

PRENTICE COMPUTER CENTRE

UNIVERSITY OF QUEENSLAND, ST. LUCIA, QUEENSLAND, AUSTRALIA. 4067.



NEWSLETTER

N-280

28-March-83

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Authorized by the Director of the Computer Centre

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1.0 NEW VERSION OF QEDIT

The program that services the EDIT and CREATE monitor commands has been upgraded to add several new features and includes changes that have been requested from time to time. This version is Version 7A(73). The command HELP EDIT gives a summary of all the commands, HELP NEW:EDIT lists the new features.

The changes make the editor -

1. more powerful (wildcard and elipsis in search strings)
2. safer (it is not so easy to supersede an existing file or quit accidentally, QCHANGE shows the result before changing each line)
3. easier to use (MARK and COPY saves counting lines for PUT)
4. more informative (WHAT gives some defaults, SCALE helps with column sensitive data).

SET WILD x	Define a wild-card character, e.g., SET WILD ? Then LOCATE / ?FFECT/ will find " EFFECT" or " AFFECT" for instance. The wild character can be used in any command that requires a search string.
SET ELIPSIS	Allow use of "... " in search strings. For instance, CHANGE / U...Y// would delete the word "UNIVERSITY". The elipsis, ..., matches any length string on a line, and is effective in all search string situations.
SET NOELIPSIS	Reverts to the default, where ... matches only "...".
SET ELIPSIS OFF	as above.
SET ECHO	Default. Echos PERFORM input and output.
SET NOECHO	Suppresses terminal output while a file of commands is being performed. This makes user defined macro commands more practicable.
SET ECHO OFF	same as above.
WHAT	Give various information about the state of things.
SCALE	Print one line and a column number scale below it.
n	Same as LINE n. The ultimate abbreviation.

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QCHANGE ±n/s1/s2/ Same as CHANGE ±n/s1/s2/, but asks for confirmation. Reply is "Y", "N", "Q" or "G", to make the change, not make the change, stop the command, or continue for the rest of the specified lines without asking for further confirmation.

The CHANGE commands may now be given with no args, the last pair of strings being remembered and used.

MARK Remember the current line for COPY command.

COPY file Same as PUT n file, where n is number of lines from current line to MARKed line. Marked line may be above, but COPY always PUTs in forward not backward direction.

The following new switches may be given with CREATE or EDIT filespec, or in SWITCH.INI.

/SUPERSEDE Allow superseding of existing file on CREATE.

/WILD:x Define the wild-card character.

/ELIPSIS Allow elipsis in search strings.

/NOECHO Turn off echoing of PERFORM.

/ECHO:OFF

The QUIT command may no longer be abbreviated - the effect of typing Q accidentally is therefore avoided. One should not Control-C as an alternative to QUIT as this leaves a temporary file which would then have to be deleted. To create a file and deliberately supersede a file of the same name if one exists, one must now use a command such as CREATE TEST.DAT/SUPER, or have /SUPERSEDE in SWITCH.INI so that superseding an existing file gives only a warning.

The manual EDIT.MEM is available on DOC:, though the much shorter help files would probably serve most needs.

Ian Burgess
extension 2959

2.0 NETWORK RECONFIGURATION

Users may have noticed since the weekend 12-13 February the UQNetwork has taken on a different topology. In fact, the reconfiguration was somewhat overdue. With the increase in the number of departmental mini-computers being attached to the network, the topology was becoming quite unbalanced, and too much reliance was being placed on a single PDP-11/10 for the connection of all departmental DECnet systems and the VAX to the DECsystem-10 mainframes.

With the subsequent installation of the second KL-10 CPU, further imbalance was introduced since all the terminal traffic was still only entering the system via KL-10 CPU#0. If CPU#0 became inoperational for any reason, it was almost impossible for CPU#1 to do any useful work.

The reconfiguration provides the following functionality:

1. Each KL-10 CPU has two DN87S front end communication processors - CPU#0 has DN87SA and DN87SB, and CPU#1 has DN87SC and DN87SD - corresponding DN87S processors (e.g. DN87SA and DN87SC) are essentially identical;
2. DN87SA has 56 lines connected to the MICOM circuit switcher, and 40 lines for direct connection of terminal equipment (similarly DN87SC);
3. DN87SB has synchronous and asynchronous communication lines for connection of departmental minicomputers using DECnet software (similarly DN87SD);
4. There are 2 9600 baud communication lines between DN87SA and DN87SC, and there are 2 9600 baud communication lines between DN87SB and DN87SD, to allow the network a better chance of coping with the loss of one of the KL-10 CPUs;
5. Effective communication speeds between the KL-10 and the VAX (and other DECnet systems) have increased since the saturated PDP-11/10, otherwise known as node RSXANF, has been removed (along with its restrictive 9600 baud link to DN87SB); however, although the VAX and DN87SB are connected by a 1 Mbaud link, the bandwidth of the DECnet gateway software in DN87SB is about 34 kbaud (in more realistic terms, you can expect to move a 100 block file from the KL-10 to the VAX in about 1 minute on a moderately loaded system).

