Lawrence Berkeley National Laboratory

Title

LBL Computing Newsletter Vol 24 No 10

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Lawrence Berkeley National Laboratory

Publication Date

1987-10-01

DISCLAIMER

L B L
COMPUTING
NEWSLETTER

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OCTOBER   1987

NAMES & NUMBERS TO KNOW

From on-site, dial <xxxx>   From off-site, dial (415) 486-<xxxx>   From FTS line, dial 451-<xxxx>

INFORMATION & COMPUTING SCIENCES DIVISION
Head: Leroy Kerth (LTKerth) 7474   50B - 2232E
Deputy: Sandy Merola (AXMerola) 7440   50B - 2232C

OFFICE OF COMPUTING RESOURCES
Head: Ken Wiley (KGWiley) 7083   50B - 2258E
LBLnet Manager: Sig Rogers (SGRogers) 6713   50B - 2258G

ADVANCED DEVELOPMENT PROJECTS
Head: Dennis Hall (DEHall) ....6053...50B - 3238

WORKSTATION GROUP
Group Leader: Richard LaPierre (RLLaPierre)....4692.....50F - 112B
    Software Evaluation & Acquisition 6858   50B - 2265

COMPUTING SERVICES
Head: Marv Atchley (FMAtchley) 5455   50B - 2245
Asst.Head: Serge Polevitzky (SIPolevitzky)...6053   50B - 2239B
    Central Office..5871,2   50B - 2239

VMS SYSTEM
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CENTRAL ELECTRONIC MAIL FACILITY

FIRST INITIAL-MIDDLE INITIAL-LAST NAME is the standard
recipient format in Lab-wide mailing address.
Examples: VMS: lbl::JASmith
            UNIX: JASmith@lbl.gov
    Software Tools: JASmith@lbl.gov

DEVELCON

DEVELCON Access Names

[VAX 8650's (GENERIC)..............................CSA]

VAX 8650 (VMS) CSA1
VAX 8650 (VMS) CSA2
VAX 8650 (VMS) CSA3
VAX 8650 (VMS) CSA4
VAX 8650 (VMS) CSA5

VAX 11/ 780 (UNIX4)...UX4
VAX 11/ 750 (UNIX5)...UX5
IS V-24   (UNIX8) UX8

Dial-up Access Numbers

All Machines - 300 BPS 486-4959
All Machines - 1200 BPS 486-4979
All Machines - 2400 BPS 486-4969

Local TYMNET Access Numbers for DEVELCON

	1200 bps	2400 bps
Oakland	430-2900	633-1896
Walnut Creek/Concord	938-0370	935-1507
San Francisco	974-1300	543-0691
Santa Clara	408-980-8100	980-0646
Palo Alto	415-366-1092	361-8701
Vallejo	707-644-1192	
Antioch	754-8222	
Fremont	490-7366	
Pleasanton	490-7336	

MFE Consulting Number is 422-1544

SCHEDULES FOR COMPUTER CLASSES

IN THE TRAINING ROOM, BLDG. 50B, RM. 1237

or

IN THE BUILDING 50F CONFERENCE ROOM

Jerry Borges

The following computer classes are to be offered by Computing Services. With the exception of the FOCUS sessions, there is no charge for these classes. To enroll, obtain your supervisor's approval and then

contact Pat Bean (×7008). If you have questions about what's being offered, or suggestions for other computer-oriented topics, contact Jerry Borges (×5568).

DATE	TIME	DESCRIPTION	INSTRUCTOR
Oct 5, 6	9 AM - 5 PM	Beginner's TELL-A-GRAF	Nathan Gold
Oct 7	9 AM - 5 PM	Advanced TELL-A-GRAF	Nathan Gold
Oct 8	9 AM - 5 PM	DISSPLA	Nathan Gold
Oct 15	11 AM - NOON	Electronic Mail: Introduction	William Jaquith
Oct 20, 22, 27, 29	10 AM - NOON	Introduction to T$_E$X	Jerry Borges
Oct 22	11 AM - NOON	Electronic Mail: Further Topics	William Jaquith
Nov 2, 3, 4	9 AM - 4PM	Beginning FOCUS 102/104	IBI Instructors
Nov 16, 17,	9 AM - 4PM	FOCUS: Intermediate Report Preparation	IBI Instructors

IN THE MAC TRAINING ROOM, BLDG. 50B, RM. 1229

Claudia Madison

The following computer classes are to be offered by the Workstation Group. There is no charge for these classes. To enroll, obtain your supervisor's approval and then contact Dana Conant, (×5872). Those classes with asterisks appended are already full.

Call Dana now to sign up for classes later in the year. For more information, see THE WORKSTATION SCENE elsewhere in this Newsletter. If you have questions about what's being offered, or suggestions for other computer-oriented topics, contact Richard LaPierre (×4692).

DATE	TIME	DESCRIPTION	INSTRUCTORS
Sept 29 Oct 1, 6, 8, 13, 15	1 - 2:30, PM 3 - 4:30 PM	Intermediate & Advanced WORD 3.01 Topics	Karla Savage, Claudia Madison, Dana Conant
Oct 20, 22, 27, 29	1:30 - 3:00 PM	Beginning EXCEL Spreadsheet*	Nancy Travis, Claudia Madison
Oct 21, 23	10 - 11 AM 1 - 2 PM	Introduction to HyperCard	Bill Brown
Nov 10, 12, 17, 19	1 - 2:30 PM 3 - 4:30 PM	Beginning WORD 3.01*	Karla Savage, Claudia Madison, Dana Conant
Nov 11, 13, 18, 20	1:30 - 3:00 PM	Beginning EXCEL Spreadsheet*	Nancy Travis, Claudia Madison

LBLNET NEWS

Bob Fink
Sig Rogers

LBLnet Activity

Plans for breaking MISCLAN into a new 50LAN and a smaller MISCLAN have been changed due to requests for ThinWire Ethernet installations in Buildings 70 and 70A. This will result in a 70LAN (and possibly a 70ALAN) and a reduced size MISCLAN which will continue to serve the Building 50 area. The necessity for this change is that the MISCLAN "core" is located in the Building 50 complex. To provide Buildings 70 and 70A with ThinWire services the "core" must be moved to Buildings 70 and 70A. To accomplish this these buildings must have their own LANs. See the ThinWire discussion below for more details.

Two new standalone ThinWire Ethernets have been installed in Building 69 (Purchasing) and Building 51 (Biomedical), which will eventually connect to LBLnet.

Work has begun on TDR'ng of all existing Ethernet segments using the new Cabletron Ethernet TDR. Refer to the August Computing Newsletter for more information on this activity.

ThinWire Ethernet

The ThinWire Ethernet specification (IEEE 802.3 - 10Base2) allows the use of RG-58 coaxial cable (a thinner coax than standard "thick" Ethernet). The higher loss and slower propagation rate reduces the single segment length to 185 meters versus 500 meters for "thick" Ethernet.

On the plus side, ThinWire is cheaper and easier to install. On the minus side, ThinWire is a daisy-chained network so that when a user disconnects a computer incorrectly, all other users are adversely affected. In this regard it is very similar to the AppleTalk network. In LBLnet ThinWire segments are kept as small as possible to minimize the impact of improper disconnects.

The choice of "thin" or "thick" cable in LBLnet is usually based on the nature of LBL buildings and costs of wiring. Closed wall offices have typically been wired with "thick" Ethernet transceiver cable dropped from a "thick" Ethernet cable in a standard building hallway. Open Plan offices like Buildings 50E are often wired with ThinWire. Most Ethernet interfaces have come with both a "thick" transceiver connector and a "thin" RG-58 connector, and thus can be attached to either type of Ethernet. The 3COM Ethernet interface for the IBM PC, and the SUN 3/50 Ethernet interface are the most common examples at LBL.

