

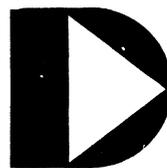
**DATAPOINT/IBM
DISKETTE FORMAT
CONVERTER
DCDFMT
User's Guide**

Version 1

May, 1975

Model Code No. 50150

DATAPOINT CORPORATION



**The Leader in
Dispersed Data Processing**

PREFACE

DCDFMT is a DOS.C utility for copying text files between Datapoint formatted diskettes and IBM compatible diskettes. ASCII-EBCDIC conversion and space compression is handled automatically.

TABLE OF CONTENTS

	page
1. INITIALIZATION	1-1
2. COPYING DATAPOINT TO IBM FORMAT	2-1
3. COPYING IBM TO DATAPOINT FORMAT	3-1
Appendix A. EXAMPLE OF DATAPOINT TO IBM FORMAT	
Appendix B. EXAMPLE OF IBM TO DATAPOINT FORMAT	
Appendix C. THE INDEX TRACK	

CHAPTER 1. INITIALIZATION

DCDFMT is a DOS.C utility for copying text (source or data) files between Datapoint compatible and IBM compatible diskettes. An IBM diskette may hold up to 19 files containing from 1862 to 1898 records (depending on the number of files). Reading or writing a full diskette may take up to 8 minutes. DCDFMT requires at least a dual-drive diskette system. The program is executed by typing the command:

DCDFMT

Options which may be entered on the command line following a semicolon include 'A' for loading ALL the files, 'O' for OVERWRITING existing files, and 'R' for overriding RESTRICTION indicators for both the volume and individual files. Options may be separated by commas or spaces. These options only apply when copying files from IBM compatible to Datapoint format diskettes. The program will then identify itself as:

DISKETTE CONVERTER

with version number and date.

DCDFMT needs to know the format of the on-line diskettes so that it may selectively search for DOS.C files. DCDFMT then identifies the on-line diskettes to the user as:

ON-LINE DISKETTES ARE:

DRIVE 0: <format>

etc.

where the drives are numbered from 0 to 3. A Datapoint diskette would be identified as:

DATAPOINT FORMAT

An IBM diskette would be identified as:

IBM FORMAT SCRATCH

or

IBM FORMAT VOL:<volume name> OWNER:<owner's name>

Other information given at this time may be warnings that the IBM diskette may be unusable, such as:

**** NON-STANDARD LABELS ****

or

**** NON-SEQUENTIAL RECORDS ****

or

**** RESTRICTED ACCESS ****

Restricted access may be overridden by executing DCDFMT with the option 'R' in the command line (e.g. DCDFMT;R).

DCDFMT then requests the drives between which copying is to take place:

FILE TRANSFER IS FROM DRIVE <n> TO DRIVE <n>

where the 'n's are filled in by the operator. The drive numbers are from 0 to 3. DCDFMT can rewrite a Datapoint diskette to be IBM compatible but cannot generate a Datapoint diskette from an IBM diskette. Therefore, copying from Datapoint to Datapoint is allowed whereas copying from IBM to IBM is illegal and will cause the message:

**** ONE DRIVE MUST BE DATAPOINT FORMAT ****

to be displayed. If the source ('from') drive is IBM scratch, the message:

**** SOURCE DRIVE CANNOT BE SCRATCH ****

will appear. If the source drive has generated one or more of the above warnings (restricted access, non-sequential records, or non-standard labels), the warnings will be displayed again. If any of the above five messages is displayed, DCDFMT will again request drive numbers. If an asterisk is entered for a drive number, DCDFMT will terminate. If a drive is specified that was not on-line in time to be displayed above, the program will wait (buzzing) until that drive is on-line and then identify it. DCDFMT then processes from Datapoint to IBM format as covered in chapter 2 or from IBM to Datapoint format as covered in chapter 3.

CHAPTER 2. COPYING DATAPOINT TO IBM FORMAT

Having determined that the file copying will be from Datapoint to IBM format (chapter 1), the following question will be asked:

CREATE, ADD TO, OR REPLACE?

If the reply 'A' (add to) or 'R' (replace) is given, processing will jump down to requesting the creation date after initializing the remainder of the diskette with blanks (which may take up to 54 seconds). If 'A' is given and all 19 index entries are already used, or the entire diskette is used, the message:

DISKETTE IS ALREADY FULL

will be displayed and the drive numbers requested again. If 'R' is given, it is assumed that the last file on the IBM diskette is to be replaced. If the reply '*' is given, DCDFMT will terminate and return to the operating system. If the reply 'C' (create) is given, the following messages will be asked if the diskette isn't already identified as scratch:

IS DRIVE <n> SCRATCH?
*** ARE YOU SURE ***?

