

At Last A Computer We Can All Afford

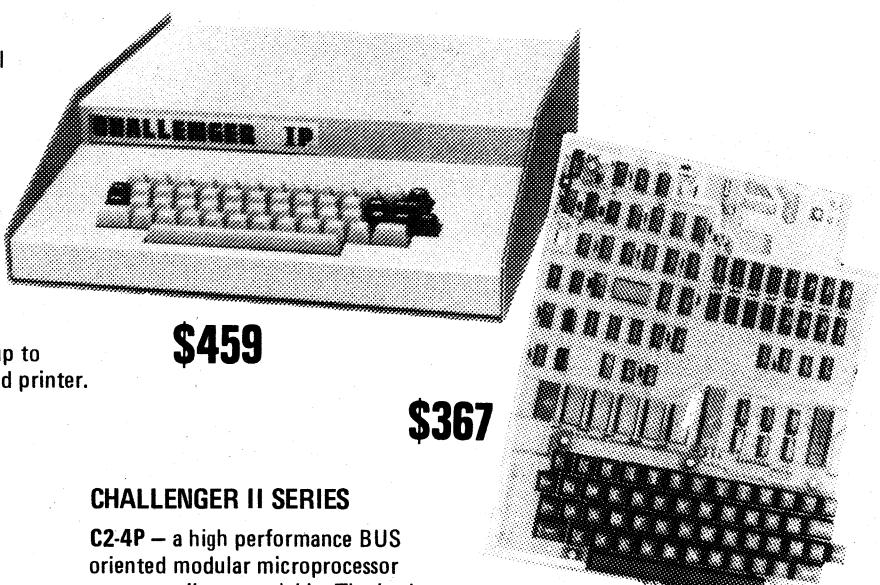
CHALLENGER I SERIES

Economical computer systems, ideal for personal use.

Superboard II — a complete system on a board requires a 5 volt supply to be up and running.

Challenger 1P — fully packaged Superboard II with power supply. Both systems feature a 32 x 32 character display, 4K RAM on the board, Keyboard and ready-to-run BASIC-in-ROM.

Challenger I's are expandable with up to 32K of RAM, dual mini-floppies, and printer.



\$459

\$367



\$792

TV set and cassette recorder not included.

CHALLENGER II SERIES

C2-4P — a high performance BUS oriented modular microprocessor system easily expandable. The backplane construction allows any of Ohio's 50 boards to be readily added, such as memory expansion options, A/D convertors, Voice I/O, printer, disk controllers and many more.

The C2-4P has a software selectable 32 x 32 and 32 x 64 character display, and a programmable keyboard for real time interactive use. The C2 is the choice for the serious computer owner planning on expansion.

All systems include 4K RAM, a typewriter style keyboard, video output suitable for use with an RF convertor (not supplied) to a standard TV set, and the reliable Kansas City standard cassette system. Microsoft's 8K BASIC-in-ROM avoids lengthy loading from cassette and features full string manipulation, floating point and trigonometric capabilities. A machine code monitor in ROM, plus an Assembler allow access to machine code programming. A large range of programs are available for education and entertainment. Contact us for further details.

OHIO SCIENTIFIC
TCG

Australian Dealer: Systems Automation Pty. Ltd.
26 Clarke Street, Crows Nest NSW 2065. Tel: 439 6477

What you should know about Personal Computers . . .



TOP: The Vector Graphic Memorite professional word processing system, based on the same firm's System B microcomputer system.

BOTTOM: The Southwest Technical Products /09 system complete with CT-84 intelligent video terminal and PR-80 intelligent 80-column bidirectional printer.

there are other microcomputers and systems available which although not strictly in this category, are also likely to be of interest to the small business or professional user.

Some of these are closer to a hobby computer than a true personal computer, and although similar in price require the user to have a background in either electronics or computers. Others are a little up-market from the personal computer level, and intended for use by professional system designers. Here are some representative machines and systems from this area, to round off our survey:

OHIO SCIENTIFIC CHALLENGER SERIES: A series of machines which starts from the hobby level and extends right up into the minicomputer area, made by the Ohio Scientific Corporation in Ohio, USA. The local distributors are Systems Automation Pty Ltd, of 26 Clarke St, Crows Nest NSW

2065, while some of the machines are available from outlets like Looky Video.

