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**FEBRUARY
1991**

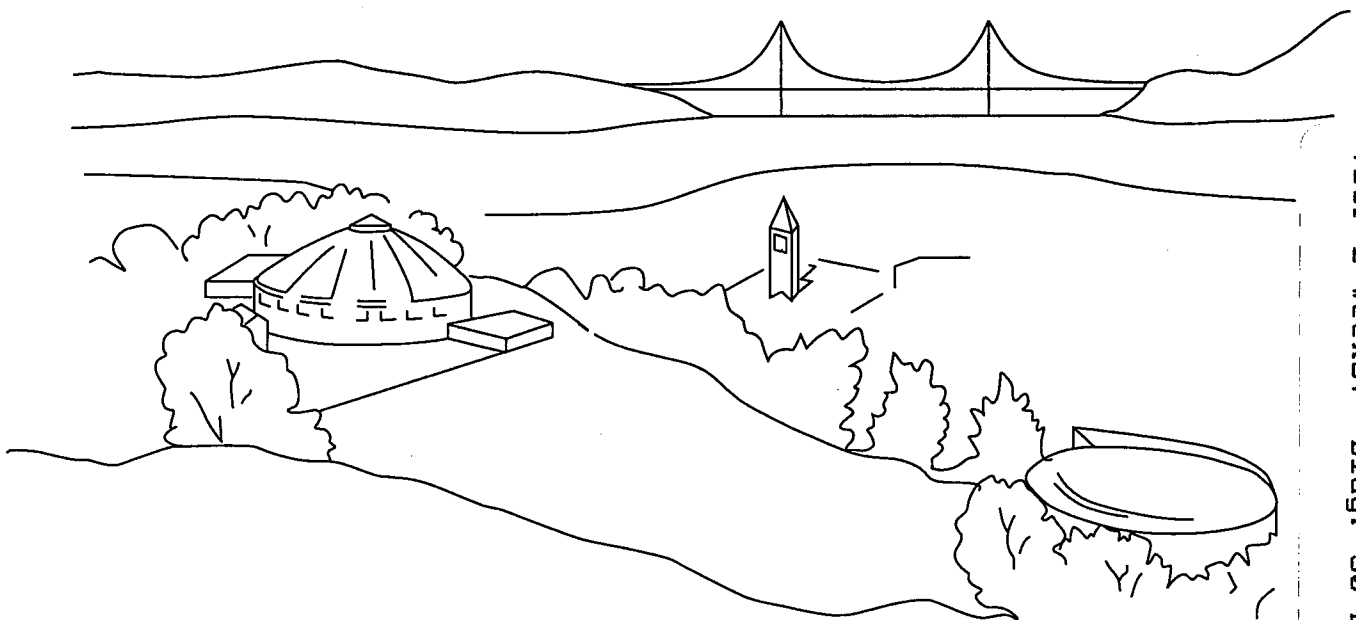
LB COMPUTING NEWSLETTER

C SHELL ALIASES

PSPRINT

FOCUS CLASSES

ACCESSING MSDSs



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Newsletter Closing Date is Friday, February 15, 1991

Address all communications for the Newsletter to login nooz@ux1.lbl.gov
or put in Maggie Morley's Drop Box in the Workstation Group File Server

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GENERAL NEWS

PRINTING POSTSCRIPT FIGURES IN TEX FROM CSA ONTO THE VARITYPER

Martin Gelbaum

PSPRINT, a public-domain program on CSA that lets you include PostScript graphics in TeX output files (DVI files), is now available for printing on VT1 and VT2, the 600DPI PostScript Varityper printers. Until now, PSPRINT used 300DPI TeX fonts, which are suitable for the 300DPI Apple LaserWriters, but which of course do not take full advantage of the much higher resolution of the Varityper. Now, 600DPI TeX fonts have been created for the Varityper.

PSPRINT is a public-domain program and is not supported by any vendor; it can merge PostScript files generated by Adobe Illustrator and TOPDRAWER with TeX output. PSPRINT does NOT "understand" encapsulated PostScript nor has it proved successful with MacDraw-generated PostScript files.

You need to run this DCL command on CSA before using PSPRINT:

```
$ @TEX_DISK:[TEX.public.psprint]psprint_setup
```

Usage (ONLY for the Varityper); see below for the format for the Apple LaserWriter:

```
$ psprint600/out=myfile.ps myfile.dvi
```

where *myfile.dvi* is a TeX output file. Then, use

```
$ lpr -Pvt1 myfile.ps
```

to print the file on the VT1 Varityper. In some cases, you may need to use this format

```
$ psprint600/xsize=8.5in/out=myfile.ps myfile.dvi
```

to make sure that PSPRINT uses the full width of the paper. (*psprint600* is a symbol defined by "psprint_setup.com" that is short for

```
$ psprint600:= psprint/dummy="cmr10.600pk"/font=tex_disk:[tex.pk600]/res=600"
```

since the latter is a rather long command!)

The above applies ONLY to the 600DPI Varityper; for the 300DPI Apple LaserWriter, use the following:

```
$ psprint/out=myfile.ps myfile.dvi
```

where "myfile.dvi" is a TeX output file. You may then print the file "myfile.ps" on an Apple Laserwriter by

```
$ lpr -Pap4 myfile.ps
```

(This will print the file on the Apple LaserWriter ap4).

A User Guide for PSPRINT is available from the Computer Center Library, extension 7008; some parts of that document do NOT apply to our configuration. See HELP TeX Postscript_Figures for details.

Forward comments and questions to me at x4749 or

UNIX or

Software Tools Mail: martyg@lbl.gov

VMS Mail: lbl::martyg

AVAILABLE CD-ROMS — AN UPDATE

Deane Merrill

Computing Sciences Research and Development (CSR) has acquired six CD-ROM diskettes of general interest—the first five from the Bureau of the Census and the sixth from the Defense Mapping Agency. They are accessible from CSR and UX5 in the following locations. Additionally they can be exported via NFS to any other computer in the LBL ethernet.

/home/parep2/disk1	1988 County and City Data Book	(dBase format)
/home/parep2/disk2	1990 Pre-Census TIGER: California, Pt. 1	(dBase format)
/home/parep2/disk3	1990 Pre-Census TIGER: California, Pt. 2 & Hawaii	
/home/parep2/disk4	1986 and 1987 County Business Patterns	
/home/parep2/disk5	1987 Economic Censuses, Volume 1, Release 1B	(dBase format)
/home/parep2/disk6	Digital Chart of the World Prototype	

Each diskette contains about 500 MBytes. All the data are in the public domain.

We are providing these data on an experimental basis only. There is no commitment to keep these particular disks on line permanently. (Serious users can easily replicate the system).

If there are access problems, contact Bob Rendler at x5629 or

UNIX or
Software Tools Mail: RERendler@lbl.gov
VMS Mail: lbl::RERendler

For data documentation, contact Deane Merrill x5063 or

UNIX or
Software Tools Mail: dwmerrill@lbl.gov
VMS Mail: lbl::dwmerrill

GNU SOFTWARE ON CSA

Lam Wong

Three GNU programs— emacs, GCC, and awk—are available on CSA. If you want to access them, put the following line in your LOGIN.COM:

```
$ @gnu_disk:[gnu]gnu
```

Note: Emacs and GCC have been available on CSA for a while. Now you have to invoke the above command procedure to set up the environment to use them.

There is "awk" documentation on line. It is in files

```
GNU_DISK:[GNU.AWK]GAWK_INFO_*
```

Send mail to TROUBLE if you have any problem or question.

DATA SAFETY FOR MACS

Bill Benson

Your data may be at risk!

Hopefully, everyone makes timely backups in case of disk failure. Even backup media, however, are also vulnerable – to failure, fire, water damage, theft, etc. The disaster that takes out your disk may take your backups with it, especially if the two are located nearby.

MacDumps

MacDumps, our backup service for Macintosh hard disks, reduces risk by performing network backups, with the backup tapes stored in secure metal cabinets a good distance from your Mac – in a completely different building for most users.

Over 250 subscribers are using this service. Major features include:

- automated operation—just leave your Mac powered on,
- archival backups—saved for 6 months,
- network backups—performed 5 nights per week,
- bargain rates—\$15 per month plus \$25 one-time startup charge,
- quick restores—typically within the hour.

To subscribe, send me your Mac name (User name from Chooser), disk name, zone, e-mail address, & account.

Forward comments and questions to me at x5703 or

UNIX or

Software Tools Mail: WHBenson@lbl.gov

VMS Mail: lbl::WHBenson

UNIX NEWS

HOW TO USE C SHELL ALIASES

Reprinted, with permission, from the January 1991 issue of the Berkeley Computing Bulletin. (Some textual changes were made to reflect the LBL UNIX system.)

C Shell aliases allow you to customize your computing environment by permitting the abbreviation, renaming, and alteration of the standard UNIX commands. For example, if you wanted to display the content of a file, you might think of commands like "show", "print", or "display" instead of the name of the UNIX command most often used for this purpose, cat (derived from catenate). To rename the cat command as "show" for example, you would use the command

```
% alias show cat
```

The alias mechanism gives the UNIX C shell the capability to allow a user-defined name to refer to a command or sequence of commands. When you use that name as if it were a command, the C shell replaces it with the command sequence to which it refers. This new name applies only to the individual account where it has been defined.

Creating an alias

Aliases are created with the alias command,

```
alias name text
```

where *name* is the name you choose and *text* is the command or commands to which name will refer. For example, the commands

```
% alias pe printenv
% alias tf iroff -ms -Pap1
```

would cause the shell to replace any subsequent use of the names **pe** and **tf** as commands with **printenv** and **iroff -ms -Pap1** respectively before executing them:

```
% pe TERM
tvi920c
% tf chap1 chap2
```

Notice that an alias can be used wherever a command name can be used; whatever you enter after the alias name will be copied at the end of the command replacement.

To create aliases involving several commands, you have to use quotation marks to keep together or bound the replacement commands. This can be tricky. For instance, the alias

```
% alias doit 'tbl chap1 chap2 | nroff -ms -Tlpr | lpr'
```

would not work without the quotes because the shell would have immediately executed the last two piped commands (nroff and lpr) instead of making them part of

the alias. The following alias, which tries to list the files on a UNIX machine called "gumball" after printing the name of the remote directory, does not work because of more subtle quoting problems:

```
% alias rlist 'rsh gumball "echo $cwd ; ls" | more'
```

The outermost quotes achieve the same effect as in the previous example, and they have to differ from the inner quotes to be interpreted correctly. Unfortunately, the shell variable \$cwd will always be replaced with the current directory on the local machine because the C shell insists on doing variable substitution within enclosing quotation marks. Thus even inverting the use of double quotes (") and single quotes (') above would not work. Several acceptable solutions are

```
% alias rlist "rsh gumball 'echo' '$cwd' "; ls" | more"
% alias rlist 'rsh gumball echo \ $cwd \; ls | more'
% alias rlist rsh gumball echo \\ $cwd \\; ls | more
```

Because it is possible to choose an alias name that is also the name of a real UNIX command, you can effectively remove or replace standard commands:

```
% alias rm echo Sorry, cannot remove
% rm thesis
Sorry, cannot remove thesis
```

Aliases can also work like fast, simple shell scripts with arguments; simple because you can use all commands except multi-line control structures and fast because no new processes are involved and no extra files have to be accessed (as with the source command).

Aliases With Arguments

When you use an alias, any arguments you give it are usually tacked on to the end of the replacing text when the shell does the replacement. However, this does not happen if your replacing text contains what appear to be history substitutions. Instead, the C shell places the arguments into the replacing text based on the history constructs you used to define the alias.

Consider the following example:

```
% alias whois 'grep \!:1 /etc/passwd \!:2*'
```

You can check what happens when you use this alias if you first type

```
% set echo
```

which will cause the replacement pattern to be displayed on your terminal before the command is actually executed. Now when the above alias is in effect, you might see the following:

```
% set echo
% whois fred > junk
grep fred /etc/passwd > junk
```

How this works is beyond the scope of this article, but the `\!:1` designates the first argument (fred) and `\!:2*` designates all the rest (`> junk`). The backslashes (`\`) in the alias are needed to prevent the immediate interpretation of the exclamation sign (!).

