Specifications

Ontel OP-1

Programmable Multiprocessor
Terminal System

Three Microprocessors
User Programmable
Unique High Speed Architecture
Functional Modular Structure
Stand-alone or On-line Environment

Synchronous Communications Controller

Up to 50,000 bits-per-second
Multi-point or direct capability
EIA RS-232 compatible
Programmable input/output discipline:
Synchronization code
Attention code
No parity, eight data bits
Odd parity, seven data bits
Error Detection character generation and check

Tape Controller

Up to four 3M tape cartridge transports
One, two or four tracks per transport
2.8 megabytes per cartridge
Read-while-write error checking:
Longitudinal redundancy check
Modulo 8 bit count

Tape Commands:

Read or write records or files of any length
Rewind/backspace, write End of Data Mark
Skip N records or files forward or reverse; N is program defined
Search for a record or file beginning with a program defined search character

IOM manages all data transfers between memory and up to four device controllers housed in the OP-1 enclosure
Data transfers are performed on a cycle steal basis
11 microseconds per data byte transfer
CPU is interrupted after completion of I/O operation
Simultaneous Input/Output processing for all devices
IOM and device controllers are field installable
Any combination of device controllers is available

Disk Controller

Up to four drives per disk file
2.5/10 megabytes per drive
20/12.5 milliseconds average latency
Data organized in sectors of 256/512 bytes
Read/write records of any length up to 6, 144 bytes as a single I/O operation
Disk File can be shared by four OP-1 systems:
Each OP-1 can issue I/O commands regardless of file usage by others
Access priority assigned by file controller
Update protection provided via update lockout feature

Printer Controller

Parallel interface line printer
80/132 characters per line
60-150/60-200 lines per minute

Byte String Controller

Moves data blocks of any length from any source to any destination in memory
15/30 microseconds per data byte transfer
Data moves can be conditional or absolute
Word wraparound option
Printer interface is included in this controller

Multiprocessor Controller

Controls clustered OP-1 systems
Transfer rate up to 20,000 bytes per second
Transmit/receive records of any length
Eight bit parallel interface with parity check

Ontel OP-1

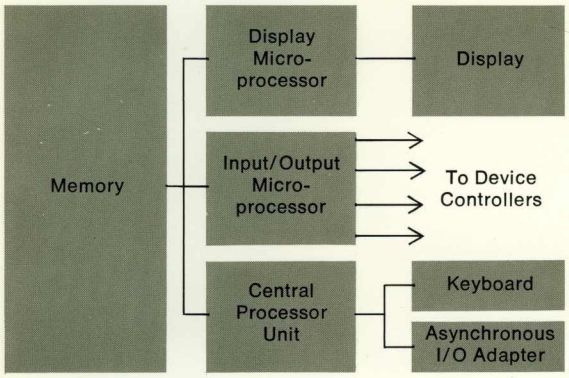
Programmable Multiprocessor Terminal System

Easy access
All functional modules on plug-in PC boards

Central Processor Unit

User programmable
General purpose microprocessor
12.5 microsecond cycle time
8-bit word length
8-level interrupt capability
256/512 byte bootstrap memory
Parallel input/output bus

Load programs from any local source or remote computer
Comprehensive instruction set:
Arithmetic/Logic
Load, Store
Jump, Call, Return
Rotate, Increment, Decrement



Memory

Random access read/write
1 microsecond access time
Expandable in increments of 4,096 bytes

16,384 bytes maximum capacity
Memory can be allocated to any use for program storage, display or I/O buffers

Asynchronous I/O Adapter

110 to 9600 bits-per-second
EIA RS-232 compatible
Serial start-stop format
Directly connected to CPU I/O bus
Data Transmission format:
Character/Block
Full/Half Duplex

All communications parameters are program controlled:
Transmission Rate
One or two stop bits
Eight or seven data bits
Odd, even or no parity

Two fixed data switches for general programming purposes

Display Microprocessor and CRT

Total memory can be assigned as a display buffer

Display is a movable window in memory
Black-on-white or White-on-black

Program Timing

1 millisecond roll/scroll
2 milliseconds erase screen

3 milliseconds erase forms

Program Controlled Functions

Size of Page
Cursor Location
Erase and Edit
Blink Characters
Blink Cursor
Solid Underline

Window Location
Roll and Scroll
Reverse Screen
Reverse Characters
Half/Double Intensity
Dotted Underline

Display Characteristics

Screen:	14-inch diagonal, non-glare
Screen Capacity:	1920/1600 characters
Display Format:	24/20 lines of characters
Character Size:	0.21 x 0.09 inch
Character Dot Matrix:	5 x 7 upper case 5 x 9/5 x 10, lower case
TV Raster:	262 lines, non-interlaced
Refresh Rate:	60 times per second
Phosphor:	P4 white

Displayable Character Set

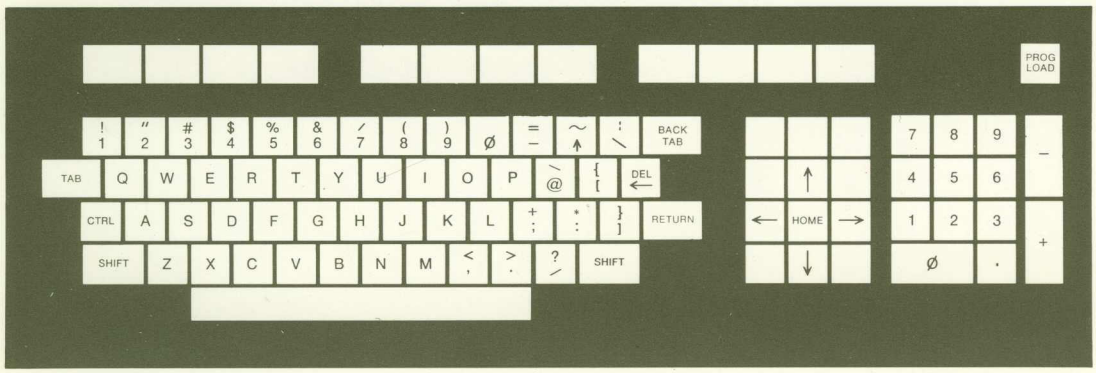
ASCII	96 upper and lower case
Special Symbols	16

Electrical Characteristics

120 Volts AC, 60 Hz, 170 Watts

Physical Dimensions

Height 16.6″ Width 22.5″ Depth 24.5″ Weight 68.0 lbs.



Keyboard

93 keys arranged in 4 pads:
ASCII section
12-key Control Pad
13-key Numeric Pad
13-key Function Pad

Attached or movable keyboard
4 integral status lights
Programmable audible tone
Automatic repeat feature
Unique code from every key
2-key roll-over/N-key optional

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