The Ethernet market is changing and many new systems are being delivered with only a ThinWire RG-58 connector. Examples of this at LBL are the s-2VAXs+2 Station 2000 and some Hewlett Packard CAD systems now in use at LBL. This has caused strategy changes in LBLnet wiring.

Since "thick" Ethernet Transceivers work quite well on ThinWire while ThinWire connectored computers cannot be attached to a "thick" cable, LBLnet now provides ThinWire cables in many places where they would not have been provided before. To accommodate this change, the "core" segments of many LBLnet LANs will need to be extended to areas where ThinWire is required.

The "core" segment of an Ethernet LAN is one that has all repeaters attached to it. A key distinction since at most two repeaters may be in the path between any two users on an Ethernet. With the "core" extended to an area that needs ThinWire, a single or multi-ported ThinWire repeater may be used to provide attachments for ThinWire only computers.

In it is not expected that this shift toward ThinWire will hurt anyone, but it has caused occasional delays in new installations where only a "thick" cable currently serves an area now needing ThinWire connections.

Forward comments or queries to Bob Fink (×5692) or Sig Rogers (×6713).

VMS Mail:	lbl::RLFink
UNIX or Software Tools Mail:	RLFink@lbl.gov
VMS Mail:	lbl::SGRogers
UNIX or Software Tools Mail:	SGRogers@lbl.gov
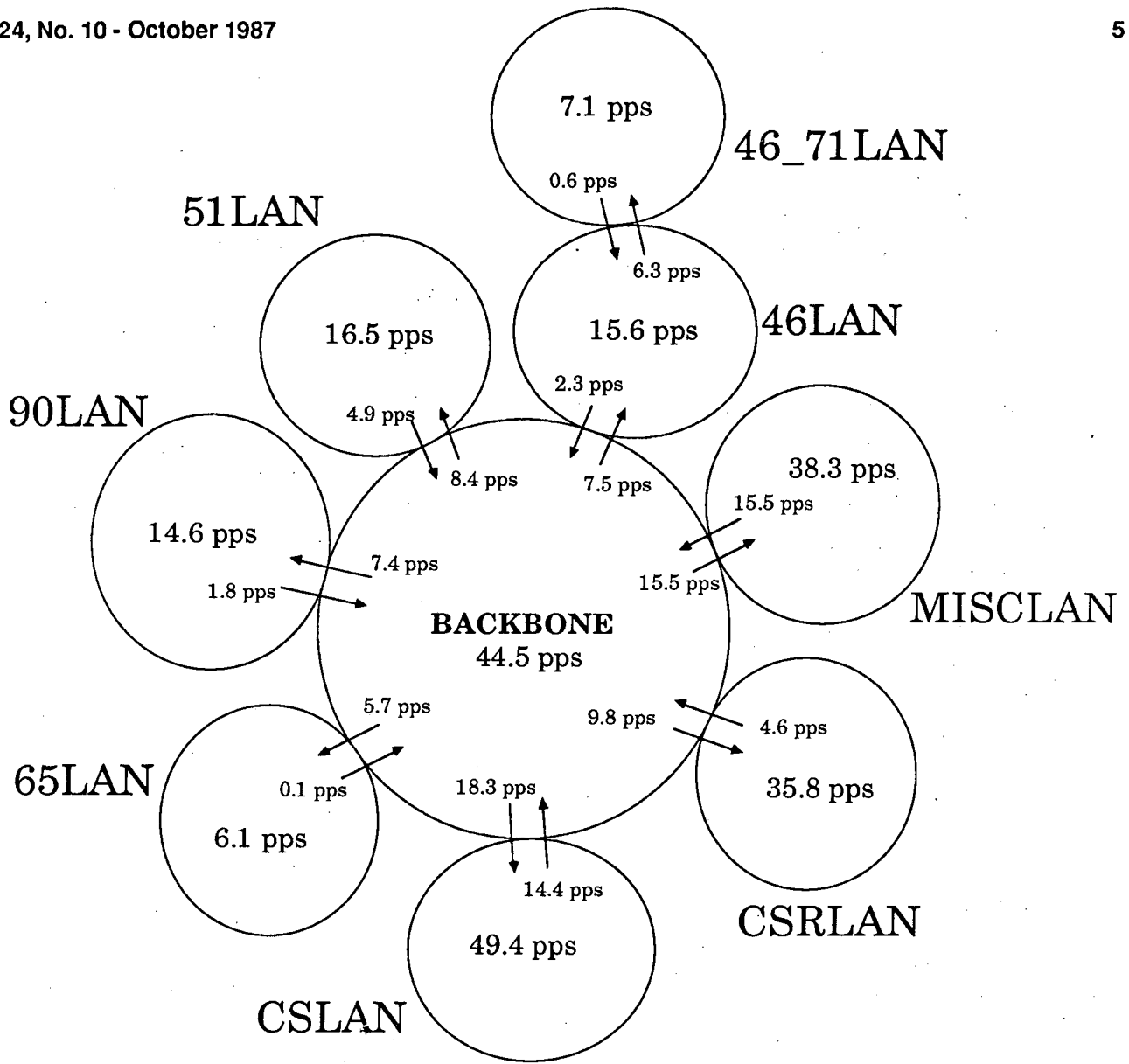
pps = packets per second; all figures are monthly averages

arrows represent packet flow through a LanBridge
from one LAN to another

Note: Each ellipse shown above is a separate Ethernet that is interconnected to the others via Digital LanBridge-100 devices that provide forwarding of packets based on a learning algorithm that minimizes traffic between networks to those packets addressed to computers on another Ethernet.

LBLnet Activity
August 1987

ICSD/OCR   Fink/Rogers

GRAPHICS NEWS

## NCAR GRAPHICS PACKAGE IS ON THE CLUSTER

Nancy Johnston

The NCAR Graphics Package, written at Colorado's National Center for Atmospheric Research, is now available on the CSA cluster.

NCAR is a high-level graphics package that provides the following functionality:

o contouring of regular and irregular grids (with or without smoothed lines, elimination of crowded lines, etc),

o 2D plots with reference grids,

o half-toning,

o histograms,

o iso-valued surfaces (with hidden lines removed) from a 3-D array,

o 3-D surfaces (mesh plots),

o vector field flows,

o 2-D velocity field displays,

o a set of rudimentary 3-D line drawing routines, and

o a fully automatic 2D graph generator.

Support for NCAR consists of

• helping to bring it up on machines,

• giving advice on GKS packages, and

• showing how to call the various utilities.
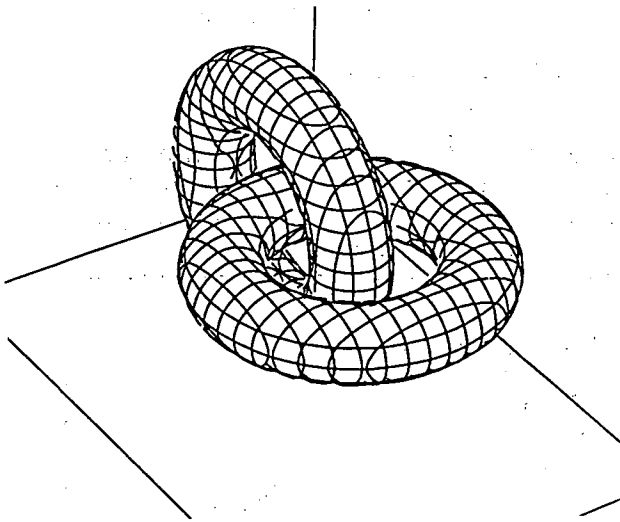
NCAR is responsible for handling bug fixes.

