

DEC-11-UFLDA-A-D

**DOS/BATCH**  
**File Dump Program (FILDMP)**  
**Programmer's Manual**

FOR THE DOS/BATCH OPERATING SYSTEM

Monitor Version V09

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Associated documents:

DOS/BATCH Monitor  
Programmer's Manual, DEC-11-OMPMA-A-D

DOS/BATCH User's Guide, DEC-11-OBUGA-A-D

DOS/BATCH Assembler (MACRO-11)  
Programmer's Manual, DEC-11-LASMA-A-D

DOS/BATCH FORTRAN Compiler and Object Time System  
Programmer's Manual, DEC-11-LFRTA-A-D

DOS/BATCH System Manager's Guide, DEC-11-OSMGA-A-D

DOS/BATCH File Utility Package (PIP)  
Programmer's Manual, DEC-11-UPPAA-A-D

DOS/BATCH Debugging Program (ODT-11R)  
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## PREFACE

This document describes the features and operation of the File Dump (FILDMP) utility program.

FILDMP is used to display files or selected portions of mass storage. The user is provided with printed copy for visual inspection. FILDMP is loaded and called as a DOS/BATCH system program.

This document assumes familiarity with the DOS/BATCH Monitor, Assembler (MACRO-11), Linker (LINK), and file utility package (PIP).

### Documentation Conventions

As shown in the examples herein, command strings are typed in response to the underlined . and \$ and # characters.

All command strings are terminated with the RETURN key.

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## CHAPTER 1

### AN INTRODUCTION TO FILDMP

#### 1.1 INTRODUCTION

File Dump (FILDMP) is a utility program for use with the PDP-11 Disk Operating System (DOS/BATCH). It can be used to enhance the debugging of programs by providing a printed copy of the contents of all or specific blocks of a file for visual inspection.

Printout of a file or block(s) of data can be directed from an input device to any device capable of ASCII output.

FILDMP takes its input either as filenames or mass storage block numbers, and outputs a dump in various formats. The printed dump is in a readable format. FILDMP is device independent in that the output can be stored on disk or tape for later printing.

FILDMP command strings are interpreted by the DOS/BATCH Command String Interpreter (CSI), as explained in the DOS/BATCH Monitor Programmer's Manual. For example, the general format of a FILDMP command string is:

```
output file specification(s)<input file specification  
or  
outdev:filename.ext/switch<indev:filename.ext/switch
```

The output device, outdev:, on which the data is to appear is usually KB: (teleprinter) or LP: (line printer), but can be written as a file on any mass storage device for later printing. /switch represents FILDMP's switch options (explained later). The input device, indev:, is the device on which the file is stored (the DOS/BATCH system device is assumed if no input device is specified). Note that all keyboard command strings are terminated with the RETURN key, which is non-printing.

There may be any number of output file specifications; including none, in which case no output is generated. There must be exactly one input file specification. The entire command string must be on one line, i.e., no more than 72 decimal characters, the length of a teleprinter line.

The CTRL/U key combination can be used to delete the command string on the line on which it is typed. When used, it is echoed as ^U, the line (command string) is ignored, and FILDMP prints another # and waits for the next command.

## 1.2 RUNNING FILDMP

FILDMP is loaded as a DOS/BATCH system program (see the DOS/BATCH System Manager's Guide). It can then be called into core and executed with the DOS/BATCH Monitor RUN command. For example:

```
$RUN FILDMP
FILDMP Vxxx
#
```

FILDMP identifies itself and prints #, indicating its readiness to accept a user command string from the teleprinter keyboard.

## CHAPTER 2

### SWITCHES

FILDMP operations are controlled with switches in the command string. Switches are expressed using a slash and two letters, as shown below. There are two types of switches: input and output.

#### 2.1 INPUT SWITCHES

Input switches are used to:

1. Specify the format in which data is to be read.
2. Determine the mass storage block numbers on which a file is stored.
3. Specify the block or group of blocks to be dumped.

Input switches should appear only in the input field of the command string, i.e., to the right of the < symbol. They are:

/BL: read specified blocks of mass storage. /BL: requires at least one value (block number), and will accept at most two values. The syntax for the /BL: switch is:

/BL:n            or            /BL:n:m

where n and m are octal block numbers.

/CH causes FILDMP to obtain the numbers of the blocks which are allocated to the specified file. The input device must be a directory-structured device.

/FA read the input file in formatted ASCII mode.

