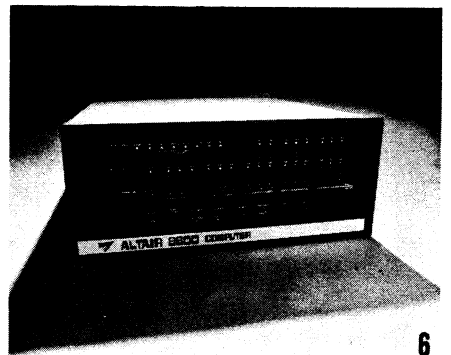
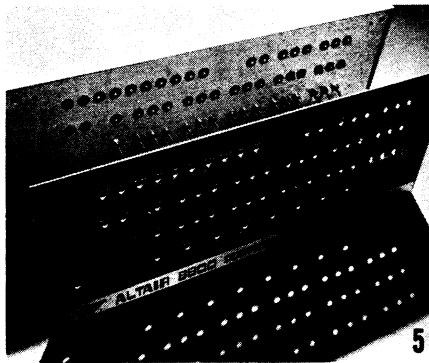
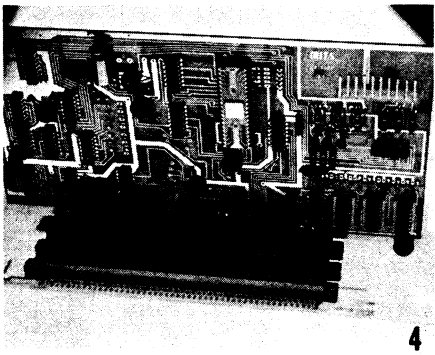
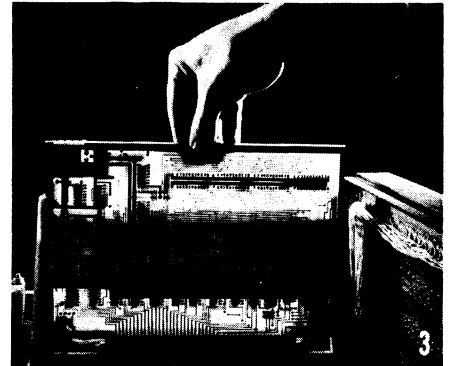
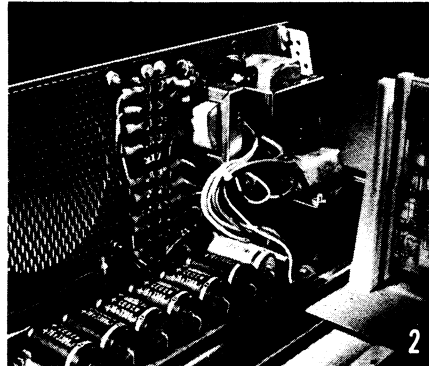
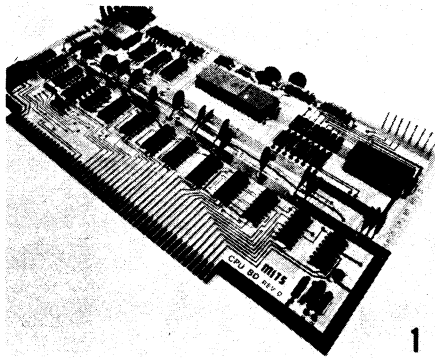


# MIT'S ALTAIR COMPUTER

See also our advertisement in E.A., August, '75.



## 1. Central Processing Unit (CPU) Board.

This double-sided board is the heart of the Altair. It was designed around the powerful Intel 8080 microprocessor—a complete central processing unit on a single LSI chip using n-channel silicon gate MOS technology. The CPU Board also contains the Altair System Clock—a standard TTL oscillator with a 2.000 MHz crystal as the feedback element.

