

MICROCOMPUTER NEWSLETTER

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CONTENTS



NEWS AND ANNOUNCEMENTS

ProComm Site License	77
SPSS/PC+ Site License Update Copy Protection and Key Disks	77
Advanced Statistics	82
Zenith Z-180 Series	82
Hewlett-Packard	82
Bugs and Other Surprises	83
IBM Users Group	82

REVIEW

Kinetics FastPath/StandAlone	78
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OVERVIEW

Macintosh Software in the HelpLine	80
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The *Microcomputer Newsletter* is published monthly by the Microcomputer Systems Group, a part of the University of Minnesota's Academic Computing Services and Systems department (ACSS).

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NEWS AND ANNOUNCEMENTS

★ PROCOMM SITE LICENSE

The University has a site license for ProComm, which is copyrighted by Datastorm Technologies, Inc. ProComm is communications software for IBM-type microcomputers. University of Minnesota faculty, staff, and students can use ProComm on campus or in their personal residence. In consideration of receipt of a copy of ProComm from the University, you must agree to certain conditions governing its use, including a prohibition from distributing, reproducing (except to make a back-up copy), or otherwise transferring possession of ProComm.

ProComm works with Hayes-compatible modems and can emulate these ten terminals: ANSI-BBS, IBM 3101, ADDS Viewpoint, Wyse 100, Lear Siegler ADM-3/5, Heath/Zenith 19, DEC VT-100 and VT-52, Televideo 910/920 and 925/950.

If you are an eligible member of the University of Minnesota community, you can make a free copy of ProComm version 2.4 at the HelpLine in 125 Shepherd Labs. To get your copy you must bring a formatted 5.25" disk to 125 Shepherd Labs during HelpLine hours and sign a Usage Agreement.

The documentation for ProComm is stored on the disk in a format known as "Arc'd." This format is used to save disk space. All ProComm files with the .ARC extension are compressed files. You must un-Arc these files before you can use them. The ProComm disk contains a READ .ME file which tells you how to un-Arc the files. After you have un-Arc'd the ProComm files, you will find the reference manual in a file named PROCOMM.P .DOC.

★ SPSS/PC+ SITE LICENSE UPDATE

Copy Protection and Key Disks — The University has a site license for SPSS/PC+ for IBM and IBM-compatible microcomputers. The license currently includes the basic statistics package, Translate, and Graphics. The materials the University received from SPSS, Inc. included a program which removed copy protection so we could make multiple copies of SPSS/PC+ for distribution to authorized departments.

The programs you receive from our HelpLine are not copy protected and do *not* require a key disk. If, however, you purchase and install

News and Announcements continued on Page 81 — — — —

KINETICS FASTPATH/STANDALONE



The Kinetics FastPath/StandAlone (FastPath) is a device which connects an AppleTalk network to the Ethernet Local Area Network. (AppleTalk is Apple's Local Area Network for the Macintosh.)

Since Ethernet is being used to link a variety of computers at the University, the Kinetics FastPath provides one option for integrating Macs in your department with other computers in your department or on campus.

The Kinetics FastPath has two modes of operation: one mode is used to connect to machines on an Ethernet network, and the other mode is used to connect two (or more) AppleTalk networks together via Ethernet. Connecting AppleTalk networks together via Ethernet is useful when the network's intended topology or topography (logical or physical layout) is beyond the capabilities of AppleTalk, or when two physically distant AppleTalk networks need to share some common device. Connecting to other machines on an Ethernet network is useful for high-speed communications and file transfers with computers that support the TCP/IP protocols (such as SUN workstations, VAX minicomputers, or other hosts).

What is AppleTalk?

A typical AppleTalk network connects a number of Macintoshes to some shared devices (such as printers and disks). But AppleTalk networks are constrained by two physical limitations. First, Apple's cabling scheme is limited to 32 devices (computers, printers, etc.) per network unless a gateway or router is used. Second, Apple's cabling scheme limits an AppleTalk network's total length to 300 meters. (You can increase this limit to 600 meters by using PhoneNet cabling—see our March 1987 newsletter.)

