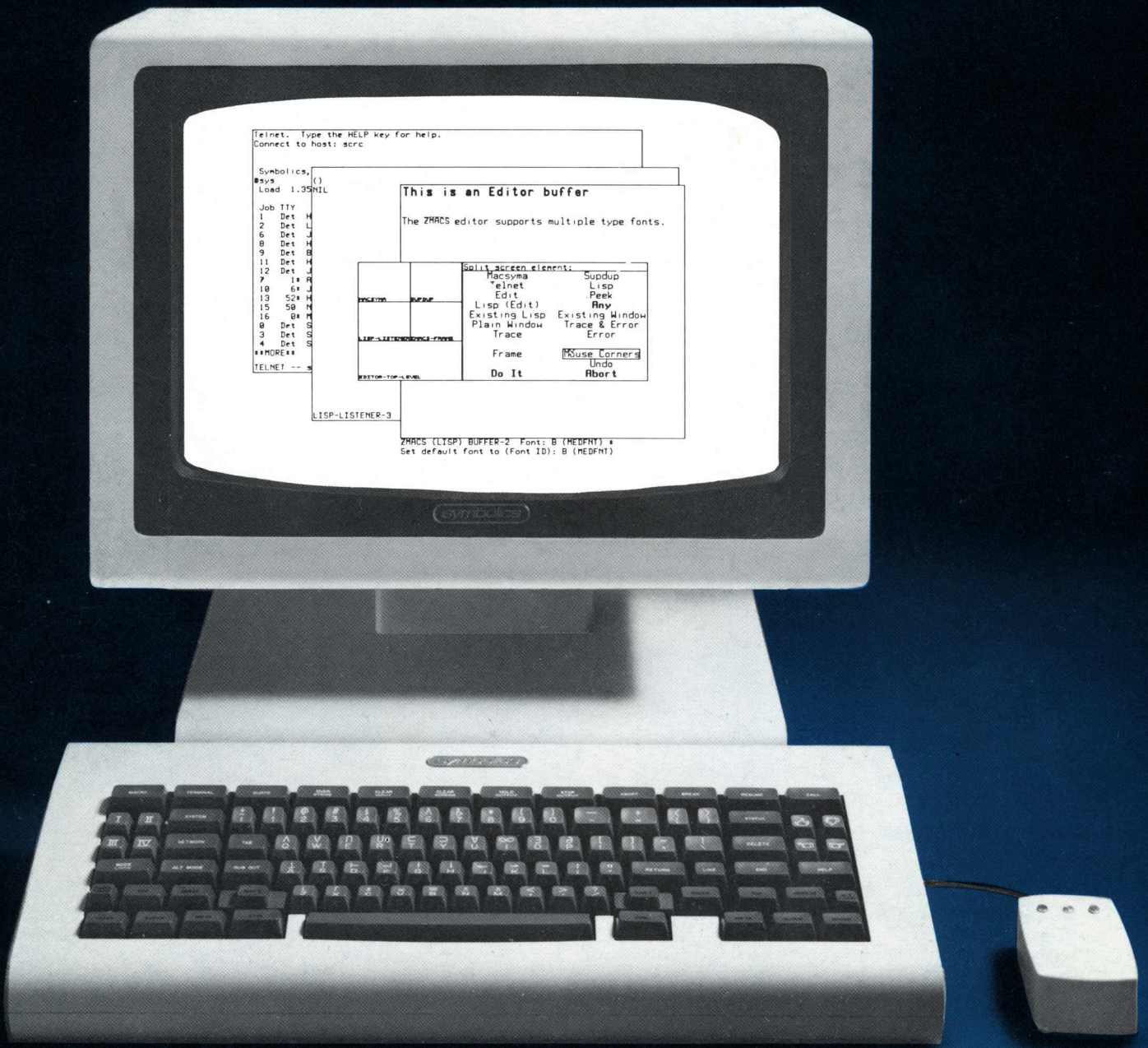