It is hoped that with this reconfiguration we have created a more stable and resilient network which has room to grow in an organised manner as the needs of the University change. If users have any other enquiries concerning the network, please use the electronic mail as described at the front of this newsletter. Report any problems on x3938.

Bryan Claire
extension 2960

3.0 MIDAS - SOME PROBLEMS

Some problems have recently come to light with regard to access to overseas hosts using OTC's MIDAS services via the University's KL-10 auto-dialout system.

3.1 Double Billing

It has come to our attention that some users of OTC's MIDAS service who have their own MIDAS accounts are using a number of overseas hosts on the same phone call to MIDAS. (When logging off from one host the user is prompted by MIDAS to enter new accounting information. When the user supplies this information, the connection is made, and the work continues.)

Whilst this is a sensible way to operate if you are dialing to MIDAS directly, if you use the MIDAS program on the KL-10, you will find that you are being double billed for the subsequent logins unless you exit from the MIDAS program (by typing Control-V after logging off the remote host), and run the MIDAS program again.

The MIDAS program initiates the MIDAS connection using the Prentice Computer Centre's MIDAS accounting information for the particular overseas host selected by the user. The program has no way of knowing that the user has ultimately logged off the selected remote host, and selected a second remote host using the user's own MIDAS accounting information. Thus the MIDAS program is still billing the user for time and traffic as it started out, and so is OTC for second and subsequent overseas logins which use the user's own MIDAS accounting information.

So the rule is: If you are using the MIDAS service via the KL-10, make sure you hang up the call and redial to connect to a second overseas host so as to remove the need to use your own MIDAS accounting information.

Connections to other hosts within Australia using the MIDAS program which does not use OTC's MIDAS service are not affected by this problem.

3.2 Suppressing Output From DIALOG

Users of the DIALOG system via the MIDAS program on the KL-10 should be careful not to use the "BREAK" or "INTERRUPT" key on their terminals to try to suppress unwanted terminal output. Whilst this is a valid thing to try if you have dialed directly to MIDAS, it is not valid if you are using MIDAS via the KL-10. "BREAK" or "INTERRUPT" is not a character of any kind; it is a "line state" that may be detected by communications equipment somewhere between your terminal and the host computer to which you are conversing. In fact, the results differ depending on what your terminal is connected to.

If your terminal is connected directly to a DN8x communications concentrator, you will initiate an autobauding function, similar to when you first logged on to the KL-10. Typing several carriage returns will get you out of this state.

If you are working via the MICOM circuit switcher, you will be DISCONNECTED from the MICOM, and your job on the KL-10 will become DETACHED. If this happens, log in again as soon as possible. You should be reattached to your previous job. Typing <control-C> followed by CONTINUE<cr> should reattach you to the MIDAS call. If you have delayed too long, your connection to the remote host may have timed out, returning you to MIDAS for new login information. See previous section for further disasters.

There is no other key or combination of keys which can be used to terminate output. Even <xoff> (<control-S>) cannot be used to freeze output, even though it may appear to work. DIALOG documentation tells us that use of <xoff> will result in buffer overflow and garbaged output when <xon> (<control-Q>) is eventually used to resume output if the output is frozen for any length of time (the problem apparently is at their end, not ours).

The problem with using the "BREAK" line state is not merely restricted to DIALOG users - it applies to ALL users of the University's central computing equipment, but the uses to which the "BREAK" line state are put locally do not play any part in the normal interactive portion of computer usage. However, the DIALOG system provides us with an example where it IS used as an interactive command. But DO NOT use it if you are accessing DIALOG via the KL-10 system.

Solutions to these problems do not appear to be forthcoming in the foreseeable future.

Bryan Claire
extension 2960

4.0 THE DEFINITIVE WORK ON FILE TRANSFERS

(-At the moment!)

How often have you wanted to transfer files around the network? And thought, "gee, isn't it a pain having to log in to the KL-10 to do a file transfer"?

Well, those days are OVER! Now you can get a file transferred without moving from whichever machine you are using. On the KL-10 you still use NETACC, on a VAX/VMS machine the COPY command can be used, and under RSX-11 the NFT utility does this.

To help you use these facilities, some "driving instructions" for the programs have been included below. (Details of the RSX-11 utility NFT are in the mini-micro newsletter).

