

Worldwide Response Center

HP 3000 APPLICATION NOTE #86



IBM Labeled Tapes Questions And Answers



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IBM Labeled Tapes Questions And Answers

Introduction

This Application Note is a compendium of questions and answers pertaining to IBM labeled tapes. This Information applies to both MPE/XL and MPE/V systems.

Q. What version do I need to be on, in order to create IBM labeled tapes on MPE/XL and MPE/V?. How do I create them?

A. You must be on MPE/XL 1.2 (A.20.1R) or later and on MPE/V VDS (G.03.05) or later to create an IBM labeled tape. To accomplish this issue the following file equation and FCOPY command:

```
:FILE ibmtape;DEV=TAPE;LABEL=<volsetid>,IBM  
:FCOPY FROM=file;TO=*ibmtape;EBCDICOUT
```

The system will then prompt you to reply to tape:
?time/#Sn/pin#/MOUNT VOLUME volsetid (IBM)

you then reply with the ldev# and the label will be written to the tape.

=REPLY pin#,ldev#

Note Notice that the volsetid=label name.

* * * * *

Q. My records are shifted after FCOPYing odd length record files from an IBM labeled tape. How can I fix this problem?

A. In order to fix this problem do the following:
(We will assume that the file on tape has a record size of 503 bytes a blocking factor of 10 with 2249 records)

1) In the file equation for the tape, use the undefined length option. This will cause the labeled tape facility to use the block size from the tape label as the record size and to set blocking factor to 1.

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Example:

```
:FILE T;DEV=TAPE;REC=-5030,1,U,ASCII;LABEL=<volsetid>,IBM
```

- 2) Create the destination file with the proper record size and the amount of records desired.

```
Example: BUILD oddfile;REC=-503,10,F,ASCII;DISC=2249
```

- 3) Use the DEBLOCK parameter within FCOPY in order to align the records on word boundaries. The EBCDICIN translates EBCDIC IBM data to ASCII.

Example:

```
:FCOPY FROM=*T;TO=oddfile;EBCDICIN;DEBLOCK=-503
```

If you take a look at your oddfile you will notice that the data in it is not shifted any more.

* * * * *

Q. I have an IBM labeled tape that contains a non-alphanumeric character in the volume set ID (label). I tried using FCOPY to read the tape, when I REPLY to the pin request is not satisfied and will keep repeating on the console. How can I read this tape?

A. To read an IBM labeled tape that contains a non-alphanumeric character in the volume set ID, use the following steps:

- 1) Issue the file equation for the tape without specifying the volsetid as follows:

```
:FILE T;DEV=TAPE;LABEL=,IBM
```

- 2) The PIN request will appear as follows:

```
?time/#S/pin#/Volume set ID for file T ?
```

- 3) Reply to the PIN request, specifying the volume set ID as in the following example where the volume set ID is #AeD4

```
=REPLY pin#,#AeD4 (Write volsetid with lower case and uppercase letters as shown by pin request)
```

* * * * *

Q. IBM uses their own terminology on their labeled tapes, how do we compare their terminology to ours?

A. Let us consider the following file equation:

:FILE <formaldesignator>;DEV=TAPE;LABEL=<volsetid>,IBM

Where: formaldesignator = DataSetIdentifier (IBM terminology)
volsetid = DataSetSerialNumber (IBM terminology)

* * * * *

Q. How can I find out what the volume set ID (label) is on an IBM labeled tape?

A. In order to find out what the volume set ID is on an IBM labeled tape, mount the tape and the volume set ID will be display on the console.

Example:

?time/#Sn/pin#/VOL volume set ID (IBM) mounted on ldev#

~
!
!
!

Notice the volume set ID or label

* * * * *

Q. How can I restore multiple files from an IBM labeled tape?

A. To read multiple files from an IBM labeled tape, use the NEXT parameter in the file equation to tape. NEXT positions the tape at the next file on tape.