The package is written in Fortran. It has been transported to Sun Workstations and VAX workstations within LBL. It is also easily transportable to other machines. The NCAR package is provided as source code, but is copyrighted and can only be used on LBL machines without repurchasing it. (The cost is fairly minimal.)

NCAR requires a GKS package to perform the actual plotting of lines, points, etc. Currently, the best choice on the VAX Cluster is to use ISSCO's GKS package on CSA2. We are evaluating various GKS packages for the cluster (i.e., Lowell University's GKS) that will allow NCAR to be run on any machine in the cluster.

For more information on NCAR on the VAX cluster, type:

help graphics ncar

or call Nancy Johnston (x5093). Documentation is available from the Computing Library, 50B/1232B (x4242).
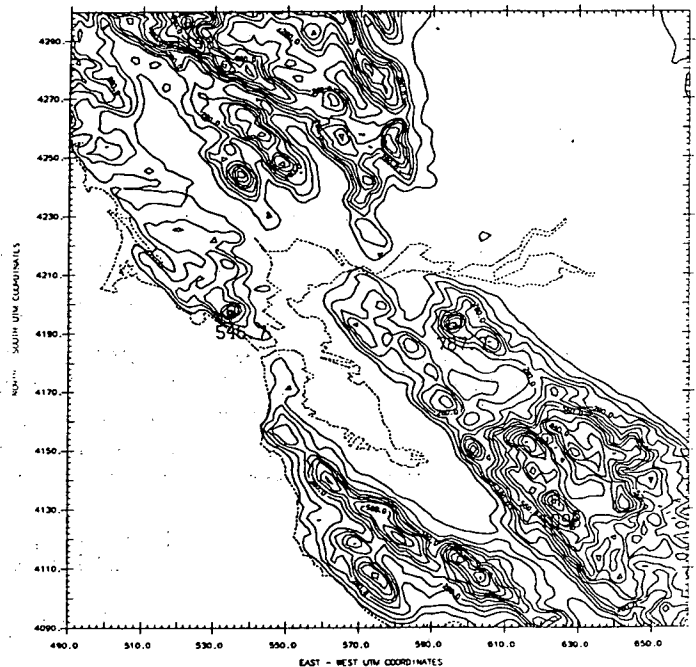
Forward questions and comments to me at

VMS Mail:	**lbl::NEJohnston**
UNIX or Software Tools Mail:	**NEJohnston@lbl.gov**

SAN FRANCISCO BAY AREA TOPOGRAPHY AND SHORELINE

VMS VERSION 5.0 IS ON THE WAY

Cliff Stoll

We expect to upgrade VAX/VMS from Version 4.7 to Version 5.0 this fall.

Benefits for users associated with VMS 5.0 include:

- Improvements to the DCL (Digital Comand Language) (IF - THEN - ELSE)
- Better control of queue entries from your terminal
- Improvements to the EVE and TPU editors
- Ability to get queue information from DCL and programs
- New features to the VMS Mail service (a callable interface)
- Debugger enhancements
- Mount verification of tapes
- Library improvements.

Benefits which aren't so visible include

- o Better network support
- o Changes to BACKUP
- o Recognition of parallel and symmetric processing
- o Improvement in network file access
- o System management services.

We expect that users will notice little change, but we are concerned that some system supplied services (Software Tools Mail, Eunice, UNIX-to-VMS links, and TCP/IP (RSH, RCP, FTP, TELNET) might need some preliminary testing during this time.

While we expect only system-supported, privileged tasks to require attention, it is possible that some other tasks, such as those tasks linked into graphics libraries, might need some fine tuning. There is also a slight chance that a few user-written routines might require recompiling, although we do not expect this to happen.

Because of these concerns, we're testing local LBL systems software on other systems before bringing up VMS 5.0 on the cluster. We won't make the new version available to users until it works.

As we learn more, we will post information in VMS News. If you have questions or comments, please contact the systems staff or

VMS Mail:	**lbl::CPStoll**
UNIX or Software Tools Mail:	**CPStoll@lbl.gov**

2400 BAUD MODEM PROBLEMS

Cliff Stoll

When you dial into LBL with a 2400 baud modem, you'll need to wait about 5 seconds between the answer tone and entering a carriage return. This time allows the LBL modem's error control to synchronize with your local modem. If you don't wait, and enter a carriage return immediately, the modem may display garbage or hang up.

Remember this when programming auto-login procedures for your home computer. Often, such procedures will automatically dial the LBL modem and immediately enter a carriage return. Change the procedure to wait 5 seconds after detecting a carrier before entering a carriage return. Following the carriage return, of course, LBL's computer responds with "Request:" and you are free to choose an LBL computer.

Forward comments and questions to me, ×4111, or

VMS Mail:	**lbl::CPStoll**
UNIX or Software Tools Mail:	**CPStoll@lbl.gov**

UNIX NEWS

NEW SUN UNIX SYSTEMS

Dave Cleveland

The Computing Services Department will begin to offer
UNIX service on two new computers from Sun
Microsystems, Inc. this month.

UX1
One system, a Sun-3/280, will provide interactive and
batch computing. Users of this system will have
access to the modern features of the Sun UNIX pro-
gramming environment, including the SunView window
environment and the Network File System. Available
software will include Macsyma, the IMSL and NAG
mathematics libraries, and other software that is sup-
ported on the present UNIX systems such as the new
TELNET command for communication with MFE and
UCB Crays.

UX3
The other system, a Sun-3/180, while providing
interactive computing, will also be employed as a
server for Sun diskless workstations that provide the
SunView Window environment. Computer users who
acquire their own Sun workstations may avoid the cost
of disk and tape drives, and the responsibility of back-
ing up their files, by having their system and data files
reside on this server.

As the Sun UNIX systems become operational, our
current UNIX users will be asked to move from the
VAX UNIX systems, UX4 and UX5, and the Integrated
Solutions system, UX8, to the Sun UNIX systems.
UX4, UX5, and UX8 will be retired as soon as all
software has been installed on the Sun systems.

Forward all comments and questions to me, (×5336),
or

VMS Mail:	**lbl::DHCleveland**
UNIX or Software Tools Mail:	**DHCleveland@lbl.gov**

UNIX BATCH JOB RATES

Lam Wong

UNIX batch jobs (i.e., jobs submitted with the "at" com-
mand) are charged at a lower rate providing that they
execute during non-prime time hours, i.e., NOT
between 9 AM and 7 PM on non-holiday weekdays.
The current CPU rates for UX4 and UX8 are:

	Committed	Non-committed
Prime Time	$60/hour	$100/hour
Prime Time Batch	$60/hour	$100/hour
Non-prime Time	$30/hour	$50/hour
Non-prime Time Batch	$10/hour	$16.67/hour

The current CPU rates for UX5 are:

	Committed	Non-committed
Prime Time	$35/hour	$60/hour
Prime Time Batch	$35/hour	$60/hour
Non-prime Time	$18/hour	$30/hour
Non-prime Time Batch	$6/hour	$10/hour

The BATCH rates apply to background jobs submitted
with the "at" command. However, background jobs
started interactively are charged at INTERACTVE rates,
not at the lower BATCH rates. For example,

  a.out &

will be charged at the standard INTERACTIVE rate.

