TM-1003 005 00

Milestone 11

Prepare Bird Buffer System Tape (SPST)

10 March 1963

TM-1003/005/00

TECHNICAL MEMORANDUM

(TM Series)

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Milestone 11

Prepare Bird Buffer System Tape (SPST)

By

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10 March 1963

Approved

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IDENTIFICATION

A. Title: Prepare Bird Buffer System Tape (SPST) - Ident 06C, Mod AD

B. Author: R. C. Wise, System Development Corporation
10 March 1963

PURPOSE

The Prepare System Tape program (SPST) will initially generate a Bird Buffer System tape from a specially formatted input deck, or subsequently edit any part of an existing system tape.

USAGE

A. Operating Procedures

1. Mount tapes as follows:

Tape 1; Existing Master (optional)
Tape 2; Blank
Tape 3; Prestore Corrections (optional)

2. Load SPST

SPST occupies 100_8 to 2700_8 in bank 1.

3. Set Jump Keys (see "F", Jump Key Settings)

SPST will halt at 100_8, make proper key settings and press start.

4. Start SPST

5. Successful Halt

SPST will halt at location 557_8.

B. On-Line Messages

All messages are typed on the on-line typewriter. If the input deck is from the prestore tape, any message will be followed by "UNRECOVERABLE ERROR". With input from the card reader, correct the card in error and continue by depressing the RUN switch.

The messages are as follows:

1. ERROR ON CODED CARD
2. ERROR ON BINARY CARD
3. SYMBOLIC TAG NOT IN SYMBOL TABLE
4. READ ERROR ON PRESTORE TAPE
5. INPUT OUT OF ORDER
6. CARD READER NOT READY

C. Program Stops

Location	Operation
101_8	Set jump keys and RUN.
557_8	Successful halt.
1640_8	Correct card in error and RUN.
1650_8	Unrecoverable error.

D. Tape Assignments

1. Unit 1 - Existing Bird Buffer System Tape.
2. Unit 2 - New Bird Buffer System tape.
3. Unit 3 - Prestore input.

E. Input/Output Formats

See Appendices

F. Jump Key Settings

1. Jump key 4

   Set: Use existing master tape.
   Not set: Do not use existing master.

2. Jump key 2

   Set: Input from 167 card reader.
   Not set: Input from 163 unit 3.

3. Stop Key 1

   Set for debugging halts only.

OPERATING DESCRIPTION

SPST is loaded into bank 1 from a bi-octal paper tape, or from a binary deck by the loader. SPST rewinds its input tapes and after sensing jump key 2, sets its input switch to read either from the card reader (167-2) or tape 3. A symbolic card is read from the input source; the card must either be an END card or a BANK card. If an END card is read, the new Master tape will have an end of file written on it; it will be rewound, and parity-checked. If a BANK card is read, SPST will check the bank number against the position of the new master. If the inputs are not in sequence, SPST will attempt to align the sequence by copying the old Master to the new Master (if there is an old Master). If the input is in sequence, binary cards will be read from the input source until a binary transfer card is encountered. After reading the binary transfer card, coded correctors will be read until a coded transfer card is encountered. The bank is then written on the new Master tape. This processing loop continues until the END card is read.

RESTRICTIONS

A. Minimum Hardware

1. One 160A/169
2. One 163-4 tape adaptor or one 163-2 tape adaptor and 167-2 card reader.
3. One 161 typewriter.

B. Input Format

The bank cards must be in ascending sequence, and all banks must be present if there is no existing tape. For each bank block present, there must be present a binary and a coded transfer card even if there is no binary, or coded information.

TIMING

The timing of SPST is a function of the number of cards in the input deck plus twice the time required to write four 4000 word records on a 163 tape.

Approximate time required to make a Bird Buffer System tape is 4 minutes.