Here is an alias that uses the `bc` command for doing arithmetic in the C shell:

```
% alias calc "echo 'scale=5; \!*:x' | bc"
% calc 35 - 2.3 * 6
21.2
```

The `bc` command does arbitrary precision arithmetic. This alias also uses the C shell history mechanism. When you use the alias, the `\!*:x` puts quotes around each argument so that `bc` will correctly interpret the arguments to `calc`.

For a description of the C shell's history mechanism, see the document *An introduction to the C shell* (UNIX 1.3.10) by Bill Joy, available at Kinko's Copies, 2431 Durant Avenue, or at the Computer Center Library (Bldg. 50B, Rm. 1232A, x7008). You can also buy "THE UNIX C SHELL FIELD GUIDE" by Gail Anderson and Paul Anderson there. Cost is charged against your user account.

Listing Aliases

To see all aliases you have defined, type `alias` without any arguments. If you type `alias` with an actual alias name, the shell prints the replacing text for that alias (if any has been defined).

Making Aliases Permanent

You can define an alias at any time during your current login session. The alias will apply only while you are in the shell in which you defined it, and will vanish when you exit that shell (or log out).

If you want aliases to apply automatically to any subsequent login session you must define them in the `.cshrc` initialization file in your home directory. Figure 1 shows some useful examples of aliases that you might wish to put in your `.cshrc` file.

Defining an alias does not preclude you from using the command it replaces—it is merely a form of shorthand. For instance, you can still type the command `printenv` and get the same result as typing `pe`. If you alias a command to itself (e.g., `alias rm rm -i`), you can get the original (unaliased) execution of the command by preceding it with a backslash (`\`). Consider for example the alias for `rm` in Figure 1. After the alias is defined, every time you try to remove a file you will be asked to confirm by typing `y`. If you have many files to get rid of and don't want to have to type `y` for each one of them, you could type the command `\rm`, which causes the execution of the `rm` command without the `-i` option.

Alias	What it does
<code>alias rm rm -i</code>	asks you to confirm file removals
<code>alias bye logout</code>	renames logout command
<code>alias fi 'finger \!*</code>	shorthand for finger ; uses arguments as supplied to the alias when invoked
<code>alias m more</code>	renames more command
<code>alias mm '\!* more'</code>	useful for passing the output of a previously issued command through more ; e.g., <code>mm !!</code> , for the previous command
<code>alias g '\!:2* grep \!:1'</code>	searches for a pattern in the output of a command; e.g., <code>g mary cat file2</code> searches for "mary" in the output of <code>cat file2</code>
<code>alias iroff iroff -ms</code>	shorthand for troff with <code>ms</code> macros option
<code>alias Tap1 Iroff -Pap1</code>	uses preceding alias to iroff with output to the <code>ap1</code> printer
<code>alias lp1 lpr -Pap1</code>	shorthand for lpr command with output to the <code>ap1</code> printer
<code>alias a alias</code>	renames the alias command itself
<code>a h history</code>	uses alias 's alias to rename the history command
<code>alias ts 'set noglob ; eval `tset -s \!*</code>	useful for resetting terminal after rlogin
<code>alias ll ls -l</code>	alias for long listing
<code>alias cd 'chdir \!* ;</code> <code>set prompt = "\$cwd:t % "'</code>	alias for printing the current working directory as the shell prompt (Note: These two commands must be typed on a single line.)

Figure 1: This table shows some examples of aliases that might appear in a `.cshrc` file.

Removing Aliases

To remove the meaning of an alias, use the **unalias** command. Thus, if you type

```
% unalias pe
```

and then type

```
% pe
```

you would get the response

```
pe: Command not found
```

If you use the **unalias** command to remove an alias that you have created during your current login session and that is not in your **.cshrc** file, that alias vanishes forever. If you use the **unalias** command to remove an alias that is in your **.cshrc** file, that alias vanishes only from your current shell (or your login session, if you are in your login shell). However, it will reappear the next time you log in, or you start up a shell. To permanently remove an alias defined in your **.cshrc** file, remove its definition from that file.

References

The **cs**h manual pages (type **man csh**) document the alias mechanism in a section titled "Alias Substitution." Relevant **help** files can be displayed on Computer Center UNIX systems by typing **help .login** and **help newacct**.

☐ Ruben Zelwer

LBL users can forward comments and questions to Dave Cleveland at x5336 or

UNIX or

Software Tools Mail: **DHCleveland@lbl.gov**

VMS Mail: **lbl::DHCleveland**

FOCUS NEWS

UNIX FOCUS CLASS IN FEBRUARY

Esther Schroeder

A UNIX/FOCUS class will be held from 9 AM to 4 PM Friday, February 22, in the Divisional Training Room, Bldg 50B, Rm 1237.

This course is currently being set up with Information Builders Inc. and is intended for people who have used FOCUS on other platforms and are now porting existing code and writing new FOCUS code on UNIX machines. Topics to be covered are

- the new features of FOCUS for UNIX,
- the differences between FOCUS for UNIX and other operating environments, and
- efficiencies and techniques for FOCUS for UNIX application development.

Please call Esther Schroeder, x5306 or Marilyn Graham (x5688) to register. For more information about the contents please contact Esther Schroeder, x5306, or

UNIX or

Software Tools Mail: ECSchroeder@lbl.gov

VMS Mail: lbl::ECSchroeder

FOCUS CLASSES IN MARCH

Marilyn Graham

Basic Report Preparation

A FOCUS Class—Basic Report Preparation—will be held from 1:15 to 5 PM Monday through Friday, March 4-8, in the Divisional Training Room, Bldg. 50B, Rm. 1237.

This is a comprehensive course—at a beginning level—on reporting from FOCUS databases: students can expect to learn to customize a Toolkit report to fit their particular needs and to query their data based on their own sets of criteria. Among the topics to be covered are

- data retrieval,
- record selection,
- creating temporary fields,
- subtotalling,
- performing calculations,
- formatting reports,
- joining Focus files.

File Description and Maintenance

A FOCUS Class—File Description and Maintenance (MODIFY)—will be held from 8:30 AM to 12 Noon Monday through Friday, March 18-22, in the Divisional Training Room, Bldg. 50B, Rm. 1237.

Students will learn to change many field values at one time, to prompt a user for specific input, and to transfer information from one file into another. This is the first time the course has been offered in several years.

Topics to be covered include

- an overview of File Structures,
- creating single and multiple-segment databases,
- control over input, update and deletion of records,
- writing interactive procedures,
- altering existing database structures.

Class size for each course is limited to 10 (one person per terminal for hands-on practice). There will be a charge, and IBI training manuals will be included in the course fee.

Forward comments and questions to Esther Schroeder, x5306 or Marilyn Graham at x5688 or

UNIX or

Software Tools Mail: MAGraham@lbl.gov

VMS Mail: lbl::MAGraham

... *Advanced*

FOCUS CLASS IN APRIL

Esther Schroeder

A FOCUS class—Advanced Reporting, Course No. 202—will be held from 9 AM to 4 PM on Thursday and Friday, April 25-26, in the VAX Training Room, Bldg. 50B, Rm. 1232.

The course being offered is from Information Builders Inc. and is meant for people who have already taken the introductory FOCUS classes, 101/103 or 102/104 or 102, and have had considerable experience in writing FOCUS reports. It is not intended for those with no knowledge of FOCUS.

Quoting from the IBI course catalogue:

Objective

"Learn the advanced reporting techniques necessary to create a variety of complex reports for business purposes. Gain insight into the essential internal operations of FOCUS retrieval processing for more efficient report generation."

Description

"... Using over 15 different reports as models, this course provides the student with the skills needed to generate complex, sophisticated reports. These include

- efficient use of TABLE and TABLEF,
- sophisticated formatting, data analysis, and DEFINE techniques,
- use of MATCH FILE command.

"The internals of report generation are also covered. Skills are reinforced through actual report writing and testing in hands-on terminal sessions."

Cost for the course depends upon how many people enroll, but should be between \$300 and \$400. (If this were being given at an IBI site, the cost would be \$510!) To enroll, or for more information about the course, please contact Esther Schroeder, x5306, or

UNIX or

Software Tools Mail: ECSchroeder@lbl.gov

VMS Mail: lbl::ECSchroeder

NEWS OF PHYSICS LIBRARIES

Werner Koellner

● GENERAL NEWS

Library developers and managers at CERN request that user comments, questions, and complaints be routed through me, to help reduce the dramatic increase of duplicate or related questions. Although I may not have a solution, I may be able to pool information and help to speed up the correction of problems. See also the following.

New lists LGEANT and LPAW have been set up in the CERNVM LISTSERV facility to improve communication and sharing of information concerning the CERN programs GEANT and PAW. This facility is akin to the DEC NOTES facility: to participate in this interchange, you register by sending an electronic mail message with the first line of the message being

SUBSCRIBE <list> <your full name>

where **list** is LGEANT or LPAW.

The current notes may be found in

Cern\$Inform:LPAW.LOGyymm
and
LGEANT.LOGyymm

**ON UX5
and
STARDENT**

● CERN LIBRARY

Selected CERN Libraries are available on UX5 and may be copied to Sun SPARCstations. Work is in progress to port some additional libraries to UX5, and to port supported libraries to the STARDENT workstation. Note that porting libraries to Silicon Graphics, IBM RISC-6000, and Convex machines is also supported at Cern.

For information about the status of these efforts, as well as instructions on using these libraries, see the following man entries:

man cernlib
man paw
man geant
man isajet
man jetset73 and
man minuit

as well as the CSA section below.

Except for Isajet, libraries on STARDENT are still largely untested, and PAW or GEANT may not be operational yet.

The path to the CERN library area on UX5 and STARDENT begins with

/home/ux5/ux5c/phyd/cern

All files that are common to both UX5 and STARDENT are downstream from subdirectory "sun" while those unique for STARDENT are downstream for subdirectory "stardent". I suggest that you set the environment variable CERN_ROOT:

setenv CERN_ROOT /home/ux5/ux5c/phyd/cern

Then you'll find UX5 files in

\$CERN_ROOT/sun/*

and those unique to STARDENT in

\$CERN_ROOT/stardent/*

All Sun libraries have been built as shareable libraries, except for PAW, where the static library libpawlib.a is being used. (The shareable library causes SIGMA to fail).

In linking with any library, just specify

-l<library>

where <library> is one of the strings listed under "LIBRARY" below.

On Sun machines, ATC-GKS is the supported graphics interface for CERN programs. For details, see the man entry

man gks.

The following libraries are available in

\$(CERN_ROOT)/sun/lib

(Versions as on CSA):

LIBRARY	PACKAGES
geantlib	geane, geang, geanh, geant, geantx
genlib	gen
graflib	hplot5, higz_atc, gkspack
isajet	p-p, pbar-p Monte Carlo
jetset73	LUND Monte Carlo (Jetset73 + Pythia54)
kernlib	kerngen, kernnum
minuit	minuit
packlib	cspack, epio, ffreed, hbook4, iopack, kapack, kuip, minuit, zbook, zebra, zcedex
pawlib	paw_atc, comis, sigma

● PAW

As on CSA, PAW is supported with ATC-GKS graphics. The standard program may be executed on UX5 by merely typing `paw_atc`. For further details consult the man entry

`man paw`

● GEANT

Only the latest GEANT Version (3.14 with ATC-GKS graphics) is supported on UX5. For details about linking your executable image, consult the man entry

`man geant`

Some examples may be found in

`$(CERN_ROOT)/sun/demo.`

ON CSA

● PHYSICS UTILITIES

On the CSA Cluster, and on LAN workstations, if the required disks are mounted, you can access the Physics Utilities, including the CERN Library, the PAW (Physics Analysis Workstation) Library, and the various Physics Utilities HELP Libraries by executing the DCL command

`@Physics$Manager:Setup_Phys`

We recommend that you include this line in your Login.Com file.

