SYSTEM PERFORMANCE

PERIOD FROM 29-MARCH to 11-APRIL

USEFUL TIME 162 HRS 85%
GOOD TIME 164 HRS 86%
ON TIME 190 HRS 100%

NO OF CRASHES 1
TIME BETWEEN CRASHES 163.60 HRS

NEW VERSION OF THE LINE PRINTER SPOOLER

On the 5th April 1974 version 5(231)-2 of the line printer spooler replaced version 4(140)-2. It has two minor changes as well as invisible changes, such as improvement in speed.

The visible changes are:

1. /PRINT:SUPPRESSED now does not suppress tabs, but only the vertical control characters.

2. /HEAD:Ø or /NOHEADER is not required with /FORMS:LABELS switch.

When printing labels the job header is reduced to a one label name band and file headers are suppressed.
A significant number of users are now using these special facilities and the following notes should help in planning work with them.

The Centre presently only has two magnetic tape drives, one of which is substantially committed to system functions. Procurement of additional drives is being actively pursued but it will be some time before they are available. At present only one disk drive is available for the mounting of private packs but shortly a planned rearrangement of drive allocation will make an additional unit available. Obviously, as usage increases, there will be competition for these limited resources.

So that you can plan your activities in advance, and to give us help in our operational planning, we will accept advance bookings of device hire on the conditions listed below:

- Preference will be given to booked requests for the use of a device.

- In the case of system failure or system problems, the availability of the device cannot be guaranteed and in some circumstances it may be necessary to terminate a booking prematurely.

- Where a booking cannot be satisfied because of system problems, it may not be able to reinstate the request immediately the system becomes available. Every attempt will be made to help the user in such circumstances but it may be necessary to postpone the request to another day.

- It may be possible to ensure the availability of a drive at the nominal start time of the hire period but it will be made available as soon as practicable after then.

- A booking may not be accepted if insufficient notice is given.

- The Centre reserves the right to charge a user who makes a booking but does not use the device during the booked time.
At present, users should not have problems in securing the use of a single device without booking. A quick check on the availability of a device can be made with the RESOURCE command and, if not available, the PLEASE command or the telephone extension 188 can be used to elicit further information.

To avoid confusion, where privately owned magnetic tapes are used on the PDP-10, these tapes will have to be registered at the Computer Centre and assigned an internal tape number. This must be used with any mount requests for this tape.

4  BMD STATISTICAL PROGRAMS

The following BMD statistical programs are available to PDP-10 users. Those marked with an asterisk have already been implemented and are available on the STATS directory as core image files with the exception of BMD 07R which is required to be loaded with a user program and so exists as a .REL file.

Users wishing to use any of the programs not currently implemented, should contact Bob Christiansen - extension 6288.

CLASS D - DESCRIPTION AND TABULATION

* 1D  Simple Data Description
* 2D  Correlation with Transgeneration
* 3D  Correlation with Item Deletion
4D  Alphanumeric Frequency Count
5D  General Plot including Histogram
6D  Description of Strata
7D  Description of Strata with Histograms
* 8D  Cross-tabulation with Variable Stacking
9D  Cross-tabulation, Incomplete Data
10D Data Patterns for Dichotomies
11D Data Patterns for Polychotomies
12D Asymmetric Correlation with Missing Data
13D  t Program

CLASS M - MULTIVARIATE ANALYSIS

* 1M  Principal Component Analysis
* 2M  Regression on Principal Components
* 4M  Discriminant Analysis for Two Groups
5M  Discriminant Analysis for Several Groups
* 7M  Stepwise Discriminant Analysis
* 8M  Factor Analysis
9M  Canonical Correlation Analysis
10M Identification of Outliers
CLASS R - REGRESSION ANALYSIS

1R Simple Linear Regression
* 2R Stepwise Regression
3R Multiple Regression with Case Combinations
4R Periodic Regression with Harmonic Analysis
5R Polynomial Regression
* 6R Asymptotic Regression
* 7R Nonlinear Least Squares

CLASS S - SPECIAL PROGRAMS

1S Life Table and Survival Rate
2S Contingency Table Analysis
3S Biological Assay: Probit Analysis
9S Transgeneration
10S Transposition of Large Matrices
11S Life Table and Survival Rate (No.2)
12S Open-ended Transgeneration
13S Multipass Transgeneration
14S Generalized Sorting Routine

CLASS T - TIME SERIES ANALYSIS

2T Autocovariance and Power Spectral Analysis
3T Time Series Spectrum Estimation
4T Multiple Time Series Spectral Analysis
5T Time-locked Averaging

CLASS V - VARIANCE ANALYSIS

* 1V Analysis of Variance for One-way Design
2V Analysis of Variance for Factorial Design
* 3V Analysis of Covariance for Factorial Design
* 4V Analysis of Covariance with Multiple Covariates
5V General Linear Hypothesis
6V General Linear Hypothesis with Contrasts
7V Multiple Range Tests
8V Analysis of Variance
9V Analysis of Covariance
10V General Linear Hypothesis (No.2)
11V Multivariate General Linear Hypothesis
* 12V Multivariate Analysis of Variance and Covariance
Small changes have been made to the input/output routines for BMD8M and BMD3V and these have the following implications to users:

1. Device DSK is used for alternate input and output and users may specify on the program control cards any of the units 22,23,24. Disk units 1,20,21 are unavailable since they are used to read and write intermediate results.

2. For batch jobs, input/output is to units 2 and 3 respectively (card reader/line printer) and for terminal controlled jobs to units 5 and 6 respectively. Terminal users wishing to receive output at their terminal should use the command

   .ASSIGN TTY:6 before running the program. The command
   .ASSIGN LPT:6 could be used if output from the line printer is desired.

3. For the purpose of storing intermediate results, the programs may create disk files FOR01.DAT, FOR20.DAT, FOR21.DAT. Users should ensure they have no wanted files with these names on their disk area.

Sample batch card deck setup:

```
$JOB
$DECK DAT.CDR
.
   data
.
$EOD
.SET CDR DAT
.R STATS:BMD83V
.DELETE FOR01.DAT, FOR20.DAT, FOR21.DAT, DAT.CDR
end-of-file card
```

5  PROCEDURE FOR PRINTING LABELS ON THE PDP-10

The address labels presently available for use on the PDP-10 have 4 lines of 45 characters. The vertical format loop used with these labels is such that a form feed slews to the top line of a label. If the address file is produced by a FORTRAN program the first line should have a '1' in column one and a blank in column one for the other lines.
In COBOL, write the first line after advancing top-of-form (channel(1)). With TECO, form feeds can be inserted directly or by the command '12I$'. With EDIT, it is convenient to imitate the fortran method (i.e. a '1' in column one) and give the file a '.DAT' extension or print with '/FILE:FORTRAN' switch.

Examples of print commands:

```plaintext
.PRINT MYLAB.DAT /FORMS:LABELS /COPIES:20 /PRIORITY:4

.PRINT STUDNT.LAB /FORMS:LABELS /COPIES:100 /FILE:FORTRAN
```

It is no longer necessary to use '/NOHEADER' switch since 'LABELS' implies vestigial job header and trailer pages, of one label each, and no file headers.