"For less than the price of a colour TV you can have Australia's own micro computer in your home to greatly advance your children's education and maximise your own personal productivity . . . ."



NSW EDUCATION APPROVED DEPARTMENT

microbee®

Australia's own Educational and Personal Computer.

". . . .microbee® *is the answer in classrooms, homes and offices throughout Australia . . . .*"

SCHOOL

As featured on 60 Minutes, the MicroBee is ideal as an educational computer. Skilled, professional educators are preparing effective and imaginative programs to meet the special needs for the children at school today. You can give your children a major advantage by ensuring that they have their own MicroBee at home ready to develop mathematic skills, learn geography, improve their reading skills and even master Shakespeare's Henry IV. Approved by Education Departments in N.S.W. and Western Australia, MicroBees are currently in widespread use throughout schools technical colleges and universities in all states.





HOME

Children can complete their homework with the MicroBee . . . . develop programming skills . . . . have a few friends around for games like Microspace Invaders. Mastermind or even Concentration. Later Mum can check the home finances or use the computer diary. Later still Dad can enjoy a game of chess. The MicroBee is a very flexible computer around the house. What's more it won't cost you an arm and a leg! Even more important, the MicroBee is fully expandable so you are assured that your investment doesn't become obsolete overnight when you need to add exciting options such as colour graphics, speech synthesis, communications and light pens.

WORD PROCESSING

Because the MicroBee can be used with CP/M™, you can run any of the vast library of world class software such as Wordstar™, Supercalc™, or even Microsoft BASIC™. If your requirement doesn't run to a full disk system you can use WordBee to convert any ROM based MicroBee (16K or 32K) to a powerful low cost word processor.





INDUSTRY

The MicroBee is ideally suited to many industrial applications with a vast range of peripherals to enable the industrial user to control processes, monitor critical perameters and even graph performance on an XY Plotter. Hard copy print out is available and disc storage will be invaluable in most situations.

"....there is a microbee® system just right for you now...."

16K PLUS

The 16K PLUS has built in features such as music generation, PCG high and low resolution graphics, with a screen display of 16 lines each containing 64 upper and lower case characters. When you also consider all of the standard extras like continuous memory, built in printer and input/output interfaces and parallel port, 4.5 volt battery back-up and self testing BASIC in ROM, the MicroBee 16K Plus is unbeatable in its class.

32K PLUS

All of the standard features of the 16K Plus with twice as much usable RAM. When you add the new WordBee ROM Pack, you have a powerful word processing capability which does a lot more than play the many games available for the MicroBee. Add a printer and just see what you and your family can now do with your home computer.

64K PLUS

The MicroBee 64K is equipped with 56K of user RAM with battery backed continuous memory and has built-in 80 x 24 screen format as well as 64 x 16 line. All characters are upper and lower case and powerful graphics are readily available. A value packed exclusive feature of the MicroBee 64K PLUS is that it can double as an ADM3A Terminal operating in serial mode at either 300 or 1200 baud (full or half duplex). You can add a modem and use your MicroBee 64 as your personal information window to the world.

"....your microbee® is expandable and easily converted for colour capability...."

EXPANDABLE

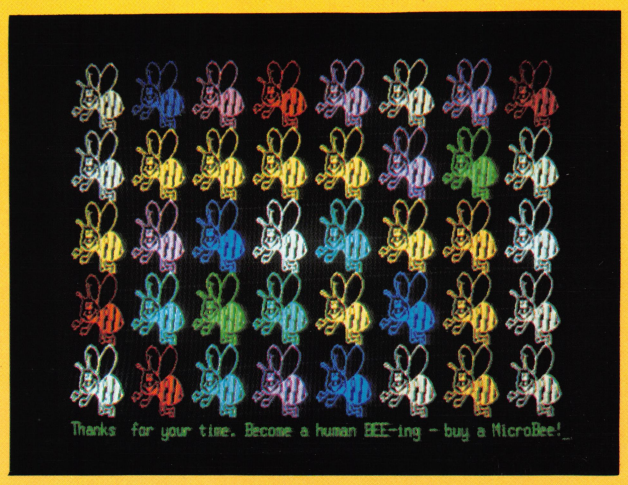
As needs arise your MicroBee can be easily expanded from 16K to 32K of RAM or even to 64K of RAM. See your local MicroBee Computer Shop to arrange an upgrade.