/FB read the input file in formatted binary mode.

FILDMP can read data in any of three modes:

Unformatted binary	default mode
Formatted binary	/FB
Formatted ASCII	/FA

When no input switch is specified, data is read in unformatted binary mode. Unformatted binary mode is always assumed with the /BL: and /CH switches.

Only one type of input switch can appear in a command string.  
For example:

```
DT:FILE.EXT/FA
```

is legal, but

```
DT:FILE.EXT/FA/CH
```

is not.

The /BL: switch can appear more than once in a command string.  
For example:

```
DT:/BL:1/BL:7:13/BL:22
```

is legal, but

```
DT:/BL:23/FA
```

is not because only one type of input switch can appear in a command string. In the last example, block 23 will be dumped as directed followed by an error message when /FA is encountered.

## 2.2 OUTPUT SWITCHES

Output switches are used to specify the format in which the data is to be dumped. They should appear only in the output field of the command string, i.e., to the left of the < symbol. They are:

/AS	read successive bytes of the input file or mass storage block and output each byte as if it were a single ASCII character. The ASCII character set which FILDMP considers printable is (octal) 40 through 137 and 240 through 337. Any value outside these ranges is printed as if it were 137, a special printing character; for example, a left arrow or a heart-shaped character.
/BY	output the input file or mass storage block(s) as a sequence of octal bytes.
/OC	output the input file or mass storage block(s) as a sequence of octal words.

/RA read successive words of the input file or mass storage block(s), consider each word as a three-character, packed Radix-50 entity, and unpack and output it as such.

When no output switch is specified, the /OC switch is assumed.

Output switches can be used to direct FILDMP to perform certain modes of translation, e.g., a binary file can be dumped in ASCII. However, the /CH switch overrides any output switch and causes output to appear in octal words.

Multiple output file specifications are allowed and, in fact, common. For example, to dump FILE.EXT (a file written in formatted ASCII mode) in octal words and ASCII characters, use the following command string.

```
LP:/OC,LP:/AS<FILE.EXT/FA
```

where the line printer is the output device and FILE.EXT is on the system disk. In the above example, FILE.EXT is read in formatted ASCII mode and dumped in octal words, and then read in formatted ASCII mode and dumped as ASCII characters. If, for example, FILE.EXT were on paper tape, it would be necessary to reload the paper tape prior to generating the second output. The command string would be:

```
LP:/OC,LP:/AS<PR:/FA
```

The command string:

```
LP:/BY,KB:/RA<DF:/BL:3/BL:17:21
```

directs FILDMP to dump disk (DF:) blocks 3, 17, 20, and 21 on the line printer in octal byte format, and then on the teleprinter in unpacked Radix-50 format.

### 2.3 OUTPUT FORMATS

The output or printed format of the dump differs slightly, depending on the switch used. If no input switch (implied unformatted binary mode) or the /BL: switch is specified, the leftmost column of the output is the byte count of the file or mass storage block. If the /FA or /FB switch is specified, the leftmost column of the output

is the line number of the file. The physical output line which begins with the line number contains the status and mode bytes and the byte count word as well.

Read errors are indicated by an E between the line number and the status byte. The status byte gives detailed information concerning the error. The E error message appears only on dumps where the input is read in a formatted mode.

If /CH appears in the input field, the output is the block numbers, in sequential order, occupied by the file. No byte count or line count appears.

The output of FILDMP contains a form of identifier. If /BL: appears, FILDMP prints the device name and block number (in octal) prior to dumping any given block. Otherwise, the input filename and extension, as specified in the command input, will appear, followed by:

(ASCII)	if the /AS switch is used
(BYTES)	if the /BY switch is used
(CHAIN)	if the /CH switch is used
(OCTAL)	if the /OC switch is used or assumed
(RAD50)	if the /RA switch is used

If the input file were read as a file (i.e., /FA, /FB, or no switch), FILDMP terminates its output with:

END OF FILE

The END OF FILE message does not appear on those dumps which use the /CH or /BL switch.

When /BL: is used, FILDMP formats the output so that page boundaries do not appear in the middle of blocks, yet tries to waste as little paper as possible. Thus, if the input device has a 256<sub>10</sub> word block size, there will be one per page; 128 word blocks print two per page; 64<sub>10</sub> word blocks print four per page, and 32<sub>10</sub> word blocks print six per page.