Why Use FastPath?

Gateways (such as the Kinetics FastPath) can work around the limitations of Apple's cabling scheme by connecting individual AppleTalk networks together, thereby creating a large AppleTalk network of more than 32 devices and longer than 300 meters. If you use Kinetics FastPath as a gateway between each AppleTalk network and an Ethernet network, you can link two AppleTalk networks together. You do this by using the Ethernet network as an intermediary between the AppleTalk networks. In this case you would need one Kinetics FastPath for each of the AppleTalk networks that are to be connected together. (See our AppleTalk-to-AppleTalk Scenario 1 diagram.)

We have setup and tested large AppleTalk networks interconnected in this fashion, and we were able to access the LaserWriters and AppleShare disks of one AppleTalk network segment from another. (AppleShare is Apple's file-server program for the Macintosh.) The ability to share expensive devices in this way is a good reason to use the FastPath.

You may also use the FastPath to connect a Macintosh on an AppleTalk network to another computer which resides on Eth-

ernet. We routinely use a program called *Telnet* (NCSA Telenet version 1.0) to communicate and transfer files between our Macs and University computers connected to Ethernet. This method provides a connection to these computers which is much, much faster than the more common modem connections; this speed is a real benefit for file transfers. Several vendors, including SUN Microsystems, have announced (but not yet delivered) software to improve the connectivity between Macintoshes and other systems. We expect that features such as cross-system printer-sharing and file-sharing between Macs and other systems (such as SUN workstations and DEC VAX computers) will become practical options within the next year.

In the near term, connectivity with other computers via the FastPath primarily consists of TCP/IP utilities, such as *Telnet* for interactive terminal sessions and either *TFTP* or *FTP* for file transfers.

How Does FastPath Work?

Now that you know what the FastPath allows you to do, we can look at some of the details of how the FastPath actually works. Since the Kinetics FastPath is used to transfer information from one type of network to another, we need to look at how information moves on both the AppleTalk and Ethernet networks.

Over an AppleTalk network, data between devices are sent bundled in packets called datagrams. A datagram contains both data and delivery information, including the identity (address) of the sending and receiving devices. The specifications for this method are defined by Apple's Datagram Delivery Protocol (DDP). In a single AppleTalk network, every device looks at every datagram that is on the network; but a device will only process the information when the message is actually for that device.

As is the case with AppleTalk, information is transmitted over Ethernet in packages also called datagrams, but Ethernet datagrams are structured differently from AppleTalk datagrams. Consequently, when an AppleTalk network is connected to Ethernet, the packet-transmission scheme can get complicated. The FastPath translates AppleTalk datagrams into Ethernet datagrams and vice-versa. The good news is that after you have setup the FastPath, this translation happens automatically, so you can ignore it.

Now that we know how information moves on the AppleTalk and Ethernet networks, we can discuss how the Kinetics FastPath transfers information between the two.

Consider our AppleTalk-to-AppleTalk Scenario 1 below. Suppose that Mac D wants to print on the LaserWriter in AppleTalk Network 1. Mac D packages the information it wants to print in a datagram and broadcasts it over the network (in particular, AppleTalk Network 2). All the devices, except FastPath 2 in AppleTalk Network 2, ignore the datagram, since it is not intended for them. FastPath 2, however, recognizes that this datagram is bound for AppleTalk Network 1, and translates it into

an Ethernet packet which it broadcasts over Ethernet. All the devices on Ethernet see this packet and ignore it, except FastPath 1. FastPath 1 recognizes that the packet is bound for a device on its AppleTalk network (AppleTalk Network 1). FastPath 1 then translates the Ethernet packet back into a datagram which it broadcasts over AppleTalk Network 1. All the devices on this network ignore the datagram except for the LaserWriter, which recognizes itself as the proper destination for this datagram and processes it.

