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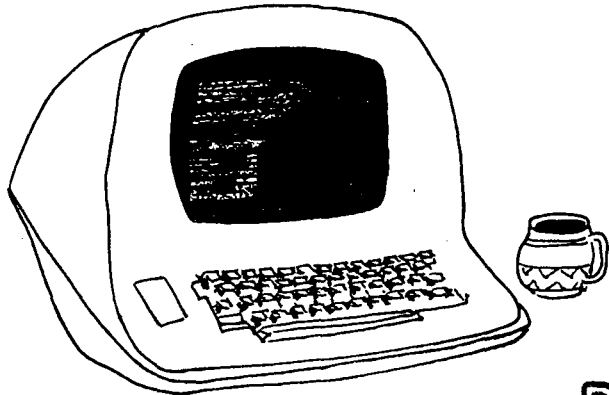
Lawrence Berkeley National Laboratory

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LBL COMPUTING NEWSLETTER

Lawrence Berkeley Laboratory
University of California, Berkeley

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Volume 19, Number 5

LBL LIBRARY

May, 1982

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To get on the mailing list for the LBL Computing Newsletter, contact Dortha Hines, 50A/1148, x6094.

Newsletter Closing Date is the 15th of the month.

Please send all Newsletter correspondence to Maggie Morley, Editor, Bldg. 50B, Rm. 1245A, (415) 486-5529; or to login name **mam** on UNX1, TID7, or UNX3.

Publication Number 429

PUB-429

NAMES & NUMBERS TO KNOW

From on-site, dial the 4-digit extension given.
 From an FTS line, dial 451-<4-digit extension>.
 From off-site, dial 486-<4-digit extension>.

Computation Department

Paul Rhodes, Department Head.....	50B/2232E, x5224
Howard White, Deputy Department Head.....	50B/2232A, x5775
Margaret Yamada, Administrator.....	50B/2232B, x6287
Everett Magnuson, Budget Manager.....	50B/2232C, x6296
F. Marvin Atchley, Computer Operations.....	50B/2262A, x5455
Marjory Simmons, Consulting.....	50A/1129A, x6289
Eric Beals, User Relations.....	50B/2232D, x5351
Robert Fink, Networks.....	50A/1121A, x5692
Jerry Borges, Operating Systems AND Product Set (both).....	50A/1127A, x5568
John Colonias, Applications.....	50/209A, x6019

Departmental Services

Central Office Number.....	x5871, x5872
Consultants' Office.....	50B/1245, x5981
Computation Department Library: Maggie Morley.....	50B/1245A, x5529
Operations.....	x6211
Coke/Cope Operator.....	x5311
Expediter Services: Irene Bernal.....	50B/2249B, x6205
Keypunch Service: Verneice Arnett.....	50B/2215A, x6256
PSS (Program Storage System): Tape Services.....	50B/2249, x6219
GSS Tape Repair Service AND Sticky Label Service (both): Dortha Hines.....	50B/1245, x6094
Building 90 Remote Job Entry (RJE) Station: Connie Sheldon.....	90/3136, x6494
To open or change an account, Fran Permar.....	50B/2258, x6310
Guest cards, locker space, & parking permits: Marlene Collins.....	50B/2232, x5654
To connect a remote terminal (RJE or interactive): Sig Rogers.....	50B/2262C, x6713
For repair of terminals or ports: Electronics Maintenance.....	50B/2259, x5354
Introductory seminars: UNIX: Maggie Morley.....	50B/1245A, x5529
For microfiche sets of WRITEUPS and HANDBOOK: Dortha Hines.....	50B/1245, x6094

NODES ON THE NETWORK

PDM	VAX: program development machine
NMM	VAX: numerical modeling machine
IGM	VAX: interactive graphics machine
UNIX1	PDP-11/70: UNIX1
UNIX3	PDP-11/70: UNIX3
RECC	CDC: 6600B, 6400C
BGT1	IBM-4331: SPIRES

HALF PRICE HOLIDAY SALE

Users can compute for half-price during the Memorial Day Weekend, commencing at midnight Friday (0000 Saturday, May 29) and ending at 8 AM (0800) Tuesday, June 1.

COMPUTE!!

. . . Marv Atchley, x5455

NPL OPTIMIZATION

LIBRARY UPDATE

A new version of the National Physical Laboratory (NPL) optimization library has been installed on the CDC 6600s and 7600. The NPL optimization library consists of 48 routines for minimizing or maximizing functions of n variables, with or without constraints.

