

Micro World News

Bringing the latest news and developments in personal computers to the MICROWORLD USERS GROUP.

DECEMBER, 1983.

From the Editors Desk....

Well about time another Microworld News appeared!! I couldn't agree more. Probably what is more frustrating is that we have been swamped with contributions and still it is becoming increasingly difficult to reach the rapidly growing army of Microbee owners worldwide. The Microbee Engineering Manual published in September was a large collection of Newsletter material which 'Your Computer' graciously agreed to publish for us in the magazine.

The Microbee User's groups have expanded greatly too and these are supplying excellent support for their members. Magazines such as 'Electronics Australia', 'Electronics Today' and 'Australian Personal Computer' are running projects and product reviews and, of course 'Your Computer' runs the Microbee Column every month. In practical terms Microbee has more exposure than any other personal computer at present on the Australian market today. With almost 20,000 Microbees proudly owned it is no wonder that the thirst for information about the product has reached almost unmanageable proportions.

In fact we have tried out two editors for this publication and still came back to the conclusion that there is no better way than to publish as time and needs arise. Hence this issue.

From now on, for practical reasons Microworld News will be circulated to Microbee Users Groups directly, Microbee shops and dealers for personal callers and copies will be circulated to key magazines and journals.

The 'hot news' of the moment is the 1984 CATALOG and the new MICROBEE SERIES 2. The Series 2 is really a refined version of the old faithful Microbee but now ALL units run 80 by 24 and 64 by 16 screen format, all have terminal emulation and communications and all run at 3.375 Mhz for standardisation. We have also introduced 4 new names which really relate to the use of each model. All Microbees can be upgraded from one model to another and a full price list is included in this newsletter.

microbee series 2 'EXPERIMENTER'

A very large number of Microbee owners are enthusiasts who wish to 'dabble' with the exciting emerging technology of microcomputers. These people can add memory, test various configurations, experiment with a multitude of peripherals and enjoy the wealth of rich experiences now possible with this exciting technology. The MICROBEE EXPERIMENTER is designed for these individuals specifically.

With electronic projects appearing monthly in ETI and EA magazines, the EXPERIMENTER is hardly likely to end up gathering dust in some remote corner or the workshop. At Applied Technology we have been able to develop an editor for robotics, create text to speech programs, program ROMs, even test other Microbees using low cost machines such as the experimenter. Of course you can add extra memory and even disk drives as your needs grow (and believe us they will!) so you will not be left with an outdated microcomputer overnight.

The EXPERIMENTER is supplied with the MICROWORLD terminal emulation ROM and has built-in communications capability and even a machine code monitor for the real 'hackers'. The computer is the ideal starting point for all those who want to learn and grow with this exciting technology.

It should be noted that expansion of memory in the EXPERIMENTER is a relatively easy task as sockets are provided for a further 8K of CMOS RAM. A number of programs available for the Microbee may not run on the EXPERIMENTER without the additional memory.

microbee series 2 'EDUCATOR'

MICROBEE is now a recommended computer for schools in NSW, Queensland and Western Australia with other states still evaluating the unit for suitability for their particular needs.

Over 5,000 Microbees are operating in schools, universities and technical colleges throughout Australia and New Zealand.

As market surveys throughout the world are now showing, the main purpose for a personal computer outside of the business world is for LEARNING about computers, LEARNING with computers and LEARNING from computers. In fact the microprocessor technology is destined to have such a profound impact on all our lives that many have decided that they must 'come to grips' with computers as a matter of urgency.

The EDUCATOR is the unit chosen by a number of schools because it serves most purposes as a low cost/effective level for a student station. 44K of internal memory including a massive 16K of CMOS RAM, high resolution PCG graphics, built-in music generation, programmable I/O such as RS232 serial port, parallel port, cassette interface and direct video have contributed to the exceptional demand for this type of computer. Of course, the CMOS 6116 RAMs are battery backed so your programs are stored in memory even after the power has been switched off.