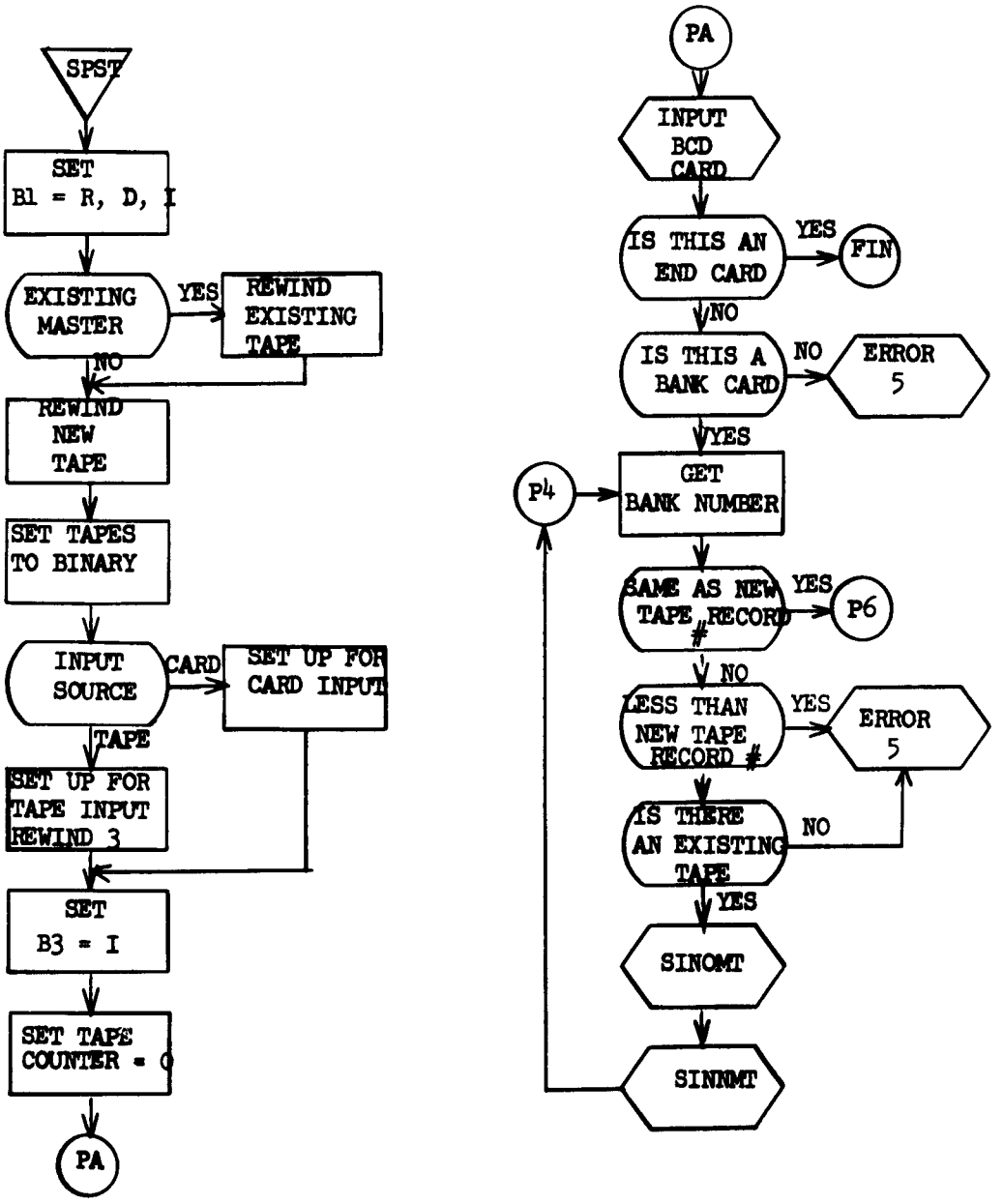
STORAGE REQUIRED

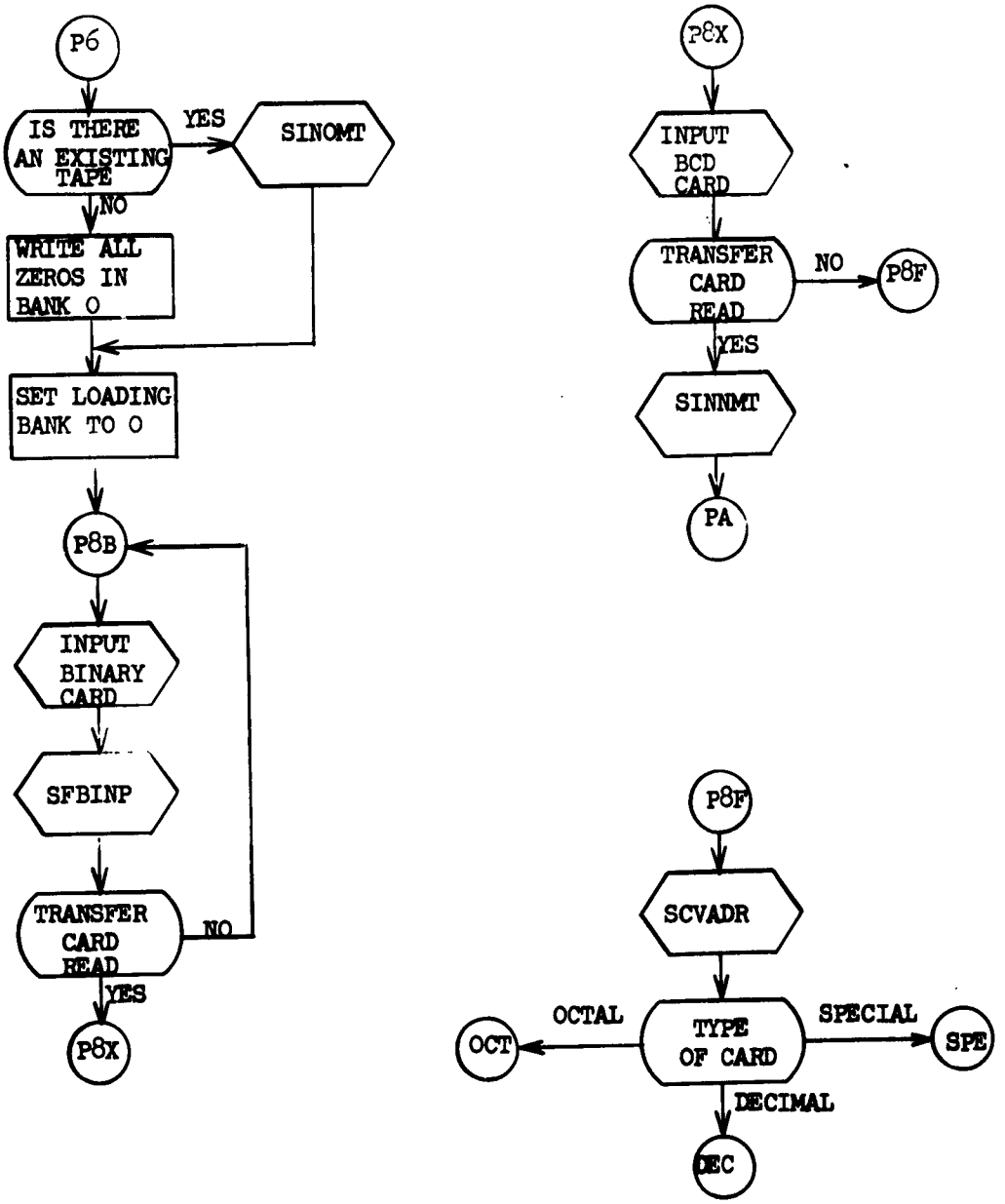
A. Program - 2660_8 cells in bank 1 (100-2766)
B. Tape Buffer - 7777_8 cells in bank 0 (0-7777)
C. Card Buffer - 120_8 cells in bank 3 (7000-7120)
D. Direct Cell - 21_8 cells in bank 1
E. Symbol Table- 3776_8 cells in bank 1 (4000-7776)

