

Bert Jutting

Voos Aut 42

VERA MANUAL.

(The AUTOMATH verification system)

version 74.2

I. Zandbergen

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Wijzigingen in 1/2/VEBA

- initiale language = BETA-ETA-AUT@E.

- Nieuwe option: 'ETA' initiale reset.

als ETA is set, dan mag absolute gebruik worden, anders niet.

Gebruik: als een line unacceptable is, mag een eta niet allowed, dan kan nu debug-order SET ETA direct doorgevoerd worden (! ETA geldt dan alleen voor een AUT-line!)

NB: als language is non-eta, bij BETA-AUT@E, dan heeft SET ETA geen invloed.

- Nieuwe option 'LIST' initiale reset.

als LIST is set, dan wordt de te checken lijst altijd op lange toe verlag afgevoerd, anders niet. (niet correct).

De algemene voor output op de lange toe verlag is afhankelijk van de taal die wordt gebruikt.

aut correct errors non-processed

set <line> { <function> <line> <message> }

reset - { <function> <message> } <line>

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11. Commands

Commands may be given at any moment after the program has started. Every command ~~start~~ must be preceded by a !. If more commands are typed in, they will be queued until the execution of the preceding command is finished.

Some of the commands are executed in parallel. They are:

- READ command
- WRITE command
- INFORM command
- GET command
- SAVE command

Interruption commands (which are immediately executed) are:

- 6.1 !STA : gives information on the status and execution times of the current command execution.
- 6.2 !STOP : the current command execution is stopped. If there is no danger to create undefined program parameters, then the execution is immediately disabled. If such is dangerous, then an interrupt signal is set, set several places the program will search for the status of this signal and ^{will} eventually stop the execution.
- 6.3 !HALT : the current command execution is suspended.
- 6.4 !GO : a suspended command execution is restarted (becomes current).
- 6.5 !DS gevaar! : a current command execution is immediately disabled (but not so the main program).

5. Book handling and commands.

5.1. Each AUTOMATH book possesses a name, the bookname. This name indicates the complete book, including the empty covering §; there is no relation between the bookname and §-names.

Actually, a book in this sense is a piece of code containing all information about a certain AUTOMATH text.

The status of a book is given by status variables, as follows:

PRESENT : the system has direct access to the book contents (at most one book at a time can be PRESENT).

OPEN : a text pointer is set in the book. When adding text (by the READ command) that text will be written immediately after this pointer.

CLOSED : not OPEN

EMPTY : up to now nothing has been written.

SAVED : a copy of the PRESENT book is present in the background memory

UNSAVED : not SAVED

LAST LINE : the PRESENT, OPEN book is not EMPTY. / If the system prints out this status variable, it also prints the actual last line).

3.2. The implemented book handling commands are:
(see § 2 for syntactical denotation)

3.2.1. MAKE command.

!MAKE _____ bookname _____ ◊

At this command a new book is initiated in the system memory. It becomes the status PRESENT, OPEN, EMPTY, UNSAVED.

3.2.2. REMOVE command.

!REMOVE _____ ◊
 *
 |
 | bookname |
 |
 | not yet implemented |

- i) If no bookname is used, the PRESENT book will be removed from the system memory.
- ii) If a bookname is used, and a book with that name exists on the background memory, it will be removed there, whether a book is PRESENT or not.

3.2.3. SAVE command.

!SAVE _____ ◊

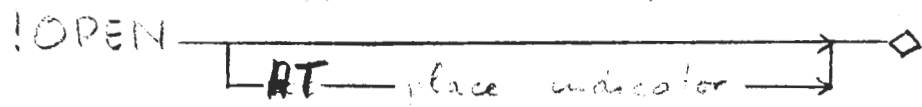
A PRESENT book will be saved (i.e. copied to the background memory), and it gets the status SAVED. (An already existing book on background memory, possessing the same name, will be removed)

3.2.4. GET command

!GET _____ bookname _____ ◊

If a book with the specified bookname exists on background memory, it will be copied to the system memory. It gets the status PRESENT, CLOSED, SAVED

3.2.5. OPEN command



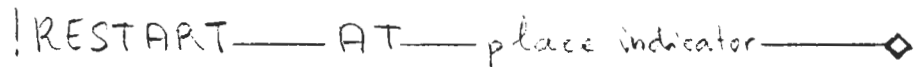
A PRESENT, CLOSED book gets the status OPEN. The text pointer is set at the specified place, or if no place indicator is used, at the end of the book.

