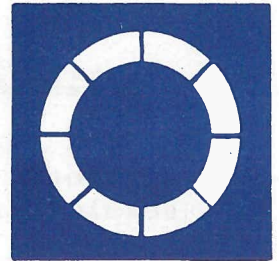


FORUM

195 COMPUTER NEWSLETTER



FORUM - CENTRAL COMPUTER NEWSLETTER

Number 1 May 1976

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EDITORIAL

This is the first issue of the FORUM Newsletter. Future editions will appear approximately 3 to 4 times a year. The newsletter is designed to fulfil several functions.

Firstly, it replaces the old FORUM Bulletin which merely reported Group Representatives Meetings. This way it is hoped that these reports will reach a wider audience.

Secondly, the newsletter will contain as appendices, updates to CIGAR and the ELECTRIC Users Manual. This should ensure that these important documents will keep pace with system changes. In this role, the newsletter obsoletes the Central Computer Bulletin.

Thirdly, it is hoped to print details of new developments in computing at Rutherford, and from time to time, informal articles by users on themes of general interest.

Any user who did not receive a personal copy of this issue should have his name added to the mailing list. To do this, contact the Receptionist either by ringing 0235-21900 ext 352, or by sending an ELECTRIC message TOID=US.

Section 1 195 GROUP REPRESENTATIVES MEETING

The meeting of 195 Group Representatives held on Tuesday 2nd March at THE COSENNERS HOUSE, ABINGDON. The programme was as follows.

GENERAL MEETING

Updated notes issued for the General Meeting are given here. Formal answers to questions raised there are also given along with an attendance list.

The FR80 FILM RECORDER

The purpose of this session - to review the facilities for using the FR80 showing examples of microfiche, 16mm and 35mm film, and high quality graphics suitable for publication etc. Graphics Facilities are described in Section C7 of CIGAR, or in ELECTRIC FILE=M.DOCUMENT.CIGAR.PARTC.C7.

TAPE MANAGEMENT SYSTEM

Discussing the proposed methods for coping with the very large numbers of magnetic tapes, including storing only a part of the tape library in the immediate vicinity of the machine room. The stored status information will include parameters to control access to any tape in the library. A copy of the proposal is given in this newsletter.

MAGNETIC TAPES IN GENERAL

The last 12 months have seen significant changes to the Tape facilities and certain problems as well. This session was to attempt to clarify the current position with regard to using Tapes, and discuss methods of obtaining best use of the system. A list of some problems is given in this newsletter.

REPRESENTATIVES HANDBOOK RL-76-032

A Group Representative has several responsibilities. A handbook is being prepared which not only lists these, but gives details of many facilities to assist the work of a Representative. This session was to discuss a draft of this handbook.

REMOTE USERS SESSION

This session looked at aspects of computing on the 195 remotely from Rutherford Laboratory. A further note on control of lineprinters is given in this newsletter.

ATTENDANCE

C & A Division

C Balderson, C S Cooper, F Hart, P J Hemmings, A T Lea, A R Mayhook, C D Osland, P C Thompson, D H Trew, Mrs S H Ward.

Group and Workstation Representatives

D Asbury	K17
J Barlow	Ruth. BC
A Berglund	CERN
D R S Boyd	CGA
R Butt	Admin.
M E Claringbold	Atlas
A Clark	CGC
E Clayton	IC/FA
I F Corbett	RL/HEP
M Coupland	QMC
M Donald	EPIC
E Eisenhandler	QMC/RL
J B Forsyth	NBRU
E Golton	Appleton
J B Goodwin	Sheffield
K Guettler	UCL
A W N Hames	MSSL
J C Hart	CGB
J Hutton	HEP Electronics
J H Jackson	Leicester
A P Lotts	Durham
J Macallister	Oxford
F MacDonald	Birmingham
R S Macintosh	Oxford NS
A J Middleton	RL Eng.
P J Negus	Glasgow FA
D F Parker	Atlas
P J Radford	IMER
H Sherman	Daresbury
A Stokes	ICS
M W Storey	IOS
F J Swales	Nimrod
R J Uncles	IMER
M Waters	RL/FA
C S Webb	KCL
N West	Oxford FA
F Wickens	HEP VTS
C Williams	IC
J W Wybourn	UCL

PROCEEDINGS OF THE 195 GROUP REPRESENTATIVES GENERAL
MEETING 2 March 1976, Coseners House, Abingdon.

1 INTRODUCTION

Saturation of the 195 continues not only with regard to CPU time, but tapes and disk space are affected as well. Factors which will affect the Work Profile are: the conversion of four tape drives from 1600 bpi to 6250 bpi; and the additional spindles for dual density 3330 disk packs.

