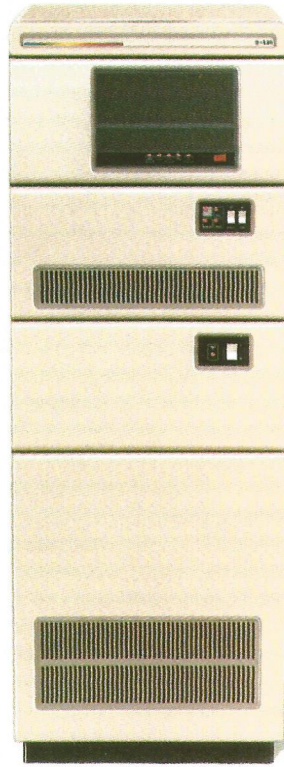


System 220



WICATsystems

WICAT SYSTEM 220

WICAT Systems, Inc., introduces the System 220, a powerful and versatile 68000-based microcomputer designed to meet the broad range of business and scientific computing needs.

WICAT's proprietary bus structure and intelligent I/O controller provide rapid response and access to memory for up to 48 users. A high-density disk controller supports up to 474 Mbytes per disk, four drivers per system, and multiple backup systems. The System 220 also contains a 20-slot chassis, which allows RAM expansion up to 12 Mbytes.

With state-of-the-art design, the System 220 provides features usually found only on larger mainframe systems and has made the system available at a surprisingly affordable price.

PROCESSOR

- MC68000L8, 8 Mhz (approx. 1 million instructions per second)
- 16-bit processor (32-bit data operation)
- 7 vectored interrupt levels
- 20-slot chassis (proprietary bus)
- Memory Management

MEMORY

- 512 Kbytes to 12 Mbytes Dynamic Parity RAM

PERIPHERALS

- 80/160/474 Mbyte SMD Disk Subsystems
- Tape Subsystems:
 - 9-track tape drive (1600/3200 bpi, 25 ips)
 - 1/4-inch Cartridge Tape (6400 bpi, 30/90 ips)
- Interfaces:
 - 8/48 Async Intelligent Ports
 - 4/8 Sync Intelligent Ports
 - Master Control Parts
 - 1-3 parallel ports
- Hardware Floating Point (optional)

SYSTEM SOFTWARE

- Communications: 3270 emulation (Bisync.), 2780/3780 emulation (Bisync.)
- Multi-user Control System (MCS): A real-time, multi-user, multi-tasking operating system
- Operating System Options: UniPlus+* (UNIX*), CP/M Emulator*
- Language Support: APL.68000*, Assembler, W-BASIC, SMC-BASIC, C, RM-COBOL, LEVEL II COBOL, FORTRAN 77, and PASCAL
- Major Applications: Office Information System (word processing), UltraCalc, WISE (courseware development system), and Sequitir* (relational DMBS)

System 220 Hardware Specifications

ENVIRONMENTAL

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.

Temperature

Operating 50 to 95° F. 10 to 35° C.
Idle -40 to 140° F. -40 to 60° C.

Operating Altitude

10,000 ft. 3,000 m.

Operating Humidity (noncondensing)

20 to 80%

RACK MOUNT

Physical size

Height ¾ Bay
Width 53 in.
Depth 22 in.
Weight 31 in.
Weight 140 lbs.

CPU DRAWER

Physical size

Height 10 in.
Width 19 in.
Depth 26 in.
Weight 50 lbs.

Electrical

Frequency 49-63 Hz
Voltage 92-138/184-260 VAC
Watts 800

Timing

CPU 8 (MHz)
Bus Proprietary
Serial Ports (RS-232) 50-19.2K Baud
Parallel 1 Mbyte/sec.

80 MB SMD DISK SUBSYSTEMS

Physical size

Height 8.7 in.
Width 19 in.
Depth 26 in.
Weight 40 lbs.