In the case of a Macintosh communicating with another computer on Ethernet, the scenario is quite similar (see Scenario 2). Suppose Mac A is sending a file to Computer X. The datagram in which Mac A packages the data is broadcast by Mac A over the AppleTalk network. Again, all the devices on this network ignore the datagram except for FastPath 1. FastPath 1 recognizes that this datagram is bound for a computer on Ethernet and translates the datagram into an Ethernet packet which it broadcasts over Ethernet. All the computers on Ethernet ignore this packet except Computer X, which recognizes itself as the proper destination for this packet and processes it.

How Do You Configure the FastPath?

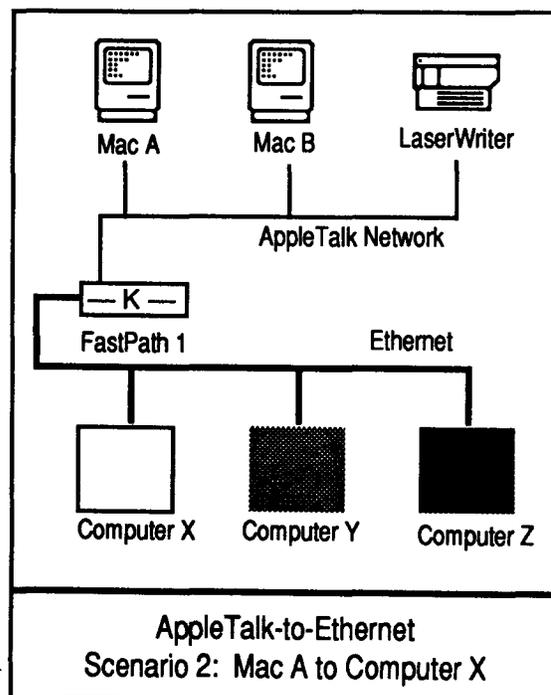
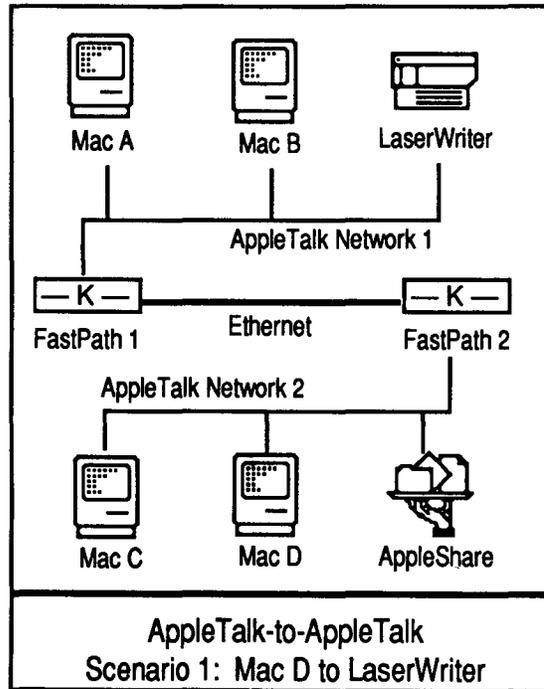
In both of the scenarios above, the Kinetics FastPath first transforms datagrams that need to move from one network to another and then passes these new datagrams on. To do this, the FastPath needs to know which devices are connected to which network. Configuring the FastPath is the process of telling it which devices reside on which network. You must run a Macintosh program to configure the FastPath to properly route messages from AppleTalk to Ethernet and vice-versa. This program (PROMPT version 1.14) and documentation is included with the FastPath. Experienced network builders should not have many problems with this configuration. However, if you are inex-

perienced, you may need a little help the first time you configure a FastPath.

The FastPath software in its current incarnation can do either the AppleTalk-to-AppleTalk or the AppleTalk-to-Ethernet routing, *but not both simultaneously*. So you setup the FastPath for either one type of routing or the other. If you choose the AppleTalk-to-AppleTalk routing, then you must use the FastPath's setup program to set some values for the FastPath. The FastPath instructions explain these values clearly, with the exception of the AppleTalk zone values.