COLOUR BEE

A factory fitted conversion board is now available to expand any MicroBee to deliver programmable RGB colour to a modified television. The screen resolution is an incredible 64 characters by 16 lines and 512 x 256 PCG resolution. 26 background and 26 foreground colours can be user selected to generate high resolution graphics and text on screen.







"... add on peripherals to e-x-p-a



High resolution KAGA — green screen monitor.

Colour TV — converted to RGB monitor.

Professional quality 40CPS word processing printer.

High speed dot matrix printer

Data cassette recorder/player

The cost effective MicroBee 16K PLUS.

The clever MicroBee 32K PLUS

n-d your **microbee** *system . . . .*"

The mighty MicroBee — high resolution green screen monitor with built-in power supply.



Economy black and white monitor — Ideal for a beginner's system.

Direct connect modem (currently undergoing approval testing by Telecom) — has auto answer, auto dialing and 300, 600 or 1200 baud.

XY Plotter — features 6 colour pens and accepts paper or A3. Parallel centronics interface standard.

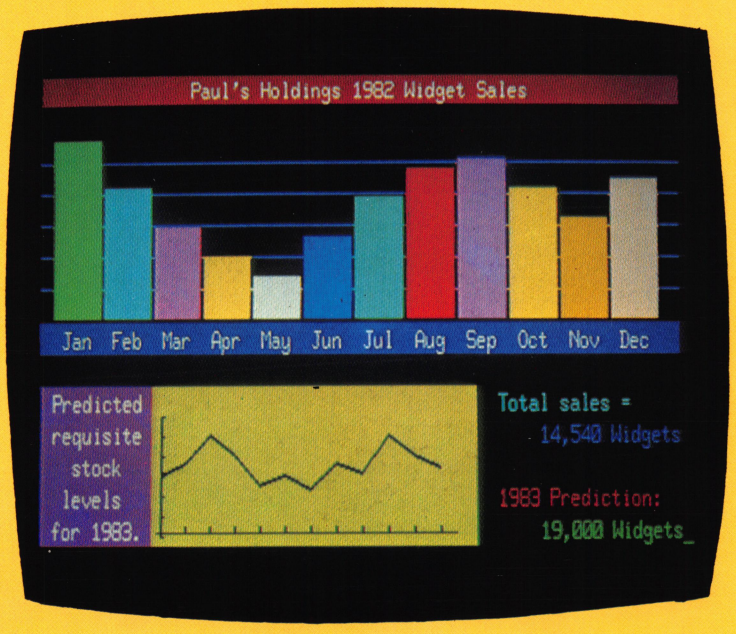
Disk Drives — with a massive 380K on each double sided, double density disk. Supplied with CP/M, basic and a vast library of user software. Available in single or double drive configurations. Expandable to four drives.

Disk based software running under CP/M 2.2. Check with your local MicroBee Computer Shop for details.

Wide selection of utility, education and games software on cassette tapes. New titles being released all the time.

The mighty MicroBee 64K PLUS runs disk drives under CP/M.

"....just look what your microbee®



Business Graphics

The MicroBee is supported by a wide range of software running in colour and black and white. High resolution, low resolution graphics and text freely mixed.

ROBOT MAN — You must move about the maze eating up the power food. Watch out for the Robot Men as they are programmed to destroy you before you complete your mission!

MICROSPACE INVADERS — Yes the arcade favourite! This fast moving version was written especially for MicroBee by Tim Morris-Yates and has become one of the most popular programs yet released.

MATHS ADVENTURE — Wander into the fascinating world of the Wizard of Aus. Test your mathematic skills and have fun at the same time. A highly recommended graphics adventure game. Fun for high school maths students and teachers.

TURTLE GRAPHICS — A very clever program allows the student to use the MicroBee to draw using high resolution turtle graphics. A booklet of procedures is available from the N.S.W. Department of Education. This is a very powerful graphics program which uses the PCG facility of the Microbee to its full extent.

WORK-A-BEE — A new release. Work-A-Bee is a program which can actually write educational programs almost automatically! Any teacher with little or almost no knowledge of BASIC can insert details as to question and answer, number of tries, marks per question and other controls. Any CAI program can be saved and reused and subroutines have been included to enable the student to go back over his work, printing answers, avoid error traps etc.