**2. Power Supply.** The Altair Power Supply provides two +8, a +16 and a -16 volts. These voltages are unregulated until they reach the individual boards (CPU, Front Panel, Memory, I/O, etc.). Each board has all the necessary regulation for its own operation.

The Altair Power Supply allows you to expand your computer by adding up to 16 boards inside the main case. Provisions for the addition of a cooling fan are part of the Altair design.

**3. Expandability and custom designing.** The Altair has been designed to be easily expanded and easily adapted to thousands of applications. The basic Altair comes with one expander board capable of holding four vertical boards. Three additional expander boards can be added inside the main case.

**4. Altair Options.** Memory boards now available include a 256 word memory board (expandable to 1024 words), a complete 1024 word memory board, and a 4,096 word memory board. Interface boards include a parallel board and 3 serial boards (RS232, TTL and teletype).

Interface boards allow you to connect the Altair Computer to computer terminals, teletypes, line printers, plotters, and other devices.

Other Altair Options include additional expander boards, computer terminals, audio-cassette interface board, line printers, ASCII keyboards, floppy disc system, alpha-numeric display and more.

**5. All aluminum case and dress panel.** The Altair Computer has been designed both for the hobbyist and for industrial use. It comes in an all aluminum case complete with sub-panel and dress panel.

**6. It all adds up to one fantastic computer.** The Altair is comparable to mini-computers costing 10-20 thousand dollars. It can be connected to 256 input/output devices and can directly address up to 65,000 words of memory. It has over 200 machine instructions and a cycle time of 2 microseconds.

Available as kit & assembled.

# A COMPUTER CONCEPT BECOMES AN EXCITING REALITY

Not too long ago, the thought of an honest, full-blown computer that sells for less than \$500 would have been considered a mere pipe dream. Everyone knows that computers are monstrous, box-shaped machines that sell for 10's and 100's of thousands of dollars. Pipe dream or not, MITS, the quality engineering oriented company that pioneered the calculator market, has made the ALTAIR 8800 a reality.



It is the realization of that day when computers are accessible to almost anyone who wants one. The heart (and the secret) of the MITS ALTAIR 8800 is the INTEL 8080 processor chip. Thanks to rapid advances in integrated circuit technology this one IC chip can now do what once took thousands of electronic components (including 100's of IC's) and miles of wire.

Make no mistake about it. The MITS ALTAIR 8800 is a lot of brain power. Its parallel, 8-bit processor uses a 16-bit address. It has 78 basic machine instructions with variances up to 200 instructions. That's more than enough to program all the street lights in a major city.

And the MITS ALTAIR 8800 COMPUTER is fast. Very fast. Its basic instruction cycle time is 2 microseconds. Combine this speed and power with

the ALTAIR'S flexibility (it can directly address 256 input and 256 output devices) and you have a computer that's competitive with most mini's on the market today. And sells for a fraction of their cost.

The ALTAIR 8800 has been designed to fulfill a wide variety of computer needs. It is ideal for the hobbyist who wants to get involved with computers. Yet, it has the power and versatility for the most advanced data processing requirements. Its basic memory of 256 words of static RAM memory can be expanded to 65,000 words of directly addressable memory. Static or dynamic memory. OR PROM or ROM memory. OR a floppy disc system. All supplied by MITS. Using standard MITS interface cards, the ALTAIR 8800 can be connected to MITS peripherals (computer terminals, line-printers, audio-cassette interface) to form the core of a sophisticated time-share system. The ALTAIR 8800 can be a process controller. It can be an educational device. Or it can be expanded to be an advanced, custom intrusion system. A programmable scientific calculator. Automatic IC tester. Automated automobile test analyzer. Complete accounting system. "Smart" computer terminal. Sound and light system controller. OR it can be all of these things AT THE SAME TIME. It could be the beginning of new business opportunities. The list of applications is literally endless. MITS wants to service your individual computer needs. You can buy an assembled ALTAIR 8800. Or you can start by building the computer yourself. The MITS ALTAIR 8800 is the ultimate kit. Its assembly isn't much more difficult than assembling a desk top calculator. OR you can start with an ALTAIR 8800 complete data processing system. ALTAIR SYSTEMS come in 4 basic configurations.