Forward comments and questions to

VMS Mail:	**lbl::M_Gelbaum**
UNIX or Software Tools Mail:	**M_Gelbaum@lbl.gov**

CONSULTANT'S DESK

TRY VAXIMA: YOU'LL LIKE IT

Lam Wong

VAXIMA, a version of Macsyma developed by Franz, Inc., is available on the VAX/VMS CSA cluster. This package is used for manipulation of algebraic expressions involving constants, variables, and functions. It can differentiate, integrate, take limits, solve equations, factor polynomials, expand functions in power series, and perform many other operations. There is also an interpreter which can execute your programs written in Macsyma user language.

Execution

Start up **VAXIMA** by typing

VAXIMA

End a **VAXIMA** session by typing

QUIT();

VAXIMA also works in VMS batch mode.

Documentation

A copy of "MACSYMA Primer for VAX/UNIX", which also serves as a Primer for **VAXIMA**, is available in the Computing Center Library, Bldg 50B, Room 1232B ($\times$4242). This is an excellent introduction; be sure to get a copy if you are a novice. Copies of the SYMBOLICS documentation are also available there.

Forward comments and questions to me at ($\times$4786) or

VMS Mail:	**lbl::LHWong**
UNIX or Software Tools Mail:	**LHWong@lbl.gov**

T$_E$X LABORATORY LETTERHEAD AVAILABLE FOR IMAGEN

Marty Gelbaum

In the September '87 issue of the LBL COMPUTING SERVICES NEWSLETTER we announced that users of the CSA cluster and the Computing Center UNIX machines could generate a document using the unofficial seal of the University of California with the T$_E$X text-formatting program. That article indicated that you could print the output of this letterhead on the Apple LaserWriter printers and that we were working on an Imagen version.

The Imagen version is ready; in fact, you may follow the instructions for the Apple LaserWriter version. You may then send the resulting DVI file to an Apple LaserWriter or to an Imagen printer.

Forward comments and questions to me ($\times$4749), or

VMS Mail:	**lbl::M_Gelbaum**
UNIX or Software Tools Mail:	**M_Gelbaum@lbl.gov**
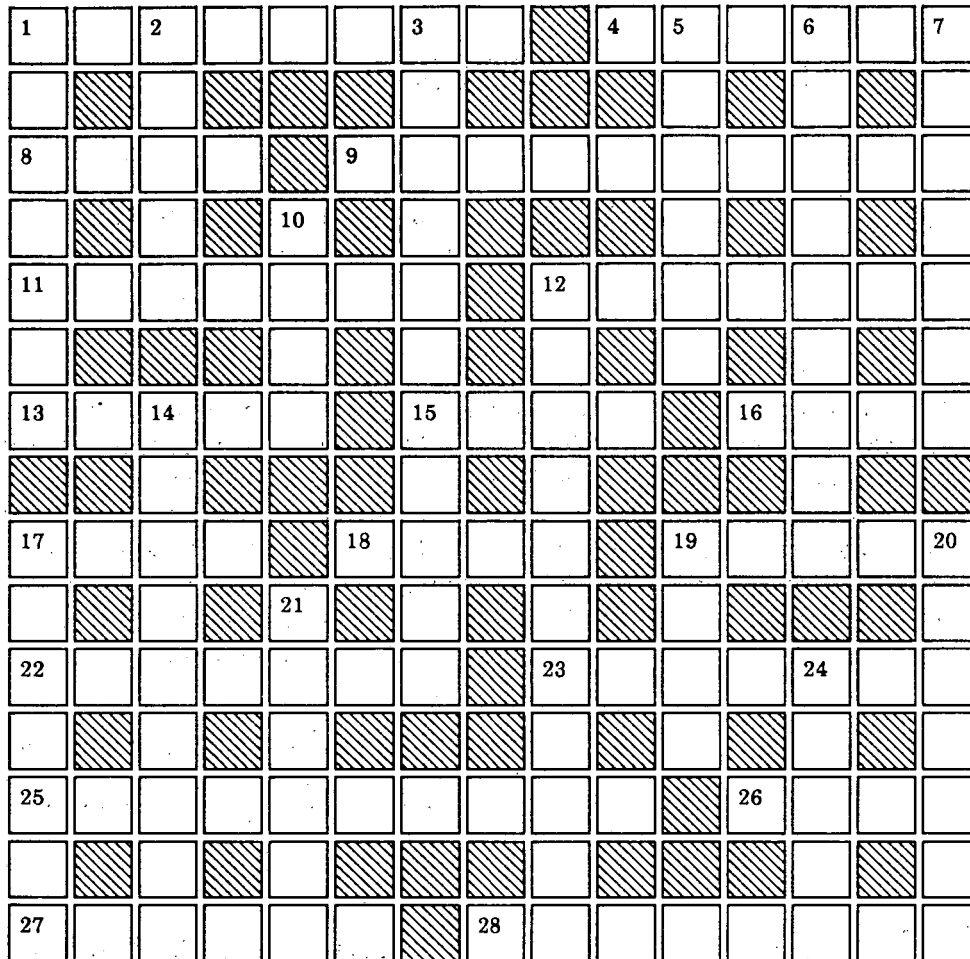
#8714 -- Plain

D. F. Stevens

The answers include one proper name.

A little exercise for the puzzle addicts in our readership. Executed on a XEROX Star.

Across

1. Game one left in plate to shrink. (8)
4. Cloth cover for noted WWI airplane. (6)
8. Not out to out out to. (4)
9. Offer a base novice. (10)
11. Back in after polo's first inventor. (7)
12. Piers in pandemonium fill with exaltation. (7)
13. Old penny drink left in the station. (5)
15. Move slowly as a bird with no head. (4)
16. Starts losing head and hurries. (4)
17. Post-graduate follows Captain into senselessness. (4)
18. Stranger lost a charge. (4)
19. Chirurgeon discovers sheltered child? (5)
22. Changes apply on awesome array. (7)
23. Salad Green is playing in a prom. (7)
25. Bucks, about a thousand, note, for first meats. (10)
26. Look right in, and be brisk about it; ... (4)
27. ... then follow right in to be certain. (6)
28. Bit played first, fell apart. (8)

Down

1. Beat-up doctor shuffled in protest. (7)
2. Drive tension in anchor. (5)
3. Particularity resulting from mixing spice about if leading an urban community. (11)
5. Part of paper I should pass on. (6)
6. Make sexy-sounding sighs under collection of slips. (9)
7. Composition of wavering thirds about E is not decisive. (7)
10. True back to carbon. (4)
12. Burner incorporated in a period hill. (11)
14. Aromatic stuff-bags think about Mother and sulfur. (9)
17. Competent, yet can be topped? (7)
19. Halt the flight East. (4)
20. Honorable looked flattering. (7)
21. Singular small-fry is smasher! (6)
22. Force lime pudding with a soft center. (5)

FOCUS NEWS

Bert Albrecht

- **● FOCUS USER GROUP MEETING**

The next meeting of the FOCUS Users' Group will be from 1 to 4 PM Wednesday, October 28 in Bldg. 50B, Rm. 1237 (the Training Room).

Agenda for the meeting is as follows:
- Bert Albrecht will give a demonstration of **Screen Painter**.
- Allan Stenvold will talk about how he is using FOCUS.
- Mary Clary will discuss her usage of FOCUS .
- Time and readiness permitting, there will be a surprise guest.

We will also talk about subjects of interest for future meetings and presentations we might like from Information Builders, Inc. We'll also talk about future FOCUS classes at LBL.

- **● FOCUS CLASSES**

An introductory course - BEGINNING FOCUS 102/104 - is scheduled to be held from 9 AM to 4 PM on November 2 & 3 in the Computer Center's Training Room (Bldg. 50B, Rm. 1237). The instructors are from IBI. Cost: approximately $200 (depending on the number of students).

