UNIVERSITY OF EDINBURGH
Edinburgh Regional Computing Centre

User Note 46

(June 1986)

Title:

Editors Available on the EMAS Operating System

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Software Support Category: See Note 15

Synopsis

This User Note is intended for new users of the EMAS host computers (BUSH, EMAS or EMAS-A). Its purpose is to:

- explain what an editor program does,
- distinguish between different types,
- give general comments on those available and describe some of their features,
- refer to manuals and notes which describe them in greater detail,
- explain how to access each one.

Keywords

context editors, line editors, screen editors

1. WHAT IS AN EDITOR?

An editor is an interactive program which is used to create or modify a file of printable characters. (Some editors can handle non-printing characters too, see User Note 87.) The file concerned might be a program, an electronic mail message, a set of data, or a text as in a letter, report or book.

2. WHAT TYPES OF EDITOR ARE THERE?

The editors described in this Note are used to alter text and are therefore called text editors. There are two main types:

Context Editors

In which the file under edit is changed by means of commands such as MOVE, INSERT, DELETE etc. These commands are usually abbreviated, for example:

```
M20
```

which means Move 20 lines forward. In context editors, the effect of your editing on your file will not be immediately visible to you. In most cases you will have to issue a command to display the altered text. What is usually called a context editor allows you to change text down to single characters.

Line Editors - are a special form of context editors where text is manipulated by the line.

Screen Editors

Altered text is immediately displayed, there is no need to issue another command to show the altered text. Commands to the editor are generated by pressing a particular sequence of keys. The secretarial equivalent of this is the word-processor in which the keyboard has numbered or labelled special function keys (insert, delete etc.).

3. THE POINTER OR CURSOR

In all editors there is an indicator to show where the program is waiting in your file and from where any changes will be made. In context editors it is known as the pointer and is usually represented by an up arrow ^ or the colon : and can be moved around the file using the editor commands. In screen editors the program makes use of the VDU's own cursor (a bright rectangle or underscore) as the marker for the pointer where editing is to be carried out. The cursor is usually moved about by special cursor moving keys.

4. THE PROMPT

Most editors also issue a prompt (usually a character or a word) when they are waiting for input from the user. These are shown in the table below.

5. A TABLE OF EDITORS AVAILABLE ON THE EMAS OPERATING SYSTEM

Editor	Access	Type	To Start, Type:	The Editor Prompt and How to Exit
EDIT (page 5)	Automatic	Context	EDIT new or EDIT old or EDIT old,new	Prompt is Edit: Reply E to exit.
ECCE (page 7)	Automatic	Context	ECCE ,new or ECCE old or ECCE old,new	Prompt is >>> Reply %C to exit.
BECCE (page 8)	CONLIB.GENERAL on EMAS 2900. ERCLIB:GENERAL on EMAS-3.	Context	BECCE ,new or BECCE old or BECCE old,new	Prompt is >>> Reply %C to exit.
SCREED (page 8)	KNTLIB.SCREED on EMAS 2900. Automatic on EMAS-3.	Screen	SCREED ,new or SCREED old or SCREED old,new	No prompt To exit reply STOP, hold down CTRL and press X
EM (page 9)	KNTLIB.GENERAL on EMAS 2900. Not yet available on EMAS-3.	Context	EM or EM old	Prompt is >>> To exit reply W then press the RETURN key followed by Q and the RETURN key again.
CHEF (page 11)	KNTLIB.GENERAL on EMAS 2900. Not yet available on EMAS-3.	Context	CHEF or CHEF old	Prompt is >>> Reply Q to exit.
EL (page 12)	CONLIB.GENERAL on EMAS 2900. Not available on EMAS-3.	Context	EL new or EL old or EL old,new	Prompt is >>> Reply %C to exit.
VECCE (page 13)	ECSLIB.GENERAL on EMAS 2900. ERCLIB:GENERAL on EMAS-3.	Context	VECCE ,new or VECCE old or VECCE old,new	Prompt is >>> Reply %C to exit.

6. HOW TO ACCESS THESE EDITORS

The editors described in this Note are stored on the EMAS operating system in directories. In the above table, the column headed **Access** tells you the directory in which each editor is stored. Those editors with AUTOMATIC access are stored in the main Subsystem directory, while most of the others are stored in the main contributed software directories such as CONLIB.GENERAL or KNTLIB.GENERAL.

