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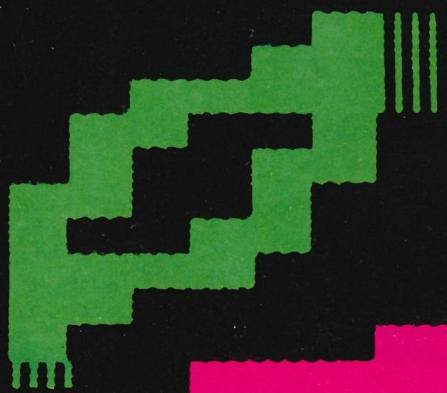
The Australian Apple Review

A Gareth Powell Publication



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The Australian Apple Review

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EDITORIAL

The continued saga of Apple's legal battle worldwide is, in a strange way, a back-handed compliment to Apple. If the original machine was not so well designed, if the concept had not been so brilliant, then no one would have bothered for one moment to copy it. There are dozens of computers out there that no one has even thought of copying.

Will Apple win in the end? Without stepping on any judicial toes, I have to say that I think so. I am well informed on the situation as I spend so much time in Singapore, Hong Kong and Taiwan – territories where pirates abound.

What is happening is that the major manufacturers are giving up the unequal battle and are concentrating on other projects instead. (The fact that the other projects in the main consist of ripping off IBM, who are replying with unrivalled ferocity, is somewhat beside the point.) Apple's belated but thorough legal defence is beginning to show results, and although the latest Wombat development is an interesting one, I truthfully feel I have heard the death knell for imitation Apples being made by major manufacturers.

This does not mean for one moment that there will not be imitation Apples. There will, by the hundreds. But they will be made in half dozen lots to sell to tourists and enterprising smugglers rather than to the United States – where the US customs takes great pleasure and delight in smashing them with sledgehammers – or Australia, or Europe.

Everything in the garden would, one would have thought, been lovely. But there is no such thing as a Hong Kong or Taiwanese entrepreneur who is willing to see his business fail over a simple legal formality.

They have turned their sights on the biggest potential export market of them all. Already a consignment of MedFly has been bought "for evaluation" in the Peoples' Republic of China. And the man responsible for the sale is a previous distributor of Apples in Australia. In Beijing at the end of last month I saw several fake Apples which had plainly originated in Hong Kong. (For political reasons, Taiwanese machines would not be welcomed with open arms).

Effectively, there is no real copyright law in the People's Republic of China and it would be extremely easy for Hong Kong fake manufacturers to move across into the PRC and set up business with the government's blessing.

It will be a most interesting development. Nothing is ever boring on the Apple front.

Gareth Powell

If you're using it with a modem to communicate with the outside world it can tell the modem that the computer is ready to accept data for transmission.

Another data control technique is to transmit in ASCII code, and for all of those who have wanted to know what ASCII stands for, it is the American Standard Code for Information Interchange.

In this case the received data line is connected instead of the data set ready, and the printer can transmit the appropriate code when it is full or ready to accept data.

As you can hopefully see, the first application works with a direct connection between the computer and the printer, while the second can be applied using telephone lines.

This means you could, if you wanted to, drive a printer at a remote location over the phone, assuming always that your computer can switch off its data flow fast enough to prevent an overflow at the printer.

Think of it like a tap with a long hose filling a bucket at the other end and you will get the rough idea.

With RS-232 in full duplex the lines used are protective ground, signal ground, transmitted data, received data, received line signal detector and, possibly, data set ready. The received line signal detector, which is often called the carrier detect, says, in effect, "I can hear a noise which says that somebody is trying to talk to me."

This noise is the carrier signal.

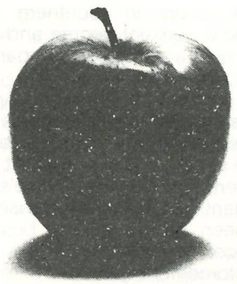
In a duplex stage there has to be a carrier signal going out from the modem and coming into the modem, otherwise the connection will be cut. In half-duplex modem applications two lines are added to the full-duplex lines and these are request to send and clear to send. If you can imagine two cars approaching each other on a single lane bridge you will have the idea.

"Request to send" comes from a car that flashes its headlights to ask can it go ahead and cross the bridge filling up the single lane.

The other car flashes its headlights with a "clear to send" to allow the oncoming car to come through safely.

These lines control the direction of the half-duplex separation.

The "request to send" is the computer's way of saying it is ready to start talking and the "clear to send" is a modem's way of saying it is ready to listen.



The "request to send" causes the modem at that end to turn on its transmitter and when it's finished sending its information it turns off the request line and the modem switches off its transmitter.

All this fascinating information we got from an article by Dave Crounse which appeared in "Bytelines" volume 2 number 3.

It was a fairly technical article and we have re-written it to make it easier to understand. Our greatest hope is that we have not stuffed up any of the essential information. No doubt some reader will quickly let us know if we have.

I hear a symphony

The latest improvement on Lotus 1-2-3 – currently the fastest selling program in the world – is Lotus Symphony which will be launched in Australia at the end of July at a price around the $1,000 mark. The President of Lotus Development said:

"We have taken special care to ensure that currency, time and date format, special characters and other fundamental features of the program are totally under user control. By doing all this, we intend to fully support national and multi-national uses of Symphony."