Educational software for the Microbee has now been developed right here in Australia and more is arriving all the time. The quality of graphics combined with sound and powerful techniques has resulted in a level of software matching anything else in the world. The brilliant concepts behind the Learning Can Be Fun series by John Grimley, the power of Work-A-Bee by Steve Robinson and the effective derivatives such as Milliken's Experiment, Coulomb's Law, Kepler's Laws and of course, LOGO and TURTLE GRAPHICS for the very young are just some examples.

microbee series 2 'PERSONAL COMMUNICATOR'

Take a massive 68K of memory with 32K of battery backed CMOS RAM, add WORDBEE (one of the first wordprocessor packages in ROM), MICROWORLD BASIC, TERMINAL ROM and you have a powerful communications unit that can talk to the world. Most of us spend a lot of time communicating with others and this Microbee has been designed to fill this need specifically.

Of course the Microbee PERSONAL COMMUNICATOR can be used with BASIC and also has a built-in MACHINE CODE monitor. Like all Series 2 machines it has the ability to emulate a terminal such as the ADM 3A to communicate with other computers and all now have 80 by 24 screen display capability. The PERSONAL COMMUNICATOR has all the features of the older MICROBEE 32K IC and it will run all software intended for the EXPERIMENTER and EDUCATOR Microbees.

WORDBEE has now been reviewed by several leading magazines who have all said it is a friendly, easy to use wordprocessor. We believe it was one of the first low cost wordprocessors in ROM to be offered anywhere in the world. Now the PERSONAL COMMUNICATOR is supplied with WORDBEE 1.2 which supports RS232 and PARALLEL printers and includes small improvements over 1.1. Some users may not realise that if you enter the NETWORK ROM through the HELP MENU on WORDBEE you can send your WORDBEE files to line via a modem connected to the serial port. Essentially you can now send (and receive) personal messages to other Microbee owners across the world and so you now virtually have the power of telex in your home. Of course if you enter the NETWORK ROM from BASIC then you can send and receive BASIC files from a remote Microbee.

The MICROBEE NETWORK ROM uses the now standard 'CHRISTENSEN PROTOCOL' as described in 'Your Computer' in May/June 1983. As a large number of bulletin boards are now using this for file transfer it was decided to make all Microbees fully compatible. All ROM based Microbees can 'talk' to any remote CP/M system using YAM or MODEM7 (provided on Microbee disk systems). Effectively, because of the popularity of the CP/M users group and the widespread establishment of their standards all Microbee Series 2 owners can communicate with each other and other CP/M based systems around the world. We expect all remote information systems will accept the Christensen Protocol because of the very large number of systems now operating in the world.

microbee series 2

ADVANCED PERSONAL COMPUTER

Considerable development was carried out to ensure disk drives could be operated with the Microbee. Some customers are aware of the early S100 expansion approach which was clumsy to say the least and only provided 178K per disk drive when formatted. Next we were offered various half height 5.25" drives which were evaluated carefully. Some were not so impressive but we had little hesitation in selecting the Hitachi 5.25" 505 Series drives. These have remote head load solenoids (essential to reduce head wear), are fitted with dual heads and operate reliably in double density mode. The disk capacity is 400K per drive unformatted and 390K formatted after CP/M system is placed on the diskette.

A shipment was purchased and a number were produced over the past few months. We were all so impressed with the quality and performance of the Hitachi drives that a large order was negotiated. Yes, an order for 5000 drives (an Australian record at the time!) for the Microbee was placed at very attractive prices. These drives are now starting to arrive at the factory and are being built into ADVANCED PERSONAL COMPUTERS as this newsletter goes to press. However powerful a Microbee with disk drives may be, it is still little value without software.

Matt Starr and Owen Hill visited leading software houses in the USA recently and negotiated OEM contracts with Digital Research, Microsoft and Micropro for world standard software packages. As a result you can see that the ADVANCED PERSONAL COMPUTER is now supplied 'bundled' with WORDSTAR, MULTIPLAN, MBASIC, CP/M 2.2. It is also supplied with MICROWORLD packages such as disk WORDBEE, EDASM, BASIC as well as vital utilities such as CONFIG, FORMAT, COMPARE. Communications packages such as MODEM7 have been configured for the Microbee and as these are in the public domain they have been included as a public service to Microbee owners.