2 HARDWARE

2.1 Tapes

The upgrade of some of the 9-track tape drives was completed during January and the configuration is now as follows:

- 4 drives 6250 bpi only
- 4 drives 6250/1600 bpi
- 2 drives 1600/800 bpi
- 2 drives 7-track 800/556 bpi.

2.2 Disks

The eight new Memorex disk drives came into full operation at the end of February. The effect of this is discussed below.

2.3 Block Multiplexer Channel

A new Block Multiplexer Channel is being installed which will be operational by late February or early March. The effect on normal batch jobs will be minimal, but there should be some improvement in ELECTRIC response.

2.4 Shutdowns

One shutdown is expected for air conditioning maintenance. This will be either the first or second weekend in July for a period of three days.

2.5 Routine Maintenance

Routine maintenance is scheduled between 1600 and 2030 hours on the following dates:

4 March , 1 April , 6 May , 10 June , 8 July .

3 SYSTEM SOFTWARE

3.1 HASP

The response to the RATION command has been changed so that the time allocations are printed in descending priority order.

There is little man-power available for HASP development, and no further changes are envisaged beyond an extension of the ROUTE concept.

3.2 ELECTRIC

Access to the JOBFIL is now restricted. Users wishing to place a file into the JOBFIL must now supply details to the Program Advisory Office. The owner retains full access to files in the JOBFIL.

Warning notes on the deletion of unused MUGWUMF files are no longer issued. We are not aware of any problems this has caused.

The procedures HRMUG and HREXT have been replaced by ELECTRIC Jobs (ie files in the JOBFIL) ELMUG and ELFR80 respectively.

ELECTRIC text files can now be output to the FR80 microfilm recorder using additional parameters on a PRINT command. Details are given in the FILE=M.MANUAL.SUPP.PARMS .

ELECTRIC space is beginning to run short again. Users are requested to delete or archive appropriate files.

The new 'paging' version of ELECTRIC should be running in about one month. Initially there should be no noticeable difference, but this will enable some improvements later.

Some proposed changes to the layout instructions were announced in a newsheet dated February 24. This primarily affects the definition of Width and introduces the concept of a Right Margin.

Part 1 of the ELECTRIC Manual has been rewritten and copies are available on request. Do not confuse this with the reprints of the current manual which are available again from the Receptionist.

As agreed at the last meeting, Jobs routing more than 5000 lines to MUGWUMP will be held over during the day until the evening.

3.3 MAST

MAST has been simplified by the removal of the support software for the DDP 224. When the new control program for the HPD machines is fully operational, it will not require service from MAST, so that MAST will be then simplified further.

4 DISKS

Space on the permanently mounted disks RHEL03, RHEL04 and RHEL05 has been running low, and a review of data sets was carried out recently. Date-Stamping was introduced last December, which will provide extra useful information about disk data sets.

The introduction of the new spindles gives an opportunity to rearrange the use of the disks. This will result in an increase of space for the User Libraries, more space for MUGWUMP and ELECTRIC Work Data Sets, more demountable drives, and a relatively small (about 50 Mbytes) increase in the space for User Data Sets. It will still be important to use such disk space in a responsible manner.

Since Date-Stamping was introduced, the output from LISTVTOC when using IEHLIST now gives the last used date under the 'VOLSER' heading and the Use-Count under the heading 'EXPDT'.

The deletion of data sets from FREEDISK is now performed by a program which examines the last date used, and not the SMF records as previously. This has eliminated the 'Monday Morning Effect' which sometimes occurred under the old system.

5 TAPES

The problems with tape labels now seem to have been solved. Users are reminded that when writing unlabelled tapes it is necessary to specify the DEN parameter in the DCB parameter. It is also necessary to have a good reason for writing unlabeled tapes.

6 WORKLOAD

The 195 is now running at saturation, and steps were taken about the time of the last meeting to try to ease the situation. These were reduction of the time allocated at priorities 12, 8, 6 and 4, and the introduction of priority 10. The aims were : (i) to reduce the number of priority 12 jobs; (ii) to clear priority 6 work every night; and (iii) to clear priority 4 over the weekend. These aims have been achieved.

However, these changes have had other side effects. Normally priority 12 jobs turn round in 15 minutes, short priority 10 jobs in 30 minutes, and short priority 8 jobs in 2 hours, but these targets are not being met in the afternoons. It is felt that the poorer afternoon turnaround is caused by jobs with long elapsed time running at priority 10.

Another aspect of Workload concerns the basic time allocations. Time may be moved from one account to another. The responsibility for this lies with the Category Representative. Such a representative has now been appointed for each Category.

7 WORKSTATIONS

Three new workstations have come into operation since November: Belfast, Sussex and St. Andrews. The first two access the 195 via Atlas.

The first of the workstations currently connected to Daresbury will have access to the 195 from the end of February.

