

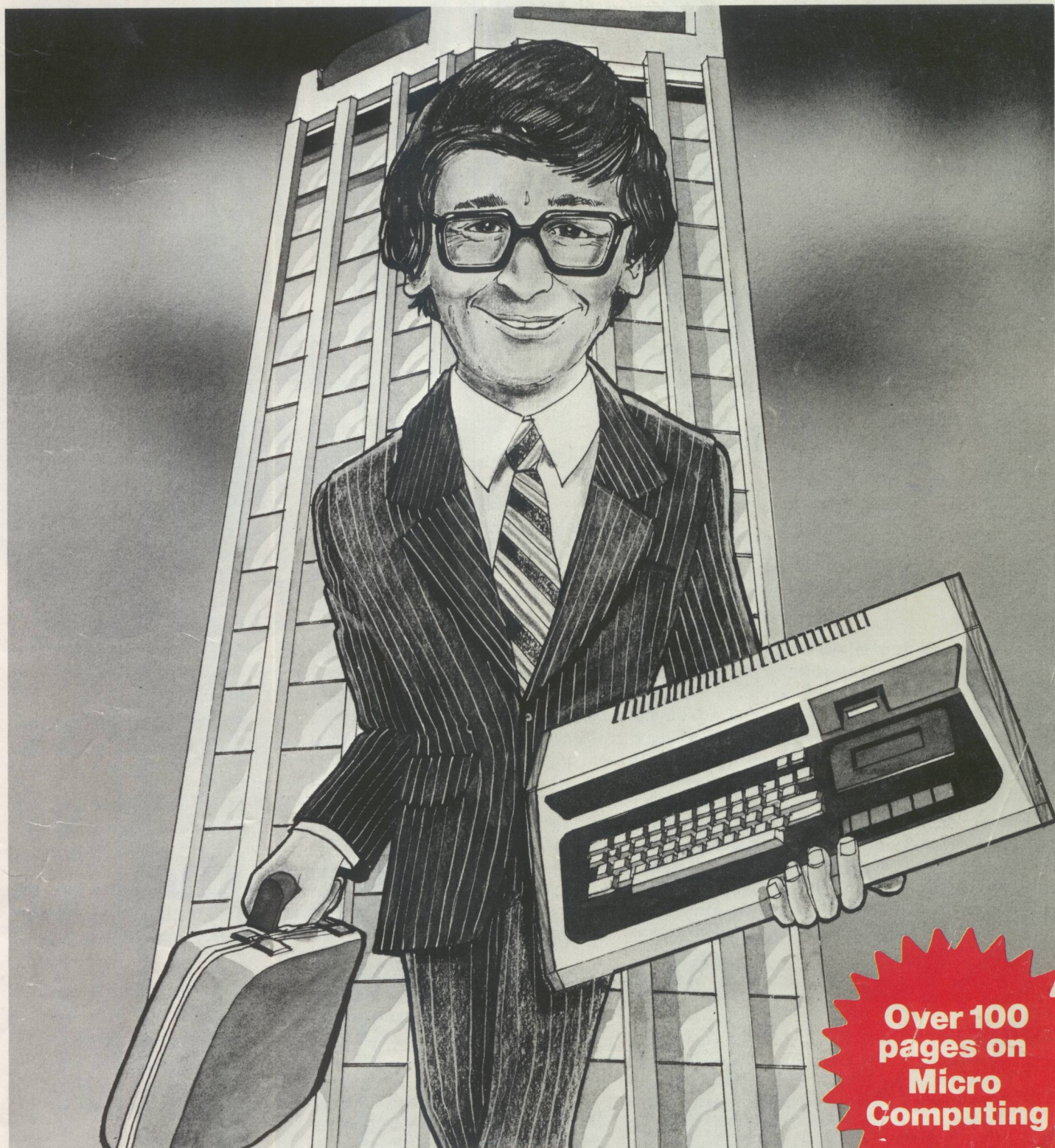
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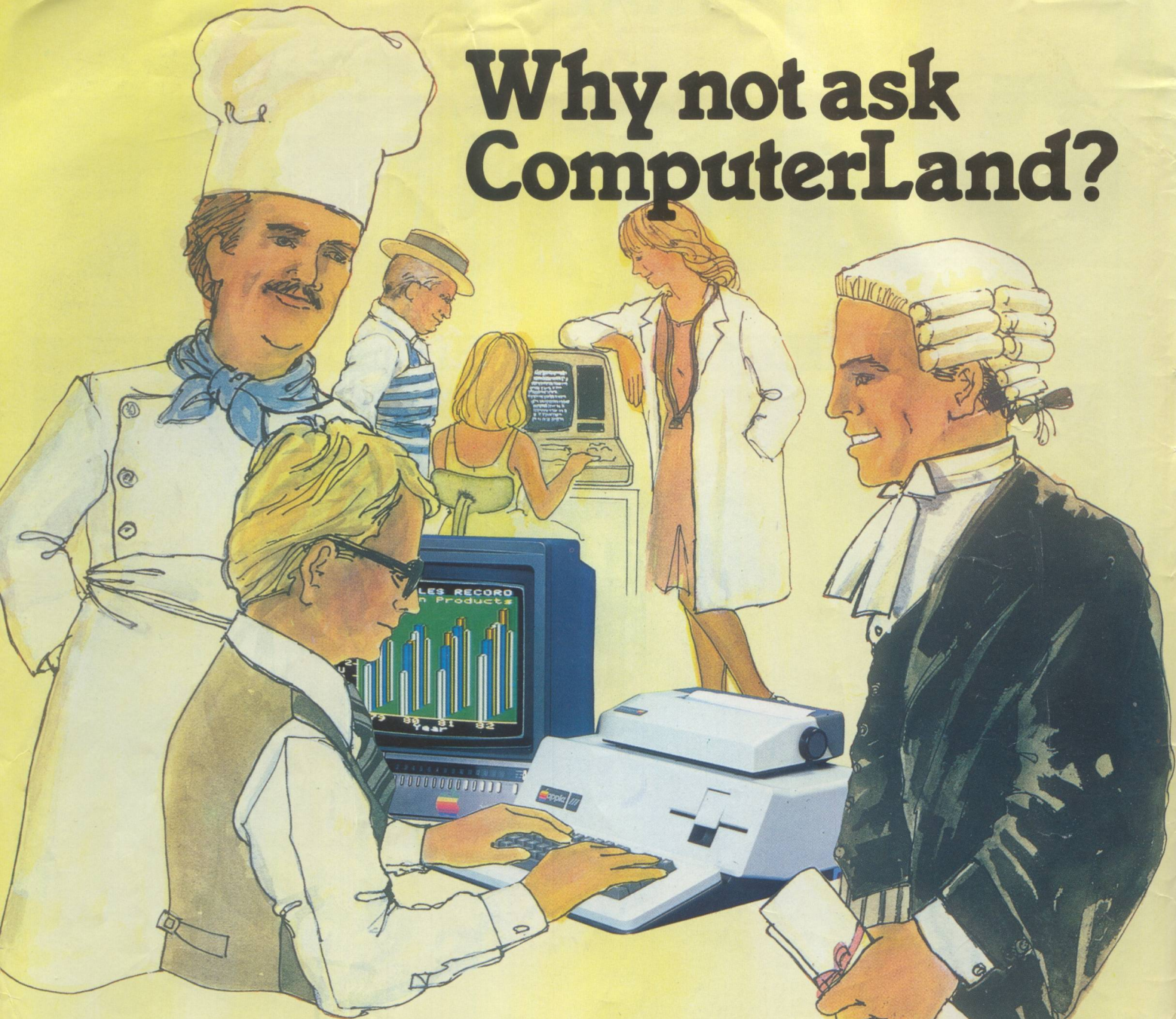
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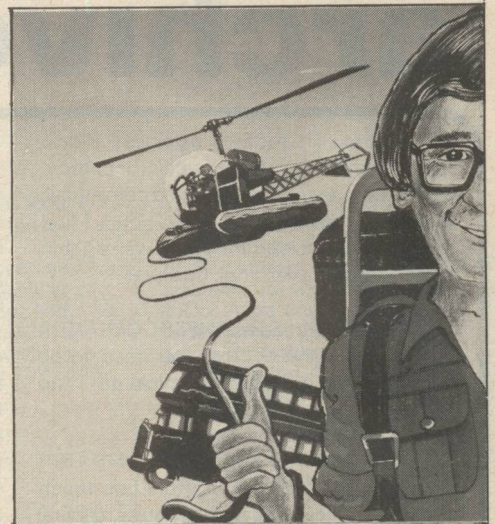
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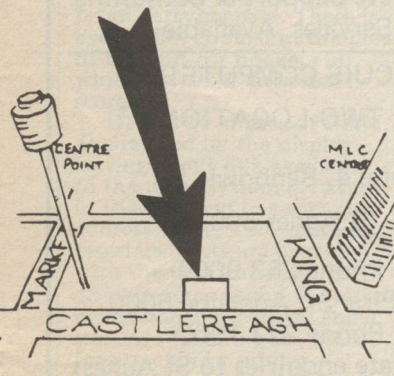
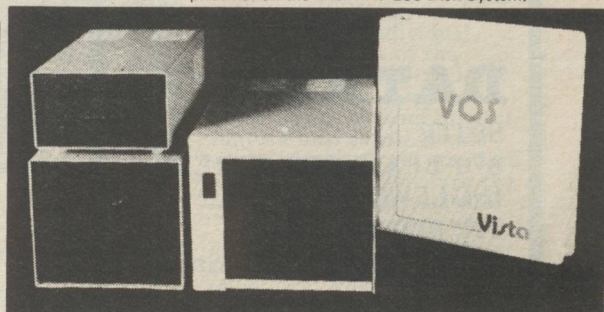