Both questions require a 'Y' reply or the drive numbers will be requested again.

DCDFMT will then generate an IBM format diskette in the specified drive. This takes about 54 seconds. The message:

INITIALIZING THE DISKETTE

will appear and the processor will click once for every track during initialization. The index track (track 0) will be initialized as outlined in Appendix C. The remainder of the diskette will contain EBCDIC 'V's. If any bad tracks are found, after five attempts are made at reading it, the message:

BAD DISKETTE. HIT 'ENTER' TO CONTINUE.

will appear. After pressing the 'ENTER' key, DCDFMT will go back to requesting drives.

DCDFMT will then request a volume name (up to 6 characters) and an owner's name (up to 14 characters):

VOLUME ID: <volume name>
OWNER ID: <owner's name>

where the volume name and owner's name is filled in by the operator.

A creation date is then requested:

CREATION DATE (YYMMDD):

where the year is range-checked for 74 thru 99, month for 01 thru 12, and day for 01 thru 31. Spaces may be inserted between year, month, and day. The names of files to be copied are now requested:

FILE 1: <filename/ext:DR#>

where the file specifications are entered by the operator. The extension is assumed 'TXT' if not given and the 'from' drive is assumed if the drive is not given. If the filename, extension, or drive specification are invalid, or the drive specified is off-line, or the file specified is not found or not text, it will be so indicated and the file name rerequested. Specifying a drive containing an IBM diskette is obviously illegal. If the drive specified is on-line and has not been previously identified, it will now be identified. If the file is found, the operator is asked if the standard format is desired. If affirmative, the file is written and the next file name is then requested. If a standard format is not desired, the six parameters unique to each file on the IBM diskette will be displayed (along with the defaults) for corrected entries. If nothing is entered, the default will remain in effect. If an asterisk is entered, the remainder of the defaults are assumed. The six parameters are:

BLOCK LENGTH (080):	This may vary from 001 thru 128. Records on the Datapoint diskette that are shorter than the block length will be blank-filled and those longer will be truncated.
VERIFIED (N)?	Verification indicates that the file has been double-checked or has been preprocessed.
WRITE PROTECT ON (Y)?	With the write protection on, the file cannot be updated on an IBM system. As IBM-created datasets (files) usually contain room after the last data entered for updating and adding data and DCDGMT does not provide this room, the default is ON.
CREATION DATE (yymmdd):	This is the date the file was created. The default is the date entered above. The entry is checked as above.
PURGE DATE (991231):	This is the date after which the file space is considered scratch. The entry is checked as above.

SECURITY PROTECT ON (N)?

With the security protection on, the file cannot be easily read onto a Datapoint diskette using DCDFMT. Also, it may cause difficulty in using it on an IBM system.

If nineteen file names have been entered or an asterisk entered in place of a file name then DCDFMT will terminate. Space decompression and translation from ASCII to EBCDIC is automatic. If file space is exhausted on the IBM diskette, the multi-volume indicators are set in the index track and a new diskette requested. Up to 99 volumes are allowed. The new diskette will be initialized to scratch before continuing. The message:

DISKETTE FILLED. REPLACE WITH SCRATCH AND HIT "ENTER".

will appear. Entering an asterisk (*) will terminate processing and return to the operating system. After replacing the diskette and hitting the "ENTER" key, the new diskette is identified. Both questions concerning the diskettes' scratchability are asked before the diskette is overwritten unless it is recognized as 'SCRATCH'. Once again, rewriting the entire diskette takes about 54 seconds.

If an error is detected while initializing a diskette or while writing out a file, the message:

BAD DISKETTE. HIT 'ENTER' TO CONTINUE.

will appear and drive numbers requested again.

An example of this 'conversation' is included in Appendix A.

