

CARDCON

A Procedure For Archiving
Card Decks On Tape

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CARDCON (50k)

Function:

This is a simple method for copying any card file to tape at C.S.C. Essentially a card archiving system, its chief objective is to eliminate all foreign system dependency when such tape files are later reviewed or re-used. Full access is enabled on EPB's current VAX facilities.

Structure:

CARDCON consists of a brief fortran program to perform I/O corresponding to card images in coded A-format, in conjunction with the relevant Cyber JCL.

A multifile taping structure is adopted on a stranger tape provided by the user.

Conversion from 6-bit code in central memory to an 8-bit display code on tape is realized in the ASCII subset on tape file creation.

Fixed record blocks are specified at 2400 characters.

ANSI standard labels (level 1) are supplied.

The only user manipulation is restricted to the JCL -mainly in the designation of multifile label names.

Use:

As many or as few card decks can be submitted for transcription to the user-provided tape as desired on any given job run. They need only be separated by 7-8-9 cards. The main user concern will be the label name designation expressed in the JCL in front of the CARDCON program deck on read-in.

The following comments on use of CARDCON are referred to the attached dayfile example for the JCL and are limited to discussion of those parameters which the user will have occasion to change.

REQUEST card

PROGS (in this case) will be the multifile set name and, once the new tape is created, will remain as the reference to the full dataset on the tape. It may reflect the meaning of the entire tape set to the user but must be chosen to consist of 6 characters or less, beginning with an alphabetic character.

N is the designation that a new tape is being created.

N.B. On all further use of the tape, that parameter must be changed to E for "existing". Any write operation on a designation N will obliterate pre-existing multifiles and start writing again at the beginning of the tape.

VSN -the volume name can be any 6 character name that the user physically writes on his submitted stranger tape. At C.S.C. however the first two characters must be alphabetic and the remainder either alphabetic or numeric.

LABEL card

L= each individual file label name.

Our own DEC restrictions require that a maximum of 9 characters be used (though a total of 17 is permissible on the Cyber).

Cyber restrictions disallow the use of (.) in the label name and must be avoided.

It is suggested that files which are related by subject bear a common name with some code appended after an (*) to designate the category of contents of the subset.

The total of all characters must not exceed 9.

T=999

Care must be taken at all times to be certain that T=999 is permanently included. If not, the tape may be overwritten from that point whenever an addition is made to the multifile set following expiry of that label.

M=(name)

The multifile set name must reappear on each label card.

OTHER

Between repeated runs of the LGO file (B.) the logical filename (TAPE2) must be unloaded and a new label card inserted with the proposed name of the next card deck to be copied to the tape.

Provided the card decks are matched in the same order as the JCL, as many decks may be transcribed to the tape as seems suitable on the one job submission.

If an error of this sequencing nature is made, however, and not recognized until after the run, the job can still be re-submitted with a use of the P=? parameter at the end of the label card.

e.g. - If the file corresponding to position 16 were found to be incorrectly named, that (and all subsequent files of that run) could be re-copied with the use of P=16 on the label card for that one file. Inclusion of P=16 would start by overwriting the 16th file found in the set. Normally though the use of P should never be required.

LISTMF(M=name)

This runs an updated directory of all the label names of the set.

When eventually accessing a file on the VAX, the label name must be set inside quotes ("RANGPLT*P").

Advantages:

1. Easy To Use

Ensuring that card decks (being entered on any given job submission) are placed in the same order as the JCL label cards which are created to identify them, is the only real user involvement. All other control remains much the same from one use to the next.

2. Low Encumbrance

Accumulation of any archiving can be performed at the user's convenience. As many or as few card decks can be submitted for transcription to tape as desired on any given job run. There is no penalty of adding one library tape for perpetual retention at C.S.C. after each job submitted - regardless of how few cards the current transcription may involve.

This compares favourably to the use of DUMPF and other C.S.C. utilities which commit the user to retaining one additional labelled tape after each job run to backup files.

3. Low Cost

The use of 6250 bpi tapes with records blocked at 30, results in high density storage. Combining this with the practical capacity of multifile to make use of a tape all the way to its end, results in substantial storage economy. Moreover, the few tapes required for even very large projects need not even be kept at C.S.C.

A low unit copy cost is essentially limited to actual I/O time.

4. Efficient

A full and simple directory updating of all the label names of the set, together with their creation dates and positions, is returned on termination of any run when either adding new files or accessing existing ones. (LISTMF utility at C.S.C)

With this ready "catalog", access to any file is simple and fast, operating as it does under filename only.

A little planning for comprehensive "label-naming" could relate files under some common subject and subdivide them into a 2 or even 3-tiered subset identification code added as a trailer. The 9 allowable characters is the only limitation.