3.2.6. CLOSE command



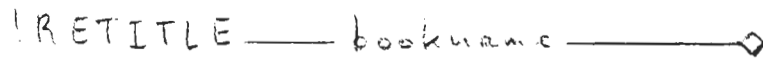
A PRESENT, OPEN book gets the status CLOSED

3.2.7. RESTART command



From a PRESENT, OPEN book the contents following the line indicated by the place indicator will be deleted (The status becomes UNSAVED).

3.2.8. RETITLE command



The name of the PRESENT book is changed to the specified name (The status becomes UNSAVED)

4. I/O via CHANNEL's and commands

A channel is a program object used for selecting a file for i/o. Each channel is pointing to a file via the file title. Some files are only input (output) files, other are both input and output. The initial status is:

Channel.	file title	I/O	filekind
TELER	TELER	I	REMOTE
TEXT	BEN/JONKER/TEXT	I	DISK
MTAPE	-(not in use)	-	-
SUPPLY	BEN/JONKER/SUPPLY	I	DISK
LINEP	1/2/LINEP	O	DISK
TELEP	TELEP	O	REMOTE
PUCARD	BEN/JONKER/PUCARD	O	DISK

The file, connected with SUPPLY can be changed from the medium READ (=input) to the medium WRITE (=output) and back.

The file titles of TEXT, SUPPLY and PUCARD may be changed at runtime by the

4.1 FILE command.

!FILE — disk i/o channel — = — filename — ◇

If a file is connected with the given disk i/o channel, that file will be closed (and eventually reorganized)

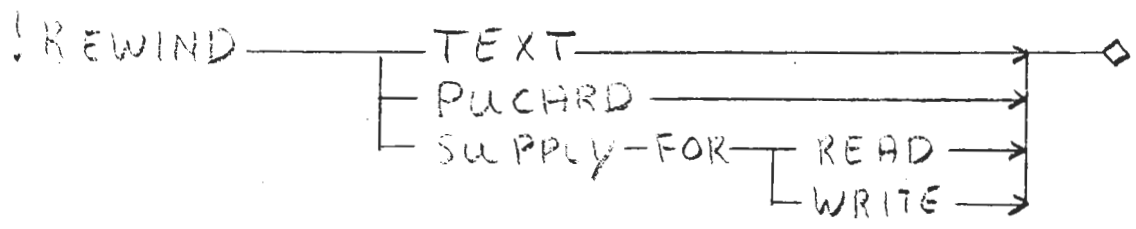
Following READ and/or WRITE commands will direct to the new file.

4.1.1. N.B!

The actual connection between a channel and its file is made at the moment at which the first read or write takes place. (and so at that moment an earlier file is disconnected.)

The disk i/o files can be rewound by:

4.2. REWIND command.

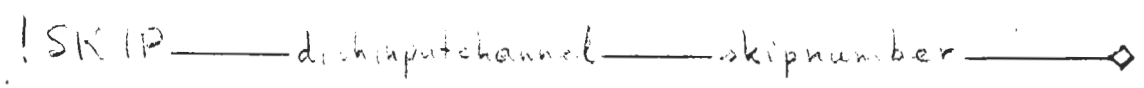


The file connected with the given channel is rewound (but not disconnected).

In the case of REWIND SUPPLY the medium is set as given. This is the only way to change the medium of SUPPLY.

From a disk input file one can skip records as follows:

4.3 SKIP command



On the file connected with the given channel records are skipped:

- forward if skipnumber > 0
- backward if skipnumber < 0

5. Execution of the program.

5.1. On-line.

the program is started by:
E I/2/VERA

5.2. Off-line via teletype.

At first a new file, TELER, has to be created, with in each line a command. Each command must end upon a <linefeed> character.