When you use an editor as illustrated under the column headed **To Start, Type:** in the above table, the EMAS operating system searches through all the directories which you have access to, until it finds that editor. To get access to a directory you must use the OPTION command followed by the SEARCHDIR= parameter followed by the name of that directory. For example, to access the directory which holds the user contributed software on the BUSH or EMAS host, you would type:

Command: **OPTION SEARCHDIR=CONLIB.GENERAL**

On the EMAS-A host the command is simply:

Command: **SEARCHDIR ERCLIB:GENERAL**

Note also that the user name and the directory name are separated by a colon rather than a full stop.

On BUSH and EMAS the SCREED editor is not stored in any directory so to access it you will have to insert it into you own directory (SS#DIR) by issuing the INSERT command followed by the name of the object file (KNTLIB.SCREED) thus:

Command: **INSERT KNTLIB.SCREED**

Once it is stored in your own directory, access is automatic. Note that on EMAS-A, SCREED is stored in the main Subsystem directory so access is automatic.

To get more details on directories see the EMAS 2900: User's Guide page 11-5.
For details on the OPTION SEARCHDIR= command, see page 17-7.

7. WHICH EDITOR SUITS YOUR NEEDS?

When selecting an editor to use you should consider:

- whether screen or context editing best suits your needs;
- if any special functions you want to do can be done by a particular editor (see the Special Facilities section of each one);
- the support level of the editor (see User Note 15).

For example:

- If your past experience of editing has been with a word-processor, use one of the screen editors.

- If you want to check spelling, use EDIT or ECCE.

- If you have experience of the UNIX operating system, use EM or CHEF which are similar to ED the main UNIX editor.

8. WHAT HAPPENS WHEN YOUR EDITING IS INTERRUPTED?

If your session is interrupted by the operator, because you have not used the keyboard for some minutes or because of a communications fault, your editing will be saved in a temporary file. However, there is no guarantee that it will be saved if the break was due to a fault on a critical part of the hardware or software of the host computer.

You will be told the name of this file when the service resumes after the break, and if you were using EDIT, ECCE or SCREED you will have to rename or destroy it before you can recommence editing.

If you are happy with the contents of this file you can use it to replace the one you were editing before the service was interrupted.

Further details are contained in the sections which describe each separate editor.

9. INFORMATION AND ADVICE

If you need information or advice on the editors mentioned in this Note, contact the ERCC Advisory service at The King's Buildings 031-667 1081 ext. 2976/7 or at George Square 031-667 1011 ext. 2300 or user the MAIL command to send a message to ADVICE.

10. THE STANDARD SUBSYSTEM EMAS EDITOR (EDIT)

General Comments

This editor is available to all EMAS 2900 and EMAS-3 users and has been the main one since the early development days of the EMAS operating system. Because of this many people are familiar with it and are able to help new users.

Special Features

- A block of text can be moved either to another part of the same file or to a new one.

- Another file can be inserted at any point in your file.

- One command or a group of commands can be repeated any number of times.

- Spelling can be checked and corrected. The edit command **X** is used to search for the first mis-spelt word, **Y** is used to write the word to your own private lexicon. This private lexicon is held in a file called E#EDITDICT which is created when you use the checker for the first time. Words are held in this file in a special format and the file cannot be listed or edited. If you want to remove a word you will have to delete the whole file and recreate a new one.

One method of restoring your lexicon is to select a large proof-read file and use the X and Y commands on it repeatedly, i.e.

Edit: **(XY)***

This would bring back most of the words and the others will return as they occur in subsequent pieces of text you produce.

- EDIT can handle non-printing characters (see User Note 87).

- Paragraphs can be adjusted to specified margins.

- EDIT can be called from MAIL (the electronic mail system) to edit message components. To do this type ED followed by the component after the prompt *Mail:*. For example,

Mail: **ED TO**

- There is a cancel command *H* which allows you to erase the effect of the previous editing instruction, and with the Q facility, you can QUIT the editor, which would restore your file to the state it was in before editing commenced or after editing was last saved.

- The *W* command writes your editing permanently to the file you are editing. You should issue this command when you are satisfied that any command you have issued has satisfactorily altered your file.