Symphony is what they call "an open-ended product" in that users are able to add in programs which are appropriate. As it stands it combines word processing, data base, communications, spreadsheets, graphics and window management.

And what does this momentous news have to do with Apple enthusiasts?

Further news is that Lotus 1-2-3 should be available on the 512K version of the Apple Macintosh which is due in Australia at the end of this year.

At least that's what the timetable says.

Copying Hong Kong

It's a case of art following reality. In Hong Kong for some time we have been using small batteries on the top of RAM chips in order to keep the memory intact when we switched off.

Now we see that Mostek Corporation have announced what they call a new solution to the non-volatility problem. Their idea is to stick a pair of miniature, long-lived lithium power cells in a packet onto the top of standard 24-pin ics.

They call their piggy-back battery package a lithium "top hat".

In the news story we read it said that this new development represents a major advantage in solid state memory technology.

In fact we've been doing this amongst the happy home hobbyists in Hong Kong for the last three years.

Mostek, who have a nice way of mangling the English language, refer to it as a "completely pre-engineered solution to a nasty problem".

If only they'd phoned some of the Apple enthusiasts in Hong Kong three years ago they'd never have had to invent the damned thing in the first place.

Wombat tries again

Michael Suss of Computer Edge rang to tell us that his company had written and copyrighted a new language for his Wombat computer which, he claimed, would "end Apple's monopoly".

He told us that when he was in the middle of the Apple court case (more on this later) he woke up very early one morning and decided to read all the court papers again. And a fairly long read it must have been. "I knew that Apple had lost their source code so all we had to do to prove that we had an original work was to have it produced in source code."

In fairness we found that difficult to believe.

Who had informed Mr Suss that Apple had "lost their source code"? He was not forthcoming on the point.

He also told us that he had then commissioned a team of programmers to produce an improved BASIC that would take advantage of the 65C02 (the CMOS version of the normal Central Processing Unit). This would enable Wombat to run all standard Apple programs and, at the same time, offer advanced facilities to programmers.

He said he had copyrighted this new source in Australia, Taiwan and the United States.

There is certainly such a registration in his name for the Wombat BASIC program – April 4, 1984 – and a further registration made on April 16, 1984 for a Disk Operating System and an Auto Boot program.

Mr Suss offered to send us one of his Wombats to test. We suggested that he consult with his legal advisors before he did this. Since then he has not contacted us.

A thought has occurred to us. Litigation is not cheap. Lawyers charge more than programmers. Who has to finance all this? At this stage of the game we are talking about very serious money indeed.

As an appeal has been lodged in the High Court in the matter Apple v Computer Edge and Michael Suss, we cannot comment on that because the matter is sub judice.

But we can comment on his new DOS and Auto Boot program.

Mr Suss, by his own admission, is a businessman rather than a programmer.

We talked to a programmer who

truly knows which end is up. His view is that "no man born of woman is going to be able to put together an Apple compatible Disk Operating System and Auto Boot that doesn't conflict with Apple's patents".

Why then, we asked, did Mr Suss sound so confident? Our expert programmer said it was possible that Mr Suss had not understood how much of the Apple system his programmers had had to use to achieve their ends.

No doubt this is not the last we will hear of this matter. Stay tuned for further reports.

Apple pounces on Cat

Meanwhile, over in Hong Kong, Apple Computer of the United States issued a writ against Video Technology Limited claiming copyright infringements on the Autostart ROM and Applesoft programs.

The latter programs were alleged to have been used on Video Technology's Emulator cartridge for its 8-bit Laser 3000 microcomputer. Video Technology say they are filing a defence in Hong Kong and "we have instructed our lawyers in Chicago to file a counter-claim against Apple in the United States".

And what, you may ask in some puzzlement, has all this got to do with us? A lot.

Video Technology produce the Laser 3000, marketed by Dick Smith Electronics in Australia as "The Cat", which has been both reviewed and advertised in this magazine.

It would be wrong to make any predictions – judges can be very huffy about that sort of thing – but if Apple win the Laser case in Hong Kong, then as sure as Jobs and Wozniak made little Apples we'll be seeing a similar suit in Australia.

Meanwhile, over in Taiwan the law suits continue on both the Apple and the IBM front, with the latest amazing news that four software pirates have been sent to jail. Heretofore, a fine of US$100 would have been considered a condign punishment.

Times they are indeed achangin'.

Macintosh programs

If the Macintosh is going to be a major force in personal computing and not just a university educational machine, it has to have a wedge, a bundle, a plethora of programs available. The issue before last we did a round-up of what had been promised. Now we are pleased to say that those promises are coming to fruition and the range of programs available for the Mac is not only wide but, in many cases, the state of the art. The following is a sample of what is now becoming available. (These are not yet available in Australia, but will be Real Soon Now.)

First of all Lotus 1-2-3 is now a definite starter. CRTplus is a program designed for banks to deliver information to their customers. Presumably the program comes with its own supply of red ink. Then there is a new database system called NPL Information Management System which gets around most of the complicated problems of database programming.

