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TECHNICAL MEMORANDUM

(TM Series)

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This document was produced by SDC in performance of contract AF 19(628)-1648, Space
Systems Division Program, for Space Systems Division, AFSC.

Milestone 11

SYSTEM

Load 5-Level Paper Tape (SLOD5)

DEVELOPMENT

By

DDC

CORPORATION

R. C. Wise

25 April 1963

MAY 27 1963

2500 COLORADO AVE.

Approved

J. A. Kneemeyer

ASTIA

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IDENTIFICATION

- A. Name: Load 5-Level Paper Tape (SLOD5), Ident 24C, Mod AA
- B. Programmed: 15 April 1963
R. C. Wise, System Development Corporation
- C. Documented: 24 April 1963
R. C. Wise, System Development Corporation

PURPOSE

SLOD5 is a 160A program which loads the contents of a specially formatted 5-level paper tape to the memory of the 160A.

USAGE

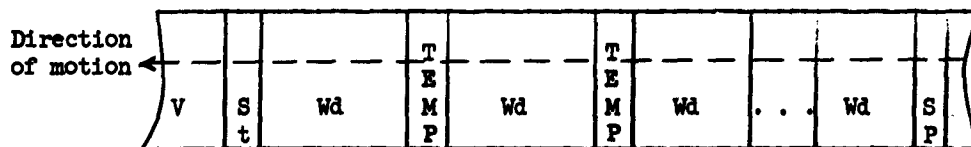
- A. Operating Procedures
 - 1. Load bi-octal tape of SLOD5 to any location of the 160A.
 - 2. Place paper tape to be read in the reader with the level guide set to 5-level and the reader on.
 - 3. Start at the loading address of SLOD5.
 - 4. At halt, repeat steps 2 and 3 if there are additional tapes to be read.
 - 5. An error halt indicates one of the following conditions:
 - a. Loading bank number greater than 3.
 - b. Parity error.
 - 6. If an error halt occurs, correct the paper tape or the reader and start at step 2 above.

B. Program Stops

1. Error halt at loading address + 20_8 . Loading bank number is greater than 3.
2. Error halt at loading address + 146_8 . Parity error in frame.
3. Normal halt at loading address + 206_8 . SL0D5 has recognized the end of tape characters.

C. Input Format

The format of the input tape is as follows:



Where:

V = visual header

St = Data start code; 36_8 punched in five consecutive frames

Wd = Data Word composed of a bank number in the first frame and the load address in the next three frames. The remaining frames will contain the corrector data (160-A computer words). All data words will have odd parity which will use the least significant bit position.

Temp = A temporary stop code, 17_8 , which indicates the end of the current data word and that a new data word will immediately follow.

Sp = Final stop code (five consecutive frames of 35_8). This determines the end of the corrector tape.

D. Results

The memory cells defined by the loading bank number and the start address will be set to the data values contained in the data word.

METHOD

The input paper tape is read until the start code is recognized. The data word is then read a frame at a time and checked for odd parity. The indirect bank is set to the loading bank (1 Frame) and the start loading address (3 Frames) is assigned to the initial loading address. 160A words are then assembled from each 3 data frames and stored at the loading address and the loading address is increased by one.

The assembling process continues until a 17₈ or 35₈ character is encountered. If a 17₈ is read, the process repeats from the setting of the indirect bank. A 35₈ should signal the beginning of the stop code, if the next 4 frames are equal to 35₈ a parity error is assumed.

When the stop code is recognized, SLOD5 terminates.

RESTRICTIONS

- A. The paper tape must be in the specified format.
- B. The tape must be in the reader, the reader on, and the guide set to 5-level.
- C. The indirect bank setting is changed and not restored.

TIMING

The timing of SLOD5 is a function of the amount of data and the speed of the reader.

STORAGE

307 cells of program and storage.

VALIDATION**A. Method**

SLOD5 was validated by the reading of a simulated data tape and a post-mortem examination of the cells to be set.