Example:

1) :FILE T;DEV=TAPE;LABEL=<volsetid>,IBM,,NEXT

2) :RUN FCOPY.PUB.SYS

3) >FROM=*T;TO=name-of-file1;EBCDICIN;NEW

4) >FROM=*T;TO=name-of-file2;EBCDICIN;NEW

5) >FROM=*T;TO=name-of-file3;EBCDICIN;NEW

6) >FROM=*T;TO=name-of-filen;EBCDICIN;NEW

7) >EXIT

* * * * *

Q. How can I scratch the label from an IBM labeled tape?

A. In order to scratch the label from an IBM labeled tape do the following:

```
:FILE T;DEV=TAPE;NOLABEL  
:FCOPY FROM=$NULL;TO=*T
```

* * * * *

Q. I am trying to FCOPY a large file to an IBM labeled tape. I have discovered that starting with the second tape, and proceeding with all subsequent tapes, a message gets sent to the console expecting a REPLY. This message is asking for a VOL ID name even though that VOL ID is currently mounted. After I "REPLY pin#,Y" the VOL ID gets set to Y. Why is this, and why is the VOL ID not automatically carried to the next tape?

A. This problem is coming from the ,IBM that you have specified on the file equation. The IBM tape facility handles VOLUME SETS differently than HP does. HP creates for IBM a VOLUME SET name that is carried to each tape label. However, IBM would like it broken down one step further, so HP's IBM labeled tape feature complies. IBM would like to define each tape within the VOLUME SET uniquely.

For Example:

Let us say your tape label is named LABTAPE. the first reel will have a VOLUME SET NAME of LABTAPE, and a VOL ID of LABTAPE as well. Then you are prompted (on the console) to specify the next VOL ID. So, the second tape will be LABTAPE2 under the VOLUME SET LABTAPE. Tape three would be LABTAPE3, and so on.

* * * * *

Q. For MPE V G.03.05 (V-DELTA-5) versions of the operating system and pre MPE/XL 1.2 (A.20.1R), what is the algorithm for writing IBM labeled tapes?

A. An IBM labeled tape can be programmatically written by using the following algorithm:

1. Open the tape file with the DEV=TAPE parameter.
2. Open the tape file again, but this time use DEV=device#.
3. Write the tape label to the first open file. (Use the CTRANSLATE intrinsic to convert to EBCDIC).
4. Write the records to the second open file.

5. FCLOSE the first file without rewinding the tape (disp=011).
6. Write EOF's needed for labeled tape (see FILE SYS manual G-2).
7. FCLOSE the second file and rewind the tape.

* * * * *

Q. What is the default expiration date on IBM labeled tapes created on MPE V and MPE XL?

A. The default date on a labeled tape is 00/00/00.
The tape is automatically 'expired' when written.

* * * * *

Q. Can I FCOPY a file with an odd byte record length to an IBM labeled tape?

A. Yes. In order to FCOPY a file with an odd byte record length to an IBM labeled tape use one of the following methods:

1) :FILE T;DEV=TAPE;LABEL=<volsetid>,IBM;REC=-oddvalue,,U,ASCII(or BINARY)
:FCOPY FROM=file.grp.acct;TO=*T;EBCDICOUT

Specifying UNDEFINED (U) as the record format causes the file system to build a record using the recsize value provided.

Also, UNDEFINED records do not use a blocking factor value, even if one is provided. The blocking factor will always be 1.

2) :FILE T;DEV=TAPE;LABEL=<volsetid>,IBM;REC=-oddvalue,,F,ASCII;NOBUF
:FCOPY FROM=file.grp.acct;TO=*T;EBCDICOUT

Let us assume that the file has a record size of 11 bytes. You will receive the following message:

```
HP32212A.03.24 FILE COPIER (C) HEWLETT-PACKARD CO. 1984
*200*WARNING: FROMFILE RECSIZE IS 11 BYTES, TOFILE RECSIZE IS 12 BYTES
CONTINUE OPERATION (Y OR N) ?y
```

The above message can be ignored because if the utility TAPESCAN is run to check the file record size, you will notice that the record size is 11 bytes (see TAPESCAN example below).