From Human Edge Software comes The Sales Edge, The Management Edge and The Negotiation Edge.

MicroSoft have added Word – their extremely powerful word processing program – to MultiPlan, thus underlining their dedication to the Macintosh which started when they supplied their immensely powerful MicroSoft Basic specially adapted to it. To go with it is Chart and File. They have a pretty way with imaginative titles at MicroSoft.

Software Publishing Corporation has released their PFS series for the Macintosh, and it should be in Australia Real Soon Now.

Infocom will let you play lots of games including the mind baffling Zork series and similar adventures of the imagination.

Blue Chip has released Millionaire, Tycoon and Baron. We await with interest further games in this area such as Destitute, Impoverished and Bankrupt, when we will be able to play with a good chance of pulling off the Trifecta.

In peripherals Davong have released a series of hard disk storages for the Macintosh, running from 5 megabytes right up to 32 megabytes. On the evidence in front of us this would appear to be an exercise in futility, because if you need hard disk storage with the Macintosh why don't you buy a Lisa

Say it again, Sam

by Gareth Powell

I have just been listening to my Apple delivering the Gettysburg address. And after that it read out the soliloquy from "Hamlet". OK, it didn't sound like Sir Laurence Olivier, nor yet Sir John Gielgud. It didn't even sound like John Singleton.

But it was a voice. With pauses, stress, low notes, high notes, emotion. It did not sound like one of the Daleks from "Dr Who". It sounded like someone speaking over a fairly old telephone.

The worker of this miracle is a small board and program called SAM, which stands for the Software Automatic Mouth produced by Don't Ask Computer Software. (I am enraptured by the name of this company and can visualise all sorts of conversations. "Who do you work for?" "Don't ask").

New generation

This is one of a new generation of speech synthesisers. The originals all had flat, tinny monotone voices. Sometimes it was difficult to understand what the devil they were saying, except whatever it was seemed horridly impolite.

These early synthesisers used a "speech compression" of one sort or another. The way in which the system works is as follows. A phrase or word is recorded as a whole. Then using a piece of mathematical conjuring, the wave form produced by this phrase is transformed into a digital signal (all those 0s and 1s that a computer understands) so that it can be saved on a silicon chip without taking up a lot of room. When a phrase is needed it is simply called up from memory and transformed back into a waveform.

Depending on the sophistication of the techniques and the quality of the loudspeaker, the sound ranges from barely adequate to quite acceptable. But you are, of course, restricted to those words or phrases you have recorded and then programmed into the chip. As there is only a finite amount of space the numbers of words or sentences available to you are limited.

Unlimited vocabulary

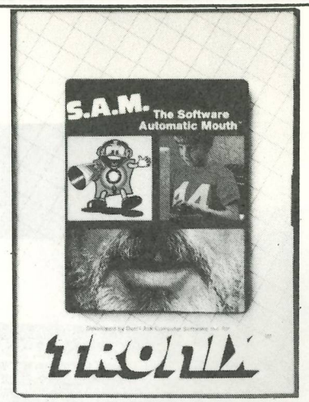
SAM is an unlimited vocabulary (and, indeed, an unlimited language) speech synthesiser. It achieves this by breaking speech down into phonemes – these are the atoms, the building bricks of spoken speech. And there are a lot fewer of these phonemes than you imagine. With English you can make a reasonable stab at reproducing the English language with just forty of them. But a phoneme is not the beginning and the end. Timing is everything. Therefore you need a way to introduce a time for the phoneme to sound and a time for blending one phoneme into another. Using these controls you can specify timing, intonation and inflection.

The end result can be quite excellent, providing you are willing to experiment and use a phonetic language which looks not at all like the English you are used to. For example "baby" comes out as "BEY4BIY" while "transportation" comes out as "TRAE5NZPOHRTEY4SHUN". Not the simplest langage in the world to write, but the end results are eminently satisfactory.

It is important to use a reasonable loudspeaker in a good case with this new generation of voice synthesisers, otherwise no matter what you do, the sound will come out tinny.

To demonstrate how versatile a speech synthesiser like SAM can be, I wrote a small program for it to speak three short sentences in Cantonese, a language of immense subtlety and using seven tones to each word.

The sentences were quite comprehensible. Which means that the synthesiser is a lot smarter than I am. When I speak Cantonese (admittedly with a Welsh accent) I am very frequently misunderstood.



Issue warnings

This relatively inexpensive form of speech synthesiser (I paid under a hundred dollars for mine, but a half-smart electronic technician could wire one up from the several kits available for less than that) means that my computers can now talk. And, better still, issue warnings to anyone who is using, say, a word processing program, and is about to do something horribly wrong like wipe twenty pages of copy. Then, the computer can speak up loud and clear and say "Save it first, you drongo". Or some other suitable phrase. I've programmed mine to say far worse things than that but I am, after all, a journalist.

Getting a computer to talk is relatively easy. But can we get them to listen?

Voice recognition

I think the answer at the moment is probably not. I've tested a multiplicity of boards attempting give this effect and the state of the art is probably the board produced by Texas Instruments for their fairly professional personal computer. It is true that it does react to certain commands. And it is true that it does achieve a very high level of voice recognition. But not nearly high enough.