AppleTalk zones are conceptual or logical partitionings of what would otherwise be a single, large AppleTalk network. Zones are used to segment the sections of a complicated AppleTalk network so that traffic between zones on the network is minimized. Keeping the inter-zone traffic down results in better network performance, because most network traffic does not need to be sent to all zones.

If you choose to setup your FastPath for AppleTalk-to-Ethernet routing, the FastPath will route TCP/IP datagrams on Ethernet, so you must concern yourself with a part of the TCP/IP protocols called the Internet Protocol (IP). The Internet Protocol specification requires a predefined IP address for each device. (This is not the case for AppleTalk, which dynamically allocates addresses to its devices.) Furthermore, these IP addresses are usually allocated by some central authority—here at the University that central authority is currently Randy Smith of the Minnesota Supercomputer Center. To configure the FastPath for AppleTalk-to-Ethernet routing, the Ethernet connection and the AppleTalk connection of the FastPath must each have a unique IP address. In addition, a range of addresses must be set aside for the FastPath to allocate (dynamically) to devices connected to its AppleTalk side. Before you can configure the FastPath, you must know the IP addresses to use. If you need assistance with some of the details involved in this process, please stop by the Microcomputer HelpLine during our regular hours, and ask to speak with Dave Burris, Shideh Hojat, or Mark McCahill. (Note: these three people are not full-time consultants, so please come in when they are scheduled to work the HelpLine.)



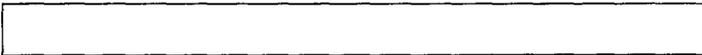
How Do You Physically Connect FastPath?

Whether you plan to use the FastPath to form an AppleTalk-to-AppleTalk connection, or an AppleTalk-to-Ethernet connection, you need one FastPath for each AppleTalk network you plan to connect. The FastPath connects to AppleTalk with a standard 9-pin AppleTalk connector kit. This means that the FastPath counts as one of the AppleTalk network's 32 possible devices. The FastPath also connects to Ethernet, usually through an Ethernet drop cable and transceiver combination. If your building does not have Ethernet cable, there is an alternative: you can connect to the University phone system's Ethernet equivalent called LANmark. To do so you must have a DOB4 phone and an Ethernet drop cable to connect it to the FastPath.

Conclusion

The Kinetics FastPath provides network to network connections for AppleTalk-to-AppleTalk and AppleTalk-to-Ethernet networks. At the Micro Systems Group, we've been especially pleased with the FastPath for the AppleTalk-to-Ethernet connection and our experience with setting up AppleTalk-to-AppleTalk networks has also been positive. We were also impressed with the service we received from Kinetics when we called for assistance. We found the documentation that comes with the Kinetics FastPath adequate for its intended audience: individuals experienced in setting up networks. Non-technical people will probably want some assistance, and we have consultants who can help you.

The Kinetics FastPath is available directly from Kinetics, Inc., (415) 947-0998. FastPath retails for \$2500, but University departments can order the FastPath directly from Kinetics for \$1600. When you order, mention that the University of Minnesota has a volume discount. If you would like to find out more about the FastPath, please stop by the Microcomputer HelpLine during our regular hours and ask to talk to Dave, Shideh, or Mark. As more sophisticated software for the FastPath becomes available, we will have follow-up articles in this newsletter.



MACINTOSH SOFTWARE IN THE HELPLINE



The Micro Systems Group receives and purchases a lot of software over the course of a year. Below is a list of over 100 pieces of Macintosh software that are available in our HelpLine. The list is divided into software categories. We included the Minnesota Book Center's price if the Electronics Desk sells or can order the software; otherwise we included the suggested retail price. Since the software the Book Center sells changes, you can call them to see if software you are interested in has been added or deleted from this list.

