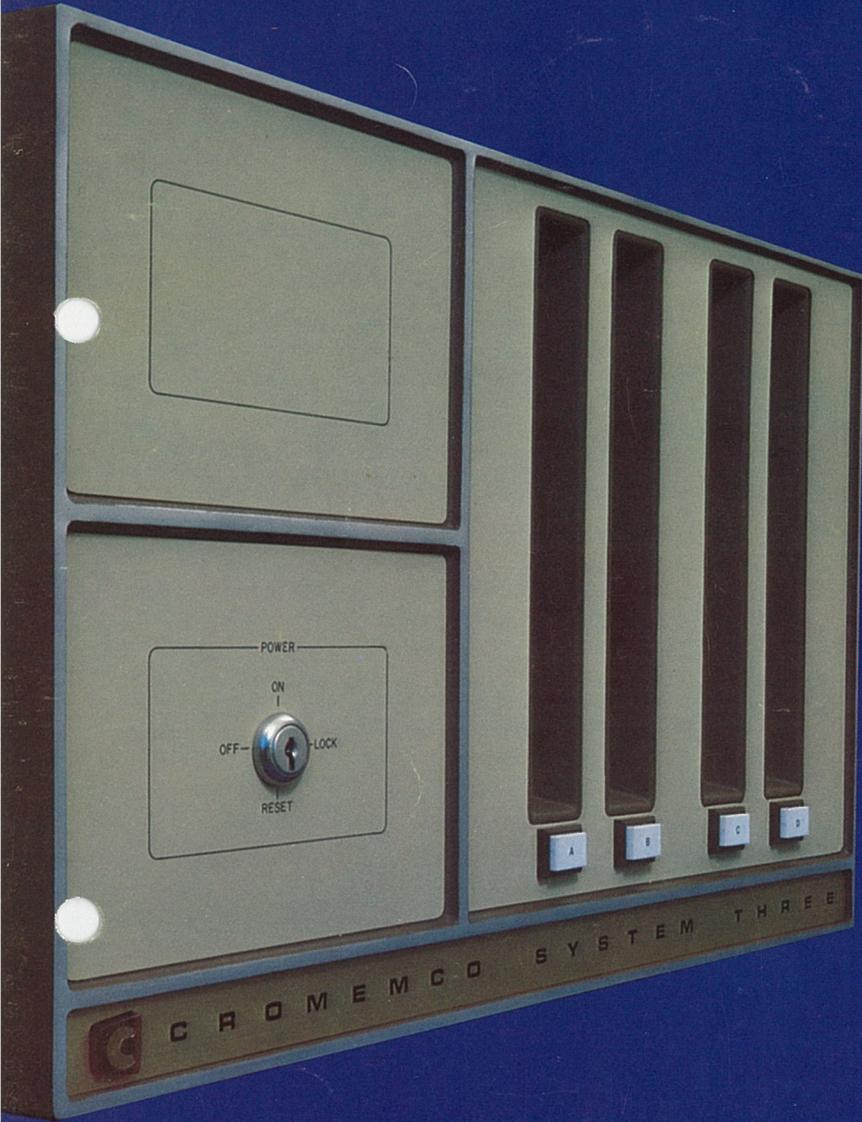




# **Cromemco** **System Three Computer**



**The professional-grade microcomputer  
for professionals**



## Professional features for professionals

Here's a microcomputer with the features you want and need to do professional work in almost any field: engineering, science, business/accounting, word processing, data-based management, education, medicine, and others.

In the microcomputer field the new Cromemco System Three stands alone in the range of features and capabilities it offers. The System Three consists of a fast, powerful, Z80-based microcomputer with capability for enormous RAM memory expansion and with provision for up to four floppy disk drives. No other microcomputer offers four drives.

The computer has a large 21-slot motherboard to accept a large variety of memory and I/O to suit virtually any application.

Further, Cromemco offers a wide range of plug-in memory and I/O for use with the computer.

### Large, expandable memory

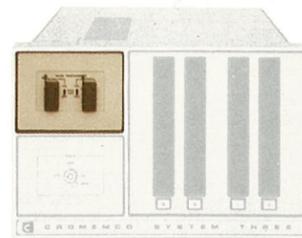
One of the most important aspects of a computer has proved to be its capability for memory expansion. Experience has shown over and over that the need for memory capacity is often difficult to assess at the start of a project and is typically underestimated.

Consequently, Cromemco has designed the System Three with generous provision for memory, both RAM and disk.

First, the unit is supplied with 32 kilobytes of RAM. This can be expanded to 512 kilobytes in 8 banks.

Next, the System Three is supplied with a dual disk drive providing 512 kilobytes of memory. Using Option 002, this can be increased to 1024 kilobytes of magnetic storage.

With the System Three you have the security inherent in an enormously-expandable memory.