CHESS — Match your skills against the MicroBee chess master. You can select from 1 to 6 ply and also analyse any position. A built-in 'Help' feature enables the computer to play your current move for you.

CONCENTRATION — A real family favourite for 1 to 4 players to test your memory skills. If you call one player Merlin, the computer will play that turn so watch out!

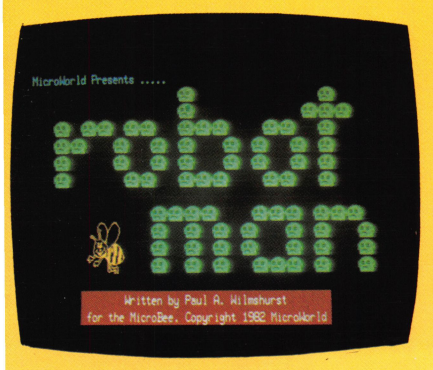
BUSI-CALC — Yes, an electronic spread sheet running under microworld BASIC. Accepts text and numbers with easy cursor control. Commands include:— Average; Sum; Compute; Format; Recalculate; Load and Save. Ideal for cash flow projections, bill of materials and even classroom data.

BIORHYTHM/CALENDAR MAKER — Ideal for parties or carnivals. Requires a serial printer. You can print biorhythms for anyone. Also prints calendars for any year A.D. and B.C.

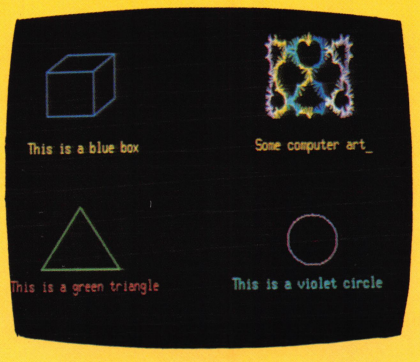
Z TREK — Captain! The warp drives are disabled, the Klingons are closing in on us, what will we do? In Z Trek you are the captain of the starship Enterprise, your five year mission to search out the Klingons and destroy them. There are ten levels of difficulty (0 - 9). Beware of this game — it is strangely addictive.

WUMPUS — THE ADVENTURE GAME Have you ever played the game Wumpus? If you liked it then you'll like this! The object is the same as the earlier version except that it's a lot harder. To say any more would spoil the fun. Good Hunting!

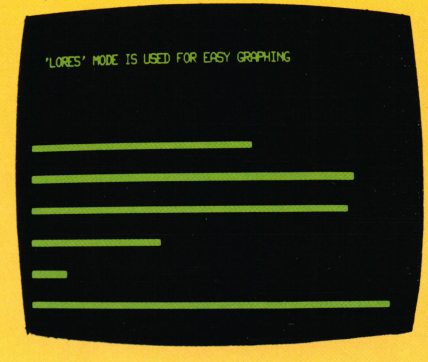
ESC KEY — This is a program for all of the two fingered typists in the world. The program allows you to enter BASIC key words in an abbreviated form. For instance, instead of typing 'list" the user would press the "ESC" key and then "1". The computer then types out the rest of the word for you.



Robot Man



Educational Graphics



Lores Graphics

can do with this software . . . .”

GRAPHIC GAMES — This cassette contains five programs, ‘Poker’, ‘Slots’, ‘Dodgem’, ‘Picture’, ‘Richochet’. ‘Poker’ is the main program on the cassette. In this game the computer is the bank and you have to beat it at Draw Poker. Warning — the computer plays a cunning game and is quite prepared to bluff! ‘Slots’ is a one armed bandit and for 20c a go you can try your luck. In ‘Dodgem’ the player must guide his car through a forest to the bottom of the screen — this game allows you to drive a car without the random breath tester getting you!! ‘Picture’ is an excellent game for the children. The final program on the cassette is ‘Richochet’, where the player has to decide where to fire a bullet through a hole in the wall. If you hit the wall you’re dead.

PCG SAMPLER — The PCG Sampler cassette has eight programs on it. These programs show you how the graphics work and demonstrates their capabilities by way of games etc. The cassette is excellent for both beginners and experts. It allows you to design your characters on the screen, so you can see exactly what you are creating. Suitable for all MicroBees.