There is very little point in having a computer that understands instructions like "save", "stop" and "print". These can all be far more easily catered for with a single key stroke.

What is needed is a computer to which you can dictate letters.

If a personal computer cannot format and type out a letter direct from voice dictation, then in my opinion, that computer does not have voice recognition.

And as far as I know there is no computer in the world that fulfils that criteria. Yet.

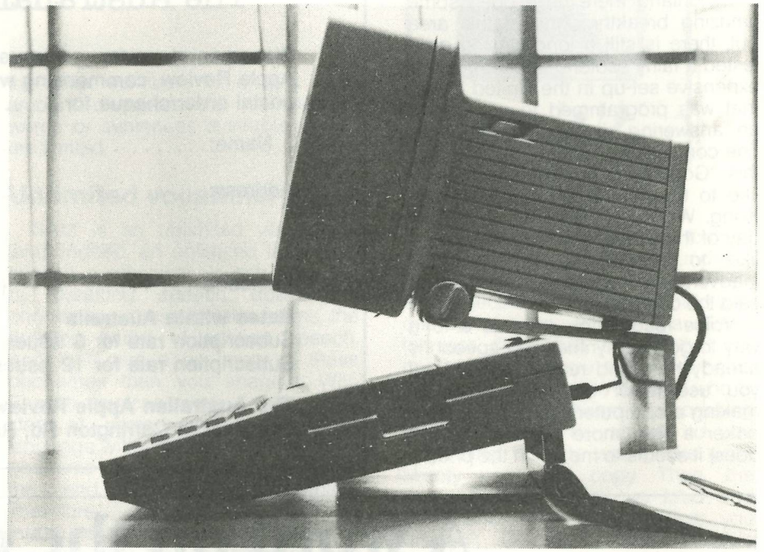
Airline answering device

In Finland there have been some amazing breakthroughs in this area but, there is still a long way to go. I tested a fairly esoteric and immensely expensive set-up in the United States that was programmed to operate as an answering device for an airline. The conversation went something like this. "Good morning, where would you like to travel?" "Hong Kong." "Hong Kong. We have flights leaving every day of the week. What day would you like to travel?" At this stage I inadvertently sneezed. "Thursday," said the computer.

Voice recognition still has a long way to go. But synthesised speech is already here and readily available. If you use it for nothing more than making a computerised game of strip poker a little more lively (I have, it does) it seems to me worth the price. □

Further thoughts on the Apple IIc

Apple IIc, monitor and stand



by Gareth Powell

In our last issue we reviewed at great length the new Apple IIc, which we consider one of the major personal computers of our time. It is a machine which we believe will send Apple surging even further forward on the path to prosperity.

But even at this early stage people are wondering about ways in which the machine is going to expand, ways in which the machine is going to be improved.

The first obvious area is in the disk drive. At the moment Apple have made, in our opinion, the perfectly correct marketing decision to retain a standard five-and-a-quarter inch floppy disk drive built into the side of the machine.

Twin drives?

But there is no doubt that in the relatively near future (and how near that future is no one knows) the single drive will be replaced with either one, or even possibly two, 3.5 inch, double-sided, double-density drives from Sharp, with whom Apple have a working arrangement.

When that happens we will have effectively four disk drives with a total capacity of something approaching two megabytes.

There will be four disk drives because on the newest systems each side of the disk is addressed as if it were a disk drive. What this will mean to the machine is that for word processing we will be looking at packages that access the disk as if it was virtual memory.

Where else do we see changes?

Go faster stripes

The 65CO2 can probably be given some extra speed. At the moment this new microprocessor has a clock speed of 1.023 Megahertz and will perform up to 500,000 eight-bit operations per second. It would not be a task of insuperable magnitude for that clock speed to be doubled. Apple's Lisa, and to a lesser extent the Macintosh, have been criticised for not being quite as fast as one could wish. There are few applications for the IIc where extra speed is needed, but there is no doubt that in those applications – specifically spread sheets – it would be extremely welcome.

The 65CO2 is a CMOS (complementary metal oxide semi-conductor) the implementation of the 65O2 microprocessor which has served Apple so well over the years. It is an extension of the 65O2's instruction set with 27 new instructions, and offers faster graphics and arithmetic operations. It runs, as we have already said, virtually all existing Apple II software. But new software will be written to take advantage of the new instruction sets and this new software will not in itself be compatible with the IIe and the II+.

The IIc extends the use of custom-designed integrated circuits beyond that of the original IIe design.

Integrated circuits

There's an input/output unit and a memory management unit, plus a custom timing generator chip that generates several time and control signals and a general logic unit that provides logic control required by the system.

The disk controller unit is the same as the disk controller used on the Macintosh and is a one-chip, large-scale integrated LSI version of the disk controller originally designed by Steve Wozniak for the Apple II.

It is referred to as the IWM, and (if somebody isn't seriously pulling our leg) we're assured that stands for the integrated Woz machine.

The increased use of LSI (large-scale integrated) ICs has permitted Apple to reduce the number of chips in the IIc. It has sixteen 64K bit Random Access Memory chips which gives the computer a standard 128K bytes of RAM. Besides these RAM ICs the IIc only has 21 chips.