We will periodically update this software list to let you know what we've added to our collection. If the software you're

interested in is not on our list, it may still show up in the HelpLine. There is usually a delay between when the software is actually delivered to Shepherd Labs and when the software and its documentation appear in the HelpLine. Whenever we receive software we back up the disks and the documentation. This backing up process can add days to the time it takes the software to be ready for the HelpLine.

Next month, space permitting, we will publish a list of all IBM software available in our HelpLine.

SOFTWARE	VERSION NUMBER	VENDOR	BOOK CTR	SUG. RET.
CLIP ART				
ClickArt	1.0	T/Maker Graphics	30	
ClickArt: Letters		T/Maker Graphics	50	
daVinci: Building Blocks ...	1	Hayden	80	
daVinci: Buildings	1	Hayden	30	
daVinci: Com. Interiors	1	Hayden	200	
daVinci: Landscapes	1	Hayden	28	
DeskTop Art: Artfolio		Dynamic Graphics	75	
DeskTop Art:				
Graph/Symbols		Dynamic Graphics	75	
Mac Art Dept		Simon & Schuster	40	
Mac Art Library		Compucraft	40	
Mac the Knife: Volume 1		Miles Computing	24	
Mac Matbook		Electronic Publisher	100	
COMMUNICATIONS				
MacLink Plus	2.40	Dataviz	195	
MacServe	2.0	Infosphere	250	
MacTerminal	1.0	Apple	80	
MicroPhone		Software Ventures.....	55	
DATABASE				
Business Filevision	1.1	Telos Software	395	
Double Helix	1r.35	Odesta	280	
File	1.04	Microsoft.....	100	
FileMaker	1.0	Forethought	115	
Filevision	1.0	Telos Software	117	
Helix	2.0	Odesta	57	
I Know It's Here				
Somewhere	1	Hayden	30	
MegaFiler	1	Megahaus	195	
Omnis 3 Plus	3.24	Blyth Software	275	
OverVUE	2.1c	ProVUE Development	295	
Picture Base	1.1	Symmetry	99	
Prof. Bibliographic				
Systems*	2.6	Personal Bibliographic	295	
Reflex	1.01	Borland	60	
DESK ACCESSORY				
HFS Locator Plus	1.4	PBI Software	35	
Notes for Excel		Layered	80	
Sidekick	2.0	Borland	50	
Smart Alarms	2.3	Imagine Software	50	

FONT EDITOR

Fontastic	2.0	Altsys	50
Fontographer	1.5	Altsys	395

GRAPHICS AND ANIMATION

Chart	1.0	Microsoft	72
Draw	1.01	Cricket	170
Fullpaint	1.0	Ann Arbor Softworks ...	60
Graph	1.1	Cricket	135
MacDraft	1.2a	Innovative Data Dgn. ..	170
MacDraw	1.9	Apple	80
SuperPaint	1.0	Silicon Beach	65
VideoWorks	1	Hayden	60

INTEGRATED

Jazz	1A	Lotus	395
Works	1.0	Microsoft	151

LANGUAGE

68000 Development			
System	1	Apple	125
Basic (Interpreted)	3.0	Microsoft	78
Basic Compiler	1.0	Microsoft	99
Lightspeed C	2.01	Think Tech.	175
Lightspeed Pascal	1.0	Think Technologies	125
MacC	5.1	Consulair	80
MacFORTRAN	2.0	Microsoft	155
Macintosh Pascal	2.1	Apple	80,33
MacLanguage Series			
DB Tools	1.0	TML Systems	90
TML Pascal	2.02	TML Systems	59
TML Source Code			
Library	1.0	TML Systems	80
Turbo Pascal	1.00A	Borland	60

Music

ConcertWare+	3	Great Wave Software	70
MusicWorks	1	Hayden	50
Professional Composer ...	2.0	Mark of the Unicorn ...	290