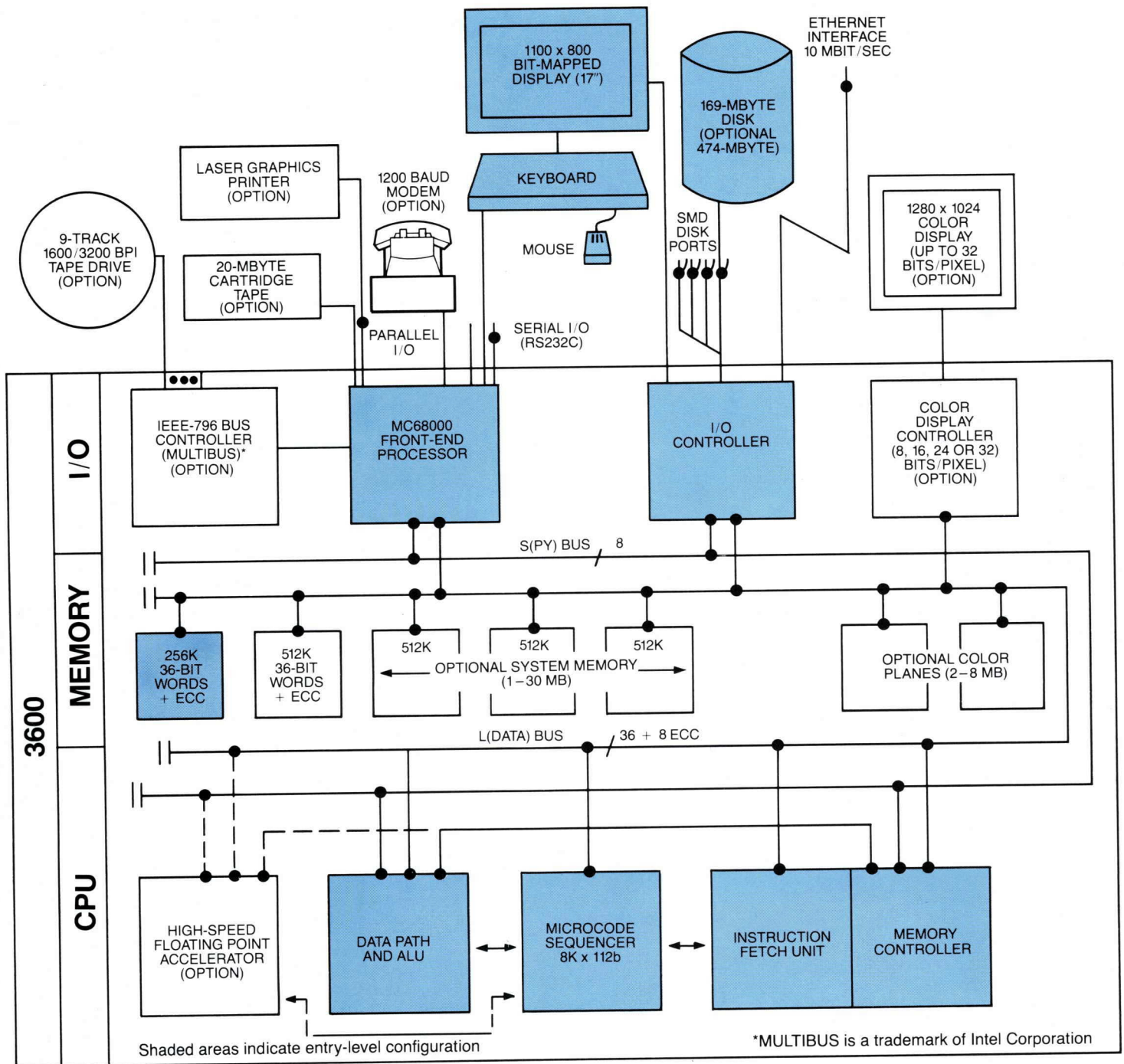