5. Independent

All external system dependency is removed after creation of the transcription tape. Direct access and read is possible on the EPB VAX system.

Sample JCL Card Deck

```
FTN.  
LOAD(LGO)  
NOGO(B)  
REQUEST, PROGS, MF, E, S, SV, GE, US, U, RING, VSN=PS8507.  
      ^a  
LABEL, TAPE2, W, L=RANGPLT*C, T=999, M=PROGS.  
      ^b      ^c  
FILE(TAPE2, BT=K, RT=F, RB=30, FL=80, CM=YES, MBL=2400)  d  
B.  
UNLOAD, TAPE2.  
LABEL, TAPE2, W, L=RANGPLT*P, T=999, M=PROGS.  
B.  
UNLOAD, TAPE2.  
LABEL, TAPE2, W, L=RGENMAS*C, T=999, M=PROGS.  
B.  
UNLOAD, TAPE2.  
LABEL, TAPE2, W, L=RGENMAS*P, T=999, M=PROGS.  
B.  
UNLOAD, TAPE2.  
LABEL, TAPE2, W, L=RGENMAS*D, T=999, M=PROGS.  
B.  
LISTMF(M=PROGS)  e
```

- a Must be "N" on the initial run of the tape only (New)
- b Label name must be less than 10 characters (No ".")
- c Must never be left out !!
- d File Environment Table card must be retained as is
- e Lists all labels

Procedure For Reading The Archive Tape On The VAX

1. Mount the tape on drive 0 and specify the blocksize and recordsize.

```
$ MOUNT/BLOCKSIZE=2400/RECORDSIZE=80 MTA0: VOLNAM
```

where VOLNAM is the Volume Label name (M= multifile set name).

2. A directory should be run to list the names of the files on the tape as written by the Cyber.

```
$ DIR/DATE/SIZE MTA0:
```

3. The files may now be copied from the tape into a disk file either one at a time or all of them at once.

To copy a particular file to disk:

```
$ COPY MTA0:"XXXXXXXXX" FILENAME.EXT
```

where XXXXXXXXX is the name of the tape file as written in the label and FILENAME.EXT is the VAX filename that the user wants to have once it is on disk.

To copy all the files at once:

```
$ COPY MTA0:*.***
```

The files, once copied onto disk, will be named XXXXXXXXX.;1 where XXXXXXXXX is the name on tape as shown by the directory.

MFB CSC CYBER 730 SN497 NUS/BE 1.5 L627 5162

09.16.30.GF1022Z FROM /DF **CARDCON** DAYFILE SAMPLE

09.16.30.IP 00001920 WORDS - FILE INPUT , DC 04

09.16.30.GF102,CM50000,T20,GE1,P2.

09.16.30.FKED PLET 5-5474 STUP 4

09.16.31.SYSBULL(NUBOL)

09.16.31.FIN(R=2)

09.16.33. .151 CP SECONDS COMPILATION TIME

09.16.33.LUAD(LGU)

09.16.33.NUGU(B) **INITIAL RUN. (NEW)**

09.16.35.REQUEST,PROGS,M,N,S,SV,GE,US,U,RING,VSN **MUST BE "E" FOR ALL RE-USE** REQUEST

09.16.35.=PS8507.

09.18.40.\$ NT 62 REMOUNT WITH A RING

09.19.25.NT62 VSN IS PS8507

09.19.25.(NT 062 ASSIGNED)

09.19.25.LABEL,TAPE2,W,L=RANGPLT*C,T=999,M=PROGS. LABEL

09.19.25.TAPE I/U ERKOK **NEVER OMIT**

09.19.25. UNIT 62 TYPE 679

09.19.25. FILE NAME TAPE2 **9 CHAR MAX**

09.19.25. FET ADDRESS 001467

09.19.25.ATTEMPT TO OVERWRITE TAPE WITH UNEXPIRED LABEL

09.19.37.RECHECK62.

09.19.37.NT62 VOLUME SERIAL NUMBER IS PS8507

09.19.37.TAPE I/U ERKOK

09.19.37. UNIT 62 TYPE 679

09.19.37. FILE NAME TAPE2

09.19.37. FET ADDRESS 001467

09.19.37.ATTEMPT TO OVERWRITE TAPE WITH UNEXPIRED LABEL

09.19.40.GU62.

09.19.40.	MULTI-FILE NAME	PROGS	62
09.19.40.	POSITION NUMBER	0001	62
09.19.40.	LABEL WRITTEN WAS	RANGPLT*C	62
09.19.40.	EDITION NUMBER	00	62
09.19.40.	RETENTION CYCLE	999	62
09.19.40.	CREATION DATE	85203	62
09.19.40.	KEEL NUMBER	0001	62

09.19.40.FILE(TAPE2,BT=K,RT=F,RB=30,FL=80,CM=YES, FILE

09.19.40.MBL=2400) { ALWAYS }

09.19.40.B. (AS SHOWN)

09.19.42.NT62 BLOCK COUNT= 000001

09.19.42.WRITE PARITY ERKOK RECOVERED

09.19.42.NT62 BLOCKS WRITTEN -000001

09.19.42. STOP

09.19.42. 020600 MAXIMUM EXECUTION FL.