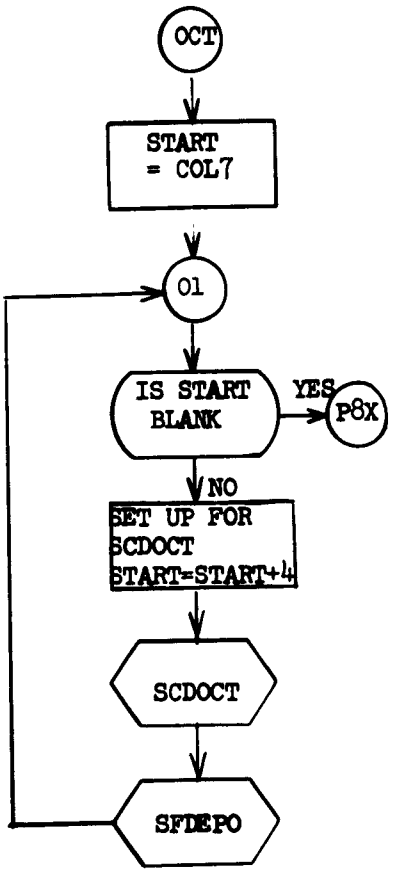
Total: $17,026_8$ cells

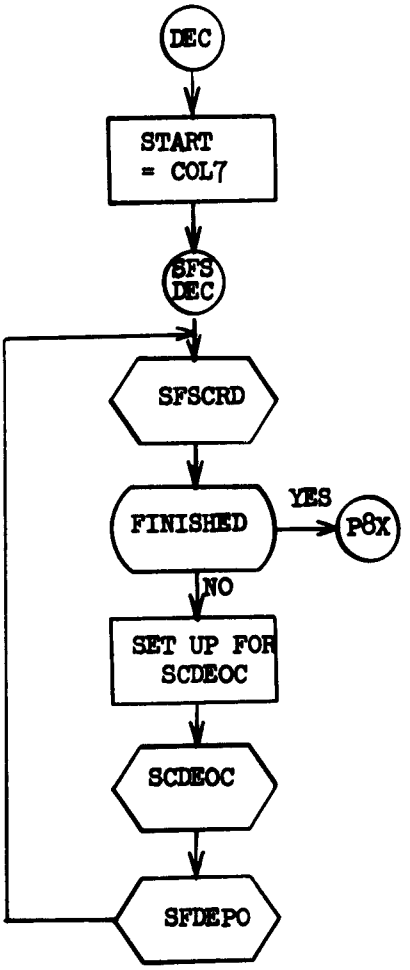
VALIDATION TEST

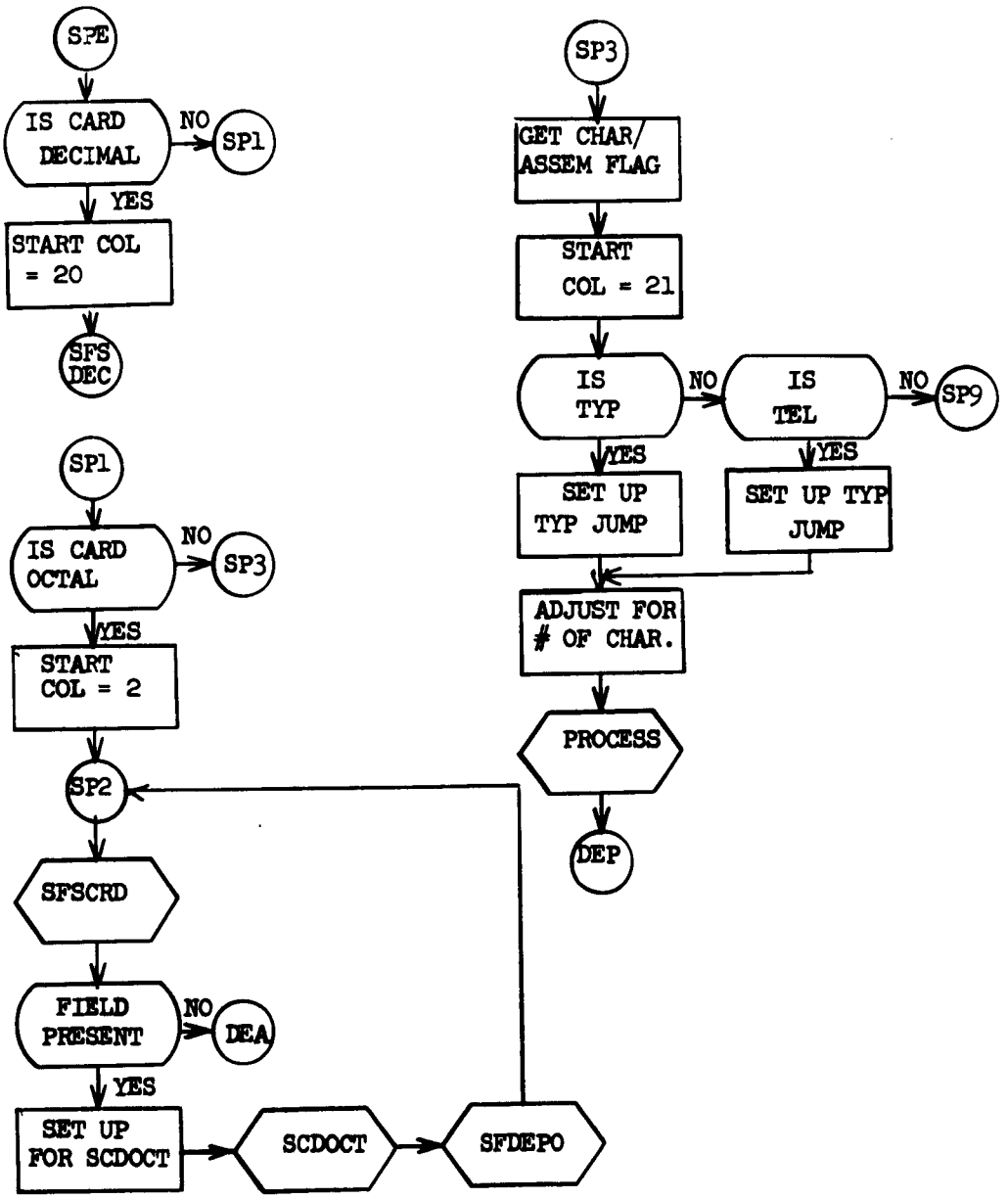
SPST was validated by constructing operational Bird Buffer System tapes. The validity of the tapes was demonstrated by listing the contents of the tapes and by operating portions of the Bird Buffer System from the tapes. An additional test is shown in Appendix D.

