

Commodore Personal Computers



 **commodore**
COMPUTER

Commodore International...

Commodore International was founded in 1958, primarily as a marketing organization for electro-mechanical office equipment. However, in 1970, it took on a new dimension. Commodore began to manufacture high quality pocket calculators and to invest heavily in new technology.

In the decade that followed, Commodore rapidly became a leader in microelectronics by offering outstanding value in many product areas. We grew to become the world's No. 1 manufacturer of components for electronic watches, introduced the world's first integrated microcomputer system and began to develop and manufacture electronic energy conservation products.

Cover Photo: Commodore engineer designs a complex semiconductor chip. Commodore is the only personal computer manufacturer that makes its own microprocessors.



Pioneer and Leader

One of Commodore's major strengths as a company is the ability to design and produce electronic components used in our own computers and consumer products. To date, we're the only major personal computer manufacturer that makes its own microprocessors, which are also being used by many competitors in the industry.

The decision to become vertically integrated with full research, development, manufacturing, and marketing capabilities has thrust Commodore into a leading position in many principal markets. This vertical integration of technologies is not only cost efficient, but also continues to fuel research efforts to develop new and innovative products.



Our Personal Computers

A Computer Revolution

VIC, PET®, and CBM™ (Commodore Business Machine) computers, which are produced by Commodore's Computer Systems Division, are used throughout the world in virtually every walk of life...business, education, government, engineering, process control, science, research, and entertainment.

Whether your application is personal or professional, small business or major corporation, Commodore systems can meet your needs.

And you don't need previous computer experience to have Commodore computers working for you.

VIC 20— Personal Computer

Commodore's VIC 20 (the friendly computer) is the world's first full-featured expandable color computer priced at little more than a video game. The VIC 20 offers many diverse features giving first-time computer users and experts alike a wide range of capabilities and options.

The VIC 20 personal computer features color, sound, programmable function keys, 5K bytes of memory expandable to 32K, built-in BASIC, full-size typewriter keyboard, external expansion ports, 22-character by 23-line display, high resolution graphics, graphic character set, joystick/paddle/lightpen interface and external plug-in memory and program cartridges.

PET 4000 Series— Educational and Scientific Computers

These completely self-contained, low-cost, desk-top computers are used primarily in educational and scientific applications. They combine keyboard, display and processor in one unit. Up to 15 peripherals such as printers and disk drives, as well as instruments and process control devices, may be connected via the built-in IEEE-488 interface. As your needs expand, so can your micro-computer system.

The PET's keyboard spans a myriad of applications. For business users, the upper and lower case characters and numeric keypad offer flexible and quick data entry. For scientific or programming applications the keyboard also provides the full PET graphic character set.

Full screen editing capabilities, combined with complete cursor control, are standard.

The crisp, easy-to-read, 12-inch green phosphor display is organized in 25 lines of 40 characters and is included in the base price.

The PET model 4016 offers 16K bytes of RAM memory—the PET model 4032 contains 32K RAM. However, all memory is available to the user; none is needed for the operating system or languages as in some other systems. Peripherals don't require any special "add-on" interfacing or operating system either. Their built-in memory and microprocessor provides

immediate operation without loading additional programs.

Commodore's BASIC 4.0, available as soon as the computer is turned on, is a high-level language with 9-digit floating point arithmetic.

BASIC 4.0 also provides specialized commands for disk operations and access to the IEEE-488 interface. With this tremendous capability, your applications that require large computations and sophisticated data manipulation are handled with ease.

CBM 8000 Series— Business Computers

The Commodore CBM 8000 computer systems are integrated, cost-effective systems that improve your business or professional operation. They are easy-to-use tools to manage information the way you want to...when you want to.

CBM business systems help manage cash flow, control inventory, process words, and make your business more profitable. All at a cost that is surprisingly affordable. CBM price-performance is one of the main reasons Commodore is Number One outside the U.S.

