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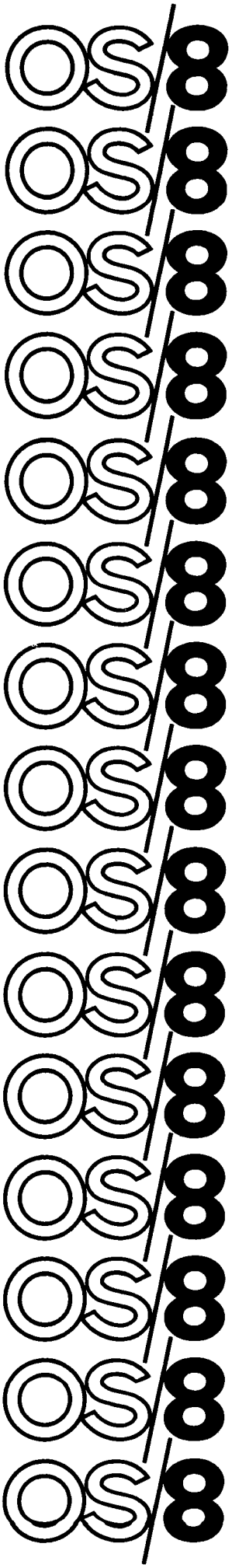

pipc

users manual

digital equipment corporation

DEC-S8-OPIPB-A-D

P I P C U S E R ' S M A N U A L

SOFTWARE SUPPORT CATEGORY

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CONTENTS

INTRODUCTION

PIPC is an OS/8 program that is used to transfer files between standard cassettes and other OS/8 system devices, delete cassette files, and transfer cassette directories. PIPC allows the OS/8 user to read or write any standard cassette file. In particular, PIPC can read or write any file created by or to be used by the CAPS-8 system or by the OS/8 system (using any OS/8 device handler).

PIPC may be run on any OS/8 system equipped with at least 8K of memory and cassette drives. PIPC supports any OS/8 system device. Before running PIPC, the user must load the OS/8 cassette handlers as described in USING AND LOADING YOUR NEW OS/8 CASSETTE HANDLER (DEC-S8-UCASA-A-D). Appendix A contains instructions for assembling PIPC.

This manual assumes that the reader is familiar with the operation and use of OS/8. Readers who do not have this background will find valuable information in Chapter 9 of INTRODUCTION TO PROGRAMMING 1972 and may also want to read the CASSETTE PROGRAMMING SYSTEM USER'S MANUAL (DEC-8E-OCASA-A-D), available from Digital Equipment Corporation through the Software Distribution Center.

CHAPTER 1

CALLING AND USING PIPC

To call PIPC from the OS/8 system device, the user types:

```
.R PIPC
```

in response to the dot printed by the Keyboard Monitor. The Command Decoder then prints an asterisk at the left margin of the teleprinter paper and waits to receive a line of I/O files and options. PIPC accepts one input file and performs output to a single output file. The contents of the input file are transferred to the output file in image mode. In response to the asterisk, the user types an I/O specification of the following form:

```
*outfile<infile/(options) = size
```

Each file specification consists of a device and an optional file name (for file-structured devices). To perform I/O on a given cassette drive, the user's OS/8 system should be configured with an OS/8 cassette handler for that drive. If the user does not have OS/8 cassette handlers, he can still perform I/O; this handling operation will be explained later in the manual. This OS/8 cassette handler will not be the one used by PIPC, but it may be specified so that the command decoder can tell PIPC which cassette drive to use.

The permanent device names for cassettes are CSA0-CSA7. Permanent device names for other OS/8 devices are listed in the PIP section of Chapter 9 in INTRODUCTION TO PROGRAMMING 1972. These device names are used in the I/O specification, along with any file name that is necessary. For example, to transfer a CAPS-8 file named DATA01 to the user's disk, the user types:

```
*DSK:DATA01<CSA1:DATA01
```

if the CAPS-8 cassette is mounted on drive 1 and if the user's OS/8 system has a handler for drives 0 and 1 (unit 0) with entry point names of CSA0 and CSA1. If a cassette handler is specified without any file name, PIPC uses the handler without modification, i.e., it uses the cassette as a non-file structured device similar to a paper tape reader or punch in the manner the handler was originally destined to be used by OS/8. Thus, the command:

```
*CSA2:<DSK:SISCO.BN
```

would perform the same operation with PIPC as the command:

```
*CSA2:<SISCO.BN/I
```

would perform with OS/8 PIP.

Since PIPC performs file transfers for all file types, there are no assumed extensions assigned by PIPC to file names for either input or output files. All extensions, where present, must be explicitly specified, except when the /B option is used.

Following completion of a PIPC operation, the Command Decoder again prints an asterisk at the left margin and waits for another PIPC I/O specification line. The user can return to the Keyboard Monitor by typing CTRL/C.

CHAPTER 2

PIPC OPTIONS

The various options allowed on a PIPC I/O specification line are detailed in Table 2-1. The /I, /O, and /n options are used if the user does not have cassette handlers configured in his OS/8 system.

