



# DECUS

## PROGRAM LIBRARY

DECUS NO.

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TITLE

TSS/8 ALGOL

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SOURCE LANGUAGE

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## TSS/8 ALGOL

DECUS Program Library Write-up

DECUS No. 8-330

TSS/8 ALGOL is 4K ALGOL (DECUS 8-213) adapted for TSS/8. The 4K ALGOL writeup should be considered the manual for TSS/8 ALGOL as well. This writeup describes only the differences between the two programs.

TSS/8 ALGOL is distributed as a single TSS/8 SAVE format paper tape. This tape is the equivalent of the set of 4K ALGOL tapes (with the exception of the symbol print, which is not available). Load this tape into the System Library using PIP. Once loaded, it may be called by any user by typing:

•R ALGOL

ALGOL source programs are disk files prepared by TSS/8 EDIT. Note: the tab key is exceedingly useful in formatting ALGOL programs. However, in TSS/8 EDIT, tabs are spaced out 8 character positions. The tabs can be reduced to three characters by calling EDIT in the following fashion:

•LOAD 2 EDIT  
•DEPOSIT 2 7775  
•START 0

INPUT:

When ALGOL is called it asks for INPUT:. Type in the name of the ALGOL source file. ALGOL then requests OUTPUT:. Type the RETURN key. (Note: you may specify a file for output, in which case ALGOL will save the binary in a 4K file. This file is then directly executable with Monitor's RUN command.) TSS/8 ALGOL is a compile and go system. The compiler processes the source file in a single pass, writing the binary object code to the disk. This binary is then loaded with the operating system, which loads any needed functions, then executes the program. At the completion of an ALGOL program, the operating system returns to Monitor. To re-run the program, type:

•START 400

The numerical error codes of 4K ALGOL have been replaced by (hopefully) self-explanatory error messages. The line number given is the decimal line number and corresponds to EDIT's numbering scheme. Note that the line number given is the one where the error condition is detected, not necessarily the line where it actually exists. For example, failure to put a semi-colon at the end of a line is picked up and announced at the next line.

All input to ALGOL programs must be terminated by the RETURN key. The RUBOUT key may be used to edit the input. RUBOUT (which echoes as backslash) deletes the last undeleted character. Several values may be inputted on a single line, separated by commas. RUBOUT may be used to delete all or any part of an input line.

The high-speed reader and punch are not available to a TSS/8 ALGOL program. READ and WRITE commands must have a device code of 1.

TSS/8 ALGOL allows array variables to have single or double subscripts. The lower bound of an array must be zero or one. The two lower bounds of a double-subscripted array must be equal. Example:

```
'ARRAY' A, B [0:X,0:Y];
```

Errors detected at run time cause an OPS n error message to be typed out. The error codes are the same as for 4K ALGOL. In general, the program will not halt. It will make an assumption and continue. Where it does halt, no recovery is possible.

#### Notes on TSS/8 ALGOL

- (1) 4K ALGOL's problem with the 'AND' function has been fixed.
- (2) Multiple assignment of real variables does not compile properly.  
X=Y:=Z:=5; is treated as Y:=Z:=5;