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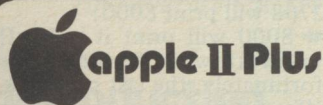
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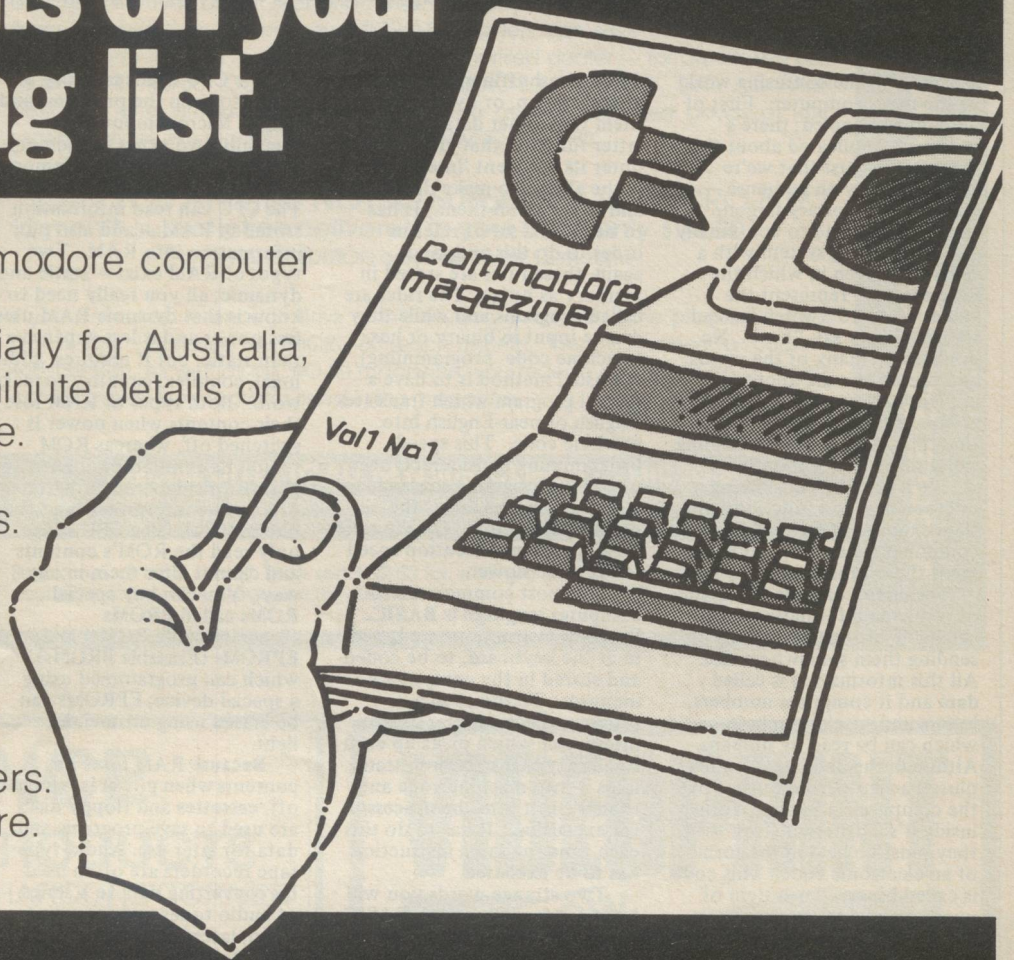
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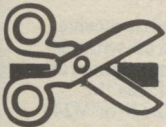
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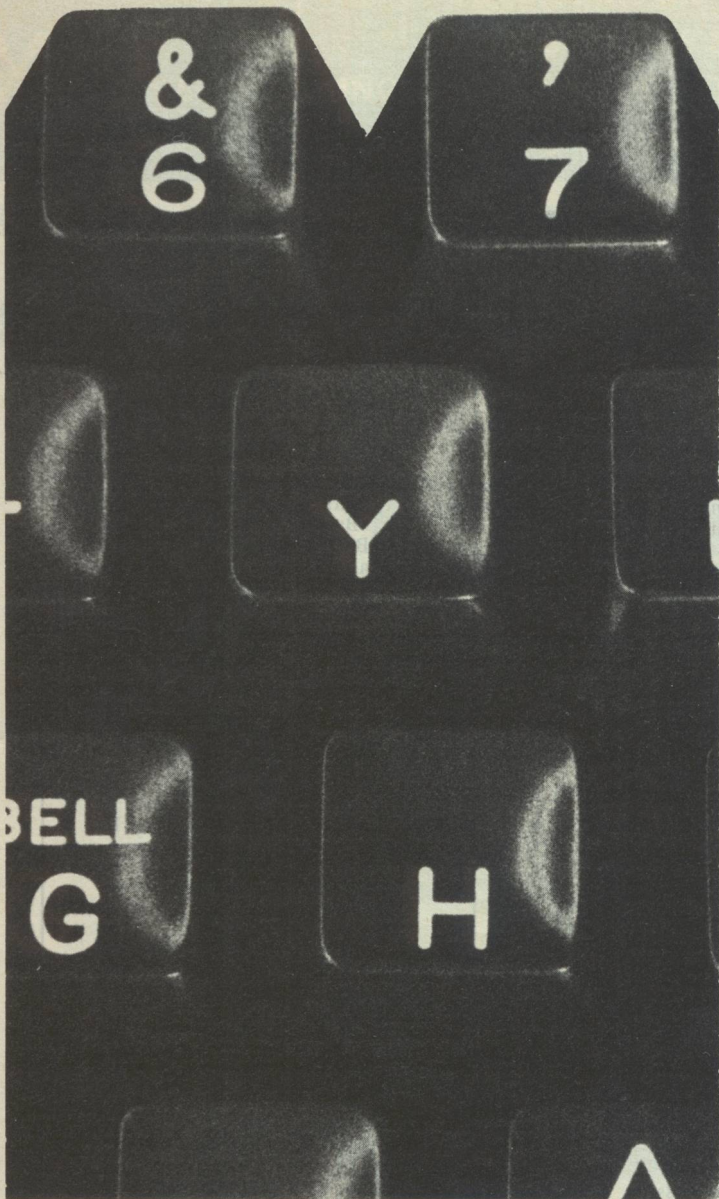
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DICK SMITH

