COMPUTER BITS

By Carl Warren

Extend Your Apple

EXPANDABILITY is the Apple microcomputer's forte. You can easily add a Z-80 microprocessor with Microsoft's Softcard. And a wide variety of 80-column cards, bus expansion hardware, and other enhancement products are readily available.

One company that offers much for the Apple is Mountain Computer, Inc. (Scotts Valley, CA). Should you want to add a clock, Mountain offers two options. The first, called simply, The Clock, costs $350, fits into any available peripheral slot on the motherboard, and has its own on-board 4-day battery to keep time when the computer is turned off. The Clock can be used for more than just keeping time. By adjusting the interrupt frequency, the interval clock can be set from 0.1 ms to 33,554,432 seconds depending on the application.

If you are short on space and need more than a clock, you might consider the CPS Multifunction card. Priced at $239, this card contains a clock, plus serial and parallel ports. It can be configured to handle the Epson MX-80 or Diablo 630 printer, a modem, and clock functions—all at the same time.

Besides hardware, Mountain provides a series of software packages that allow using the CPS card in the Apple environment with Pascal or CP/M. And like the clock card, all you have to do is plug it in. However, the CPS card doesn't work with Computer Stop's DoubleVision 80-column card under CP/M. That's because of a software conflict that isn't easily resolvable. However, all is not lost. You can use the card easily with Sup-R-Term, or the Videx video card, and (reportedly) with Wesper Peripheral's new Whizzard-80 card.

The Expansion Chassis. With only 8 card slots, you may quickly run out of space on a basic Apple. Mountain has done something for that with the Expansion Chassis. This $750 package allows eight more slots and is easily connected via an adapter card and cable.

The adapter card can be plugged into any slot, but three is a logical choice since it gives easy availability to a rear opening in the Apple cabinet. The expansion chassis comes with appropriate

software hints to aid in using it under software control. The chassis doesn't just augment the Apple but allows another bank of eight slots for adding peripherals. However, plug-ins like the Softcard and video cards must reside in the main Apple. In addition, when the chassis is selected (either by a front-panel switch or software), the video card won't work; but in most cases this doesn't really cause a problem.

The expansion chassis is a good location for such products as: ROMPlus, priced at $155; A/D + D/A card for $350; and possibly even RAMPlus for $189. The latter item boosts the Apple memory to 80K bytes and can reside either in the Apple itself or the expansion chassis.

Because of its unique architecture, the expansion chassis can be used with other systems that allow access to the bus signals. All that is necessary is to design a bus adapter.

Should you use the ROMPlus card, either in the expansion chasis or the basic Apple, there will be 12K bytes of ROM available for any home-designed applications. The chassis design supports either six 2316 or 2716 EPROMs, and can be set up so the programs are accessed when the Apple is turned on.

Interestingly, you can couple the ROMPlus with the CPS multifunction capabilities and have an automatic communication system. And, if you have an application requiring the gathering of analog data, an A/D + D/A board can be used. This board gives 16 channels on either side and can be used for spectrum analysis, remote data gathering, curve tracing, temperature sensing, and a host of other applications.

The only problem we encountered with software was with the previously mentioned conflict between the DoubleVision card and CP/M. Not really a problem, but something you need to be aware of, is that the expansion chassis may cause RFI, specifically on TV channels 2 and 3. However, no other problems were noticed, and no interference to the disk or display operation was observed. The RFI source appears to be the flat cable connecting the expansion chassis to the Apple. This RFI can be

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damped by wrapping the cable with aluminum foil and grounding one end. We recommend using grounded three-wire power line to ensure proper system operation. We found that interference increased to where it did affect the CRT display when operating with a floating ground.

Other Software Systems. Some other software worth your attention comes from Datamost, 19273 Kenya St., Northridge, CA 91326 (213-366-7160). This software company supplies, for $29.95 each, Thief and Snack Attack. The first is very much like the old game of Robots, but with some interesting twists—it lets you fight back. For those of you hooked on the famous arcade game Pacman, there is Snack Attack. The idea is to eat as many gumdrops as you can and avoid the guards. The action is very fast and it's a hard game to win.