The 8000 series offers an expanded wide-screen display to show up to 80-characters of information per line. Text editing and report formatting are faster and easier with the wider display.

Carried over from the CBM 4000 series are the same easy-to-read green phosphor display, typewriter-style keyboard with numeric keypad, full-screen editing capabilities, and high-level BASIC 4.0.



The standard CBM model 8032 contains 32K bytes of RAM and 18K ROM. Again, no memory is dedicated when peripherals are added, so the user can take full advantage of all available storage.

The CBM Memory Expansion Board adds 64K bytes of RAM to the CBM 8032, providing a total of 96K bytes of RAM. With this expanded memory, applications that require large amounts of machine data storage can be implemented.

These professional features make the CBM 8000 series computers ideally suited for the computing needs of the business and professional marketplace.

SuperPET 9000 Series — Advanced Computer

The SuperPET is a new and exciting generation jump in microcomputers, based on the popular CBM 8032 system. For the price of a microcomputer, the SuperPET offers features and languages normally found only on large mainframe systems.

A pseudo 16 bit 6809 based system with 36K ROM, 96K user RAM and 2K screen RAM (134K total), the SuperPET supports all current CBM peripherals except the C2N cassette recorder. A powerful communication facility is included which supports a standard RS232 C interface, with speeds up to 9600 baud. Applications developed on the SuperPET can be up-loaded to a mainframe system, and executed without modification.

The SuperPET can also access the virtually unlimited disk storage of the mainframe system.

An extensive software package for the SuperPET has been developed by Waterloo Computing Systems Limited. The SuperPET currently supports numerous interpretative languages, including Waterloo microBASIC, microPascal, microFORTRAN, and microAPL.

The Waterloo microEDITOR and disk-oriented Assembler and Linker programs are also included to speed program development. Structured programming concepts are incorporated in all the Waterloo language interpreters and the Assembler.

In addition, the SuperPET operates in a standard CBM 8032 mode so that all programs designed for the 8032 will operate without modification.



Commodore Disk Units

Commodore Disk Units

Commodore's "intelligent" disk units provide an easy way to load application programs and store data. The advantage of floppy disk storage is low cost per character stored and fast access to large amounts of information.

Plus, by employing state-of-the-art technology, Commodore offers greater storage capacity than normal industry standards.

CBM 2031 Single Disk Drive

The low-cost, high-capacity CBM 2031 Single Disk Drive provides over 170K bytes of storage on a single 5¼-inch floppy diskette. Built-in software accommodates data handling, allowing users to concentrate on more important tasks. Programs and data on 2031 diskettes are upward compatible with the larger CBM 4040 unit.

CBM 4040 Dual Disk Drive

The CBM 4040 Dual Disk Drive can store a total of 340K bytes of information on two drives. Built-in microprocessor-controlled software provides powerful data handling capabilities.

The standard IEEE-488 interface allows multiple drives to be attached to any system for added versatility.

CBM 8050 Dual Disk Drive

The CBM 8050 Dual Disk Drive is an enhanced version of the CBM 4040 disk drive. The CBM 8050 has all the features of the CBM 4040, and provides more powerful software capabilities, as well as one million characters of on-line storage capacity. Relative record (random access) files and automatic diskette initialization are standard. The CBM 8050 also offers improved error recovery and the ability to append sequential files.

CBM 8250 Dual Disk Drive

The CBM 8250 provides all the features of the CBM 8050 drive, plus an unprecedented 2.1 million characters of storage... enough capability to meet your most demanding applications. The 8250 is scheduled to be available in late 1981.



Printers and Other Peripherals

Printers

Commodore offers a variety of printers to match your application.

The VIC 1515 Dot-Matrix Printer is a low-cost unit designed specifically for the VIC 20. This 80-column printer produces upper and lower case letters, numbers and full VIC graphics.