GETTING A KICK OUT OF LIFE

In six years, Dick Smith, the electronics whizz kid, made it from radio repairman to millionaire. APC staff trace his career.

When he was 8, Dick Smith was given a soldering iron. It was not an expensive gift, but one which was to bring him the sort of wealth an 8 year old believes belongs in fairy-tales and the means to enjoy it in a style similar to Boys Own adventure stories.

It was the soldering iron which engendered Smith's interest in electronics — initially radios — ultimately leading to the development of Dick Smith Electronics, a business which in 1979-80 had a turnover of \$17.2 million and a net profit of more than \$2 million.

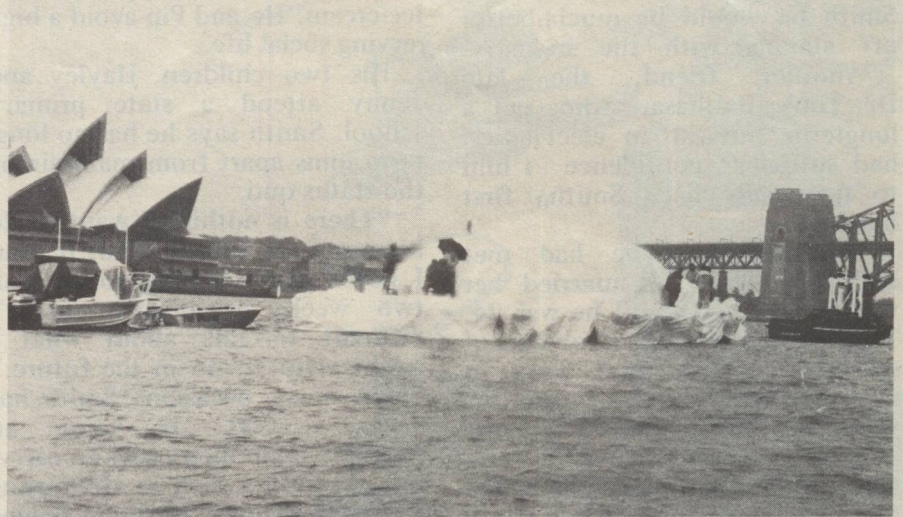
Today the company sells a huge range of stock, from tiny transistors to computers through 17 stores throughout Australia, excepting Tasmania and the Northern Territory. The sale last year of 60 percent of his retail business to Woolworths Ltd had the finance world gossiping and speculating for months about the millions he was likely to have made. (Smith concedes, "yes, you could say I made a few bob.") Discussing the deal, he reveals that "the business was just too big with a \$17 million turnover in 1979 and probably more than \$20 million in 1981. I simply don't enjoy owning something that has such enormous overheads; and I'm under constant pressure to expand."

The dedicated radio buff has come a long way since he left North Sydney Technical High, which he hated, and began work as a radio apprentice, pop rivetting pieces of metal together all day.

His apprenticeship was shortlived however, and Smith decided to return to the classroom — at Sydney University. But, deciding that the university was not for him and, despite passing the 'fairly technical' ham radio license

at 16, that he would never graduate, Smith returned to radio work.

He went through several jobs, including repairing radios at home at nights (in an effort to earn enough money to repair the car he



had bought) and repairing two-way car radios.

During this period Smith's interest in scouting, fostered by his childhood love of the outdoors and adventure, continued. He spent many weekends away bush-walking and rock climbing. He loved the outdoor life and his lifestyle today reflects this.

'I never attempt to do anything unless there is a fair chance I will succeed'

After careful saving, he took time off for the 'European trip' and spent considerable time mountaineering, rock climbing and caving in Europe. When he returned to Australia, Smith wanted to further his interest in the outdoor life and attempted to get a job as a National Parks ranger.

It was a friend, already working for the National Parks, who dissuaded him. Knowing of his bent for electronics, he convinced Smith he would be much better off staying with the industry.

Another friend, the late Dr Tony Balthasar, who had a longterm interest in electronics, had sufficient confidence in him to financially back Smith's first business.

By this time he had met Phillippa (Pip) and married her when she was 19 and he was 24. They gave themselves two years of seven-days-a-week hard work to succeed, and after six months were making a small fortune. They had a cab company's radio tied up and motorists, attracted by the hand painted advertisement on top of Smith's old car, were arriving in hordes.

After three years, succumbing to the temptation to diversify, Dick Smith Wholesale, an electronics parts business, was established. Five months later stock worth \$18,000 was stolen and Smith was advised to liquidate the firm. But he called together creditors and explained that he was going to take the hard option and trade out of the company's financial difficulties to pay back the debts. Pip left her secretarial job to assist him, and Smith took out a personal loan to pay off sales tax.

However by 1974, two years after the company went into voluntary receivership, Dick Smith Wholesale had broken even and was trading more vigorously than its competitors. Six years later it led the market.

Dick Smith has stayed on top since. "I'm a realist," he says. "I never attempt to do anything unless there is a fair chance I will succeed. I didn't continue with university because I could see I would fail. I was utterly hopeless. I don't try anything I'm hopeless at."

As well as a realist, Dick Smith is a fun-loving optimist with an easy attitude to life. "With a bit of lunacy you can get a lot out of life," he says. "I'm a simple guy, not at all devious or cunning or mysterious. I do things that give me a kick."

