

System 150



WICATsystems

WICAT SYSTEMS: System 150 WS

WICAT set a new standard of price performance with the introduction of the System 100. Now the System 150, packaged neatly within a CRT housing, offers even greater price performance. Included in a single, trim, desktop unit is the processor, memory, CRT, storage and storage backup. A graphics version of the System 150 is also available.

The processor for the WICAT System 150 is the Motorola 68000, which runs at 8 MHz and executes approximately one million instructions per second. Although this processor has a 16-bit external data path, internally it supports 32-bit operation. Memory ranges from 256 Kbyte of dynamic RAM up to 1.5 Mbyte.

Mass storage includes a 10/15/32/43-Mbyte Winchester disk drive and a 5 $\frac{1}{4}$ -inch floppy disk drive for backup. Cartridge tape and two additional Winchester drives can also be added.

The system 150 WS is available in three configurations designed to meet many applications: The System 150-1 WS, the multi-user System 150-3 WS, and the multi-user System 150-6 WS.

The WICAT System 150 workstation is an ideal small business system, dedicated personal computer, or node within a network. Multibus* devices can easily be attached, and maintenance is available internationally. The combination of high performance, low cost, a common bus structure, and readily available software provides you with a cost effective, easy to implement solution to your data processing needs.

PROCESSOR

- MC68000L8, 8MHz (approx. 1 million instructions per second)
- 16-bit processor (32 bit data operations)
- Memory management
- 7 vectored interrupt levels
- Bus architecture: IEEE 796 (extended Multibus*)

MEMORY

- 256 Kbytes of dynamic ECC RAM (expandable to 1.5 Mbyte)
- 16 Kbyte/ 32 Kbyte of EPROM

PERIPHERALS

- 2 programmable interval timers
- Intelligent disk controller
- 10/15/32/43 Mbyte 5 $\frac{1}{4}$ -inch Winchester disk
- 960 Kbyte 5 $\frac{1}{4}$ -inch floppy disk drive (unformatted)
- 2-5 RS-232 C serial interfaces (19.2 Kbaud in asynchronous mode)
- 16-bit general-purpose parallel interface
- Battery-backed calendar clock
- Graphics version (optional)
- Videodisc controller (optional)

SYSTEM SOFTWARE

- Multi-user Control system (MCS): A realtime, multi-user multi-tasking operating system
- Operating System Options: UNIX*
- Language Support: APL*, Assembler, BASIC, C, COBOL, FORTRAN 77, and Pascal
- Major Applications: Office Information System (word processing), UltraCalc, WISE (courseware development system), and Sequitur (relational DBMS)

DIMENSIONS

Height	16 in.
Width	19 in.
Depth	16 $\frac{1}{2}$ in.
Weight	50 lb.

System 150 Hardware Specifications

ENVIRONMENTAL AND SAFETY

Safety

Designed to meet UL 478 (EDP) and 114 (office equipment) and CSA 154 (EDP) and 143 (office equipment) requirements.

RFI/EMI

Complies with FCC Rules and Regulations, Part 15, Subpart J, Class A.

Operating altitude

10,000 ft. 3000 m

Operating Temperature

50 to 85°F.
10 to 30°C.

Operating Humidity (noncondensing)

20-90%

ELECTRICAL

AC Power Capacity

47-440 Hz

Voltage

110/240.

Power Supply Efficiency

70% Typ.

DC Power Capacity

+ 5 volts:	25 amps
+12 volts:	4 amps
- 12 volts:	1 amp
+12 volts:	1 amp

TIMING

Processor Clock

8 MHz

Bus Architecture

IEEE 796 (extended Multibus*)

10/15 Mbyte Winchester Disk Timing

Transfer rate	5M bits/sec.
Access time (avg.)	85 ms.
Access time (max.)	170 ms.
Access time (track to track)	3ms.
Rotation	3600 rpm

Floppy Disk Timing

Transfer rate	250K bits/sec.
Access time (avg.)	267 ms.
Access time (max.)	583 ms.
Access time (track to track)	6 ms.
Rotation	300 rpm

Serial I/O Rate

50 to 19,200 baud

Parallel I/O Rate

Up to 1 Mbyte/sec.

IEEE 488 Parallel I/O Rate

Up to .5 Mbyte/sec. (optional)

RELIABILITY

MTBF

3000 hours

System Software

OPERATING SYSTEMS

The Multi-user Control System (MCS)

Users have simultaneous access to the system (multi-user), and each user can run several processes simultaneously (multi-tasking).

Background processing.

Command files and parameter files that contain lists of commands (script) or parameters can be executed as though the operator were typing them.

Logical Input/Output.

Input/Output redirection.