The CBM 4022 dot-matrix tractor printer enhances your CBM business system by enabling you to print mailing lists, checks, invoices, and standard or customized business forms.

The 4022 gives you the most asked-for features in a low cost printer: both upper and lower case, graphic, normal or expanded character sizes, data formatting,

variable line spacing and a custom character are all standard features under program control.

For more aggressive business applications, the Commodore 8023P dot-matrix printer offers the same features as the 4022, plus the ability to handle 132 characters per line and 14-inch wide paper. The higher 150 character-per-second print speed lets you get more work done in less time.

The Commodore 8300P letter quality printer is designed for applications where high quality printing is desired, such as word processing.

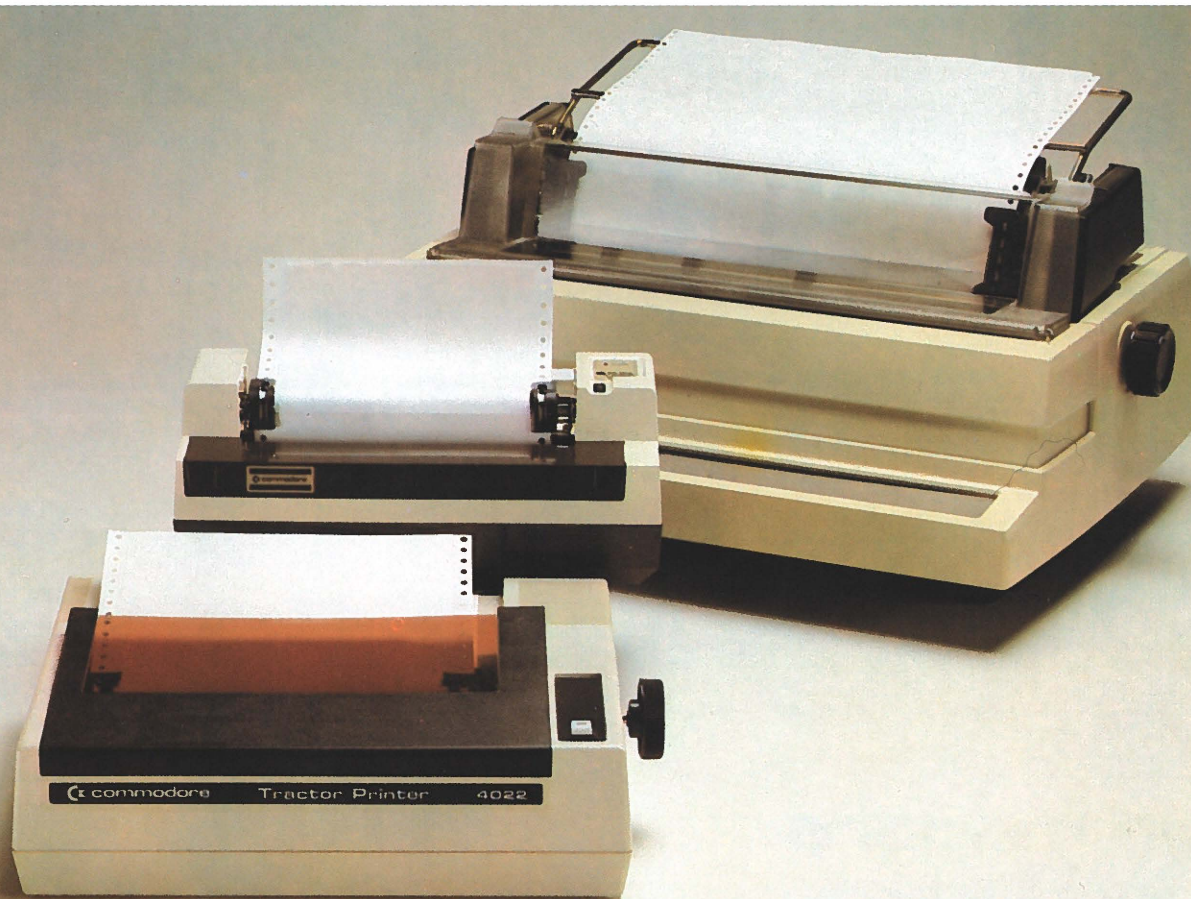
Interchangeable plastic or metal print-wheels give you a choice of hundreds of type styles. All special word processing functions including boldface type and underlining are implemented. And an optional forms tractor handles continuous stationery for automatic operation.