#### 2.4 DUMPING ENTIRE FILES

Unless the /BL: switch (see Section 2.6) is specified, FILDMP dumps the entire file indicated. When FILDMP encounters an end-of-file (EOF), it prints

END OF FILE

closes and releases all files, and then prints # to indicate readiness for another command string.

The dumping of lengthy files should, where possible, be performed on the line printer; which is impressively faster than the teleprinter.

Dumps to the teleprinter can be interrupted and terminated by typing the CTRL/C key combination. When CTRL/C is typed during a dump, FILDMP pauses, and a period is printed. At this time, the user can:

1. Type the RETURN key to resume the output.
2. Type RE (restart) to abort the output and return control to FILDMP, which prints # and waits for the next command.

Note, however, that steps 1 and 2 above apply primarily to the teleprinter. The purpose of CTRL/C during a dump is to interrupt time-consuming printout, whereas the speed of the line printer obviates the need for this feature.

## 2.5 DETERMINING FILE BLOCKS, /CH

The /CH switch is helpful in determining the block size of a program and in pinpointing certain blocks of data for future referencing with other FILDMP operations. For example:

```
#KB:<DEMO/CH
      DEMO      (CHAIN)
            002252  002262

#LP:<SIZE/CH
      SIZE      (CHAIN)
            001700  001705  001712  001717  ...
            001750  001755  001762  ...
            002020

#
```

DEMO is a file which is stored in the two blocks numbered 002252 and 002262. SIZE is a file which is stored in the 17 blocks numbered as shown.

The /CH switch does not require an output switch -- block numbers are always printed in octal words because they are referenced in octal words with the /BL: switch.

When using the /CH option, if FILDMP cannot find the input file, then the error message S206 (no input file) is printed, followed by #. (In no other case does FILDMP attempt to predetermine the existence of its input file, i.e., if the input file is not found, F012 results.)

## 2.6 DUMPING BLOCKS OF DATA, /BL:

The block switch, /BL:, is used to indicate the dumping of a specific block or group of contiguous blocks. More than one /BL: switch can be specified in a command string. Each /BL: switch requires at least one and at most two arguments (block numbers), and each argument is preceded by a colon. For example, the following command string dumps the contents of block 2252 in ASCII characters:

```
#LP:/AS<DF:/BL:2252
```

The following command string dumps blocks 17 through 43 in octal words:

```
#LP:/OC<DT1:/BL:17:43
```

The following command string dumps blocks 15 through 21, block 32, and blocks 113 through 121 in octal bytes:

```
#LP:/BY<DK:/BL:15:21/BY:32/BY:113:121
```

The /BL: switch reads input in unformatted binary only.

The following command string dumps blocks 70 and 100 in octal and then in Radix-50.

```
#LP:/OC,LP:/RA<DT:/BL:70/BY:100
```

## 2.7 DUMPING RADIX-50 FORMATTED DATA, /RA

The /RA switch can be used to dump Radix-50 formatted data in ASCII characters. The /RA switch causes FILDMP to unpack the data (three ASCII characters are packed into one word).

This switch can be useful when "looking" at the data stored in Radix-50 format, e.g., internal directories, etc.

The /RA switch can be used alone or with the /FA, /FB, or /BL: switch. For example:

```
#LP:/RA</BL:2:3
```

FILDMP would dump blocks 2 and 3 of the DOS/BATCH system device in unpacked Radix-50 format.



## CHAPTER 3

### EXAMPLES

The following example is not intended to be a practical example of the uses of FILDMP. Rather it is intended to show as many examples of the FILDMP options, output formats, and error notations as possible.

The FORTRAN source program RAD5Ø.F4, listed below, writes 3Ø records of 12 words each containing the characters A-Z and Ø-9 in packed RADIX-5Ø format. The output is to a file named FORØØ1.DAT on the system device. The RADIX-5Ø packing procedure is described on page A-1 of the DOS/BATCH Monitor Programmer's Manual. The CALL SETERR requests that the overflow into bit 15 (the sign bit) be ignored while the RADIX-5Ø characters are being packed.

```

      DIMENSION IN(36)
      DIMENSION IOUT(12)
      DEFINE FILE 1(30,12,U,IERR)
      CALL SETERR(3,-1)
      IFIF=4Ø
      DO 5 J=1,26
5      IN(J)=J
      DO 1Ø J=27,36
1Ø     IN(J)=J+3
      DO 15 J=1,12
      I=(J-1)*3+1
15     IOUT(J)=((IN(I)*IFIF)+IN(I+1))*IFIF+IN(I+2)
      DO 2Ø J=1,3Ø
      WRITE(1,J) (IOUT(I),I=1,12)
2Ø     CONTINUE
      CALL EXIT
      END
```

The FILDMP command string shown below is used to get an ASCII dump of the source file RAD5Ø.F4. The resulting output follows.