At the bottom of the range is the Superboard II, a stripped-down personal/hobby computer on a single unpackage printed circuit board. This has an ASCII keyboard and a video interface for use with a TV monitor or receiver, with 4K of RAM and an 8K BASIC interpreter in ROM. It sells for around \$385.

The same machine is available in a case with power supply, for around \$480, as the Challenger 1P.

At the top of the range is the Challenger III, which has up to 48K of RAM, and dual 21cm hard discs giving up to 74 megabytes of memory. It is available with a full range of professional-quality peripherals, and supported by a considerable amount of powerful applications software. The price of a fairly elaborate system can be around \$15,000.

VECTOR GRAPHIC SYSTEMS: A range of professional-quality microcomputers, generally supplied as ready-to-operate or "turnkey" systems complete with fully developed applications software (much of it locally developed to ensure its effectiveness). The hardware is made by Vector Graphic in the USA; the systems are marketed here by A.J. & J.W. Dicker Pty Ltd, of 24 Woodfield Blvd, Caringbah NSW 2229.

The System B comes with 48K of RAM and two dual-density mini floppy disc drives providing further 630K of memory; also a 30cm video terminal. Basic software provided includes C/PM disc operating system, CBASIC2 compiler/interpreter business BASIC, a program development system and assembler. A full range of printers and other peripherals are available. Prices start from around \$6400.

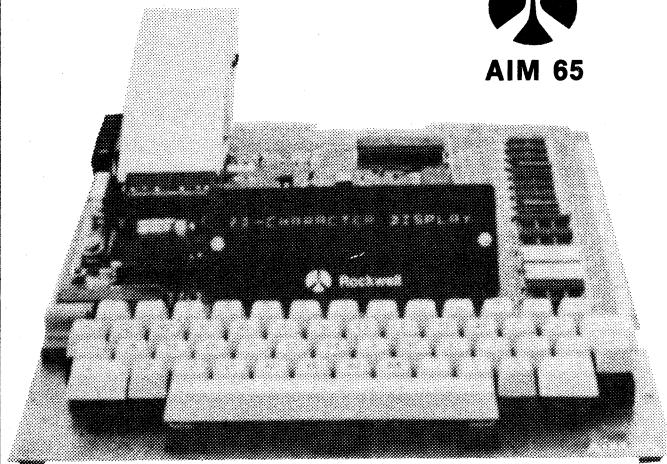
Also available in the Vector Graphic

**OPENING
NOV, 13, 1979**

DWEEL ELECTRONICS

NEW STORE IN

NORTHGATE — HORNSBY



ROCKWELL AIM 65

AIM 65 is fully assembled, tested and warranted. With the addition of a power supply, it's ready to start working for you. AIM 65 features on-board thermal printer and alphanumeric display, and a terminal-style keyboard. It has an addressing capability up to 65K bytes, and comes with a user-dedicated 1K or 4K RAM. Two installed 4K ROMs hold a powerful Advanced Interactive Monitor program, and three spare sockets are included to expand on-board ROM or PROM up to 20K bytes. (4K assembler, 8K basic optional). An Application Connector provides for attaching a TTY and one or two audio cassette recorders, and gives external access to the user-dedicated general purpose I/O lines. Also included as standard are a comprehensive AIM 65 User's Guide, a handy pocket reference card, an R6500 Hardware Manual, an R6500 Programming Manual and an AIM 65 schematic.

