

COMMODORE COURIER

OFFICIAL PUBLICATION OF COMMODORE BUSINESS MACHINES

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SUMMER 1982

COMMODORE POISED TO REPLACE APPLE II

New computer announced

Commodore recently announced a new addition to their range of microcomputers and again Commodore has broken the price/performance barrier. Called the Commodore 64, this new personal computer offers many new and advanced features at a fraction of the cost of competitive computers.

The Apple 11 personal computer is the closest rival to the Commodore 64, but when price and features are compared, Commodore is confident the Commodore 64 will replace the Apple 11 as an alternative to users wanting the features of colour, high resolution graphics and sound, all at a realistic price.

The Commodore 64 made its first Australian appearance at the Data '82 show in Sydney in August and deliveries are expected in October. The Australian price will be under \$1000.00 making it a more competitive alternative to other popular personal computers.

With the Commodore 64, Commodore can offer a range of computers starting from the popular VIC 20 at \$399.00, to advanced business systems retailing at over \$7,000.00. This range of products enables Commodore to lead the microcomputer suppliers in Australia.

The success behind the Commodore 64 lies in a new microprocessor developed by Commodore's subsidiary company, MOS Technology. The 6510 uses the same instruction set as the popular 6502, but has additional input/output lines. This significant advance in technology, provides a

personal computer with outstanding colour, graphics, music, and computing capabilities.

With a memory capacity of 64K (64 thousand bytes of storage) as standard, the Commodore-64 offers more built-in memory storage than any other popular personal computer. A high quality music synthesizer is built into the Commodore-64, which can be connected to a high quality sound system to fully appreciate this feature, found only with dedicated synthesizers.

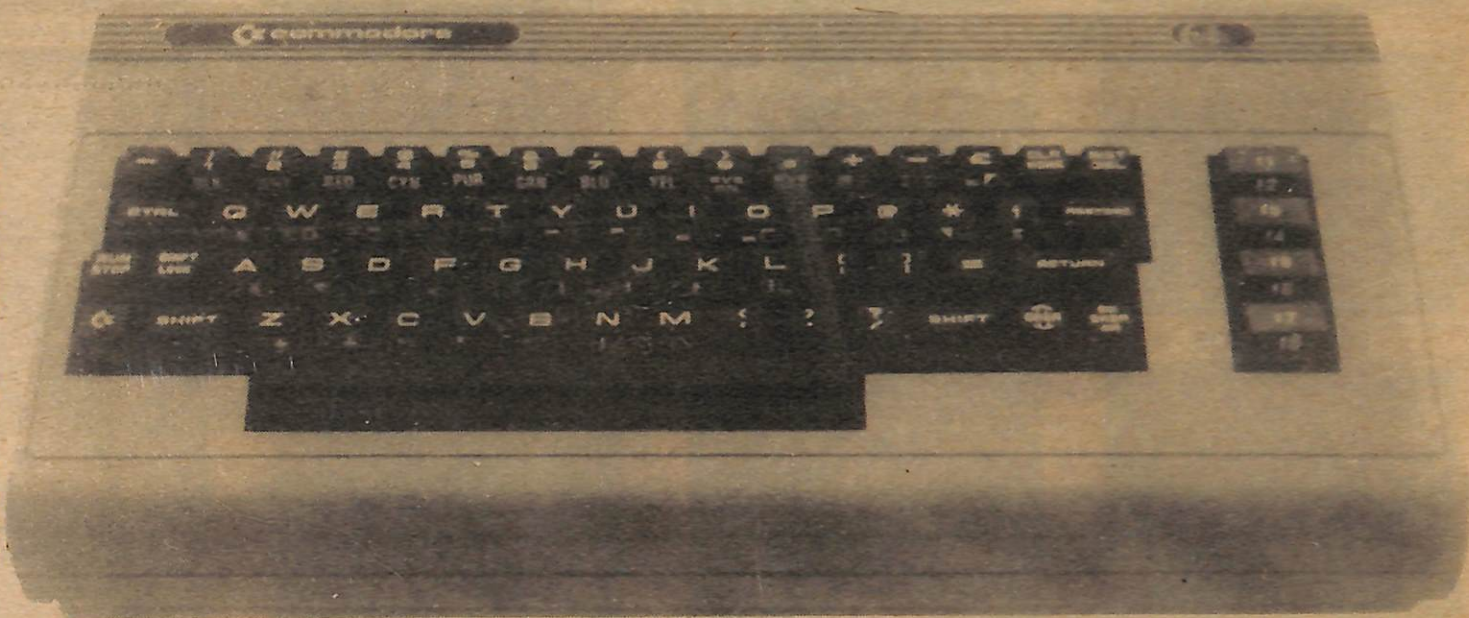
The Z80 microprocessor is available as a plug-in optional extra to allow the Commodore

64 to run CP/M, giving users access to one of the largest available collections of software.

The most visible feature is the high resolution graphics and the use of sprite characters to give three-dimensional objects that can move over, under, and behind one another.

Commodore has already developed a variety of programs for the 64 and is working with many suppliers for much, much more. Popular programs include financial planning, data management, word processing, education and sophisticated games and music synthesis.

Commodore 64



"THE COMMODORE 64 COULD BE THE MICRO-COMPUTER INDUSTRY'S OUTSTANDING NEW PRODUCT INTRODUCTION SINCE THE BIRTH OF THIS INDUSTRY."

SHEARSON AMERICAN EXPRESS EQUITY RESEARCH BULLETIN

continued on page 2

VIC-20 OUTSELLS OTHER MICROS

Since the introduction of the VIC-20 computer, sales have exceeded the anticipated demand. The popularity has been attributed to the low price tag of \$399.00 and the many features of colour and sound.

With the release of a large number of cartridge games and the availability of a range of peripherals, the VIC-20 offers expansion capabilities at a price not available with other personal computers.

Sales have exceeded 1500 units per month, with over 100 retail outlets supplying and supporting the VIC product range.

"Home computers are not simply a fad, they are here to stay and will become part of the Australian Home in the 1980's much as television set have", said Commodore's Managing Director, Nigel Shepherd.

"When Commodore pioneered the microcomputer industry in the mid-1970's with the introduction of the PET, it marked the dawn of an entire new era that has become the 'era of the home computer'. Today a VIC-20 home computer can be purchased for less than a colour television receiver and users can learn computing concepts, develop their own programs, and reach well beyond previous limits for education and recreation."

"Video games helped pave the way for home computers", Shepherd said, "because they were low cost and simple to connect to the television receiver. Now the VIC-20 is available at a similar price and offers many of the games, the home computer is literally 'taking over' from these less sophisticated amusement toys."

HARD DISK DRIVES INCREASE STORAGE CAPACITY



Providing increased storage capacity up to 9 megabytes, Commodore's recently announced hard disk drives extend the range of Commodore peripherals, to offer one of the largest and most flexible system configurations available from any micro-computer supplier.

The model CBM 9090 offers 9.57 megabytes of unformatted storage capacity (6.38 megabytes formatted) and the CBM 9060 offers 7.46 megabytes unformatted (4.97 megabytes formatted).

Similar to all other Commodore disk peripherals, the hard disk units have an intelligent disk operating system built into the drive, allowing the units to be plugged into the IEEE 488 bus which is standard on all CBM computers.

This features means that no memory overheads are required from the host computer to support the disk unit and allows flexibility in configuring systems to meet a price and capacity criteria.

Using the latest Winchester technology, these drives are highly reliable and low cost, representing the best byte for dollar value.

The disk operating system supports relative and sequential file storage to the full disk capacity. The number of blocks available to the user on

a formatted disk, is 29,162 for the CBM 9090 and 19,442 for the CBM 9060.

The range of popular Commodore business software will support the hard disk drives, allowing increased storage capacities similar to mini-computer configurations.

Speed of data transfer is a significant advantage with the hard disk units, allowing internal transfer rates up to 5 megabytes per second, an increase of 125 times floppy disk storage.

The hard disk units complement a range of floppy disk drives that range from a low cost single drive of 170 kilobytes (CBM 2031), to dual drives of 340 kilobytes (CBM 4040), 1 megabyte (CBM 8050) and 2 megabyte (CBM 8250) capacity.

COMMODORE STATIONERY AVAILABLE

With the advent of small/medium sized business computers and packaged software, the need for off-the-shelf business forms to support various business systems became apparent.

Traditionally, the continuous business forms suppliers operated through direct sales representation - calling on end users and assisting with forms and systems design to meet current needs.

The method of purchasing business forms is not always appropriate for small/medium computer installations, particularly the first time user, for many reasons. A vital consideration is the ability of many hardware and software suppliers being able to deliver ex-stock to the first time user.

As the computer industry moves increasingly towards off-the-shelf supply of hard-

ware and packaged software, it stands to reason that there should be an instant supply of business forms to complement a system. There are also considerable savings in forms costs to end users who do not wish to purchase totally custom printed computer forms and instead opt for standard designed instant business forms.

One major business forms manufacturer has recently released a product range of instant carbonless business forms which are packages for retail throughout the data dealer who supplies the software package. This new off-the-shelf product is marketed under the Rediform label, a brand name which describes the product aptly.

Components of this new offering include a wide range of Commodore approved stock computer forms designs, with space provided for computer entry of personalised details. All the Commodore

business software will run on these forms and in addition, Rediform stock forms can be overprinted with company logos, and specific wording relating to terms of sale, etc.

Also offered is a range of small, convenient, carry packs of carbonless stock computer printout forms, available in a range of commonly used sizes, either singles or multi-part. These small carrypacks are designed to be convenient to carry from point of purchase and allow direct feeding from carton to printer during use, as well as providing suitable permanent storage of printouts.

To meet the labelling and addressing requirements of the small computer user, economic quantities of continuous Rediform self-adhesive labels in a range of sizes and numbers across the sheet provide a quick convenient method of providing effective identification.

The after-print requirements

are an additional consideration for the small computer user if maximum benefit is to be gained from a data processing system. Rediform offers a total range of forms handling and storage products to accommodate these requirements. Rediform print-out and data files are available in a distinctive range of colours which together with a portable storage trolley, provide an efficient method of storing printout which needs to be referred to often.

A table top mini detacher and separate mini decollator complete the Rediform forms handling range. These units are portable and easy to operate, and will detach and separate multi part continuous forms quickly and efficiently.

Whatever the end user's requirements, Rediform offers some interesting alternatives to traditional computer forms supply, by being available on demand from your Commodore dealer.

WE CAN TURN COMMODORE DISKS & CASSETTES INTO

- ★ leaflets/brochures
- ★ catalogues/price lists
- ★ Manuals
- ★ books/reports
- ★ etc. etc.