● HELP

When you type

`Help @Physics_Utillities`

you'll see a list of utilities for which help text is available under "Additional information available." You may also type

`Help 'subtopic'`

where 'subtopic' is one of the utilities listed, to get help directly on a particular utility.

● APS_LaTeX

Submit articles to the PHYSICAL REVIEW in machine readable LaTeX compuscripts by using the APS "compuscript toolbox." Type

`Help Mis_Phys_Aps_Latex`

for more information.

● APS_WHATS_NEW

Weekly news capsules, issued by Robert Park of the American Physical Society, are available in APS_WHATS_NEW. To read (and keep track of) just the news capsules that you haven't read yet, type

`@Aps_Whats_New:Whats_New <cr>`
or just `WHATS <cr>`

For further information, type

`Help Mis_Phys_Aps_Whats_New`

● CERN LIBRARY

Object libraries are updated at unpredictable times. Changes are documented in the "Program Library News" section of the CERN Computer Newsletter. Past, current, and sometimes future issues can be found in `Cern$Inform:PROGLIB.CNLxxx`. Of particular interest are news items regarding the status of obsolete routines. Additional information can be found in various files in `Cern$Inform`, in `Cern$CernHlp`, and via online HELP for selected products. In some cases a previous version of an object library is available as `xxxxx.OLD`. In particular, type

`Help Cern Lib`

to see a small description of the library packages and current versions that are available. In some cases a previous version of an object library is saved as `xxxxx.OLD`.

The recommended method to access the latest standard object libraries is to use logical names `CERN$*_LIB`. For these names and other details, please see the help text in

`Help Cern`

The following object libraries and programs have been updated recently.

This executable is in `CERN$CERNEXE`
`CMZ .....Version 1.35/01`

Packages in Library `CERN$GRAFATC_LIB`
`HIGZ .....Version 1.11/07`
(+local ATCGKS mods)

Packages in Library `CERN$PAWATC_LIB`
`Paw .....Version 1.10/03`
(+local ATCGKS mods)
`Comis .....Version 1.10/05`

Packages in Library `CERN$PACK_LIB`
`Cspack .....Version 1.04 (see below)`
`Kuip .....Version 1.65`
`Zbook .....Version 2.22/01`

Packages in Library CERN\$GEN_LIB
 Genlib Version 1.34/03

Packages in Library CERN\$KERN_LIB
 Kernbit..... Version 1.05

● CERN_NEWS

Cern News is a facility which allows remote access to News Items (for instance, the latest LEP News), that are posted by a number of research groups at CERN on either the VAX or IBM machines at CERN.

To see the list of available News Groups, type

Cern_News/INQ

To scan news of the LEP group, type

Cern_News LEP

and follow the instructions. Once in CERN_NEWS, you may send the current news item to the default printer, or fetch the file into your default directory.

For additional information, type

Help Cern_News

● COMPUTER PHYSICS COMMUNICATIONS

Computer Physics Communications of Belfast, Northern Ireland, maintains the CPC Program Library, which contains over 1100 refereed programs in Physics and Physical Chemistry submitted by scientists from all over the world. Descriptions are published in the North-Holland journal Computer Physics Communications. Indexes of newly-added programs can be found in

Cern\$Inform:CPC_LIB_mmyy.INDEX.

Electronic access to the library is now available from CSA3 via the BSEND command. For more information see

Cern\$Inform:CPC.INTRO.

● CSPACK

This is a new "Distributed Computing Package" from CERN. The application-callable routines are part of CERN\$PACK_LIB. The package consists of

- ✓ ZFTP (file transfer program),
- ✓ SYSREQ (communication package),
- ✓ TELNETG (modified TELNET program),
- ✓ a ZEBRA Server, and
- ✓ Utility Routines.

Actual release of this package on LBL machines is pending.

● DISPLAY5

This program is a version of the locally written program DISPLAY, with the added capability of reading and writing newer Hbook4/Hplot5 direct-access histogram files. Much of the conversion work has been done by Kim Ng, of FNAL. Hardcopy output to most available devices, including Adobe-Illustrator format for further editing on Macintosh workstations, is supported. For further details type

Help Display Display5

● FOR_STRUCT

FOR_STRUCT is a new product which has been made available through the Electronics Engineering Division of LBL as part of their reverse engineering and CASE studies. It is licensed on the CSA cluster.

FOR_STRUCT is a comprehensive structuring utility to transform spaghetti FORTRAN-IV and FORTRAN-77 into fully-structured code. It completely converts IF-GOTO, GOTO and DO . . . CONTINUE statements into equivalent structured forms. Various options may be specified.

To use this new, non-interactive utility, type

FSTRUCT <filename> <cr>

or just **FST <cr>**

For minimal HELP text, type

Help Mis_Phys FSTRUCT.

● GKS

As explained in the August Newsletter, Version 3.2 of ATC-GKS, which became the default, no longer supports the VAXstation (VWS/UIS) driver 4300. Please note that the old version remains available in **Sy_Graphics:[OLD_ATCGKS]**. To link and run with the old version, redefine GKS logicals

@Sy_Graphics:[OLD_ATCGKS]OLDGKS

● GEANT

GEANT, a system of detector description and physics simulation tools, is available as part of the CERN Libraries. A sample Program, using ATC_GKS or DI3000 to demonstrate graphics and other capabilities, is available. The current default, accessed via the logical name **Cern\$GeantATC_Lib**, is the latest Version 3.14. Note: the actual filename of the object library was changed to **Cern\$Library:GEANT_ATC.OLB**. Similarly, the characters "314" have been omitted from the PAM filenames.

The release notes of the latest version are in

Cern\$Inform:Geant314.History
 and
Cern_Corr.History

The recommended link procedure

Cern\$Library:Geant.Lnk

uses one of the linker options files

GEANTI_ATC.OPT,
GEANTB_ATC.OPT for ATC-GKS graphics, or
GEANTI.OPT or **GEANTB.OPT** for simple MGKS
 graphics.

The difference between **I**(nteractive) or **B**(atch) is just the inclusion of the main program **GXINT** in the interactive case.

Besides ATC-GKS, GEANT is also available with the DI3000 graphics interface. To link that version, on CSA2 only, use

@Cern\$Library:Geant_Di3000.Lnk.

Graphics output, destined for hardcopy devices, e.g., the IMAGEN printer, PostScript devices, etc., or "real" CGM metafiles, may be written simultaneously with interactive display via the command

Metafile

For additional information please type

Help Geant

● PAW

At LBL, the program PAW is being maintained primarily in the full GKS version, named **PAW_ATC**, although the mini-GKS version, as well as a DI3000 version, are available. **PAW_ATC** uses the ATC-GKS interface, whereas **PAW_DI3000** uses the Precision-Visuals DI3000 interface, which can be used only on CSA2. Both versions make a large number of output devices available to the user for graphics output. Standard executable programs of **PAW_ATC**, **METAPAW**, **PAW_DI3000**, as well as **PAW**, are available in **PAW\$LIBRARY**.

To use the PAW with the old ATC-GKS, please see the section "GKS" above, and

Run Paw\$Library:Paw_Oldatc.exe

If desired, users may link their own versions by using or modifying the procedures

PAW\$LIBRARY:PAW_ATC.LNK or
PAW\$LIBRARY:PAW_OLDATC.LNK or
PAW_DI3000.LNK or
PAW.LNK

These procedures use corresponding linker options files, e.g. **PAW_ATC.OPT**.

With **PAW_ATC**, all graphics output may be written simultaneously to a graphics output destined for a particular hardcopy device, e.g., a PostScript printer, or an IMAGEN printer, as well as to a "real" CGM Metafile, via the command

Metafile

Displayed graphics may also be written selectively to a PostScript device file. See

Help Paw

for details.

Most recent **PAW_ATC** improvements are documented in files **Cern\$Inform:Paw.News***. The latest of these is **PAW.NEWS1010**. Manuals for PAW, including a fancy new User's Manual, are available from the Computer Center Librarian (Bldg. 50B, Rm. 1232B - x7008). You can get a nice TeX hardcopy manual of the latest PAW Command Guide by running **PAW_ATC** and issuing the **KUIP** command

Manual/ Guide.Tex Tex

and processing the file **Guide.Tex** through the TeX processor.

Forward comments and questions to me at x4398, or

Unix or	
Software Tools Mail:	WOKoellner@lbl.gov
VMS Mail:	lbl::WOKoellner

NOTES FROM TROUBLE MAIL

Maggie Morley

Following are further examples of typical exchanges from our on-line UNIX and VMS mail facilities.

MESSAGE

I received several fatal errors while trying to access the MSDS database. Is it online and available for use yet?



RESPONSE

MSDS seems to be on-line and working, at least via the MSDS login on CSA3. I have forwarded your report to the Workstation Group (x6858); Richard LaPierre and Nancy Travis of that group are our experts with the MSDS system. (See the article on accessing MSDS in this month's Workstation Scene. . . . Ed)

MESSAGE

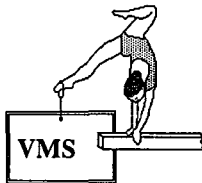
I am trying to get to the online version of Publication 3000 on CSA3. When I tried to login as SAFETY, the program crashed. The user error was 4006 - something about no active kernel for given kernel name. Was this my fault or is thing just buggy?

RESPONSE

Confirmed your report: got an error message when trying that login. The SAFETY login did work to some extent before the break; perhaps this error is related to the upgrade to VMS 5.4. This e-mail is also being forwarded to Jose Olivares, (x6871) who is the support person here for the BASIS/plus package.

MESSAGE

I am attempting to create a 100000 block file for use as a secondary pagefile on my MicroVAX, node SUPER. I have used the FDL editor to create an FDL command file specifying "BEST_TRY_CONTIGUOUS" and "ALLOCATION = 100000". I then used CREATE/FDL=FOO.FDL PAGEFILE1.SYS, and got an empty file with allocation 100000, i.e., it appeared in the directory with size 0/100000. This was an unsatisfactory result, since such an empty file cannot be installed with SYSGEN as a pagefile. How do I create a file with 100000 blocks actually used?



RESPONSE

You use the command:
MC SYSGEN CREATE/CONTIG/SIZE=100000 'file_specification'
or leave off the /CONTIG if your disk does not have sufficient contiguous space.

MESSAGE

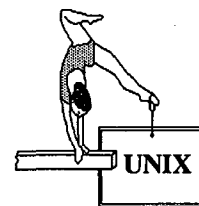
Dear System, I have been running a job on the CSA1_standby batch queue, for a few nights; it should have accumulated 20 to 30 hours of cpu time. I just did SHO SYS/BATCH to see its status and instead of the usual SUSP it reads SUSPO, and instead of showing the accumulated cpu time it says "swapped out". Can you please tell me what this means? Has someone pulled my job off the queue?

RESPONSE

The VMS operating system "swapped" your job out to disk, including its process header, so CPU usage information was NOT available. The "swapper" is a system process that is always running; its function is to manage system-wide memory requirements. Outswapped jobs are NOT lost and will be inswapped when the process is a candidate to execute and when there is enough physical memory in the machine. Notice that jobs in the stand-by queue are NOT candidates for execution during prime-time hours (9 AM - 7 PM on non-holiday weekdays). Therefore, if such a job has been outswapped during prime time, it will not be inswapped before 7 PM that evening.

MESSAGE

I have just tried to read news on network by typing M-x gnus in emacs. However, gnus seems to be not installed on UX5. How can I read news on network at LBL? I am now developing my environment on IBM RS/6000. This is a very new workstation. So, I would like to get a lot of information about it from other users' trials. Please let me know the method to access the news on network.