A brand new class, INTERMEDIATE REPORT PREPARA-TION, is scheduled to be held from 9 AM to 4 PM on November 16 & 17 in the Computer Center's Training Room (Bldg. 50B, Rm. 1237). This class should help you get more out of your reporting efforts, taking up where the Beginning FOCUS Class left off. Cost: approximately $75 per student (depending on the number of students).

Please contact Pat Bean (×7008) to register. Space is limited, so call soon.

Forward comments and questions to me (×6280), or

VMS Mail:	**lbl::HGAlbrecht**
UNIX or Software Tools Mail:	**HGAlbrecht@lbl.gov**

MANAGING DEVELCON PROBLEMS

Paul Murray

When you experience a possible problem with the DEV-ELCON DataSwitch, please **call us immediately** (Paul or Lloyd at ×5354) before you do anything else. It is important **not** to type anything on the keyboard or to push the button on the TSB (Terminal Support Box). It is also helpful if you determine the machine and port assigned at login. You can pick up that information (early on) by typing "show term" on VMS or "who" on UNIX.

We also will want to know your DEVELCON port number (find it on the small blue/gray wallbox connected to your TSB. It will say something like DEV 6E3 or DA 1CF2 or 44GS1654.) This tells us how you connect to the DataSwitch; the "show term" or "who" tells us how the computer connects to the DataSwitch.

We beg your indulgence as we ask a series of questions on the phone about the nature of the problem and collect the required data from the DataSwitch during the phone call. We need many sets of this kind of data in order to properly analyze most DEVELCON problems.

Forward comments and questions to me at

VMS Mail:	**lbl::PGMurray**
UNIX or Software Tools Mail:	**PGMurray@lbl.gov**

POSTMASTER'S CORNER

William Jaquith

This is the Postmaster's Corner. We'll answer frequently-asked Electronic Mail questions here.

You can also get answers to your Electronic mail questions by sending them to **Postmaster** or **PostOffice** on the CSA cluster.

> There will be two Electronic Mail classes in October. (See Page Three of this Newsletter). The first will be an Introductory class. The second class will be for users who can send and receive mail and who would like to know more about network addresses, how to use editors with mail, how to create distribution lists, how to use folders, and other related subjects.

QUESTION: I have accounts on several computers. People send me electronic mail on each of these different computers. Is there a way to have all my mail come to one of my accounts?

ANSWER: I can give you a couple of suggestions here.

(1)   One is to use the Central Electronic Mail database. This database contains your name as it appears in the LBL Phone Directory and will direct all your mail to one computer. (Refer to the LBL Computing Newsletter, August 1986, Pg. 5-6 for more detailed information.) If you are registered in the database, mail can be sent to **FMLastname@LBL** and you will receive mail at whatever LBL computer you specify. Send requests to be enrolled in this service to REGISTRAR@LBL. When using this service, your correspondents do not have to know your actual computer.

(2)   The second suggestion: use the forwarding mechanisms that are available to each mail system. Here are some brief descriptions:

- **UNIX Mail.** Use the file named **.forward** -- and put the forwarding information into that file. Any valid electronic mail address can be put in the .forward file. Examples include:

    grace@csa4
    tomt@ux8
    FMLastname@lbl

Here's an example of what you could put in a typical .forward file:

    UX4 > **cat .forward**
          RJToney@lbl

- **VMS Mail.** use the **set forward** command from within VMS Mail. In this case you can use the DECnet mail address forms, (e.g., **node::user** (theory::smitty)). VMS Mail users cannot forward mail to non-DECnet nodes unless they use the **$forward.** file that is available on the CSA cluster (see information below). Note: you will use the command **set noforward** to turn off VMS Mail forwarding.

- **MSG Software Tools Mail.** Use the file **$forward.** to control forwarding of your electronic mail. The $forward. file can only contain a single address and there should be no spaces or tabs within the file. Any electronic mail address on the HEPnet is a valid entry in the $forward. file. Examples:

HEPnet	(robert@fnal.hepnet)
Milnet/ARPA	(adele@violet.berkeley.edu)
MFEnet	(johnston@e.mfenet)
Bitnet	(kris@cuvma.bitnet)

Here's an example of what's listed in a typical $forward. file:

    CSA> **type $forward.**
          david@ux8

QUESTION: Sometimes my VMS Mail tells me that I have new mail. When I try to read that mail, the mail utility does not find that new message. Am I doing something wrong?

ANSWER: You have not done anything wrong and you do **not** in fact have a new mail message. The VMS Mail Utility sometimes loses count of mail messages. To reset the counter, issue the command **READ/NEW** when you are in VMS Mail. Now, if you leave VMS Mail and then come back into it, you will no longer have a message saying you have new mail. Look at Page 15 of the VAX/VMS MAIL UTILITY REFERENCE MANUAL for more information.

QUESTION: As I read my mail I sometimes have a message that I would like to send directly to a printer so that I have a hardcopy of that message. How can I do this?

ANSWER: You can send a mail message directly to the printer from either VMS Mail or from UNIX Mail.

- **VMS Mail**: you can print the mail message that you are currently reading by issuing the command

    PRINT/QUEUE=CSA3$LCA0

    When you leave the Mail Utility, that message will be routed to the printer for you. If you do not use the qualifier, **/QUEUE=**, the mail will be printed, but the printer output will NOT have a cover page (i.e., there will not be a top page with your userid on it). The printed message will include the information of the From:, To:, and Subject: fields.

- **UNIX Mail**: you will need to create an alias entry in your .mailrc file. The alias entry will include a pipe command. Here's an example of such a line in your .mailrc file:

    alias printer '| imprint -Pip2'

    Then when you're within Mail, you can issue the command

    m printer (i.e., mail to printer),

    then use the tilde commands **f** or **m** (~f or ~m) to forward or to merge the message for the printer. The message is sent to the printer as you normally exit mail with a control-D (^D). The file, including the address information, will be printed on the printer that you have specified in your .mailrc file. Note: you can specify more than one mail message on the ~m or ~f line (e.g., ~f 3 5 11 or ~m 2 9 10).

- **MSG**: Software Tools mail does not have the ability to print directly from within MSG. The command I (list) within MSG will move the specified files to your default directory. These files will have form-feed characters embedded at the start of each file. When subsequently printed, each file will be started on a new page.

. . . Hermes, PostMaster

Forward comments or queries to William Jaquith (×4388) or

VMS Mail:	**lbl::WDJaquith**
UNIX or Software Tools Mail:	**WDJaquith@lbl.gov**

THE WORKSTATION SCENE

[24.10.1]...

● **WORKSTATION GROUP ELECTRONIC MAIL**

Workstation Group members can now be reached from the VMS cluster or the Computing Division's UNIX machines by sending mail to

VMS Mail:	**lbl::WKSG**
UNIX or Software Tools Mail:	**WKSG@lbl.gov**

We hope this alternative (to the telephone) will be of assistance to users who have problems or would like to forward helpful hints.

[24.10.2]...

● **YOUR OWN (SHARED) MACINTOSH SYSTEM**

How would you like to have a MAC SE with hard disk, LaserPrinter, Develcon port and popular software packages? Laboratory employees are reminded that the Macintosh systems in the division's new MAC Training Room, Bldg. 50B, Rm. 1227, are available for individual use when classes are not in session. There are only two morning classes scheduled for the next two months so you morning people have ample time to dig in and adopt your own favorite MAC system.

The Training Room is locked when there is no one on duty in the I/O area. Contact Dana Conant, (x5872), for a card key to gain access during these times. Dana can also provide you with a detailed classroom schedule.

For new MAC users, documentation and an introductory program, called "Your Apple Tour of the Macintosh SE", are available at the HELP DESK. These are for daily use in the MAC Training Room only.