Fewer chips

This is quite amazing when you consider that it is three chips fewer than the number of non-RAM ICs in the IIe, despite the fact that many of the functions performed by cards such as the disk controller, the serial interfaces, the 80-column circuitry and so on are included in the IIc as standard. With the IIc there are of course no slots readily accessible to the user.

Apple have clearly made the decision that portability and ease of use are of far greater importance than expansion possibility.

The IIc is marketed specifically for people who have no desire to mess around with the hardware. (For people who like to mess around, the IIe will still continue.)

Nevertheless the IIc lends itself to some quite dramatic improvements, which we may see implemented by Apple – or even outside suppliers – in the relatively near future.

ProDOS

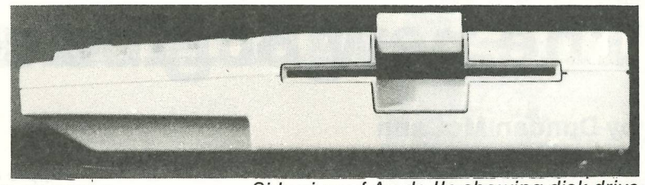
The IIc comes with the Apple's recently-released ProDOS operating system. This offers a considerable increase in performance over the normal 3.3 of the IIe.

ProDOS includes UNIX-like file structures compatible with the Apple /// operating system. Not much point, we admit, in that the Apple /// appears at long last to be going down the gurgle.

Apart from the thousands of software producers panting in the wings with their new offerings, Apple themselves are introducing a new set of software for the IIc including an integrated database management, word processing and spread sheet program; an Apple Logo which can take advantage of the vastly expanded memory, Apple Educational Classics and a communications program called Apple Access II.

The last one is interesting because the IIc does not currently have a built-in modem. The IIc Read Only Memory appears on the surface to be very similar to the IIe ROM as far as programmers are concerned.

In actual fact it was redone almost completely. Most interestingly a series of 32 graphic characters were installed in the character generator ROM. These characters, which Apple call Mouse Text, are a series of icons designed to let programmers set up a user's interface very similar to that found in the Lisa and the Macintosh.



Side view of Apple IIc showing disk drive

Enter the mouse

This means that we will be seeing Mouse-controlled IIcs and we will also be seeing icons on the IIc screen before very long.

These characters, incidentally, can be called directly and therefore it will be much faster to move them around the screen than the bit-mapped characters which are a feature of the Macintosh.

The full-screen flat panel display Apple hope to introduce later this year comes from Sharp. It is a liquid crystal display which works off a series of individual pixels twice as high as they are wide. This makes the characters in the display appear somewhat flat.

However, even in the 80-column display mode the characters appear very crisp and the display produces quite remarkable high-resolution graphics.

LCD display

It is stated that the liquid crystal display panel will have three graphics modes:

- low resolution – 40 horizontal by 48 vertical;
- high resolution – 280 horizontal by 192 vertical;
- double-high resolution – 560 horizontal by 192 vertical.

In truth we can't see how this is going to work but no doubt all will come clear when we see the finished machine working with its liquid crystal display units.

What the Apple IIc lacks as far as we're concerned is a modem.

There is no doubt that at some time in the very near future we will see a modem included in the IIc.

C/PM software

Whether we will ever see a Z-80 card added – the other obvious omission – is another question altogether.

The use of C/PM software is a fairly major area with Apple. Z-80 cards are one of the most common additions to the Apple II. We cannot see why there should be any major problems including a Z-80 circuitry in the design as it stands, and it may be that we will see this in the near future.

Taking it from the top, we can say that as it stands the IIc is one of the most desirable computers we have ever tested.

We can also look forward to the possible implementation of some of the Macintosh/Lisa software in the near future.

Future thoughts?

A little further into the future it is quite possible that we will see one or even two micro disk drives built in instead of the current five-and-a-quarter inch floppy disk drive.

It is also possible that we will see a modem installed which will be working at 300 baud at least and possibly 1,200 baud.

It is also quite likely that we will see an implementation of the Z-80 chip so that the machine can run C/PM software.

If you want sky blue yonder stuff, we think that at some stage another version of the IIc will become available which will use the guts of the Macintosh as its base and will provide the user with half a Megabyte of Random Access Memory. There is no doubt that it can technically be done. It will be up to the marketing department of Apple – a group of people who appear to be collectively absolutely on the ball – to decide whether such machine would be a world-wide winner. We know that this is true of the IIc. We suspect it would be true of such a hybrid machine.

Apple in the lead

The Apple IIc firmly establishes Apple's position as one of the two major companies in the hardware computer market. It will need a revolution of major dimensions to move it from that position. □

The new Scribe colour printer

by Duncan McCann

The new Scribe printer which we described in our last issue is a plain-paper thermal transfer printer with colour capability.

That needs some explaining.

We got it wrong. When we first read about it we were imagining all sorts of complex thermal-printing techniques. What in fact the Scribe does is print on almost any paper surface – we understand it can even print on projection transparencies.

It has two resolution modes and can either operate at high speed at 80 characters per second or it can produce letter-quality printing at 50 characters per second. It is relatively quiet.