OTHER AND UTILITY

Da Poma Grade Book		Da Poma, Inc.	75,100
Glue		Solutions	60
MacBillboard	4.01	CE Software	35
MacKeymeleon	1.3G	Avenue Software	50
MacSpin	1.1	D2 Software	200
Plot-it	2.02	Mesa Graphics	125
PowerMath	1.0	Brainpower	100
Smooth Talker	1.0	First Byte	90
Stella	1.2	High-Per. Systems	120
Switcher	5.01	Apple	8
Time Link	1.4	Batteries Included	65
Thunderscan	3.1	Thunderware	195
TMON		Icom Simulations	100
Typing Tutor III		Simon & Schuster	36

OUTLINER

MacSpec	2.0	LM Software	200
More	1.1	Living Videotext	165
ThinkTank 512	1.3	Living Videotext	149

PUBLISHING

PageMaker	2.0	Aldus	450
Ragtime	1.1	Orange Micro	395
ReadySetGo	3.0	Manhattan Graphics ..	192

SCHEDULING

Front Desk	3.02	Layered	130
MacProject	1.01	Apple	125

SPELLING CHECKER AND THESAURUS

Hayden: Speller	1.2C	Hayden	40
Liberty Spell II	1.0	DataPak Software	80
MacLightning	2.0	Target Software	69
MacLit. Thesaurus	1.0	Target Software	50
MacSpell+	1.07	Creighton Develop. ...	160
Spellswell	1.2C	Greene, Johnson	60

SPREADSHEET AND FINANCIAL

ClickOn		T/Maker Graphics	50.(approx)
Dollars and Sense	1.4	Monogram	90
Excel	1.04	Microsoft	205
Multiplan	1.10	Microsoft	100

STATISTICS

Data Desk	1.02	Data Desk, Inc.	115,35
Staffast-2	2.0	StatSoft	120
StatView	1.0	Brainpower	50
StatWorks		Cricket	85
Systat	2.1	Systat	565

WORD PROCESSING

MacEqn	1.5	SRT	82
MacIndexer	1.0	Boston Software	80
MindWrite	1.0	MindWork	145
Word	3.00	Microsoft	82
WriteNow	1.00	T/Maker	98

*** DEMO DISK(S)****Announcements continued from page 77 — — —**

add-on program, such Data Entry or Tables, the add-on programs put copy protection back onto SPSS/PC+. Now when you try to run the basic SPSS/PC+, you are asked for a key disk which, of course, you do not have. If you encounter this problem, bring your disks to the Microcomputer HelpLine. We can re-remove the copy protection from your SPSS/PC+ disks and have been successful in removing copy protection from the add-on packages we have seen.

Advanced Statistics — The University has acquired a site license for *Advanced Statistics*, an SPSS/PC+ add-on program. *Advanced Statistics* includes procedures for factor analysis, hierarchical log-linear analysis, cluster analysis, discriminant analysis, and multivariate analysis of variance.

Under our license agreement, any University department (not individual faculty, staff, or students) can lease *Advanced Statistics*. You must lease this software from year to year. The fee to lease *Advanced Statistics* for the first year is \$30; thereafter your annual fee is \$20. The manual is available for \$19.95 in the Trade and Reference section of the Book Center in Williamson Hall.

★ ZENITH Z-180 SERIES

Zenith dropped the price of their ZFL-181 lap-top portable computer and announced other changes to the Z-180 series. Currently you can buy two models of Zenith's Z-180: the ZFL-181, a two 3.5" 720K capacity floppy disk drive model and the ZWL-183, a 10 MB hard disk model. Changes include speed and hard disk options. Both models can operate at 4.77 or 8 MHz. Although their initial setting is 4.77 MHz, you can set (dip) switches to change to 8 MHz. The standard battery is now a 2.0 Amp-hour (instead of 1.5 Ahr) NiCad Battery. The connections for external disk drives changed on the ZFL-181. A 50-pin hard disk interface is now standard on the ZFL-181, and its floppy drive interface went from a 25-pin to a 20-pin SCSI connector. Neither model has expansion slots, although you can add an internal Hayes-compatible modem.