CHAPTER 3. COPYING IBM TO DATAPPOINT FORMAT

Having determined that the copying of text files is from an IBM format diskette to one of Datapoint format (chapter 1), the contents of the IBM index are displayed. Then the files on the IBM diskette are listed, with their parameters if requested, one-by-one asking if they are to be loaded. If a dataset (IBM file) is null, has the Bypass Indicator on (indicating that it is not text), or has the Security Protect on, it will not be listed. Datasets with the Security Protect on will be listed if restricted access has been overridden by using an 'R' option in the command line (e.g. DCDFMT;R). The question:

LOAD <filename> ?

will then appear. If the reply is other than 'Y', 'N', '*', or '\$', the question will be repeated. If the reply is 'N', DCDFMT will skip to the next file. If the reply is '*', DCDFMT will terminate and return to the operating system. If the reply is '\$', parameters unique to the file will be listed:

BLOCK LENGTH:
VERIFIED:
WRITE PROTECT:
MULTIVOLUME:
VOLUME NUMBER:
CREATION DATE:
PURGE DATE:

where the volume number is displayed only if it is a multi-volume file, the creation and purge dates will be listed only if they are valid dates (that is, year 74-99, month 01-12, and day 01-31), restriction will only be indicated if restricted access is overridden. The question about loading the file will then be repeated. If the reply is 'Y', or the option 'A' (ALL) was entered on the command line, the dataset will be loaded using an assumed extension of 'TXT' and the Datapoint format diskette indicated when drive numbers were requested. If the file's multivolume indicator is set to 'C' ('Continued' file) or 'L' ('Last' volume of a multi-volume) and the multivolume number is not blank or '01', the messages:

WRONG VOLUME NUMBER. EXPECTED 01, FOUND nn,
CONTINUE PROCESSING?

will appear. If a response other than 'Y' or 'N' or '*' is given, the question will be asked again. If the response is 'N', the drive numbers will be requested again. A '*' response will terminate DCDFMT and return to the operating system. If the response is 'Y', the volume number is saved and all following volumes will be expected to be sequential. If a file by the above name already exists on the 'TO' Datapoint format drives, the message:

NAME USED. OVERWRITE?

will appear. If the reply is not 'Y', 'N', or '*', the question will be repeated. If the reply is 'Y', or the option 'O' (OVERWRITE) was entered on the command line, the file will be overwritten. If the reply is '*', DCDFMT will terminate and return to the operating system. If the reply is 'N', the message:

DOS FILE NAME:

will appear. The reply to this should be a set of file specifications of the form <filename/ext:DR#> where the default extension is 'TXT' and the default drive is the 'TO' drive. If the filename, extension, or drive specification are invalid, or the drive specified is off-line, it will be so indicated and the filename rerequested. Specifying a drive containing an IBM diskette is also illegal. An asterisk in response to the filename request will cause DCDFMT to continue with the next file. If the file being overwritten is write protected, the message:

PROTECTED OVERWRITE?

will appear. Replies other than 'Y', 'N', or '*' will cause the question to be repeated. A reply of 'Y' will cause the file protection to be changed to 'delete' protection and the file overwritten. A reply of 'N' will cause DCDFMT to skip to the next file. A reply of '*' will cause DCDFMT to terminate and return to the operating system. If the multivolume indicator is set to 'C' (continued file), at the end of the diskette the message:

REPLACE DISKETTE WITH NEXT VOLUME AND HIT "ENTER".

will appear. If an asterisk is entered, DCDFMT will terminate and return to the operating system. If the replacement diskette does not have a matching name, the messages:

WRONG FILE NAME,
REPLACE DISKETTE WITH NEXT VOLUME AND HIT "ENTER".

will appear. If the file name matches and the volume number is not blank or sequential, the messages:

WRONG VOLUME NUMBER. EXPECTED mm, FOUND nn,
REPLACE DISKETTE WITH NEXT VOLUME AND HIT "ENTER".

will appear.

After a file has been loaded, the message:

LOADED

will appear to the right. Space compression and translation from EBCDIC to ASCII is handled automatically. Bad tracks indicated in the error map (ERMAP) in the IBM diskette index cause diskette reads and writes to be properly offset. Deleted data will be discarded. DCDFMT will loop listing all the files until the index is exhausted and then terminate.

If an error is detected while reading from the IBM diskette, the first five characters of both affected IBM records will be replaced by percent signs (%%%).

An example of this 'conversation' is contained in Appendix B.