The first section is about NETACC, the file transfer program for the KL-10. This is the same as it has been for years. This is used by people who want to perform file transfers while logged in to the KL-10.

The next section is for people who want to perform file transfers while logged on to a VAX/VMS machine. It describes how the COPY command (and others) can be used to transfer files to and from the KL-10.

Lastly comes a section on the NETMAN program, available on the KL-10. You must give a network access password to this program before attempting to access KL-10 files from other systems.

4.1 NETACC - For KL-10 Users

To initiate a remote file transfer between TOPS10 and a remote DECnet system (VAX/VMS, RSX-11M or RT11), the user must run the program NETACC, by giving the TOPS10 command "R NETACC". NETACC will prompt the user for input by typing an asterisk. At this point, the user must give NETACC a command line.

The format of an NETACC command line for copying files is

*<output-spec>[/Switches]=<input-spec>[/switches]

or to delete a file

*<remote-spec>/DELETE

If no accounting information is supplied in the command line, NETACC will prompt for USERNAME and PASSWORD. The <input-specification> and <output-specification> can be either a <remote-specification> or a <local-specification>.

A <local-specification> is a standard DECsystem-10 file specification, in the format

[Device:]Filename.Extension[<TOPS-10 Path>].

A <remote-specification> is a standard remote file specification, in the format

Node[Device:][<remote UIC>]Filename.Type[;Version]

Version number must be specified if deleting files. VMS sub-file and named directories are not implemented.

Switches may be abbreviated to the point of uniqueness. Switches available are

/ASCII(default)

Transfer file(s) in ASCII mode. I.e. five seven bit bytes left justified in a DECsystem-10 word. Transferring of line numbered files results in a warning message and the line numbers becoming part of the data.

/DELETE

Delete the specified remote file(s).

/[NO]FILES

Do [not] type out file names as processed.

/HELP

Type out this text.

/LIST

Perform a directory of the specified UIC(S) on the specified node.

/PASSWORD:pppppppp

The COPY command is similarly changed when accessing files on the KL-10. Adding the node specification (being node name, plus accounting information) to the front of the file-specification allows you to copy files to or from the KL-10. To copy a file TO the KL-10 you would say -

```
$ COPY vms-file node"[ppn] password"::"filespec"
```

meaning "copy this VMS file to this other node". A definite example is -

```
$ COPY FRED.DAT UQKL10"[123,456] XYZZY"::"FREDDY.DAT"
```

which copies the VMS file FRED.DAT to the KL-10, and calls it FREDDY.DAT on PPN [123,456].

Copying a file FROM the KL-10 onto VMS is done by specifying the source node and file first, then the VMS destination file second. The command -

```
$ COPY UQKL10"[123,456] XYZZY"::"FREDDY.DAT" FRED.DAT
```

would copy the file FREDDY.DAT from PPN [123,456] on the KL-10 and write the contents into FRED.DAT on the VMS system. For more detail on VMS commands and remote file specifications, see the VAX/VMS Command Language User Guide manual, and the DECnet-VAX User's Guide.

It isn't possible to provide all the file transfer facilities that the VMS manuals describe. Currently these VMS commands can access files on the KL-10 system -

```
APPEND
COPY
CREATE
DIFFERENCES
DUMP
MERGE
SEARCH
SORT
TYPE
```

with a couple of restrictions. The SORT/MERGE commands will only allow a subset of their facilities to be used with the KL-10. Wildcards (the use of an asterisk for a filename) are not allowed when accessing the KL-10. And we only guarantee to transfer ASCII files. Only sequential files may be transferred.

The most common error messages will be displayed in readable text on your terminal, so that you get "File not Found" or "Privilege Violation". Some KL-10 errors don't have an equivalent VMS text message, so you will get a horrible error code. The last eight bits indicate the KL-10 ENTER error number. An invalid password is reported as "Error in access control string".

Typical faults are in the placing of spaces in a remote filename. A space IS necessary between the PPN and password. Spaces are NOT allowed in the file specification. When using a PPN in the file specification, both project and programmer numbers need to be explicitly supplied. Don't leave a field blank - i.e. constructs such as [,] or [,123] won't work.

The charge for a file transfer is whatever cost is incurred by using the COPY (or other) command on the VMS machine. No cost comes from the remote system.

4.3 NETMAN - A Networking Password To The PDP-10

The Network Management System provides security for file transfers and accounting for the use of external networks via the gateway. In order that a user on a non-DEC10 system may access the file store of a user on the DEC10 system the non-DEC10 user must know the file transfer password of the user on the DEC10 system. The NETMAN program allows the DEC10 user to create or change his password with the INSERT or CHANGE commands. In addition the CHANGE command allows the user to change his gateway password (if relevant). The NETMAN program is started by the command -

```
R NETMAN
```

and it invites the user to enter a command by the prompt -

```
[NMN]>
```

and the user may type the commands -

1. INSERT to create a new file transfer password.
2. CHANGE to change a file transfer password, or gateway password if relevant.
3. TYPE to display the users gateway account record.
4. HELP to type this text.