There has been a deterioration in the standard of log-keeping at the workstations. Workstation users are reminded

that accurate log-keeping will result in quicker attention being given to faults.

All workstation users are requested to remember to signoff and reset at the end of a session. Circumstances have now arisen whereby this has become an important factor in the successful operation of the system.

8 NEW UTILITIES

Several new utility type programs have been brought into use, which allow the user to easily:

- (i) copy and translate source files, selecting records if required. (BCD to EBCDIC, EBCDIC to BCD, or any user-supplied translation).
- (ii) copy multfile tapes, specifying the number of files to be copied or the first file for copying.
- (iii) examine all the labels on a tape and get some information on the files themselves.
- (iv) list any partitioned data set.
- (v) list the contents of a disk, selecting only those data-sets associated with a given identifier if required.
- (vi) dump disk or tape files.
- (vii) document FORTRAN programs, tidy FORTRAN programs, or list the structure of an overlaid program.

A writeup of each utility may be obtained by printing FILE=M.DOCUMENT.CIGAR.PARTC.C8.utility. A writeup of all the utilities available may be obtained by printing FL=M.DOCUMENT.CIGAR.PARTC.C8.DOC or an index may be obtained by printing the file unedited.

9 SHORT ITEMS

9.1 FORTRAN

Version 2.1 of the Fortran H Extended Plus compiler has been installed replacing version 2.0 in the FORTRAN H procedures. Anyone needing to use the old compiler should contact the Program Advisory Office.

The Fortran G1 compiler has replaced the old G compiler in the FORTRAN G series of procedures. The Systems Group were unable to obtain a fix for the problem of blank card rejection.

Now that the G1 compiler is installed, it should be used for development wherever possible in preference to H Extended Plus. The saving in CPU time is considerable.

9.2 Graphics Spooling and the FR80.

The Graphics Spooling system is now fully operational.

Details of all graphics facilities available are in the ELECTRIC FILE=M.DOCUMENT.PACKAGES.LONG.GRAPHICS.

All MUGWUMP routines may be obtained on Autocall by specifying SYSLIB='SYS1.MUGWUMP' on the EXEC statement. Similarly all SMOG routines are available by SYSLIB='SYS1.SMOG'. Details are in the SMOG System Manual obtained from the Receptionist.

Support for the SD4020 has now been withdrawn. The device is no longer operational.

9.3 CIGAR

Parts A, B and E have been issued. Parts C, D and F are still being written. Part C includes descriptions of the Graphics Facilities and the Utilities.

9.4 ELECTRIC ARCHIVE System

The Job to archive and restore ELECTRIC files is now run every night.

9.5 Retrieval of Library Members

The procedure RETRIEVE now allows the member name to be specified without a version number. In that case the most recent version is assumed.

9.6 FR80 Courier

The FR80 courier now operates from the 195 area at the following times: 0945, 1300, 1600 and 2100. The 2100 run is from the 195 to the FR80 only. It should be noted that the work on the FR80 is scheduled according to which camera is required.

9.7 Archive Tapes

Users are reminded that the tape librarian requires advance notice when the archive tapes (98.... series) are to be used. A /*MESSAGE must be included if one of these tapes is to be written to.

9.8 Tape Compression

No more tapes can be purchased by Operations Group for the next 12 months. Compression of data from lower density to 6250 bpi tapes is therefore MOST URGENT. It is possible to copy at least three 1600 bpi tapes to one 6250 bpi tape. Often more. Users are therefore urged to look critically at what tapes they retain, and compress wherever possible.

9.9 Dialin Terminals

Terminals which currently use the telephone numbers Rowstock 631 at the fixed speed of 110 bits/second will very shortly be able to use them at speeds up to 300 bits/second. On connecting his terminal the user will have to specify what speed he wants to use. New instructions on use are in RL-76-017. Obtain a copy from the Receptionist. The date of implementation is 6 April 1976.

9.10 DLM Parameter

A 'safe' version of the DLM parameter is being developed.

9.11 Remote 23

The Rutherford GEC 2050 (Remote 23) is not available to the user from 0830 to 1000 or from 1300 to 1500.

9.12 Algebraic Manipulation Programs

Three algebraic manipulation programs have been placed on the 195. They are - REDUCE, CAMAL, and SCHOONSCHIP. Information on these may be obtained from the Program Advisory Office in the first instance.

9.13 LINECNT_Default

At the last meeting it was suggested that the default for LINECNT should be set to 88 (at present it is zero) to prevent paper wastage if printing has to be restarted. This would inconvenience any workstation which still has 6 lines/inch. As no comments have been received from users, this will be implemented shortly.

9.14 STAIRS

The STAIRS SLAC Preprint Database is now up-to-date. Details are available from R. Roberts, Theory Division.