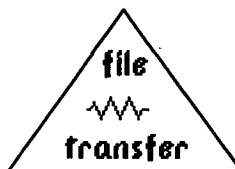


RESPONSE

The "rn" (new "read news" program) command is available on our UNIX systems (UX5/1/3), as well as on our CSA cluster; the "news" command is available on UX1 and UX3 but NOT on UX5.

MESSAGE

When I connect to CSA3, I get a message indicating that I have four network files that arrived on the computer for me. When I try to use the RECEIVE command, I get error messages.



RESPONSE

Please use BRECEIVE instead of RECEIVE. I'll take RECEIVE out of the help library. Sorry about the confusion.

MESSAGE

I was just trying to get a file from my Mac to CSA using Versaterm via ICS and KERMIT. Always failed. So I SET HOST to node VXCERN at CERN and did the same (via KERMIT); this worked. It may be that KERMIT on CSA is not working properly, as getting to CERN uses all the same hardware and MAC stuff. Could you check it out?

RESPONSE

Called the user and confirmed he was sending text files; maximum line length was 64 bytes. He had tried the long packets option of KERMIT, which also failed. Suggested he try XMODEM, which is a public-domain program for which a symbol is defined on CSA. He tried it, it worked, and he's happy.

This is not the first case I have seen where XMODEM has worked but KERMIT has not. Unfortunately, we don't have the resources to research this problem.

MESSAGE

Can you suggest a good way to send a binary file to someuser@slc.slac.stanford.edu? This SLAC machine is a VAX running VMS. I tried mailing the file from VMS but the mailer complained about the record length. I tried logging on to their system using ftp anonymous, but needed a password. Finally I tried rcp from a UNIX machine. I got no error messages, but the person that I sent it to didn't get it. I'd appreciate suggestions.

RESPONSE

From our BITnet node here (CSA3 —known as LBL on the BITnet) you should be able to use BSEND to send your friend the file; there is a size limit of about 300K bytes (600 VMS blocks.)

Usage - ONLY ON CSA3:

bsend/binary/file filename someuser@slacslc

You may need to try

bsend/vmsdump/file filename someuser@slacslc

See the VMS HELP article BSEND, subtopic FILE, for details. Your friend will need to use RECEIVE (what we call BRECEIVE) to receive the file.

Here's some information about those qualifiers from that HELP article:

/BINARY is used for sending binary data files. This preserves file record structure and causes characters in the range 00 through 1F hex to be sent. No translation to EBCDIC is done unless /TRANSLATE is also specified. Valid for BSEND/FILE.

/VMSDUMP specifies that the input file be sent in special VMSDUMP format. VMSDUMP allows the transfer of any VAX/VMS RMS file to another VAX/VMS node running Jnet V2.0 or later; the file will be meaningless to any other nodes. VMSDUMP is most often used for sending executable images, object files, and BACKUP save sets. Valid for BSEND/FILE.

MESSAGE

Could you tell me how to send e-mail from CSA to a colleague on the SPAN network? Thanks.

RESPONSE

Given what you told me over the phone, I'd try

st%"username@aplsp.span.nasa.gov" (VMS Mail)
username@aplsp.span.nasa.gov (Software Tools Mail)
OR

st%"username@apssp.span.nasa.gov" (VMS Mail)
username@apssp.span.nasa.gov (Software Tools Mail)

MESSAGE

Can you tell me, please, how I may access the LBL workstation server from EARN/bitnet to copy FREE software (and eventually become a member of BMUG).



RESPONSE

The Berkeley Mac User Group is on the Bitnet as:

bmug@ucbgarne

(note the truncated Bitnet 8 characters; the address ucbgarnet (9 characters) may or may not work) and on the Internet as

bmug@garnet.berkeley.edu

The BMUG physical mail address is:

BMUG, Inc.

1442A Walnut Street #62

Berkeley, California 94709

Your correspondence probably should be directly with them.

Individual memberships apparently are \$40 and company affiliations are \$100 per year. Educational memberships may be different. The BMUG PD ROM is \$100. I think that BMUG has "shareware" rather than "free-ware".

MESSAGE

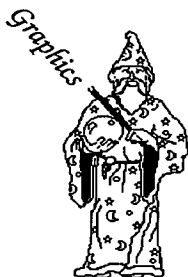
Hi. I'm having a problem with my Macintosh. I didn't use it for a while (over the Christmas break) and now I can't use telnet and HyperFTP anymore. The message is: "can't get the IP address for CSA2 do you want to reconfigure? etc etc." It looks like the Macintosh network when rebooted (the equivalent of the VAX machines) doesn't recognize my Macintosh anymore.

RESPONSE

Your problem is that MacTCP didn't assign an IP number to your Mac. This rarely happens, but when it does (the few times I've seen) I've found it can be fixed by changing the AppleTalk node number for the Mac. Presumably some data structures in the Kinetics box associated with the old node (node 70, net 88.01, physics zone) have been corrupted; using a different node (112 in this case) helps the Kinetics box take a fresh look at assigning an IP number. Setting the node back to 70 does indeed recreate the problem, in case anyone wants confirmation. Presumably this will continue until the Kinetics box is rebooted.

MESSAGE

I created a PostScript file with DIS-SPLA, and now I want to use Adobe Illustrator on that file to perform some improvements by hand. However, the file is unacceptable to Adobe *Illustrator*. Do you have any suggestions?



RESPONSE

Apparently *Illustrator* accepts encapsulated PostScript files (EPSF) only. It may also be necessary to set the Mac file type to be EPSF (or whatever type *Illustrator* is looking for). EPSF is basically something that fits on a single page and has a "bounding box" comment near the beginning of the file. The basic strategy would be to look at a real EPSF file (a small one), and then try to edit the PostScript file that DIS-SPLA produced to match. You'd probably want to remove the showpage at the end, and check for `gsave & grestore`, which may/may not be acceptable.

MESSAGE

How can I find out how many planes of color the demo460 monitor is capable of displaying?

RESPONSE

demo460 has an eight-bit framebuffer. For full details, you can log in to demo460, start the X server in the background

```
demo460.lbl.gov% X &
```

and then do

```
demo460.lbl.gov% xdpinfo -d demo460:0
```

SPARKS FLYING UPWARD DEPT*

SFU #1

Contrary to what you read in the December 1990 TROUBLE MAIL NOTES section, you should **NOT** use the CERN gateways to send electronic mail using the call to **psi** services unless you have made prior arrangements to pay for a **psi** long-distance phone call (contact CERN e-mail support <dimou@cernvax.bitnet>) ... Relaying traffic through CERN is **ONLY** allowed with bilateral agreement.

The DECnet **psi** service makes a long-distance phone call which is paid for by the people at CERN. Should you use their access to relay traffic through **psi**, they will have to pay the foreign X.25 charges if there is no agreement on backcharging.

According to CERN electronic mail support, "... the orthodox way [to use the service is for] VAX/VMS users [to] get **psi** or **psi** access on their node." At present, LBL does **NOT** have DECnet **psi** service: there have been few requests from LBL staff for it. (Cost of the service is part of the reason. And there are difficulties in recharging for the long distance phone calls).

For more information, contact WDJaquith@lbl.gov (x4388).

SFU #2

In the January 1991 TROUBLE MAIL NOTES section, a command line was garbled (in the UNIX section). We told the user to put

```
"set path=(/usr/lang ~/bin/usr/local/. ..."
```

in his file `.cshrc`. What we meant was that the user should put `"/usr/lang"` at the beginning of his path (whatever his path is).

*If you want wider distribution of your comments or questions, we encourage you to send them to **trouble** since it is seen by a wide range of people, including Divisional management. To use Trouble, enter the VMS, Software Tools, or UNIX mail system and send mail to the address*

trouble <cr>

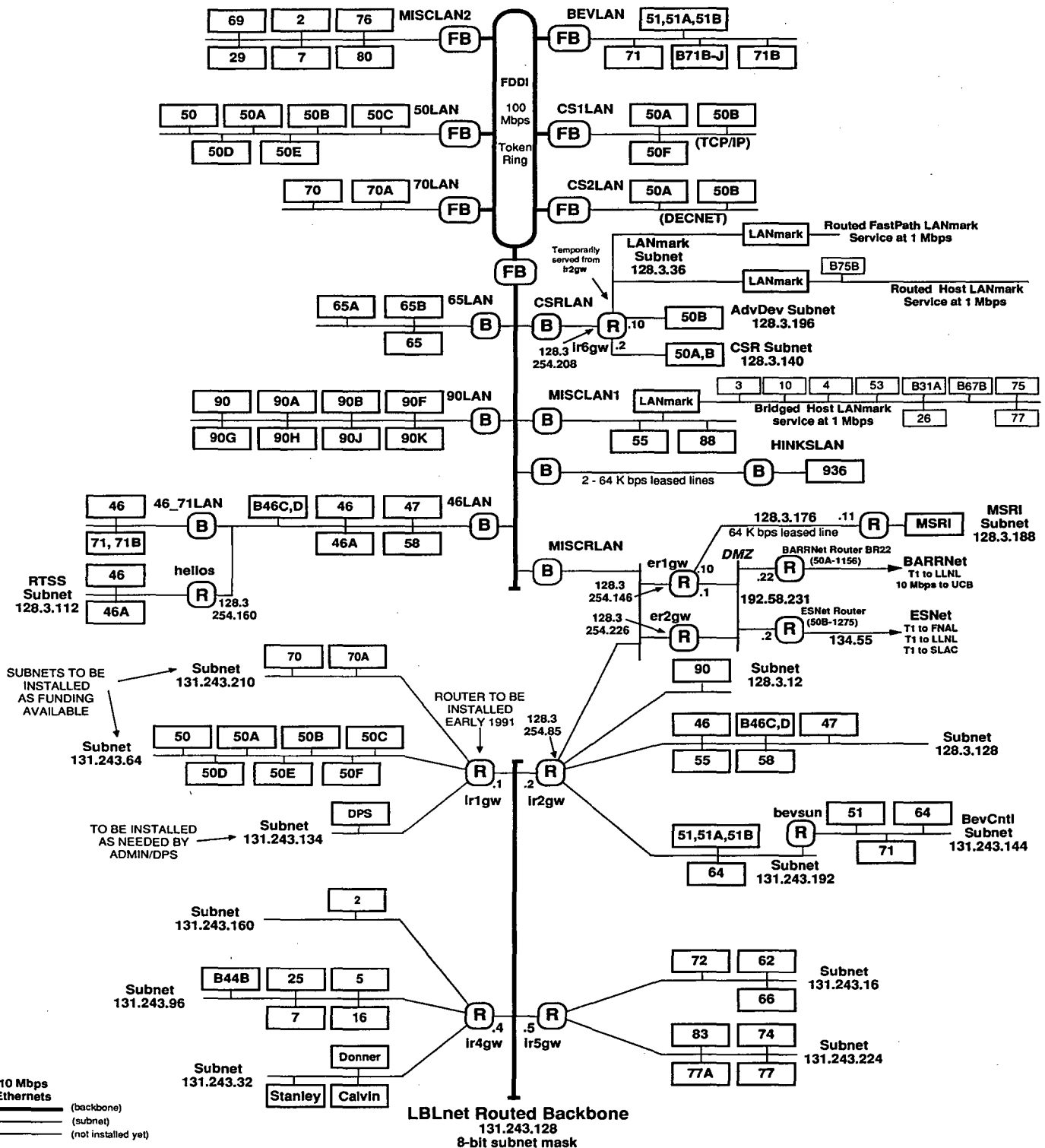
We won't, of course, include any user's name in the exchanges.

* "Man was born unto trouble, as the sparks fly upward."