- If your session is interrupted as described in Section 8, your editing will be saved in a file called E#EHA.

Other programs based on EDIT are:

LOOK used to look at the contents of a text file,

RECALL used to look at the file which holds the record of your recent interactive session. This can only be used if the TEMPRECALL or PERMRECALL parameters have been selected with the OPTION command (see the EMAS 2900: User's Guide page 17-8 or the HELP information for more details). This file can be used to restore lost editing, contact the ERCC Advisory service for more details.

These use all the EDIT commands except those which attempt to alter the file being inspected.

Information

Full documentation is given in Chapter 8 of the EMAS 2900: User's Guide. A reference card is also available and on-line information can be obtained by using the HELP system i.e.

Command: **HELP EDIT**

11. THE EDINBURGH COMPATIBLE CONTEXT EDITOR (ECCE)

General Comments

ECCE is a popular editor and is available on all the ERCC mainframe systems (including the ERCC VAX/VMS system) as well as on the VAX system belonging to the Department of Computer Science and on a number of smaller systems. ECCE has also been adapted to run on the ICL VME system, and it is used at a number of other university sites.

Special Features

- You can select secondary input and output files and move text between them and the one you are editing.

- You can build complex editing sequences which can be stored as macros and accessed by typing a single letter.

- You can build sequences which say IF a condition is met THEN perform this command ELSE perform another one.

- Individual or groups of commands can be repeated any number of times.

- HELP information can be called while you are in ECCE by typing **%H** . When you exit from this HELP information, you will return to the position in the file at which you asked for help.

- Paragraphs can be formatted: you can specify such things as paragraph indentation, line length, sentence gap, right or left justification etc.

- ECCE can also handle non-printing characters (use **HELP ECCE** for more details or see User Note 87).

- With ECCE, you can check spelling and add words to your own private lexicon called ECCE#TDICT which is created the first time you use the spelling checker. You can alter this file with any of the editors. The command **Q** is used to search for the first mis-spelt word, and **O** is used to add it to you lexicon. If you are satisfied that your private lexicon is free of slang, jargon or hyphenated words, you should send it by MAIL to Neil Hamilton-Smith of the ERCC who will include it in the public lexicon.

- Other programs and commands, including ECCE itself, can be called from within the editor.

- If you have an IMP program, you can check its syntax by using the **%V** command.

- ECCE can be called from MAIL (the electronic mail system) to edit message components. To do this type E followed by the component after the prompt *Mail:* . For example,

  Mail: **E TEXT**

- You can cancel the effect of editing to the last command or to the last file-changing command or progressively back a command line at a time.

- If your session is interrupted as described in Section 8, your editing will be saved in a file called ECCE#BACKUP.

Other programs based on ECCE are:

RECAP used to look at the file which holds the record of your interactive session. This can only be used if the PERMRECALL or TEMPRECALL option has been selected. To find out how to do this, see page 17-8 of the EMAS 2900 User's Guide, or use the HELP system like this:

Command: **HELP PERMRECALL**

SHOW used to look at any text file. Text can be inspected but not modified.

BECCE used to inspect and modify any text, binary or partitioned file. Character, octal, decimal or hexadecimal representations for the file contents can be used. A short note describing BECCE is available from the ERCC Advisory service.

VECCE a version of ECCE offering screen editor functions. See Section 16.

EL a combination of ECCE and OLAYOUT (the text formatting program). Now somewhat out-of-date. See Section 15.

Information

Chapter 8 of the EMAS 2900: User's Guide will tell you how to use ECCE: for on-line information use the HELP system, thus:

Command: **HELP ECCE**

or type **%H** while you are in the ECCE program.

12. SCREED: A SCREEN EDITOR

General Comments

SCREED performs editing tasks when you press a certain sequence of keys while holding down the CTRL key. For example, to move down one line of text you would: hold down the CTRL key, press N (for next) then L (for line).

SCREED was written for use on the EMAS operating system over the Edinburgh University wide area network (EDNET) on a terminal connected via a Terminal Control Processor (TCP). The trend now is to connect terminals via a device called a Packet Assembler Disassembler (PAD). These devices are cheaper and faster than TCPs, but unfortunately you cannot normally use SCREED if you are connected via a PAD. At the moment the Hazeltine Esprit I and II are the only two terminals on which you can use SCREED via a PAD. For more details contact the ERCC Advisory service.