[24.10.3]...

● **WARNING TO PC HARD DISK USERS:**
  DON'T PARK THOSE HEADS !!!

We know of at least six PC/AT users who have damaged the data on their hard disks as a result of using a head-parking utility such as SHIPDISK.COM, supplied by IBM. If you are accustomed to running a little program, (e.g., BYE), before turning off your computer, there is a good chance you are parking the heads on your hard disk. Most of the

disk units purchased in the last couple of years have heads which are automatically parked at power-off time. These disks can be damaged if you arbitrarily run any head-parking routine you may have handy. Again we warn -

DON'T PARK YOUR IBM AT'S HARD DISK'S HEADS.

There's one exception: Park it if you are absolutely certain you have one of the original CMI 20 MByte or CMI 30 MByte disk drives.

In most cases, damaged data can be recovered by RTSS technicians. For more information, call Workstation Group member Dan Van Zile at x5589 or RTSS technician Dave Edgar at x6411.

[24.10.4]...

● **HYPERCARD AVAILABILITY**

The Workstation Group has a special educational arrangement with Apple Corp. to sell **HyperCard** to Laboratory accounts for $32. Anyone who did not receive HyperCard with the purchase of a Macintosh (Plus, SE, or II) can stop by the Workstation Laboratory (Bldg. 50B, Rm. 2265, x6858) to buy a copy. Cost will be recharged to your account.

[24.10.5]...

● **APPLE HYPERCARD TRAINING**

The Workstation Group will be conducting a one-hour introductory class for new Apple **HyperCard** users. The course is designed for people experienced with the Macintosh but not with the Hypercard.

Four classes are scheduled for October 21 and 23 at 10 AM and 1 PM. Additional classes will be offered in November if there is a demand. Potential students should call Dana Conant at Computing Services (x5872) to enroll.

[24.10.6]...

  . . . *Stacks and Cards*

● **A FIRST LOOK AT HYPERCARD™**

As we started poking at **HyperCard,**[1] Apple Computer's so-called 'self-programming'

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[1] Version 1.1. See item number **24.9.5** on Pg. 16 of the September Computing Newsletter.

software, we were reminded of the tale of several blind men who were trying to describe an elephant. Every description was unique and different from every other. We might possibly say the same for this new product.

HyperCard appears to be a database program, but it is different from what we normally call a database program.

  o It is extremely fast for a very general-purpose database.

  o It appears to lack the report-generating tools that one normally associates with databases.

  o It is very easy to establish new databases, and to create ways of relating and moving between various databases.

  o Databases can contain graphics as fields within records.

  o It may even be possible to do searches on graphic fields; we have not yet been able to verify that.

The product comes on four 800K floppy disks. Included are

  --- the program itself,

  --- the HELP files, which are nothing more than a "stack" or database containing the text of the HELP facility, and

  --- several more stacks which serve as examples.

The documentation, *HyperCard User's Guide*, is a spiral-bound 7-½" × 9" book about ½" inch thick. In the back of this book is a removable *quick reference card*. Unfortunately, we cannot say very much about the book, except that it appears to contain tutorials plus a fair amount of reference material; we have used the built-in HELP stack exclusively.

By simply manipulating icons, you can construct a database or stack, which can be linked in many ways to other stacks. You can enter data into the database records, ("cards"), from the keyboard. You can then sort and otherwise manipulate these cards, once again by the use of icons.

On a more advanced level, HyperCard includes a programming or "scripting" language, **HyperTalk**, which can be used for writing programs to import files created by other software into Hypercard Stacks. HyperTalk is not documented in the manual but a lot of information about it is available in the HELP stack. Separate documentation is available from the Apple Programmer's and Developer's Association ($19.95

plus shipping and handling. We have ordered this documentation.)

Testing With a MAC II

In an attempt to understand the abilities of HyperCard and HyperTalk, we wrote a script to import the *Electronic Edition* of the LBL Telephone Book into a stack. We were able to do this without referring to the written documentation, although it took more time.

Once the stack was created, (a simple job), and the data imported (as described above), we were able to make some simple measurements. When starting from the beginning of the stack, we found a name near the end of the stack (Zelver) in about 18 seconds; in subsequent attempts we found the same name, and other names nearby, in two tor three seconds. These tests were run on a Macintosh II: we would have expected them to be less impressive on a MAC SE or a MAC Plus. But the results seem to be comparable.

We then created a second stack containing the payroll account number information which is found in the printed phone book. We simply created the card format and entered the account number data. Then we established a linkage so that when we clicked on the Payroll Account Number in an employee's phone book entry, the corresponding card in the Payroll Account Number Stack appeared on the screen. Except for entering the actual data, this task took less than 10 minutes to accomplish. With practice, we would expect to be able to build these types of facilities much faster.

High Marks

The pre-release literature on HyperCard told us that the product could change the way people work, that the millennium had arrived, and that it would allow us all to leap tall buildings at a single bound. Well . . .

We *do* believe that HyperCard's ease of use, coupled with its low price, insure its popularity and we expect to see a growing industry dedicated to providing "stackware" or pre-fabricated stacks.

It seems to us that HyperCard, especially when used with the soon-to-be-released **MultiFinder**, will be a tool that no Macintosh owner will want to be without. The uses for this product seem to be limited only by the imagination, disk space, and the time available for tinkering.

[24.10.7]..

- **LBL PHONEBOOK ON THE MACINTOSH**

A s related in our article on **HyperCard**, the Workstation Group has developed a stack containing the LBL Telephone Book and a stack containing the Payroll Account Numbers for Departments from the paper edition of the Telephone Book. This will be made available to the Laboratory community, and the information will be updated from time to time, the same as for the existing Electronic Edition of the LBL Telephone Book. At present, these stacks can be obtained by bringing a blank, double-sided, formatted diskette to the Workstation Group Lab (Bldg. 50B, Rm. 2265). In the future, they will be available for downloading from the CSA cluster.

[24.10.8]..

- **MACTOBERFEST IS COMING**

I n the spirit of various other OctoberFests, the Berkeley Macintosh Users Group (BMUG) presents **MacToberFest**, to be held Thursday, October 22, from 11 AM to 7 PM in UC's Pauley Ballroom. Admission is free.

The user-oriented show will consist primarily of Macintosh hardware and software demonstrations by BMUG members and supporters. Dozens of popular software packages, **HyperCard**, system development kits and games will be shown throughout the day and evening. Apple has given its support to this event by donating Macintosh hardware.

There will be Third Party vendors too, including Versa-Cad, Letraset USA, InterLeaf, MicroTeK and others. Watch the *Daily Californian, LBL Currents*, and other local publications for more information. See you there!

[24.10.9]..

- **COMPUTER RENTAL PROGRAMS**

I f your financial options have run out, and you can't buy that computer you wanted for your department or group -- try leasing. There are leasing programs (arranged by our Purchasing Department) that offer a broad selection of short- and long-term arrangements with low monthly payments and purchase at lease-end options.

In the Apple world, the MAC SE, with a 20 Mbyte hard disk, will lease for around $180 per month. The MAC II with 1 Mbyte Ram, 40 Mbyte hard disk, and monochrome monitor rents for $397 per month.

As for Big Blue, the PC-AT with 640 KByte Ram, 30 Mbyte hard disk, and EGA card with color monitor will lease for approximately $357 per month. The old PC-XT 286 model with no hard disk leases for around $213 per month.

For short-term need, these rates are reasonable, particularly for the MAC SE. All leasing arrangements must be made with the Laboratory Purchasing Department. Contact Eric Sargeson (×4500) for additional information.

[24.10.10]..