9.15 Category_Representatives

Two new Category Representatives have been appointed. These are J Barlow (for University Film Analysis) and J Diserens (for RL Other Divisions).

9.16 M.DOCUMENT

The ELECTRIC directory M.DOCUMENT contains a directory called CIGAR which currently holds parts A, B and E. M.DOCUMENT.PACKAGES is available for users to put in their own write-ups of any program they feel may be of interest to other users. This contains two directories SHORT and LONG, for short and long writeups respectively. Users are requested to please keep to the standard format for files in the directory. M.DOCUMENT also contains documents by members of C and A Division which were prepared in ELECTRIC.

9.17 IBM_Manuals

In January 1976 IBM introduced a new charging scheme for manuals. Whereas previously most manuals had been free, now only five free copies of each manual are allowed and additional copies are charged for. These manuals are not cheap; 'Messages and Codes', for instance, costs almost ten pounds. We now propose, therefore, to limit the number of manuals distributed. In future we will issue one copy of each major manual to each workstation site or central terminal cluster. Personal copies of manuals will be discouraged. Remote users may purchase personal copies of manuals direct from IBM while central site users requiring personal manuals should contact User Support. Any user who feels he has a special case for a personal copy of a manual should contact User Support and provide a written request from his Category Representative.

P J Hemmings & S H Ward, User Support Group.

The following questions were noted during the meeting. Generally the questioner is attributed, but sometimes we did not get the name. Most of the questions were given an "immediate response", but all have been passed on for a "considered reply". When there was nothing to add or correct in the immediate response, no name is given.

- Q1. Are the dates of the air conditioning maintenance known more precisely? (B. Forsyth)Air conditioning maintenance is required every six months - usually in January and July. The actual dates depend on other factors such as Nimrod shutdowns. Warnings to users are always given when the actual dates are decided upon. Equally any group which has a specific requirement for computing over any period should give this information to Operations Group. (G. A. Lambert).
- Q2. What is the progress on the use of an alias for a remote number? (J Hutton).....The /*ROUTE card will for the time being continue to have such names as REMOTE23. However certain abbreviated forms are soon to be allowed on an ELECTRIC EXEC command. The use of alias names has been reaffirmed as an objective. (O S Working Party)
- Q3. Will the number of files in the JOBFIL be reduced?
- Q4. Is there a list of what is in the JOBFIL?A survey and review of the JOBFIL is about to be made. (P J Hemmings)
- Q5. When there are 40 users logged in, then EXEC from the JOBFIL produces 'QUEUE FOR EXEC TRY AGAIN.' Can anything be done about this? (J Hutton).....Yes, it is hoped that this will be "cured" once the new version is going. (T Pett).
- Q6. Can ELECTRIC RESTORE be speeded up? (R Mackintosh).
- Q7. How long does RESTORE take to run? (A Clark).... ARCHIVE/RESTORE is run at the time when ELECTRIC is offline being dumped for backup purposes. That process lasts up to 1 hour. (T Pett).
- Q8. Can RESTORE be run during the day? (A Clark).... We do not think that users would be happy with ELECTRIC being offline for the necessary period. (T Pett).

- Q9. Can ARCHIVE precede RESTORE to enable block swapping to take place ? (M Coupland)..... This will happen if those files to be archived are higher up the directory tree than those to be restored. One can achieve a certain amount of this with a certain amount of juggling using the RENAME command. (T Pett).
- Q10. When will the new ELECTRIC Manual be produced? (J Hart). Part I is ready to be released in the next month or so depending on speed of reproduction and ordering of binders.
- Q11. Will the MUGWUMP lines limit upset picture files? (F Wickens)..... No. The lines control is in HASP which does not process picture files. (G Adamson).
- Q12. When FREEDISK is cleaned up, does the catalog also get modified? (M Donald)..... The catalog is normally modified a short time after the FREEDISK cleanup. (D Trew).
- Q13. Is there a default Retention Date on FREEDISK?..... No. Data sets are deleted if (a) they are illegally named, or (b) they are unused for 14 days. Data sets are only legally named if the name begins with the first three letters of the current or preceding month followed by . for example, JAN.name is legal during the months of January and February only. The prefix USER. is allowed. These deletions are normally performed on a Monday morning, and whenever required due to shortage of space. (P Hemmings).
- Q14. Is there a problem with FREEDISK filling up? (A Clark)..... This happened during the last week in February and March. (P Hemmings)
- Q15. Is there a size limit on FREEDISK? (F Wickens)..... Not at the moment. (P Hemmings)
- Q16. Why does Priority 8 Setup work sometimes get better service than Non-Setup? (J Hart)... The division of work between Setup and Non-Setup is controlled by Initiators which are arranged to manage an average profile of Job Submission. (A Mayhook).
- Q17. Jobs submitted at Priority 12 at night start but do not appear in the list of running jobs. Why? (R Mackintosh).... Not just at night. When a Job starts it has to obtain core and waits if necessary. The reply to ++M JOBS gives a list of those jobs occupying core. (G Adamson).