AUSTRALIAN SOLE DISTRIBUTOR **W.H.K. ELECTRONIC & SCIENTIFIC INSTRUMENTATION**

## W.H.K. TECHNICAL CATALOGUE No. 7

Many devices listed below are available from W.H.K. only.

7-decade counter-latch-decoder-driver CMOS IC, will count up to 9,999,999 ideal for frequency meters and internal timers.

8-digit stopwatch IC needs only a crystal, switches and display, can also be used as 24 hour clock.

Dual Stereo Preamplifier IC's, CBS SQ Decoder IC's, Four Channel SQ Decoder IC's, Electronic Attenuator IC 0-90dB, Power Amplifiers, digital clock kits with Liquid Crystal Display, digital clock kits with fluorescent display with am & pm indicator, digital alarm clock IC's with date & month display, frequency meter kits, crystal time bases with 16 outputs, 12V battery operated, crystal controlled chronometer kits, TTL, CMOS, ECL & LINEAR IC's, Diodes, Bridges to 30A, Zener Diodes, Function Generator IC's with sine, square and triangle wave outputs, Dual Tracking Voltage regulator IC's, RED-YELLOW-ORANGE-GREEN LED's, extra large RED-GREEN & YELLOW 7-segment LED's, Liquid Crystal Displays, Alpha-numeric displays, solid state linear temperature transducers, solid state pressure transducers, analog-to-digital & digital-to-analog Converter IC's, programmable timer IC's with 16 outputs, 24 stage frequency divider IC's, Hall Effect Devices for magnetic field measurements, Magneto Resistors, Printed Circuit Boards, Drafting Templates with electronic symbols, Anti-reflective filters for displays, Fresnel Lenses, Diffraction Gratings, Holograms, Fiber Optics, Calculators, plus bargain price list with TTL as low as 13c, diodes 2c, bridge rectifiers 29c, etc. also full technical details on MITS ALTAIR COMPUTER (KIT) with all options & prices.

Price for 72 page W.H.K. Technical Catalogue No. 7 \$2.00 plus \$0.50 for postage & handling, with catalogue you receive two \$1.00 vouchers which can be used towards the purchase of goods. Government & Education Departments are eligible for a free catalogue.



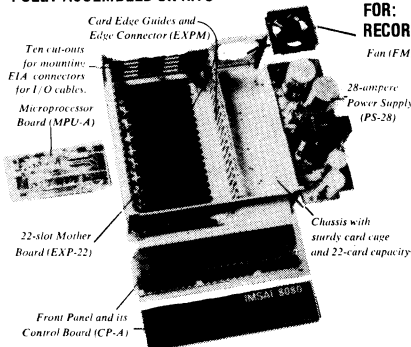
## W.H.K. ELECTRONIC & SCIENTIFIC INSTRUMENTATION

MANUFACTURING, IMPORT, EXPORT, WHOLESALE & RETAIL

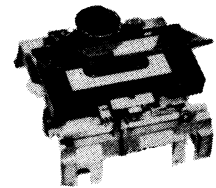
2 GUM ROAD, ST. ALBANS, 3021, VICTORIA, AUSTRALIA. PHONE: 396-3742 (STD area code 03)

POSTAL ADDRESS: P.O. BOX 147, ST. ALBANS, VICTORIA, AUSTRALIA, 3021.

