your IBM computer

By Lloyd R Borrett

WHEN THE IBM Personal Computer XT was released back in March '83, IBM said that while the PC1 and XT were aimed at the same market, they expected the XT would erode the PC1's market share. Obviously, with 10 Mbytes of hard disk, the XT was aimed at those users with higher storage requirements. It seems that, as for the PC1, IBM totally underestimated the market for the XT.

In the US there is at least a six-week wait for the delivery of an XT, and the situation is not any better in Australia. Even with cash in hand it is difficult to get hold of an XT.

PC1 Expansion Units

By the time you read this, it may be possible to get hold of IBM's Expansion Unit for the PC1. Of course you pay more for this way of turning a PC1 into an XT equivalent. How much more? Well, consider a PC1 and an XT, without peripherals, but expanded to a useful configuration:

PC with 64K memory, 360K diskette drive: $3429
Expansion Unit PC1: $5325
AST Research MegaPlus 256K memory, calendar/clock, two serial ports, one parallel port: $700
Total: $9454

XT with 128K memory, one serial port, 360K diskette drive, 10 Mb hard disk: $7892
Additional 128K memory: $200
Total: $8092

So the figures show you will pay $1362 more, and that is after using careful purchasing options to obtain a 'discount'. (See September '83 column for more details about the AST Research Megaplus.)

Note that I do not advocate paying IBM's price of $502 for 128K of additional memory. The eighteen 64K chips required can be purchased for $7 to $8 each, so you can purchase and install the chips yourself, or there is more than one dealer around who will supply and install them for about $200.

An Australian XT Alternative

Col Davis and the staff at CPU Computer Centre, Clayfield, Brisbane, have developed an eXTended Australian Version of the PC1 called the PC Plus-10. The product specifications are:

1. Standard PC system board (64K RAM, floppy disk controller)
2. Slimline 360K floppy disk drive (drive A, 100 per cent IBM-compatible)
3. 10M internal Winchester disk drive (100 per cent IBM software-compatible)
4. Multi-function board with additional 64K RAM, asynchronous comms. adapter, parallel printer port, real-time clock/calendar, Winchester host adaptor (all 100 per cent IBM software-compatible)
5. Xebec Winchester controller mounted above half-height floppy.
6. Replacement power supply.

The PC Plus-10 does not function with option 3 of the IBM Diagnostics Diskette. Apart from this, Col Davis assures me that the PC Plus-10 functions and operates exactly as an IBM-XT. All DOS 2.0 commands relating to the Winchester drive operate as on the IBM-XT. All IBM-XT software will operate without modification.

Besides the diagnostic incompatibility, the only functional difference between the PC Plus-10 and an IBM-XT is that the XT has eight expansion slots while the PC Plus-10 has only five.

The PC Plus-10 has been demonstrated to IBM's PC Group in Sydney, and will only be sold via IBM dealers. A twelve-month warranty is given on the complete system, and the recommended retail price is the same as for the IBM-XT.

PC1 or XT?

People have often asked for my advice on how to decide between buying a PC1 or an XT. An important part of the decision has to be the price difference.

The price difference between a reasonably configured PC1 and the XT is $3142 (take out the expansion unit from the figures presented earlier, and add a second 360K diskette drive). Of course it is possible to find other ways to add on hard disks to PC1s and save on this; however, to do so one must walk a very careful path. CPU Computer Centre's add-on hard disk implementation is the only one I have seen which offers full functional and operational compatibility.

Obviously there are applications which demand the availability of a hard disk. Some require the extra storage capacity, others the fast transfer rates, and of course there are always applications which need both. For all these applications, either you can justify the additional expenditure or you can't.

But what about applications which could run on a PC1? Assuming the extra money could be raised, should the XT still be considered? The problem is now a little more difficult.

I see two main factors that should be considered, and the first is convenience. The storage capacity of the hard disk makes it possible to have all your programs, data and utilities available all the time – no more shuffling of floppy disks. Many first-time users, especially those buying the system for business use, are not prepared to put up with managing a collection of floppy disks.

The second factor is the provision of an expansion path. The computer system installed that doesn't require an upgrade to expand capacity after one to two years is rare. People always seem to underestimate their requirements.

With personal computers this seems to be even more of a problem. While the system may be purchased to perform one application, once the system is running other applications are always found. It costs $5325 to add the expansion unit to an existing PC1, which provides a system with a second floppy disk drive now hardly used, but for which $821 was paid. (I assume there would be very few PC1s sold with only one diskette drive.)

If the extra money is available, therefore, I would usually recommend that an XT be purchased. In most cases it means spending an extra $3150 initially to save $3000 in a year's time.

Unprotecting BASIC Programs

There are three options available when using the SAVE command to store a BASIC program. By default the program will be saved in a compressed binary (tokenised) format. By specifying the 'A' option the program is saved in ASCII format, which requires more space. The 'P' option saves the program in an encoded binary format. When the program is later run (or loaded), any attempt to LIST or EDIT it will fail.