His lifestyle is not sophisticated, although it is flamboyant at times. Smith doesn't drink or smoke, he takes cut lunches to work in re-cycled paper bags and prefers an old Ford to the Rolls Royce he could afford. His idea of a great meal is steak, egg and chips followed by apple pie and ice-cream. He and Pip avoid a high revving social life.

His two children, Hayley and Jenny attend a state primary school. Smith says he has no long-term aims apart from maintaining the status quo.

"There is nothing I want to do because I am already doing it. And I never plan anything more than two weeks in advance so it's difficult to talk about what I might want to do in the future."

On many occasions Smith has been accused of being an outrageous publicity seeker, carrying out stunts such as attempting to cross Sydney Harbour Bridge on a petrol-powered pogo stick, floating a fake iceberg up the Harbour, hiring jumbos for flights to the Antarctic, jumping a bus over 16 motor cycles and mounting expeditions seeking lost ships. He denies these are deliberately mounted as attention-getters.

It's simply that he prefers to spend most of his time pleasing himself, and can afford to do so. He admits only to being an entrepreneur. The boy scout adventuring of his youth has been transferred to adulthood, with some of the pranks thrown in for good measure.

"It doesn't really worry me that

some people say I do these things just for the publicity," he says. "I don't mind them thinking that, but it's wrong. I do the things I do, such as the Antarctic flights, because I want to do them. People are always trying to make things more complex than they really are."

The same evaluation applies to his April Fool Day stunts, such as the iceberg and the pogo stick, and this year his full-page advertisement in metropolitan newspapers which claimed Smith's 'amazing electronic invention', a print graded circuit, (P.R.I.C. for short), could be printed onto the page of a normal newspaper. The reader was requested to hold the page up to the light to carefully examine the inside of the circuit - and showing through in bold type were the words 'April Fool'.

"I stage these pranks because I like having fun," he says, "but I'm very careful that anything I do does not offend. My pranks are not unkind practical jokes. They must be completely responsible."

However, in spite of his views about the publicity angle, Smith admits they have been good for business and good for him personally. "People now recognise me. It's no longer a problem being Dick Smith." He was at one time so self-conscious about his commonplace name that Dick Smith Electronics was almost called Alltronics. "A cousin of mine in advertising steered me right. He convinced me that even wealthy people would bring their Rolls and Mercedes to be fitted with radios by a guy called Dick Smith."

'It's no longer a problem being Dick Smith'

Today, Smith's business takes up less and less of his time. He is far from a workaholic, and leaves the everyday running of his business to dependable executives on whom he relies to plot the firm's strategies.

"People think I alone run the business. I don't. I have very good people."

The people he refers to include the likes of dynamic general manager, Ike Bain. It was Mr Bain

who conceived the weekly videocassette chat from Smith which is relayed to all stores.

Dick Smith appears showing and demonstrating new components. He asks store managers which items they want to stock. Only those that more than half of the managers think will sell go on to the shelves.

Dick Smith Electronics has created around 250 jobs, a fact Smith is proud of, particularly when he remembers his early days. He recalls, "I had no ambitions because I was so naive. I thought the ultimate was to have two or three people working for me."

By June 30, 1983, Smith hopes his company will have 25 stores with a turnover of \$25 million, and branches in North America by 1985. He believes the area of greatest sales potential locally is micro computers for the hobbyist. "Our customers are electronic enthusiasts," he says, "and are always interested in the latest 'gadget'. For about the last three years, that 'gadget' has been the computer and will continue to be so for some time."

It is not hardware Smith sees as the field he will develop, but software packages. "We are working on developing totally Australian-written programs which will have relevance in local applications," he says. "The majority available now are written in the US and often don't apply here. For example, an American general ledger is very different from an Australian one. I think it's essential that the program is familiar to a person who was doing general ledger manually previously and then switches to computer. It must apply to a non-computer user as well. What I am looking towards is providing fully Australian written programs."

Smith would also like to develop his educational programs and increase supply to schools.

"I believe that through the government purchasing system, many of the computers being supplied to schools are unnecessarily expensive. I think purchases are being made from the Rolls Royce range when something a little lower down the line would be just as adequate, and could mean the school or institution could install two or three instead of just one top of the line model.

"I think teachers are beginning

to understand and appreciate this rationale and realising that although a less expensive model may not incorporate all the features of a top of the line one, it still proves staggeringly sufficient for school installations.

"Although we are not on the government list we are still selling to schools and I feel it is an area in which we will grow."

Dick Smith is now a household name. Yet it is less than 10 years since he parked his 'old bomb' illegally near golf clubs, bridges and other vantage points to advertise his one and only shop. Using a megaphone he would raucously advertise his wares on Saturday mornings while Pip served behind the counter.

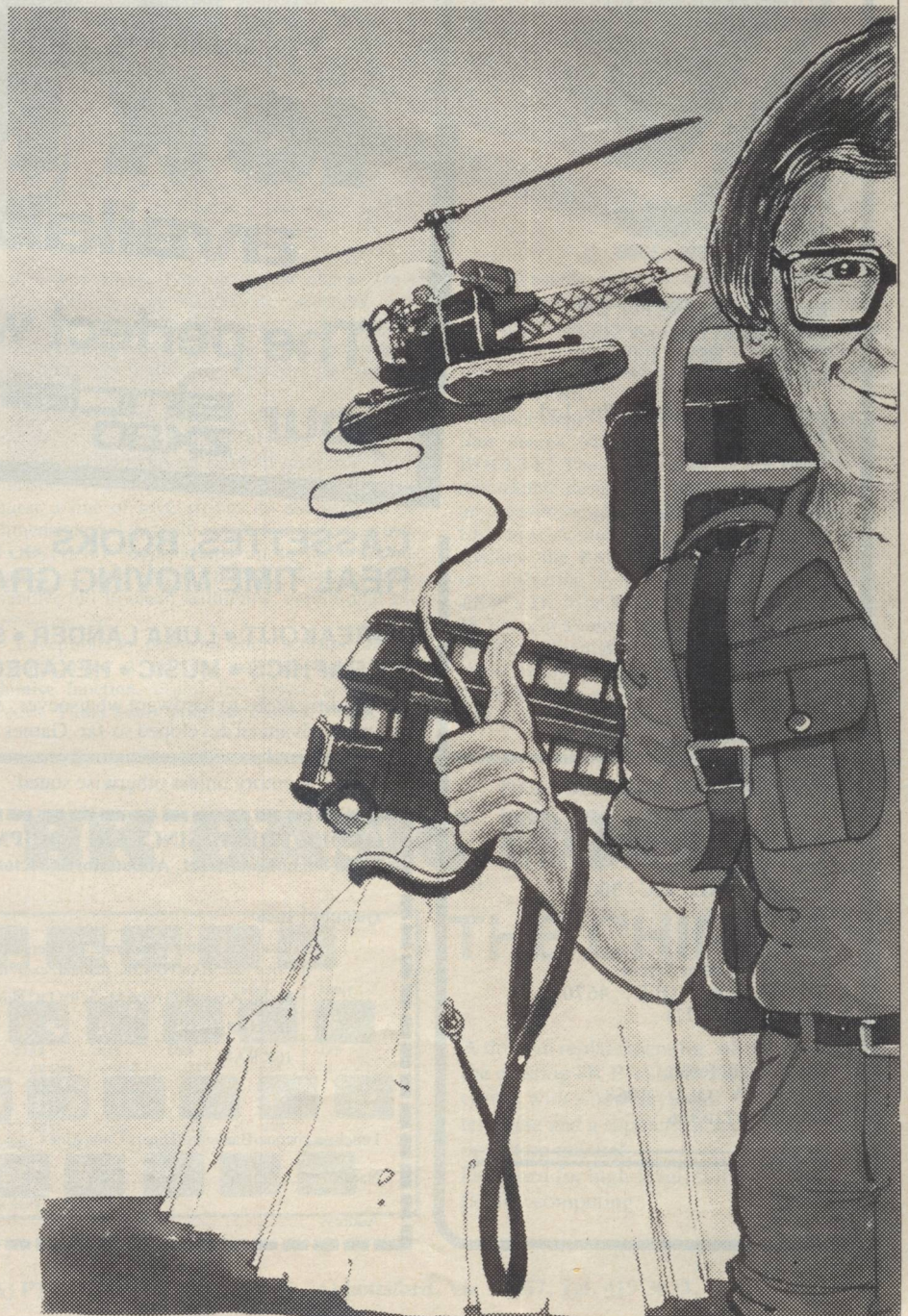
Six years ago he was unable to get a building society to lend him