APPENDIX A. EXAMPLE OF DATAPOINT TO IBM FORMAT

DCDFMT

DISKETTE CONVERTER - VERSION 1.1 - MAY 2, 1975

ON-LINE DISKETTES ARE:

DRIVE 0 DATAPOINT FORMAT

DRIVE 1 IBM FORMAT VOL: TEST1 OWNER: COURTNEY

** NON-STANDARD LABELS **

DRIVE 3 IBM FORMAT SCRATCH

FILE TRANSFER IS FROM DRIVE 0 TO DRIVE 2

DRIVE 2 IBM FORMAT VOL: TEST2 OWNER: COURTNEY

CREATE, ADD TO, OR REPLACE? C

IS DRIVE 2 SCRATCH? Y

ARE YOU SURE? Y

VOLUME ID: TEST5

OWNER ID: COURTNEY

CREATION DATE: 75 05 24

FILE 1: FTEST1 FOUND. STANDARD FORMAT? Y

FILE 2: FTEST2 NOT TEXT

FILE 2: 1TEST BAD NAME

FILE 2: TEST/4XT BAD EXT

FILE 2: FTEST3 NOT FOUND

FILE 2: FTEST3/TST:DR2 BAD DRIVE

FILE 2: FTEST3/TST:DR0 FOUND STANDARD FORMAT? N

BLOCK LENGTH (080): 128

VERIFIED (N)? Y

WRITE PROTECT ON (Y)?

CREATION DATE (750524):

PURGE DATE (991231): 750624

SECURITY PROTECT ON (N): *

FILE 3: *

DISKETTE CONVERTER COMPLETED

APPENDIX B. EXAMPLE OF IBM TO DATAPoint FORMAT

DCDFMT

DISKETTE CONVERTER - VERSION 1.1 - MAY 2, 1975

ON-LINE DISKETTES ARE:

DRIVE 0 DATAPoint FORMAT
DRIVE 1 IBM FORMAT VOL: TEST1 OWNER: COURTNEY
** NON-STANDARD LABELS **
DRIVE 2 IBM FORMAT VOL: TEST5 OWNER: COURTNEY
DRIVE 3 DATAPoint FORMAT

FILE TRANSFER IS FROM DRIVE 1 TO DRIVE 2

** NON-STANDARD LABELS **

FILE TRANSFER IS FROM DRIVE 2 TO DRIVE 1

** ONE DRIVE MUST BE DATAPoint FORMAT **

FILE TRANSFER IS FROM DRIVE 2 TO DRIVE 3

INDEX: FTEST8 FTEST6 FTEST9

LOAD FTEST8 ? \$

BLOCK LENGTH: 080

VERIFIED: YES

WRITE PROTECT: YES

CREATION DATE: 750524

PURGE DATE: 991231

MULTIVOLUME: NO

LOAD FTEST8 ? Y NAME USED. OVERWRITE? Y LOADED

LOAD FTEST6 ? *

DISKETTE CONVERTER COMPLETED

APPENDIX C. THE INDEX TRACK

The index track (track zero) contains the names and pointers for up to 19 datasets on the diskette as outlined in *The IBM Diskette for Standard Data Interchange* (GA21-9182). DOS.C does not use the index track on a DOSGENned diskette and therefore it may be examined, as well as IBM-format diskettes, by DUMP9380 in EBCDIC mode ("E"). There are twenty-six 128 byte physical sectors for each track and they are initialized to EBCDIC 'V's.

VOLUME HEADER Sector 7 (S 0,3)

Column(s)	Contents
1-4	"VOL1" - identifies the volume header
5-10	Volume ID (initialized 'IBMIRD')
11	Access (non-blank implies restricted)
38-51	Owner ID
80	"W" - Standard Labels indicator

DATASET HEADERS Sectors 8 thru 26 (S 0,3 thru S 0,14)

1-4	"HDR1"/"DDR1" - identifies the dataset header
6-13	Dataset name (initialized 'DATA','DATA09' thru 'DATA26')
25-27	Record length (initialized '080')
29-33	Beginning-of-extent of the form tt0ss where t is the track and s is the sector. This address contains the first record in the file.
35-39	End-of-extent of the above form. This address points to the last sector reserved for this dataset.
42	Access indicator (non-blank implies restricted).
43	Write protection indicator (P implies protected).
45	Multi-volume indicator (C means 'Continued', L means 'Last').
46-47	Multivolume number.
48-53	Creation date of the form YYMMDD where YY is the year, MM is the month, and DD is the day.
67-72	Purge date of the above form.
73	Verification indicator (V implies verified).
75-79	End-of-data points to first available sector after the last record within a file.