- **COMPUTER LOCKDOWN DEVICES**

T he Workstation Lab has just received a limited supply of cable type lockdown devices for computers, printers and other peripherals. These devices cover the MAC 512KE, MAC Plus, MAC SE, MAC II and their keyboards. There are setups for securing LaserJet/LaserWriter and ImageWriter printers. In addition, a security setup is available for the IBM PC/XT/AT, all PS/2 models, and other peripherals.

For Apple Products:
The computer lockdowns use brackets that snap into the security slots on the back of the Macintosh case and keyboard. A flexible 5/16-inch vinyl-clad stranded steel cable threads through the two brackets and the other end is secured around a fixed support with a heavy padlock. If you would like to see a working example of this security setup, check out the MAC SE Training Room (Bldg 50B, Rm 1227).

Costs are as follows:

System	Device	Price
MAC 512KE	Security Kit	$34.95
MAC Plus	Security Kit	$34.95
MAC SE	Security Kit	$29.95
LaserWriter/ ImageWriter	Adhesive Pad Assembly	$21.17

For additional information or to browse the Inmac catalog, contact Workstation Group Member Bruce Burkhart in the Workstation Lab, Bldg. 50B, Rm. 2265 (×6858).

[24.10.11]..

● **SCHOLAR'S WORKSTATION UPDATE**

The Scholar's Workstation, UCB's Macintosh Store, is temporarily located in 203 Moffitt Library. Staff and employees can make personal purchases, taking advantage of educational discounts for Macintosh hardware and Apple software products.

This facility is open from 10 AM to 2 PM, Monday through Thursday. Call 642-8427 for pricing, availability, or status of an order. If you are having problems with hardware purchased from the Scholar's Workstation, call the MAC Tech Support at 643-6397.

Price list/order forms are available from Workstation Group member Bruce Burkhart (x6858).

[24.10.12]..

● **MS WORD & EXCEL FOR SALE**

The Workstation Group has a special educational agreement with Microsoft to sell **Word** and **Excel** at a greatly reduced price. The recharge rate for Word is $75: for Excel, $158. Bring yourself and an account number to the Workstation Lab, Bldg. 50B, Rm. 2265 to pick up these products.

[24.10.13]..

● **TIP FOR VERSATERM USERS**

> *. . . Here's a handy hint for* **Versaterm** *users from RTSS'*
> *Theresa Breckon.*

Versaterm 3.0 can perform multiple file uploads with one command. After selecting **Send File** from the File menu, hit the Shift key before selecting **Send One**. This will turn the **Send One** button into a **Send All**, and all files in the currently selected volume or folder will be sent. This works with both MAC Xmodem and Kermit. It only seems to work with HFS disks, not MFS.

Also, the **settings extras** allow you to specify whether text files shipped to the MAC are saved in MacWrite, Word, QUED, or Edit files.

[24.10.14]..

● **TEXTURES VERSION 1.0 UPGRADE**

There's good news for users who purchased the preliminary 0.9 Version of TEXtures from the Workstation Group early this summer. Those of you who mailed in the registration card should be receiving Version 1.0 soon. We have learned from Addison-

Wesley that the new version should be in your hands by October 1.

If you mailed in the registration card and you don't get the update in early October, call Liz Boluch, Addison-Wesley's Educational Representative in Reading, Massachusetts -- (800) 447-2226, ext. 2460.

Call Workstation Group member Bruce Burkhart , (×6858), for any additional information.

[24.10.15]..

● **A FLOCK OF FONTS**

Apple fonts, bit-map fonts, laser fonts, screen fonts, built-in fonts, down-load fonts. What does it all mean? And why do we care?

It all means that with the flexibility of new microcomputer configurations like Microsoft **Word 3.01** on the Macintosh with LaserWriter come many font options.

Failure to care about fonts results in poor printing quality; our LaserWriter documents look like they were printed on an old dot matrix printer, or, worse, our tables and tabs show signs of severe misalignment.

Definition: **Resolution**: the number of dots per inch a device such as a screen or printer has at its disposal with which to form characters. The more dots, the higher the resolution and the finer and less rough-looking the characters may be. The MAC screen has 72 dots per inch (dpi) resolution ; the ImageWriter has about 80; and the LaserWriter has 300.

Definition: **Bit-map**: In Apple literature, bit-mapping refers to the process the computer system goes through when it assembles dots to form low resolution or ImageWriter characters.

Apple fonts -- Fonts with city names like Chicago, New York, Geneva, Cairo, Tallahassee. If we want the highest quality printing, we get rid of these fonts because they are created for the low-resolution screen and ImageWriter, and they look raggedy, even when printed on a LaserWriter.

LaserWriter fonts and **LaserWriter Plus fonts**. These fonts are built into the LaserWriter and Laser-Writer Plus respectively. **Built-in** means the printer permanently stores the outline of the character, (in standard sizes), drawn very finely to take advantage of the high resolution of the laser printer.

There are screen versions of laser fonts also, which are on the disk that comes with the printer.

LaserWriter (but not LaserWriter Plus) fonts also come with the Macintosh computer itself and are installed when we do a basic installation.

Names of LaserWriter fonts:

Courier   Helvetica   Times   Symbol

Names of LaserWriter Plus fonts:

Avant Garde   Bookman   N. Helvetica N.
New Century   Palatino   Zapf Chancery
Zapf Dingbats

... plus LaserWriter fonts.

LaserWriter and LaserWriter Plus fonts may also be called **Adobe** fonts (after the name of the company which owns the right to market their design), or **cut** or **outline** or simply **laser** fonts.

Download fonts. Also sometimes called **laser fonts.** Fonts which are downloaded to the printer's memory as they are needed; they are not permanently stored in the printer but they are often high-resolution outlined fonts. Many companies make this kind of font: Adobe, Casadyware, and Century are big names.

Installing any kind of font is done with the Font/DA mover (the little truck icon) that comes as a utility with all MACs. Installed fonts are part of the system file. No matter what fonts are built-in on the printer, we can't use them if we have not also installed the screen version of the font on our system. If we use a screen version of a LaserWriter or LaserWriter Plus font that is installed in our system, but we print on a printer that does not have that particular font built-in (such as using Palantino on an ImageWriter or plain Laser-Writer), the system will create a low-resolution bit-map of the font at print time. The results are raggedy.

● **A Word on Word 3.01**

Microsoft **Word** is not kind to novice font users. In the first place, its default font is New York, which is not a laser font. In the second place, it offers an option called "Font substitution" in the print setup dialog box. Invoking font substitution substitutes laser for non-laser fonts at print time. New York becomes Times, and Geneva becomes Helvetica. Unfortunately, using font substitution causes the erratic tab and table spacing which plagues new Word users. Font substitution should simply never be used.

A doctrinaire approach to fonts, but one that makes sense for groups which share computers or trade

document files:

● install standard laser fonts in all system files
● really radical -- remove all non-laser fonts from the systems (except the fonts the MAC system needs for its own operation -- Font/DA mover warns when we try to remove these.)
● set the Word default font to a laser font
   - Select Define Styles from the Format Menu;
   - Click on Normal in the list box;
   - Select the desired laser font from the Font Menu or from the Character command of the Format Menu
   - Click Define
   - Click Set Default
   - Click OK
   - See the Styles Menus section of the Word manual for instructions on setting the default font
   - See the Custom Menus section of the manual for instructions on adding and subtracting fonts from the Word Font Menu.

Users with questions about fonts can call the Workstation Group at x6858. As is the case with many MAC issues, a few minutes in front of the MAC screen makes obvious the point that we take two columns of prose to convey.

[24.10.16]...