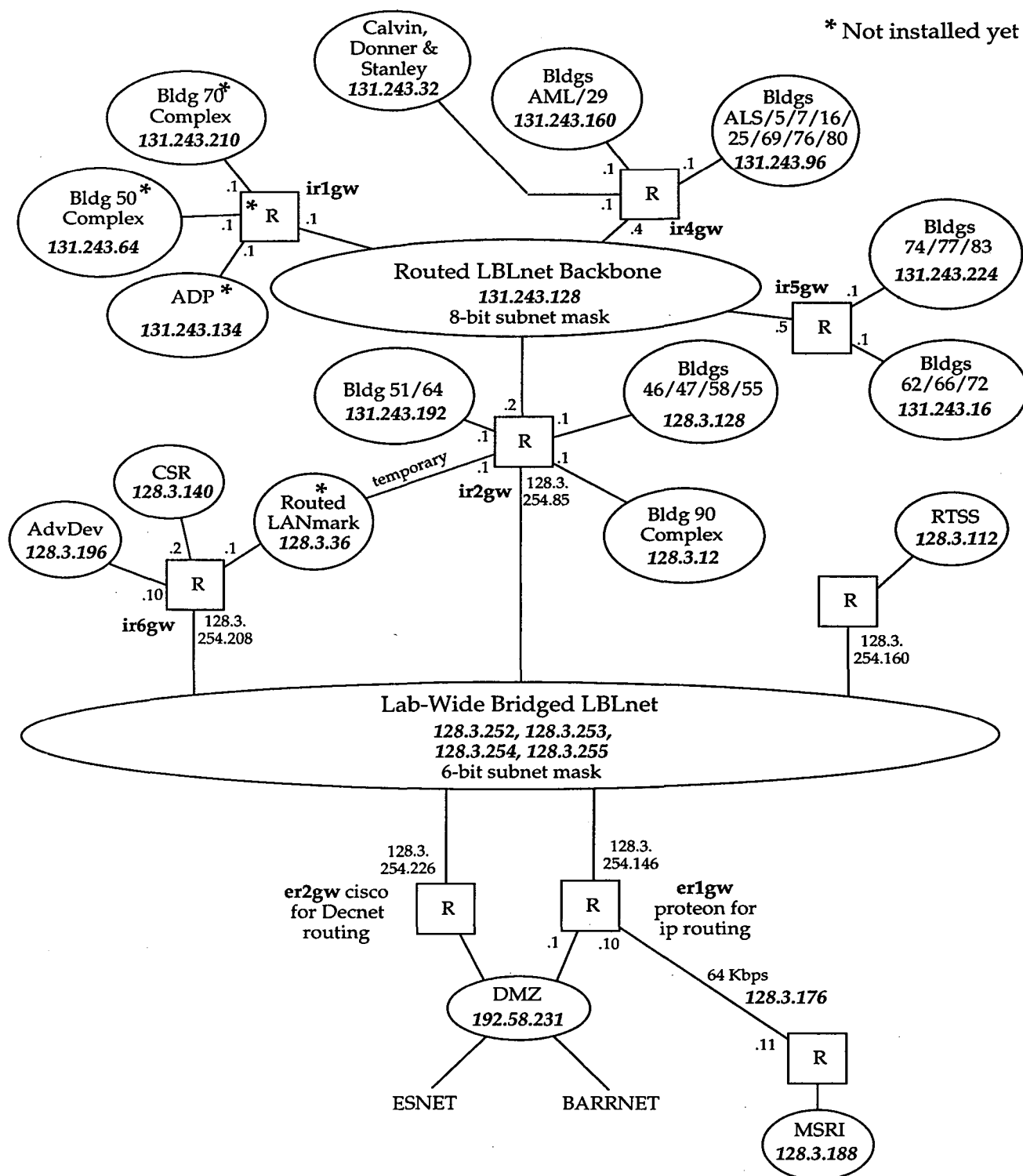
... Job 5:7

LBLnet NEWS

LBLnet Bridged Backbone
128.3.252, 128.3.253,
128.3.254, 128.3.255
6-bit subnet mask



* Not installed yet



LBLnet Subnet Overview

R = IP Router

Circles Represent Routed Ethernet Subnets

Bob Fink/Craig Leres/Ted Sopher

18 January 1991

ICSD TRAINING SCHEDULE

February - May 1991

COMPUTING SERVICES CLASSES

The following courses are offered by Computing Services. For those of you who are interested in enrolling in the UNIX classes or the Electronic Mail Survey class please contact Rita McLean, x5872. You do need a current UNIX or VMS/CSA login.

There is a charge for the FOCUS classes. If you are interested in enrolling in any of them, please contact Marilyn Graham, x5688, or Esther Schroeder, x5306.

UNIX - Intro. I	Feb. 11	9 AM to Noon	50B-1232
UNIX - Vi editor	Feb. 12	9 AM to Noon	50B-1232
UNIX - Intro II	Feb. 13	9 AM to Noon	50B-1232
UNIX - Intro to Text Formatting	Feb. 14	9 AM - 10:30 AM	50B-1232
Electronic Mail Survey	Feb. 28	10 AM to Noon	50B-1237
FOCUS on UNIX	Feb. 22	9 AM - 4 PM	50B-1237
FOCUS: Report Preparation	Mar. 4, 5, 6, 7, 8	1:15 PM - 5 PM	50B-1237
FOCUS: File Maintenance	Mar. 18, 19, 20, 21, 22	8:30 AM - Noon	50B-1237
FOCUS - Advanced Reporting	Apr. 25, 26	9 AM - 4 PM	50B-1232

WORKSTATION CLASSES

The following courses are offered by the Workstation Group. There is no charge for these classes.

To enroll, obtain your supervisor's approval and then contact Carole Casaretto, x6858.

(Those classes with asterisks (*) in front of them are already full.)

IBM-PC: Bldg. 50B, Rm. 1237

Introduction to Windows for the IBM/PC	* Feb. 12, 13 8 - 9:30 AM
	Mar. 12, 13 8 - 9:30 AM
Introduction to PC-DOS	* Feb. 19, 20, 21 1 - 2:30 PM
	Mar. 12, 13, 14 1 - 2:30 PM
Microsoft Word for the IBM/PC	* Feb. 19, 21, 26, 28 3 - 4:30 PM
	May 14, 16, 21, 23 3 - 4:30 PM
Microsoft Word for Windows †	Mar. 26, 28, Apr. 2, 4 3 - 4:30 PM

†This class requires some experience using Windows 3.0

Macintosh: Bldg. 50B, Rm. 1229

Basic Macintosh	Feb. 6 12 - 1 PM no sign-up req.
Intro. to MacDraw	Feb. 5, 6, 7 10:30 - Noon
Basic Intro. to FileMaker	* Feb. 20, 22 1 - 3 PM
	Mar. 27, 29 1 - 3 PM
Advanced FileMaker Pro Workshop	Feb. 27 1 - 4 PM
Beginning Microsoft Word	* Feb. 11, 13, 15 10 - 12 Noon
	Mar. 11, 13, 15 10 - 12 Noon
Beg. Excel Spreadsheet	Feb. 25, 27, Mar. 1 9 - 11 AM
Introduction to PowerPoint	Mar. 26, 28 1-2:30 PM

The Workstation Group also offers noon time classes (no sign-up required) in the following subject:

Basic Macintosh Class 2/6 50B/1229
See Workstation Scene Newsletter Articles for more details on these workshops.

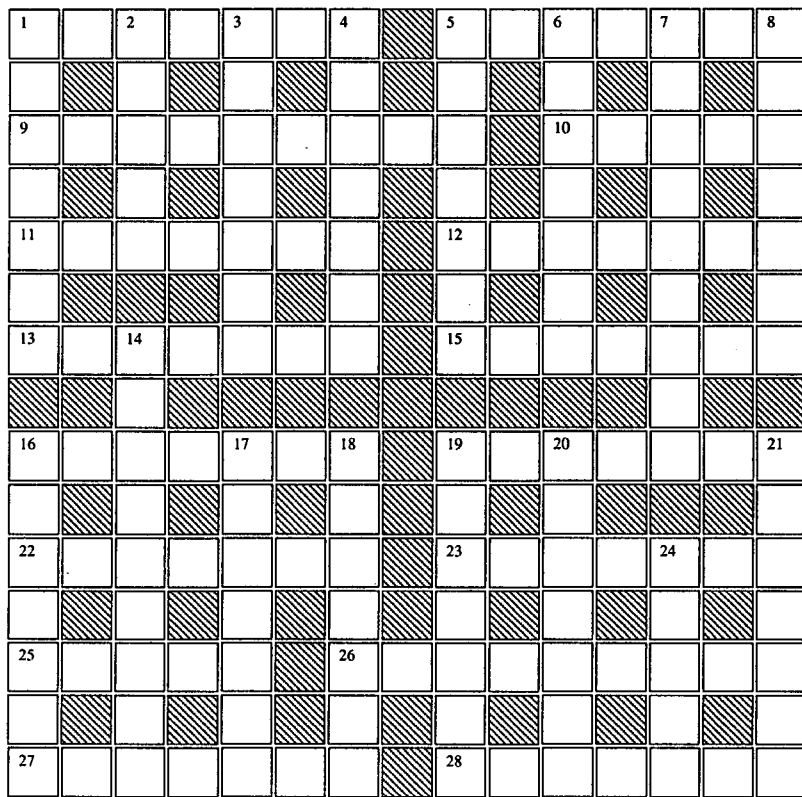
CRYPTIC CROSSWORD

Cryptic Crossword for February

Word Ladder

D. F. Stevens

(after Ximenes and Afrit)



(This puzzle is a bit longer than usual.)

Words corresponding to numbers 1-49 form a ladder. Each rung has exactly six of its seven letters in common with the next rung, i.e., HEARTEN, UNEARTH, THUNDER. Only even-numbered words are to be entered into the diagram; they have no clues and are to be deduced from the ladder and cross-letters. Clues are provided for odd-numbered rungs, which do not appear in the diagram, and for the eight words of the diagram that do not participate in the ladder. The solutions to the non-ladder words will provide one letter towards each diagram rung. A cross-reference key from the diagram to the ladder is provided. All rungs except #7 are one word; one non-diagram rung and one non-ladder word are proper names.

The Ladder

1. A guy and his gal give the order. 2. 1 down 3. Before the last of the light, fish folk may be stocking. 4. 8 down 5. Indian deity takes tangled net and scales. 6. 19 down 7. A rector's assistant who would be exactly right if he had another penny. (1, 6) 8. 5 down 9. Graceful motion encompasses old city that's often vile. 10. 4 down 11. Turn ace around and remove from box. 12. 21 down 13. Bag left by eagle in barracks. 14. 13 across 15. It's irregular to climb the point. 16. 27 across 17. Patrons' pennies cover backward state. 18. 18 down 19. Gates and guards have no beginning. 20. 28 across 21. Intensity is found in measures of fortes. 22. 22 across 23. A round trip to Maine (returning) is just what Diana needs. 24. 1 across 25. Most of the regional catalogue is practical. 26. 17 down 27. The sopranos left Al to Leslie. 28. 16 across 29. Measures the brightness of yellow in light. 30. 16 down 31. Alpinist is calm and supple. 32. 15 across 33. The quality of a lithium-bearing trunk. 34. 23 across 35. Fine stuff can come from extremes of campy fabric. 36. 6 down 37. Express disapproval as tackle scatters fighting staff. 38. 12 across 39. Ornament of spike and girdle. 40. 3 down 41. Gets back half silly, but in control. 42. 11 across 43. Purl backwards on horse's foot. 44. 20 down 45. Cougar quietly holds pollen. 46. 19 across 47. Measure of activity before the legislator. 48. 5 across 49. Sloppy recount is cause of defeat.