If you are connected via a TCP you will be able to use SCREED on most types of interactive terminal, but before commencing, check in the documentation that your

terminal is suitable.

Screed is available on the EMAS, BUSH and EMAS-A host computers.

Special Features

- You can skip through a file as you would thumb through a book. Suppose the cursor on your screen represents your thumb and the screen represents a closed book, if you put the cursor into the middle of the screen you are putting your thumb into the middle of the book and opening the book at the middle page. So to get to the middle of a file, you put the cursor into the middle of the screen and perform the keystroke CTRL and X. To get a third of the way down the file you move the cursor a third of the way down the screen and do the same. This is a useful facility if you want to find a section of text and you know its approximate location (three quarters way through the file for example). When skipping through a file in this way, time is saved by only printing one line above and below the file pointer.

- You can branch off to the main EMAS context editors, EDIT and ECCE.

- If your session is interrupted as described in Section 8, all your editing will be saved in a file called SCREED#SAVE.

Information

A booklet called SCREED: A SCREEN EDITOR is available from the ERCC Advisory service. To get on-line information use the HELP system like this:

Command: **HELP SCREED**

13. EM – THE EDITOR

General Comments

This editor was imported from the University of Kent at Canterbury. It is not yet available on EMAS-A, but it is available on BUSH and EMAS.

EM is based on ED which is the main editor on the popular UNIX system and is therefore useful to people who use both the EMAS and UNIX operating systems.

This is a good editor to use if you need to move blocks of text to different places within or between two files.

Special Features

- EMAS Subsystem commands can be called from within the editor.

- You can read text from and write it to auxiliary files.

- Tab positions can be set.

- The editor prompt can be switched off and on.

- Conditional statements can be obeyed over a range of lines, making powerful command sequences possible.

- You can do things like:
  * restrict a command to lines 34 to 56,
  * read in a file after line 20,
  * take lines 25 to 50 and place them after line 75.

- If your file contains non-printing characters you can have their names or hexadecimal values displayed where they occur in your file. The names would be displayed in the following format: *{tab}* for horizontal tab, *{nl}* for line feed etc. while their hexadecimal values would be displayed as *{0A}* for line feed and *{09}* for horizontal tab. See User Note 87 for more details.

- If your editing session is interrupted as described in Section 8, editing will be saved in a file called SS#EDSAVE. If you do not destroy this file, subsequent interruptions will overwrite it. Note that CHEF will create a save file with the same name.

Other programs based on EM are:

ED — the same as EM, but for experienced users because it does not help you with a prompt.

LK — used to look at the contents of a text file.

RCL — used to look at the journal of input to and output from the interactive terminal. This can only be used if the PERMRECALL or TEMPRECALL option has been selected. For more details see the EMAS 2900: User's Guide page 17-8 or use the HELP command like this:

Command: **HELP PERMRECALL**

Information

A document called EM - The Editor K2.7/1, is available from the ERCC Advisory service. You can get information from within the editor by typing the H (for help) command.

14. THE CHRISTCHURCH EDIT FACILITY (CHEF)

General Comments

This editor is not yet available on EMAS-3.

CHEF was imported from the University of Kent at Canterbury; it is based on the UNIX editor ED. They also have versions of CHEF which run on UNIX 4.2BSD and CP/M-80.

The main area of application is source program editing. However, simple word processing facilities exist to help with letter and document preparation.

Learning this editor is made easy by the help command. For example, if you give the command **H** to the editor prompt, you will get information in tutorial form, which tells you how to start using the editor.

You can give editor commands as a parameter to Help. For example:

```
>H Insert
```

will give you information in tutorial form on the Insert command.

Special Features

- Text formatting functions such as: indentation, centring, margin setting and justification are available.

- Blocks of text can be moved easily without the need to set and remove markers as in some other editors.

- You can:
  * perform a command within a range of lines, or,
  * insert a file after a line, or,
  * move a group of lines to another part of the file.

  You can split up a line and store each component in a macro. For more details type

  ```
  >H S
  ```

  from within the editor.

- A set of editor commands can be stored in a file which can be executed by giving a single editor command.

- Complicated editing sequences can be stored and used by issuing a single instruction.

- Blocks of text can be moved to different locations in the file, or exchanged between two files.