Where we got misled was in thinking that the print head worked without a ribbon rather like the old Silentype. In fact, the print head consists of 24 resistance elements that are arrayed in a vertical column.

When the machine is printing the head presses against a ribbon. This ribbon is made of polyester and uses a carbon-filled paraffin ink. The resistance elements in the head pulse briefly which heats them and melts the ink to deposit on the paper.

We're now moving into the area of extremely high technology.

The design of the print head permits a resistance element (and remember there are 24 of them) to rise to a temperature above 150 degrees Celsius and then to drop to below 35 degrees Celsius within the space of several hundred microseconds.

The lower range is well below the melting point of the paraffin wax in the ribbon.

The result is that the letters do not smudge one into the other. The dot resolution of the Scribe can range as high as 63 horizontal by 52 vertical dots per square centimetre in letter mode.

There are two ribbons which you can use with the Scribe.

One is all black for standard printing and the other is a colour ribbon that has different colours laid out in consecutive bands. Although

Apple Macintosh

there are only three colours, the Scribe, by placing dots close together, gives the impression of providing a seven-colour spectrum.

The Scribe, priced at around $500 odd retail, is not ideal for an office situation where there is going to be a vast throughput of printing.

That is because of the cost of the ribbons. A black ribbon will provide about 80,000 characters and will cost something between seven and ten dollars. Working it out very quickly, that's about 12,000 words or over 20 cents for a medium-length letter.

Colour ribbons are going to cost as much as $14.

This means that the Scribe will be ideal for use where high throughput of printing is not required and a very quiet printer which can produce colour graphics is.

If you are willing to put up with fairly low-quality printing, it is possible to rewind the black ribbon and run it through at least three times. We know because we've seen it done. But the end result is something less than satisfactory.

There is no doubt that with this Scribe machine Apple have made a major breakthrough, which is going to create a fairly substantial stir in the electronic printing area.

For example it is only a few weeks ago that we were testing the C Itoh 8510C, which we considered to be, for a colour printer, a good buy at around $1,400. This card was almost immediately trumped by Hewlett Packard announcing a colour printer in the $900 area.

How they are going to compete with Apple, offering this colour printer at $500+, beggars the imagination.

It may be that a case could be put forward for these other dot matrix printers in that they will not require their ribbons replaced so frequently and they will not cost as much to run.

Possibly.

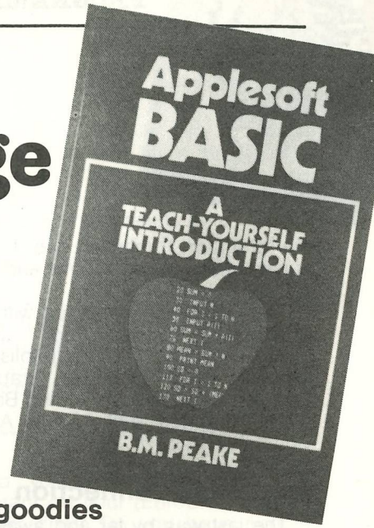
But we believe that the design of the Scribe and the way in which it fits so well with not only the IIc, but also the Macintosh and the Lisa, means that once again Apple have stolen a march on all their competitors.

□

Apple Scribe colour printer

Learning the language

by Gareth Powell



Do you have to be able to write programs to use an Apple computer?

Before we rush in with the obvious snap answer of no, of course not, let's think about it for a while. It is perfectly possible to drive a car without having the faintest idea how the combustion engine works. But there is no doubt that you will be a better-equipped user and buyer if you do know some basic mechanics.

You can eat at a first rate restaurant and not have the faintest idea of the ingredients of the various dishes and still enjoy yourself. But you will enjoy eating more if you know something about the food and its preparation.

You can take great pictures with a 35mm camera and not have the faintest idea what is going on when you press the shutter release. But I'm willing to bet good money you will take better pictures if you have at least a vague idea of how your camera works.

Similar logic

The same logic applies to learning the simplest elements of programming if you are going to own an Apple.

Sure, you can operate an Apple on the basis that what is going on inside is white man's magic and you just don't want to know about it, thank you very much.

Lots and lots of people do. Possibly the larger percentage of Apple owners. But I think an understanding of how programming works, why BASIC is such a popular language, how a program is designed and constructed, will help you to get far greater use and enjoyment from your Apple.

And learning the rudiments of programming is not difficult.

Sure, all those bearded men with corduroy trousers and boiled lollies in their pockets would have you believe it is a difficult and arcane art. Something understood only by members of the Australian Computer Society.

It is, in my opinion, in the interests of most employees of data processing departments to see that the great unwashed (that's you and me) should be kept in a state of blissful ignorance in case they suddenly realise that the emperor has no clothes. And that a personal computer can, indeed, take over many of the tasks previously held sacred to a group who called themselves "computer professionals" who are huddled in a protective laager around their mainframes against the onslaught of the personal computer.

Simplistic no

So when we ask the question, do you need to know programming to use and enjoy an Apple, the first and simplistic answer is no, of course not.

Almost any problem that can arise in the world of personal computers has almost certainly been solved somehow, somewhere by a professional programmer, and it is unlikely you will be able to do it better.