The new versions are about ten per cent faster than the old ones. Otherwise, the changes are transparent to the user, so the method of access is the same as before. See WRITEUPS subset LIBRARY for further details.

. . . John Bolstad, x6006

"I am not a politician, and my other habits are good."

. . . Artemus Ward

ARPANET TO LEAVE

BKY 6000 SYSTEMS

On January 1, 1983, the old NCP type of network protocol will be removed from the ARPANET. Only newer protocols (i.e., TCP/IP) will be supported after that date.

The BKY 6000 ARPANET software is entirely of the NCP type and will thus not be capable of talking to the ARPANET after January 1, 1983. The cost of redesigning/reprogramming for newer protocol types in the old CDC equipment is very large, so such an effort is not planned at this time.

Users needing ARPANET support after January 1, 1983 should contact Bob Fink, 50A/1121A (x5692) to discuss alternatives. Users wanting to submit written requirements for future use of the ARPANET should send letters to Eric Beals, 50B/2232D.

USER ROOM DOCTRINES

Following is the Computation Department's policy on the computer user rooms in 50A-1175 and 50B-1237. A copy will be posted in both of the user rooms.

USER ROOM DOCTRINES

1. Storage lockers are assigned at the Computation Department office (50B-2232 - x5871) on a renewal basis. This is so that valuable space does not become dead storage.
2. If your locker is not renewed within a reasonable time -- one month -- after the renewal notices are posted (in the user areas and in the Newsletter), it will be cleared out and reassigned. Material removed from unrenewed lockers will be held for THREE MONTHS ONLY -- then it will be THROWN AWAY.
3. If you expect to be away for a long period of time, please arrange to have your storage space used by an active user in your group. Otherwise, let the Computation Department office know and they will reassign the space. IF YOU ARE NOT HERE TO RENEW, WE HAVE NO WAY OF KNOWING YOU ARE SIMPLY AWAY FOR AN EXTENDED TIME. Again, unrenewed lockers will be cleared out, reassigned, and the material thrown away after three months.
4. The tables are available on a first-come first-served basis, daily. THE TABLES WILL BE CLEARED OFF EVERY MORNING AT 7 AM. DO NOT leave your things on the tables overnight if you wish to keep them. Anything stacked on the floor or any other place other than the assigned lockers will be cleared off every day.

. . . Marv Atchley, x5455

UNIX NEWS

At long last, we can report that the mysterious lost character bug has been found and squashed. That, coupled with the addition of four more 9600 baud ports, should significantly improve performance.

Work is progressing on Version 7 documentation, and an investigation of the resource allocation mechanism is underway with a view towards finding a more optimal configuration for the two systems.

. . . Marty Itzkowitz, x5893

MORE ON STICKY LABEL

PRINTING SERVICE

As announced in the October Newsletter, BKY now offers a sticky-label-maker service. 4 types of label-maker programs are presently available, as follows --

- (1) **LARGE**
For large [1 3/8" x 4"] labels; 8 possible lines of input data per label (8 card/lines must be provided for each) fixed input; single or multiple copies of each label. Sample jobdeck is called "LARGE".
- (2) **SMALL**
For small [1" x 3 1/2"] labels; 6 possible lines of input data per label. (6 cards/lines must be provided for each). Fixed input; single or multiple copies of each label. Sample jobdeck is called "SMALL".
- (3) **ITEM**
For small [1" x 3 1/2"] labels; 1 data card/line of input generates a 1 or 2 line label output. Fixed input; single copies of each label. Read and write format specifications can be altered to adapt to any label format desired. Sample jobdeck is called "ITEM".
- (4) **MAILERS**
Mailing address labels - large only, 7 possible output lines. Many search features, alphabetical sort (of full list or of search options). Comprehensive document for set-up and maintenance of MAILERS program is available on UNX1 and UNX3. Call

`lpr -n /mnt/hines/labeldoc`

Set-up for all jobs is straightforward. Once the initial list has been created, the sticky-label job can be submitted as any other batch job. No COS card is required when you submit a job printing on large labels. When submitting a job printing on small labels, a COS card saying

"*SPECIAL PRINT SMALL LABELS*"

must be made out at the IO counter. Sticky labels and paper tape carriage ribbons will be provided, (cost automatically charged to your account).

Users are responsible for inputting/updating their OWN data.