Mervyn Beamish Graphics Pty Ltd can convert your Commodore text files from disk or cassette into quality phototype text. We can also produce camera ready art, ready for the printer and probably get you a better price on your printing than you will get elsewhere.

COMMODORE COURIER was produced by MBG from WORDCRAFT disks supplied by COMMODORE



MERVYN BEAMISH GRAPHICS PTY LTD
82 Alexander St, Crows Nest
NSW 2065
(02) 439 1827

choice of working in plain English or complex mathematical expressions.

Results can be printed in any form you desire, using the word processor, or stored on diskette for future reference.

The Communications. SILICON OFFICE can be linked up to other SILICON OFFICE systems to transfer information over long distances. By using modems or acoustic couplers, a normal telephone line can be used.

Once this information is sent, it can be stored, printed or processed further.

CONFIGURATION SILICON OFFICE requires a CBM 8096 computer with a choice of disk drives.

The printer can be selected to suit your requirements.

Further information and a demonstration of the powerful SILICON OFFICE program can be provided by your Commodore Dealer.



Rediform

Instant business forms and ancillary products for the small computer user.

Rediform is a totally new concept in the supply of forms requirements for the small computer user. No longer do new users need to wait for delivery of important computer forms.

The Data Dealer who has supplied the software package can also supply the relevant pre-set forms, off the shelf, along with other start-up requirements. Rediform offers a range of...

Pre-set instant business forms:

Rediform pre-set carbonless forms designs are specially designed for common business applications such as invoicing, accounts payable, accounts receivable etc., allowing every business to take advantage of expert and accurate forms designs approved by computer suppliers.

Stock computer print-out paper:

Rediform carbonless print-out paper is available in convenient carry packs in a range of sizes - either singles or multi-part. The carry pack doubles as a storage module for permanent filing of print-out.

In addition, Rediform offers a range of Self-Adhesive Continuous Labels, Forms Files, and Forms Handling Equipment.



Rediform products and information are available from your Data Dealer.

SILICON OFFICE

SILICON OFFICE is a completely new concept in microcomputer software.

All the major functions required to run a small business or office can be performed by SILICON OFFICE. This can mean anything from accounting and stock control, to word processing, statistical analysis, mailing lists and information filing, all at once if necessary. SILICON OFFICE is made up of a number of integrated elements.

A flexible information management system allows you to create and maintain a very large number of files.

A sophisticated word processor lets you generate letters, documents or reports.

A fully comprehensive calculator means you have all the functions of a desk top calculator in front of you.

A communications option lets you transfer information from one SILICON OFFICE terminal to another.

The key to all these elements is the programmability of SILICON OFFICE. This allows you or your Commodore Dealer to extend and tailor SILICON OFFICE to your specific needs. The above features can be combined into tasks that are performed to suit your specific requirements.

Even if you bought individual programs that performed some of the tasks of SILICON OFFICE, you would still be missing the most fundamental thing of all; the interactive link SILICON OFFICE has between all its individual functions.

SILICON OFFICE can be used cost effectively throughout a complete working day.

You can switch from word processing to filing to accounting, without having to have expensive dedicated machines lying idle and staff wasting valuable time.

The Filing At the heart of the SILICON OFFICE is a sophisticated information management system. This allows the user to 'file' away large amounts of information on floppy diskettes.

What is stored is up to the user, stock lists, patient lists, sales ledgers etc. The user can configure SILICON OFFICE for many different types of applications.

To design a SILICON OFFICE configuration is like setting up a card index. You can choose your own screen design and when information is entered, SILICON OFFICE will store the information automatically. It is like a giant filing cabinet.

Stored information can be called up at any instant. You don't need special computer codes, you can call up your individual records by name. You can also search all records for particular information.

For example a Real Estate application may require a list of houses with 4 bedrooms, a garage, between \$80,000 and \$100,000 dollars and close to public transport. SILICON OFFICE will automatically search all records and produce a report of all the property meeting the selection criteria.

An important feature of the SILICON OFFICE database is the ability to search through six

files at one time to gain the information you require. For example you may wish to locate the stock records for all out-of-stock lines, search the order file for all orders relating to those items, and then look up in the Customer File the address of all affected clients and produce a letter advising the stock situation.

The Typing SILICON OFFICE allows full word processing functions, such as creation, storage, editing, and printing of text such as invoices, letters and documents.

The text is displayed on the screen and printed as required. Editing is simple with automatic re-formatting. Document size is limited by diskette storage, for example one CBM 8050 diskette will hold more than 150 A4 pages.

Text from 20 to 125 characters in width can be handled, with tab stops and ruling screens to create multi-column formatting.

Standard letters and similar can be stored on diskette and recalled as desired. A major feature is the ability to merge calculated data, or selected information into the body of the text and have the formatted text print automatically.

A choice of printer allows selection to suit budget and print quality, from low cost electronic typewriters to high speed dot matrix printers.

The Accounting. You can perform all the mathematical calculations you are likely to need with SILICON OFFICE.

In addition to the basic functions, you can use trig functions, maximum, minimum, exponent, absolute, integer etc.

Calculations can be performed using information from your files. For example, stock can be revalued by 11% on all items over \$100.00.

When you calculate, you have the

IEEE-488 HUGE SUCCESS

When Commodore released their first PET computer in 1975, much criticism was directed at the bus architecture employed by the design engineers.

There was no S100 bus, no serial interfaces, only an eight bit user port and the IEEE-488 bus.

Up to this time the IEEE bus had been confined to instrumentation systems and

used as the HP-IB bus by Hewlett-Packard to connect peripherals to the host computer.

Since the discovery of this versatile bus, Commodore computers have found themselves hooked up to many interesting interfacing situations. Many scientific and industrial instruments support this bus and have the Commodore computer

connected as an inexpensive controller.

The Australian CSIRO have used the Commodore micro-computer to talk to a range of measuring devices to collect, log and compute data.

Commodore micro-computers have also successfully been connected to Hewlett-Packard peripherals, including their range of precision plotters.

The advantage of the IEEE-488 bus, is that peripherals just plug-in using an extension cable between the peripheral and the host computer, or between peripherals. Up to 12 different peripherals can be 'daisy-chained' together on the IEEE bus, as each has an unique device address and can be recognised by the software in the host computer.

With Commodore's

intelligent peripheral concept, the IEEE-488 bus means that many different peripherals can be plugged together without having to use valuable memory space in the host computer to support the peripherals. Standard commands, available in BASIC, are placed on the IEEE bus with the address of the required peripheral and the peripheral will accept the



Hewlett-Packard 9872A Programmable Multicolour Plotter is plug compatible with the Commodore IEEE-488 bus.

commands and respond accordingly. Flexibility and plug compatibility have been the

factors for the huge success of the IEEE-488 bus, used on Commodore micro-computers.

CLEAN UP YOUR COMMODORE SYSTEM

A new product recently announced, is the PETKIT cleaning system for the Commodore range of computers.

The kit is supplied in a compact, durable, vacuum-formed book specially designed to contain the items required for basic maintenance of a Commodore microcomputer system.

The products included in the kit include:

SAFECLENE
- a tape-drive cleaning fluid with safe solvent to clean all delicate surfaces such as tape heads.

FOAMCLEN
- an anti-static foam cleanser which lifts grease, dust and dirt from keyboards, plastic cases and covers and all surfaces including fabrics.

SAFEWIPE
- pads that are soft, lint-free, absorbent and excellent for cleaning all delicate external surfaces.

SAFECLENS
- anti-static screen wipes specially designed to clean VDU screens, reducing



the risk of errors and eye strain caused by imperfect visual display.

SAFECLOTHS
- spun-bonded cleaning cloths that maybe required for a stronger, more uniform wiping material.

FLOPPICLENE
- flexible diskette and disk head cleaners. These are recommended for cleaning all Commodore floppy disk units.

A special jacket takes a cleaning pad which is inserted into the drive, eliminating the risk of head recontamination and abrasion.

To ensure maximum reliability of your Commodore system, and to ensure your investment is always clean and presentable, ask your Commodore Dealer for more information on the PETKIT products.

COMMODORE USER GROUPS

Clubs have been established to allow Commodore enthusiasts to get together and discuss all aspects of the Commodore world.

Each club is independently run and has the full support of Commodore. Regular club meetings provide news, ideas, training, applications and programs relating to the Commodore product range. The user group is an information exchange between Commodore and the users.

Space is allocated in the Commodore Magazine for each club to contribute information, announcements, programs, etc., and members are encouraged to participate in the magazine.

HOW DOES THE CLUB COMMUNICATE ?

Monthly meetings and regular special meetings allow Commodore Users to meet and exchange information. The meetings provide training, experience, problem solving and more.

WHERE CAN I OBTAIN FURTHER INFORMATION ?

WESTERN AUSTRALIAN COMMODORE COMPUTER USERS ASSOCIATION
P.O. BOX 38, INGLEWOOD, W.A. 6502.
THE COMMODORE COMPUTER USERS ASSOCIATION
G.P.O. BOX 4721, SYDNEY, N.S.W. 2001.
SOUTH AUSTRALIAN COMMODORE USERS GROUP
C/- PRESIDENT, 9 NEVILLE AVENUE, CLARENCE GARDENS, S.A. 5039.
BRISBANE USERS GROUP
P.O. BOX 127, STONES CORNER, QLD. 4120.
ACT PET USER GROUP
C/- PRESIDENT, 13 OLIVER STREET, LYNEHAM, A.C.T. 2602.
C/- Stephen Farrell
44 McCubbin Street
BURWOOD, VICT. 3125.

NEW COMPUTER CENTER OPENS IN HOBART

Established Hobart consumer electronics retailer, Quantum, has expanded into the field of computers by supporting the range of Commodore computers.

Software and product support is provided from new showrooms at the corner of Liverpool and Harrington Streets.

A computer specialist, Mr Tony Smithies has been appointed to head the computer firm.

Quantum's managing director, Mr Rob MacFie, says his interest dates back to 1975 when he saw a prototype Apple computer at a trade show in Chicago.

Mr MacFie said, "Since then there have been many changes in the microcomputer market, and the latest Commodore product, the VIC-20 will revolutionise the home-computer market."

Quantum will also support the CBM range of products, and Mr MacFie went on to say, "More and more Tasmanian businessmen are coming to realise that the business computer, rather than being an object of mystique, is simply a readily understood aid to building efficiency and productivity, and lifting product."

An important consideration is Tasmania cannot be a software electronics retailer, Quantum, the support placed on the base and Quantum is keenly interested in initiating a software manufacturing industry." Mr MacFie plans to pursue the offer by Commodore, Quantum MacFie plans to pursue the subject with other businessman, computer experts and the State Government.