There is little point in re-inventing the wheel when you could be doing something far more profitable and enjoyable with your time.

Yet I am of the view that it is almost essential for you to know at least the rudiments of programming if you are ever going to get the full benefit of your Apple.

In this magazine we are opposed to jargon and the obscure language so beloved of professional programmers. And we have taken a very gentle line on programming, feeling too much on programming would frighten readers off. And we are probably right in that belief.

But now the time has come to say that while we are really not into running courses for absolute beginners in BASIC, we think that anyone with an Apple should at least try to see whether they can grasp the rudiments.

All goodies

To check on this growing belief I have been using a series of programs that teach you to write in BASIC, your basic, as it were, personal computer programming language. And all of them, without exception, were well written, well conceived and well documented.

I have not yet found a dud.

Remarkable.

They take the absolute beginner step by step (that is, in fact, the name of one of the programs) through the essential elementary details of programming.

At the end of a short course of these programs you certainly couldn't write a full scale accountancy package. But you should be able to write at least a simple program that would set up, for example, a personal telephone directory.

There are, of course, some people who find immense satisfaction in writing programs.

They are much the same sort of people who enjoy solving crosswords, playing chess, or working out wiring diagrams. They become happy home hackers because they enjoy programming for its own sake.

I'm not talking about them.

I'm talking of programming of a much lower order, where programs can be amended, adapted, adjusted, so your needs and requirements are precisely catered for.

Getting to that level of expertise is extremely easy, and anyone should be able to do it in a week of spare time study.

The lessons I have been looking at ranged over several titles.

Don't worry about whether your local computer shop stocks precisely

would you use more except in a large spreadsheet? You are going to write "War and Peace" with chapters?) There was always a theoretical limitation on an 8-bit computer but this has now been overcome by the elegant system of bank switching. There are lots of boards that will give you more memory than you know what to do with. The semi-rotund Harry Harper at Zofarry will fit you up with an extra 256K in double smart time.

Do you have any concept how large a spreadsheet you can make with that much memory? Enough to keep the board of BHP happy.

Where such memory comes in very handy is when you can pretend that it is a disk drive and load a program on to it. Then instead of the computer having to repeatedly access the real disk drive – which can be a time-consuming business – it can obtain the information from the pseudo disk which is the extra RAM card. This makes some accountancy programs operate at three times the speed.

User-definable keys

Another area where you may feel your Apple is lacking is that of user-definable keys. These are keys which can be defined to enter in a series of pieces of information that otherwise you would have to laboriously type in before you started using, say, a word processing program.

But there are several software programs that allow you to do just that. And you can always add-on a numeric keypad. Indeed, you can buy totally new keyboards to fit on to your Apple which have more than enough user-definable keys.

And they are a lot cheaper than buying a new computer.

There is always a temptation to have the newest, fastest, biggest.

But think about this.

If you get rid of your trusty Apple to buy a new, flash, whizz-bang marvel it is you that will be the guinea pig. It is you that will be discovering the bugs. And bugs there will be, we can assure you.

Sometimes it is better to be on the blunt edge of technology. Let some other sucker do the pioneering.

□

Where electronics are going

The Consumer Electronics Show ended last month in Chicago. There was an immense amount to see and an immense amount to learn. Much of it has nothing to do directly with Apple users, but a lot of the products could be regarded as straws in the wind indicating the way in which Apple computers might be moving in the near future.

It's difficult to put it into a coherent pattern and perhaps the best way that we can report it is to take snippets.

It's not just the computer industry that has got great problems with pricing and compatibility. The video cassette market is in a similar state of shambles. One of the greatest complaints that was being made at the show came from the advertising manager of TDK who said "The Koreans claim they can pay $5 a day to their workers – that's great but what about the quality you get when you pay that kind of money?".

Well, in our experience, the quality of the stuff that comes out of Korea is absolutely first-rate, including the monitor for the Apple IIe.

Another marketer from SKC charged that the major manufacturers were creating the problem. "They're not controlling the market. They promiscuously sell to anybody without controlling prices."

A song we have all heard before.

Obviously there's going to be a shake-out in the video cassette market in exactly the same way as we're going to see a shake-out in the computer market.

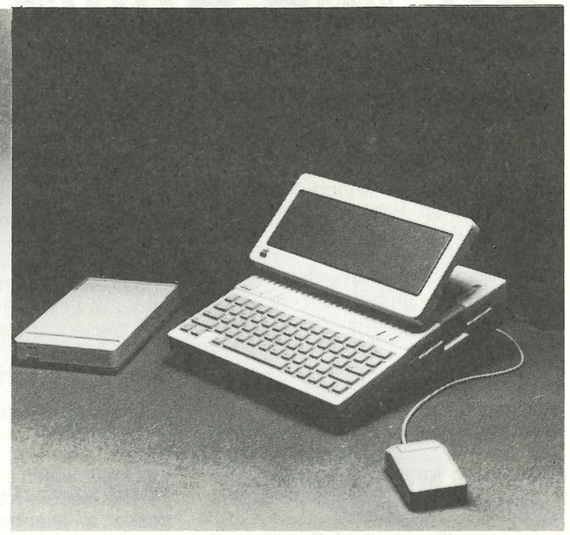
The Consumer Electronics Show awarded prizes for the best design and engineering shown in various products. The computer award was won by the Apple IIc, which will come as no surprise to anyone who reads this magazine.