- A file can be inserted into your editing and vice versa.

- Commands can be undone.

- Help information can be obtained from within the editor by typing **H** .

- A command failure can be queried by typing ?

- The prompt character can be switched off.

- EMAS 2900 Subsystem commands can be called from within the editor.

- Non-printing characters in lines may be displayed in hexadecimal (see User Note 87).

- If your session is interrupted as described in Section 8, your editing will be saved in a file called SS#EDSAVE. If you do not rename or destroy this file, subsequent breaks in service will produce SS#EDSAVEA, SS#EDSAVEB etc. Note that EM also saves its file in SS#EDSAVE.

Other programs based on CHEF are:

CHEFL used to look at the contents of a text file; you cannot alter text with this editor.

CHEFR used to look at the journal of your interactive session. This can only be used if the PERMRECALL or TEMPRECALL option has been selected. For more details, see the EMAS 2900: User's Guide page 17-8 or use the HELP system like this:

Command: **HELP PERMRECALL**

Information

This editor is described in a University of Kent document called: The Christchurch Edit Facility - CHEF K2.7/3, available from the ERCC Advisory service. On-line information in tutorial form is available through the program by replying **H** to the editor prompt.

15. EL - A COMBINATION OF ECCE AND OLAYOUT

General Comments

Note that this program is not available on EMAS-A.

Documents are normally prepared on a computer by using a context editor, followed by a text formatting program. The user has to change between the two programs to see what the formatted text will look like. The EL program has overcome this problem by combining the context editor ECCE with the text formatting program OLAYOUT.

Note that the EL program is static and that enhancements to ECCE will not be included.

Special Features

When you use EL to look at the processed text, blank lines are represented by ***n*** where *n* is the number of blank lines, and page boundaries are represented by ***FF*** where *FF* is a form feed.

A file can be nominated to hold the processed text.

Information

A note describing EL is available from the ERCC Advisory service. For on-line information type **HELP EL** after the EMAS prompt *Command:*

16. A VIDEO VERSION OF ECCE (VECCE)

General Comments

This editor combines screen and context editor features making it very powerful. It can be used on a number of different terminals. The more facilities a terminal has, the better this editor performs (see VECCE documentation for details).

If your terminal has a key pad, commands can be generated by pressing a particular key. For example if your cursor is on a character which you want removed, type the 5 key and it will immediately be erased.

Another good point is that you can build complicated macro commands and call them up using control characters and function keys.

Special Features

To enhance the display of the text, you can:
- increase the window size,
- highlight the cursor,
- adjust the line length.

Special features similar to those described under ECCE are also available.

Note that your editing will not be saved if the session is interrupted as described in Section 8.

Information

VECCE is described in a document called "ECCE - Edinburgh Compatible Context Editor - Video Version", available from the Edinburgh University Department of Computer Science. To get on-line information use the HELP system like this:

Command: **HELP VECCE**

or type **%H** after the VECCE prompt.

17. NOTES

Some of the editors described above need to know the type of terminal you are using. You can tell them this by using the TERMINALTYPE command.

If you are using the EMAS or BUSH host computers you will have to initialise your terminal with the TTYINIT command. This command can be stored in a foreground start file which is obeyed whenever you use the host computer. Type **HELP TERMINALTYPE, HELP TTYINIT** and **HELP STARTFILE** on the EMAS and BUSH host computers for more details. If you are using EMAS-A, you will only need information about the TERMINALTYPE command, so type **HELP TERMINALTYPE**.

Screen editing on the EMAS 2900 and EMAS-3 systems is complicated by the fact that you are editing over the network. The only efficient way to achieve screen editing in this situation is to have local editing on intelligent terminals under the control of the host computer. To provide such a facility, the ERCC is implementing the Simple Screen Management Protocol (SSMP) and future screen editing enhancements will use this facility.

If you are using an editor to prepare a large document like a manual or report, it may be in your interest to arrange the text so that it can be used in conjunction with the VIEW program. VIEW organizes the text to produce a table of contents, page numbers etc, and makes it much easier to see the document developing. When it is complete, a hard copy or on-line version can be produced by VIEW. You can get more information by using the HELP command, i.e.

Command: **HELP VIEW**

or by contacting the ERCC Advisory service and asking for a copy of User Note 9.