One condition attached to these software purchases is that all software be 'bundled' with each system. As a result we can no longer sell 64K Microbees without disk drives and software and hence the ADVANCED PERSONAL COMPUTER is now available as a package deal. Owners of other Microbees can readily upgrade their systems and a price list for factory conversions appears later in this issue.

Another point concerning the 'bundled' software is that most programs now include extensive 'HELP' files on disk and consequently manuals for the various programs are NOT included in the standard ADVANCED PERSONAL COMPUTER package. These may be purchased separately if required. The Microsoft Basic manual is now available for \$24.95 and we expect to release Wordstar and Multiplan manuals in the very near future. CP/M is well documented in various publications.

MICROBEE AROUND THE WORLD

As a lot of Microbee users realise, the Microbee is now proving popular in a number of countries overseas. Microbees are now operating in UK, Japan, USA and we have dealers in Sweden, Denmark, Norway, Finland, Israel, South Africa and Hong Kong at this point in time.

Many interesting highlights arise from such a widespread range of customers. For instance the Microbees sold in Israel are equipped with Hebrew keyboards and character fonts. They are currently being used in a chain of department stores as cash registers and are now being evaluated for use in schools throughout Southern Israel.

Recently, Seymour Papert, the father of LOGO inspected a Microbee running LOGO at MIT (Boston USA) and commented that OZ-LOGO was an effective implementation of the language.

Two Danish engineers have developed a flight simulator using Microbee to emulate landing conditions, radio frequencies and other criteria for virtually all European Airports.

One lonely 32K Microbee operates from a 12V car battery in the rugged highlands on Mount Hagen in New Guinea and is used for teaching in the local school. They now want to upgrade to disk drives to run CP/M. If that's not progress in education!

Australian researchers recently used a Microbee on a trip to the Antarctic. The Microbee was used for analysis of weather information (and I assume a bit of games playing entertainment as well!). The group sent a photo of the Microbee resting on the cold Antarctic ice with penguins in the background. Unfortunately the researcher was not a good photographer in the poor light conditions on the Antarctic shelf.

MICROBEE COMPUTER SHOPS AND DEALER NETWORK

The Microbee dealer network is being expanded carefully to ensure that the product is adequately supported in each area. Independent research has now given Microbee 12% of the under \$1000 computer market and it is vital for existing as well as intending Microbee owners that they can deal with someone who knows about the product, knows about the software available and can arrange repairs where necessary. With almost 20,000 Microbees in the field you can imagine how difficult it is to handle every enquiry at the factory!

Microbee has been accepted by the Department of Education in Western Australia and is now extensively used in schools throughout WA. To increase the support so far from home base a Microbee Computer Centre has now been established at 141 Stirling Highway, Nedlands, Perth (phone 09 386 8250). This centre was opened by Mr Mal Bryce, Deputy Premier and Mr Bob Pierce, Minister for Education at a ceremony on 17th October 1983. Orders from WA schools have increased significantly since this outlet was established. It is a pleasure to welcome the addition of 5 highly qualified Western Australians to the Microbee team.



Microbee Advanced Personal Computer _ left to right Microbee dot matrix printer Microbee 64K colour computer _ Microbee green screen monitor, Microbee Dual Disk Drives

In Victoria, the Microbee Computer Shop in Hawthorn has become a central meeting place for Microbee owners. Store manager Stuart Chugg, has built up a team of capable and enthusiastic staff and looks like becoming the largest outlet for Microbees in the country. Victorian schools have purchased around 500 Microbees to date and a submission was recently made to the Victorian Education Department to have the Microbee declared a recommended computer for use in Victorian schools as it is in NSW, WA and Queensland. An active group of teachers has already been formed and software is already on the market as a result of the drive of these individuals.

A complete list of Microbee Shops and Authorised Dealers is included at the end of this newsletter.

USERS GROUPS

Microbee Users Groups now exist in virtually all states. We have attempted to detail some on the rear of the 1984 Microbee catalog but no doubt some will have escaped our notice. Officials of new groups should let us know so we can send future newsletters and general information in the future.