The file must be saved on disk.

Afterwards the program may be started by:
E I/2/VERA; stack=4000; file telcr (kind=disk, filetype=7)

Now the teletype output will appear on the teletype, but no input is asked for.

5.3. Offline via batch.

An appropriate file TELER must^{be} placed on pack.

Now the following card deck should be used:

<I> JOB IDS; QUEUE = 3; USER = U1/2S/42/AUTOMETH;
BEGIN

COPY OBJECT/1/2/VERA FROM BU1(KIND=PACK);
RUN OBJECT/1/2/VERA; STACK = 4000;
FILE TELER (KIND=PACK, PACKNAME=BU1, FILETYPE=7);
FILE TELED (KIND=DISK);
FILE TEXT (KIND=PACK, PACKNAME=BU1);
REMOVE OBJECT/1/2/VERA;

{ % the following only if a report is wanted:
COPY BEN/JONKER/LISTVERA FROM BU1(KIND=PACK);
RUN BEN/JONKER/LISTVERA;
REMOVE BEN/JONKER/LISTVERA, 1/2/LINEP;

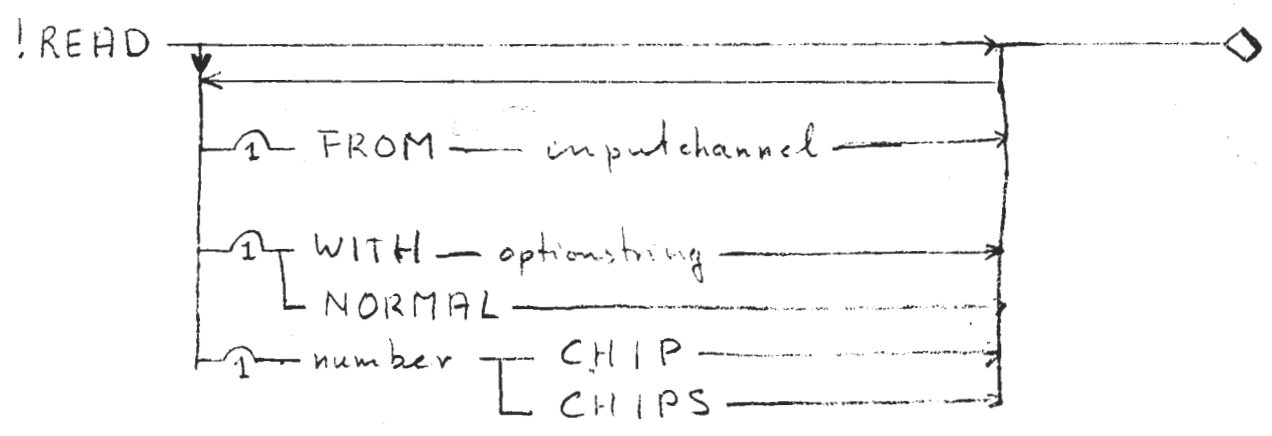
{ % the following only if a listing of some output file
% is wanted, e.g. <outputfile>:
RUN SYSTEM/DUMPAALL ("LIST
<outputfile>
");

{ % the following only if some "output file must be
% copied on pack:
COPY <outputfile> TO BU1(KIND=PACK);

{ % the following only if some output files are
% created.
REMOVE <outputfiles> ;

<I> END JOB IDS

6.1. READ command (press in parallel)



The READ command initiates the translation (and verification) of an AUTOMATH line

If not all information is given in a READ command (eg it is possible to type in: READ 3 CHIPS →) ^{then} further required information is asked for. (eg.: CHANNEL: ...)
However, if the input channel is TELER, no number of CHIPS is asked for. (The last chip can be denoted by a single point. See also: Typing in AUTOMATH lines)

- FROM - input channel.

The AUTOMATH text is read from the file connected with the given input channel.

- WITH - options

The specified options are set; all other options remain unchanged, they are not reset after finishing the READ command, all options are set to their value ^{just} before the READ-command.