MAYDAY!

How's this for a nice picture?

The blurred object in the foreground is a Commodore VIC-20, the blurred object in the background is a standard 'ham' radio transmitter/receiver. The crystal clear object in the middle is an interface between the two which is being distributed within Australia by CW Electronics, 416 Logan Rd, Stones Corner, Brisbane 4120 (Tel: (02) 397 0808).

The idea is that it allows you to use VIC's keyboard to send messages - automatically translating text to morse code or RTTY as desired. "Vee kaan now efen send prograams between ham radio ensusiasts!"



QUANTUM COMPUTERS

We specialise in home, education and small business computers and the COMMODORE VIC-20 has now become our leading product. An inexpensive, fully expandable colour computer that can meet almost any of your needs. We are proud to be the local agent for the amazing Commodore VIC-20



Contact the manager:
MR JAMES POWEL-DAVIS

for more information on how it can help you.

Quantum Computers

COMPUTER IS HIS 'VOICE'

Reprinted with kind permission of St. George and Sutherland Shire Leader.

Most people are overawed by computers, but for one brain-injured ten-year-old his computer is his link with family and friends.

Kevin Giardini, of Caringbah can share his joys and sorrows through a keyboard. When Kevin wants to "talk" to his family he types out the words on a television screen. Kevin, who nearly drowned eight years ago in a neighbor's swimming pool is luckier than most brain-injured children because only his speech and co-ordination are handicapped.

He is of above-average intelligence and has a reading ability two years better than other children of his age.

The computer has other uses too - it enables Kevin to play games such as Space Invaders.

Two hours a day Kevin attends Our Lady of Fatima Primary School, in Caringbah. He is able to walk to school now, much to the delight and surprise of his family and doctors.

Kevin's movements are slow and unsteady, but he is a hard worker.

A much-loved child both in and outside his home, Kevin is often spoilt at school by the other children.

His good-looking, bright face portrays his love of life. Kevin made the interview an easy one and made me feel



welcome without saying a word, although he spoke in his own special way to his mother.

Mrs Gemma Giardini believes the computer has made a big difference in Kevin's life. "He can now work at his own pace and whenever he feels like it," she said.

"I used to sit with him while he was doing his homework, but now he calls me when he is finished.

She wants to buy another computer for Kevin to use at school.

There is no hostility or jealousy between Kevin and his brother, Robert 13.

Kevin can hardly wait for Robert to come home from

school so they can play together.

As well as concentrating on expanding his mind and knowledge, Kevin still has to do extensive exercises with the aid of his mother and 12 helpers.

The program is organised and assisted by the Friends of Brain Injured Children.

When Kevin started on the program five years ago, he was almost helpless.

He could only utter three words and could not walk unaided.

Friends help families of brain-injured children buy equipment for the exercise program and help train volunteers.

Kevin's exercises start before 7 am and include creeping, crawling and breathing movements.

Mrs Giardini said: "When we first started exercising Kevin, it took three people to help him crawl - one to move his arms, one to move his legs and one to move his hips." He was virtually helpless, but he is a very bright child who wants to help himself.

Foot Note:-

Kevin is using the Commodore VIC-20 and cassette player in his work. Compute CBM Systems of Caringbah loaned Mrs Giardini the computer to ascertain if Kevin would be able to use his limited facilities to type on the keyboard. The rest of the story speaks for itself.

STOP PRESS

AVAILABLE ONLY WHILE STOCKS LAST. SYSTEM PRICE VALID AT TIME OF GOING TO PRESS FULL WARRANTY ON ALL SYSTEM COMPONENTS. POSTAL ORDERS WELCOME BUT FREIGHT & DELIVERY ADDITIONAL COST.



VISICALC

BUSINESS COMPUTER SYSTEM

THIS IS TRULY ONE OF THE BEST COMPUTER DEALS YET SEEN IN AUSTRALIA.

COMMODORE HAS REDUCED THEIR PRICES TO GIVE THE CONSUMER THE OPPORTUNITY OF A LIFETIME, TO OWN A FULL 4000 SYSTEM AT AN INCREDIBLE PRICE.

DON'T FORGET THAT OTHER BUSINESS SOFTWARE IS AVAILABLE TOO.

- COMMODORE 4032 CPU, 12" Green phosphor screen.
- COMMODORE 4040 DUAL DRIVE 5 1/4" - 1/2 Megabyte disk.
- COMMODORE 4022P Dot Matrix 80 Col. Bi-directional printer.
- ALL CONNECTING LEADS and box 2500 sheets 8 1/2" paper.
- VISICALC SOFTWARE PACKAGE

WAS
\$5233.00
USUAL SUGGESTED RETAIL

NOW
\$3490.00
SPECIAL SYSTEM PRICE

SAVE
\$1743.00
AUSTRALIAN DOLLARS

Compute. CBM SYSTEMS

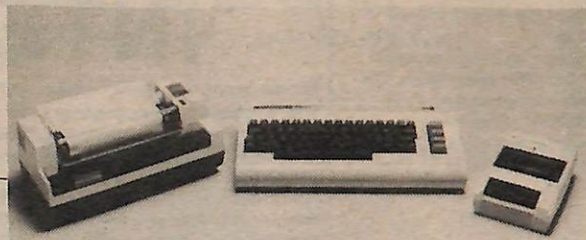
5 PRESIDENT AVE., CARINGBAH ☎ 525 5022

SUGGESTED CONFIGURATIONS

(Prices subject to change without notice).

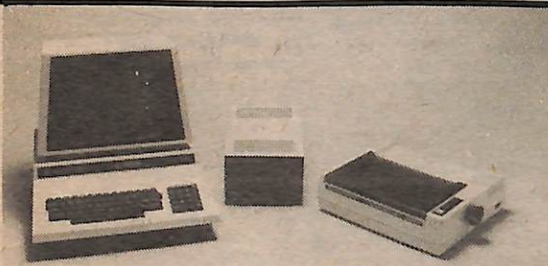
Personal System

VIC-20 Computer	399.00
C2N Datasette Recorder	99.00
VIC 1515 Graphic Printer	479.00
	977.00



Professional/Educational System

CBM 4016 Computer	1,199.00
CBM 2031 Single Disk Drive	749.00
CBM 4022 Dot Matrix Printer	1,129.00
PET to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
	3,314.00



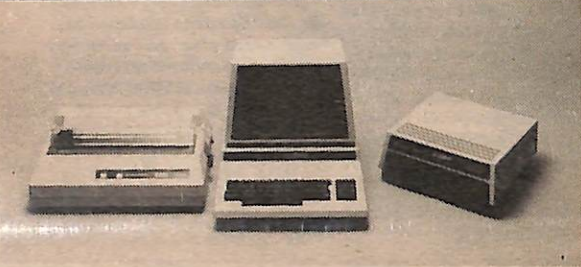
Economy Business System (4000 series)

CBM 4032 Computer	1,779.00
CBM 4040 Dual Disk Drive	1,779.00
CBM 4022 Dot Matrix Printer	1,129.00
PET to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
	4,924.00



Advanced Business System (8000 series)

CBM 8032 Computer	2,249.00
CBM 8050 Dual Disk Drive	2,399.00
CBM 8023P Dot Matrix Printer	1,709.00
PET to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
	6,594.00



COMMODORE GROWTH AMAZES STOCK MARKET ANALYSTS

With the preliminary announcement that Commodore International ended FY1982 with over \$320,000,000 in sales, the trend for steady increase over the past five years has been maintained.

The product introductions of the VIC-20 and the recently announced Commodore 64 have impressed many analysts who see Commodore heading the microcomputer manufacturers with products that are cost/performance leaders.

Analysts predict that in the United States, as much as 75% of personal computer sales will retail under \$US500 within the next two years.

The low-end of the personal computer market will be the less competitive segment over the next couple of years and is the type of market where Commodore's top management has good marketing savvy.

Products such as the MAX machine have been rumoured, which when released will dominate the low end of the personal computer market. Commodore is aiming to introduce computers under \$US100 in the near future with more features than current video game machines, plus the programmability that is not currently available on those types of computers.

HOME COMPUTERS

The VIC-20 is the first Commodore product to address the home computer market and the good reception has seen production volume increase rapidly from the 50,000 units per month in March 1982.

The MAX machine will be manufactured at a new facility in Hong Kong. This product is a high quality video game player that can be expanded to a home computer and a music synthesizer.

When both products are being produced, annual production volume will be in the region of 1.2-2.0 million units of VIC-20 and MAX computers.

PERSONAL COMPUTERS

The Commodore 64 will be the leader in this field. This is a new product employing the latest technology and is a clear price/performance leader.

BUSINESS COMPUTERS

In addition to the current CBM 8000 series of microcomputer, Commodore will introduce next year a new generation of microcomputers.

The Commodore 'P' series is a software compatible range of colour computers starting with 128K characters (128K) of user memory. These systems are

designed for use with a separate colour monitor or TV input via a RF modulator.

Existing Commodore peripherals will plug into the 'P' series computers via an IEEE-488 interface.

In addition to the standard text display of 40 columns by 25 lines, there is a high resolution display of 320 by 200 dots (pixels).

Sixteen colours are available for text display or graphics, together with special sprite graphics for outstanding visual effects.

Two control ports are included which may be utilized for joysticks or other peripherals as required.

Featuring 256K bytes of memory the 'BX' series has a second processor, a 16 bit 8088. The 'BX' series is software compatible with the 'B' series but will also support CP/M-86 programs.

VERTICAL INTEGRATION

The impressive price/performance shown by Commodore is a result of a deliberate strategy of designing proprietary chips and the system at the same time, enabling optimization at the system level.

Since LSI chips take up to two years to design, Commodore has gained valuable competitive lead

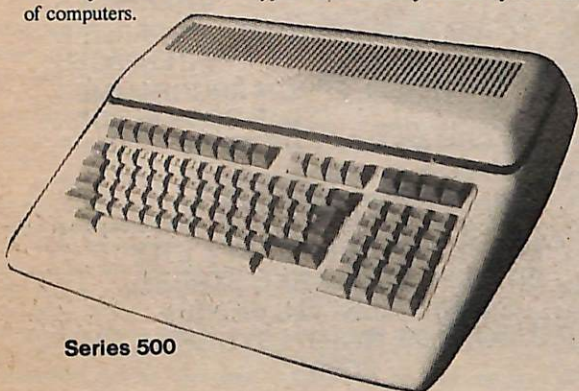


Series 700

The Commodore 'B' series is a software compatible range of professional computers starting with 128K of user memory. This series features an attached display and integral disk drives.