3) :FILE T;DEV=TAPE;LABEL=label,IBM;REC=-oddvalue,,F,ASCII;MR
:FCOPY FROM=file.grp.acct;TO=*T

Let us assume that the file has a record size of 11 bytes. You will

receive the following message:

```
HP32212A.03.24 FILE COPIER (C) HEWLETT-PACKARD CO. 1984
*200*WARNING: FROMFILE RECSIZE IS 11 BYTES, TOFILE RECSIZE IS 12 BYTES.
CONTINUE OPERATION (Y OR N) ?y
```

Use the TAPESCAN utility to verify the record length of the file on tape.

Example:

```
:RUN TAPESCAN.PUB.TELESUP
```

```
ENTER THE LISTING DEVICE ( * FOR $STDLIST) *
IS THIS A LABELED TAPE (Y/N) ? N
WHAT DEVICE IS YOUR TAPE ON? 7
DO YOU WANT ALL RECORD LENGTHS LISTED? Y

DO YOU WANT TO PRINT THE FIRST RECORD OF EACH FILE ? N
```

```
RECNUM          RECORD LENGTH IN BYTES

      1:          11          11          11          11          11          11

END OF FILE 1.....6 RECORDS WITH          0 PARITYS
SMALLEST RECORD      NUMBER=1          LENGTH=11
LONGEST RECORD       NUMBER=1          LENGTH=11

END OF FILE 2.....0 RECORDS WITH          0 PARITYS
DOUBLE END OF FILE ENCOUNTERED
CONTINUE? NO ( To end program answer NO)

*****
```

- Q. How can I squeeze a big file on a IBM labeled tape so that it takes just one reel? I am using fcopy to get the file to tape.
- A. In order to squeeze a big file on a IBM labeled tape, the file blocking factor needs to be increased. thus reducing intergaps between blocks.

Example:

If you have a big file with record size=80 bytes, blocking factor=3, and size=200,000 records, in order to fit the file on a tape increase the blocking factor to 30:

```
:FILE T;DEV=TAPE;REC=-80,30,F;LABEL=<volsetid>,IBM
:FCOPY FROM=bigfile;TO=*T;EBCDICOUT
```

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HP 3000

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1	5958-5824	Printer Configuration Guide - Version 1
2	5960-2841	Terminal types for HP 3000 HPIB Computers - Version 1
3	5960-2842	Plotter Configuration Guide
4	5960-2843	Printer Configuration Guide - Version 2
5	5960-2844	MPE System Logfile Record Formats
6	5960-2845	Stack Operation
7	5960-2846	COBOL II/3000 Programs: Tracing Illegal Data
8	5960-2847	KSAM Topics: COBOL's Index I/O: File Data Integrity
9	5960-2848	Port Failures, Terminal Hangs, TERMDSM
10	5960-2849	Serial Printers - Configuration, Cabling, Muxes
11	5960-2850	System Configuration or System Table Related Errors
12	5960-2851	Pascal 3000 - Using Dynamic Variables
13	5960-2852	Terminal Types for HP 3000 HPIB Computers - Version 2
14	5960-2853	Laser Printers - A Software and Hardware Overview
15	5960-2854	FORTRAN Language Considerations - A Guide to Common Problems
16	5960-2855	IMAGE: Updating to TurboIMAGE & Improving Database Loads
17	5960-2856	Optimizing VPLUS Utilization
18	5960-2857	The Case of the Suspect Track for 792X Disc Drives
19	5960-2858	Stack Overflows: Causes & Cures for COBOL II Programs
20	5960-2859	Output Spooling
21	5960-2860	COBOLII and MPE Intrinsic
22	5960-2861	Asynchronous Modems