- Q18. Can there be a fenced area for Priority 12 jobs? (F Wickens)
- Q19. Does fencing degrade the system? (A Clark)... A fenced area would not significantly improve turnaround which in the majority of cases is less than 30 minutes. Fences are designed to keep long running jobs like MAST at one end or other of core to reduce fragmentation, and used in this way they improve system performance. Obviously if an area of core was fenced off and not used, this would degrade the system. (G Lambert).
- Q20. Why are the Utilities writeups in RLMAINDR? (A Stokes)... That was an error. They form section C8 of CIGAR which may now be found in M.DOCUMENT.CIGAR.PARTC.C8 (P Thompson).
- Q21. Is there a list of changes to the language accepted by Fortran-H between releases?.....No. Only a list of fixed bugs. (G Adamson).
- Q22. Is there a fast disk listing program? (T Golton)..... Yes. LVTOC is considerably faster than RLDISK but output is less readable. See M.DOCUMENT.CIGAR.PARTC.C8 (P Thompson).
- Q23. Is there a Manual on how the compilers work? (T Golton). ... They are called Program Logic Manuals. Systems group have a copy, so do the library.
- Q24. Can OPT=1 or 2 be made default for the H-procedures? (J Hart)... If G1 is not suitable for his tests, the user may select these options for himself.
- Q25. Can the default for both compilers be CPRINT=YES?.... The CPRINT parameter was introduced to save paper, but was set to YES for the G1 compiler since this is intended to be used for program development. Leaving it set NO on the H-Compiler results in a real paper saving. (G Adamson).
- Q26. Are the lines/page for the IBM Utilities to be made consistent? (A Stokes)..... No. It is unlikely that any more utilities could be successfully changed. LVTOC should now be used instead of DISKMAP. (C Osland).
- Q27. Is there an inverse to EXCPIN? (T Golton). .. A subroutine called EXPOUT is being prepared for publication. (P Hemmings).

- Q28. What is the future for 2314 disks ? (R Butt).... The possible advent of a second processor makes the removal of the 2314 disks unlikely. (H Hurst).
- Q29. Who should non-HEP work station users contact about the use of a work station? (E Eisenhandler).... Such users should first contact Resource Management Branch of Atlas for permission to use the workstation. In turn the workstation representative will be asked. After that the users should be dealt with just as any other, for example it will be the responsibility of the workstation representative to ensure such users know how to use the equipment etc. Program advice etc. is handled for such users by the Atlas Program Advisory Office (extn 6111). (A Lea)
- Q30. Can the first character of a Jobname be numeric? (A Stokes).... No. This has been a rule of OS since its introduction, and now that OS is frozen it will not change. (G Adamson)
- Q31. Use of the PUNCH command always produces lineprinter output. Can this be dummied out? (J McAlister)....I don't think so. (T Pett).
- Q32. Can /*NOPRINT be conditional on completion codes? (J Hart).... We are looking at providing a procedure to set a job for NOPRINT which can be run depending on condition codes of earlier steps. (G Adamson).
- Q33. IDXXMODS files are not always deleted. Why? (T Golton).... This occurs if a MODIFY does not receive \$\$. The MODIFY may be continued later using XXMODS=KEEP. However, there may be a bug which prevents XXMODS from being deleted in some circumstances other than mentioned above. I haven't found it yet. (T Pett).
- Q34. Can the space required to RESTORE an archived file be obtained? (T Golton)....At present that information is in the archived file itself.
- Q35. Can the archive allocation be made known to users? (A Stokes).... The initial allocation is 500 blocks. ELICIT can be run on the archive disk to obtain the relevant accounts. (T Pett).
- Q36. Is it possible to get more than 1 job on a microfiche? (P Thompson)...The systems group will be asked to consider the feasibility of implementing this suggestion.
- Q37. Would it be possible to inform users when there is only a small amount of work for a weekend? (K Guettler)...The situation does not happen very often. When it does,

Operations Group try to contact those groups they know might be able to take advantage. This is generally based on recent usage. (G Lambert).