Like the 'P' series, the 'B' machines are also compatible with the full range of CBM peripherals, allowing them to be easily expanded as needs grow.

Advanced 16 bit professional computing will be catered for with the 'BX' series which is an enhanced version of the 'B' series.



Series 500

Advanced Word Processing/Business System

CBM 8032 Computer	2,249.00
CBM 4040 Dual Disk Drive	1,779.00
CBM 8300 Letter Quality Printer	3,000.00
PET to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
IEEE to IEEE Cable	79.00
	7,265.00

Development Training System

SuperPET Computer	3,990.00
CBM 8050 Dual Disk Drive	2,399.00
PET to IEEE Cable	79.00
	6,468.00

EXPLORE A COMMODORE

CW Electronics can offer a total world of Commodore - Professional and Business systems - Personal User support - Communications systems - Service - Books etc. - Experienced Professional Staff.

The VIC Centre Import, Distribution and Retail sales of VIC-20 orientated hardware and software.



BUSINESS PROGRAMS & SYSTEMS

- * SILICON OFFICE
- * VISICALC
- * WORDCRAFT
- * EBS SYSTEMS
- * GENERAL LEDGER
- * STOCK CONTROL
- * PHARMACY SYSTEM
- * CASH BOOK



40/80 COL. for VIC-20!!

- * Cartridge
- * 40/80 Column Display (not colour)
- * VIC and CBM Graphics
- * Load all CBM/VIC Programs
- * All Cursor control U/L Case
- * Switchable form basic without losing program
- * No external power required

PRE-RELEASE OFFER
\$353.00 (Tax & post included)
SAVING OF APPROX. \$26.00

PRICES AND SPECIFICATION COULD CHANGE WITHOUT NOTICE



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VIC CENTRE "talk to the world" offer

- (a amateur radio special)
- * NEW WORLD TDK-20 and Morse interface \$219
- * VIC CENTRE AFSK Modulator \$48
- * 2 x 6 Volt transformer \$6
- * User port plug \$5
- * Free installation
- * VIC-20 Computer

Purchase the total package \$650 in one go

total \$677

time. Management has copied the Japanese strategy of being a low-cost producer, which should allow it the luxury of spending the marketing expenses necessary to increase its market share. Commodore will certainly be one of the few manufacturers providing a range of 'Solution Machines'.

COMMODORE FINANCIAL HIGHLIGHTS

(000's omitted except per share amounts)

YEAR ENDED JUNE 30	1983*	1982*	1981	1980	1979	1978
Net Sales	\$35,000	\$22,000	\$186,500	\$125,600	\$ 71,100	\$ 50,200
Gross Profit Margin	-	-	44.4%	40.3%	32.5%	30.5%
Net Profit Margin	-	-13.4%	12.9%	8.4%	6.8%	-
Net Income	\$ 91,400	\$ 41,500	\$ 24,900	\$ 16,200	\$ 6,000	\$ 3,400
Shareholders' Equity	-	-	\$ 61,600	\$ 35,500	\$ 20,800	\$ 12,300
Earnings Per Share	\$ 5.50	\$ 4.00	\$ 2.42	\$ 1.56	\$.62	\$ 1.08
Average Shares Outstanding	10,300	10,300	\$ 10,307	\$ 10,395	\$ 9,720	\$ 3,157
QUARTERLY EARNINGS PER SHARE			1980-81	1979-80	1978-79	1977-78
September 30	-	-	\$.44	\$.30	\$.12	\$.23
December 31	-	-	\$.56	\$.30	\$.14	\$.25
March 31	-	-	\$.66	\$.38	\$.15	\$.27
June 30	-	-	\$.76	\$.58	\$.21	\$.33

* Estimated values only

MOS TECHNOLOGY IS COMMODORE'S 'EDGE'

Chip manufacturer to develop new generation for micro maker

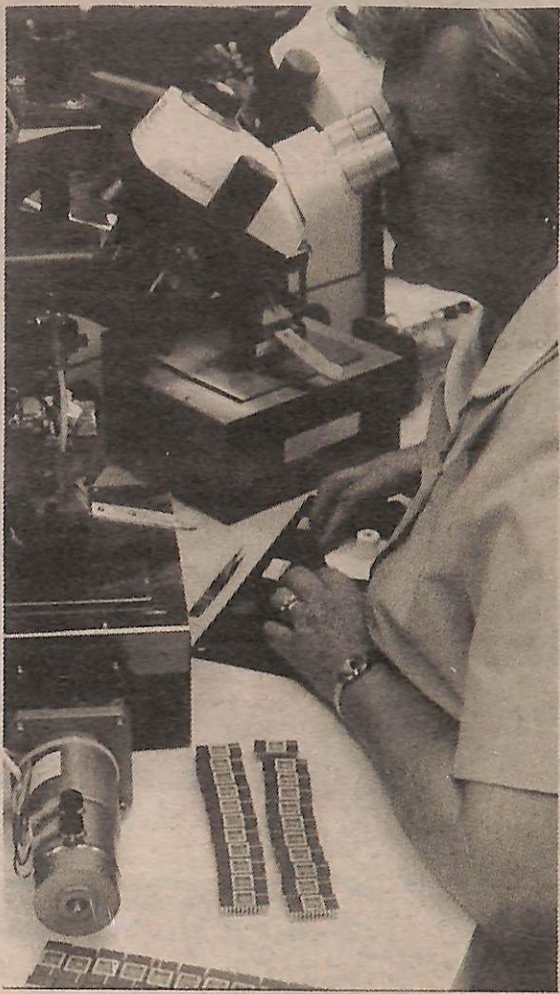
VALLEY FORGE, PA - Back in the fall of 1976, before there was any microcomputer market to speak of, Commodore International acquired MOS Technology to help its struggling calculator business. (MOS had designed the 6502 chip, which is found today in innumerable microcomputers, including models by Apple, Atari and Hewlett-Packard).

"We were looking to build something more intelligent a personal computer [around the 6502. We didn't know then what the market would be, but we decided to find out," said Jack Tramiel, Commodore founder and chief executive officer.

MOS Technology turned out to be a key part of Commodore's present and future plans for success, which are based on the idea of being a vertically integrated company.

Most other microcomputer manufacturers (two exceptions are Zilog and Intel) have to buy chips developed by other companies - often MOS Technology - and then design a system from that point.

"About a year ago, it was decided that the new generation of [Commodore] chips and systems would be designed



here at this facility," explained Albert Charpentier, systems design manager at MOS Technology.

We can take three paths, essentially: the chip group goes off and begins designing

design. That's our competitive edge," said Charpentier.

In fiscal 1981, MOS technology sold about 60% of its output to other manufacturers. That percentage is getting higher, according to Tom O'Donnell, a vice-president at MOS Technology. Companies such as Apple don't buy their chips directly from MOS Technology, but they do buy from one of MOS's several licensed manufacturers, which in turn pays royalties to MOS for the design.

Today MOS Technology provides Commodore with virtually all of its micro-electronic technology. "We have a systems-design group, which decides what new technologies are required to develop systems, and a totally self-sustaining semiconductor facility that designs all the Commodore products using an expensive array of computer-aided design systems. We do design analysis using computers and terminal interfacing with large mainframes outside the building. We make all of our masks, through which the wafers are processed, and we have a total wafer fabrication operation here," explained O'Donnell.

What finally leaves the MOS plant is integrated circuits, which then go to Japan or California for final assembly into computers.

There is also a systems/

COMPUTER SYSTEMS DIVISION

(71% of fiscal 1981 sales)

Manufacturing Facilities:

Santa Clara, California • Braunschweig, West Germany

Assembly Facilities:

Santa Clara, California • Braunschweig, West Germany • Tokyo, Japan (subcontractor)

Major Distribution Facilities:

Seven major U.S. Cities • Toronto, Canada • Slough, England • Neu Isenberg, West Germany • Basel, Switzerland • Horsens, Denmark • Breda, Holland • Oslo, Norway • Tokyo, Japan • Hong Kong • Sydney, Australia

SEMICONDUCTOR COMPONENTS DIVISION

(19% of fiscal 1981 sales)

Manufacturing Facilities:

MOS Technology, Valley Forge, Pennsylvania

Manufacturing process: N-Channel silicon gate

Frontier Manufacturing, Costa Mesa, California

Manufacturing processes: C-MOS metal gate and N-Channel silicon gate; within 12-18 months, C-MOS silicon gate

Optoelectronic Division, Dallas, Texas

Manufacturing process: Liquid crystal displays (LCD's)

CONSUMER PRODUCTS DIVISION

(4% of fiscal 1981 sales)

Consumer Products Group, King of Prussia, Pennsylvania

Commodore Business Machines (U.K.), Ltd., Slough, England

OFFICE EQUIPMENT DIVISION

(6% of fiscal 1981 sales)

Commodore Business Machines Ltd., Toronto, Canada

assembly facility in Santa Clara, California. A support facility in Costa Mesa, California, is working on a CMOS version of the 6502 and 6500 series of micropro-

cessors that will provide lower-power, "equal-or-better-speed microprocessors" for "use in hand-held applications"; this microprocessor will be part of the company's

product line in the future.

"The aggregate production of the corporation will double for the next foreseeable few years," said Charpentier.

B.S. MICROCOMP AND COMMODORE

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The excellent range of Commodore Microcomputers together with a wide selection of Software equals many happy customers.

B.S. MICROCOMP's expertise secures this formula. We specialise in Business Applications, supplying Systems to Educational Institutes, Government Departments, Small Businesses and Corporate Bodies. But we also do not forget the Personal User.

We import a wide range of Commodore associated products from the U.K. and U.S.A. Such "goodies" as Programmers' Toolkits, High-Resolution Graphics, Softbox CP/M Interfaces, DMS Data Base Software, Printout and VIC Computing Magazines, to name a few. Our aim is to please - if you have the right products plus the "know-how", we cannot really fail - CAN WE? Do talk to experts about your Computer Requirements and guarantee yourself the right decision.

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MICROCOMPUTER SYSTEMS DESIGNERS

WHO'S THE TOY FAN? AGE GROUP OF BUYERS SURPRISE COMMODORE.

Messing about with mechanical toys, the traditional second-childhood hobby of older men, is becoming old hat, says the managing director of Commodore Computers, Mr Nigel Shepherd.

Out go the planes and the train sets and in comes the latest in high-technology toys: the home microcomputer.

Mr Shepherd came to this conclusion after reviewing the results of a questionnaire sent out with Commodore's newest low-price hobby computer, the VIC 20.

At \$399 it is definitely geared to hobbyists, but the survey gave Commodore an opportunity to find out more about their buyers.

Mr Shepherd said he was staggered by the results.