STARSHOOT/HANGMAN — Starshoot is perhaps one of the most deceptive games available on computer. It appears to be very easy: it isn’t. Hangman is based on the popular school game that everybody knows.

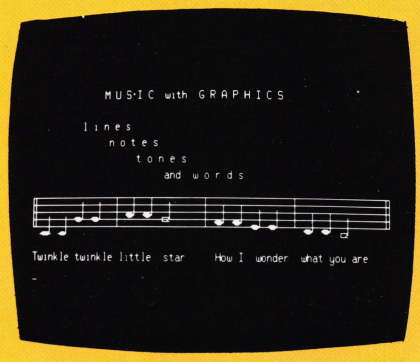
ELIZA — Want someone to talk to? Eliza is possibly the person for you. (If you can get her to shut-up). Eliza is a program that demonstrates artificial intelligence. Eliza is prepared to talk about life, the universe and everything.

TYPING DRILL/SOLITAIRE — Want to become a touch typist? Typing Drill enables you to learn touch typing without paying an exorbitant fee to learn. Solitaire is a game in which the object is to remove all of the “pegs” from the board, leaving one peg in the centre of the board. Sounds simple, but, it requires skill to master it.

TARGET — Target is a game of hit and miss. Your task is to aim the cannon at the bottom of the screen and shoot down the U.F.O.’s (ET watch out). There are nine levels of play to this entertaining game thus making it suitable for any player. Suitable for all Microbees.

EDUCATIONAL GAMES —
Learning Can be Fun: Educational games software has arrived. This set of three cassettes combines graphics with text to produce highly motivated teaching games. Uses variations of well known arcade games to enhance the learning process.
Volume 1A: GORILLA — Answer questions to avoid the barrels Kong is rolling. F RACE - A race game to teach fractions.
Volume 1B: MUNCH — Tests your knowledge by eating the right answer. TNT — Answer before the dynamite fuse burns down.
Volume 1C: ADSTAR — Avoid the invaders. Shoot the space ship with the right answer. SQUARE — The Enterprise can save the Galaxy. You arm the laser cannons.