- Q38. What happens to archived files when ID's are handed back? (A Clark)... When an ID is to be handed back, the receptionist will normally press for any ELECTRIC files (archived or otherwise) to be transferred to a new owner and this should be done before the ID is finally handed over. If it is not done the supervisor of the former owner will be contacted at some point and asked to make a decision regarding the files. In the case of archived files it is necessary to restore them before ownership can be transferred. Old ELECTRIC files whether archived or not, will always be dealt with before an ID is reallocated. (S Ward)
- Q39. Why do jobs 'NOT KNOWN TO HASP' actually run? (A Stokes)... Occasionally the status request from ELECTRIC arrives before the Job itself. This is a feature of asynchronous job submission.
- Q40. Some ACD users have asked whether ELSEND and ELUSER jobs could be modified to allow for the fact that when ELECTRIC is not running, or even when a user is logged in to a given ID, some action like holding the job or forcing a user logout rather than cancelling the run. At present ELSEND gives a warning when the user is logged in. Several times this message has been lost. I think a forced logout would be preferable. (D Parker)... As suggested, the first point needs an extension to the SETUP facility. I personally am not in favour of an automatic logout. I think the users should have the choice as at present. (T Pett)
- Q41. Can a command be provided in Electric to allow the previous edit instruction to be cancelled? (K Crennell) ... This is difficult because edits can be typed out of order and are reordered in ELECTRIC. Thus ELECTRIC would have to have a special flag attached to each edit to say which was the last one. (T Pett).
- Q42. What is the XL option of the H-Extended-Compiler?... It allows various logical operations such as shifting to be performed inline. C Osland has some routines which are more powerful. (G Adamson).

- Q43. When using SERLAB, care has to be taken to specify LABEL=(,,,IN) or LABEL=(,,,OUT) correctly otherwise many operator messages are generated. Could this be included in the documentation as a warning?.... This problem will not arise soon because the messages you refer to will soon be suppressed. (P Hemmings).
- Q44. When DISP=(NEW,PASS) has been specified, users have managed to get datasets deleted even though DISP=(OLD,KEEP) was specified on a subsequent step. How does this happen? (D Parker)....The small print in the JCL Manual says that DISP=(OLD,KEEP) will not be effective if the user has given an explicit VOL= reference on that DD statement. (G Adamson).
- Q45. Would it be possible for messages always to go into a users MESSBOX? (J Hutton)...Yes, if this facility is required by the majority of users. (T Pett)
- Q46. What can be done to avoid getting the 'JOB INPUTTING' response from EXEC? (J Hutton)....This awaits a facility that is being developed in ELECTRIC. HASP will then queue the STATUS that Electric generates until a sensible reply can be given. (M Curtis).
- Q47. Can ELECTRIC have a command to cancel all edits with a given label?...
Try COPY FL1=TEST.ED (XX), FL2=TEST.ED, XX=NOT (3, 8, 50) . (T Pett)

Section 2 PROPOSED TAPE LIBRARY SYSTEM

1. LIBRARIES

There will be three types of library:-

- 1.1 Local Library - this contains tapes which are to be used. A tape in the local library will also be in a HOME library.
- 1.2 Home Library - there will be several of these and they may be at any distance from the computer room. Tapes in these libraries cannot be used until they are moved to the LOCAL library.
- 1.3 Absent Library - these are outside the Laboratory. Tapes in these libraries cannot be used.

2. TAPE LIBRARIES

A tape may have three identifiers:-

- 2.1 VOLSER - this is the name by which the programmer knows the tape. If the tape is labelled it will be in the magnetic label. It is used on SETUP and DD cards. May not be unique. VOLSER may be issued by the system from a standard number sequence or may be supplied by the Librarian.
- 2.2 HOME RACK NUMBER - every tape known to the system has one. It is allocated by the system and must be unique. It is used as the main identifier for tape library purposes.
- 2.3 LOCAL RACK NUMBER - only tapes in the local library have one. Used for identifying tapes in computer operations, i.e. tape mounting. These are also allocated by the system.

3. METHOD OF OPERATION

Tapes can only be used if they are in the tape library. When a volume is entered into the library it is issued a HOME RACK NUMBER, and may also be allocated a LOCAL RACK NUMBER.

When a program is submitted the location of the tape is established. If it is unknown or in a ABSENT library the job is flushed. If it is in a HOME library a message is issued to warn the operators. The tape must be moved to the LOCAL library before the job can run. If the tape is in the LOCAL library no action is taken.

When the program reaches the FETCH queues it will be held unless all the tapes it needs are in the LOCAL library, and will be released automatically when it can run. If the job can run FETCH messages are issued using LOCAL rack numbers.

When a tape is moved to the LOCAL library it will stay there until removed by the librarian. The system will issue warning messages when the library is nearly full. It also records the date of the last time the tape was moved, so that the librarian can identify which tapes to return to their HOME libraries.

4. TAPE DATA

Present ideas on the data to be kept for each tape are:-

- Volume Serial
- Home Rack number
- Local rack number
- Owner Acct number
- Owner ID
- Owner group identifier
- Tape length
- Tape density
- Label type
- Tape type/manufacturer
- Home library
- Current library
- Library last moved from
- Last moved date
- Original issue date
- Last re-issue date
- Date last read
- Date last written
- Date last cleaned
- Review date for keeping foreign tapes.

