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DECUS NO.	8-312
TITLE	DECTAPE EMULATOR
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SOURCE LANGUAGE	PALD

MEMORANDUM

TO : [Illegible]

FROM : [Illegible]

SUBJECT : [Illegible]

[Illegible text follows]

ABSTRACT

This pair of patches to the Disk/DEctape Monitor Builder, and PIP, together with the FOCAL program for tape generation, will allow the TC-58/TU20 IBM-Compatible-Magtape unit to emulate a non-systems device DEctape for operation with the monitor.

The coding also serves as a coding example for both interrupt and non-interrupt magtape handlers.

The "Block" format is exactly that used by David Custer in "A Disk Simulator Using a Single Industry Standard Magnetic Tape Unit" published in DECUS Fall 1969 Symposium.

LOADING

The patch (non-interrupt) that overlays the builder, modifies the command decoder (.CD.) to use the magtape in the Custer format, as if it were a DEctape. This coding is only used during command decoder dialogue time.

1. Load builder into core (using LOAD, or binary loader)
2. Load .CD. patch (using LOAD, or binary loader)
3. Run builder, answering "yes ↓" to tape question.

The (interrupt) patch for PIP modifies it to do the actual block transfers in DEctape PIP operations.

1. Load PIP into core (using LOAD, or binary loader)
2. Load PIP patch (using LOAD, or binary loader)
3. Save PIP! 0-5177; 1000 ↓

CREATING AN EMULATED FORMAT TAPE

The format for a "BLOK" is:

1. EOF record
2. 1 word blok # record
3. 128 word "DATA" record

4. 1 word LINK record

5. 3" blank tape.

The first blok created is #176. Since bloks 177 through 203 (for 200' tape) are used as DN and SAM blok directories, the first 176 bloks are not created, so the directories will actually exist on the physical beginning of the tape. The SAM tape protects the non-existent bloks. The DN and SAM table layouts are exactly as described in the system documentation, and for a 200' tape, are similar to a very short DECTape, with two SAM bloks. The first SAM blok allows use of bloks 204 through 377, and the second 400 through 577. Bloks 0 through 203 and 600 through 777 are protected by entry of an IFN of 01 in the SAM directory.

The FOCAL program as described will create the correct bloks for a 200' tape. The coding in Appendix A will change this program to create a 2400' tape. Since the tape is rather slow in reaching bloks far down the tape it is suggested that 200' reels be used. They are available from the "MAC PANEL" line of tapes.

Write-ring protection of a tape and its directory is valid, and PIP will list the directory even if the write-ring is out!

USAGE

Standard system documentation describes operation of the system with DECTape, and this modification does not effect the description. It should be noted that the tape never backspaces, but rewinds when reverse motion is desired.

APPENDIX A

5.01c Write next 11 SAM blocks
5.1 F K=],11;s Z=FDXS(Q+129,FDXS(Q)+1);d 14
5.2 F K=Q+1,Q+128;s Z=FDXS(I,64)
5.3 S Z=FDXS(Q+129,0);D.14

12.2F K=1,256*12;d 14