To get a copy of this writeup, execute the following:

ON-SITE

```
<jobcard>
LIBCOPY,DHINES,OUT,LABEL.
DISPOSE,OUT=PR,PA=1F,M=AS.
    . . . Use PA=1F only at BKY
<end-of-job card>
```

OFF-SITE

```
<jobcard>
LIBCOPY,DHINES,OUT,LABELPD.
DISPOSE,OUT=PR,DT=I.
<End-of-Job Card>
```

Questions, comments, requests should be directed to

. . . Dortha Hines, x6094

COMPUTER CENTER STATS

SYSTEMS PERFORMANCE IN APRIL 1982

7600	Systems Availability	96.30%
	Median Service Interval	12.34 (hrs)
6600	Systems Availability	98.14%
	Median Service Interval	32.78 (hrs)
6400	Systems Availability	95.72%
	Median Service Interval	69.96 (hrs)
UNIX1	Systems Availability	93.96%
	Median Service Interval	26.61 (hrs)
UNIX3	Systems Availability	99.25%
	Median Service Interval	61.67 (hrs)
VMS1	Systems Availability	96.67%
	Median Service Interval	348.00 (hrs)
VMS2	Systems Availability	99.99%
	Median Service Interval	359.96 (hrs)
PHYS	Systems Availability	100.00%
	Median Service Interval	720.00 (hrs)

Jobs Processed:
39,474 on 7600; 21,505 on 6000's; 60,979 Total

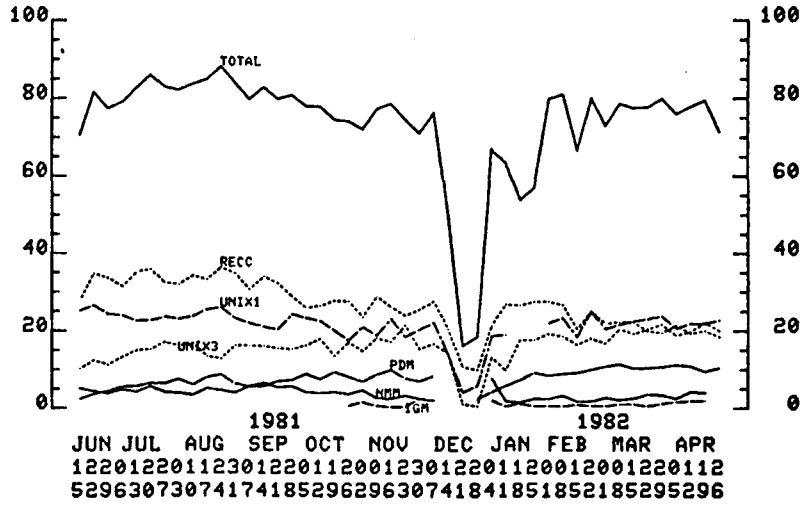
7600 TURNAROUND TIME	20 min	2 hrs	4 hrs
% of RUSH jobs returned	91.69	99.28	99.89
% of ALL jobs returned	83.75	93.22	95.76
% returned, CU limit = 100	80.56	94.44	98.15
% returned, CU limit = 500	80.67	97.33	99.33
% returned, CU limit > 1000	35.35	58.09	66.27

INTERACTIVE STATISTICS

LBL COMPUTER CENTER PERFORMANCE MEASURES

INTERACTIVE TERMINAL ACTIVITY

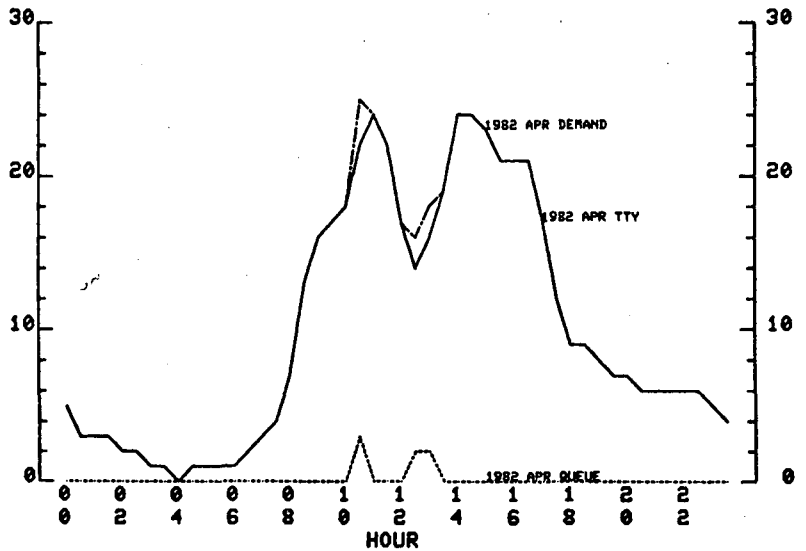
AVERAGE NUMBER OF TERMINALS CONNECTED
SAMPLED AT HOURLY INTERVALS, PRIME USE PERIODS, WORKDAYS