In addition each tape may have one record (approx. 50 bytes) of comments.

5. SECURITY

Associated with each tape there will be a security record containing:-

5.1 Access mask specifying which types of access are protected. Types of access are Read, Write for tapes. If system is extended to cover disks additional categories required are:- Allocate temporary D.S., Allocate permanent D.S., Scratch permanent D.S.

5.2 Any number of Password fields, each of which contains:-

 Password
 Permitted access with this password

Associated with each account/ID combination there will be a security record containing a list of passwords. The passwords in this record are default passwords which are considered as having been supplied each time the account/ID combination is used. A programmer may use other passwords not in his default list by specifying them on the SETUP card.

The access control field stored with a password in a security record may specify that the password is invalid when supplied on a SETUP card.

Account/ID pairs may be grouped so that several refer to the same security record.

Volumes may be grouped so that several tapes have the same passwords.

6. DISK VOLUMES

The system has been described as a tape library system. There will be no difficulty in including disk volumes (either normal or minidisks) in the system. Some modifications may be necessary, e.g. disks need not have a HOME library and may work entirely in terms of VOLSER rather than by RACK NUMBERS.

7. LIBRARIANS UPDATE FUNCTIONS

- 7.1 ISSUE - issues a brand new tape; allocates HOME rack number and optionally VOLSER and LOCAL rack number.
- 7.2 REISSUE - reissues an existing free tape if a suitable one can be found otherwise issues a brand new one.
- 7.3 CHANGE - changes some of the fields in the tape data.
- 7.4 COMMENT - adds, replaces or deletes the comment record for a tape. Cannot modify comment record.
- 7.5 DELETE_INDEX - removes volume serial from the library.
- 7.6 RETURN_TO_COMMON - frees a tape for reissue to another user.
- 7.7 MOVE - moves a tape from HOME to ABSENT, HOME to LOCAL, LOCAL to HOME, LOCAL to ABSENT, ABSENT to HOME or ABSENT to LOCAL, and allocates or deallocates LOCAL rack number as necessary.

- 7.8 HOME - moves a tape from one HOME library to another.
- 7.9 ACCESS - adds, deletes or modifies the access control record associated with a tape.
- 7.10 SECURITY - adds, deletes or modifies the security record associated with an account/ID combination.
- 7.11 LIST - there will be a general purpose list program which will allow the librarian to select records by specifying conditions on any of the fields, to sort these records and list selected fields from them.

A R Mayhook

Section 3 Some 9-Track Tape Problems of 1975

- 1) From before January 1975 to 23 October 1975. 800 bpi labelled tapes said 'DEN=3' in the HDR2 and EOF2 records. Do not be misled by this when reading a tape analysis.
- 2) From March 1975 to 4 November 1975. The sequence WRITE, REWIND, WRITE caused File 1 to be written at 1600 bpi regardless of the DEN parameter or the density previously implied by the Volume Label.
- 3) March 1975 to 23 October 1975. Tapes with Volume Labels implying 6250 bpi had files written at 1600 bpi when DEN=3 was specified. The situation now is what it was previously believed to be, namely that for Standard Labelled tapes the density is defined by the density of the Volume Label.
- 4) Unlabelled tapes are written at the maximum density unless DEN is provided. Since DEN800 drives can write at 1600 bpi, the user can be misled into thinking he writes at 800bpi. Equally DEN1600 could be on a 1600/800 drive or a 6250/1600 drive.

P C Thompson

Section 4 Summary of two meetings of 195 Advisory Committee

The membership of the 195 Advisory Committee is currently:

Dr J Dowell	(Birmingham)	Chairman
Mr D Ball	(CERN)	
Dr J J Beattie	(SRC London Office)	
Prof A B Clegg	(Lancaster)	HEP Counter Physics
Prof B Collinge	(Liverpool)	University Film Analysis
Dr P Dornan	(Imperial College)	University Film Analysis
Prof D Jackson	(Surrey)	Nuclear Structure
Dr G Kalmus	(Rutherford)	Rutherford
Dr P Kalmus	(Queen Mary College)	HEP Counter Physics
Dr G Manning	(Rutherford)	Atlas Division
Prof G Moorhouse	(Glasgow)	HEP Theory
Mrs J O Paton	(SRC London Office)	Science Board
Dr G Stafford	(Rutherford)	
Prof F Walkden	(Salford)	Engineering Board
Mr W Walkinshaw	(Rutherford)	
Dr B Zacharov	(Daresbury)	

This is a brief report on the items discussed at the two Advisory Committee meetings (11 November 1975 and 18 February 1976). It is hoped to report these meetings in future issues of the Newsletter.

(1) Progress Report

A progress report is presented at each meeting by Mr Walkinshaw to bring committee members up to date on questions of usage of the 195, the development program within C & A Division etc. Most of this material also appears in the Quarterly Report or in the Newsletter.