### PROM programmer option for development work

Easy PROM programming is provided (option 001) right on the front panels of the System Three. In fact, two sockets are provided so that the memory in one PROM can easily be duplicated in a second one.

### Disk protection

The System Three has several provisions for protection of disks from damage:

- The computer provides for ejection of disks under software control if desired.
- When the key switch is in the LOCK position, the eject buttons under the disks are disabled—an unknowing person can't eject the disks while they are running. Disks and programs are thus prevented from damage and loss.
- Disk loading and unloading are motor-driven, providing gentle handling of these long-life disks.

## BROAD SOFTWARE SUPPORT

Following is some of the outstanding software support available to you for the System Three. More becomes available all the time.

These disk software packages comprise a totally integrated system running under our CDOS system.

- CROMEMCO DISK OPERATING SYSTEM (CDOS). This is the framework through which all disk file management is handled. (Application software written for Digital Research CP/M will also run with this system.)

- DATA BASE MANAGEMENT SYSTEM. This advanced software package can be used for general ledgers, mailing lists, inventory control, order entry, or other important business applications.

To create a data base, an operator simply specifies the field attributes, then the sorts by which the data can be retrieved (e.g., by state, by name, by state by city by name, etc.).

- MULTI-USER BASIC. Up to 7 users can independently run BASIC Programs with Cromemco's new multi-user software.

- CROMEMCO 16K DISK-EXTENDED Z-80 BASIC. This disk-extended BASIC was specifically designed to meet the most demanding requirements of business firms while also providing the flexibility and speed necessary for real-time control applications. It fully utilizes the extensive 158-instruction set of the Z-80 microprocessor to maximize computational precision (a full 14 digits), programming power, and speed of execution.

- COBOL COMPILER. This is a compiler that contains all the features of Level 1 COBOL as defined by the 1974 ANSI standard.

It also contains the most useful options of Level 2.

For example, this COBOL includes the verbs SEARCH, COMPUTE, STRING, and UNSTRING.

Our Cromemco COBOL also supports Computational-3 data to give more compact storage of decimal data on a diskette (by packing 2 digits per byte).

- FORTRAN IV. Cromemco FORTRAN IV provides new capabilities for users of Z-80 based microcomputer systems. This is a complete implementation of ANSI standard FORTRAN X3.9-1966, except for complex data types. Therefore, users can take advantage of the large number of applications already written in FORTRAN.

- TRACE SYSTEM SIMULATOR. TRACE is a powerful software system simulator designed to facilitate assembly language program development.

Virtually all aspects of system operation can be simulated including interrupts and I/O operations. A historical record of the program execution is maintained in a 100-instruction circular queue.

The advanced features of TRACE enable it to be used as a software substitute for logic analyzers or in-circuit emulators when debugging assembly language programs.

- WORD PROCESSING SYSTEM. The Cromemco word processing system is a combination Text Editor and Formatter for the professional preparation of documents.

Lines of text may be left- or right-justified or centered. Key words can be noted. An alphabetical index may be automatically prepared.

- Z-80 MACRO RELOCATING ASSEMBLER. This is a two-pass assembler which reads source code from a disk file, assembles it, and produces an object file either in relocatable format or in Intel hex format. LINK, the Cromemco Relocating Linker/Loader, may then be used to load the assembled relocatable code into memory and resolve any external references. The completely assembled and linked machine code may then be saved in a disk file for execution. The assembler and linking loader allow creating and assembling a number of different modules separately, then linking them together as desired at run-time.

The Cromemco Assembler is both a Macro and a Conditional assembler.



## MULTI-USER VERSIONS OF SYSTEM THREE COMPUTER

The System Three is available in a multi-user system that lets you do the tasks usually associated with much more expensive time-sharing computers.

You can have up to seven terminals, a fast printer, a large RAM memory expandable to one-half megabyte, and many more features. Check this system for speed—you'll be surprised.

Multi-user versions of the System Three are available to support from two to seven users. In the accompanying price list the number following the slash indicates the number of users supported by the system. Prices include our BASIC Multi-User Operating System



CS3/2 — \$ 8,885	CS3/5 — 11,010
CS3/3 — 9,495	CS3/6 — 11,915
CS3/4 — 10,400	CS3/7 — 12,525



### Capacitive-keyboard CRT terminal

Two CRT terminals are available for the System Three. Both terminals have 80-character lines and a 24-line page. Keyboards are of the capacitive type that have no mechanical contacts to give wear and noise problems.

Note the separate numeric keypad and the cursor keypad.

In addition to the above features (Model 3100), the second terminal (Model 3101) offers line and page editing. This model also has 16 software-assignable function keys.

### Fast line printer

The Model 3703 line printer available for the System Three prints at a maximum speed of 180 characters/second using its bi-directional printing.

Printing line width is 132 columns. Paper feed is tractor type.