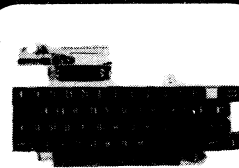
**IMSAI** AUSTRALIAN AGENTS  
**PROFESSIONAL MICROCOMPUTERS**  
**FULLY ASSEMBLED OR KITS**



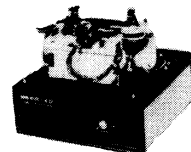
THE IMSAI 8080 COMPUTER IS POWERFUL, ACCOMODATING UP TO 64K BYTES OF MOS WRITE PROTECT MEMORY, IT'S FAST WITH 500 nSEC TOTAL MEMORY ACCESS TIME AND 2uSEC MINIMUM INSTRUCTION TIME. COMPLETE SYSTEMS INCLUDING PROGRAMMING AVAILABLE FOR SMALL BUSINESS AT LOW COST—SUITABLE FOR: STOCK CONTROL, INVOICING, QUOTATIONS, PATIENT RECORDS, TYPESETTING.



**CASSETTE TAPE DRIVES**  
 DIGITAL OR ANALOGUE HEADS  
 FIXED OR VARIABLE SPEEDS (1-10 ips)  
 READ/WRITE AND MOTION CONTROL  
 ELECTRONICS AVAILABLE. MOTION  
 CONTROL, HEAD ENGAGE SOFTWARE  
 CONTROLLED



ASCII ENCODED KEYBOARD KIT



**PR-40 PRINTER KIT**  
 40 CHARACTER LINE, 75 LINE/MIN  
 64 CHARACTER ASCII, PARALLEL DATA

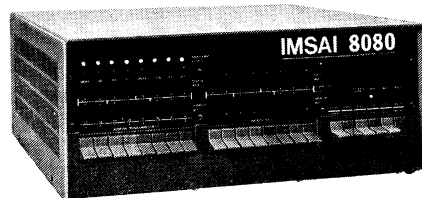


**CT-1024 VIDEO DISPLAY UNIT KIT**  
 64 CHARACTER ASCII 16 x 32 LINE  
 C/W POWER SUPPLY, SERIAL INTER-  
 FACE KEYBOARD, COMPUTER  
 CONTROLLED CURSOR (chassis not supplied)

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SEND \$1.00 FOR COMPLETE CATALOGUE AND PRICE LIST  
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 YOUR APPLICATION.



## AUSTRALIA'S FIRST BYTE SHOP

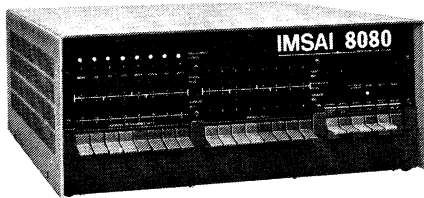
**Imesai 8080** Truly second generation Micro-processor Mini Computer. Complete range of memory and I/O modules available.

**Cromemco** TV dazzler ● Byte saver ● Cyclops camera ● A-D, D-A ● Cromemco Z80 mini computer.

**Processor Technology** The Sol System Intelligent Terminal. Wide range of PROM; RAM; Parallel/Serial I/O; firmware; simulator, text editor; video display modules.

All the above are available in kit or assembled form. For further details send SAE to BYTE, P.O. Box 156, Carnegie 3163 Victoria, OR, for hands on experience phone Melbourne 560 0358 for appointment.

**TRAINING COURSES COVERING MANY TYPES OF  
 MICROPROCESSORS COMMENCING FEBRUARY '77.**



## AUSTRALIA'S FIRST BYTE SHOP

**8080** Truly second generation Microprocessor Mini Computer.  
Complete range of memory and I/O modules available.

**Cromemco** TV dazzler • Byte saver • Cyclops camera • A-D, D-A • Cromemco Z80 mini computer.

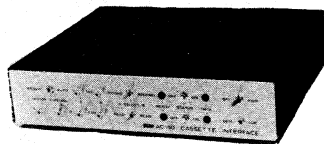
**Processor Technology** The Sol System Intelligent Terminal.  
Wide range of PROM; RAM; Parallel/Serial I/O; firmware; simulator, text editor; video display modules.