LBL COMPUTER CENTER PERFORMANCE MEASURES

RECC CONNECTIONS AND UNSATISFIED DEMAND
6600 AND 6400 COMPUTERS

APRIL 1982 WORKDAYS



RT-11 NEWS, MAY 1982

The following are current news items for LBL RT-11 users. For more information on any of these items, contact Randy Michelson, x6411, unless otherwise noted. To get on the mailing list for LBL RT-11 information, please send your name, LBL mailcode, and phone number to Randy at mailcode 46A.

-- Attention --

Please use my new LBL mailcode above,
and send me your new mailcode

ONLY NINE PEOPLE HAVE SENT ME THEIR NEW MAILCODE ADDRESSES SO FAR! I NEED YOUR NEW MAILCODE TO UPDATE THE RT-11 USERS MAILING LIST! Please note that the LBL RT-11 mailing list is used sporadically to distribute RT-11 technical information informally within LBL (including associated campus groups); the information is not intended for distribution outside LBL (and associated campus groups).

1. RT-11 consulting hours are Monday through Friday from 13:00 to 17:00 in Bldg. 46A Rm. 1150, x6411.
2. RT-11 users who have not previously received the LBL COMPUTING NEWSLETTER (or its prior incarnation, The COMPUTER CENTER NEWSLETTER) should contact Maggie Morley, 50B-1245A, x5529 to obtain copies of Vol. 18 #8, #10, #11, & #12, and Vol. 19 #1 & #4 (August, October, November, & December, 1981, and January & April, 1982) for previous RT-11 news items.
3. Reminder: RT-11 is a licensed software product. Licensing costs and legal issues should be discussed with Ken Wiley, LBL Software Manager, Office of Computing Resources; he can be reached at x7083 or x6411. LBL policy explicitly forbids illegal copying of licensed software. See Policy & Procedure Memos Vol. VI #49 and Vol. VII #26. Current RT-11 users will be contacted soon to verify their license status.

BEFORE YOU BUY CHECK HARDWARE FLEA MARKET

4. LBL folks wanting to trade or exchange hardware (new or used) should contact Randy Michelson, LSI-11/PDP-11 flea market coordinator. Currently available:
 - 2 x KD-11-HD LSI-11/2 CPU + 32kw memory;
 - 2 x KD-11-HA LSI-11/2 CPU + KEV11 EIS/FIS chip;
 - 10 or more 3M & DEC RK05 cartridges used 10 hours or less (will trade four RK05 cartridges for each RLO2 cartridge; Nashua OK; smaller deals ok);
 - 1 x COMPLETE LSI-11/23 SYSTEM including all of the following:
 - KDF-11-HF LSI-11/23 CPU + 128kw memory + KEF-11 FPU chip; DSD 440 floppy disc system; NETCOM HV-1123-RL chassis; DLV-11-J serial interface; and ZENITH Z-19

- CRT terminal (Z-19 optional; portions also available separately);
- 1 x MSV-11-DD equivalent 32kw memory (several more available);
- 1 box VERBATIM MD550-16-18206 5.25" double-sided double-density 16 sector hard-sectored minifloppy diskettes.
- 2 boxes 3M 742-0 8" double-sided single-density soft-sectored floppy diskettes, formatted 15 sectors of 256 bytes per track, without write-protect notches. (Can be reformatted for DSD 470, 480, or 880 double-sided drives; CANNOT be used on single-sided drives.)