\$25,000 for an old house in Greenwich. His house today incorporates an indoor swimming pool, a theatrette and film editing offices. He owns a helicopter, which he uses as most people use a car, and is currently in the midst of arranging a dog sled trip to the South Pole, scheduled to take place in November 1982.

He is renowned as an electronics whizz kid, a social activist, explorer, film-maker, millionaire, entrepreneur, philanthropist, sceptic, and a 'nice guy.'

He still lives an uncomplicated Boys Own adventure existence, refusing to let success alter his almost childlike delight in the fun of life.

His explanation is simple: "The deep psychological truth is I do things that give me a kick".





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Search- Change in Applesoft

by J. D. Childress

It is often useful to be able to search a file for a particular string and then to change the string for a new one. This paper presents a Search/Change capability for Applesoft.

A program to produce a cross-reference table for all the variables in a program under development is a useful tool; such a table enables one to determine whether and where a variable label has been used. Unfortunately, a variable's cross-reference program in Basic is not available in the literature although the development of one was reported by William and Alice Englander, *Nybbles: Basic Cross-Reference Table Generator*, Byte Vol 4, 4:190 (April 79).

SEARCH/CHANGE takes about 2.5 minutes to search 8.5 Kbytes. On the plus side, the extra length and sacrifice in speed buys

1. the option not to search or only to search strings.
2. the option to have listed the lines that contain the sought item, and
3. the option to replace the sought item by anything of equal length.

Because of the limitation on length in the CHANGE function, this feature is not really a general purpose program editing tool. Nevertheless, it is quite useful in dressing up variable labels or changing, say, a real variable to an integrator variable.

Demonstration

To do a search/change, the SEARCH/CHANGE program must be appended to the program to be searched. Once the programs are wed, enter the search item as line 1 and the change item, if any, as line 2. Then a RUN 63000 starts the works.

Figure 1: Listing of Demonstration Program

```
10 FOR I = 1 TO 5
20 PRINT "DOGS AND CATS FIGHT.";
  : NEXT : PRINT : PRINT
30 INPUT "GIVE NUMBER OF CATS
  ";CTS:PRINT
40 INPUT "GIVE THE NUMBER OF
  DOGS ";DOG:PRINT
50 IF CTS = 0 AND DOG = 0 THEN END
60 PRINT "THE PROBABLE WINNER
  IN A CAT-DOG FIGHT" : PRINT
  "WITH": DOG:" DOGS AND ":
  CTS:"CATS WOULD BE"
70 IF DOG = 0 THEN PRINT "*****
  CATS*****":END
80 IF CTS = 0 THEN PRINT "*****
  DOGS*****":END
90 IF RND (1) * CTS / DOG >.5 THEN
  PRINT "*****CATS*****": END
100 PRINT "*****DOGS*****":END
```

Fig. 2: SEARCH Demonstration

```
)1 DOG
)RUN 63000
1 DOG
PLEASE VERIFY IF THE COMPUTER TAKES
THIS AS YOU INTENDED. DO YOU WANT
TO CONTINUE (YES OR NO)? YES
DO YOU WANT TO SEARCH INSIDE STRINGS
(YES OR NO)? YES
DO YOU WANT TO SEARCH STRINGS ONLY
(YES OR NO)? NO

THE ITEM

1 DOG

IS FOUND IN THE FOLLOWING LINES:

20          40          40
50          60          60
60          70          80
90          100

DO YOU WANT THESE LINES LISTED (YES OR NO)? NO
```

To demonstrate the workings of SEARCH/CHANGE, we use the rather nonsensical program listed in Figure 1. We enter the search item DOG as line 1 and run 63000. The print-out of this run is given in Fig. 2. Every appearance of the three consecutive letters D O G is listed. Had we asked for the lines to be listed, a given line would have been listed only once.

We can search for anything; Fig. 3(a) shows the result of a search for equal signs. However, we do have to be careful of Applesoft's reserved words. Figure 3(b) shows what happens if we try to search for CAT. Applesoft recognizes the reserved word AT in CAT. This makes clear the need of having the program list for verification the search and change items.

The reserved word problem is a relatively minor nuisance. A little ingenuity can get us around it. In the CAT case, we could search for CA; if that gave too many other items, we could then search for TS and only consider the lines that appear in both lists.

The CHANGE function, as well as the line listing feature, is demonstrated in Fig. 4. Again caution is wise. What if we had already used the DGS label in our program? There would be no way later that we could separate the old

DGS from the new DGS. If in doubt in changing a label, first make a search to see if the new label is already being used.

In changing the variable label from DOG to DGS, we did not want to change the word DOG inside strings, hence did not search strings. The capability of not searching strings or only searching strings provides all the flexibility we ever need.

We note that we can only change an item to one equal in length (as APPLE-SOFT sees the length). Extra length in the change item entered as line 2 is ignored. If the replacement is shorter than the search item, things go awry. The result is a muddle, correctable in general only by a start over from scratch.

Design

A few comments on the design of the SEARCH/CHANGE program are offered here in lieu of remark statements in the program itself.