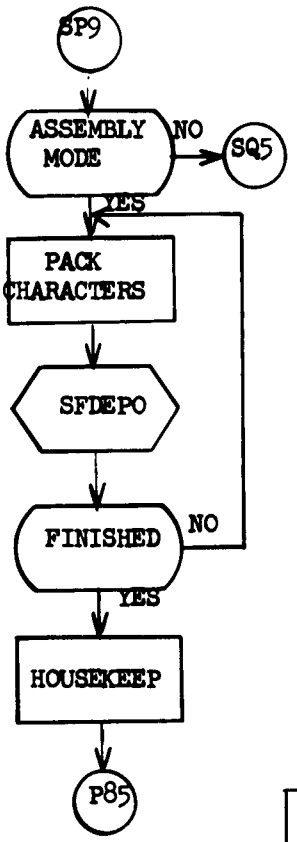

SPST
SET
B1 = R, D, I
EXISTING MASTER
YES
REWIND EXISTING TAPE
NO
REWIND NEW TAPE
SET TAPES TO BINARY
INPUT SOURCE
CARD
SET UP FOR CARD INPUT
TAPE
SET UP FOR TAPE INPUT REWIND 3
SET
B3 = I
SET TAPE COUNTER = 0
PA
PA
INPUT BCD CARD
IS THIS AN END CARD
YES
FIN
NO
IS THIS A BANK CARD
NO
ERROR 5
YES
P4
GET BANK NUMBER
SAME AS NEW TAPE RECORD #
YES
P6
NO
LESS THAN NEW TAPE RECORD #
YES
ERROR 5
IS THERE AN EXISTING TAPE
NO
YES
SINOMT
SINNMT

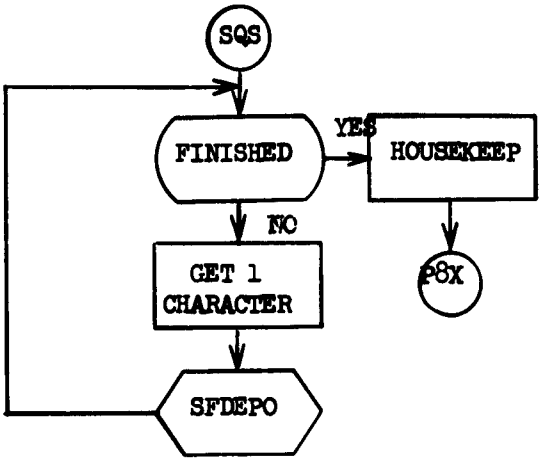

P6
IS THERE AN EXISTING TAPE
YES
SINOMT
NO
WRITE ALL ZEROS IN BANK 0
SET LOADING BANK TO 0
P8B
INPUT BINARY CARD
SFBINP
TRANSFER CARD READ
NO
YES
P8X
P8X
INPUT BCD CARD
TRANSFER CARD READ
NO
P8F
YES
SINNMT
PA
P8F
SCVADR
OCTAL
TYPE OF CARD
SPECIAL
OCT
SPE
DECIMAL
DEC