symbolics™

# 3600 SYSTEM SUMMARY



# 3600 SYMBOL PROCESSOR



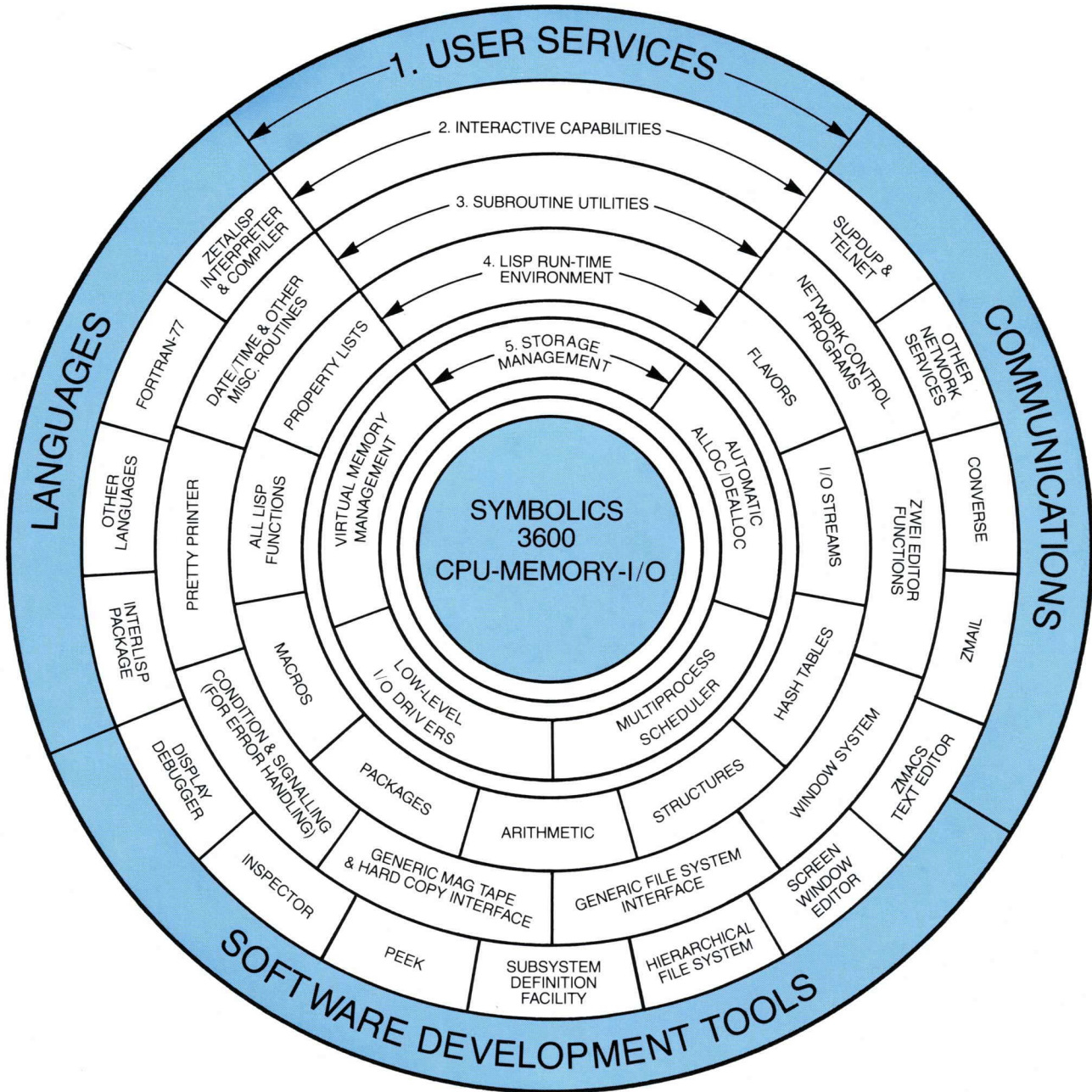
The 3600 Symbol Processor consists of three major subsystems as shown on the simplified diagram above.

**I/O Subsystem**—The input/output system is comprised of a powerful MC68000-based front-end processor that supports low- and medium-speed devices as well as a high-performance I/O board that supports 10 Mbit/sec Ethernet, SMD disk, and the high-performance black and white console display. Optional devices available include a high-resolution color display system, modem, a Laser Graphics Printer, magnetic tape units, and additional disk drives. Other serial or parallel devices can be connected as shown.

**Memory**—The 3600 offers a large virtual address space. 256 million 36-bit words (1 gigabyte) of virtual memory may be directly addressed. The system may be configured with up to 30 Mbytes of error-corrected physical memory. Memory boards are comprised of 64K MOS ROMs, with transfer rates to 20 Mbytes/sec.

**Central Processing Unit**—The 3600 processor is built around a dedicated, high-performance microprogrammed 36-bit stacked and tagged architecture with 32-bit datapaths. The instruction fetch unit is overlapped with normal execution and permits many opcodes to execute in as little as 200 nsec.

