



### FEATURES

- Dual Floppy Disk Drive
- Utilizes Intel 8085 Processor.
- 64K Program Memory (32K Standard)
- 2 RS-232C Serial Terminal Interfaces available with Independently Adjustable Transmission Rates from 50-19,200 Baud.
- 3 8-bit Parallel Buffered Ports, Configured for 2 Outputs and 1 Input.
- Rack-mounted Cabinet.
- Industry-standard CP/M®, MP/M® Operating Systems Available.
- Entire Computer Subsystem on One Circuit Card that is easily Removable for Maintenance.
- A Switching Mode Regulation Modular Power Supply for High Efficiency and Low Heat Dissipation.

® DIGITAL RESEARCH

### DESCRIPTION

The ID Systems Microcomputer System ID108 is an extremely powerful general purpose computer system which can be used for process control or data collection as part of a distributed computer system or as a small stand-alone computer system for scientific, industrial, or business use. The basic processor is an Intel 8085 which supports up to 64K of program memory, two RS-232C full duplex serial interfaces with selectable transmission rates of 50-19,200 baud, and 3 general purpose 8-bit parallel interfaces for line printer or EPROM programmer.

Programs are stored on 8" flexible diskettes for high data reliability. Optionally, the system can include an AMD9511 floating point math chip which allows user-written programs to execute math functions one to two orders of magnitude faster. The entire computer subsystem, including all interfacing, is all on one circuit card which is easily removable for maintenance. The Modular power supply for the ID108 uses switching mode regulation for high efficiency and low heat rise inside the cabinet, yielding improved system reliability.

### APPLICATION DEVELOPMENT SOFTWARE

The application development tools are the most comprehensive set of programs available for a microcomputer system from any source. The disk operating system is well documented and supported industry-standard CP/M® or its multi-user real-time executive extension MP/M®. CP/M® provides a programmer with a structured access to all his hardware. It supports a named file structure on disk and provides commands to allow access to files on disks or other peripherals. Many CP/M®-based software packages commercially available will easily run on the ID108 without modifications. Programs include:

ED	Program text editor	SYSGEN	System Diskette generator
ASM	Assembly language program assembler	FORMAT	Disk formatter
LOAD	Program Loader	COPY	Disk copy program
DDT	Dynamic debugging tool.	PROM	EPROM programmer utility package
PIP	Peripheral interchange program		

MPM® multi-programming monitor expands the microprocessor into a system capable of handling applications once only done with minicomputer-based operating systems. MP/M® is based on real time multi-tasking nucleus. This nucleus provides process dispatching (MP/M® is a priority-driven system), queue management, flag and memory management and system timing functions. MP/M® provides the programmer with all the functions of the CP/M® plus XDOS (Extended Disk Operating System). That is;

- |   |   |
|---|---|
| Multi-terminal support.   | Logical interrupt system separate from physical interrupts. |
| Multi-programming at a single terminal.                                     | Time of day.  |
| Concurrent I/O and CPU operations.  | File spooling to printer.                                   |
| Inter process communications.   | Scheduling programs by time.                                |
| Ability to operate in a sequential, polled or interrupt-driven environment. | System status display.                                      |

Application programs are written for execution under MPM® and are available.

## SPECIFICATIONS

### ELECTRICAL

CPU 8085 6.144 MHz Clock  
RAM 64K Dynamic Array using Transparent Refresh  
ROM 2K Boot EPROM in Page 0

### I/O

2 RS-232C Serial, Full Duplex Interfaces with Independently Adjustable Transmission Rate of 50-19,200 Baud.  
3 8-bit Parallel Buffered Ports, 2 Outputs and 1 Input (For Line Printer or Optional EPROM Programmer).  
Western Digital 1793 Floppy Disk Interface. Configured for Single Density Operation.

### DISK DRIVE

8" Single Sided, Single Density for High Data Reliability.  
IBM Format with Nonsequential Sector Numbering to Improve System Response, 77 Tracks, 26 Sectors/Track, 128 Bytes/Sector 256K Bytes per Disk  
Media—BASF 54568, IBM 1D, MEMOREX 32013060 (Soft Sector) or equiv.

### AC POWER

Disk Drive (each) 45 Watts  
Microcomputer 60 Watts  
Overall Unit—115 VAC ±10%, 60 Hz ±0.5 Hz

### PHYSICAL SPECIFICATIONS

Dimensions—7" x 17-5/8" x 21" with  
RETMA Rack Mounting Ears.  
Weight—43 Lbs.  
Temperature—50° to 100°F  
Humidity—20% to 80% Noncondensing

### RELIABILITY SPECIFICATIONS

MTBF—8000 Hours (Disk Drive)  
MTTR—30 Minutes  
Error Rates (Disk Drive)  
Soft Read Errors—1 per 10<sup>9</sup> Bits Read  
Hard Read Errors—1 per 10<sup>12</sup> Bits Read  
(After 10 Retries)  
Seek Errors—1 per 10<sup>6</sup> Seeks  
Media Life—3.5 x 10<sup>6</sup> Passes/Track

**NOTE:** Preventive Maintenance required by Vendor on Disk Drives every 5000 Hours of heavy usage and every 15,000 Hours typical usage.

## OPTIONS

AMD9511 Floating Point Math Chip Processor  
Ten Floppy Diskettes with ID Systems Format in Plastic Library Case  
Oak System Desk

### MACHINE LANGUAGES

MAC®—Macro 8080 assembler  
SID®—Symbolic debugger (requires MAC®)  
EDIT—80<sup>2</sup>

### HIGH LEVEL LANGUAGES

CBASIC<sup>1</sup>—Compile basic  
MICROSOFT BASIC<sup>2</sup>—Interpreter  
PLI-80®  
FORTRAN-80<sup>2</sup>  
PASCAL-80<sup>2</sup>  
COBOL-80<sup>2</sup>

**NOTE:** All standard software packages available from ID Systems are provided with a software license.

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<sup>2</sup>Copyright Microsoft

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