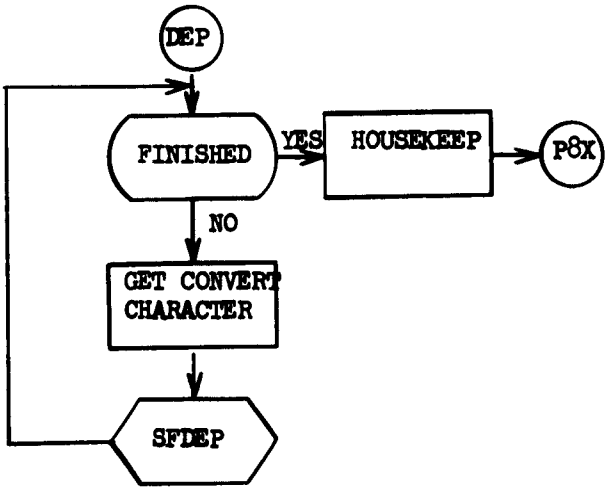

OCT
START
= COL7
01
IS START
BLANK
YES
P8X
NO
SET UP FOR
SCDOCT
START=START+4
SCDOCT
SFDEPO

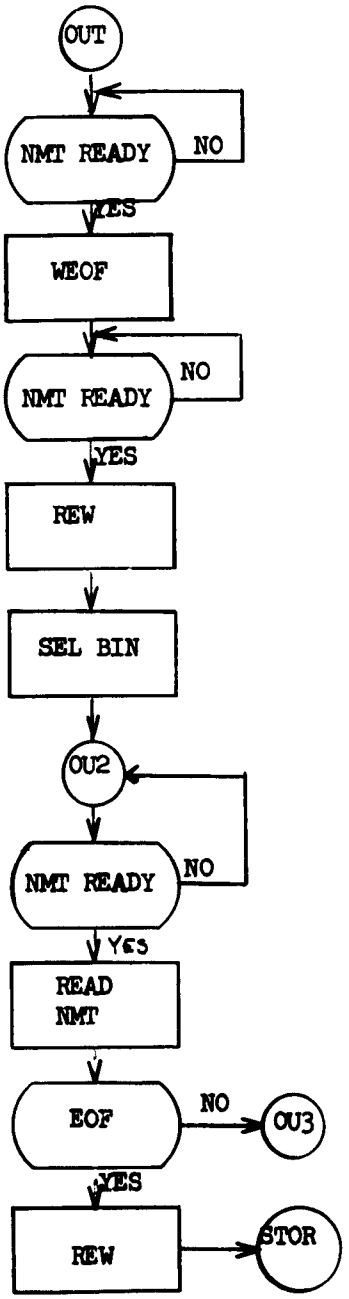

DEC
START
= COL7
SFS
DEC
SFSCRD
FINISHED
YES
P8X
NO
SET UP FOR
SCDEOC
SCDEOC
SFDEPO

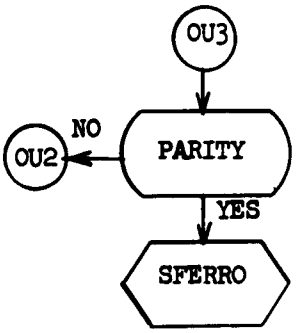

SPE
IS CARD DECIMAL
NO
SP1
YES
START COL = 20
SFS DEC
SP1
IS CARD OCTAL
NO
SP3
YES
START COL = 2
SP2
SFSCRD
FIELD PRESENT
NO
DEA
YES
SET UP FOR SCDOCT
SCDOCT
SFDEPO
SP3
GET CHAR/ ASSEM FLAG
START COL = 21
IS TYP
NO
IS TEL
NO
SP9
YES
YES
SET UP TYP JUMP
SET UP TYP JUMP
ADJUST FOR # OF CHAR.
PROCESS
DEP