In Sydney a strong users group has been formed by Colin Tringham. The group is most active and has some very definite opinions on key software and hardware issues. A Primary School Teachers Group (PRIMUM) has been formed by Barry Manfield at Denistone East Public School and the group meets monthly.

The Melbourne Users Group (uBUG) has grown to a membership exceeding 500 under Grant Forest's able guidance and this indicates the interest shown by Microbee owners in that State.

Canberra under Hugh Gibson has always been a strong Users Group who have also been a major contributor to product advances on the Microbee especially with Basic 5.22 and pointing out software corrections from time to time.

South Australia now has a very active user's group which was formed by Ros Savvas and now run by a team of able bodies. Their newsletter is certainly most lively!

Western Australian Microbee owners should contact Mike Oborn if they wish to join the Perth User's Group. There is considerable interest in Microbee in WA and the opportunities for the benefit of all from the group.

I am told a new group has formed in Brisbane but as yet we do not have the address or details of officials.

In Gosford a small but enthusiastic group has formed and they have been granted use of our classroom facilities at the Factory at Gosford. Interested members should contact Max Maughan on 043 242711.

BEEMODEM and BEELINE

We firmly believe that 1984 will be the year when microcomputer networks 'take off'. With this in mind the low cost BEEMODEM has been designed for Microbee owners. We are currently working with Telecom for approval and the product is not expected to be available in any large quantities until January/February 1984.

Development work on the new BEELINE remote CP/M bulletin board is well advanced and again, depending on Telecom (and the software development!) we will be announcing the establishment of this service Australia wide in early 1984. When this is operating Microbee owners will be able to contact the bulletin board to leave messages, ask for advice, transfer software and eventually purchase hardware from the comfort of the living room.

MICROBEE UPDATE SERVICE

All Microbees sold to date can be upgraded to the new Series 2 at the Gosford factory. The prices quoted below include all parts and labour and return freight provided, of course, the Microbee is in original and standard configuration when it is sent. We do reserve the right to refuse to update equipment is very poor or nonfunctional condition.

The Microbees to be upgraded must be securely packed with a cheque or bankcard authorisation detailing the work required and of course your name, return address (freight companies still don't believe people live in P.O. Boxes so please use some other real street address!) A telephone number work/home is often useful if we need to contact you at any time.

UPGRADE COSTS AS AT 1 November 1983

Model	Educator	Communicator	APC/Disk
MICROBEE 16K	85.00	130.00	1285.00
MICROBEE 32K		75.00	1225.00
MICROBEE 16K IC		65.00	1200.00
MICROBEE 32K IC			1150.00
MICROBEE 64K			875.00
MICROBEE 64K/DISK*			120.00
ADDITIONAL DISK DRIVE			320.00
EXPERIMENTER	55.00	115.00	1175.00
EDUCATOR		70.00	1125.00
PERSONAL COMMUNICATOR			1075.00
COLOUR**	135.00	135.00	135.00

*Note: Owners of older S100 Microbee disk systems should contact Max Maughan if they want to upgrade them at very special prices.

**Note: This only applies for Series 2 machines. Heavy duty power supply (MB 9V 1.5A) is recommended for colour but is not included in this price.

These prices include return freight, insurance and handling anywhere in Australia. Where necessary faulty/worn components will be replaced to ensure the Microbee is in 'as new' working condition when it is returned. All upgrades carry a fresh 60 day warranty on all parts and materials. Disk systems requiring upgrades will need to supply a registered copy of the master CP/M disk before other registered upgrades of software can be supplied.

NEW MICROBEE PERIPHERALS

A number of extremely clever peripherals are coming onto the market at this point in time. We have been particularly impressed with the quality and presentation of two from ROBOTRON, owned by Milan Hubacek.

These are BEETALKER and BEETHOVEN. BEETALKER uses a very effective text to speech program and some very creative techniques. BEETHOVEN is essentially a three voice music synthesiser for the Microbee. When combined with BEECOMPOSER, which is virtually a music composer/editor, BEETHOVEN becomes one of the most creative tools for the Microbee available on the market today. Congratulations Milan!