The screen — The Z-180s' screens are very readable for a portable computer. The 10.5 inch 25 line by 80 character display is a backlit electroluminescent super-twist LCD (liquid crystal display). You can adjust the LCD's brightness, contrast, and tilt to fit most lighting or reading angles.

The power supply — The Z-180s' (optional) 8087 chip consumes power only when its in use; and you can shut the (optional) internal modem off to further conserve power. You don't have to stop using the Z-180s while you're recharging their batteries.

Z-180 UNIVERSITY DISCOUNT PRICES

All Z-180s currently sold by the Book Center include:

- 640K RAM, display, and keyboard
- CMOS 80C88 at 4.77/8 MHz
- socket for 8087 numeric coprocessor
- battery and built-in clock/calendar
- parallel (printer) port and serial port
- RGB/composite video port
- external floppy disk interface (20-pin SCSI)
- software: MS DOS 3.2 operating system.

FLOPPY DISK MODEL

ZFL-181-93 two internal 720K 3.5" floppy drives: **\$ 1399**
Special features: 110 AC adapter/charger, 25-pin serial port, external hard disk port (50-pin SCSI).
The standard unit's weight is 11.9 pounds; it does not have a handle.

• ZFL-180 specific options:

..... hard disk drive: external, 20 MB	\$ 815
..... battery pack, rechargeable: 2.0 Ahr	65
..... hard carrying case: custom fit	56
..... adaptor: 230 VAC	45

HARD DISK MODEL

ZWL-183-92 two internal drives: one 10 MB hard and **\$ 2085**
one 720K 3.5" floppy. Special features: 110/220 AC adapter/charger, 9-pin serial port, interface for optional keyboard. The standard unit's weight is 15.5 pounds, and it comes with a handle.

• ZWL-183 specific options:

..... battery pack: 4.0 Ahr (3 lbs/fits in case)	\$ 82
..... battery pack: 2.5 Ahr	75
..... board: 1 MB EMS Ram	(late 1987)

ZFL and ZWL Options

ZA-180-35	battery charger: external	\$ 19
ZA-181-5	modem: internal 1200/300 baud Hayes-compatible	250
ZA-181-7	adapter: automobile power	13
ZA-181-8	floppy drive: external 5.25" 360K capacity	250
ZA-181-17	carrying case: with printer pocket	38
ZA-181-9	cable: composite monochrome video	13
HCA-58	cable: 9-pin to 25-pin null modem (females)	26
HCA-77	cable: external 5.25" disk drive	35

ZFL and ZWL Software

CB-4364-38	Z-180 family diagnostics	\$ 42
CB-5063-37	transfer utility	42
CBG-5063-1	transfer utility kit (9 F/25 F)	53

★ HEWLETT-PACKARD

The Micro HelpLine has Hewlett-Packard's Desktop Publishing setup which includes: a new HP Vectra with a color monitor and an HP mouse as well as Windows and PageMaker software. The Vectra is an IBM-AT type machine which has 640K RAM, an 80286 microprocessor running at 8 MHz, and a 20 MB hard

disk. If you know PageMaker version 2.0 on the Macintosh, this IBM compatible setup will look very familiar.

LaserJet Tip: Hewlett-Packard passed on a tip about using their LaserJet series printers. This tip will be useful for those who want to use a Tms Rmn (Times Roman, the typeface used in this newsletter) or Helv (Helvetica) typeface with their HP LaserJet. The font source you use affects your printed results because different sources use different character spacing. The "F" cartridge fonts have tighter character spacing than the "B" cartridge; this tighter spacing can look more typeset. HP's soft (diskette based) fonts have even tighter character spacing than the F font cartridge. However, the *Microsoft 1* or "Z" cartridge uses the same spacing tables as HP's soft fonts. (Caution: your software's printer support may limit your cartridge and soft font choices.)