**AIM 65 1K RAM \$525 TAX PAID
AIM 65 4K RAM \$570 TAX PAID
4K ASSEMBLER IN ROM \$105
8K MICROSOFT BASIC IN ROM \$125**

OHIO SCIENTIFIC SUPERBOARD II

\$392

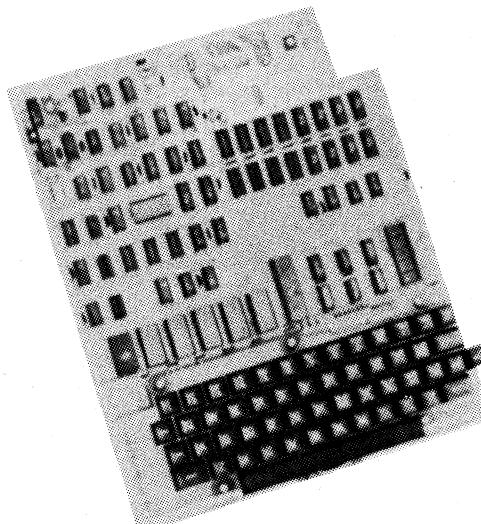
Superboard II microcomputer features 8K Microsoft Basic in ROM. Cassette interface. Video interface. Ultra fast 6502 CPU. 256 character set including upper/lower case and 160 graphics elements. 4K RAM on board as standard can be economically expanded.

Requires 5V power supply. RF modulator for TV hook-up, cassette recorder.

CHALLENGER IP

This same microcomputer supplied with a metal case and power supply.

\$499



DWEEL ELECTRONICS

77 EDGEWORTH-DAVID AVENUE, HORNSBY, NSW 2077
TELEPHONE: (02) 487 3111
SHOP M17 LEVEL 3, NORTHGATE HORNSBY



Microcomputer News

C1P Series 2 from Ohio Scientific

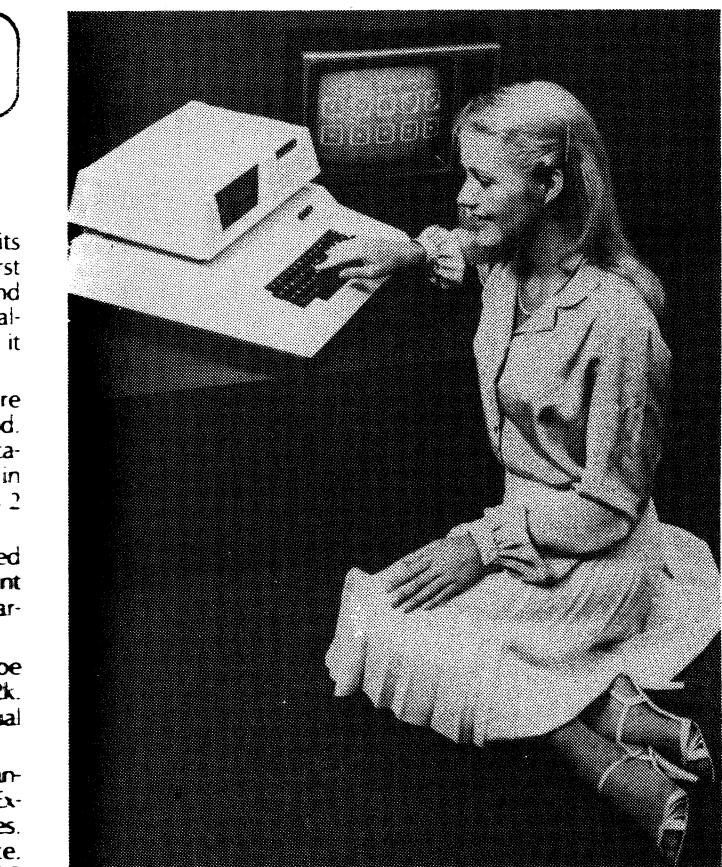
Ohio Scientific has released an enhanced version of its popular C1P computer, designed specifically to appeal to first time computer users. The C1P Series 2 offers versatility and new sound, music, and voice capabilities via an inbuilt digital-to-analog converter, and new screen formats which give it great flexibility in educational applications.

Mr Barraclough, a director of the TCG group who are distributors of Ohio Scientific equipment in Australia has said. "We expect the Series 2 to have particular appeal to educational institutions because of a new 12 x 48 character screen in addition to the 24 x 24 display, and the fact that the Series 2 can plug straight into standard audio visual systems."

"It also has a wide range of applications as an advanced scientific calculator via a newly-developed floating point maths capability and 'immediate mode' operation," Mr Barraclough said.