We have made arrangements with Milan to manufacture BEETALKER and BEETHOVEN complete with support software from January 1984. These products are expected to find widespread use among experimenters, programmers and educators alike. Milan is now looking at other areas where his particular skills can aid the Microbee.

MICROBEE SOFTWARE LIST 17-11-83

EDITOR/ASSEMBLER ROMPAK	Program in machine code	\$59.95
WORDBEE ROMPAK	Make your documents look A1	\$59.95
FROSPROCTOR	Beware of the two town drunks	\$14.95
LEARNING CAN BE FUN 2C	The educational word game	\$14.95
LEARNING CAN BE FUN 2B	Another educational word game	\$14.95
PROGRAMMING HINTS	Learn a little more BASIC	\$14.95
CAVES ADVENTURE	The adventure for everyone	\$14.95
YAHTZE	The popular dice game for your Microbee	\$14.95
HUSTLE	Think quick!! Or the game is over	\$14.95
WUMPUS	Track down Wumpus before he tracks you	\$14.95
SPACE INVADERS	The classic arcade game in HIRES graphics	\$14.95
CONCENTRATION	Have you got it!!!	\$14.95
CHESS	See if you have the wits of a computer	\$14.95
TYPING DRILL/SOLITAIRE	deen uoy tahw tsuJ	\$14.95
TARGET	Aim and fire is all you have to do	\$9.95
LUNAR LANDER/HIT THE HURKLE	See if you will make NASA	\$9.95
STAR SHOOT/HANGMAN	A tricky puzzle. Don't get hung up!	\$9.95
BIORYTHM/CALENDER	For you printer! It's a lot of fun	\$14.95
ELIZA	See how long you can keep her talking	\$9.95
MASTER MIND/NIM	You can't peek in this game!	\$9.95
Z-TREK	Kill the Klingons before they kill you	\$14.95
GRAPHIC GAMES VOL 1	What more can we say?	\$14.95
FCG TUTORIALS	All you will need to know about HIRES	\$14.95
PILOT	A whole new language for the kids	\$14.95
ROBOT MAN	A classic arcade game. HIRES & SOUND EFFECTS	\$14.95
"ESC" KEY	Two key entry of commands	\$14.95
BUSY CALC	The electronic spreadsheet for your Bee	\$14.95
DATA BASE DEMONSTRATOR	File all your friends addresses	\$14.95
SUPER DISSASSEMBLER	Dissassemble machine code with ease	\$19.95
LEARNING CAN BE FUN 1A	Learn your fractions & tables	\$14.95
LEARNING CAN BE FUN 1B	Revise you tables the fun way	\$14.95
LEARNING CAN BE FUN 1C	Some easy sums for the young ones	\$14.95
ESCAPE FROM COLDITZ	See if you can escape from prison	\$14.95
ROGGLER THE WORD GAME	How many words can you make up?	\$14.95
MATHS ADVENTURE	How far will you get in the land of OZ	\$14.95
TURTLE GRAPHICS	Don't waste paper. draw with the Microbee	\$14.95
MATRIX CALCULATOR	An aid to manipulating matrices	\$14.95
CHASE PLUS	More graphics for your Microbee	\$14.95