**North Star Inc.** Floating point arithmetic unit. Mini floppy disc, controller and software.

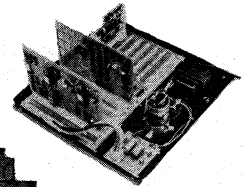
**Oliver Audio** Paper tape reader.

All the above are available in kit or assembled form. For further details send SAE to BYTE, P.O. Box 156, Carnegie 3163 Victoria, **OR**, for hands on experience phone Melbourne 560 0358 between 2 p.m. and 8 p.m. for appointment.

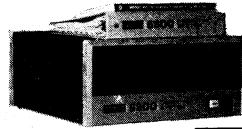
# MICROCOMPUTER



AC-30 CASSETTE INTERFACE

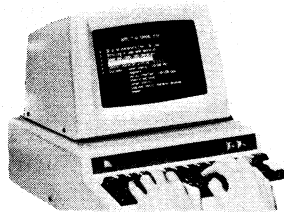


NP-68 COMPUTER WITH 4K MEM.



**SWTP 6800**

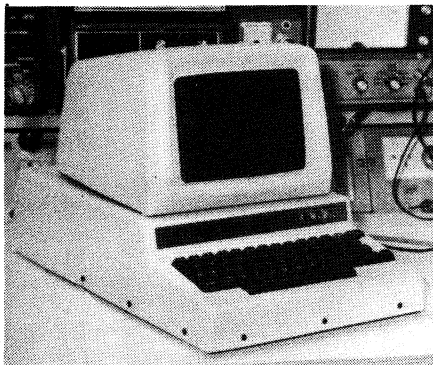
AUSTRALASIAN DISTRIBUTOR



CT-64 & CT-VH TERMINAL

PARIS RADIO ELECTRONICS  
P.O. Box 380, Darlinghurst NSW 2010

## New SWTP terminal



Paris Radio Electronics, distributors of Southwest Technical Products systems and peripherals, has advised that it now has stocks of the new CT-64 terminal kit. An assembled CT-64 is shown above, complete with the matching SWTP 10MHz monitor.

The CT-64 stores and displays either one of two pages, each consisting of 16 lines of either 32 or 64 characters. The number of characters per line is jumper programmable, and a jumper may also be used to change the terminal from 50Hz to 60Hz operation. The full 7-bit upper and lower case ASCII character set is displayed, with either white-on-black or black-on-white operation.

An interesting feature of the CT-64 is that all 32 ASCII control characters are decoded, with some 21 decoder outputs available for user-defined control tasks.

Other features include optional control character printing, screen reversal on individual characters for highlighting, and selectable page mode/scrolling mode operation. The basic CT-64 is designed for parallel data input, but a serial interface option is available, as is an ASCII keyboard.

The matching CRT monitor shown above offers bright, well-focused character display. The 10MHz video bandwidth ensures optimum character resolution with 64-character lines.

For further information on the CT-64, including price, contact Paris Radio Electronics at PO Box 380, Darlinghurst, NSW 2010.



## AUSTRALIA'S FIRST BYTE SHOP

- Imsai 8080** Truly second generation Microprocessor Mini Computer. Complete range of memory and I/O modules available.
- Cromemco** TV dazzler ● Byte saver ● Cyclops camera ● A-D, D-A ● Cromemco Z80 mini computer.
- Processor Technology** The Sol System Intelligent Terminal. Wide range of PROM; RAM; Parallel/Serial I/O; firmware; simulator, text editor; video display modules.
- North Star Inc.** Floating point arithmetic unit. Mini floppy disc, controller and software.
- Oliver Audio** Paper tape reader.
- Dynabyte** Memory modules.
- Solid State Music** Memory, Video Display and Music Synthesizer Modules.

All the above are available in kit form or assembled form. For further details send S.A.E. to: BYTE, P.O. BOX 156, CARNEGIE, VIC. 3163.  
OR, for hands on experience phone: Melbourne 568 0642 or 569 7867.

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