"We included an age-bracket question," he said "I suppose we took it for granted that given the games capabilities of the VIC, most buyers would fall into the 15-21 age group.

What we found, in fact, was that around 80 per cent of VIC buyers were aged between 30 and 60.

"The microcomputer has really taken off as a leisure activity, far above our expectations, and in an age group that is among the most common users for hard business purposes.

These are the buyers who would have been playing with crystal radios or train sets 30 years ago."

He puts the age-group interest factor down to three reasons: the determination to get on top of a new piece of technology that is dramatically changing our lives,

the discovery that the price is within the reach of most budgets, and the realisation that what started as a grim task has turned into an almost limitless field of amusement, discovery and useful leisure potential.

"You can see it in any newsagent on a Saturday morning," he said. "Just look at the people buying electronics or computer magazines. They are a real cross-section and many of them are older married men.

An interest in computers seemed the only common denominator among the wide range of ages and interests involved with the micro boom. Perhaps, said Mr Shepherd, when the first traditional goals of car, marriage, home and furnishings had been achieved, perhaps a boat, and when the family was tending to hold dad at home more, the obvious hobby, status activity or time-filler was the microcomputer.

"I used to work at a firm during the mid-seventies," he said, "when most big businesses were going to computers."

"I was the marketing manager and our whole business was to be computerised. Most of the staff were going to have to learn to cope with it."

ADAPTED

You'd expect teething troubles for the first few weeks, with procedure changes and the need for new ways of thinking.

"But the people who had been with the company longest and who held the most senior positions were the ones who had the most trauma."

The operators, and those who were using the computer most, had little difficulty, he said.

They were retrained and soon



Nigel Shepherd... a hobby - there seems no doubt that in the 40-60 age group we are finding a large sector of happy computer addicts." Whatever their reasons for taking a machine home to learn more for work, as a status symbol or purely as



Commodore Computers

commodore COMPUTERS

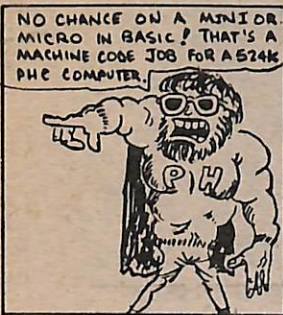
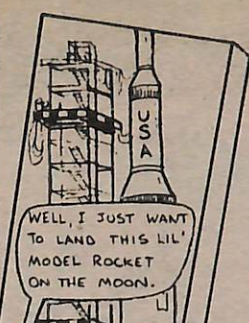


s. The solution machines.

EDU-MAN

MEETS
PSEUDO
HERO

OUR STORY OPENS AS PSEUDO HERO, SALESMAN FOR PLANETARY HERCULEAN COMPUTERS, IS TALKING TO AN UN-SUSPECTING H.S. PHYSICS TEACHER.



READERS WANT TO TRY TO MAKE A SOFT LANDING ON JUPITER 7 VIC JUPITER LANDER IS NOW AVAILABLE IN CARTRIDGE TO PLUG INTO A STANDARD VIC-20 COMPUTER

ASK YOUR COMMODORE DEALER TO SEE JUPITER LANDER AND THE MANY OTHER CARTRIDGE GAMES NOW AVAILABLE GOOD LUCK !!

COMMODORE COMMUNICATES WITH THE WORLD

One of the most exciting areas of microcomputing, is in the area of data communications, with the advances in technology opening new applications. By connecting a Commodore Computer to a MODEM (stands

for MODulator DEModulator) the Commodore can now be used for an incredible variety of different tasks. For example: Database access - Some people due to their professional activity, have to keep in touch with commodities such as stock

exchange, price of raw materials, economic indexes on a daily basis. Scientists and researchers have to survey a very large amount of information through cross references about certain topics. Today this information is stored in computers as it is so bulky, expensive and

quickly obsolete to be printed in books. The number of databases is growing rapidly. There are databases in Australia called CSIRONET, provided by the CSIRO, or the Australian Beginning, a general purpose database available from Melbourne or via the OTC data communications system MIDAS, you can access virtually any computer database in the world. The topics covered by these computer database's are as wide ranging as Agriculture, Chemistry, Medicine, Criminology, Music World, Energy, Philosophy and many more.

One of the main advantages of using a Commodore Computer to provide access to one of these data bases is cost. The user is generally charged on the amount of information retrieved and the amount of time connected. Using the Commodore microcomputer you can retrieve the information you desire very quickly and store it in the computer where it can be reviewed at your leisure, thus reducing the chargeable time connected.

One device available, connects to the Commodore and allows it to be used as a teletype style terminal or as an intelligent terminal (depending on software). It has an RS232 asynchronous port, which can be used at speeds up to 19,200 bits per second, with full control of stop bits, parity, wordlength, etc. Using this RS232 communication device the Commodore can also be connected to the Auspac packet switching network as a X.28 compatible device.

For binary synchronous networks, there is the DRL communications controller which is a multi-

How VisiCalc could make you another \$100,000 this year... For only \$3499.00

What changes would it need in sales, costs, salaries, cash flow to have a dramatic impact on your turnover and profit? VisiCalc will give you instant answers to all these questions. That's why it's the world's best-selling computer programme for business use. More than 250,000 copies sold in two years!

Now Commodore has a package that not only gives you the computer world's best-seller, it also includes Australia's No 1 Microcomputer, the Commodore 4000 System . . .

All for \$3499.00! Offer ends August 31, 1982.

Run your business options through your Commodore and VisiCalc shows what effect each one would have. Don't play it by ear any more, Commodore VisiCalc will show you exactly what will happen. Before you spend a cent!

Talk to us or your nearest Commodore dealer for the whole story. That extra \$100,000 could be only a phone call away.



commodore
COMPUTER

Advanced Communications

In addition to using Commodore microcomputers as simple terminals communicating to data bases or to each other, there are a variety of communication products which connect the Commodore to more advanced networks to provide terminal emulation and distributed data processing functions.

One device available, connects to the Commodore and allows it to be used as a teletype style terminal or as an intelligent terminal (depending on software). It has an RS232 asynchronous port, which can be used at speeds up to 19,200 bits per second, with full control of stop bits, parity, wordlength, etc. Using this RS232 communication device the Commodore can also be connected to the Auspac packet switching network as a X.28 compatible device.

For binary synchronous networks, there is the DRL communications controller which is a multi-

THE ELECTRONIC COTTAGE

Marie lives in Ryde; has two small children at the local school; is an experienced typist, bookkeeper and secretary.

During school hours Marie subcontracts text entry for magazines and other publications. Working from home she operates a Commodore 4016 microcomputer with audio cassette storage unit. Marie is typical of a growing number of text entry operators; skilled people who work their own hours and from home.

What Alvin Toffler calls the *Electronic Cottage*. The system is simple. The text is retyped into the Commodore from the raw copy (original hand or type-written sheets) by the operator who carefully proofreads the copy and adds some formatting commands. The disk or cassette is then sent to Mervyn Beamish Graphics Pty Ltd who transfers the data into their phototypesetter which produces typeset copy on photographic paper ready

for artist or printer. Text can also be sent over the telephone via acoustic couplers. The graphic characters on the Commodore keyboard are utilised by MBG as command, or formatting, keys. "The Commodore is ideal for this type of work" says Mervyn Beamish "because of its built in green screen, fast keyboard and additional graphic keys. A Commodore 4016, indeed any CBM machine, can carry out 90% of the formatting commands that our bigger machine uses - far more than the average job requires."

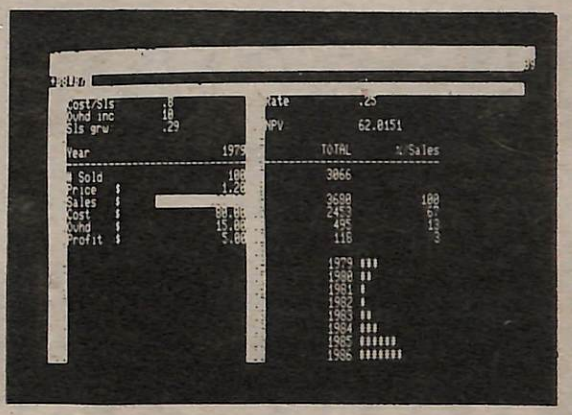
"I believe this Commodore Courier is an example of the system at work - all text was supplied to us on Wordcraft Disks by Commodore themselves. I doubt if the job could have been completed on time if we had used the traditional method." For more information contact Merv. Beamish (02) 439 1827.

WHAT IF.....YOU HAD VISICALC

VISICALC software displays a large electronic worksheet on the screen of your Commodore computer that replaces paper, pencil and calculator to automatically solve nearly all number problems.

Just type in labels, numbers and mathematical formulas and VISICALC instantly calculates the results. Then play "What if?" - change one variable and VISICALC automatically recalculates the entire problem so you can see the results on the screen immediately.

Recalculation makes VISICALC a powerful planning and forecasting tool. Not only can you effortlessly correct mistakes and omissions, you can also examine various alternatives.



overall profit and make the necessary adjustment to your pricing. Once you have established the format for a particular application, you can save the entire electronic sheet on your diskette for retrieval

at a later date and you can print all or part of the sheet on a printer. The many applications of VISICALC include; cash flow analysis, production and inventory levels, income statements, balance sheets, job costing, budgets, office

expansion programs, pricing, calculating landed product costs plus many more. In fact if you are doing any calculation by hand now, you can probably do it simpler with VISICALC.

CONFIGURATION

The package as supplied will work with the following Commodore computers;

- CBM 4032 40 column computer with 32K user memory
- CBM 8032 80 column computer with 32K user memory
- CBM 8096 80 column computer with 96K user memory

All Commodore disk drives and printers are supported by VISICALC in addition to standard ASCII printers that are correctly interfaced.

commodore COMPUTER

CBM 8000 Series



BUSINESS COMPUTER SYSTEM

The CBM 8000 desk-top computer is an integrated, cost-effective, simple-to-use method to improve your business or professional operation. It is a tool you can use to manage information the way you want to... when you want to.

The CBM 8000 desk-top computer will help manage your cash, run your books, control your inventory, process your words and make your business more profitable. All this can be obtained at a system cost that is surprisingly affordable.

The CBM 8000 desk-top computer, as a management tool, delivers information to all levels of business and produces results previously attainable only with equipment many times more expensive. Whether your application is personal, professional or highly specialised and whether you are a small business or major corporation, the CBM 8000 desk-top computer can meet your needs.