Non-Ladder Words

2. We climb rods, making unvoiced sounds. (5)
7. Calculating device to make Morgan hop. (9)
9. Raptor disperses angry flock after last one takes off. (9)
10. Copper has small-time seed. (5)
14. Crew notes scattered grain. (5, 4)
24. Pound up the lug mist. (5)
25. Drunken sot or perch. (5)
26. Speaks heresy in the hearing of a famous Roman. (9)

Cross-Reference

Across: 1 = 24 13 = 14 22 = 22
 5 = 48 15 = 32 23 = 34
 11 = 42 16 = 28 27 = 16
 12 = 38 19 = 46 28 = 20

Down: 1 = 2 6 = 36 18 = 18
 3 = 40 8 = 4 19 = 6
 4 = 10 16 = 30 20 = 44
 5 = 8 17 = 26 21 = 12

Notes to Solution*Word Ladder*

1. man + date
2. magenta
3. gar + men + [ligh]t
4. tangram
5. Ram[ent(*anag*)]a
6. amateur
7. a[c]urate
8. centaur
9. d[Ur]ance
10. lucarne
11. [turn ace](*anag*)
12. recants
13. sac(*rev*) + erne
14. absence
15. scale + NE
16. lancets
17. c[IL(*rev*)]ents
18. entices
19. [s]entries
20. retires
21. met[i]ers
22. metrist
23. a + RT + ME(*rev*) + is
24. mistral
25. [a]rea + list
26. bristle
27. [Al]bert(*rev*) + Les[lie]
28. tremble
29. l[amber]t
30. timbrel

31. c + limber
32. reclaim
33. ca[Li]ber
34. acerbic
35. cam[py fa]bric
36. racemic
37. rig(*anag*) + mace
38. armiger
39. ear + ring
40. realign
41. re[ga-ga]ins
42. nastier
43. p + astern
44. operant
45. p + anther
46. another
47. en + act + or
48. coronet
49. recount(*anag*)

Non-Ladder Words

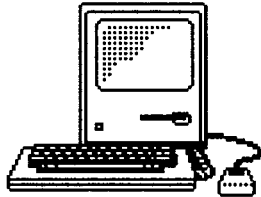
2. us(*rev*) + rds
7. [Morgan hop](*anag*)
9. [angry floc(k)](*anag*)
10. Cu + min
14. [crew notes](*anag*)
24. lb(*rev*) + ear
25. [sot or](*anag*)
26. [says Arian](*homophone*)

THE WORKSTATION SCENE

COMPUTERS AND HEALTH:

A Responsible Plan For Action

This article originally appeared in the May-June 1990 issue of the University Computing Newsletter, University of Vermont and is reprinted here with the permission of the author, Janet Cottrell. Here at LBL, the Environmental Health and Safety Department (EH&S) offers workplace inspections and training classes to minimize the hazards of working with VDTs. For more information on these services, contact them at x5251 . . . Ed.



The question of whether computers pose a health risk is current, controversial, and almost certain to provoke an emotional response. And no wonder: millions of people use computers daily in their work. Most experience no ill effects, but firm evidence linking computer use to serious health risks would make even the healthiest of us pause and think. The potential number of people affected and the potential amount of work disrupted ensure the importance of the question.

Among the factors cited as health risks are stress, the restricted range of movements involved in computer use, the presence of static fields, and the possibility of low frequency radiation. The alleged ill effects include skin rashes, visual disorders (eye strain, loss of focusing ability, cataracts), skeletal problems (back pain, repetitive strain injuries), and abnormal reproductive outcomes (conception problems, miscarriage, birth defects).

The severity of some of these allegations, combined with the sheer number of people involved, has resulted in a certain amount of journalistic sensationalism. Some articles use attention-grabbing titles or strongly worded quotes to emphasize the seriousness of the risks. Others take the opposite approach, denying that any risks exist at all.

Short of denying the existence of any risks at all or, conversely, refusing ever to be near a computer again, concerned computer users have another choice: to become as well-informed as possible and act accordingly.

To make matters even more confusing, members of both camps accuse each other of inaccuracies and deceit: those who emphasize the risks of computer use are accused of being irresponsibly inflammatory, while those who emphasize its safety are accused of intentionally concealing known hazards for commercial gain.

Sound Approach

A reasonable course of action might include the following:

- Seek more information. At the end of this article there is a suggested reading list. EH&S has several useful handouts and a 14-minute Video on Office Ergonomics. Call them at x5251.
- Consult more than one source of information. Because the topic is so controversial, many sources (including some of those in the reading list) favor one point of view very strongly. Also, sources printed more than a year or two ago will not include recent research.
- Read them critically. Keep in mind that the same facts and figures can be used to support opposing points of view.
- Consider what changes, if any, would be appropriate in your particular situation.

Some aspects of the topic are more clear-cut than others. For example, most researchers agree that ergonomics are particularly important in offices where computers are used. The intensity of the work and the limited physical movement create a higher potential for physical stress, stiffness, muscle strain, and related conditions.

Musculo-Skeletal Effects

Repetitive movement such as keyboard use, in which the fingers move while the arms, shoulders, back, and legs are held static, actually puts greater strain on the body than more varied tasks such as filing, typing, or transcribing, in which more muscles are used more dynamically. As a result, the limited repetitive motion typical of computer use may contribute to back, neck, or shoulder pain or repetitive strain injuries such as carpal tunnel syndrome, a painful condition of the wrist.

Fortunately, it is possible to avoid or limit these effects. One of the most effective countermeasures is to deliberately break up the repetitive motion by doing something else - performing some other office task, or walking down the hall, or just stopping to stretch periodically.

If the keyboard is to be used several hours a day, a comfortable chair with good lumbar (lower back) support is essential. Chair and table height should be adjusted to the individual user. If raising the chair to a comfortable typing height brings the feet too high, a foot rest can be used.

The height and tilt of the screen should be adjusted to avoid neck strain. Typically, the most comfortable viewing angle for the screen is slightly below eye level. (In the reading list at the end of this article, Grandjean, 1987, provides a comprehensive treatment of these and other ergonomic considerations. See also LBL Publication 258, Pg. 15.)

Lighting and Glare

Another controllable factor is lighting. Reflected light from windows or office fixtures can cause glare on the screen, making it difficult or impossible to read. Placing the computer desk at right angles to a window is considered preferable. In offices particularly blessed with windows, blinds or draperies may be necessary.

Even typical office lights may be too bright for effective use of the screen, especially if the light is reflected from bright walls or shiny desks. In this case, consider reducing the overall office lighting and using a desk lamp to illuminate paperwork without washing out the screen. Of course, the screen itself must have clearly formed characters, with high resolution and no flicker or distortion.

Effects on Vision

Even under favorable lighting conditions, reading a screen for hours on end can strain the vision. Although most studies have found this strain to be temporary, there is some indication that very long-term use of computer screens (six hours a day for more than four years) may cause permanent focusing problems.

To reduce the risk of this or other visual strain, regular breaks are important. Look away from the screen and focus on an object 20 feet or more away. If a small work area makes that impossible, walk down a long hallway or look through a window to vary your focal length. To exercise the muscles that move your eyes, roll your eyes three times in one direction and then the other. Rest your eyes by closing them and lightly cupping your palms over them for a minute.

Even under favorable lighting conditions, reading a screen for hours on end can strain the vision. Focusing your eyes at the same distance for long periods of time may hamper their ability to refocus easily at different distances.

Since using a computer screen, like any intense visual task, puts such a high demand on your vision, professional eye care is important. Be sure your optometrist or ophthalmologist knows that you use a screen regularly. In some cases, glasses or contacts prescribed especially for the viewing distance of the screen may be helpful.

One or two reports have made the controversial suggestion that using a visual display terminal (VDT) may contribute to the formation of cataracts, a condition in which opacity of the lens interferes with vision. While all of the causes of cataracts are not known, heredity and age appear to be the strongest factors. Exposure to high levels of X-ray, microwave, or ultraviolet radiation also plays a role in the formation of some types of cataracts, but virtually all researchers agree that VDTs do not emit this type of radiation above background levels. The incidence rate for cataracts in VDT users does not appear to exceed that of the general population, and the prevailing scientific opinion is that there is not any link between VDT use and cataract formation.

Skin Rashes

There is some indication that electrostatic charges generated near VDTs may contribute to skin rashes in some users. One possible mechanism for this is that static fields in front of the screen may cause ions and pollutants in the air to become positively charged and head for the nearest negatively charged surface: the user's skin. To reduce the possibility of static problems, pay particular attention to the floor covering and humidity level of the area. Anti-static shields are also commercially available.

VLF and ELF

Perhaps the most controversial aspect of the entire topic of potential computer health risks is the possibility of damage caused by low frequency electromagnetic radiation.

When video display terminals were introduced, the possibility of high-energy ionizing radiation (X-ray) emission was studied and generally dismissed as a health risk. Although radiation within the X-ray band is produced in VDTs, it is absorbed by the thick glass of the screen before it can be emitted.

Likewise, microwave and ultraviolet radiation were studied and found to be well within the limits of safety. These frequencies of nonionizing radiation could cause damage by raising cell temperature, as a microwave oven

heats food or overexposure to a sunlamp causes sunburn, but the amount of this kind of radiation generated in a VDT is far below the established safety thresholds.

As a result of this exoneration, most researchers and computer users satisfied themselves that any discomfort or health risks associated with computer use were a result of other problems - such as poor posture, lack of movement, job stress, eye strain, or other ergonomic factors - and were therefore avoidable.

More recently, however, attention has focused on very low frequency (VLF) and extremely low frequency (ELF) nonionizing radiation - frequencies which were previously believed to have no biological effect. Most video display terminals emit both VLF and ELF radiation.

In standard cathode ray tube screens, an electron beam strikes phosphors on the inner surface of the screen, creating a spot of visible light. The electron beam scans quickly across each row of phosphors, moves to the beginning of the next row, and when the entire screen has been scanned, returns to the top corner and starts again.

Clearly, more research is needed, and it is in fact being carried out. In the meantime, there are some simple steps you can take if you are concerned about low frequency radiation.

The horizontal and vertical movement of the electron beam is controlled by pulses of electric current passing through deflection coils. It is this current that generates VLF and ELF fields. VLF radiation is generated by the horizontal scan mechanism; ELF radiation is generated by the vertical scan mechanism. Both are "pulsed" fields; their strength rises and drops with the pulses of current.

VLF and ELF radiation levels are highest at the sides and back of the VDT. The strength of the fields decreases with distance from the unit.

This radiation has recently become cause for concern because some studies indicate that even weak VLF or ELF fields can cause miscarriage or birth defects in chicks and mice. In particular, weak pulsed signals similar to those found near VDTs have been associated with arrested development in chick embryos and fetal death in mice. Early stages of development seem to be most sensitive to the effects. In addition, VLF signals have been found to cause detectable changes in protein

patterns and production at the cellular level. This raises the suggestion that RNA transcription, such as that found in developing embryos, may be particularly sensitive to specific electromagnetic signals.

These effects are by no means undisputed. Critics have argued that the shape and frequency of the pulses used in these experiments are not identical to those found near VDTs and that the results of chick or mice studies are not necessarily applicable to human embryology. Some studies have failed to replicate the effects.

Epidemiological studies, in which the reproductive outcomes of women using VDTs are compared to those of women not using VDTs, also offer mixed results. Several "clusters" of problem pregnancies in VDT users have been reported, but it has been argued that such small clusters are simply a result of statistical chance - that they could be found in any group of women, not just those using VDTs.

A study released in 1988 by the Northern California Kaiser Permanente Medical Care Program was less ambiguous. It found that pregnant women who reported using VDTs more than 20 hours per week during the first trimester were significantly more likely to have miscarriages than women who performed similar work without using VDTs. Although the study has been criticized for relying on recall (the women reported their VDT use from memory), it is considered by many as the strongest study to date. As in any epidemiological study, however, these results are based on a large group of people, and are not predictive for any individual.

Clearly, more research is needed, and it is in fact being carried out. In the meantime, there are some simple steps you can take if you are concerned about low frequency radiation.

The electromagnetic radiation emitted by a VDT is strongest at the back and sides of the unit, and drops off rapidly with distance. Try to sit about 24 to 28 inches away from the front of your own monitor, and at least 40 inches away from the sides or back of any other monitors, including those behind walls or partitions.

Short term exposure to VDTs is generally not considered a problem. Even if you use a computer several times each day, you may be able to turn it off or move away from it when you're not actually using it.