The following items are not DOE property and can be sold to ANY interested party within or OUTSIDE LBL:

- 1 x TM-11 magtape controller (UNIBUS);
 - 2 x TU-10 magtape drives;
 - 1 x Tektronix 611 storage scope;
 - 1 x AA-11 D/A converter (UNIBUS);
 - 1 x PC-11 high-speed papertape reader/punch system (UNIBUS);
 - 1 x AED 8000 SMD disk interface (UNIBUS);
 - 2 x CDC 9762 SMD 80MB disk drives;
 - 2 x DL-11-E (UNIBUS);
 - 1 x Diablo disk drive configured as RK05-J equivalent.
5. The RT-11 User Committee consists of active RT-11 users from all the LBL Divisions which have RT-11 systems. The Committee is charged with the responsibility of reviewing LBL's RT-11 support functions. The Committee is still seeking volunteers from each division. Contact Frank Robben, Chairperson, Trailer 29C, x4420.
 6. RT-11 V4.0 and FORTRAN V2.5 patched through January, 1982 Software Dispatch (Autopatch E) are available for distribution. Licensed LBL RT-11 users should contact Randy to get in the queue for distribution. BASIC V2.0 has not been modified since Autopatch C; the Autopatch C version is available. **IMPORTANT!** Autopatch E creates the new base-level distribution masters to which all subsequent patches in the RT-11 Software Dispatch apply. It is important to get a copy of this distribution for your system!
 7. DEC has announced release of DECNET-RT V2.0. RTSG RT-11 Support Group is waiting for delivery.
 8. GPIB users: Gary Willett, L-126, 181-2-8880, has put the revision C release of the National Instruments GPIB software package plus a compatible version of Chuck Grant's configuration utility into LLL SCUL. RTSG RT-11 Support Group also has a copy. The new version of the configuration utility will now configure the stand-alone subroutines for both LSI-11/2 and LSI-11/23. Users must still configure the driver versions manually if required (e.g. for XM systems). This licensed software product is available without charge to all LBL users of the National Instruments GPIB interfaces.

9. The LLL SCUL version of Tektronix PLOT10 has another bug in the routine ANSTR. This bug causes the verification tests 6, 9, & 10 (and YOUR program) to hang in infinite loops. For a patch to correct this, contact Randy.
10. Joel Ryan, x4701, has revised his writeup on recovering files from a floppy disk with a corrupted directory. The revised writeup is simpler, and includes examples. The RTSG RT-11 Support Group also has Joel's writeup available.
11. RTSG RT-11 Support Group has just received an update package for the set of DSD Service Notes covering the DSD 210, 440, 480, 880, 4140 (430/470 controller) and general notes covering all DSD products. Call for a xerox copy. See RT-11 News item 21, LBL Computing Newsletter Vol. 19 #4 (April, 1982) for additional details.
12. The February, 1982 (Vol. 8 #1) issue of the MINITASKER, the DECUS RT-11 SIG Newsletter, contains five useful articles:
 - A. A description of how to recover files from disks with bad directories. The article is more complex and complete than Joel Ryan's writeup. (See item #10 above.)
 - B. A description of how to unlock the RT-11 AUTOPATCH indirect command file processor IND.SAV for general use. IND is based on the program used under RSX-11M. Caveat Emptor! John Zinky of LLL could not get the published patches to work.
 - C. A well-written and understandable tutorial on RT-11 drivers.
 - D. A commented directory of the Fall 1981 DECUS RT-11 SIG tape. (RTSG RT-11 Support Group does NOT have this tape yet!)
 - E. A technical overview of TSX-Plus, a multiuser timesharing implementation of RT-11 (NOT a real-time implementation!). TSX-Plus is a licensed software product; licensing provisions will be STRICTLY enforced! (There aren't any currently licensed users at LBL.)
13. Information from the 23 MARCH 1982 LLL Microcomputer User Group Meeting:
 - A. Mike Allen, L-126, 181-2-8326, discussed the following items:
 - * DSD 880 shock and vibration tests: an extensive report from DSD of tests done by independent testing laboratories shows that contrary to previous LLL impromptu tests, the Shugart SA1004 7.5 MB drive is MORE RESISTANT to operating vibration and non-operating shock than the Quantum 2030 30 MB drive. [RTSG RT-11 Support Group also has a copy of DSD's report.]
 - * LLL-only agreements specifically excluding LBL are being finalized for TSX-Plus and OMNEX's SDRT package. [See item 14C8 below.]
 - * Monolithic Systems demonstrated a 22-bit chassis and memory-mapping board for the LSI-11/23 (a "Q-BUS MAP"). The chassis is about \$6K including 512 KB of memory and the map. The map is directly compatible with the PDP-11/70's UNIBUS map diagnostics, to make support simpler. Standard 18-bit peripherals can be used with this system under RSX-11M, but RT-11 V4.0 doesn't support 22-bit addressing, and RT-11 V5 may not support this form of 22-bit addressing.
 - B. Steve Mick, L-126, 181-2-7400, reported on the following items:
 - * INTEL's new 2732A PROMs can be DESTROYED by LLL PROM programmers because INTEL's maximum programming voltage has been reduced to 22 volts and the programmers use 25 volts. It has been rumored that a 27128 chip is now on the drawing boards.
 - * LLL Stores stock DLV-11-J cables are for connection to a modem, not directly to a terminal (i.e. they are NOT "null").
 - C. Roger Anderson, L-306, 181-2-8572, discussed MICROPOWER PASCAL. Again, this product is specifically designed for stand-alone dedicated controller target systems. (See RT-11 News items #23G, Vol. 19 #4 [April, 1982] and #9F, Vol. 19 #1 [January, 1982].)
 - D. Mike Toback, L-153, 181-2-8038, discussed the GSS graphics package as a basis for adding graphics capabilities to the SIMILE DBMS package. [Note: LBL is NOT licensed for either SIMILE or GSS.]
 - E. Hal Brand, L-329, 181-2-3612, discussed his new implementation, DIGLIB, of a device-independent plot package for RT-11 and RSX-11M. It supports TEKTRONIX 401x & 402x, LEXIDATA 3400 (RSX), and GT44 (RSX), and other terminals can be "easily added". The package replaces his older PLTLIB package, but eliminates a few special PLTLIB capabilities tailored for controlling the 402x terminals. DIGLIB is undergoing code release and won't be available outside LLL for 4 to 8 weeks. [RTSG RT-11 Support Group has not been able to get a copy yet.]
 - F. Stan Lanning, L-307, 181-2-4177, discussed an interactive graphics program written in OMSI PASCAL and based upon Hal Brand's DIGLIB package. [Note: LBL is NOT licensed for OMSI PASCAL.] The program runs under RSX-11M. (An RT-11 ver-

