DECUS

PROGRAM LIBRARY

DECUS NO.	8-200B
TITLE	DECTAPE BOSS FOR PDP-8 COMPUTERS
AUTHOR	A. S. French
COMPANY	University of Alberta Edmonton, Canada
DATE	February 15, 1970
SOURCE LANGUAGE	PAL III

DECTAPE BOSS FOR PDP-8 COMPUTERS

ABSTRACT

When working with a small core memory computer such as a PDP-8 with 4K it is frequently necessary to use a series of programs sequentially with successive programs occupying the same core area. Such a process is made more feasible by the use of a fast access device such as a disk or magnetic tape and the Digital Disk Monitor System encourages such operations by simple core image saving and recalling. It is still necessary to type the name of each program in turn and this can be time consuming. A more sophisticated procedure is to have an executive "stringing" program which will remember a sequence of programs and bring them into core at the appropriate time but such a program itself occupies valuable core space which is at a premium. The "BOSS" program takes advantage of several features of the Disk Monitor System to produce an apparently "invisible" executive which occupies no core area and so allows the use of programs such as FOCAL which use all of core except the uppermost page which is used by the Disk Monitor Head.

OPERATION

When "BOSS" is called from the system device it first uses COMMAND DECODER from the system file to obtain the list of required programs. It then constructs a "BOSS-HEAD" which it places in the top page of core to replace the first part of "MONITOR-HEAD." From this time on any program jumping to 7600 enters "BOSS-HEAD" which recalls "BOSS" from the system device to get the next program in the list. At the end of the list "BOSS" signals to the user that there is a choice between going on with another loop of programs and finishing. If the signal to finish is given "BOSS" restores "MONITOR-HEAD" to its former condition and the computer is exactly the same as before.

LOADING

To load the program use the normal system loader and load in one pass returning to monitor. Then save "BOSS" (SAVE BOSS!200-1177;700 [CR]). "BOSS" MUST be saved using the name "BOSS" before it is used.

USING

To use "BOSS" just type .BOSS in the normal way. Command decoder will then print: IN: to which should be replied the names of the system programs to be used. (Only system programs can be specified; S:PROG,S:PROH etc..) Up to nine system programs may be strung together and "BOSS" will bring them into core in the order specified. At the end of the last name when a carriage-return is typed COMMAND DECODER will print an asterisk for each program found and then "BOSS" will call the first program into core and start it. At the end of the program a jump to location 76∅∅ must occur and this may either be made by the program (it is wise to have programs which jump to 76∅∅ when Control-C is typed) or the computer may be stopped and 76∅∅ loaded and the computer started. At the

At the end of the sequence "BOSS" rings the bell and waits for a keyboard response. A Control-C will cause a return to the Disk Monitor System while any other character will cause a recycle of the list of programs.

NOTES

1. Although "BOSS" is invisible while a program is running some areas of core memory are used between each program. The areas of core which "BOSS" uses are: 2∅∅-377 (BOSS), 72∅∅-76∅∅ (MONITOR), 6∅3-1375 (Directories).

2. Unlike Disk "BOSS" the DECtape "BOSS" cannot be loaded at 76∅6 and returned to MONITOR at any time. The only ways to return to MONITOR during a series of programs are:

        (1) Use the bootstrap routine.
        (2) Change location 761∅ to 7∅∅1, location 7611 to 5711
        and start at 76∅∅.

3. It was not possible to design "BOSS" to be of reasonable length and be able to call programs from other DECtape units than the system unit. If a different unit is specified "BOSS" will look for it on the system device anyway. All programs to be used must be system programs on the system device.

4. Because of a checking system "BOSS" will only accept program names that begin with a letter.