09.19.43. .0.192 CP SECONDS EXECUTION TIME.

09.19.43.UNLUAD,TAPE2.

09.19.43.NT62 BLOCKS READ 000001

09.19.43.LABEL,TAPE2,W,L=RANGPLT*P,T=999,M=PROGS.

09.19.44.	MULTI-FILE NAME	PROGS	62
09.19.44.	POSITION NUMBER	0002	62
09.19.44.	LABEL WRITTEN WAS	RANGPLT*P	62
09.19.44.	EDITION NUMBER	00	62
09.19.44.	RETENTION CYCLE	999	62
09.19.44.	CREATION DATE	85203	62
09.19.44.	KEEL NUMBER	0001	62

09.19.44.B.

09.19.47.NT62 BLOCKS WRITTEN -000006

09.19.47. STOP

09.19.47. 020600 MAXIMUM EXECUTION FL.

09.19.47. .0.281 CP SECONDS EXECUTION TIME.

09.19.47.UNLUAD,TAPE2.

09.19.47.NT62 BLOCKS READ 000006

09.19.47.LABEL,TAPE2,W,L=RGENMAS*C,T=999,M=PROGS.

09.19.48. MULTI-FILE NAME PRUGS 62
 09.19.48. POSITION NUMBER 0003 62
 09.19.48. LABEL WRITTEN WAS RGENMAS*C 62
 09.19.48. EDITION NUMBER 00 62
 09.19.48. RETENTION CYCLE 999 62
 09.19.48. CREATION DATE 85203 62

09.19.48. REEL NUMBER 0001 62
 09.19.48.B.

09.19.51.NT62 BLOCKS WRITTEN -000001
 09.19.51. STOP
 09.19.51. 020600 MAXIMUM EXECUTION FL.
 09.19.51. 0.224 CP SECONDS EXECUTION TIME.

09.19.51.UNLOAD,TAPE2.
 09.19.51.NT62 BLOCKS READ 000001
 09.19.51.LABEL,TAPE2,W,L=RGENMAS*P,T=999,M=PRUGS.

09.19.52. MULTI-FILE NAME PRUGS 62
 09.19.52. POSITION NUMBER 0004 62
 09.19.52. LABEL WRITTEN WAS RGENMAS*P 62

09.19.52. EDITION NUMBER 00 62
 09.19.52. RETENTION CYCLE 999 62
 09.19.52. CREATION DATE 85203 62
 09.19.52. REEL NUMBER 0001 62

09.19.52.B.
 09.19.56.NT62 BLOCKS WRITTEN -000007

09.19.56. STOP
 09.19.56. 020600 MAXIMUM EXECUTION FL.
 09.19.56. 0.671 CP SECONDS EXECUTION TIME.

09.19.56.UNLOAD,TAPE2.
 09.19.56.NT62 BLOCKS READ 000007
 09.19.57.LABEL,TAPE2,W,L=RGENMAS*D,T=999,M=PRUGS.

09.19.57. MULTI-FILE NAME PRUGS 62
 09.19.57. POSITION NUMBER 0005 62
 09.19.57. LABEL WRITTEN WAS RGENMAS*D 62

09.19.57. EDITION NUMBER 00 62
 09.19.57. RETENTION CYCLE 999 62
 09.19.57. CREATION DATE 85203 62
 09.19.57. REEL NUMBER 0001 62

09.19.57.B.
 09.19.59.NT62 BLOCKS WRITTEN -000001

09.19.59. STOP
 09.19.59. 020600 MAXIMUM EXECUTION FL.
 09.19.59. 0.173 CP SECONDS EXECUTION TIME.

09.19.59.LISTMF(M=PRUGS) LISTMF
 09.20.03.OP 00003008 WORDS - FILE OUTPUT , DC 40 (LISTS ALL LABELS)

09.20.03.MAX STEP FL 002000B ,MAX JOB FL 050000B
 09.20.03.CPA 3.098 SEC. (38 SEC.): 3 .279
 09.20.04.IU 33.756 SEC. (428 SEC.): 3 .337
 09.20.04.CM 715.555 KWS. (13148 KWS.): 3 .198

09.20.04.SS (P2 RATE/TAUX) TOTAL: 3 .815
 09.20.04.PP 60.143 SEC. DATE 22/07/85
 09.20.04.EJ END OF JOB, DF