First the program identifies the search item, FOR loop lines 63040-63070. Then it identifies the change item, if any, FOR loop line 63110 and preceding line. The search is carried out by FOR loop lines

Fig. 3: Other SEARCH Demonstrations

```
(a) Search for equal signs
THE ITEM
1 =
IS FOUND IN THE FOLLOWING LINES:
10          50          50
70          80
DO YOU WANT THESE LINES LISTED (YES OR NO)? NO
```

(b) Attempt to search for CAT

```
)1 CAT
)RUN 63000
1 CAT
PLEASE VERIFY IF THE COMPUTER TAKES
THIS AS YOU INTENDED. DO YOU WANT
TO CONTINUE (YES OR NO)? YES
DO YOU WANT TO SEARCH INSIDE STRINGS
(YES OR NO)? YES
DO YOU WANT TO SEARCH STRINGS ONLY
(YES OR NO)? NO
THE ITEM
1 CAT
IS FOUND IN THE FOLLOWING LINES:
NONE.
```

Fig. 4: CHANGE Demonstration

```
)RUN 63000
1 DOG
2DGS
PLEASE VERIFY IF THE COMPUTER TAKES
THIS AS YOU INTENDED. DO YOU WANT
TO CONTINUE (YES OR NO)? YES
DO YOU WANT TO SEARCH INSIDE STRINGS
(YES OR NO)? NO
DO YOU WANT TO SEARCH STRINGS ONLY
(YES OR NO)? NO
THE ITEM
1 DOG
IS FOUND IN THE FOLLOWING LINES:
40          50          60
70          90
DO YOU WANT THESE LINES LISTED (YES OR NO)?
YES
THERE WILL BE A WAIT AFTER EACH LINE
UNTIL YOU HIT RETURN TO CONTINUE.
40 INPUT "GIVE THE NUMBER OF DOG
S ";DGS: PRINT
50 IF CTS = 0 AND DGS = 0 THEN END
60 PRINT : PRINT "THE PROBABLE W
INNER IN A CAT-DOG FIGHT": PRINT
"WITH ";DGS;" DOGS AND ";CTS
;" CATS WOULD BE"
70 IF DGS = 0 THEN PRINT "*****
CATS*****": END
90 IF RND (1) * CTS / DGS > .5 THEN
PRINT "*****CATS*****": END
```

63130-63170. To get the best operating speed, we close the FOR loop within a single line (line 63130) if no byte of significance is found. Even so, the testing for up to three conditions takes time. If one of these conditions is not met, then the following lines either pass to subroutine line 63300 to complete the item identification test and make the item change (if one is entered), or set the string's search flag, or start the search of the next program line, which-

ever is indicated. Line 63120 determines that the search is over when line 62999 is reached and passes to output. The routine lines 63220-63290 accomplish the line listing feature. Note that the search for the LIST command is backwards from the end of the program (we know that the one we want is the last one). Also note that the line number has to be poked in so that there should always be five digits following LIST. After use of the

program, the actual number that appears here when the line 63270 is listed is the last number poked in. There should be leading zeros if that number had less than five digits. The Applesoft interpreter preserves these leading zeros whereas the 3.2 DOS renumbering program does not. If you want to renumber SEARCH/CHANGE, remember to check this line and, if you want to, change the 62999 in line 63120.

Fig. 5: Listing of SEARCH/CHANGE Program





```
62999 END
63000 DIM SEEK(100),NT(100),L(10
0):START = 256 * PEEK (104)
+ PEEK (103):FINI = 256 *
PEEK (106) + PEEK (105)
63010 IF 256 * PEEK (START + 3)
+ PEEK (START + 2) < > 1 THEN
PRINT "YOU MUST ENTER YOUR
SEARCH ITEM AS LINE": PRINT
"1 BEFORE YOU RUN 63000.": END
63020 LIST 0,2: PRINT "PLEASE VE
RIFY IF THE COMPUTER TAKES":
PRINT "THIS AS YOU INTENDED
DO YOU WANT": INPUT "TO CO
NTINUE (YES OR NO)? ";Y$: IF
Y$ < > "YES" THEN END
```

```
63030 PRINT "DO YOU WANT TO SEAR
CH INSIDE STRINGS": INPUT "(
YES OR NO)? ";YY$: PRINT "DO
YOU WANT TO SEARCH STRINGS
ONLY": INPUT "(YES OR NO)? "
;YZ$: IF YZ$ = "YES" THEN SO
= 1:YY$ = "NO"
63040 FOR I = 0 TO 255
63050 SEEK(I) = PEEK (START + 4 +
I)
63060 IF SEEK(I) = 0 THEN N = I -
1: GOTO 63080
63070 NEXT
63080 M = START + N + 6
63090 CH = 0: IF 256 * PEEK (M +
3) + PEEK (M + 2) < > 2 THEN
CH = 1: GOTO 63120
63100 IF N = 0 THEN NT(0) = PEEK
(M + 4): GOTO 63120
63110 FOR I = 0 TO N:NT(I) = PEEK
(M + 4 + I): NEXT
```

```

63120 LM = 256 * PEEK (M + 3) +
      PEEK (M + 2): IF LM > = 62
      999 THEN 63180
63130 FOR I = M + 4 TO M + 255: IF
      PEEK (I) < > 0 AND PEEK (
      I) < > SEEK(0) AND PEEK (I
      ) < > 34 THEN NEXT
63140 IF PEEK (I) = 34 AND YY$ =
      "NO" THEN SQ = SQ + 1: IF SQ
      = 2 THEN SQ = 0
63150 IF PEEK (I) = SEEK(0) AND
      SQ < > 1 THEN GOSUB 63300
63160 IF PEEK (I) = 0 THEN M =
      I + 1: GOTO 63120
63170 NEXT
63180 HOME : PRINT : PRINT
      "THE ITEM": PRINT " ";: LIST
      1: PRINT "IS FOUND IN THE FO
      LLOWING LINES.": PRINT : IF
      L(1) = 0 THEN PRINT "
      NONE.": END
63190 FOR I = 1 TO K: PRINT L(I)
      ,: NEXT : PRINT
63200 PRINT : INPUT " DO YOU WAN
      T THESE LINES LISTED (YES OR
      NO)?" ;Y$: IF Y$ = "NO" THEN
      END
63210 PRINT : PRINT "THERE WILL
      BE A WAIT AFTER EACH LINE":PRINT
      "UNTIL YOU HIT RETURN TO CON
      TINUE.": PRINT
63220 FOR I = 1 TO 1000:W = FINI
      - 2 - I: IF PEEK (W) = 188
      THEN 63240
63230 NEXT
63240 FOR I = 1 TO K: IF L(I) =
      L(I - 1) THEN 63290
63250 L$ = "0000" + STR$ (L(I)):
      L$ = RIGHT$ (L$,5)
63260 FOR J = 1 TO 5: POKE W + J
      ,48 + VAL ( MID$ (L$,J,1)):
      NEXT
63270 LIST 12345: INPUT "" ;Y$
63280 IF K < 2 THEN END
63290 NEXT : END
63300 IF N = 0 THEN K = K + 1:L(
      K) = LM: IF CH = 0 THEN POKE
      I,NT(0): RETURN
63310 IF N = 0 THEN RETURN
63320 FOR J = 1 TO N: IF PEEK (
      I + J) < > SEEK(J) THEN RETURN
63330 NEXT
63340 K = K + 1:L(K) = LM
63350 IF CH < > 0 THEN RETURN
63360 FOR J = 0 TO N: POKE I + J
      ,NT(J): NEXT
63370 RETURN

```

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APPLE-CATIONS

Tasmania has a strong community of educational Apple users, Apples are used with TASNET and to support Pascal at the University of Tasmania. The Tasmanian Apple Users Group provides contact with other Australian user groups and the International Apple Core. The group meets on the 3rd Tuesday of each month at varying locations. Tasmanian Apple users should contact President Ray Williams, Box 188, North Hobart 7002 (002) 341271 (AH).