Additional Peripherals

The Commodore CBM 8010 modem lets you access other computers and commercial data bases. It includes an IEEE-488 interface and is compatible with most other Bell-type 103 modems.

The Commodore Datasette Recorder provides a low-cost way to store and retrieve programs and data. The recorder is compatible with the VIC 20 as well as the CBM and PET series computers.

The Commodore CBM 4010 Voice Synthesizer converts program phonemes to voice output. It also includes a built-in IEEE-488 interface and is supplied with demonstration programs.



Software, Service and Support

A multitude of programs covering business, professional, technical, educational, and entertainment applications are available from Commodore. In addition to applications published by Commodore, over 50 independent companies actively produce software for PET/CBM and VIC computers. The Commodore Software Encyclopedia contains over 700 entries of programs from various sources that run on Commodore equipment.

Commodore's comprehensive customer and dealer support ensures that your system will be working for you. Sales and service is available through over 600 authorized Commodore dealers, throughout North America.

You receive thorough, understandable documentation, from User's Guides to programming manuals... each hardware/

software offering takes you through each operation step-by-step.

Commodore's vertically integrated manufacturing assures total control over all stages of manufacturing and distribution. We are known throughout the industry for our quality products. A 90-day warranty is backed by our commitment to quality assurance.

In the event of repair, the modular design of all CBM products makes service, quick and easy at the local Dealer level. Consistent with Commodore's philosophy of support, our Authorized Dealer network is fully supported by the technical expertise of Commodore's Service Department.

Computer System Specifications

	VIC 20	PET 4000	CBM 8000	SuperPET
Screen Capacity	22 chars. x 23 lines	40 chars. x 25 lines	80 chars. x 25 lines	80 chars. x 25 lines
Display	TV set or Monitor	Built-in Green Phosphor	Built-in Green Phosphor	Built-in Green Phosphor
Upper/Lower Case	Standard	Standard	Standard	Standard
Total Memory	21-48K	34 or 50K	50K or 114K	132K
RAM Memory	5K-32K	16K or 32K	32K or 96K	96K RAM
ROM Memory	16K	18K	18K	36K
Microprocessor	6502	6502	6502	6502/6809
IEEE-4888 Interface	—	Standard	Standard	Standard
Cassette Interface	Standard	Standard	Standard	In 8032 mode
RS 232 C Interface	—	—	—	Standard
8 Bit User Port	Standard	Standard	Standard	Standard
Full Keyboard Editing	Standard	Standard	Standard	Standard
PET Graphic Set	Standard	Standard	Standard	Standard
Standard Languages	BASIC	BASIC	BASIC	CBM BASIC 4.0 Waterloo microBASIC microPascal microFORTRAN microAPL Assembler (6809)

CBM Disk Units

	2031	4040	8050	8250
Intelligence (Built-in)	8K ROM	12K ROM	16K ROM	16K ROM
Interface (Built-in)	IEEE-488	IEEE-488	IEEE-488	IEEE-488
Storage Capacity	170K	340K Total	1050K Total	2100K Total
Operating System	DOS 2.6	DOS 2.1	DOS 2.5	DOS 2.7
Tracks	35	35	77	77/side
Disk RAM Memory	1K	4K	4K	4K

Additional Features:

Sequential File Manipulation
User Defined Files
Relative Record Files
Append to Sequential Files
Automatic Diskette Initialization
Program Load and Save
Automatic Power-on Diagnostics

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