sion is under development.) It is highly interactive, menu driven, uses graphics cursor input, and does curve fitting using splines-under-tension. The program allows users to interactively draw arbitrary figures and diagrams on a graphics CRT and subsequently output them to a plotter.

14. Information from the 20 April 1982 LLL Microcomputer User Group Meeting:

A. Art Krakowsky, 181-2-8504, described the current status of the license negotiations for RT-11 and RSX-11M licenses: They are almost complete. The internal laboratory charging mechanisms are still being worked out. A large number of DZ licenses are being purchased for issue by SCUL. The licenses cover only commonly used packages (RT-11, FORTRAN, BASIC, SSP, RSX-11M, and F4P). Users should understand that future licenses will be significantly more expensive, though some additional packages may be added to the list next time. [For information about licenses at LBL, contact Ken Wiley, LBL Software Manager, Office of Computing Resources, x7083.]

B. Steve Mick, L-126, 181-2-7400, discussed the following items:

- * The DLV-11-J cables added to stock are NOT "NULL"; stock number 5995-66642, \$35, has a MALE RS232C connector.
- * WABASH floppy discs have been removed from stock. Replacement diskettes are now in stock [at LLL ONLY] under the old stock number, 7544-63784.
- * No DEC format single-sided double-density diskettes are available; users must use the DEC FORMAT program to change the MEDIA DENSITY of single-density diskettes.
- * The current stock of double-sided double-density diskettes (stock number 7544-66518) are IBM double-density format; users must use the DSD DIAGNOSTIC to REFORMAT these to DEC-compatible format. Stores will go back to stocking double-sided single-density under this stock number so that users can use DEC's FORMAT program to change the MEDIA DENSITY without REFORMATTING.
- * LLL is evaluating a new module repair facility in Anaheim, which is reported to give much more cooperative service than DEC's "Module Mailer". [RAH! - Randy]

C. Mike Allen, L-126, 181-2-8326, discussed the following items:

- * Report on TCU-50D clock problems such as fast or erratic operation, date set 1 day ahead or behind by RTCLOCK, or

totally inoperative boards. The manufacturer could not find any consistent pattern of failures, and hypothesizes that most problems were caused by shorted or dead batteries due to improper handling and storage. LLL Stores now packages these units in plastic to prevent further problems. According to the manufacturer, boards with serial numbers below 9900 may exhibit problems (though no ECO's have been issued); please inform Mike Allen of any failures or problems with boards numbered above 9900.