Electrical (input power)

Frequency 49-63 Hz
Voltage 92-138/184-260 VAC
Watts 300

Specifications

Winchester Size 8 in.
Capacity Unformatted 84 Mbyte
Formatted 76 Mbyte
Access Time Track to Track 5 ms.
Average 20 ms.
Maximum 40 ms.
Transfer Rate 1.2 MB/sec.
Rotational Speed 3600 rpm

MTBF

10,000 hours

160 MB SMD DISK SUBSYSTEMS

Physical size

Height 10.4 in.
Width 17.5 in.
Depth 29.8 in.
Weight 128 lbs.

Electrical (input power)

Frequency 49-63 Hz
Voltage 92-138/184-260 VAC
Watts 500

Specifications

Winchester Size 14 in.
Capacity Unformatted 168 Mbyte
Formatted 152 Mbyte
Access Time Track to Track 10 ms.
Average 30 ms.
Maximum 55 ms.
Transfer Rate 1.0 Mbyte/sec.
Rotational Speed 2964 rpm

MTBF

9,000 hours

474 MB SMD DISK SUBSYSTEMS

Physical size

Height 10.5 in.
Width 19 in.
Depth 26 in.
Weight 140 lbs.

Electrical (input power)

Frequency 49-63 Hz
Voltage 92-138/184-260 VAC
Watts 600

Specifications

Winchester Size 10½ in.
Capacity Unformatted 474 Mbyte
Formatted 421 Mbyte
Access Time Track to Track 5 ms.
Average 18 ms.
Maximum 35 ms.
Transfer Rate 1.8 Mbyte/sec.
Rotational Speed 3961 rpm

MTBF

10,000 hours

9 TRACK TAPE DRIVE

Physical size

Height 8.7 in.
Width 19 in.
Depth 25 in.
Weight 80 lbs.

Electrical

Frequency 49-63 Hz
Voltage 92-138/184-269 VAC
Watts 300

Specifications

Recording Density 1600/3200 bpi
Tape Speed 25 ips
Transfer Rate 160 Kbytes/sec

Capacity

½-inch mag. tape (2,400 ft. tape)
Unformatted 46 Mbyte
Formatted 37 Mbyte
(4 Kbytes/block)

MTBF

5500 hours

¼" CARTRIDGE TAPE SUBSYSTEM

Recording density 6400 bpi
Tape speed 30/90 ips
Transfer rate 192 Kbits/sec.

Capacity:

Length of Tape	Block Size		
	1024 bytes	2048 bytes	4096 bytes
300 ft.	5.6 MB	7.2 MB	8.5 MB
400 ft.	8.4 MB	10.8 MB	12.7 MB

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).

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.

Keyed Sequential Access Method (KSAM).

Memory management also allows the following:

Processes can share pages of memory¹.

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 (within a 2MB limit).

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. The kernel and utilities for WICAT's UniPlus+ are essentially those of UNIX Version 7 from Bell Laboratories.

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)

LANGUAGES

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.

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.

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.

FORTRAN77

FORTRAN77 is a GSA-validated, full implementation of the ISO standard. FORTRAN77 has an enhanced I/O and program structure and still supports the FORTRAN 66 standard.

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.

W-BASIC

W-BASIC is WICAT's new enhanced BASIC programming language. It is fully Microsoft compatible and complies with the ANSI standard for BASIC. Availability for both MCS and UNIX operating systems gives W-BASIC ease of use and broad application for both scientific and educational use.

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.

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.

LEVEL II COBOL

WICAT is the first to offer this GSA certified high-level COBOL compiler for use on microcomputers. The compiler offers the user a broad range of COBOL business applications at the highest possible level. An optional native code generator allows greatly increased speed and efficiency of execution.

*Multibus is a trademark of INTEL Corporation.

*CP/M is a trademark of Digital Research.

*UniPlus+ is a product of Unisoft.

*APL.68000 is provided by The Computer Company.

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

*UNIX is a trademark of Bell Labs.