B. Input

The input paper tape consisted of the following frames of data (all data had odd parity):

<u>Frame</u>	<u>Contents</u> (odd parity with all but 17 ₈ , 36 ₈ , 35 ₈)
0-50	blanks
51-55	(5) 36 ₈
56	1
57-59	0001
60-62	0001
63-65	7775
66-68	0000
69-71	7777
72-74	5252
75	17 ₈
76	0
77-79	7777
80-82	1604
83	17 ₈
84	1
85-87	1000
88-90	7070

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TM-1003/012/00

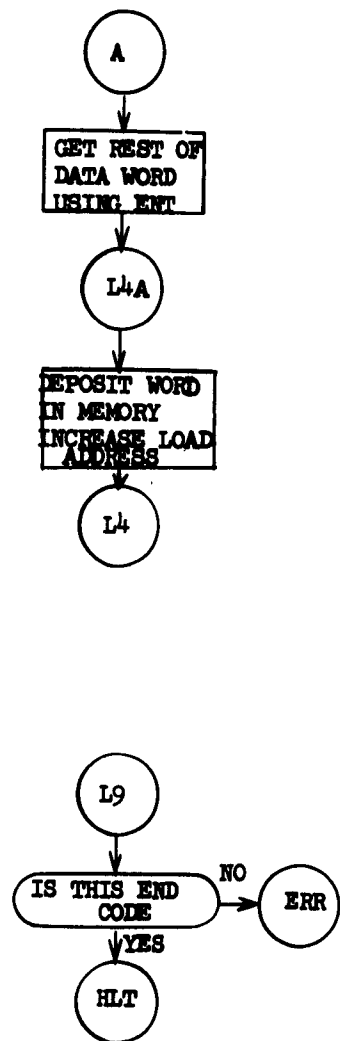
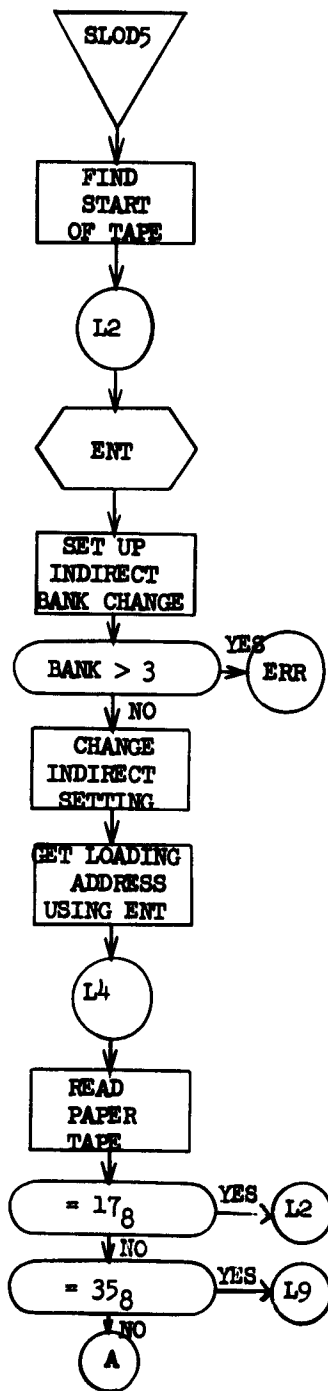
<u>Frame</u>	<u>Contents</u>
91-93	0707
94-98	(5) 35 ₈

C. Results

Bank 0, cell 7777 = 1604
Bank 1, cell 1 = 0001
cell 2 = 7775
cell 3 = 0000
cell 4 = 7777
cell 5 = 5252
cell 1000 = 7070
cell 1001 = 0707

REFERENCES

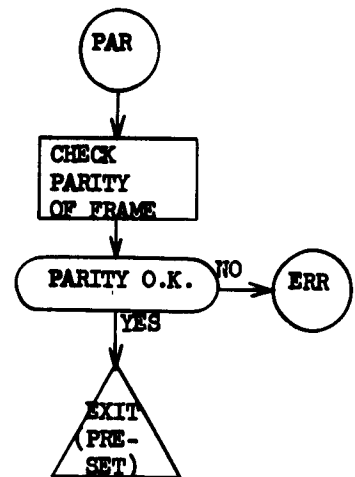
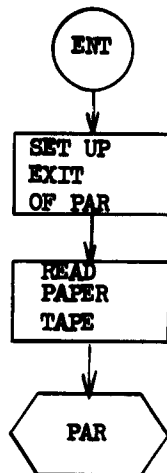
- A. AFCL number for SLOD5 is 80024.
- B. TM-1003/013/00, Milestone 11, Punch 5-Level Tape Routine (SOGR), System Development Corporation (Date pending).



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System Development Corporation,
Santa Monica, California
MILESTONE 11 160A COMPUTER PROGRAM
DESCRIPTION.

Scientific rept., TM-1003/012/00,
by R. C. Wise. 25 April 1963, 7p., 2 refs.
(Contract AF 19(628)-1648, Space Systems
Division Program, for Space Systems Division,
AFSC)

DESCRIPTORS: Programming (Computers).
Satellite Networks.

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Reports that SLOD5 is a 160A program
which loads the contents of a specially
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