- * Failures to set the date correctly are more frequent on LSI-11/23's; switching the order in which RTCLOCK sets the time and date may correct or minimize the problem.
- * DIGITAL PATHWAYS is working on a new model including a year register and 1K of CMOS RAM with battery-backup. The new board will require different software.
- * QUANTEC of Woburn, Mass. also makes a battery-operated calendar-clock board. Mike is investigating.
- * Instrument Services has a power-down modification which is compatible with DSD 210's and Micro Development Associates' (also known as Plessy or Micro Technology) MXV21 conversion controllers. The mod costs between \$60 and \$240, depending upon the number of units modified simultaneously and whether any preventative maintenance is also performed. Turnaround is estimated at five days. Documentation for do-it-yourselfers is available from Gor Lev, 181-2-3861.
- * WARNING! Beware of possible shock hazards from the DSD automatic power-down P.C. card; some traces carry 110 vac.
- * The user center TSX-Plus system now has a 300 baud dialup line (423-2553). You must have a logon account to use the system.
- * The OMNEX SDRT license for LLL has been signed, and software will be available by April 30. This software includes some revisions to the current release. [Note: the license SPECIFICALLY EXCLUDES LBL; LBL users can buy a single-CPU license for RT-11 (\$200) or TSX-Plus (\$350). See RT-11 News item #22, Vol. 18 #11 (November, 1981).] There are two similar programs available from DECUS, but they don't provide all the features of the OMNEX SDRT package and could be incompatible, so LLL users should stick with the SDRT package. [Note: RTSG RT-11 Support

Jan -
News-Publ no.

Publ-no. 429 beginning
with v. 19, no. 1 for Jan 1982

Group will be evaluating the DECUS packages for LBL use when they become available.]

* LLL's TSX-Plus license negotiations are continuing with some difficulty. The vendor wants to change the quantity discount terms, which will raise the price.

* OMSI PASCAL V2.0 is supposed to ship by the end of April. [Note: LBL is NOT licensed for OMSI PASCAL.]

15. Information from 26 April 1982 LLL CAMAC User Group Meeting:

- A. Bob Lucena, L-227, 181-3-1872, reviewed the automated module test facilities. There are now two systems in operation, based on LSI-11/23's with hard disks. Rush turnaround is five days, with routine jobs backlogged about 3 weeks. Bob has a list of module types that the system has already been programmed to test.
- B. Bob also reviewed the CAMAC catalog, data sheet, user manual, and manufacturers' ECO libraries maintained by his group. He offered assistance communicating with manufacturers and the Association For Research Electronic Pools. (LLL, Fermilab, Brookhaven, Triumpf, SLAC and LASL are members of "AFREP".)
- C. Vic Barton, L-460, 181-2-6381, discussed the Kinetic Systems 3525 temperature monitor and 1990/91 universal temperature reference modules, and problems encountered using them in a very hostile environment. The 3525 is a 16-channel thermocouple monitor which can read one channel every 175 ms., linearize, and convert to degrees (C or F) for dataway readout.
- D. "Norm" Lau, L-634, 181-2-1497, discussed system architectures at the MFTF, TFTR, and JT60 projects. He described the Parallel Branch Highway, the Serial Highway, the Extended Branch Serial Driver module, Type U controllers, and fiber optic serial highway links. He has a list of Parallel Branch Highway drivers and Type U Crate Controllers available for different computers. Norm's presentation was a good overview of various CAMAC system configurations.
- E. Steve Mick, L-126, 181-2-7400, discussed CAMAC modules and associated components added to stores stock. In addition to modules previously listed (RT-11 News item 26E, Vol. 19 #4 (April, 1982), the following are now in stock:

- o CAMAC wirewrap breadboard with etch pattern for power supply (Stock # 5975-66576) \$190.

- o CAMAC wirewrap breadboard with etch patterns for power supply and NAF decode gating logic. (Stock # 5975-66577) \$205.
- o PICO FUSE fuses: 1/8, 1/4, 3/8, 1/2, 1, 2, 3, 4, & 5 amp. respectively; box of five. (Stock #s 5975-66457 thru 5975-66465) \$3.

Steve also mentioned a set of Kinetic Systems' "Introduction to CAMAC" video tapes available at LLL, and that SCUL now has a copy of the NIM CAMAC standard sub-routines. [DOE/EV-0016, "Subroutines for CAMAC", June, 1978; RTSG RT-11 Support Group also has a reference copy of this document.]