- NORMAL

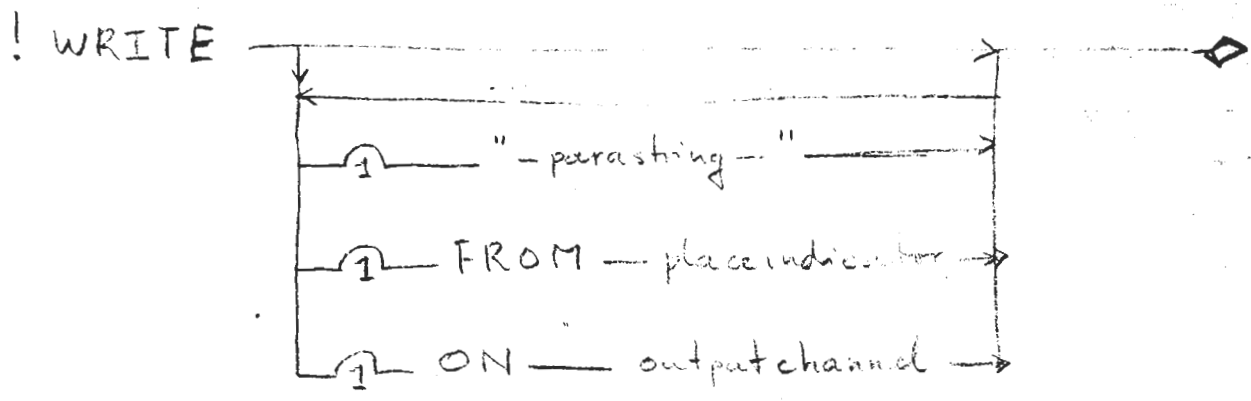
means all options remain unchanged.

- number - (CHIP, CHIPS)

If number = 1, the word CHIP is required.
The given number of CHIPS is read

autops
teleport
noncheck
subperas
output

6.2. WRITE Command (runs in parallel)



The contents of the current ALT. book are written on a specified file connected with the output channel.

"paragraph" means: the paragraph which will be written.

FROM - place indicator means: the first line to print.
(leaving this out means: FROM BEGIN)

ON - output channel means: the channel to write on.

When leaving out the "paragraph" and/or the output channel, the program will ask for it.

NB: The place indicator refers either to the current paragraph (if no "paragraph" occurs, or if the "paragraph" occurs after the FROM-part), or to the paragraph to be written (if "paragraph" occurs before the FROM-part).

6.3 SET command.

!SET — optionstring → ◇

Sets the specified option(s).

The clause **NORMAL** in the **READ** command will refer to the conditions set by this command.

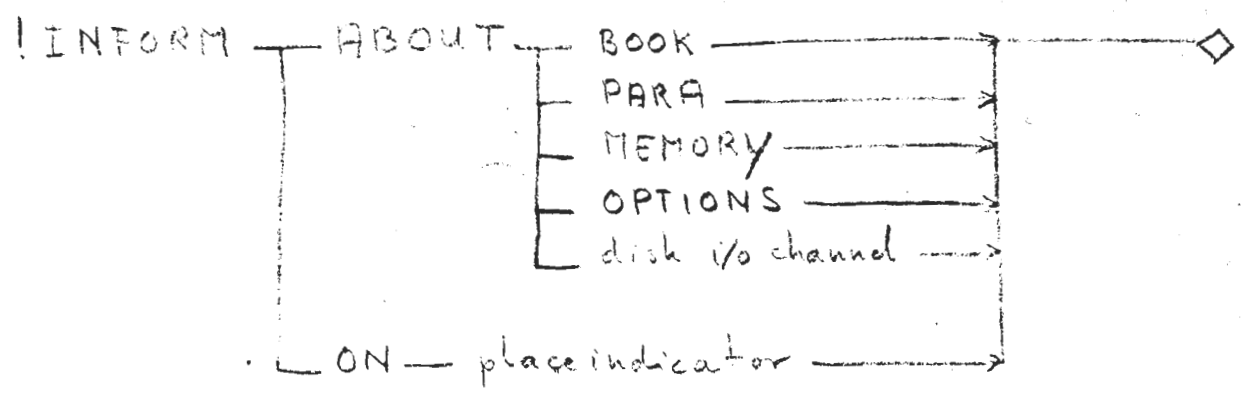
6.4 RESET command

!RESET — optionstring → ◇

Resets the specified options.