# 3600 SOFTWARE ENVIRONMENT



1. **USER SERVICES**—Symbolics Lisp-based software environment offers a unique blend of expressive power, development power and communications. The environment is comprised of more than 15 Mbytes of system software shown as layers 2–5 summarized below:

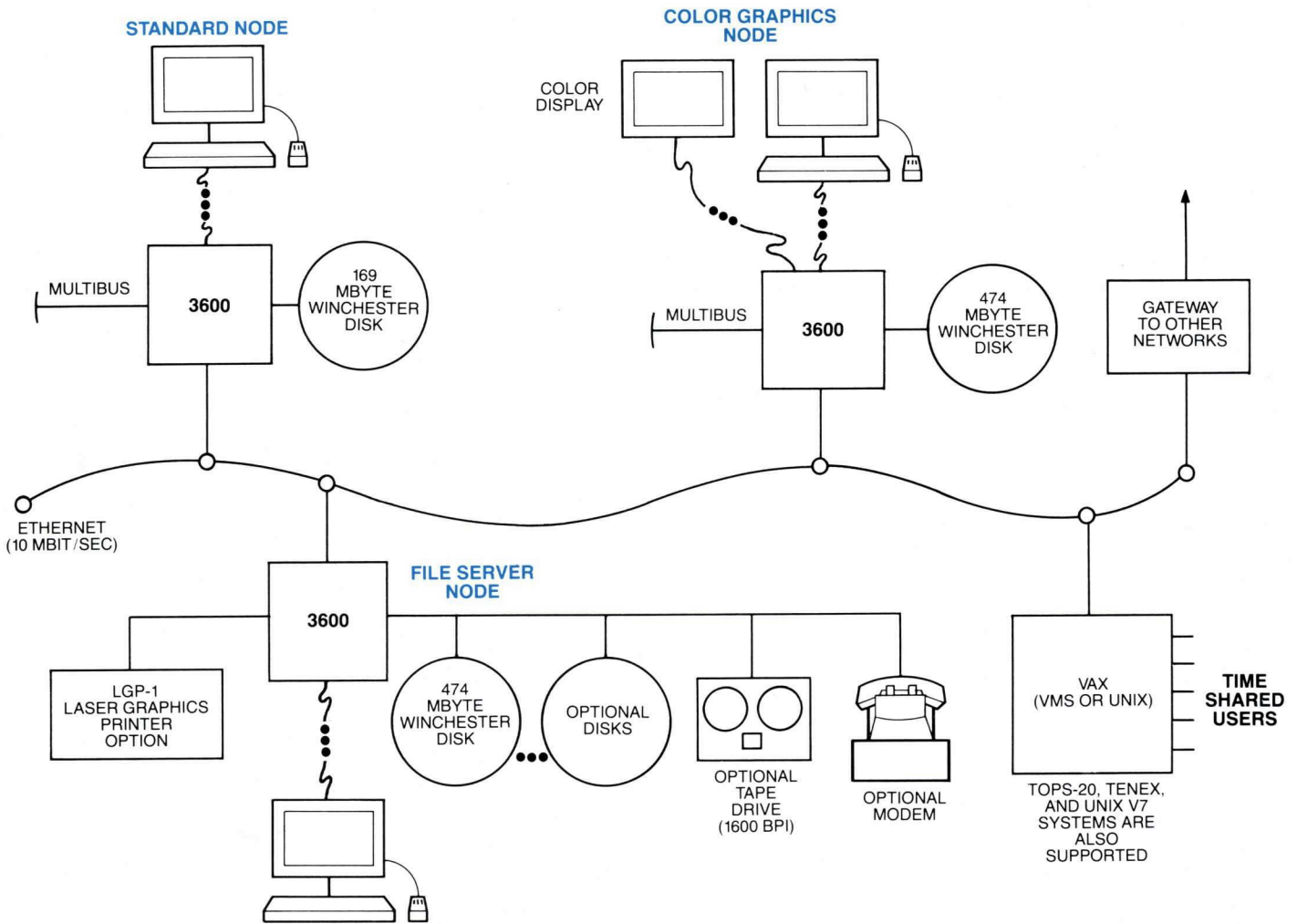
2. **INTERACTIVE CAPABILITIES**—Software development is totally interactive. The on-line edit, compile, inspect, and debug environment is fully integrated with the window system. Electronic mail and Converse are fully integrated with the window system editor and file system. High-level remote communication services enhance overall ease of use.