The FILDMP command string shown below is used to get an octal dump of the source file. The resulting output follows.

```
#KB:/DC<RAD50.F4
```

```
      RAD50 .F4      (OCTAL)

0000000 042011  046511  047105  044523  047117  044440  024116  033063
0000020 006451  004412  044504  042515  051516  047511
0000040 052125  030450  024462  005015
0000060 044506  042514

      .
      .
      .

                                024105  023461
                                044450  026051  036511  026061
0000440 005015  041411  031012  004460  047503  052116  047111  042525
0000460 042116  005015  046101  020114  054105  052111  005015  042411

      END OF FILE
```

After the source file is compiled to an object file, RAD50.OBJ, the numbers of the physical blocks on the system device that contain the file are determined by use of the following FILDMP command:

```
#KB:<RAD50.OBJ/CH
```

```
      RAD50 .OBJ      (CHAIN)

      000725  001025  001026  001027
```

To dump selected blocks of the object file in octal format (the default output format) the following FILDMP command is used:

```
#KB: <RAD50. OBJ/BL: 725/BL: 1025
```

```

DK      000725  (OCTAL)

0000000 001025  000001  000056  000001  050561  055740  000000  000000
0000020 127401  007624  000410  000000  021411  076400  002100  000000
0000040 073634  021042  002100  000000  124471  046340
0000060 000235  000001  000056  000001  124473  115520
0000100 124503  070261

      .
      .
      .

      000000  000000  000000  000000
0000740 125517  047000  001006  000204  000001  000056  000004  003004
0000760 013002  124545  004002  125361  050500  011002  125675  065100
      001000  015001  001002  016001

```

```

DK      001025  (OCTAL)

0000000 001026  001004  017001  001006  000133  000001  000032  000003
0000020 000034  000000  000004  000772  000000  000000
0000040 000000  000402  000224  000001
0000060 065100  004001

      .
      .
      .

      125675  065100
0000740 000000  000003  000003  000222  000000  064400  012001  001022  000077
0000760 000054  000004  000000  001042  000000  000013  000000  000000  001022
      000014  000374  000001
      004002  124527  074701

```

The data file containing the packed RADIX-50 characters, FOR001.DAT, may be dumped in unpacked RADIX-50 format by using the following FILDMP command string. The resulting output follows.

```
#KB:/RA<FOR001.DAT
```

```
FOR001.DAT (RAD50)
```

```
0000000 ABC    DEF    GHI    JKL    MNO    PQR    STU    VWX
0000020 YZ0    123    456    789    ABC    DEF    GHI    JKL
0000040 MNO    PQR    STU    VWX    YZ0    123    456    789
0000060 ABC    DEF    GHI    JKL    MNO    PQR
0000100 YZ0    123    456    789
0000120 MNO    PQR
```

```
•
•
•
```

```
                                GHI    JKL
                                YZ0    123    456    789
                                MNO    PQR    STU    VWX
0001260 YZ0    123    456    789    ABC    DEF    GHI    JKL
0001300 MNO    PQR    STU    VWX    YZ0    123    456    789
0001320
0001340
0001360
0001400
0001420
0001440
0001460
0001500
0001520
0001540
0001560
0001600
0001620
0001640
0001660
0001700
0001720
0001740
0001760
```

```
END OF FILE
```

To dump the data file in octal (to see the packed RADIX-50 format) the FILDMP command shown below is used. The associated output follows.

```
#KB:/OC<FOR001.DAT
```

```
FOR001.DAT (OCTAL)
0000000 003223 014716 026411 040104 051577 063272 074765 106460
0000020 120156 143341 155034 166527 003223 014716 026411 040104
0000040 051577 063272 074765 106460 120156 143341
0000060 003223 014716 026411 040104
0000100 120156 143341
.
.
.
0000000 000000 000000 000000 000000 000000 000000 000000
0001740 000000 000000 000000 000000 000000 000000 000000
0001760 000000 000000 000000 000000 000000 000000 000000
END OF FILE
```

If the data file is mistakenly specified as being in formatted binary (the file is actually in unformatted binary, the FILDMP default input file format) FILDMP encounters errors as it tries to read the input file. An example of this FILDMP command string and the resulting output are shown below.

```
#KB:<FOR001.DAT/FB
```

```
FOR001.DAT (OCTAL)
000000 E004 001 000000
000001 E004 001 000000
000002 E004 001
000003
000004
.
.
.
000000
E004 001 000000
000262 E004 001 000000
000263 E004 001 000000
END OF FILE
```

## CHAPTER 4

### FILDMP ERROR MESSAGES

The following error messages are used by FILDMP.

