

Microcomputer Newsletter

University
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The Newsletter's New Look

This copy of the Newsletter looks a little different from the previous editions. In late January, Apple announced a LaserPrinter that works with the Macintosh and Lisa, and we were able to print this edition of the Newsletter using Apple's new LaserWriter. The entire newsletter was produced on a Macintosh using the MacWrite, MacPaint, and MacDraw software.

Unfortunately, we do not have an Apple LaserWriter for the Microcomputer HelpLine yet, although we hope to have one soon. Apple says it will begin shipping the LaserWriter in March and the list price will be \$6995. We will let you know as soon as we get our LaserWriter, or find out what the price will be for the University.

In addition to the LaserWriter, Apple announced an inexpensive local area network (AppleTalk) for the Macintosh, Lisa, LaserWriter, and (eventually) the IBM-PC. Since most people will have a hard time justifying a \$6995 printer unless they can share it, AppleTalk will be something departments and other installations with several machines will want to investigate. We will be setting up an AppleTalk network in the Microcomputer HelpLine when we get our LaserWriter. If you can't wait to see the LaserWriter or AppleTalk, you can read about them in the February issues of *BYTE* and *MACWORLD* magazines.

Discount Program News

Now that we have frustrated you by writing about equipment that you can't buy yet, let's talk about equipment that you *can* buy. Apple renamed the Lisa 2/10: It is now called the Macintosh XL (perhaps XL stands for ex-Lisa?). The only change in the Lisa 2/10 is the name. Otherwise the machine is exactly the same, runs the same software, and so on. Apparently, Apple renamed the Lisa to emphasize that it is a member of the Macintosh family.

In addition to changing the Lisa's name, Apple lowered the price for the Lisa, the 512K version of the Macintosh, and the 512K memory upgrade for 128K Macs. The new prices are:

512K Macintosh	\$ 1715
512K memory expansion for 128K Macintosh	\$ 623
Macintosh XL (formerly Lisa 2/10)	\$ 2615
Macintosh XL (Lisa 2/10) 512K memory board	\$ 485

A note to those of you who are buying the Macintosh XL: You need the Macintosh XL 512K memory board to run any Lisa software effectively. If you are planning on buying a Macintosh XL, please call or visit the Microcomputer HelpLine before you order your machine.

Apple has also given the University two temporary package deals for the Macintosh, Imagewriter, and external disk drive. The prices for these packages are only good through March 31, 1985:

128K Macintosh, external disk drive, Imagewriter Printer \$ 1735

512K Macintosh, external disk drive, Imagewriter Printer \$ 2155

In other discount program news, MicroSoft Word and MicroSoft File for the Macintosh have finally arrived at the Bookcenter. The University price for Word is \$100. File is also \$100. MicroSoft Word has several advantages over MacWrite including automatic footnotes and merge printing (for form letters). MicroSoft File is a database program for the Macintosh. There is a copy of MicroSoft Word and MicroSoft File in the Microcomputer HelpLine for your inspection.

Free Software

The distributor who sells Zenith equipment to the University (for the discount program) has donated some software to the Microcomputer Group for educational use. We are offering it free to any University department that brings us a letter stating that the software will be used for educational purposes. We have very limited quantities, and the software is available on a first come, first served basis only. Here is a list of the software we received:

<u>Program</u>	<u>Vendor</u>	<u>Version</u>
Desktop Plan	VisiCorp	Apple ///
DataStar	MicroPro	Apple][(CP/M)
WordStar	MicroPro	Apple][(CP/M)
SpellStar	MicroPro	8" disk (CP/M-86)
MailMerge	MicroPro	8" disk (CP/M-86)
WordStar	MicroPro	8" disk (CP/M-86)
WordStar	MicroPro	8" disk (CP/M-80)
BASIC interpreter	MicroSoft	8" disk (CP/M-80)
BASIC compiler	MicroSoft	8" disk (CP/M-80)
MultiPlan	MicroSoft	8" disk (CP/M-80)
Z-DOS	Zenith	Zenith Z-100
Condor File Management System	Zenith	Zenith Z-100

New UCC Software

• COM for the IBM-PC and Zenith Z-100

There is a new release of COM for the IBM-PC (PC-DOS) and Zenith Z-100 (Z-DOS). COM is a microcomputer communications program that allows automated text file transfer between microcomputers and UCC mainframes (Cyber, VAX, and MERITSS). The new COM (version 4.1) runs correctly on machines that have different processor speeds.