16. An RT-11 V4.0 video tape course from LLL is available in Bldg. 41. The course consists of ten one-hour lessons, and is intended for inexperienced users. Keys must be signed out from Randy Michelson x6411 or Joe Katz x5636. This course was obtained courtesy of Mike I. Green and Joe Katz.
17. RT-11 users interested in biweekly informal lunch gatherings to discuss each other's systems, and to exchange advice and solutions to problems should contact Mike Green, x4607. The meetings are generally scheduled for the second and fourth Thursdays of each month at noon in the Bldg. 46A conference room.
18. RT-11 users who become members of DECUS can sign up to receive copies of the RT-11 Special Interest Group newsletter (the MINI-TASKER) and the LSI-11 SIG newsletter. For an application, write directly to
- DECUS US chapter,
Membership Processing Group,
One Iron Way, MR2-3/E55,
Marlboro, MA 01752.

Membership is free, and is open to all users of DEC computers.

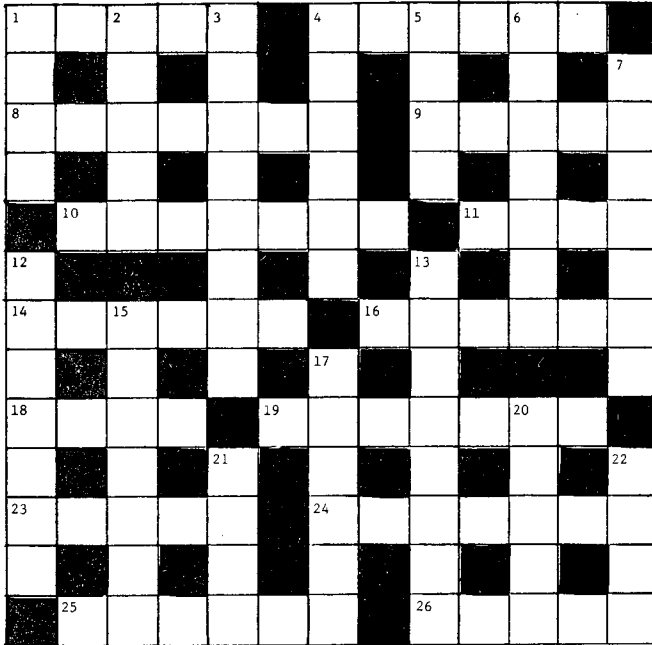
. . . Randy Michelson, x6411

"A computer does not substitute for judgment any more than a pencil substitutes for literacy. But writing without a pencil is no particular advantage."

. . . Robert S. MacNamara
"The Essence of Security"

CROSS WORDS

From faraway Virginia comes a missive written in Ehrith Ehrer's own crabbed hand. Herewith is another little bagatelle to entertain word-minded readers. (Ehrith must find the Eastern air bracing; this is fun!)



ACROSS

1. Screen a railroad so. (5)
4. Volcanic glass backs up old small deer. (6)
8. Part left in exudate for taking bearings. (7)
9. Pink radical escapes pen! (5)
10. Dead spirits left in nearly round hill. (7)
11. Negative is left black. (4)
14. Well-balanced thrust at the French. (6)
16. Weak solution to which ice may be added to make childhood favourite. (6)
18. Ahead and going on. (4)
19. Vault over the passage with a saucy motion. (7)
23. Perch a cock without hesitation. (5)
24. Pruned pine in pain. (7)
25. Rebound a lustrous sulphide flash. (6)
26. A perfective urge in man is useful. (5)

DOWN

1. Sacred flower is the brightest but one. (4)
2. Source of robots surrounds the French king. (5)
3. Mix a hundred marbles. (8)
4. Quiet donkey leads Cockney chap everywhere. (6)
5. I take current spice. (4)
6. The old wagon leads me, sounding disapproval for a boreal creature. (7)
7. Complete, quiet, and nearly in trouble. (7)
12. This says our disorderly charnal house is disreputable as yours! ((7)
13. I'm aching to change big state. (8)
15. Sounds like deeds; a bunch'll make a salamander. (7)
17. Sound pine can prevent a bark. (6)
20. Headless decay born under the first sign. (5)
21. Crazy folk come back in a daze. (4)
22. Shut off so. (4)

Answers (if the river don't rise) in next month's Newsletter.

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LBL Computation Department Library
Bldg. 50B, Rm. 1245A
Lawrence Berkeley Laboratory
One Cyclotron Road
Berkeley, CA 94720

For Reference

Not to be taken from this room