WORK A BEE AUTHORIZING SYS Teachers write your own programs	\$19.95
KEYBOARD TUTORIAL Ideal for new Bee owners	\$14.95
TEACHERS BUSY B CAI KIT Write you own quiz programs	\$14.95
LEARNING CAN BE FUN 2A Learn you tables! It's fun	\$14.95
MICROBEE DEMONSTRATION TAPE	\$9.95
DEBUG Will help you with your machine language	\$9.95
SEADOG (32K only) See if you will master the high seas	\$14.95
CHESS TUTOR Learn chess the easy way	\$14.95
MORSE TUTOR The code you thought was for HAMS! is yours	\$14.95
TYPING TUTOR Teachers you to touch type	\$14.95
SURVIVOR (joysticks only)Defend the earth.HIRES & GRAPHICS	\$14.95
KEPLER'S LAWS Excellent for Yr 11 & 12 physics students	\$14.95
GRAPHIC LIFE TOOL KIT Watch your graphic shapes evolve	\$14.95
CANNIBALS & MISSIONARIES See if you can solve the puzzle	\$14.95
SKETCH PAD More than just a graphics primer	\$14.95
WORD ADVENTURE(advanced)Just see what you know about words	\$14.95
MILLIKAN EXPERIMENT The electron charge experiment of 1910	\$14.95
LUCKY BAR A poker machine at home	\$14.95
EYE OF MIN (32K only)See if you can find the glittering gem	\$14.95
NOUGHTS & CROSSES Play it in 3D it's fun	\$14.95
ONE DAY CRICKET Can you make the runs you need?	\$14.95
FROG HOP Another arcade game with HIRES and SOUND EFFECTS	\$14.95
COLOUR DEMONSTRATION TAPE	\$14.95
TEXT FORMATTER A tape based word processor	\$19.95
COMPLEX Solve calculations involving complex numbers	\$14.95
VIPER How long will your pet vipers last?	\$14.95
SURVIVOR ON DISK	\$19.95
CHRISTMAS CAROLS Get into the christmas spirit	\$14.95
GEO TECH DRAWING 1 & 2 Need some help with TECH drawing?	\$14.95
COULOMB'S LAW The laboratory experiment in detail	\$14.95
CHOPPER PILOT Fly your chopper over the city. HIRES,SOUND	\$14.95
POOLS & LOTTO Let the Microbee work it out for you	\$14.95
WONDER WORDS Make your own word puzzles to solve	\$14.95
BEE PIANO Compose music on your Microbee	\$14.95
DESTROYER	\$14.95
MARBLES & JAIL BAIT Another educational game	\$14.95
METRIC CONVERTER Just waht you needed	\$9.95
GENIUS & INSANITY(colour only) It's as hard as Rubix Cube	\$9.95
VECTOR TUTORIAL Year 11 & 12 maths and physics	\$14.95
CHEMICAL EQUATIONS Helps you write your equations	\$14.95
INTRO TO CHEMISTRY A little help in the laboratory	\$14.95
DESTROYER Its not as easy to destroy a city as you think	\$14.95
EI - READING - OU Help infants to spell: single vowel words	\$14.95
A - READING - ALL A follow up spelling program	\$14.95

MICROBEE USERS GROUP

THE SYDNEY MICROBEE USERS GROUP - Mr. Colin Tringham, 6 Tunks Street, Waverton, N.S.W. 2060.

CANBERRA MICROBEE USERS GROUP - Mr. Bill Horsfall, 6 Boyland Close, Spence, 2615.

UBUG, (MELBOURNE MICROBEE USERS GROUP) - Mr. Grant Forest, 10 Sunbeam Avenue, East Ringwood, Vic. 3135.

THE MICROBEE USERS GROUP OF SOUTH AUSTRALIA - Dr. Ross Savvas, P.O. Box 767, Adelaide, 5001.

PRIMARY SCHOOLS MICROBEE USERS GROUP - Mr. Barry Manefield, c/- Denistone East Primary School, Denistone East, N.S.W. 2112.

ALBURY - WODONGA MICROBEE USERS GROUP - Mr. R. Pierce, Barnard Street, Beechworth, Vic. 3747.

BROKEN HILL MICROBEE USERS GROUP - Mr. Peter Cotter, 553 Radium Street, Broken Hill, N.S.W. 2880.

BLUE MOUNTAINS USERS GROUP - c/- 6 Beauford Street, Woodford, N.S.W. 2778.

WEST AUSTRALIAN MICROBEE USERS GROUP - Mr. Mike Oborn, c/- 4 Garnkirk Road, Greenwood, W.A. 6024.

PORT LINCOLN MICROBEE USERS GROUP - c/- Lincomputer, P.O. Box 345, Port Lincoln, S.A. 5606.

DARWIN (MICRO) BEE USERS GROUP - c/- Mr. R.J. Cockburn, G.P.O. Box 3111, Northern Territory, 5794.

BENDIGO MICROBEE USERS GROUP - c/- Mr. Bruce Wilson, 38 Nolan Street, Bendigo, Vic. 3550.