The standard C1P Series 2 provides 8k of RAM, which can be expanded by the addition of plug-in boards, to a total of 32k. A mini-floppy version of the C1P, the MF Series 2 offers a dual disk operating system.

Both the C1P and the C1P MF Series 2 are readily expandable by the addition of the new Ohio Scientific 630 IO Expander to provide a colour display, dual joystick interfaces, dual remote keypad operation, AC remote control interface, and programmable modem and high speed output ports. TCG is offering a wide range of educational, entertainment and business programs for the two systems. Cost of the C1P Series 2 is around \$550.



The C1P Series 2 from Ohio Scientific is said to be an ideal system for the first time user because of its simplicity and ease of operation.

AT LAST! A REAL COMPUTER IN KIT FORM

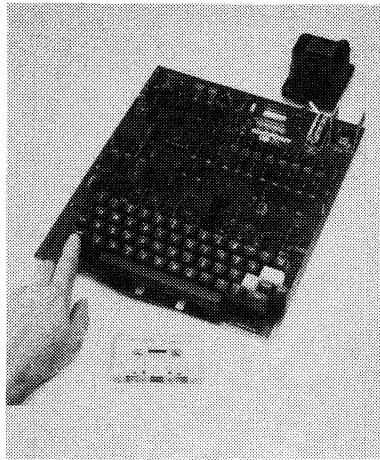
Real Computing Power available at kit prices

The Compukit 101 is a real computer — start with 4K RAM memory and full 8K Microsoft Basic in ROM. The Compukit 101 connects directly to your TV — just assemble, hit 'RETURN' and GO! A cassette interface allows you to use a normal cassette recorder to save and load programs.

Because the Compukit is available only as a kit, the savings are enormous.

Look at these features

- * The Compukit 101 is based around the ultra-powerful 6502 microprocessor — best value and most powerful microprocessor.
- * Steady clear picture using 50MHz refresh
- * Display of 48 characters × 16 lines — 1K memory mapped video system providing high speed access to screen display for games and graphics.
- * Extensive 256 character set which includes full upper and lower case, mathematical symbols, and graphics characters.
- * Full 8K Microsoft Basic in ROM compatible with APPLE, PET, SORCERER programs — much faster than currently available personal computers.
- * Video output and VHF high grade modulator which connects directly to the aerial socket of your TV set.
- * Fully stabilised 5V power supply, including transformer.



Rugged construction

A full and detailed assembly instruction manual is included with the Compukit 101. Only the best materials have been used for this kit:

- * High quality thru plated Printed Circuit Board with all I.C.s mounted on sockets.
- * Clear, easy-to-follow layout. Simple soldering due to clear and concise instructions compiled by Dr. T. Berk.
- * Professional 52 key QWERTY keyboard in 3 colours — software polled, meaning that all debouncing and key decoding is done in software.
- * Absolutely no extras required.

Tested and Tried

The Compukit 101 is Europe's best selling computer kit, with good reason. And now it's available in Australia, fully modified for VHF television.

- * Up to 8K RAM can be mounted on board. (4K RAM addition only \$85).
- * 40-line expansion interface socket on board for attachment of extender card containing 24K RAM and disk controller (Ohio Scientific compatible).
- * RS232 interface on board for printer connection.
- * Standard KANSAS CITY tape interface providing high reliability program storage — use on any standard domestic tape or cassette recorder.

If You Want to Learn about Computers, But Didn't Know which Machine to Buy, then this is the Machine for You

The Compukit 101 allows you to develop programs in either BASIC or machine language.

- * The BASIC is the best BASIC developed: Microsoft are internationally recognised as the industry leader.
- * Number range from 10^{-32} to 10^{+32} .
- * Scientific functions (such as EXP(X), SIN(X), LOG(X), etc), string variables, string functions, subscripted variables.
- * 6502 machine code accessible through powerful 2K machine code monitor on board.

No Extras Needed — Just Hit RETURN and Go

The Compukit 101 is available complete for \$595. No hidden extras. Includes RF modulator, Power Supply, Manual, Sales Tax, Post and Packing.



FREE Sampler tape including powerful DISASSEMBLER and MONITOR with each kit.