A new Apple users group has been established in Newcastle. The Hunter Users Group for Apple Microcomputers (HUGAM) held their first meeting on the 9th April at Newcastle University. Hunter Valley Apple users interested in joining the group should contact Alan Smith, Education Dept, Newcastle University (049) 685709 for details of future activities.

The NSW AUG DOS/Asmbeby language SIG has released a commented source listing of the DOS RWTS routines as Technical Bulletin # 2. The listing was originally released by APPLE in 1978 and published by A.P.P.L.E. as part of the first WOZPAK. Although the routines are DOS3.1 (possibly pre DOS3.1) the listing is essential material for anyone who has been attracted to the mysteries of DOS. The bulletin is available from the NSW AUG SIG, Box 1040 Crows Nest 2065 (Send an A4 stamped (55c) self-addressed envelope).

Roger Keating, Australian IAC director has returned from his visit to the US with a brief from the IAC to encourage Apple users groups in Australia. If you are interested in starting an Apple Users Group in your area, Roger can provide support and access to IAC material (Roger Keating Box 4482 Double Bay 2044).

Steve Schank, international marketing manager, for APPLE launched the APPLE III at a press conference for the micro press in April. APPLE has had some production problems and disappointing press with the APPLE III, but has started to market the machine in the USA. Euromond APPLE III's with Pascal should be available in June or July. New releases from APPLE this year include a joystick for the APPLE II, several interface boards and the word Painter software for the APPLE III. APPLE has undertaken a development program to build their own hard disks but has ordered 10,000 5Meg hard disks from Seagate Technology to cover the development period. US release date will be August, but expect very high demand for the disks.

Seymour Papert will be in Australia in May to lecture at the Sydney University Maths Teachers Conference and to open the VCEG Conference. Papert has devoted the past decade to the development of the LOGO language and the promotion of the idea that kids are capable of exploring computer based environments if they are given the opportunity and appropriate tools, an idea that the NSW Education Department with its policy of computer awareness based on card readers, BASIC and a glittering array of peripherals, is unable to understand. Implementations of Apple LOGO will be released this

year by Papert's MIT group and Tasmania's Elizabeth Computer Centre.

The Zofarry ZEV 80col card generated a lot of interest at the 6th West Coast Computer Faire and a US manufacturer is negotiating to manufacture the card. The latest firmware release for the card includes a communications driver that will send and receive text files from disk. The firmware has been updated several times recently, so purchasers should check which version they receive and should also check that they receive the lower case version wire. Contact Harry or Ken at Zofarry Enterprises (02) 797 8832 with any enquiries.

Several of the US microcomputer magazines have refused to accept advertisements for 'bit copier' programs in the interests of the industry. The battle between Apple software authors and Locksmith has resulted in a continual series of Locksmith updates. The latest tool for breaking protected programs is the Pirate board, developed by Jon Rowlands, that allows access to memory by generating a NMI whenever a switch is pressed.

Apple Assembly Language is a new book written by Don Inman and published by Reward Books (distributed by Prentice Hall). This book is for Apple users who do not have assembly language experience. Experienced users will find this book very tedious. The book is based on the mini-assembler in the old monitor ROM (available from your local user group if you have the autostart ROM) and introduces assembly language without talking about assemblers. If you are a frustrated Assembly programmer try this book. Experienced programmers would try the Sybex or Mostek books and professionals should start with Leventhal's 6502 programming book.

The Pascal 1.1 update is a significant enhancement of APPLE's UCSD Pascal system. Many of the bugs and problems in the 1.0 release have been fixed and a number of features have been added. A 1.11 update disk has been released with the ATTACH feature and patches for some of the bugs in APPLE FORTRAN. The disk is available from George Tahmindjas at Electronic Concepts. Pascal resources have become easier to find with the release of the UCSD users group disks and a major article on Pascal internals in the April issue of Call-Apple. The latest IAC disk is a Pascal disk with a commented source listing of Pascal 1.0 BIOS. The SOURCE Apple Bulletin Board usually has current information and discussion from the Apple community. Pascal 1.1 users may be interested in these notices taken from the SOURCE.

> POST READ APPLE

Subject: PASCAL 1.1 BIOS ENTRY POINTS
From: CLO542 Posted: Thu 2-Apr-81 20:37 Sys 12

HERE ARE SOME ENTRY POINTS IN 1.1 BIOS:

CONCK = \$D772 ADJUST = \$DC59
CREAD2 = \$D8D8 BUMP = \$D890
RSER = \$DA15 RWTR = \$BF18
CREAD = \$D8C6 CWRITE = \$D950
COMCK = \$D7C7 WCOM = \$D9B2
JDONCK = \$D7E9 WSER = \$D98A

BRIAN MORAN CLO542

Subject: PASCAL 1.1 LOWERCASE MOD.
From: CLO542 Posted: Thu 2-Apr-81 20:32 Sys 12

TO ADD LOWERCASE FOR YOUR FAVOURITE L.C. ADAPTER TO NEW PASCAL:

```
.PROC LCASE  
NOP
```

```
LDA OCO83
```

```
LDA #OEA
```

```
STA ODAAB
```

```
STA ODAAC
```

```
STA ODAAD
```

```
STA ODAAE
```

```
LDA OCO8B
```

```
RTS
```

```
.END ; MACHINE CODE POKES  
(*PASCAL PROGRAM FOLLOWS*)
```

```
PROGRAM ALLOWER;
```

```
(*THIS PROGRAM PATCHES BIOS FOR L.CASE*) (*BY BRIAN MORAN APRIL 2, 1981*)
```

```
PROCEDURE LCASE; EXTERNAL;  
BEGIN WRITELN (THIS PROGRAM ADDS LOWER CASE'); LCASE;  
END
```

Brian Moran can be contacted via (SOURCE CLO542) mailbox if you want to discuss Pascal 1.1 BIOS.

The availability of the Electromed series 700 acoustic coupler has created a lot of interest in Bulletin Board systems and the US public database systems, SOURCE and MICRONET. Access to these systems from Australia is available at reasonable cost through the TELECOM MIDAS satellite link. SOURCE subscriptions are available in Australia, but a Mastercharge or Visa card number is needed to use the system. Users should be wary of the communications software available from the SOURCE and should invest in a copy of ASCII EXPRESS instead. Both programs have a common ancestry but ASCII is a much better program. Unfortunately the program has a bizarre protection scheme that has caused some users problems with the 3.2 version. If you use ASCII avoid the program ASCII EXPRESS II and use FS2.2M instead. The program is configured for the Apple comm card but can be easily changed for any serial card. I am interested in hearing from any SOURCE (TCU442) or MICRONET (70340.314) users via mailbox. A Bulletin Board system has been under development in Sydney for several months and an announcement concerning public access is expected next month.