CENTRAL COAST USERS GROUP - Mr. Max Maugham, Koala Crescent, West Gosford, 2250

BRISBANE COMPUTER CLUB - Ashgrove State School, Ashgrove, Queensland.

MARYBOROUGH Microbee Users Group (M.U.G.) - 13 Milton Street, Maryborough, QLD. 4650.

T.M.U.G. - c/- Town and Country Computers, Anne Street, Aitkenvale, QLD. 4814.

ILLAWARRA MICROBEE USERS GROUP - c/- 49 Beatus Street, Unanderra, N.S.W. 2526.

MICROBEE COMPUTER SHOPS

1 Pattison Avenue, Waitara. 2077. (02) 487 2711

Coolman Court, Weston. ACT. 2611. (062) 88 6384

729 Glenferrie Road, Hawthorn. 3122. (03) 818 2244

141 Stirling Highway, Nedlands, Perth. (09) 386 8250

Koala Crescent, West Gosford. 2250. (043) 242 711

AUTHORISED MICROBEE DEALERS

NEW SOUTH WALES

MICROBEE COMPUTER SHOP

1 Pattison Ave., Waitara, 2077. Phone (02)487-2711.

GOSFORD - KOALA CRESCENT (043 - 242 2711)

APPLIED TECHNOLOGY RETAIL PTY. LTD.

Koala Crescent, West Gosford, 2250. Phone (043)24-2711.

JAYCAR PTY LTD (Incorporating Electronic Agencies)

117 York St., Sydney, 2000. Phone (02) 267-1614.

115 Parramatta Rd., Concord, 2137. Phone (02) 745-3077.

121 Forest Rd Hurstville, 2220. Phone 570-7000

CNR Pennant Hills Rd & Carlingford Rd Carlingford, 2118.

Phone 872-4444.Phone Orders 264-6688

COMPU-K

7 Casino St., South Lismore, 2480. Phone (066)21-5239.

COMPUT-ED

8 Park Arcade, Park Ave., Coffs Harbour, 2450. Phone (066)52-7530.

TIMBERTOWN COMPUTERS 94 High Street. Wauchope 2446. (065 - 85 3311)

A.C.T.

MICROBEE COMPUTER CENTRE

Upper Level, Coolman Court. Weston, 2611. Phone (062)88-6384.

COMPUTECH Shop 7, Belconnen Churches Centre, Benjamin Way,

Belconnen, 2617. (062)512-52

QUEENSLAND

SOFTWARE - 80

109 Milton Rd, Milton. 4064

ELECTROGRAPHIC OFFICE SYSTEMS

Suite 6, Pentagon Bld., 25 Grafton St., Cairns, 4870. (070)51-4341.

TOWN & COUNTRY COMPUTERS

C.T.L.Centre, Anne St. Aitkenvale, Townsville, 4814.

Phone (077)75-4000.

VICTORIA

MICROBEE COMPUTER SHOP

729 Glenferrie Rd., Hawthorn, 3122. Phone (03)818-2244.

COMPUTERLAND 8TH. MELBOURNE

Suite 19, 37 Albert Rd., Melbourne, 3000. Phone (03)266-8647.

SOUTH AUSTRALIA

KEY COMPUTERS

77 Grenfell St., Adelaide, 5000. Phone (08)223-7099.

1061 South Rd., Edwardstown, 5039. Phone (08)277-8144.

WESTERN AUSTRALIA

MICROBEE COMPUTER SHOP

141 Stirling Highway., Nedlands, 6009. Phone (09)386-8250

ALTRONICS DISTRIBUTORS PTY. LTD.

105 Stirling St., Perth, 6000. Phone(09)328-1599.

PINE STREET TRADING

54 Pine Street, Mt. Tom Price. W.A. 6751 (09 - 891 383)

TASMANIA

CENTRAL DATA

14a Goodwin St., Launceston, 7250. Phone (003)31-7890.

NEW ZEALAND

CHECKPOINT COMPUTERS

36 Main Rd Tawa, Wellington, New Zealand. Phone 32-6999