FOR A LIMITED PERIOD ONLY INCLUDED IN THE SPECIAL PRICE IS THE CHOICE OF ANY TWO OF THE FOLLOWING SOFTWARE PACKAGES

General Ledger - Creditors - Debtors - Stock Control
Word Processing - Data Management System - Electronic Cashbook
Visicalc

This package is available from:

Compute CBM SYSTEMS

5 PRESIDENT AVE., CARINGBAH @ 525 5022

MOTOR INDUSTRY ACCEPTS COMMODORE

One of the exciting growth areas within the motor dealer industry, is the existence of specialist Finance and Insurance consultants to advise prospective motor vehicle purchasers of the advantages or disadvantages of finance verses cash in today's money market, or in the area of insurance, where the client can get the best protection for the right price.

During the last few years, the task for these specialist consultants has been more than complex and time consuming as interest rates keep going up and tax laws continually change. The simplicity of their work has been gradually eroded, especially in the case of the businessman who wishes to know whether or not he should pay cash or if he should purchase on a lease or hire-purchase agreement.

Compute F&I Systems, who are a division of Compute CBM Systems, have been involved in this particular type of consultancy work for several years. In mid 1979, Compute realised that the F&I industry needed some form of assistance if it was going to cater to the changing trends of the future. After much searching of the microcomputer industry, Compute decided that to achieve their aims of providing a realistic, presentable and serviceable sales aid to the motor industry, the Commodore



Mr Graham O'Neill demonstrates Compute's F&I system to prospective clients. Note the revolving screen on the computer, thus allowing the user full control over the keyboard to change the calculations demonstrated.

4000 series computer would perform within the guidelines demanded. To ensure the best possible use and marketability of the F&I system, Compute designed a unique method of rotating the screen of the computer 110 degrees either side of the centre, thus allowing the customer to be involved in the calculations that the consultant was preparing. Another factor that greatly concerned Compute was how to keep the system cost to a realistic value when considering the application and the marketability of the product. The amount of program required to perform the task was a massive 94K of RAM. At that time, no such microcomputer existed. The use and cost of a disk drive could not be warranted. Realising Compute had a problem, they put to work their designers and produced a special EPROM card that fits

inside the computer, thus holding the program in permanent memory, ready for access at any time by the computer. This design concept was unique and has allowed Compute to be recognised throughout Australia as leaders in this specialist market. Security of Compute's program was no longer a problem and price was controlled within the guidelines required.

Today over 160 of these Commodore computers are used by Motor Dealers throughout the industry. Many customers have remarked about the professional service available from motor dealers who use the computer system, and in many cases, the consumer has been saved many thousands of dollars. Compute have reflected upon their success in this field many times and are always glad of their decision to use the Commodore microcomputer.

EXPLORE A COMMODORE PETCLOCK (clock/calender)

Plugs directly into the user Port of any Commodore CBM computer. It displays on the screen day, month, year in which ever order you require; can be accessed into other programs and need no power supply; a lithium battery is mounted internally, and will power the clock for 10 years even with the computer turned off?

\$152.00
CW Electronics
see our advert page 7

As Graham O'Neill, the General Manager of Compute F&I Systems remarked, "Several people have tried to tackle this specialist market with various brands of computers". "Our success lies in the fact that we are specialist in the industry and therefore know how the motor dealer, the customer and the consultant feels. Because of this experience we were able to produce one of the most versatile F&I programs available on the Australian market".

Mr O'Neill concluded by saying, "But we must state, that our design techniques and success in the industry would not have been possible if we did not select the Commodore 4000 series system. The Commodore product has certainly lived up to its reputation for reliability and performance".

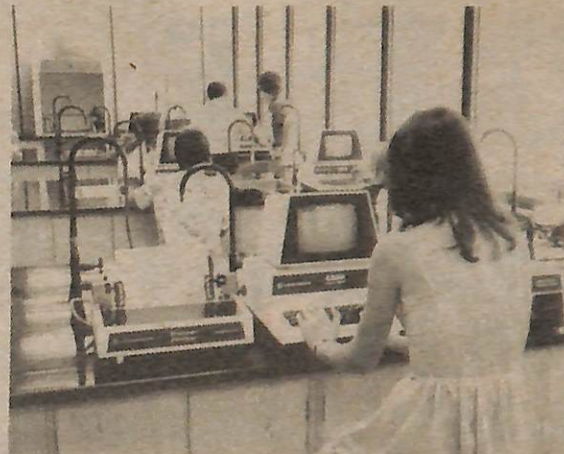
TAYLORS COLLEGE

- Commodore at school

TAYLORS COLLEGE, A Melbourne based Senior Secondary School, has purchased 5 Commodore micro-computers for classroom use. The computers are being used to give students practical experience of programming and computer aided learning at year 11 and 12 level.

Taylor's also have a Commodore 3000 series computer system complete with a disk drive and printer which is used for administrative tasks and for more advanced students in the Computing Science course.

With the additional computing capacity now available, Taylor's have undertaken evening



Computer Programming courses in BASIC which are open to the general public. Mr Robert Read, Principal of

Taylor's College, said that the school purchased Commodore because the units offered compact powerful portable computing facilities for a reasonable price. Mr Read added "the machines are so reliable and rugged, that we have not had a machine break down since their installation over 8 months ago. I don't know of any other equipment being used in schools today which has this record of reliability".

Photograph shows the Commodore micro-computers being used in the classroom laboratory for instruction.

COMMODORE ACCOUNTING TRAINING MANUALS

Recently released, the Commodore Accounting manuals provide a reference manual for the Commodore Accounting systems and a detailed training manual.

Published in book format in two volumes, these manuals provide detailed accountancy exercises in the use of the Commodore Accounting systems. Comprehensive working examples of a company's trading is used, and the manual gives methods of batching and controlling data for entry into the Commodore computer.

Volume 1 covers the Commodore Stock and Debtors Ledgers and Volume 2 covers the Commodore Creditors and General Ledgers. Examples and procedures are given for integrating the ledgers for more detailed reporting.

At the back of each manual, a section shows with the use of flow charts, how to organise work flow and data input for a concise and logical approach to computerised accounting.

Combined with the Commodore Accounting software, these manuals are ideal for students in accountancy using a computerised system to learn all about modern day accounting.

Ideal for training new or relief operators, or just using as a reference source, the Commodore Accountancy manuals are now available from your Commodore Dealer.

NEW PRODUCT REDUCES CARPET WEAR

Computer Operators need the full chair mobility that Anchor-Stat allows and increases the comfort of using a Commodore computer at a standard desk. Gone are the days when a track is worn into the carpet by an operators chair moving around the computer. Total carpet protection is now provided with Anchor-Stat.

Anchor-Stat is elegantly styled to enhance the office decor, being made from a 100% superior quality vinyl with a 1 year warranty against chipping or cracking.

STATIC CONTROL
Anchor-Stat comes complete with a 3 metre flex for earth wiring. The product is especially designed to remove electro-static buildup from around microcomputers and similar electronic office equipment.

Static electricity is constantly present and transmitted from one person to another and to other objects. The human body can develop and transmit levels of static electricity in excess of 20,000 volts without harm. Levels of 3,000 volts would pass completely unnoticed by humans, but cause malfunctions when transmitted to micro-sensitive elements of computers and similar equipment.

To prevent the possibility of static discharge ruining the data on a floppy diskette or interrupting the computer's processing, Anchor-Stat will discharge the person when they step onto the mat, before they touch the electronic equipment.

An essential item for every office, Anchor-Stat not only gives carpet protection, but protection from static discharge.



Anchor-Stat Standard weight CHAIRMAT and STAND-ON MAT

The new STATIC-CONTROL MAT with a 3 metre flex for earth wiring. Colour - Black. ANCHOR STAT is made from superior quality vinyl with conductive materials and has specific application to remove electro-static build-up from around mini/micro computers, word processors and similar electronic office equipment. ANCHOR-STAT is available with, or without, the 100's of small anchors required to keep the mat firmly in place on carpet. ANCHOR-STAT is placed under the operator's chair or wherever an operator may be standing next to the equipment

3 SIZES AVAILABLE, with ANCHORS:

Large size - 1200x1500mm Rectangular.....\$229.90

Medium size - 1150x1350mm with wide lip.....\$199.90

(incl. Tax)

Available from your Commodore Dealer or contact

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THE FLEXIBLE SOLUTION

Electronic Business Systems are the Small Company with the right ideas, and because we're small we give personal service to our customers.

We market computer systems all over the world including the USA and Canada.

Flexible Systems which are designed to suit your Company, your stationery and your pocket.

Our dealers throughout Australia would be proud to show you any of the EBS Professional Systems. There's one in our range just for you.

These are some of our Professional Systems —

Debtors, Stock Control, Creditors and General Ledger — Can be tailored to varying individual needs and requirements. Flexible and Cost Efficient.

Public Accountants Package — From data entry to balance sheet with full printed reports. 6 means of data entry including comprehensive bank statement entry. Totally flexible chart of accounts to suit individual client needs. Design your own report style. 2 levels of consolidation.

Transport Accounting Package — Designed for the small to medium operator. Easy to operate, reasonable price. From single entry from docket book, details of all records are automatically updated to invoice statements.

Vic Cashbook — For the Vic Commodore and double up for data capture for Public Accountants Package. Provides up to 50 Columns of distribution of income and expenses.

Debtors Data Capture for Vic 20 — Make the Vic 20 more than a 'toy' — a really useful work tool at a very economical price. Allows small business people to control their own debtors accounting and produce statements without the high outlay.

WordPro Plus Series — A Family of word processors. EBS are the Australian Distributor for this world marketed product. Simple to use word processing with the power and capability only found in dedicated word processors costing thousands more.

InfoPro — User oriented Information Management System. Use for mailing lists, employee records, electronic filing systems. Merges with WordPro Plus to create hundreds or thousands of personalised letters.

Power — Programming Utility which makes writing programs easier. A powerful utility with features not available in other programming tool kits. eg Scrolling power allows you to list a program and scroll vertically without relisting and automatic line renumbering.



If you're in the market for any EBS Systems, call your local EBS Software Dealer, or

Suite 4, 118 Macquarie Street, DUBBO.
PHONE (068) 82 8611; Telex DOTLX 63651.

electronic business systems

EBS WORLD LEADERS IN COMMODORE SOFTWARE

Electronic Business Systems are a Dubbo based computer software company, who believe that if a market does not come to you, then you must go to the market.

Originally an office equipment retailer, EBS has become one of the leaders in writing flexible, easy to understand systems for Commodore equipment sold both in Australia and to the world.

The company could see the large market in Australia for more specialised computer programs than were currently available, but customised programs were in most cases beyond the reach, financially, of small businesses.

The company is owned by Barry Barnes and his wife Margaret who recently decided that their products could be sold successfully in overseas markets.