There are obvious reasons why you would want to protect a program, and equally obvious reasons why you may wish later to unprotect it. Fortunately someone in the USA has found the solution, and made it generally available via user groups and bulletin board systems. The procedure is as follows:

1. Load BASIC or BASICA

2. Type BSAVE "LIST",1124,1

3. Load the program you wish to list, save, or edit.

4. Type BLOAD "LIST",1124

5. Now list the formerly protected program.

The first two steps will create a new program file called 'LIST'; you can use any other name you prefer. The program can be transferred onto other disks or simply recreated on each.

Many of the less expensive software packages are BASIC programs saved using the 'P' option. By unprotecting them I have been able to fix problems and add enhancements. More than one package combined source protection with a disk copy protection mechanism. Using this tip it is possible to insert statements to branch around the protection code, thus allowing back-up copies to be made, and the programs to be used on DOS 2.0 formatted diskettes and hard disks.

Fighting Against Software Protection

I believe too much is made of the software piracy problem; many software companies are spending too much time and money trying to defend themselves against pirates. They reduce, if not ruin, the usefulness of their products with locked disks, unlistable programs, secret source code, codes in ROM chips, and so forth.

These devices have made many programs inefficient and costly to produce and support. We the buyers are greatly taxed because we cannot make modifications or back-up copies of the programs we have purchased. Often we are inconvenienced by added expenses for back-ups and future modifications.

Instead of paying each supplier for a back-up copy, I advise you to purchase a program such as Copy II PC. This is an IBM disk copy program from Central Point Software, which can be used to back-up many 'protected' programs. Unfortunately Copy II PC will not copy the Lotus 1-2-3 Release 1A system disk, but I'm sure there will eventually be a way around that.

Let me make it quite clear that I do not advocate software piracy. You should think twice before accepting stolen software from friends; the result of illegal copying is more expense and less convenience for everyone.

The sale of software is just that – the sale of programs, listings, source code, and back-up capability – a complete sale. Currently we are forced to buy a disguised lease. For the money we spend we are entitled to software which is as useful as possible. If you are not satisfied with a program, write and tell the author or publisher the nature of the problem, and even suggest possible solutions. You may be pleasantly surprised as to how effective this can be.

The User-Supported Software Concept

A company called The Headlands Press, Inc. has started up an experiment in distributing computer programs called the **Freeware** user-supported concept, based on three principles:

1. That value and utility of software is best assessed by the user on his/her own system.

2. That the creation of personal computer software can and should be supported by the computing community.

3. That copying of programs should be encouraged, rather than restricted.

The user-supported concept allows anyone to request a copy of a user-supported program by sending a blank, formatted disk to the author of the program, with an addressed, postage-paid return envelope. A copy of the program, with documentation, is then sent by return mail. The program carries a notice suggesting a contribution to the program's author. Making a contribution is completely voluntary on the part of each user.

Regardless of whether a contribution is made, the user is encouraged to copy and share the program with others. Payment for use is discretionary on the part of each subsequent user.

Up to now, distribution of software has relied either on restricting access (and charging the cost for doing so), or anonymously casting programs into the public domain. The user-supported concept might – just might – be a way for the computing community to support and encourage creative work outside the traditional marketplace.

This is an experiment in economics more than altruism. Free distribution of software and voluntary payment for its use eliminate the need for money to be spent on marketing, advertising, and copy protection schemes. Users obtain quality software at reduced cost, while still supporting program authors. They can try it out before buying, and do so at their own pace and in the comfort of their own home or office. And the most useful programs will survive, based purely on their quality and usefulness.

All software authors are invited to participate in this distribution concept. The Headland Press Inc. is publishing a **Freeware Catalog** of user-supported software by program authors who are willing to make their work available on a free, non-restricted basis.

The experiment has been running for about a year now, and appears to be working. **Freeware** user-supported software is available via the authors, user groups, and remote bulletin board systems. To my knowledge all the software currently available is designed to run on the IBM Personal Computer, but no doubt others will take up the offer.

The **Freeware** user-supported programs I have obtained are:

PC-TALK: a communication program.

PC-FILE: a database manager program.

CROSSREF: cross-reference utility.

MONITOR: screen-user interface utility.

EXPLIST: expanded lister utility.

All these programs are well documented, and some compare favourably with $200-plus packages available via retail stores.

Other Free Software For The PC

The New York Amateur Computer Club (NYACC), which previously published catalogues of CPMUG and SIG/M libraries, now also distributes the PC/Blue User Group Library.

The primary source of programs for the library is material extracted from the CPMUG and SIG/M libraries, some of which still requires conversion to be useful under PC-DOS or MS-DOS. Of the 26 diskettes I have obtained, eleven contain utilities and games which are immediately usable under PC-DOS. The Freeware programs came from diskettes. The volumes are on 13 cm single-sided disks. There are no plans to support CP/M-86.

By the time you read this I hope to have made arrangements for these disks to be distributed in Australia. I will leave a notice on the MiCC Bulletin Board when details are finalised, and a full announcement will be included in my next column (*Your Computer,* January 1984). ❑