Some computers, laptop models in particular, do not use cathode ray tubes. These models emit little if any VLF and ELF radiation.

Janet Cottrell
University of Vermont

READING LIST

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[28.2.1]



MATERIAL SAFETY DATA SHEETS (MSDS) ARE ONLINE

... from WKSJG Member Nancy Travis

You can now access Material Safety Data Sheets (MSDSs) electronically via a compact disk server. The MSDS information is produced by the Canadian Centre for Occupational Health and Safety (CCOHS) and will be updated quarterly. The CCINFO disc system includes an MSDS disk and a Chemical Information disk. User manuals (\$2 each) are available from the Workstation Group.

You can access the data in several ways:

- PC Workstations connected directly to a Bridged LBLnet with an ethernet adaptor can access the CDNet server directly.
 - Some additional (free) software is required. You may obtain either a boot disk or detailed installation instructions from the Workstation Group.
 - Function keys are mapped normally in this environment and data can be printed to disk, to a local printer, or to a 3Com server printer.
- Macintoshes, PCs and terminals can access the CDNet server through the V-server gateway connected to CSA3.
 - Access via CSA3 is limited to 4 simultaneous users. Please limit your access to essential searches.
 - If you with an account on the Cluster, simply type MSDS once you have logged in. Printing is spooled to files named lpt1.tmp in your home directory. These files can be sent to distributed printing.
 - If you don't have an account, you may log in as MSDS (no password) and browse, but not print.
 - Function key (PC application F-key) mapping to the VT gold keys depends on the terminal emulation used. The most common platforms are listed below.

Macintoshes running Telnet :

<u>PC Function</u>	<u>VT Term Emulation</u>
Escape	Escape-Escape (twice)
F1	num lock/clear, 1
F2	num lock/clear, 2
F3	num lock/clear, 3
etc	etc
F10	num lock/clear, 0

PCs running Kermit

<u>PC Function</u>	<u>VT Term Emulation</u>
Escape	Escape-Escape (twice)
F1	F1, shift-F3
F2	F1, shift-F4
F3	F1, shift-F5
F4	F1, F9
F5	F1, F10
F7	F1, F5
F8	F1, F6
F9	F1, F7
F10	F1, shift-F7

• **DEC terminals**

<u>PC Function</u>	<u>VT Term Emulation</u>
Escape	Escape-Escape (twice)
F1	PF1, then 1
F2	PF1, then 2
F3	PF1, then 3
etc	etc
F10	PF1, then 0



The Workstation Group Laboratory, home of several Workstation members as well as the *Workstation Evaluation Library* is located in Bldg. 50B, Rm. 2231. The hours are:

Mon	8 AM - 1 PM
	3 PM - 5 PM
Tues - Fri	8 AM - 5 PM

You can also reach us from ICSD's UNIX machines or the VMS cluster by sending mail to:

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

We're here to help; please call us at x6858.



[28.2.2]

TRADING POST

Items advertised here are for Laboratory use only and must be purchased with a valid account number. If you have items you wish to advertise in the Trading Post or if a contact name does not appear with an ad below, call Bruce Burkhart, x6858.

1. **For Sale:** Apple Tape Backup 40SC unit, w/SCSI cable & data cassettes. It's slow, but reliable, \$199. Also two Everex EMac tape backup units. Call x6858 for more information.
2. **For Sale:** New Sigma Designs 19" monochrome monitor, with card for MacII computer, \$1150. Contact: Richard LaPierre, x4692.
3. **For Sale:** A collection of Epson (IBM) and Apple dot-matrix printers, very inexpensive, call x6858 for more information.



[28.2.3]

OCR SCANNERS

... from WKSG member Bruce Burkhart

Optical Character Recognition technology lets you scan documents, easily converting them to text formats which then can be edited by most major word processing packages. Several companies, specializing within this booming technology, have produced OCR-only scanners.

The **Abaton TranScribe 300** is a 1-bit OCR flatbed 8 1/2" x 11 3/4" scanner (with automatic document feeder capacity) designed specifically for text input application. In addition to OCR capability, line art and halftone images can also be scanned at 1-bit-per-pixel in selected resolutions from 72 dpi to 300 dpi. This scanner comes with *OmniType* (a custom version of *OmniPage*) OCR software that will convert scanned characters to text formats that are compatible with *Microsoft Word*, *WordPerfect*, *MacWrite* and some other word-processing packages. *OmniType* is specifically designed for better performance and more accurate character recognition on a broader range of platforms. The TranScribe 300 supports both Macintosh and DOS platforms.

Microtek also has a 1-bit OCR scanner (full details unknown at this date) ready to ship (also with *OmniType*), with similar characteristics of the Abaton model.

Prices are very attractive; both units will ship for less than \$1000.



[28.2.4]

UPGRADE INFO

... from WKSG member Bruce Burkhart

Microsoft Excel 3.0 for the Mac

Due to ship in the March-April time frame, Microsoft is promising a faster, more functional and easier to use *Excel 3.0* for the Macintosh. We'll cover all the new features next month. The upgrade policy, price and other details are a bit unclear at this early date, however we'll handle the upgrade process for LBL at the Workstation Lab. We anticipate a rather high upgrade cost.

Microsoft Excel 3.0 DOS/Windows

This upgrade will be available in early February. Those who purchased Version 2.2 since December 7, 1990 will receive a free upgrade (we know who you are, and you will be notified). Since Microsoft considers this a major upgrade, the upgrade cost is major (\$94.50!). The 3.0 versions of *Excel* will offer almost complete cross-platform compatibility (even macros) between the Mac and *Windows* version. The new linking technology in the Mac/Windows Versions will be fully operational when System 7.0 is available.

Microsoft Word 5.5 DOS

The Version 5.5 upgrade is now available in the Workstation Lab. Bring in your original *Word* disks (to show proof of original ownership), a valid account number, and the upgrade is yours for \$45. The non-upgrade package is \$67.50.

Clariscad 2.0 upgrades and new packages are now available in the Workstation Lab, Bldg. 50B, Rm. 2231, x6858. A new Clariscad 2.0 package is \$149; the 2.0 upgrade packet is \$40. To get the upgrade, bring in your original disks and a valid account number.

Clariscad FileMaker Pro upgrades and new packages are now available in the Workstation Lab, Bldg. 50B, Rm. 2231, ext.6858. The new FileMaker Pro package is \$85; the upgrade packet is \$40.

Clariscad HyperCard 2.0, the official Apple/Clariscad upgrade (2 books/5 disks) is available in the Workstation Lab (Bldg. 50B, Rm. 2231). Bring in your original HyperCard disks (to show proof of original ownership), a valid account number, and the upgrade is yours for \$49.

Clariscad MacDraw PRO was shown at MacExpo last month, and it claims over 100 new features; it looked real nice. This major upgrade will ship sometime in April/May/June; price and other upgrade details are unknown at this time.



[28.2.5]

PRINTING FOR MIXED PC/MAC OFFICES

... from WKSg Member Claudia Madison

✓ The QMS-PS 410; \$2050 (LBL price); optional paper tray is \$138. Comes with 50 sheet standard paper tray; 2M memory; Adobe PostScript (45 fonts); HP emulation.

Many of us have spent a whole lot of person-years trying to make Macs and PCs share printers. We've looked at things like NetPrint from the PC (which requires monstrous memory on the PC end and won't work with Windows 3.0) or the HP AppleTalk/serial system (where you have to run to the printer and reset it for serial print; then reset again for AppleTalk and so on).

Now here's the PS 410, which allows serial, parallel, and AppleTalk connections. The real ticket to its success, though, is that it knows which machine (Mac or PC) sent the file and does the right thing without user intervention. It's an Adobe PostScript machine with the usual built-in fonts, but also accommodates HP-formatted files—again without human intervention.

I run it successfully with a parallel connection to the PC and an AppleTalk connection. Print quality is excellent, better (I think) than our LaserWriter. The cartridge goes for about a thousand pages.

Problems:

- Once (just once) the HP emulation didn't switch itself off (which means PostScript files printed as PostScript code—not as documents). I've heard of people who had trouble with it doing tax forms from MacIntax (not at the Lab).
- There may be a problem with the PostScript interpreter using downloaded fonts (see the article on MathType).
- It falls off the AppleTalk and/or runs out of memory when printing long jobs (anywhere between 80 and 200 pages).
- A funny quirk is in getting Windows applications to deal with the optional paper tray. I've solved that with an instruction for the printer to chain trays (if one is out; the other kicks in automatically so it doesn't matter which tray the application thinks it's using).

Otherwise the only drawback to the printer is that it is of the class known as "personal" and is not designed for heavy office use (only 4 pages-per-minute output speed).

By the way, do get the optional paper tray (the "standard" tray is rinky-dink). Installing the optional tray hardware is easy, but the software setup for it requires a whole re-installation. (Thanks to R. LaPierre for helping me with this.)



[28.2.6]

EQUATION TYPING IN PC WINDOWS

... from WKSg Member Claudia Madison

✓ MathType for Windows from Design Science; \$200 (list)

MathType, a graphical equation editor, has been a solid program on the Mac for some years, and promises to be a solid program for Windows users. Equations created in MathType are graphics and can be copied and pasted into other Windows applications (such as Windows Word) or, within limits, into DOS applications (Word and WordPerfect).

The system is simple: to create an integral, for example, click on a picture (in a palette) of an integral. MathType creates it and opens "slots" to enter upper and lower limits (if desired), and integrand. The integral symbol is sized automatically depending on what's in the integrand. It's slick.

MathType, by default, decides what characters should be italic (variables) or bold (vectors) and how the

equation should be spaced. (All this is user-settable, too.) The package includes downloadable fonts for symbols not included in the usual symbol sets (h-bar and small script l, for example).

Printer support is limited to the HP LaserJet series and PostScript (or computers using a PostScript emulator such as GoScript). Graphics file formats are EPS (with TIFF screen graphics) or *Windows Metafile*. (EPS is the transfer format for use in non-*Windows* applications). There is a plain TeX translation option. (AMS and LaTeX are in the works.) Documentation is good.

I used *MathType* only in conjunction with *Windows Word*. Operation seems robust; creating equations is as easy as pie. LaserJet output (LaserJet II with a Super-Cartridge) was excellent. Output on the QMS-PS 410 was a problem; certain characters were offset vertically. *MathType* technical support has been helpful; the theory is that the QMS isn't handling their Type-3 downloadable fonts (used to make big brackets, integral signs, and the like) in exactly the right way. Type-1 fonts are due soon.

In the meantime, the *MathType* people are interested in having one of our users try it on a LaserWriter. Any takers? Please try this program (it's in our Evaluation Library) and let us know what you think.



[28.2.7]

MICROSOFT WORD 5.5 FOR DOS

... from WKSJG Member Claudia Madison

✓ \$45.00 for upgrade (includes manuals)

Word 5.5 adds no capability to *Word 5*, but by drastically altering the interface it increases the potential efficiency of users by a great deal. In a nutshell, Microsoft has made the interface as much like the *Windows Word* interface as possible. Menu structure and commands are nearly identical, and mouse and keyboard operation is about the same. This means that the program is easier to learn (all the mental clutter of *Word 5*'s illogical command names is gone). It also makes life easier for the growing population of users who alternate among Mac/*Windows*/DOS applications.

It's hard to emphasize enough that this is more than a cosmetic change—that by making the command structure logical and pulling features out of the lower depths of the old hierarchical menu system, the program actually increases in power. In addition, things such as being able to format from the ribbon and set

tabs with the mouse (at any time—without going into tab-setting "mode") remove a great deal of tedium.

Mouse operation makes sense for *Word 5.5*, but a mouse is not necessary. All commands are available from the keyboard. As in *Windows*, one needn't memorize the commands; they're all on the screen at all times. In addition, those who are already fluent in *Word 5* keyboard commands can use them.

Word 5.5 lacks a few of *Windows Word* power features (equations, table-generator, programming language), but for most purposes it has the advantage over *Windows Word* in speed and easy reading (who really needs WYSIWYG?). And it runs on any old DOS machine.