3. **SUBROUTINE UTILITIES**—Program developers have access to a collection of powerful subroutines which include high-level system functions that shorten the program development cycle.

4. **LISP RUN-TIME ENVIRONMENT**—All of the functions that implement Lisp are available to the user. Extensions to Lisp such as Flavors are included here as well.

5. **STORAGE MANAGEMENT**—The lowest level of system software (above microcoded 3600 routines shown at center) are the predefined system functions that provide the complete machine operating systems environment.

# TYPICAL 3600 NETWORK



VAX is a trademark of Digital Equipment Corp.  
 UNIX is a trademark of Bell Laboratories, Inc.  
 TENEX is a trademark of Bolt Beranek and Newman Inc.

The Symbolics Network System enables Symbolics computers to share resources and exchange information comprehensively with each other and with standard time-shared computer systems. Communication and access are supported via an industry-standard 10 Mbit/sec Ethernet local network. High-level user services, including generic file-system access, file transfer, electronic mail, remote

login, and real-time message sending are implemented compatibly across all supported operating systems. Typical configurations on a local network might include an entry-level 3600, a color graphics node, or a file server node. Geographically separated local networks can be interconnected via gateways with full services provided.

## 3600 FEATURES AND OPTIONS

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The Symbolics 3600 is substantially more powerful, faster, and cost-effective than any present Lisp-based processor. It supports several languages, and has been designed and manufactured to meet the demands for growth in the applications of artificial intelligence, knowledge-based systems, expert systems, software development, training, simulation, graphics and animation, image processing, decision support, VLSI design, CAD/CAM, and scientific computing.

The 3600 is a totally integrated hardware and software system and has been engineered and built to make the most efficient use of the power and functions of the Lisp language. The software provided with the system offers software development productivity unmatched in any other computing environment. As a user-oriented workstation, the 3600 has the symbol processing and computational power, interactive graphics, and software flexibility previously unavailable on the commercial market.

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### Standard features include:

- 1 Mbyte MOS memory (256K 36-bit words) with ECC
- Standard serial (RS232C) and parallel I/O ports
- Ethernet 10 Mbit/sec local area network interface and user services
- Console with 1100 x 800 bit-mapped raster display, 88-key keyboard (with n-key rollover), graphic pointing device (mouse), and programmable audio output
- 169 Mbyte SMD-compatible Winchester disk drive
- Zetalisp Interpreter, compiler, interactive utilities, and Symbolics run-time environment of Lisp functions, including the Flavor-based window system
- Interlisp compatibility package

### Options include:

- Basic color display, 1280 x 1024 with 8, 16, 24 or 32 bits/pixel, 10 bits/color (R,G,B)
- Memory in 2 Mbyte increments, up to 30 Mbytes
- Disk memory to 1.8 gigabytes
- Dual-density tape drives 1600 bpi, 3200 bpi (stream mode)
- 20 Mbyte cartridge tape drive
- Floating Point Accelerator (2 MFLOPS)
- Ethernet hardware and software for other time-sharing computer systems
- FORTRAN 77 and other languages
- 1200 baud modem
- IEEE 796 Bus (MULTIBUS)
- 660 lines-per-minute Laser Graphics Printer (LGP-1)

*Contact Symbolics for OEM pricing.  
Specifications subject to change without notice.*

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Symbolics, Inc. designs, manufactures, sells, and supports advanced state-of-the-art, high-performance, single-user computer systems that feature a highly interactive man/machine interface. These systems were designed in response to the growing demand for increasing the productivity of highly skilled professional staff in various high technology disciplines. Present applications include the design of very large scale integrated (VLSI) circuits, symbolic mathematical analysis, genetic engineering, seismic studies for oil and mineral exploration, training simulation, software production, and artificial intelligence research and development. The system design objective, achieved to an extent never before offered commercially, has been to greatly enhance programmer and user productivity.

Symbolics, Inc. brings together most of the team who designed and produced the Massachusetts Institute of Technology Lisp machine computer series and its operating system. We believe that this team will enable Symbolics to remain at the forefront of future technological developments in both hardware and software.

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