Table 2-1 PIPC Options

Option	Meaning
/B	Transfer files in special CAPS-8 binary format. If the /B option is used and no extensions are specified, PIPC assumes .BN for OS/8 files and .BIN for cassette files. If input is from PTR: (high-speed paper tape reader), the paper tape must be positioned on the leader.
[]	The square bracket ([]) option allows the user to specify a decimal file type on a cassette output file. The notation in brackets does not refer to the file sizes in this case. Hence, to create a file with the name CAS50.BI on cassette drive 1 and give it a file type of 3, the user types : *CSA1:CAS50.BI[3]< For output files other than cassette, square brackets have the same meaning as in PIP. For information on file types, see the CASSETTE PROGRAMMING SYSTEM USER'S MANUAL, Appendix E.
/D	Delete the file specified from the output cassette. The /D option is only valid if the output device is a cassette. for example: *CSA1:OFILE</D will delete OFILE from the cassette on drive 1.
=n	Specify in the low order 12 bits n as the number of words (characters) per record which occur in the cassette output file on that command line. The n specification may be between 0 and 1000 (octal), inclusive. If 0 or if not specified, 200 is assumed. The = option need not be specified for cassette input files because PIPC will determine the record size from the file's

Table 2-1 PIPC Options (Cont'd)

Option	Meaning
	header record. If the output record size specified is greater than 1000 or if an input record size is 0, PIPC prints an error message since it cannot handle variable-length records. The high order 11 bits of the = option are used only if output is to a CAPS-8 cassette; in that case they specify the version number for the file. The = option is ignored if the output file is not a cassette file.
/I	Consider input to be from a cassette. The /I option is necessary if the user does not have the desired cassette handler configured in his OS/8 system. This option must be accompanied by the /n option which specifies a cassette drive number. For example, the command lines: *DTA0:ABC<CSA0:ABC and *DTA0:ABC<ABC/I/0 perform the same function. The /I option and the /O option cannot be specified simultaneously.
/L	Read the input cassette directory and write it onto the output file. Notice that in this case the input file itself is not transferred, only the directory. The /L option applies only if the input device is a cassette.
/n	Read input from or write output onto cassette drive n. The n is a digit between 0 and 7, specifying the cassette unit drive number. See the /I and /O options.
/O	Consider output to be to a cassette drive. The /O option is necessary if the user does not have the desired cassette handler configured in his OS/8 system. This option must be followed by the /n option which specifies a cassette drive number. For example, the command lines: *CSA1:DATA5<DSK:DATA5 and *DATA5/O/1<DSK:DATA5 perform the same function. Note that the /I and /O options cannot be specified simultaneously.

Table 2-1 PIPC Options (Cont'd)

Option	Meaning
/Z	If no filename is specified, zero the cassette on the cassette drive specified as output. If a filename is specified (for a cassette drive), write a sentinel file after the file specified.

Although cassette file names may have 3-character extensions, OS/8 allows only 2-character extensions. Thus, when looking up a cassette file, although all three characters may be specified, only the first two are significant. Thus CSAØ:FILE.PAL might match a file called FILE.PAT. This similarity is acceptable since the cassette standards require all files on a standard cassette to be unique with respect to the first two characters in the extension. On output, the third character of the extension is always a space (unless the /B option is specified).

CHAPTER 3

PIPC ERROR MESSAGES

Error messages which appear while PIPC is running are shown in Table 3-1. If an output file is specified on a cassette and a file by that name already exists, the file on the output cassette is deleted before any transfer is performed. If PIPC detects an error while a cassette output file is open, it tries to close the output file by writing a sentinel on the output cassette.

Table 3-1 PIPC Error Messages

Message	Meaning
CANNOT HANDLE VARIABLE LENGTH RECORDS	The records on the input and output files specified are not the same size. PIPC cannot handle variable length records.
device DOES NOT EXIST	The device specified does not exist on the OS/8 system. Device is the specific OS/8 I/O device such as DTA0.
ENTER ERROR	Error occurred while trying to enter an output file.
FETCH ERROR	Error occurred while trying to fetch an OS/8 device handler.
file NOT FOUND	The file specified cannot be found. File is the actual name of the file that was not found.
ILLEGAL SYNTAX	The command line to the command decoder had a bad character or was incorrectly formatted.
INPUT ERROR	An input error occurred while reading the file.
NO INPUT FILE	No input file was specified when one was required.
NO OUTPUT FILE	No output file was specified when one was required.
OUT=IN	Both the input and the output devices were specified as the same cassette drive.

Table 3-1 PIPC Error Messages (Cont'd)

Message	Meaning
OUTPUT DEVICE FULL	Self-explanatory; either room on device or room in directory is lacking.
OUTPUT ERROR	Output error -- possibly a WRITE LOCKed device, parity error, or attempt to output to a read-only device.
RECORD SIZE TOO BIG	The output record size specified is greater than 1000 or an input record size is 0.
TOO MANY FILES	More than 1 output device was specified or more than 1 input device was specified.

APPENDIX A

ASSEMBLY INSTRUCTIONS

The source tape of PIPC may be assembled with the PAL8 assembler, in the same manner as any other PAL8 source program. For example, if a PIPC source DECtape is mounted on unit 1, typing:

```
.RPAL8
*PIPC.BN<DTA1:PIPC.PA
```

will produce a PIPC binary file on the system device. Note that the dot is printed by the OS/8 Monitor and the asterisk is printed by the command decoder.

Once a PIPC binary file has been created on the system device, the following commands will create a core image file called PIPC.SV on the system device:

```
.R ABSLDR
*PIPC.BN$
.SAVE SYS PIPC:12000=6003
```

The binary paper tape of PIPC (DEC-S8-UPICA-A-PB) may be loaded and saved on the system device by the following sequence of commands:

```
.R ABSLDR
*PTR:$↑
.SAVE SYS PIPC:12000=6003
```

The system prints an uparrow after the ALT MODE character to indicate that a paper tape should be loaded into the reader. Press any key at the terminal o ontinue.

INDEX

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