(2) RL Users at CERN

A paper by Dr Manning gave details of the present facilities for RL users to access the 195, plus recommendations for the future. These recommendations were accepted.

(3) Network Developments

Two papers were presented for information purposes, the first by Mr Walkinshaw. This listed all current connections, plus status of the links to Atlas, Daresbury, CERN and ARPANET. It also gave brief comments on the development of the SRC private network, EPSS, and two proposed experiments with CERN via EIN (European Information Network) and an ESA satellite link.

The second paper was by Mr Ball and it reported on the plans CERN have for a network across the CERN site with "gateways" to remote sites (such as RL).

(4) Further CPU Power, Rationalisation

The committee is discussing various feasibility studies of obtaining further CPU capacity to meet future demand. Also it is being kept informed of feasibility studies going on within Rutherford Laboratory concerned with rationalising computing overall, especially with regard to bringing the two machines (360/195 and 1906A) under common operation.

(5) Engineering Computing Requirements

The committee discussed the report by a Technical Group of the Engineering Board detailing future computing requirements of engineering.

(6) Allocations of CPU Time

At its May meeting the committee will review the notional allocations for HEP computing time on the 195.

A T Lea

Section 5 CONTROL OF PRINTING AT WORKSTATIONS

Printers at Workstations can be controlled to print only jobs within a range of Print Priorities. This is particularly useful for those workstations with more than one printer. Long-printing jobs may be held or confined to a single printer to prevent long print queues forming for express jobs and jobs which do not print too many lines. The control may be reset during quiet periods to print the long-print jobs then.

The following commands are available:

```
$TRMn.PRx,HP=hp  
$TRMn.PRx,LP=lp
```

where n is the Remote Workstation Number;
x is the Printer Number;
hp means 'HIGH' PRIORITY
lp means 'LOW' PRIORITY

for example:

```
$TRM23.PR1,LP=9  
$TRM23.PR1,HP=15
```

will only allow jobs with print priorities from 9 to 15 to be printed on PRINTER1 of REMOTE23. Note that only one level can be set by a command. It will not work to type \$TRM23.PR1,LP=9,HP=15 .

Default values are LP=1 AND HP=15. Note that loading the Bootstrap counts as Printing as far as HASP is concerned. This normally has a Print Priority of 9, so if the settings exclude printing at priority 9 the Bootstrap would be unloadable. These values are set in HASP by the workstation operator and only revert to defaults at a 360/195 IPL. There is currently no means of interrogating these settings.

PRINT PRIORITIES ARE AS FOLLOWS:-

```
0-2000 Lines - Priority 9  
2001-5000 Lines - Priority 8  
>5000 Lines - Priority 7
```

You reset the Print Priority of a Job by the command:
\$TJXXX,P=p

where XXX is the HASP Job Number, and p is the desired Priority.

C Balderson

Section 6 Model DCB's

The current list is:

<u>DCB</u>	<u>DSORG</u>	<u>RECFM</u>	<u>LRECL</u>	<u>BLKSIZE</u>
CARD	PS	F	80	80
CARDS	PS	FB	80	3120
CARD10	PS	FB	80	800
CARD39	PS	FB	80	3120
CARD40	FS	FE	80	3200
CARD80	PS	FB	80	6400
DUMPDS	-	FB	80	800
FR8 0	PS	U	0	1536
HLFTRK14	PS	VBS	X	3520
HLFTRK30	PS	VBS	X	6447
LINES	PS	FB	133	1729
LINES10	PS	FB	133	1330
MACROS	PO	FB	80	6400
ONEKB	PS	VBS	X	1024
PRINTER	PS	F	133	133
PROCS	PO	FB	80	1600
THREEKB	PS	VBS	X	3072
TRACK14	PS	VBS	X	7294
TRACK30	PS	VBS	X	13030
ULIBS	PC	U	0	13030
VBA	PS	VBA	137	1327

CARDS is a synonym of CARD39 since it is easier to remember.

DUMPDS is the format of partitined datasets unloaded by IEHMOVE.

FR80 should be used for intermediate data sets to be processed by the Procedure VIEW\$.

LINES and LINES10 may be used for disk storage of lineprinter format output in fixed format: LINES is preferred on 3330's and LINES10 on 2314's.

MACROS is the DCB of all system macros libraries for the OS Assembler.

ULIBS is the DCB for all ULIB's at RL: load module libraries should use this unless there is some good reason.

VBA may be used for efficient (compact) storage of lineprinter output: it is densely packed on both 2314's and 3330's, but requires more care when reading with Fortran.

Section 7 INDEX to some useful sections of FORUM Bulletins.

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Table of JCL parameters for DD card	10	Appendix	Apr 74
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