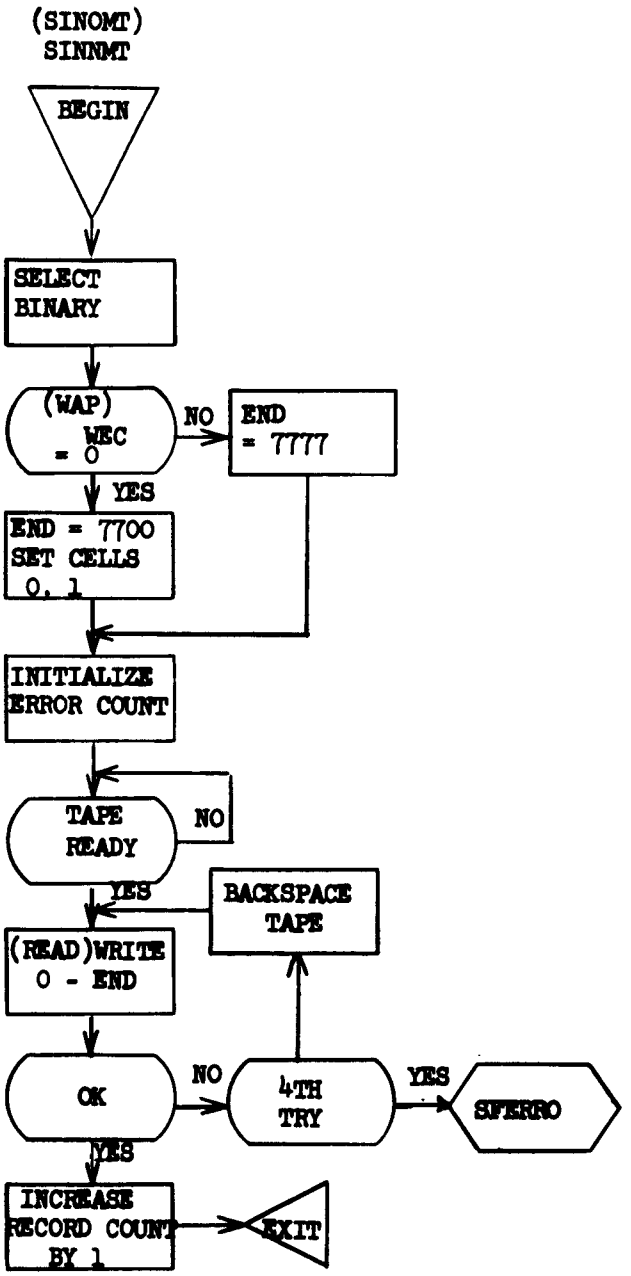

SP9
ASSEMBLY MODE
NO
SQ5
YES
PACK CHARACTERS
SFDEPO
FINISHED
NO
YES
HOUSEKEEP
P85

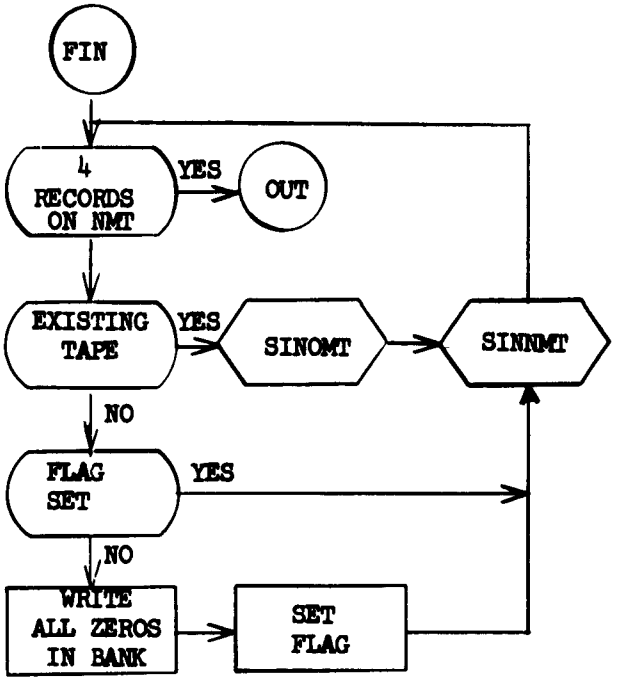

SQS
FINISHED
YES
HOUSEKEEP
NO
GET 1 CHARACTER
P8X
SFDEPO

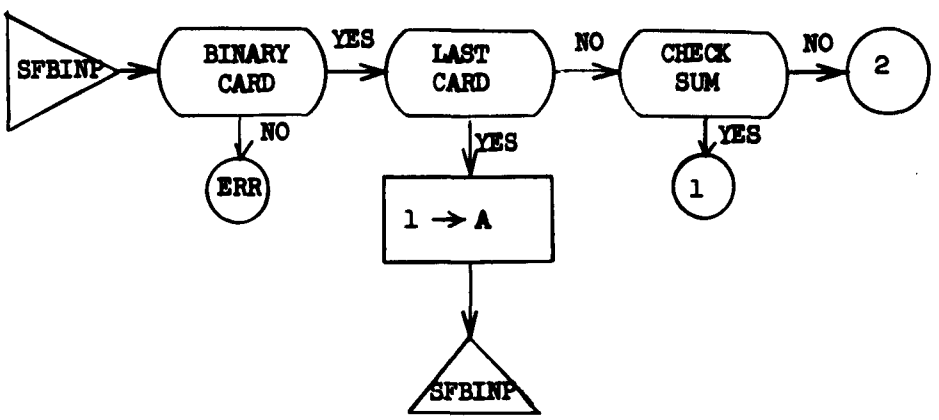

DEP
FINISHED