Computer-compatible typewriters

Smith-Corona produced three new computer-compatible typewriters for the show, featuring the company's work erase correction system. This can delete entire words at the touch of a single button, by utilizing a built-in memory which counts blank spaces between words. Prices were all around the $500 mark.

Apple IIe CPU/keyboard and monitor

Apple IIc, mouse, flat LCD screen and modem



Interactive video disk

RDI Video Systems were showing an interactive video disk system.

This system incorporates speech-recognition and artificial intelligence with a vocabulary of over two hundred words and operates off a modified Pioneer laser disk player.

It's basically for the arcade game market and will be selling for somewhere around $2,000. It should only be a matter of time before this sort of technology becomes available in personal computers.

New keyboard

A new keyboard which will bypass the standard keyboard on the computer was announced by Koala Technologies. This was called "Muppet Learning Keys", a computer peripheral that simulated the contents of a child's school desk.

The Mylar surface of the board depicts various children's learning tools – compass, ruler, eraser – and it seems ideal for the pre-school ankle biters. This unit will be available for the Apple //e and IIc and the Commodore 64. Probably it will be on sale here next year at a price somewhere under $100.

Female market

The Executive Vice-President of the Neon Software Company said that "The audio business made the mistake of ignoring the female market and the computer industry is making the same mistake." Understandably, he was promoting a Women's Wear line of computer software.

"Not only has the computer business become an office-oriented, male-dominated field, but the retail settings are becoming very stand-offish. It can be difficult for a woman who is looking to get into computers."

This software is totally designed for the female market and is packaged like women's clothing complete with a hanger and price tag.

Wico mice

A board which would provide a Mouse capability to standard Apple II machines was announced by Wico Company, which produces a superior line of joysticks. The package is designed to give cursor capabilities to earlier machines.

Quotes

A good quote from this show came from a dealer working out of Colorado. He said:

"I think the software people are finally figuring out just how the computers work."

On the other hand a dealer from Avon, Massachusetts, said:

"From what I've seen so far I would say there is a lack of really innovative software." A Dutch distributor disagreed. "I think the quality of software is getting better."

Epson Elf and Fuji floppies

Epson, the Japanese company with a firm base in the United States, introduced the Elf, is a hand-size colour television with a minute liquid crystal screen. Look to see this sort of technology extended to computers in the near-future.

Fuji announced some of the new 3.5 inch (9 cm) disks with a capacity of one megabyte, which looks like being the standard for next year.

In the show report it was announced that these disks would have a capacity of "1,000K megabytes" which would make them the biggest memory disks in the history of the civilized world as we know it today. These errors happen to us all.

Educational programs

BroderBund, perhaps one of the best software publishers in the world, are now branching out in new directions. They are going heavily into the children's educational field as well as adding to their Personal Productivity series.

They will be producing a program which features the Muppets and they are also looking to introduce a Bank Street Filer and a Bank Street Mailer to join the Bank Street Writer and the Bank Street Speller in the firm's line of high-selling simple word processing systems.

Cheap printer

Okidata rocked everyone by producing a full-colour printer at $239. The printer uses thermal-transfer printing technology – not unlike the Scribe – and at the moment will interface with Apple, Commodore and Atari computers and popular software programs. It is claimed that the printer works with letter-quality printing at 60 characters per second.

Atari top-of-the-line

Atari started to show a new top-of-the-line computer which they say they will launch this year. Their vice-president of marketing said: "We will produce enough units of the new computer to satisfy demand this Christmas".

The new computer will have a double-sided double density disk drive, a modem, speech synthesiser and a database. It doesn't sound too exciting but we'll have to wait and see.

The Atari machines are going to be capable of running MS-DOS and Atari have announced that they're going to introduce an expansion box which will enable owners of the 800XL also to be able to make use of that disk-operating system.

The first Computer Of The Year that won't be out of date by next year.

The highly respected "Your Computer" magazine has just named the Apple Lisa® as Computer Of The Year, 1984.

In their own words, "People will remember 1983 as the year that Lisa revolutionised personal computing."

Surely good news for the business on the verge of choosing the ideal system.

In the frantic, fast-moving world of micro technology, where new models are here today and gone this afternoon, Lisa seems to be a reassuring exception.

This is the most advanced personal computer in the world, with up to one million bytes of internal memory.

Unlike conventional computers, Lisa works visually, the way you do. Those complex computer commands are replaced with familiar symbols and a palm-sized mouse.

Countless man-hours are saved because Lisa starts being productive from the moment it's switched on. (Even for staff who've never used a computer before.)

Little technical miracles like these don't exactly happen overnight.

Considering they've taken us a good five years to perfect, even if our competitors simply copy, they should be kept busy for some time.

There are three Lisa models of varying price and capacity, any one of which your Apple dealer would be proud to demonstrate.

You probably won't be the only company moving to Lisa technology this year.

We expect quite a few of our competitors will be doing likewise.

apple®

Lisa. The personal computer for the office.