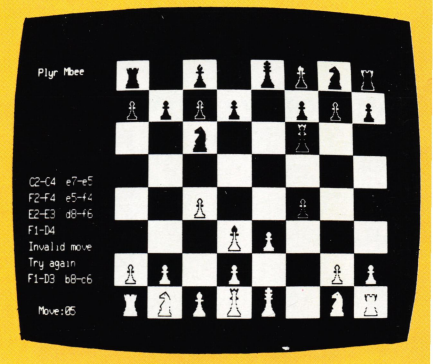




Music Graphics



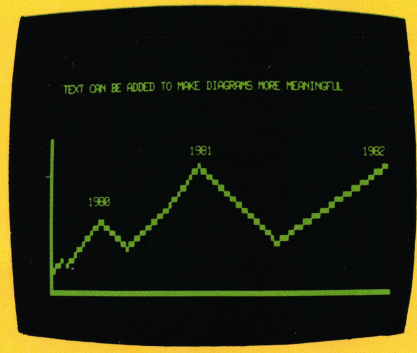
Concentration



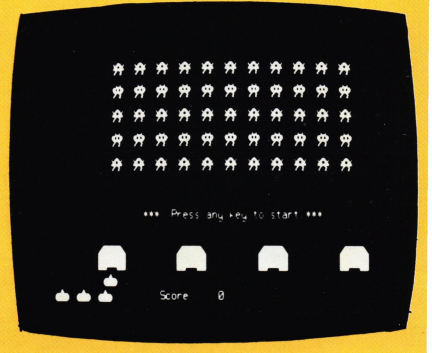
Chess



Typing Drill



Business Graphics



Microspace Invaders

microbee®

SPECIFICATIONS

MICROBEE 16K PLUS MODEL

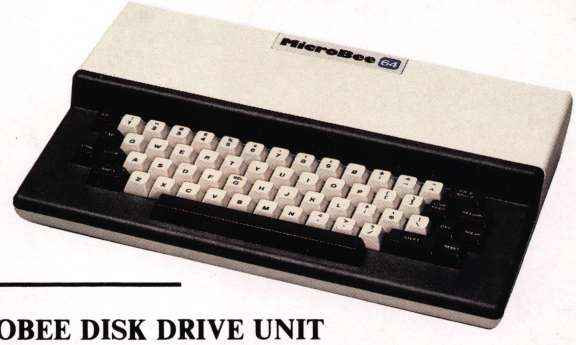
CPU	Z80A
Clock Speed	2Mhz
VDU Display	
Text	16 lines by 64 characters (upper and lower case)
Graphics	Low resolution 128 by 48 (Tandy compatible). High resolution 512 by 256 (PCG 128 limit).
Firmware	Microworld BASIC (16K) in ROM
Memory	16K user RAM (CMOS non-volatile) battery backup.
Keyboard	Full size 60 key positive travel (Qwerty layout).
Cassette Interface	Built-in, software controlled at 1200 and 300 baud.
Serial I/0	RS232, 1200 and 300 baud software controlled.
Parallel I/0	8 BIT programmable input or output.
Tone	Built-in loudspeaker programmable under BASIC.
Video	1V P to P composite video with negative sync.
Power Supply	12V/1A external power pack.

MICROBEE 32K PLUS MODEL

CPU	Z80A
Clock Speed	2Mhz
VDU Display	
Text	16 lines by 64 characters (upper and lower case).
Graphics	Low resolution 128 by 48 (Tandy compatible). High resolution 512 by 256 (PCG 128 limit).
Firmware	Microworld BASIC (16K) in ROM.
Memory	32K user RAM (CMOS non-volatile) battery backup.
Keyboard	Full size 60 key positive travel (Qwerty layout).
Cassette Interface	Built-in, software controlled at 1200 and 300 baud.
Serial I/0	RS232, 1200 and 300 baud software controlled.
Parallel I/0	8 BIT programmable input or output.
Tone	Built in loudspeaker programmable under BASIC.
Video	1V P to P composite video with negative sync.
Power Supply	12V/1A external power pack.

MICROBEE 64K PLUS MODEL

CPU	Z80A
Clock Speed	3.375Mhz
VDU Display	
Text	24 lines by 80 characters (upper and lower case). 16 lines by 64 characters (upper and lower case).
Graphics	Low resolution 128 by 48 (Tandy compatible). High resolution 512 by 256 (PCG 128 limit).
Firmware	Microworld monitor (4K) in ROM. Built-in commands to read and alter memory, execute programs. Read and write to cassette tape, block move and compare memory, search memory, disk read and write and disk boot.
Memory	56K user RAM (CMOS non-volatile) battery backup.
Keyboard	Full size 60 key positive travel (Qwerty layout).
Cassette Interface	Built-in, software controlled at 1200 and 300 baud.
Serial I/0	RS232, 1200 and 300 baud software controlled.
Parallel I/0	8 BIT programmable input or output.
Expansion	50 way Z80 Bus.
Tone	Built-in loudspeaker programmable under BASIC.
Video	1V P to P composite video with negative sync.
Power Supply	12V/1A external power pack.
Terminal Mode	Emulates ADM3A (80 x 24 Mode) with 300/1200 full/half duplex operation for modems and general use.
Software	Microworld BASIC and EDASM on cassette tape.



MICROBEE COLOUR BOARD I

Suits	16/32/64K MicroBees
Colours	26 foreground/26 background
Format	Compatible with all MicroBees (64 character and 80 character per line).
Memory	Additional to CPU (provides programmable colour per character element).
Output	RGB to modified colour TV set or monitor (encoder and modulator not recommended).

MICROBEE DISK DRIVE UNIT

Accepts	1 to 4 drives.
Suits	MicroBee 64K.
Operating System	CP/M 2.2.
Disk Capacity	380K (formatted) per drive.
Controller	Soft-sectored double sided/double density.
Software	Full CP/M 2.2 with support utilities WordBee, EDASM, Microworld BASIC, educational, games, communications and diagnostic utility programs.

NOTE: THESE SPECIFICATIONS ARE SUBJECT TO CHANGE.

PRODUCED BY CUMMING ENTERPRISES PTY. LTD.

microbee®

AUSTRALIA'S OWN EDUCATIONAL AND PERSONAL COMPUTER

Designed and manufactured in Australia by

APPLIED TECHNOLOGY PTY LTD

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Telephone: (02) 487 2711

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Telephone: (043) 24 2711 Telex: AA72767

For direct enquiries or the name of your nearest dealer, Phone: (02) 487 2711.

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