<u>Message</u>	<u>Most Probable Cause</u>
S202	An error occurred during reading of the command input. (Recall that the maximum line length is 72 decimal characters.)
S203	An error occurred in the switches. Either: 1) FILDMP could not understand the switch; 2) too many switches on input or output; 3) no value or more than two values to /BL:
S205	More than one input file specification in the command string. This error will appear even if the extraneous input file specifications are null.
S206	FILDMP could not find the input file to /CH.
S256	A /CH request accompanied a file specification in which the input device is not directory structured, or input device will not support input.

Other error messages can occur by virtue of the user having requested FILDMP to do something illegal. For example, DOS/BATCH will issue an F012 message if FILDMP attempts to read a file which is protected so that the current user cannot access it. The user should consult the appropriate DOS/BATCH documentation upon receiving such error messages.

FILDMP does not terminate processing (or inform the user via S202) if a read error occurs while the input file is being read. The user should search the dump for E flags, and then consult the status byte. Recall that the E flag appears physically between the line number and the status byte number on dumps of files which were read in either formatted ASCII or formatted binary mode.

Errors detected during the command string input and during the dumping process will result in standard DOS/BATCH Monitor error message printout. See Appendix F of the DOS/BATCH Monitor Programmer's Manual for a complete list and explanation of the error codes.



## CHAPTER 5

### ASSEMBLING AND LINKING FILDMP

Source modules of the FILDMP program are available on DECTape and Mag tape. Assembling and linking FILDMP can be done in various ways, using virtually any combination of DECTape, Mag tape, and disk. However, the most efficient method is to PIP the source module from DECTape or Mag tape onto the DOS/BATCH system device (disk) and then assemble and link from disk to disk, as explained in this chapter.

FILDMP is assembled and linked using the Macro Assembler and Link Linker. The following procedures assume that these two system programs are available via the DOS/BATCH Monitor RUN command, and that the user is logged in and running under the DOS/BATCH Monitor. This chapter assumes that the reader is familiar with the DOS/BATCH Monitor, Macro Assembler, Link Linker, and PIP File Utility Package.

The command strings shown below direct the printing of assembly listings, symbol tables, and linking load maps to the line printer (LP:); if no line printer exists in the system configuration, omit LP: in the command strings.

#### NOTE

As shown in the following examples, command strings are typed in response to the underlined . and \$ and # characters. All command strings are terminated with the RETURN key.

#### 5.1 LOADING FILDMP SOURCE MODULE

The PIP File Utility Package is used to load the FILDMP source module (FILDMP.MAC) onto the DOS/BATCH system device from DECTape or Mag tape. In response to the DOS/BATCH Monitor's dollar sign (\$) run PIP. For example:

```
$RUN PIP  
PIP-11 Vxxx  
#
```

PIP is loaded into core, identifies itself, and prints # to indicate its readiness to accept the user's command string.

To load from DECTape go to Section 5.1.1.

To load from Mag tape go to Section 5.1.2.

#### 5.1.1 From DECTape

1. Mount the DECTape containing the FILDMP source module, FILDMP.MAC on DECTape unit  $\emptyset$ .
2. Set the REMOTE/OFF/LOCAL switch to REMOTE.
3. Type, in response to PIP's # sign:

```
#FILDMP.MAC<DT $\emptyset$ :FILDMP.MAC  
#
```

The FILDMP source module is copied from DT $\emptyset$  to disk.

4. Return to the Monitor by typing the CTRL/C combination and clear core with the KILL command. For example:

```
# ^C  
_ .KI  
  
$
```

Now proceed to Section 5.2 for assembling procedures.

#### 5.1.2 From Mag Tape

The FILDMP source module is on Mag tape.

1. Mount magtape on MT $\emptyset$ : Put it on line. Respond to PIP's # by typing:

```
#FILDMP.MAC<MT $\emptyset$ :FILDMP.MAC  
#
```

The FILDMP source module is now on the DOS/BATCH system device.