Named pipes.

75 standard utilities including a screen-oriented text editor, SORT/MERGE, incremental system backup.

Subdirectories (hierarchical) to any level.

File versions.

Logical names.

A variety of user interface programs. The standard interface is expandable and includes command line editing, prompted parameter entry, on-line helps, and parameter files.

Keyed Sequential Access Method (KSAM).

Memory management also allows the following:

Process can share pages of memory.

Pages of logically addressed memory can be write-protected.

All user processes share a uniform context.

Noncontiguous physical memory pages appear as contiguous logical memory pages.

User processes are isolated from each other as well as from the MCS.

The text, or code, segment of a process being used simultaneously by several users is write-protected and shared automatically.

WICAT UniPlus+

WICAT'S UniPlus+ system derives from the UNIX* operating system and combines a complete set of basic utilities with a set of powerful mechanisms that allow the user to create new commands. The UNIX system is self-contained and therefore adaptable to numerous new processors and hardware systems.

WICAT has source licenses with AT&T for UNIX Version 7 and UNIX System III. The kernel and utilities for WICAT's UniPlus+ are essentially those of UNIX Version 7 from Bell Laboratories. In addition to enhancements made by WICAT Systems, UniPlus+ includes the enhancements of UNIX System III, and the 4.1 Berkeley Standard Distribution.

Utilities and subsystems include:

C Shell	(command processing language)
vi	(visual display editor)
SCCS	(Source Code Control System)
curses	(screen management library)
nroff, tbl	(document preparation)
yacc, lex	(language development)
uucp, cu	(UNIX networking)
badblk	(handling bad blocks)
mt	(Berkeley mag tape)

APPLICATIONS

Office Information System (OIS) Word Processing

This flexible word processing system, with editing and formatting capabilities, includes pagination, search and replace, automatic page numbering, cut and paste, right justification, a spelling dictionary, and other essential functions.

UltraCalc

UltraCalc, a versatile electronic worksheet, allows you to manipulate and analyze tabular data using graphs, automatic recalculations, 15-digit arithmetic, and advanced math functions. These features simplify economic forecasting, trend analysis, and other computations.

WISE

WISE is a courseware development system that allows the nonprogrammer to use text and graphics editors as well as instructional design features to create sophisticated instructional programs. WISE eliminates the need for an intermediary programmer to develop computer-operated lessons on any subject.

SEQUITUR

This relational database management and word processing system is totally screen-oriented and offers fully integrated editing and relational data manipulation. Sequitur also provides unprecedented versatility for entering data; generating reports, forms, and mailing lists; and using word processing to manage documents.

LANGUAGES

RM/COBOL

RM/COBOL is an implementation of the ANSI 74 COBOL standard, designed for the efficient development and execution of COBOL business applications. RM/COBOL has the features commonly required by minicomputer and mainframe applications.

SMC BASIC

SMC BASIC is a Business Basic that retains the simplicity of the original Dartmouth BASIC, yet includes enhancements that make the language particularly simple and easy to use for business applications.

Pascal

WICAT's Pascal compiler produces an optimized native 68000 code. Extensions to the ISO standard include random file access, UCSD-compatible strings, and liberal-set capability.

C

The WICAT C compiler derives from the standard UNIX* C compiler and comes with full standard I/O and math libraries. This low-level language allows easy access to the operating system and hardware, as well as to FORTRAN and Assembler.

FORTAN 77

FORTAN 77 is a GSA-validated, full implementation of the ISO standard. FORTRAN 77 has an enhanced I/O and program structure and still supports the FORTRAN 66 standard.

APL.68000*

APL.68000 is the first APL interpreter for the MC68000 microprocessor. It supports a powerful file system, formatter, and IEEE floating point arithmetic.

CIS COBOL

WICAT offers the GSA-approved CIS COBOL with special screen handling features and extensions for interactive debugging. The compiler exceeds the ANSI Level 1 COBOL requirements and handles sequential, relative, and indexed sequential files.

Coherent BASIC*

Coherent BASIC is an extended dialect of BASIC that can be used interactively like an interpreter. Coherent BASIC also produces code like a compiler and then executes the code.

Assembler

The WICAT 68000 Assembler processes files at 2000 lines per minute. It supports the standard mnemonics and pseudo-instructions in Motorola's portable cross assembler to transport applications quickly and effectively.

*Multibus is a trademark of INTEL Corporation.

*UNIX is a trademark of Bell Labs.

*UniPlus+ is a product of Unisoft.

*APL.68000 is provided by The Computer Company.

*Sequitur is a trademark of the Pacific Software Manufacturing Co.

*Coherent BASIC is a product of Mark Williams Co.