Several teachers have asked for a routine to stop students using RESET to interrupt programs. Page 37 of the Apple Reference Manual explains how to change the reset vector, if your Apple has the autostart ROM. If the Reset vector is pointed at the Applesoft RUN command code (\$D566) then the program in memory will restart whenever RESET is pressed.

From Basic:

```
POKE 1010, 102 : POKE 1011,213  
: CALL -1169
```

If you want to restart the program from a particular line then set the appropriate Applesoft pointers and use the NEWSTT routine at \$D7D2. Consult the Applesoft internal entry routines article in the first issue of the Apple Orchard for further information.

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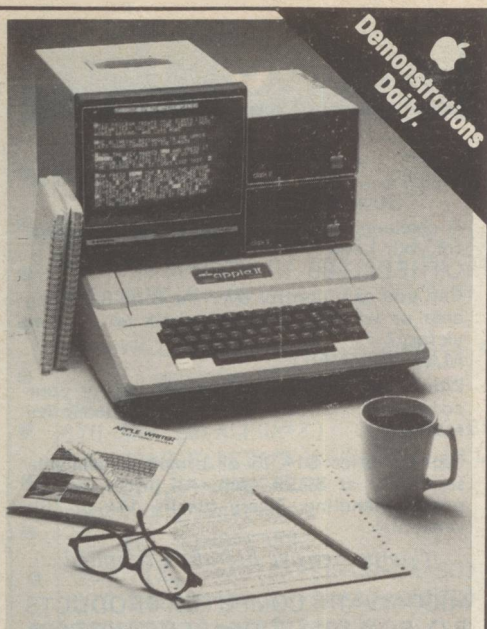
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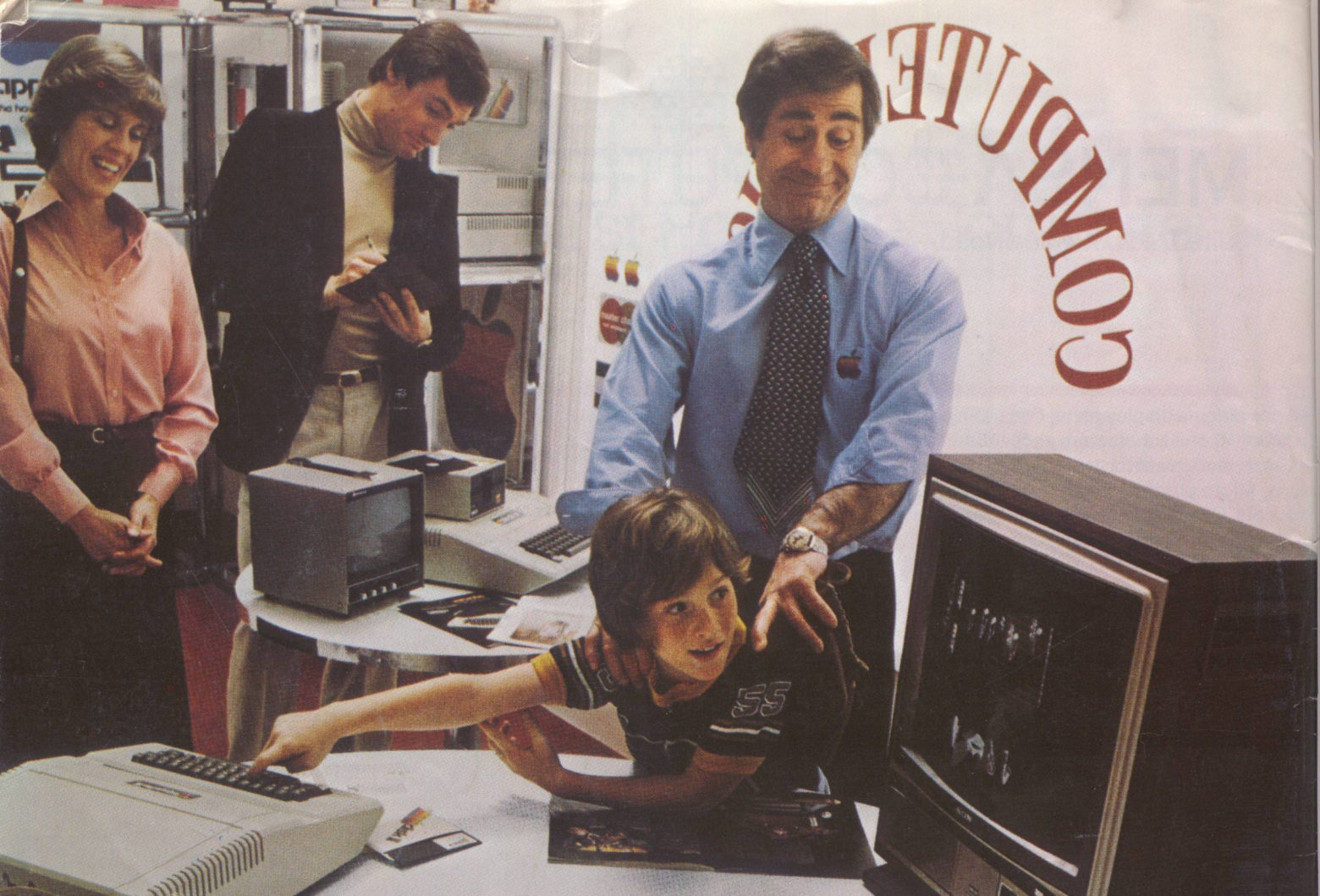
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COMPUTER

How to buy a personal computer.

In California, a store owner charts sales on his Apple Computer. On weekends though, he totes Apple home to help plan family finances with his wife. And for the kids to explore the new world of personal computers.

A hobbyist in Michigan starts a local Apple Computer Club, to challenge other members to computer games of skill and to trade programs.

Innovative folks everywhere have discovered that the era of the personal computer has already begun — with Apple.

Educators and students use Apple in the classroom. Businessmen trust Apple with the books. Parents are making Apple the newest family pastime. And kids of all ages are finding how much fun computers can be, and have no time for TV once they've discovered Apple.

Visit your local computer store

The excitement starts in your local computer store. It's a

friendly place, owned by one of your neighbors. He'll show you exactly what you can use a personal computer for.

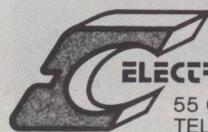
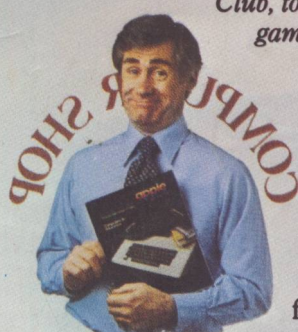
What to look for

Your local computer store has several different brands to show you. So the salesman can recommend the one that best meets your needs. Chances are, it will be an Apple Computer. Apple is the one you can program yourself. So there's no limit to the things you can do. Most important, Apple's the one with more expansion capability. That means a lot. Because the more you use your Apple, the more uses you'll discover. So your best bet is a personal computer that can grow with you as your skill and involvement grow. Apple's the one.

It's your move

Grab a piece of the future for yourself. Visit your local computer store. We'll give you the address of the Apple dealer nearest you when you call our toll-free number. Then drop by and sink your teeth into an Apple.

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