2. Return to the Monitor by typing the CTRL/C combination and clear core with the KILL command. For example:

```
# ^C  
_ .KI  
  
$
```

Now proceed to Section 5.2 for assembling procedures.

## 5.2 ASSEMBLING FILDMP

In response to Monitor's dollar sign (\$) run the Macro Assembler.  
For example:

```
$RUN MACRO
MACRO Vxxx
#
```

The Assembler is loaded into core, identifies itself, and prints # to indicate its readiness to accept the user's command string.

1. In response to MACRO's # sign, type:

```
#FILDMP.OBJ,LP:<FILDMP.MAC
#
```

FILDMP is assembled with no errors. The object module, FILDMP.OBJ, is on the DOS/BATCH system device, and the listing and symbol table are on the line printer.

2. Return to the Monitor by typing the CTRL/C combination and clear core with the KILL command. For example:

```
# 1C
.KI
$
```

Now proceed to Section 5.3 for linking procedures.

## 5.3 LINKING FILDMP

In response to Monitor's dollar sign (\$) run the Link Linker.  
For example:

```
$RUN LINK
LINK Vxxx
#
```

The Linker is loaded into core, identifies itself, and prints # to indicate its readiness to accept the user's command string.

When linking FILDMP, the top address 37450 should be used, as shown in Step 1.

1. In response to LINK's # sign, type:

```
#FILDMP.LDA,LP:<FILDMP.OBJ/T:37450/E  
#
```

FILDMP is linked. The load module, FILDMP.LDA, is on the DOS system device and the load map is on the line printer. Link re-identifies itself and waits for the user's next command string.

2. Return to the Monitor by typing the CTRL/C combination and clear core with the KILL command. For example:

```
# ^C  
_ .KI  
$
```

Having progressed through the loading, assembling, and linking procedures as described above, the DOS/BATCH system device contains the FILDMP source and object modules. These modules have no useful purpose and should be deleted from the disk using PIP. For example:

```
$RUN PIP  
_ PIP-11 Vxxx  
#FILDMP.MAC,FILDMP.OBJ/DE  
#
```

The # command string above will delete the FILDMP source and object modules from the DOS/BATCH system device.

Return to the Monitor by typing the CTRL/C key combination and clear core with the KILL command. For example:

```
# ^C  
_ .KI  
$
```

FILDMP is now on the system device, and can be run using the Monitor RUN command. Unless FILDMP was put on the system as a system device (see the DOS/BATCH System Manager's Guide), the user must specify in the command string to run FILDMP the User Identification Code (UIC) under which FILDMP was assembled and linked.

## CHAPTER 6

### SUMMARY OF SWITCHES

#### 6.1 INPUT SWITCHES

<u>Switch</u>	<u>Name</u>	<u>Example</u>	<u>Operation</u>
/BL:	Block	LP:<DT1:/BL:3:7	Dumps blocks 3, 4, 5, 6, and 7 from DT1 to line printer in octal word format.
/CH	Chain	KB:<DKØ:FILE/CH	Lists on the teleprinter the numbers of the blocks which FILE occupies.
/FA	Formatted ASCII	LP:<DKØ:FILE/FA	Dumps FILE to the line printer in octal word format, but reads FILE in formatted ASCII mode.
/FB	Formatted Binary	LP:<DF:FILE/FB	Dumps FILE to the line printer in octal word format, but reads FILE in formatted binary mode.
none	Unformatted Binary	LP:<DFØ:FILE	Dumps FILE to the line printer in octal word format, but reads FILE in unformatted binary mode.

#### 6.2 OUTPUT SWITCHES

/AS	ASCII	LP:/AS<DF:FILE	Reads FILE in unformatted binary mode and dumps to the line printer in ASCII mode; i.e., one ASCII character per byte.
/BY	Octal Bytes	LP:/BY<DKØ:FILE	Reads FILE in unformatted binary mode and dumps to the line printer as a sequence of octal bytes.
/OC	Octal Words	LP:/OC<DF:FILE	Reads FILE in unformatted binary mode and dumps to the line printer as a sequence of octal words.
/RA	Unpacked Radix-5Ø	LP:/RA<DKØ:FILE	Reads FILE in unformatted binary mode and dumps to the line printer in unpacked Radix-50 form format, i.e., 3 characters per word.
None	Octal Words	LP:<DKØ:FILE	Same as /OC



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