### System Three Features

- Z-80A microprocessor
- 32-kilobyte RAM (two 16K cards)
- Dual disk drive (four drive controller)
- Power-on-jump circuitry to begin automatic program execution when power is turned on
- RS-232 interface
- S-100 bus
- Heavy-duty 30 ampere power supply
- All-metal chassis and dust case
- Rack or optional bench cabinet mounting
- 110- or 220-volt operation

### Available CRT terminals

- 80 character line, 24-line page

### Available line printers

- 180 characters/second, 132-column, needle-impact



**DESKS AVAILABLE**

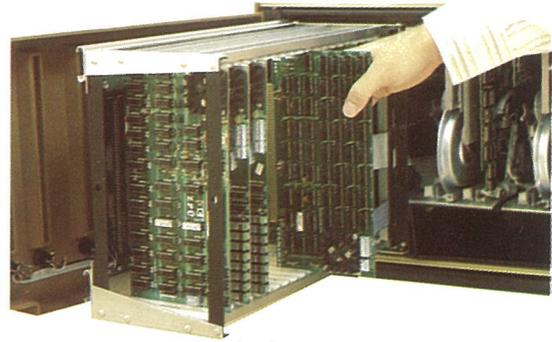
Two handsome desks are available for your System Three. The larger desk accommodates the computer and terminal, and provides extra work surface as well.

The smaller desk is useful for a printer or terminal. Styling of both is suited to the nicest of office surroundings

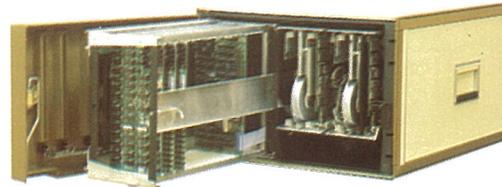
- Larger desk (Model Z3-MDSK): \$695.00.
- Smaller desk (Model Z3-SDSK): \$395.00.

**METAL DESK CABINET AVAILABLE**

All-metal brown-trimmed beige cabinet for System Three Computer (Model Z3-CAB) .....\$195



System Three computer is constructed so that hinged front panel swings open and motherboard/card cage slide out for easy insertion of circuit boards.



Retainer bar keeps circuit cards firmly in sockets.

**TECHNICAL SPECIFICATIONS**

**SYSTEM THREE COMPUTER  
(Model CS-3)**

- Processor:** 4 MHz version Z-80A
- Cycle Time:** 250 nanoseconds
- Minimum Instruction Execution Time:** 1 microsecond
- Instruction Set:** 158 instructions including the 78 instructions of the 8080
- System Bus:** Industry standard S-100
- Board Capacity:** 21 boards
- Disk Drive Capacity:** 4 drives (supplied with two drives)
- Disk Storage Capacity:** 256K bytes each disk
- PROM Firmware:** 1K bytes (2708 PROM)
- Serial Interface:** RS-232 or current loop; 110 to 76,800 baud. Supports Model 3100 or 3101 CRT Terminal.
- Printer Interface:** Supports Cromemco Model 3709, 3703, or 3355 Printers.
- RAM Memory:** 32K bytes
- Power Supply:** +8 volts @ 30A, +18 volts @ 15A, -18 volts @ 15A
- Power:** Operates from 110/220 volts; 50/60 cycle
- Operating Environment:** 0-40°C.
- Dimensions:** 12¼" H x 19" W x 20¾" D (31.1 x 48.3 x 52.7 cm)
- Weight:** 65 lbs.
- Mounting:** For rack mounting (optional cabinets available)
- Price, Model CS-3:** \$5990.

**CRT TERMINAL (Model 3101)**

**Format:** 80 characters/line; 24 lines; upper and lower case; solid state capacitive keyboard  
**Additional Capabilities:** line editing; block mode transfer; 16 software-assignable function keys  
**Price:** \$1995

**LINE PRINTER (Model 3703)**

**Format:** 180 characters/sec.; 132 cols., 18" platen; impact printer. Bidirectional printing; tractor feed.  
**Price:** \$2995.

**DAISY-WHEEL PRINTER (Model 3355)**

**Format:** 55 characters/sec.; 15-inch platen; tractor feed and friction platen; quality impression suited to camera copy.  
**Price:** \$3995.

**LINE PRINTER (Model 3779)**

**Format:** 60 characters/sec.; up to 132 ch/line, 12" platen; impact printer; tractor feed.  
**Price:** \$1495.

**OPTION 001 2708 PROM PROGRAMMER**

**Sockets:** Two sockets for ease of PROM duplicating  
**Price:** \$495

**OPTION 002 DUAL DISK DRIVE**

**Capability:** Provides for a total of four disk drives  
**Price:** \$2395

**OPTION 004 64K MEMORY**

**Capability:** System supplied with 64K instead of 32K RAM. This option must be specified at time system is ordered.  
**Price:** \$595.

Data subject to change without notice. Prices f.o.b. factory.



**Cromemco**  
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