● **MACINTOSH MEMORY UPGRADES**

With the announcement of System 5.0 (**Multi-Finder**), the first Macintosh operating system with multitasking capabilities, people are rushing to buy memory expansions for their Macintosh Plusses, Macintosh SE's, and Macintosh II's. Apple offers two memory expansion kits: a 1 MByte kit (Part No. M0218) cost ~$164. -- and a 2 MByte kit (Part No. M0219 -- cost ~$395.)

The Macintosh Plus and the Macintosh SE normally contain 1 MByte of memory. This can be expanded to 2.5 MBytes of memory by the installation of one 2 MByte expansion kit. Adding two of these 2 MByte expansion kits can bring the SE to 4 MBytes of memory. **Note:** this is NOT a user-installable upgrade; it must be installed by an Apple-certified service technician or the warranty may be voided.

The Macintosh II normally contains 1 MByte of memory. The installation of a 1 MByte expansion kit

will bring it to a total of 2 MBytes. Installation of TWO 2 MByte expansion kits will bring it up to a total of 5 MBytes; installation of FOUR 2 MByte expansion kits will bring the memory to a total 8 MBytes. As in the case of the SE, memory expansions must be installed by an Apple-certified technician; the "open" part of the term **Open Macintosh** applies only to the installation of cards into the "NuBuss" slots.

With some exceptions, which are considered "special cases" and which we do not recommend, the configurations listed above are the only ones which will work.

Often the installation of a memory upgrade will result in the removal of some memory modules which were already in the machine. In some cases this "surplus" memory can be used part of an upgrade to a Macintosh II. If you need to add memory to two or more Macintosh II's, it may be possible to use some or all of this surplus memory.

We suggest that you consult your friendly RTSS Tech Support Group (×6411) before you order expansion memory. The techs can help you get the order right the first time, thus saving much pain and agony (not to mention time) for both yourself and the Purchasing Department. It is also possible that they will have the materials on hand, or they can order for you on a recharge basis.

[24.10.17]...

● **TCP/IP USEFUL IN THE IBM WORLD**

... *Speedy File Transfer*

I f you use a PC to move large files to/from any of the Center's machines, there is free (public domain) software which will get the job done in a fraction of the time required by Kermit or similar programs which use the Develcon connection.

This software, which is a version of the PC TCP/IP suite of programs originally developed at MIT, uses LBLnet for high speed 10 Mbps data transfers. In contrast, your Develcon port may transfer at a maximum data rate of 9600 bps.

Your PC must have an Ethernet adapter card to use LBLnet and this public domain software. The cost of an Ethernet adapter is about $400. If you are currently on LBLnet, all you need is to have the free software installed. Otherwise, there is a one-time network connection cost. You could even save money, $17 per

month, by eliminating your Develcon port connection.

Detailed instructions for installing and using the application can be picked up at the Workstation Laboratory (Bldg. 50B, Rm. 2265 -- ×6858), or from Workstation Group member Dan Van Zile, (×5589).

For connection to LBLnet, contact Sig Rogers, the LBLnet Manager, (×6713).

[24.10.18]...

● **MAKING LABELS ON THE IBM PC**

P ersonal computer applications exist now to do everything but diaper the baby -- CAD, CAM, DTP, CAE, WP, DBMS -- but many of us are still keeping mailing lists in word-processing systems on mainframe computers because setting up and printing labels with microcomputer systems is no picnic. Unfortunately, keeping mailing lists in word-processing files rather than in a data base system of some sort means the following:

- maintaining the lists (keeping them alphabetical and properly spaced) is a tedious manual task,
- the lists cannot be re-sorted (into ZIP code order instead of name order, for example),
- information on the list cannot easily be transferred to other applications (to use the names and addresses in a form letter),
- finally, particular subsets of the list cannot be created to do partial mailings.

Data base management system users may note that all of the problems listed above can be taken care of with a program like dBASEIII+ (which also, by the way, has an extremely easy-to-use utility to generate labels in standard formats). But what if we don't need a full-featured data base program or we can't take the significant amount of time it may take to learn such a program or we can't afford such a program?

We can buy a mail list management program, a specialized data base system which usually costs significantly less than a general data base management program and is almost always a snap to use.

PC Magazine (March 31, 1987) reviews 25 such programs and describes the following as basic features:

o Name, address, and phone number fields.

o Sort on name and/or zip

o Record selection on specific criteria

o Pre-programmed formats for commonly used forms and labels.

To this we add,

o ASCII import/export capability so that data can be used by other programs, if need be.

The most important considerations in the selection of a mail list management program are ease of use and cost. It is possible to get a program that is just as complicated to use as a regular data base management system. It is also possible to get one that costs upwards of $200. Fortunately, the expensive programs tend to be those which are most complicated. We tried a demo of such a high end system, **ProMark**, which has user-defined fields, screen painter, and interactive macro programming but costs a bundle ($250) and requires the same user expertise in setting up a data base as does dBASEIII+ (and doesn't have nearly the functionality).

At the low end of mail list management programs, we looked at **Avery List & Mail** from the people who make -- surprise! -- mailing labels. Avery List & Mail (ALM) goes for $59.95 and includes all the basics plus on-line help, 14 pre-defined forms which correspond to Avery products (labels, cards, name badges), automatic check for duplicate address, search and retrieval on any field including a Soundex search (Bailes for Bales, for example), printer alignment, and a primitive macro capability. It's a nifty, easy-to-use program that does exactly what it's supposed to. A loaner copy is available from the Workstation Group.

CAUTIONS

It's possible to make labels on laser printers, but it isn't always easy. Take care to use labels made for laser printers or copy machines; otherwise, the glue might melt.

Converting data that's already on a word processing system is really no fun. Fortunately, there is help for that. One time per list -- the Workstation Group will help convert word processing mail lists to data base or mail list manager formats. Call Workstation Group member Claudia Madison at ×6858.

UNIX WORKSTATION USER GROUP MEETING

Alan Biocca

The next UNIX Workstation User's Group Meeting will be at 2 PM Wednesday, October 14 in Bldg. 50B, Rm. 4205 (the 4th Floor Conference Room).

Forward comments and questions to me, (×6536). Persons wanting to be added to the electronic mailing list can send mail to

VMS Mail:	**lbl::AKBiocca**
UNIX or Software Tools Mail:	**AKBiocca@lbl.gov**

YES I would like to receive the Computing Newsletter

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CITY
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PHONE ....

COMMENTS ....

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Return to: ....Newsletter - MS 50F
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Berkeley, CA 94720

Attention: **NL MAILING LIST**

PUB-429 10-87/1550

Newsletter Closing Date is Friday, October 16, 1987 . . . and no later.

Address all communications for the Newsletter to login **news** on UX8.

Lawrence Berkeley Laboratory is located in the hills above the
UC Berkeley Campus. The (chocolate-colored) Building 50 Com-
plex is located across from the red-and-white shuttle bus stop.
You can get a free ride to the Laboratory on the shuttle bus. Pick-
up point is at Shattuck and Center in downtown Berkeley.

SIGN UP FOR THE NEWSLETTER

Attention LBL employees: If you use the Computer Center's UNIX or VMS system, or if you are a owner or user of a PC or a **MAC**, you should sign up to receive the Laboratory's Computing Newsletter. It contains useful information about our systems and has a helpful **Workstation News** section (supported by the Information and Computing Sciences Division's Workstation Group), offering support and helpful hints for PC users. This is also a place for you to send questions and comments. To add your name to the Newsletter Mailing List, contact Maggie Morley, ×5529, or

VMS Mail:	**lbl::MAMorley**
UNIX or Software Tools Mail:	**MAMorley@lbl.arpa**

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VOGUE LA GALERE
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