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24	5960-2863	Private Volumes
25	5960-2864	TurboIMAGE: Transaction Logging
26	5960-2865	HP 2680A, 2688A Error Trailers
27	5960-2866	HP Trend: An Installation and Problem Solving Guide
28	5960-2867	The Startup State Configurator
29	5960-2868	A Programmer's Guide to VPLUS 3000
30	5960-2869	Disc Cache
31	5960-2870	Calling the CREATEPROCESS Intrinsic
32	5960-2871	Configuring Terminal Buffers
33	5960-2872	Printer Configuration Guide - Version 3
34A	5960-2873	RIN Management (Using COBOLII Examples) (A)
34B	5960-2874	Process Handling (Using COBOLII Examples) (B)
35	5960-2875	HPDESK IV (Script files, FSC, and Installation Considerations)
34C	5960-2876	Extra Data Segments (Using COBOLII Examples) (C)
36	5960-2877	Tips for the DESK IV Administrators
37	5960-2878	AUTOINST: Trouble-free Updates
38	5960-2879	Store/Restore Errors
39	5960-2880	MRJE Emulates a HASP Workstation
40	5960-2881	HP 250 / 260 to HP 3000 Communications Guidelines
41	5960-2882	MPE File Label Revealed
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43	5960-2884	Run Time Aborts
44	5960-2885	HPPA Patching Conventions for HP3000 900 Series Processors - Version 1
45	5960-2886	Vplus & Multiplexers
46	5960-2887	Setting Up an HPDesk HPTelex for the First Time
47	5960-2900	Customizing Database Data Items & Changing Passwords in JCL Files
48	5959-9215	Printer Configuration - Version 4
49	5959-9227	Configuring DATACOMM Products Into MPE
50	5959-9228	VFC's for Serial Printers

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52	5959-9242	Configuring MRJE
53	5959-9245	Using Special Characters on the 700/9x Series Terminals
54	5959-9251	Improving Database Performance
55	5959-9258	Customized Message Catalogs and Help Facilities
56	5959-9266	BRW Tips for Beginners
57	5959-9270	Configuring the HP 2334A Plus & HP 2335A As a Statistical Multiplexer
58	5959-9274	HPPA Pathing Conventions for HP3000 900 Series Processors - Version 2
59	5959-9289	HP 2334A and HP 2334A Configuration Recipes
60	5959-9301	TurboIMAGE's I-FILES and J-FILES
61	5959-7385	HPDeskManager - Looking Behind the Scenes
62	5959-7803	Setting Up a System Dictionary
63	5959-7834	Configuring Telesupport Modems for MPE V/E Systems
64	5960-1816	Finding Solutions in HP SupportLine
65	5960-1817	Using the Electronic Call Feature of HP SupportLine
66	5960-1818	Using the Feedback Feature of HP SupportLine
67	5960-1819	Printing Documents from HP SupportLine
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69	5960-2901	Nonsystem Volume Sets and the Migration of Private Volumes to an S9000 HP 3000
70	5960-2907	Modem Links for Remote Console and Standard DTC Connections on Commercial XL HPPA Systems
71	5960-2918	Asynchronous Cabling
72	5960-2919	BRW Tips and Tricks
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74	5960-2999	SNA IMF Configuration
75	5060-3000	XL NRJE Configuration



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78	5960-4303	PUB.SYS What Is Behind It?
79	5960-4625	Conquest of Disc Space
80	5960-4633	Looking Behind the Scenes of Resource Sharing
81	5960-4637	MPE/XL System Interrupt Recovery Procedures
82	5960-4347	Private Volumes
83	5960-4396	Serial Printer Configuration
84	5960-4334	How to Migrate FORTRAN Programs to Newer Compilers and XL Hardware
85	5960-4335	The Optimization of Programs in MPE/XL
86	5960-4643	IBM Labeled Tapes Questions and Answers

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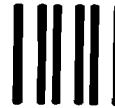


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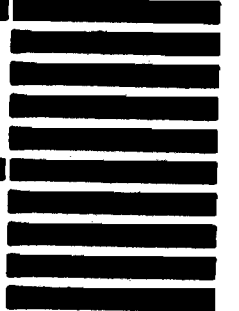
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