The clause **NORMAL** in the **READ** command will refer to the conditions set by this command.

7.1 INFORM command. (runs in parallel)



Gives information about the object asked for, ABOUT -

well done

BOOK: present, closed or open, actual β , last line.

PARA: same as for BOOK

MEMORY: # lines, $\beta\beta$, names, etc.

OPTIONS: which options are set, which are reset.

disk i/o channel: if the file, connected with the channel is present, the last written record is the next record to read.

ON - place indicator: the line, indicated by the place indicator is given, preceded by the lines defining its context.

7.2 LANGUAGE command

!LANGUAGE - language \rightarrow \diamond

Specifies the language constraints of the verifier.

language	language
0	PAL
1	BETA-AUTOMATH
2	BETA-AUTQE
2	BETA-ETA-AUTOMATH
4	BETA-ETA-AUTQE

8 Orders

Orders are given if one wishes to debug an AUTOMATIC line or to extract some information of the current block. If an INTERRUPT has been found unacceptable (which is also the case if one has interrupted the verification by !STOP), then the system will ask for orders to debug by:

= YOU MAY DEBUG NOW

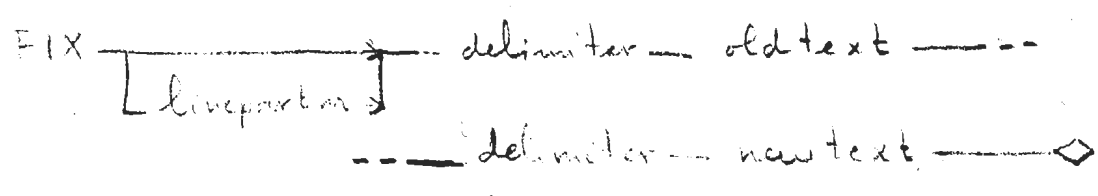
ORDER:

Orders are like commands, but without an exclamation sign (!).

Orders which may be given are:

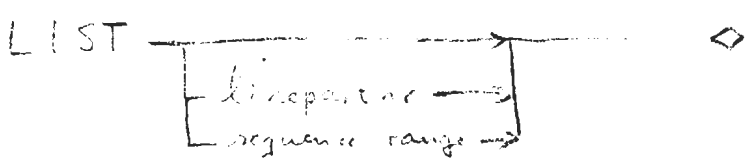
8.1. ...

81 FIX order.



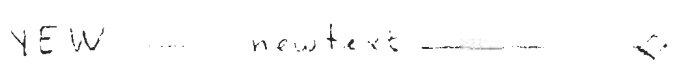
The first occurrence of oldtext on the current AUTOMATIC line or in the indicated linepart is replaced by newtext. The choice of delimiter is free, although, of course it may not occur in oldtext. If the length of oldtext is more (less) than the length of newtext, then there is an immediate overflow (underflow) of the lineparts. One should be careful when using successive FIX (and NEWPART) orders

82. LIST order.



The current AUTOMATIC line or the indicated part of it is typed out

83. NEW order.



The current AUTOMATIC line is replaced by newtext

84. NEWPART order.

linepartnr — newtext — ◇

The indicated part of the current AUTOMATIC line is replaced by newtext

If the length of newtext is more (less) than 72, then there is an immediate overflow (underflow) of the lineparts.

One should be careful when using successive NEWPART (and FIX) orders.

85. SET order.

The same as the SET command, but without exclamation sign. When the verification of the current AUTOMATIC line has finished, all options are set to the value they had at the beginning of that verification.

86. RESET order.

The same as the RESET command but without exclamation sign. When the verification of the current AUTOMATIC line has finished, all options are set to the value they had at the beginning of that verification.

87. INFORM order.

The same as the INFORM command, but without exclamation sign.

8.3 GO order

GO →

Serves to restart the translate and verify process.

8.4 STOP order

STOP →

Stops the translate and verify process. Used if one does not want to debug (any more).