★ BUGS AND OTHER SURPRISES



We have bugs to report for five Apple Macintosh programs.

- **MacTerminal Version 2.0** does not work on the Macintosh Plus, SE, or II if you use the new version of the operating system (Finder 5.5 and System 4.1). Currently your only fix for this bug is to restart your machine and use older operating system software when you use MacTerminal. Although we expect an updated version of MacTerminal soon (mid-July 1987), no upgrade was available as of press time.

- **Word Version 3.0** will not print in the *Draft* quality mode on the Imagewriter. This means you can only choose *Faster* or *Best* quality print. Although we expect a correction to this Word bug, no upgrade was available as of press time.

- **Excel Version 1.03** does not work if you select Key Caps under the Apple menu; Excel version 1.04 works with the Key Caps desk accessory. If you have an old version of Excel you can get an upgrade to version 1.04 at the Book Center for \$15 or less. (Upgrade details are discussed later in this announcement.)

- **Switcher Version 5.1** does not work with all Mac configurations or all software, such as Microsoft Word. When you use Word with Switcher on the Mac II, the system bombs; whereas when you use that combination on the Mac Plus, all features work as expected. On the Mac SE the Switcher and Word combination does not work properly with Word's *Open* or *Save As* commands; that is you cannot move from folder to folder. However, if you're in one folder and want to get to another, double click on the *Drive* button in the *Open* or *Save As* menus. (The *Drive* button must be "lit" or dark. If it isn't lit, you can darken it by putting a disk in the other drive.) Clicking on the *Drive* button twice moves you back to the desktop. From there you can select a different folder. As of press time we had no information about an update from Apple for Switcher.

- **HD SC Setup Version 1.3** may cause some Mac SE hard disk units to lose data due to a recalibration problem. (Mac SE SCSI units with serial numbers which begin with F721, F722, and F723 might be effected.) Apple has released Version 1.4 of HD SC Setup (25K) to correct this problem. The HelpLine has a copy of this new setup program. To get your own copy, bring an initialized disk to the HelpLine. You'll find version 1.4 of the setup program on the System Utilities disk.

If you updated your Mac operating system to the new versions — System 4.1 and Finder 5.5 — since June 16th, you should already have version 1.4 of HD SC Setup. You can find out which version you have by opening the setup program. (You can quit the Setup program without choosing any of its options.) If the dialog window says "Version 1.4," you have the correct version. If you don't have version 1.4, get it. The HelpLine encourages all Mac SE hard disk owners to get this new version of the setup program regardless of the serial numbers on their Mac SE system.

- **Upgrades** and new versions of software are generally available to registered software owners for a reduced fee or no fee. To get an upgrade you usually must mail your disks and/or upgrade forms to the product's vendor. Then you wait for the upgrade disks and new documentation to be mailed back to you.

At the University, upgrades for Apple and Microsoft products are not usually handled this way. Although in all cases you must present your original disk(s) to prove you actually purchased the product, you do not have to mail your disks anywhere. In some cases you must surrender your old original disk(s) before you are given upgraded new original disks. In other cases your old original disk will simply be marked VOID. The Microcomputer HelpLine can generally upgrade Apple products for registered software owners. The Electronics Desk at the Book Center in Williamson Hall handles Microsoft software upgrades. Although Microsoft generally charges for upgrades, it will be cheaper (around 40%) to upgrade through the Book Center than to upgrade by mail.

- **Versions numbers** can be found in several ways. If you are using an application, you can select the "About" statement from the Apple menu to learn its version number. Sometimes the version number is included in the comments section of the *Get Information* window.

When Apple's Switcher and Microsoft's Word upgrades are available, we'll let you know in this newsletter.

★ IBM USERS GROUP

The University of Minnesota IBM Users Group meets from 3-4:30 pm on the last Thursday of each month; the July meeting is on the 30th. A week before the meeting, you can call Nancy Grant at 341-5187 or the Micro HelpLine at 626-4276 to learn the room and building.