Word 5.5 is the version we will be using for training in Workstation Group classes. We'll support it fully.



[28.2.8]

DID YOU KNOW ... ?

... Workstation member Walt Fong dips into the *Macintosh Bible* for this one

Have you ever lost several hours of work when your Macintosh froze within an application? Well, for those of you with enough Mac-savvy, the *Macintosh Bible* offers a procedure that sometimes lets you get back into the Finder long enough to save your work.

- Press the interrupt button (see your Mac User's Guide for the button location on your Mac model)
- At the prompt, type `sm fa700 a9f4 <return>`
- Then type `pc fa700 <return>`
- And finally, type `g <return>`

If the Mac gods and the "Force" are with you, you may be lucky: hopefully, you're back in the Finder (normal desktop). Now, try to save whatever application you were in.

If none of this procedure worked, you will have to follow the "old" and usually reliable procedure—restart (or turn your Mac off & on).

This tip, and a plethora of other useful Mac information, is found in the *Macintosh Bible*, which has recently been released in its third edition. It is available in book stores, computer stores, and at a considerable discount at Price Club or COSTCO (for members only).



[28.2.9]

FILEMAKER PRO: CONVERSION WARNINGS

... from WKSJ Member Claudia Madison

1. Be careful when converting *FileMaker II* files to *FileMaker Pro*. Do these things **BEFORE** opening the file in *FileMaker Pro*.

DO A FILE RECOVERY on the *FileMaker II* file. (File menu, recover command)

SAVE A COMPRESSED COPY (File menu Save a Copy command—check the compressed option.)

It's probably a good idea to keep another FM II spare copy, too.

2. Be careful with the **DELETE RECORD** command: Pressing the **Enter** key instead of clicking the **Cancel** button doesn't always mean cancel. Click the **Cancel** button to be sure.



[28.2.10]

WWWDWOU¹

... Helpful Hints from Resourceful Users

1. Hint for Mac Printing:

Thanks to Jurita Anschutz and Roberta Trout for passing on the fact that you can print nearly to the edge of a standard sized sheet (instead of being limited by the ~.5" "non-printing" zone). Select the Larger Print Area option in the Page Set up command. The EH&S folks use this in *FileMaker* to extend label-sheet printing to the bottom row of labels.

2. FileMaker Tip

Have you ever tried to incorporate a date into a *FileMaker* calculation? (An example is (If (field < 1/1/81, "OLD", "NEW").) *FileMaker* evaluates the statement as false, regardless of the value in the field. Thanks to Anne Fleming for helping us pinpoint the problem: *FileMaker* (either II or Pro) won't deal with a date constant in a calculation. You have to use the Date or TextToDate (in *FileMaker Pro*) function. A successful calculation would read: If (field < TextToDate("1/1/81"), "OLD", "NEW"). This is documented only in the description of the TextToDate function in Appendix A of the *FileMaker Pro* manual.

3. Mac Word Printing Sections

Sam Gibson jogged our memory on this one. If you have multiple sections in a document and want to print selected pages of a particular section, specify the

section in the print dialog box: Section Range: From...To. (near the bottom of the box). For some reason we have a hard time remembering this one.



[28.2.11]

HYPERCARD CORNER

... by HyperFan Bruce Burkhardt

New HyperCard 2.0 add-ons at '91 MacExpo

✓ **ADDmotion** by Motion Works (\$295 retail-shipping in February) is the first animation and color paint program to be fully integrated within HyperCard 2.0. An animation is created by the path-based, point-and-click method commonly used in most low-end animation programs. The user creates and edits B&W or color images as "props" or multi-cell "actors" which can be aligned using an "onion-skinning" capability. The onion-skin feature lets you view the previous and/or the next cell while working with the current cell.

A nifty **ADDmotion** demo disk titled, "Outdoor and Adventure Vacations" is available in the Workstation Lab (Bldg. 50B, Rm. 2231). See me for a free copy.

✓ **Animation Works** by Gold Disk, Inc. (\$199 retail, shipping in March) is another animation and color program making its debut at MacExpo. This program is very, very similar to **ADDmotion** and both companies are based in Canada. Something going on here? The folks demonstrating Animation Works claim its "movies" can also be integrated into HyperCard. Sorry, no demo disk.

✓ **HyperCom 2.0** by Gava Corp, is an AppleTalk communications utility for HyperCard 2.0. This **XCMD**² lets you send files, sounds, screens, stacks or cards to others with just one "Tell" command. **HyperCom** comes with many stacks to let you get started with ease. There are interesting possibilities with this program; however, it's way over-priced at \$99.95 for a 2-user pack, and \$50 for each additional user on the network.

² An external command (XCMD, pronounced ex-command) adds speed, protects proprietary code, and allows your stacks to do things unfeasible with HyperCard scripting. An XCMD has a few lines of code written in a compiled language such as FORTRAN, Pascal or C. The XCMD can then be pasted into any stack and called like any other handler in a HyperTalk script.

¹ What Would We Do Without Our Users?

✓ *Reports 2.0* by From Nine To Five Software (\$99) is a new upgrade to one of the older HyperCard utilities. It has now evolved into an "Information Management System." The first version of *Reports* was hard enough to use; an upgrade promising more complexity is ridiculous!

✓ *INside 2.0* by AnalytX, Inc. (\$99), is sort of a minor object "Management System" within HyperCard 2.0. These type of "help" utilities seem to me to be another layer of unnecessary complexity. However, depending on your needs, this utility could be useful in your HyperCard toolbox.

✓ *DB/Write* by Metropolis Software, Inc. (\$129 retail) is a fully functional word processor with a mail merge option for HyperCard 2.0. This add-on does not replace the normal HyperCard text processing in fields, but it does eliminate the need to export data to a separate word processor. *DB/Write* also lets you import/export files from Microsoft Word, MacWrite and WriteNow. If you need to use full word processing within HyperCard, this may be your solution.

✓ *Wild Things 1.1* by Language Systems Corp. (\$150 new, retail) is an upgrade to a collection of examples, tools and information for creating and using XCMDs in HyperCard 2.0. The upgrade lets *Wild Things* run under HyperCard 2.0 and upgrades several of the compilers in the package. The upgrade is free to registered users.

summing up...

None of these HyperCard add-ons are currently in the LBL Evaluation Library. If you have a strong desire to test one of these products, call me at x6858, and we'll talk. I would also like to point out that most of the products listed above require HyperCard 2.0, which in turn will need 2 MBytes of RAM memory. The "1 meg" Mac is a dinosaur. It's time to upgrade to 2/4/8 MBytes of RAM; prices are in the \$40-\$60 per megabyte range; that's the lowest ever! Call RTSS at x7554.

Claris HyperCard 2.0 Upgrade Package

The official Apple/Claris upgrade to HyperCard 2.0 is available in the Workstation Lab (Bldg. 50B, Rm. 2231). Bring in your original HyperCard disks (to show proof of original ownership), a valid account number, and the upgrade is yours for \$49.

Inside HyperCard, a new monthly guide to HyperCard, is about to premier. It will feature tips, special techniques, overcoming problems, and even reveal undocumented capabilities of HyperCard. (Wow!) A charter subscription to this Cobb Group effort is \$59 per year. Cobb also puts out similar guides to Microsoft Word and Excel. Both of them are excellent. See me for further details.

Be Secure -- Be Safe -- Be Smart -- Be Legal

Efficient use of any computer calls for security, smarts, safety, and good citizenship

SECURE	MULTIUSER SYSTEMS ¹	Keep to your own account. Do not try to breach any system. Keep to official business. Keep your password to yourself. Keep your password obscure Don't use your own initials, your baby's name, or any English word. Add a number or unlikely combination of letters to make a word unrecognizable to cracking programs. Change your password frequently. Know your system administrator and report problems or unusual events promptly.
	STAND ALONE SYSTEMS	Write protect original software disks. Work from copies. On microcomputers, SCAN SCAN SCAN for viruses. Scan all new programs before you run them. Do not use unlicensed (pirated—illegal) software. THIS IS THE PRIME VECTOR FOR VIRUS INFECTION.
SMART	SAVE	Save your work frequently. Work never saved can never be redeemed.
	BACKUP	Backup frequently. Keep copies of work in at least two places: hard disk and floppy; floppy and tape; hard disk and server. If one disk goes bad, you have the other.
	SIMPLIFY SIMPLIFY SIMPLIFY	Simplify your computing environment. Having every darling utility, picture, and noise on your machine may be fun but it adds to RAM clutter, promotes weird interactions among hardware and software products, and makes support difficult.
	REGISTER	Register your software. This gives you access to support and update information.
SAFE	NO STRAIN MEANS MORE GAIN	Furniture, monitors, keyboards—all must be adjustable. Monitors should be set up properly in relation to light sources. If you feel any strain—back, neck, hands, eyes—something is wrong. Don't live with it!
	YOU NEED A BREAK	Eager as we all are to get work done, hours spent hunched over keyboard and terminal take a toll. Take fifteen minutes every two hours. Also take frequent eye breaks—stare into space.
LEGAL	NO PIRATES ALLOWED	There are good and compelling reasons for buying rather than stealing software. 1: You get documentation and support; 2: You are less likely to get viruses; 3: You support vendors of the software you need; 4: You are within the law and in compliance with laboratory policy.
WHO TO CALL?		Workstation Group, x6858 Mona Bernstein, VDT Safety Training, x 5258 David F. Stevens, Laboratory Computer Protection Program Manager, x7344

¹ Including Central Computing Facilities and microcomputer networks

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Examples: VMS.....lbl::JASmith
UNIX.....JASmith@lbl.gov
Software Tools.....JASmith@lbl.gov

NETWORK CONTACT INFORMATION

LBLnet New Installations & Trouble Calls

Ted Sopher (TGSopher)4559, 5354 50B - 2266

DECnet Administration

William Jaquith (WDJaquith)6966 50F - 146

IBM PC & Mac Network Administration

William Jaquith (WDJaquith)4388 50B - 2231C

Nancy Travis (NJTravis)7690 50B - 2231B

Distributed Printing/Kinetics FastPath

administration and requests

Bob Rendler (RERendler)5629 50F - 129

AppleTalk & Kinetics FastPath Support5354 50F - 2215

LBLnet troublestrouble@lbl.gov

LBLnet comments or non-critical trouble reportslblnet@lbl.gov

Internet administrationip-request@lbl

LBL Postmaster for Lab-wide mailpostmaster@lbl.gov

Network Advisory Group (NAG)nag@csam.lbl.gov

Internet Names: CSA1128.3.254.196
CSA2128.3.254.197
CSA3128.3.254.198

ICS

ICS Access Names

[VAX 64xx's (Generic)CSA]

VAX 6420 (VMS)CSA1

VAX 6420 (VMS)CSA2

VAX 6410 (VMS)CSA3

SUN-3/280 (UNIX 1)UX1

SUN-3/180 (UNIX 3)UX3

SUN-4/490 (UNIX 5)UX5

SUN-3/180 (ISD)ISD

Dial-up Access Numbers for ICS

Incoming Baud Rate	Connect Baud Rate	Number
3/12/2400 BPS	3/12/2400 BPS	486-7930
3/12/2400 BPS	9600 BPS	486-7900
9600 BPS	9600 BPS	486-7996

Local TYMNET Access Numbers for ICS

	1200 BPS	2400 BPS
Oakland	430-2900	633-1896
Walnut Creek/Concord	935-0370	935-1507
San Francisco	974-1300	543-0691
Santa Clara	408-9432-3430	932-8618
Palo Alto	415-366-1092	361-8701
San Jose	408-432-3430	432-8618
Fremont	490-7366	490-7366
Davis	916-758-3551	
Burlingame	415-588-3043	
Vallejo	707-644-1192	
Antioch	754-8222	
Pleasanton	462-2101	

NERSC Consulting Number is 422-1544

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