FREE Space Invaders (8K) program with 4K RAM add-on if ordered with Compukit 101 kit.

To: MELBOURNE HOUSE (Australia) PTY LTD 24 Peel Street, Collingwood 3066, Victoria

Please send me

- Compukit 101 kit, including all parts, manual, RF modulator and power supply \$ 595.00
- Additional 4K RAM Memory (fits on board) 85.00
- Case for Compukit 80.00
- Assembler/Editor tape 25.00
- Screen Editor tape 6.95
- Space Invaders (8K) 14.95

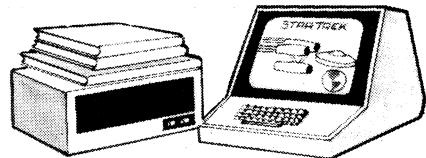
I enclose cheque for \$ _____

Name: _____

Address: _____

Postcode: _____

Microcomputer News & Products



Compukit 101 single-board computer

Here is a kit computer to really excite microcomputer enthusiasts. Called the Compukit 101, it comes with up to 32K of RAM, a full ASCII keyboard, RS232 and cassette interfaces, and is programmable in Basic. You don't have to be a genius to build it or to operate it!

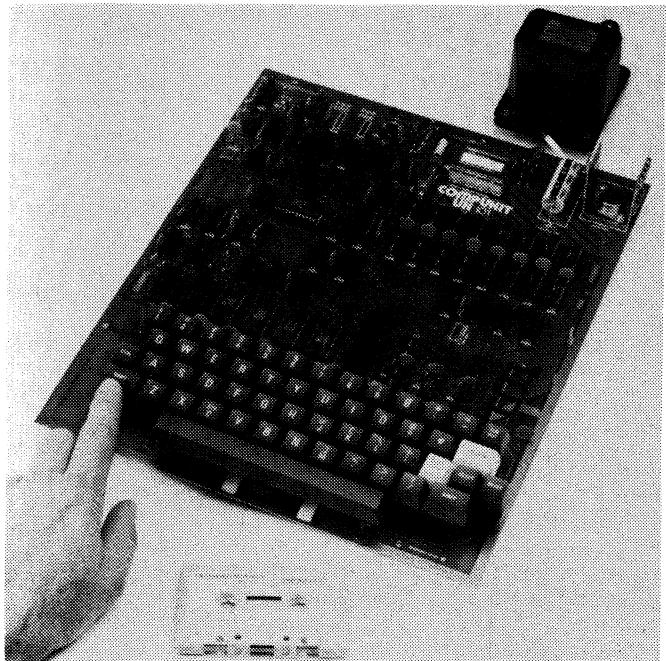
Based around the powerful 6502 microprocessor, the Compukit 101 is supplied with 8K Microsoft Basic in ROM.

Included as standard with the unit is 4K RAM on board, expandable up to 8K on board, which is sufficient for most requirements including game playing. In fact, a "Space Invaders" program will be supplied free if the extra 4K RAM add-on is ordered with the kit. Maximum memory configuration is 32K using an extender card.

The Compukit 101 comes with a 40-line expansion interface socket for attachment of extender cards, which may contain additional memory, disc controllers or sound synthesisers. An RS232 interface is provided to allow connection to a printer, while a Kansas City tape interface enables the user to save programs using a cassette recorder.

A separate controller exists on-board to control the display independently of the 6502 microprocessor, and this has its own dedicated memory (1k RAM). This means that any portion of the display can be quickly and easily accessed or changed, enabling exciting fast-moving games and displays. The keyboard is a professional 52 key Qwerty keyboard, using standard ASCII notation.

An on-board VHF modulator enables connection to any standard Australian television set - b&w or colour (although the display is in b&w only). Both upper and lower case characters are provided in the extensive 256 character set, which also includes mathematical symbols and special



graphics shapes. Access to the 6502 machine code is made possible through a powerful 2K machine code monitor.

The Compukit 101 kitset includes the power supply, all parts, and a comprehensive construction manual. It is available only by mail order from Melbourne House (Australia) Pty Ltd, 24 Peel St, Collingwood, Victoria 3066. Cost of the basic kit is \$595, including sales tax and postage.