Along the same line is a really classy program called Olympic Decathlon, from Microsoft Consumer Products. Based on the Olympic track-and-field events, the under-$30 game uses both keyboard and game controls to let you try to win the Decathlon. What makes this package exciting is its full use of Apple's graphics and sound effects. Decathlon begins by presenting the Olympic rings and theme music. Then you're off after that elusive gold medal.

Should your Apple applications be more business oriented, consider Software Publishing Corporation's Personal Filing System (PFS) and Report. Both of these products are under $100, and allow data handling as it suits you best. The PFS package lets you design a blank form and enter data in any way you desire. In addition, you can retrieve any data in the file without needing a special key file.

The Report program is similar in that you use a form that you design to specify how reported data is arranged. Unlike other report generators, Report adjusts the columns, and all you need to know is what data you want. Even if you purchase an Apple III with a hard disk, Software Publishing has PFS and Report packages available, and they promise similar support for the new 68000-based Apple expected this June.

If you're using the Z-80 Softcard, and want to expand your Apple, I recommend (for starters) the CPS Multifunction card. This card, with the associated software, gives the functions necessary to access services such as Micronet.
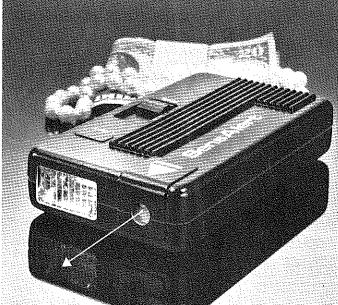
Once you've got the system configured, sign into Micronet and request the CP/MIG users' group. You'll find CP/M programs for everything from games to complex calculations. A program you'll particularly want to look for is called Bye. It has several aliases, including H89/Bye, but all versions are basically the same.
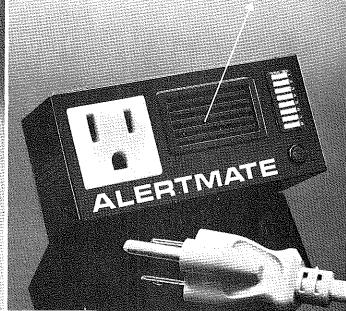
What Bye does is allow your Apple (or any other CP/M-based machine) to be accessed from and then controlled by another system. We're currently using Bye on the Apple and other systems for this purpose, and have added XModem, which is also available on the Net. XModem is a program for uploading or downloading from a remote location.

To quickly see what's on a Micronet, run Access by typing R ACCESS. This program will tell you what's available and how to gain access. Remember that this software is public domain (i.e., free), except for the cost of using Micronet. You can reduce that time by getting SQ—the squeeze program. SQ reduces program size, thus conserving disk space and reducing download time.

Applefest/Boston. This is the second year for the Apple-Specific Computer Show (the largest of its kind in the country, with over two hundred displays and booths plus seminars and panel discussions). It will be held May 14 to 16 at Boston's Hynes Auditorium from 11 a.m. to 6 p.m. daily. Tickets are $6 for one day or $15 for all three days. For information, call or write National Computer Sh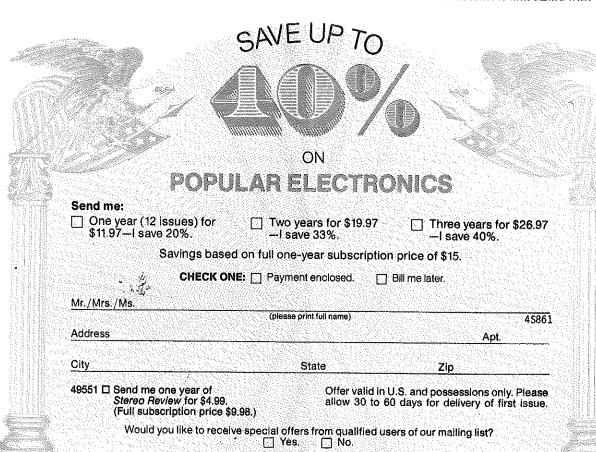ow, 824 Boylston St., Chestnut Hill, MA 02167. 617-739-2000. ◇