Processors that run at different speeds caused problems with previous versions of COM because timing loops execute more quickly on faster machines. This meant that the old version of COM would not wait the proper amount of time during file transfers. For example, the IBM-AT's processor runs about 2-3 times faster than the IBM-PC. In previous versions of COM, you had to change timing information in the COM.DATA file to tell COM that it was running on a fast processor. The new version of COM automatically determines how fast the processor is, and compensates for it.

One pleasant side-effect of this change is that COM now runs on some of the IBM-PC clones that previously presented problems. The AT&T 6300 is an IBM-PC clone that has a processor that runs about twice as fast as the IBM-PC. The new version of COM works on the AT&T 6300 without modification of the COM.DATA file. We also upgraded the Zenith Z-100 COM because there are several speed-up kits for the Z-100. If you purchased COM during the last 12 months and want a free upgrade, bring your original COM disk to the Microcomputer HelpLine during regular HelpLine hours. COM is available at the Williamson Hall BookCenter Electronics desk for \$50.

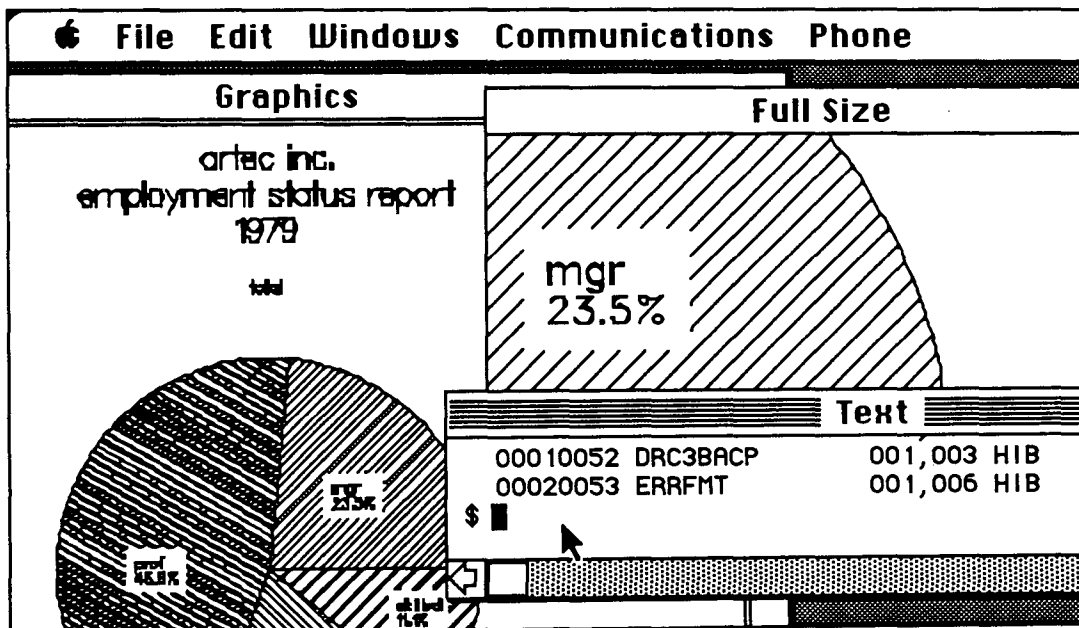
- **Enhanced PrintFOTO for the IBM-PC and Zenith Z-100**

PrintFOTO is a companion program to the IBM-PC and Zenith Z-100 versions of SIMTEK. PrintFOTO is used to print Tektronics output to a variety of dot matrix printers. We have added support for the HP LaserPrinter (in the printer's 75 dot-per-inch print mode) to PrintFOTO. As usual, you can upgrade your software if it is less than one year old. Come visit us at the Microcomputer HelpLine with your original disk.

- **SIMTEK for the Macintosh**

Version 1.0 of the SIMTEK program for the Apple Macintosh is now available at the Williamson Hall BookCenter Electronics desk. SIMTEK is a Tektronics 4010 series graphics terminal emulation program written by the Microcomputer Group. A typical use of SIMTEK is to view graphics generated by a package such as Tell-A-Graf on the VAX. SIMTEK supports Tektronics-style graphic input (GIN) mode operations, as well as allowing you to view graphics. To run SIMTEK you need either a 128K or 512K Macintosh and a modem. SIMTEK is available at the Williamson Hall BookCenter Electronics desk for \$50.

SIMTEK has three windows. The *Graphics* window displays Tektronics output scaled to fit an entire Tektronics screen into the window. The *Full Size* window displays Tektronics output with no scaling: there is a one-to-one mapping of Tektronics screen coordinates to Macintosh coordinates. The *Full Size* window is useful for looking at close-ups the Tectronics output. The *Text* window displays textual output. This is where the commands you type to the other computer and all other non-graphics outout is displayed. Here is an example of how a Macintosh SIMTEK screen looks:





Ask Dr. Micro

We have good news for those of you who are fans of Greek characters for use in writing technical papers. There is a public domain disk containing a Greek font for the Apple Macintosh. Bring a blank disk to the Microcomputer HelpLine if you want to make a copy.