They commenced exporting computer programs from the mid western NSW city of Dubbo to USA, Canada and New Zealand.

"We decided to export our programs to the overseas markets in order to offset the high cost developing our software", Mr Barnes said.

After some months of ground work EBS commenced exporting their products into the USA, probably the most competitive in the world.

Over 3000 individual systems were sold into the USA market during this initial period.

The two program types sold in this market were the EBS Accounts Receivable System and the EBS Inventory System.

Meanwhile in the Australian market, EBS were developing new products to meet the increasing demand for a wide variety of customers.

To date, EBS have developed such programs as;

EBS DEBTORS & STOCK CONTROL

A very powerful integrated software package with features and performance previously available only on minicomputers in the \$15,000 and up price range.

When this system is run on the Commodore hardware, which is low cost, it offers a comprehensive and workable fully integrated Debtors and Stock Control System at a price small businesses can afford.

The capacity of the system is as follows:

- ★ 928 customer records and 6181 current transaction records for each data disk.
- ★ Up to 26 ledgers available.
- ★ 116 salesperson distributions and 348 product descriptions for each ledger.
- ★ 10 standard letters can be filed for each program disk.

★ 3448 stock records for each stock data disk.

★ Up to 9 stock data disks.

★ 26 user definable transaction types.

★ The reports which the system produces includes customer invoices, letters to customers chosen by amount and ageing, customer lists in detail and summary form, stocktake worksheets, total stock position report, customer statements, packaging slips, bank deposit slips, address labels, aged trial balance, sales tax report, and many more.

The hardware required for the EBS Debtors and Stock Control System is readily available from Commodore dealers.

EBS CREDITORS SYSTEM

This package is designed to reduce the running cost of small businesses and to keep an accurate record of amounts owed to vendors in order to

TRANSPORT SYSTEM

This system fills the accounting needs of small transport operators and parcel delivery companies. It allows a single entry from a docket to enter all files required, therefore cutting down on bookwork.

The system maintains records for customers, depots, other carriers and either employee drivers or sub-contractors.

One entry gives the operator the following information:

- ★ Entry into the customer file, transaction file (holds each docket), depot summary (summary of information supplied by the sub-depot), Sub-Contractors file, and in other carrier files (summary information by other carriers).

The EBS Transport System also at the end of the month prints invoice statements, gives summaries of reports to sub-contractors, customer lists, monthly sub-depot settlement reports and sub-contractor settlement reports.

The system is described as user-friendly, and any entry can be displayed on the screen within seconds, and the total ledger can be displayed, or displayed and printed at the same time.



WORDPRO PLUS

The Wordpro Plus word processing systems include software programs designed specifically for Commodore Computers.

There are five levels of programs available, ranging from sophisticated to basic text editing range, each has a particular application, but all have a large capacity for editing, subbing and writing.

Over 2000 installations of the Wordpro systems have so far been sold world wide.

EBS were recently appointed as the exclusive Australian Distributor for Professional Software Inc. who are the world wide distributors of WordPro.

EBS are constantly upgrading their programs and offering a wider range of product types to the Australian consumers and the world markets.



make payments promptly and maintain good credit relations with them.

The system offers many features such as a check on goods returned for credit, bulk supply discounts, on-the-spot negotiated discounts for goods received damaged or incorrectly supplied, and the occasion when a special promotional price has been quoted, but normal price is charged. These are only a few of the features in the system available to small businesses.

Another of the many important features in the system, is that it allows the company to design their own invoices, statements and other documents to suit their stationary — their own invoice layout — and it is fully flexible.

Other features in the system are:

- ★ Forecasts for your future cash requirements.
- ★ Creation of remittance advices.
- ★ A report showing ageing of all accounts.
- ★ Listing of suppliers.
- ★ Display of the total monies owed within seconds.
- ★ Cheque writing to your own format.
- ★ It also provides a wide variety of reports for you.

EBS VIC-20 DATA CAPTURE SYSTEM

This is a unique system which allows the small and inexpensive VIC-20 computer to be used as an information input base, with the information keyed into the VIC-20 computer and fed into a larger Commodore disk based computer at a later date.

It streamlines the task of data collection as all the information can be collected at the spot where it is generated, but it is still cost efficient.

The customer inserts the information into the VIC-20 at his home, office or farm and then hands over the tape to his Commodore Bureau at a later date.

All the information the computer requires is contained on the cassette, which after the Bureau has finished with it, can be returned to the client.

You can construct customer records with name, address, phone, etc as well as salespersons details, product descriptions and other information. Invoices credit notes, cash receipts, sales tax and values of distribution can also be inserted into the system.

The EBS Debtors Data Capture System is simple to operate, and does not require a major capital outlay.

EBS PUBLIC ACCOUNTANTS PACKAGE

This is one of the newer EBS systems offered in Australia.

This system is written in an easy menu form and offers all users a flexible, fully controllable accountancy package.

The Public Accountants Package is low cost and offers reduced labour costs in the preparation of clients accounts — resulting in increased productivity.

The EBS package offers up to 1500 accounts, up to 4500 transaction records, and the system supports double entry system of accounting.

It is simple to use with only a minimum of instruction time required to train an operator. Below is a summary of the functions and operation of the system:

DATA ENTRY — Payments, Bank Deposits, Journal Entry, Bank Statement, Cash Book and VIC Data Capture.

REPORTS — Posting Summary, Trial Balance, Chart of Accounts, Transaction Listing, List of unallocated accounts, full financial reports including trading accounts, livestock trading accounts, profit and loss accounts, balance sheets and assets register and depreciation schedule.

CONSOLIDATION — Individual segments of business operations can be fully reported both individually and as a whole.

EBS GENERAL LEDGER SYSTEM

This system allows up to 1000 general ledger accounts and 4500 transactions.

The flexibility of the system allows for simple and complex charts of accountS and it allows the operators to define their own reporting format.

It offers a wide variety of features not normally found in lower-priced systems including the following:

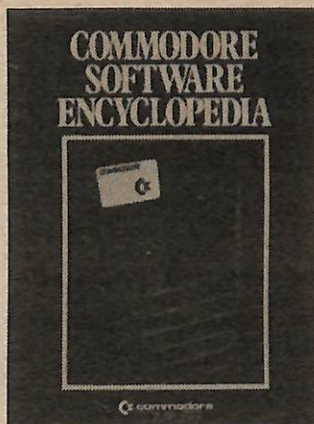
- ★ Account maintenance, daily transactional lists, summary posting listings, cheques, receipts, ledger journals, monthly transaction lists, trial balance, charts of accounts listing, hardcopy and account enquiry.

The system is flexible and does not require intensive training to allow the operator to become efficient in the use of the system. For further information contact Barry Barnes, Suite 4, 118 Macquarie Street, Dubbo. N.S.W. Phone: (068) 82 8611.

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The Commodore Software Encyclopedia is a comprehensive directory of over 1000 programs for business, education, personal, and recreational applications world-wide. Listings are provided for such categories as;

- ★ Business including Accounting, Inventory, Real Estate, Payroll, Mailing Lists, Financial Modelling
- ★ Word Processing
- ★ Utilities
- ★ Engineering Aids
- ★ Personal Aids
- ★ Games
- ★ VIC-20
- ★ Publications
- ★ Software Vendors
- ★ Hardware Overview
- ★ Overseas Suppliers
- ★ Education

This book has been published by Commodore in the U.S.A. and provides a catalogue of many programs not previously seen in Australia.

Whether you are interested in personal computers or own

a Commodore, this publication can be an invaluable aid in locating the right software package for you. The Commodore Software Encyclopedia is available from your Commodore Dealer.

COMMODORE MAGAZINE

This is published by Commodore in Australia and informs readers of all the developments in the Commodore world. Announcements of new products, product details, programming information, memory maps, software packages available, are all detailed in the Commodore Magazine.

The content is varied to suit the many types of readers that already subscribe to the Commodore Magazine.

Products covered include the VIC-20 and the CBM range of computers.

If you are already a Commodore owner, or if you plan to be, then the Commodore Magazine is essential reading.

Subscriptions can be obtained from your Commodore Dealer, or see the advertisement on page 3.



Prentice-Hall, Howard W. Sams & Reston

VIC BOOKS • PET BOOKS • SUPERPET BOOKS • 6502 BOOKS

VIC BOOKS

VIC BASIC

A User-Friendly Guide
Here's how to effectively combine colour, sound and graphics on the Commodore Vic. It's a comprehensive collection of VIC BASIC programs for the beginner and experienced programmer alike the only tutorial you'll need to gain proficiency with the VIC. \$19.25

VIC GAMES AND RECREATIONS

Adventures with the Rainbow Machine
Packed with adventurous, challenging programs, brain squeezers and graphics. Features a chapter on the design and creation of your own games. It's all here: modular games, fantasy-role playing on the computer, maths games, animation games, and loads more! \$19.25

VIC 20 PROGRAMMERS REFERENCE GUIDE

An easy-to-use, detailed manual that helps you to program your VIC like a pro! Includes a complete VIC 20 BASIC vocabulary guide, a section on machine language programming, a programming tips guide with suggestions for improving your skills, and a special section on VIC 20 input/output operations. Written by Commodore Computer Staff. \$25.25

PET BOOKS

PET/CBM BASIC

Richard Haskell shows you how to actually write programs in BASIC. For the beginning or advanced programmer, here's how to include sound effects, make bar graphs, use the technique of top-down programming, make 3-D figures and more. Includes photographs from the PET's screen, for every stage explained. \$19.25

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A how-to-do-it book with experiments (in BASIC) for the PET owner who wants to use the user-memory expansion and the IEEE 488 ports. \$25.25

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A User-Friendly Guide
by R. Zamora
Simple VIC BASIC programs are provided with full explanations of how to effectively combine colour, sound and graphics on the Commodore VIC. Available August. \$19.25

VIC Games and Recreations

Adventures with the Rainbow Machine
by R. Zamora
As well as puzzles, word games, modular games and mathematics games, this book explains how to design and create your own games. Available August. \$19.25

LEARN COMPUTER PROGRAMMING WITH THE COMMODORE VIC

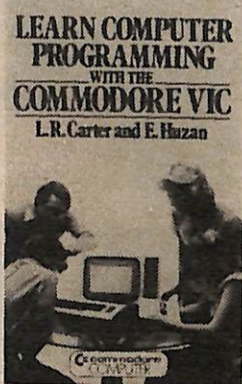
by L.R. Carter and E. Huzan
This book provides a practical grounding in BASIC. Many different applications of the VIC, ranging from colour and sound animations to scientific and business applications, are described. A comprehensive series of exercises, with answers, is provided to help you learn at your own pace. 1982, 160pp, \$8.95