The commands INSERT and CHANGE prompt the user for the relevant arguments.

(This text is also available by giving the TOPS-10 command ".HELP NETMAN".)

We'd like to help you if you have any problems using the network. Don't just give up with a gruff "Hummph!" and walk away in disgust. Read the documentation before saying "It doesn't work", and condemning those of us who say that it does.

If you still have problems, get in touch with somebody at the Centre. The surest way is to send MAIL to the address NETWORK on the KL-10. Failing this, you could try phoning Mark Williams on extension 2962, if your problem is to do with VAX/VMS or RSX-11 problems. Otherwise, please use the usual Network consulting number (found in the inside front cover of this newsletter).

Mark Williams
extension 2962

5.0 INFORMATION CONCERNING COURSES

The schedule of courses for Semester 1 is printed below. Please note changes in times and dates for the May courses in RUNOFF and 1022 from those previously advertised.

April:

Introduction to PDP-10	: April 5-8 4 half days 9-12am each day
Typesetting	: April 12-15 4 half days 1-4pm each day
Elementary BASIC Programming	: April 18-22 5 half days 9-12am each day
SPSS	: April 27-29 3 full days 9-12am + 1-4pm each day

May:

Introduction to PDP-10	: May 3-6 4 half days 1-4pm each day
RUNOFF	: May 9-12 4 half days 9am-1pm each day
Elementary FORTRAN Programming	: May 16-20 5 full days 9-12am + 1-4pm each day
1022	: May 23-26 4 half days 9am-1pm each day

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Introduction to PDP-10 : May 30 - June 2
5 half days 9-12am each day

June:

Introduction to PDP-10 : June 6-7
2 full days 9-12am + 1-4pm each day

Elementary BASIC Programming : June 8-10
3 full days 9-12am + 1-4pm each day

SPSS : June 14-16
3 full days 9-12am + 1-4pm each day

RUNOFF : June 20-24
5 half days 9-12am each day

1022 : June 20-24
5 half days 1-4pm each day

Introduction to PDP-10 : June 27-28
2 full days 9-12am + 1-4pm each day

Typesetting : June 30 - July 1
2 full days 9-12am + 1-4pm each day

July:

Elementary FORTRAN Programming : July 4-8
5 full days 9-12am + 1-4pm each day

Plotting and Graphics : July 12-14
3 half days 9-12am each day

Notes:

1. Users without basic knowledge and experience of the DEC-10 system, together with some facility in the use of an editor, MUST attend the course "Introduction to PDP-10" before enrolling in any other course.
2. A brief description of the content of each course was provided in Newsletter N-279.
3. All of the above courses will be held in Room G13A - Hawken Building.

4. Enrolments for all courses may be made by phoning extension 3018.

Barry Maher
extension 3021

6.0 NEW TECHNICAL MANUAL NUMBER 1 - GENERAL INFORMATION

This manual will provide existing and intending users of the Prentice Computer Centre with an overview of services and facilities offered and the administrative arrangements necessary to make use of the Centre.

Updated copies of MNT-1 are now available at the Centre Batch Station and Accounts Enquiries area.

Operations Manager
extension 3471

7.0 DEPARTMENTAL EQUIPMENT FOR SALE

One PDP11/03 CPU board, M7270
One 32Kw memory board, m8044DE
One disk cartridge, RL01 K-DC

Contact T. Yamaguchi, Department of Architecture, extension 2859.

One DIABLO 1620 daisy-wheel terminal with forms tractor, 1977 model.
\$1000 o.n.o.

Contact Geoff Foster, Tertiary Education Institute (TEDI), extension 3085.

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One PDP11/03 CPU board

Two 16-Kword and two 32-Kword memory boards for 11/03 or 11/23.

Also, wanted cheap or exchange for one or more of the above, one DLV-11J 4-line serial interface board.

Contact Ron Duggleby, Department of Biochemistry, extension 2133.

Maralyn Kenley
extension 3938

8.0 AUSTRALIAN SIRIUS USERS' GROUP

I have recently started the Australian Sirius Users' Group. Anyone interested can contact the Group by mail addressed to P.O. Box 204, Chermside 4032; or by telephone on (07)350 2611; or by telex on AA44665. Membership (at least in the early stages) will be free. A newsletter and a software library will be organized shortly.

Stephen Page

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