This month Dr. Micro's *pick-to-click software hit* is FactFinder. Factfinder is a free-form filing system. In a typical data base management system, you are required to define the structure of the data base by specifying the format you will use for entering and storing information. For example, you would specify that all names will be no longer than 40 characters, that shoe sizes are in the range 6 to 12, and so on. The reason most data base management systems require you to specify this information in such detail is that it makes searching and sorting the information efficient for the program. The drawback to fixed format data bases is that you may want to enter a name which is 41 characters long or a shoe size which is outside the range 6 to 12.

FactFinder does not impose any structure on the information you store. You simply type information into *factsheets* and mark *keywords* in the factsheets. Your data base consists of a collection of factsheets of varying lengths and keywords associated with each factsheet. FactFinder has a facility for retrieving all factsheets that contain specified keywords. This seems to be the program that is best suited for the often stated desire to store a collection of abstracts of journal articles, and retrieving them on the basis of keywords. Because there is no structure imposed on the information you enter, using FactFinder is like of using a box of 3 X 5 cards and sorting through them to find the card you want. The difference is that the computer looks through the cards for you.

Factfinder runs on the Apple Macintosh. On a 128K Mac a factsheet can contain up to about 10,000 characters. If you are interested in FactFinder, stop by the Microcomputer HelpLine.

Now for this month's question and answer session:

Q: Why don't you have the upgrade for MacWrite yet? I thought you said it was going to be available in late December or January.

A: We thought the upgrade was going to be available in late December or January, too. What apparently happened was that Apple saw the delivery time for the upgrade slip, and then decided it made sense to add support for the LaserWriter to the upgraded version of MacWrite. The most recent word we have is that the upgrade will probably happen in March, but you know how computer companies and promised delivery times are...

Q: Why doesn't my RS-232 printer cable work with my modem? It plugs into the modem, but nothing happens when I try to use it.

A: Even though the cable plugs in, there is no guarantee that it will work. In fact, you usually need to have a special cable for each device you connect to your computer. One of the reasons for this is that the printer or modem may need special lines for hardware handshaking. (see the next question)

Another common problem concerns which line in the cable is used for sending and which line is used for receiving characters. If the computer sends characters on the line that the modem uses to receive characters, the modem is listening to the proper line and everything is fine. BUT, if the computer sends characters on the same line the modem uses to send *its* characters, the modem will be listening to the wrong line and nothing will get through. This is a very common problem because connecting a computer to a modem with a printer cable connects *the line the computer uses to send characters to the line modem uses to send its characters*. The moral of this story is that you will probably have to buy a special cable for each device you connect to your computer.

Q: The manual for my printer says that if I want to communicate with it at baud rates higher than 300 baud, I need to do some kind of handshaking. What is handshaking?

A: Handshaking is a method for controlling the flow of information between two devices. In the case of your computer and printer, the printer will sometimes need to tell the computer to stop sending information. This happens because the printer has a fixed speed at which it can print characters.

Most printers have a temporary storage area (called a buffer) for characters they receive. The buffer enables the printer to receive short bursts of characters at a higher speed than the printer can print. If the printer does not have time to print a character as soon as it arrives, the printer stores the character in the buffer to be printed later. When the buffer is almost full, the printer needs a way to stop transmission of characters until it can print some of the characters in the buffer. After the printer has printed most of the characters in the buffer, it tells the computer to resume sending characters.

There are several methods of handshaking. One approach is hardware handshaking. In hardware handshaking, some of the lines in the printer-to-computer cable are used by the printer to signal the computer when to start and stop transmitting characters. Another approach is to use some control characters (typically the XON and XOFF characters) to turn transmission on and off. For *any* method of handshaking to work, both the printer and the software on the computer must agree on the method of handshaking that will be used. The details of how you tell the computer and printer which method of handshaking to use is depends on exactly what software you are running and which printer you have.

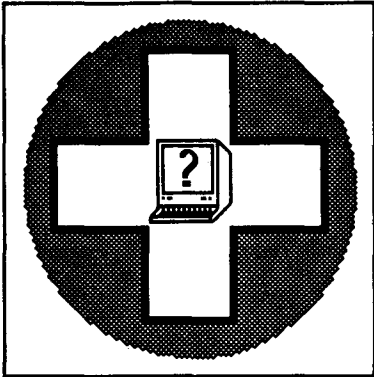
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