PET FUN AND GAMES

by R. Jeffries and G. Fisher
30 challenging games for PET computers collected by the editors of CURSOR magnetic magazine - thoroughly tested and ready to load. \$16.75

VIC PROGRAMMERS REFERENCE GUIDE

Provides a complete VIC 20 BASIC vocabulary guide, a section on machine-language programming, a programming tips guide with suggestions on how to improve your programming skills, and a special section on VIC 20 input/output operations. 1982, 400 pp, \$25.25



SOME COMMON BASIC PROGRAMS

by L. Poole and M. Borchers
76 well-designed and documented programs that solve a variety of problems in statistics, finance, and maths. Easy to use at any level of experience. PET/CBM edition. 1980, 200 pp, \$21.00

THE POWER OF: VISICALC

by R. Williams & B. Taylor

The Power Of: VisiCalc is a book of exercises designed especially for users and potential users of the VisiCalc computer program. By performing these simple step-by-step exercises, you will rapidly gain an ability to utilize the broad range of VisiCalc capabilities. The seven easy to follow exercises are designed to help you understand and use VisiCalc operations for a wide range of applications. This book is an invaluable companion to the VisiCalc program. 1981, 88pp, \$13.95

THE POWER OF: VISICALC, Volume II

by R. Williams & B. King

The Power of: VisiCalc Vol II is a training manual consisting of a series of exercises which are based on VisiCalc Version 3.3. The exercises included are: Accounts Payable; Payroll; Monthly Sales Report; Daily Inventory; and Financial Forecasting. 1982, 97pp, \$13.95

NICK HAMPSHIRE BOOKS

Computer Reference Guide is the exclusive distributor in Australia for all Nick Hampshire Commodore books. Current offerings include:

VIC REVEALED: This book is a collection of discoveries about the VIC, how and why it works, and how to use these facts to write better programs and perform more interesting functions. 1981, 267pp, \$17.95

VIC GRAPHICS: Designed specifically for the VIC and available in Aug/Sept. \$16.95

PET GRAPHICS: Now rewritten and offered in two volumes. Vol 1 now available and Vol 2 due in Aug/Sept. Vol 1 & Vol 2, each \$18.95

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Commodore have made available a number of programs for general use that are not protected by copyright and users are encouraged to exchange and expand on this Public Domain library.

It must be stated that most software is protected by copyright and unless you are sure that you are duplicating Public Domain software, you may infringe copyright laws and be prosecuted.

The concept is to provide users with a range of programs, utilities and languages that are free of charge. However some costs for the duplication, distribution and media may be charged by your Commodore Dealer. This charge should not exceed \$20.00 per diskette.

The following Public Domain software packages are available from your Commodore Dealer,

COMMODORE UTILITY PACKAGE
A collection of valuable utilities for data entry, disk patching, screen formatting etc.
Code 310100 - diskette V2C distribution
Code 310102 - diskette V2A distribution

EDUCATION SOFTWARE PACKAGE
A set of 5 diskettes with games, education programs and utilities collected from around the world. Most of these programs are designed to run on 40 column machines.
Code 310105 - diskette V2A distribution only.

COMAL
A language which has the structure of PASCAL and the simplicity of BASIC. Developed especially for Commodore, this language is valuable for

learning structured programming.
Code 310110 - diskette V2C distribution
Code 310112 - diskette V2A distribution

COMMUNICATIONS TERMINAL SOFTWARE

Two programs allow terminal connection to a host computer with file and program transfer possible.
Code 310125 - diskette V2A distribution
Code 310130 - diskette V2C distribution

ASSEMBLER DEVELOPMENT SYSTEM
This package contains a detailed reference manual and all supporting programs for developing assembler programs.
Code 310140 - diskette V2C distribution
Code 310142 - diskette V2A distribution

COMPUTERS, in the foreseeable future will not replace the typewriter, it is just inefficient to use a WORD PROCESSOR to:

1. Type an envelope.
2. Type a short memo.
3. do a short quick letter.

it is unprofitable to have a printer sitting around for 60% of the day doing nothing. So what is the answer?

OPAL ELECTRONICS MANUFACTURING have come up with the answer, the **OPAL PRINTER**. This unit doubles as an excellent easy to use typewriter and a true printer (yes top of form, line addressing etc.) This provides the professional office or small business with an ideal solution for a cost effective system.

The **OPAL PRINTER** was designed to fit on all known microcomputers and is being enhanced to work on some mini and mainframe computers with the **XON XOFF** capabilities.

The microcomputer the **OPAL PRINTER** first went on, was the highly successful **COMMODORE**

1. Silicon Office
2. Visicalc
3. I.M.S.
4. WORDCRAFT

and will cater for most software under consideration at this time.

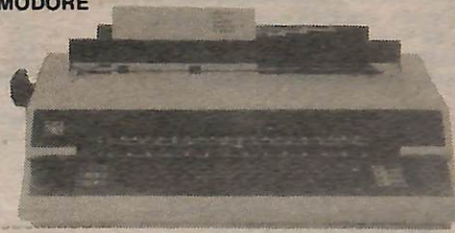
How does the **OPAL PRINTER** adapt to these conditions?, simply, the **OPAL** has a computer controlling the input and the printing thus making it a very flexible system. Its flexibility was demonstrated two weeks ago, when the firmware was changed to enable the **OPAL PRINTER** to run under **EUROPEAN CHARACTERS**, a highly desirable feature for overseas marketing.

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Please contact **J.W. REED (Jim)** on (08) 233 1900 or **F. Firth (Fred)** on (08) 233 5133 for more information on the **OPAL PRINTER** or write to;

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1/7/82



INSTANT ROM

Have you ever wanted to write programs that would stay in your COMMODORE permanently? Extend BASIC, write security programs, special print routines? Now you can do it quickly and you don't need an EPROM programmer! INSTANT ROM gives a choice of 2k, 4k or 8k battery backed-up CMOS memory for CBM or VIC-20. **TURN THE POWER OFF AND THE MEMORY LINGERS ON** - for about ten years

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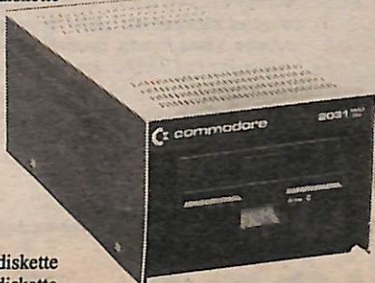
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COMMODORE RANGE OF CBM DISK PERIPHERALS

CBM 2031

Total Capacity 174K.
Low Cost Single disk drive.
5 1/4" single sided, single density floppy diskettes.

Total Capacity - 174,848 bytes per diskette
Sequential - 168,656 bytes per diskette
Relative - 167,132 bytes per diskette
Records/file - 65,535
Directory Entries - 144 per diskette
Bytes per sector - 256
Sectors - 17-21
Tracks - 35
Blocks - 664 per diskette



CBM 4040

Total Capacity 340K.
Dual Disk Drive.
5 1/4" single sided, single density floppy diskettes.

Total Capacity - 174,848 bytes per diskette
Sequential - 168,656 bytes per diskette
Relative - 167,132 bytes per diskette
Records/file - 65,535
Directory Entries - 144 per diskette
Bytes per sector - 256
Sectors - 17-21
Tracks - 35
Blocks - 664 per diskette



CBM 8050

Total Capacity 1,060K.
Dual Disk Drive.
5 1/4" single sided, single density floppy diskettes.

Total Capacity - 533,248 bytes per diskette
Sequential - 521,208 bytes per diskette
Relative - 464,312 - 517,398 bytes per diskette
Records/file - 65,535
Directory Entries - 224 per diskette
Bytes per sector - 256
Sectors - 23-29
Tracks - 77
Blocks - 2083 per diskette



CBM 8250

Total Capacity 2,100K.
Dual Disk Drive.
5 1/4" double sided, single density floppy diskettes.

Total Capacity - 533,248 bytes per diskette
Sequential - 521,208 bytes per diskette
Relative - 464,312 - 517,398 bytes per diskette
Directory Entries - 224 per diskette
Bytes per sector - 256
Sectors - 23-29
Tracks - 77
Blocks - 2083 per diskette



CBM 9060

Total Capacity 5,000K.
Hard Disk Drive.

Total Capacity - 6,380,000 unformatted
- 4,970,000 formatted
Sequential - full disk capacity
Relative - full disk capacity
Bytes per sector - 256
Sectors - 32
Recording Surfaces - 4
Tracks - 153 per recording surface
Blocks - 19,442



CBM 9090

Total Capacity 7,500K.
Hard Disk Drive.

Total Capacity - 9,570,000 unformatted
- 7,460,000 formatted
Sequential - full disk capacity
Relative - full disk capacity
Bytes per sector - 256
Sectors/Track - 32
Recording Surfaces - 6
Cylinders(Tracks) - 153 per recording surface
Blocks - 29,162



HIGH SPEED DOT MATRIX PRINTER

The latest addition to the growing line of CBM peripherals is a bi-directional, 136 column printer with both tractor and friction feed. The 8023P is dot-matrix, and prints 150 characters per second (CPS).

The new CBM 8023P printer is designed to operate through software control, prints upper and lower case alphabetic characters, all graphic

characters available with a Commodore computer, as well as user defined characters.

The 8023P conforms to IEEE interface requirements and connects directly to a Commodore computer via an IEEE cable.

Pseudo letter quality is available by overprinting the characters and is useful where the quality of report presentation is important. Condensed print is an option allowing column

widths up to 250 characters. Forms width is adjustable from 5 to 15 inches and up to 3 copies including original can be made. Because the printer is an 'intelligent' peripheral, it uses none of the computer's memory. In addition, the 8023P contains Random Access Memory (RAM), which permits storage of formatting data. The 8023P runs with all 8000 series software packages.



THE COMMODORE COMPUTER NUMBER 1. FOR PRICE.

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You can use it for Financial Planning, Data Management and Retrieval, Direct Mail List, Legal and Medical Accounting and Portfolio Management.

COMPARE THE ALTERNATIVES AND YOU'LL SEE WHY COMMODORE IS THE COMPUTER TO BUY

	CBM 8032
Price: Under \$7,000.00	✓
Computer Memory (RAM + ROM): Total = 50K	✓
80 Characters Per Line	✓
Built-in Green Display Screen	✓
Separate Numeric Keypad	✓
Standard Upper & Lower Case Characters	✓
5 1/4" Dual Disk Storage Capacity - 1,000,000 Characters	✓
National & Local Service/Support	✓
Over 250,000 Desk-Top Computers Sold World-Wide	✓
Over 100 Software Packages	✓
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