YES
HOUSEKEEP
P8X
NO
GET CONVERT CHARACTER
SFDEP

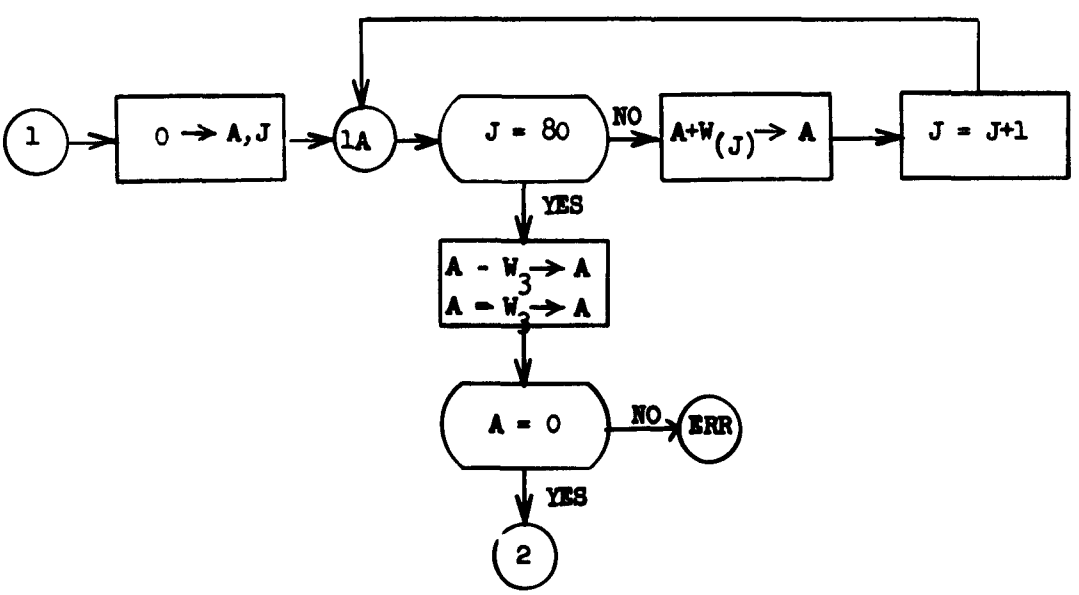

OUT
NMT READY
NO
YES
WEOF
NMT READY
NO
YES
REW
SEL BIN
OU2
NMT READY
NO
YES
READ
NMT
EOF
NO
OU3
YES
REW
STOR

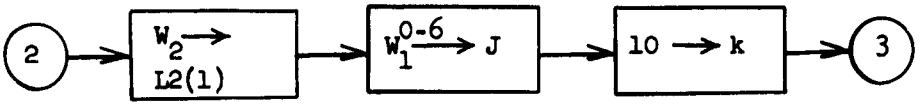

OU3
NO
OU2
PARITY
YES
SFERRO

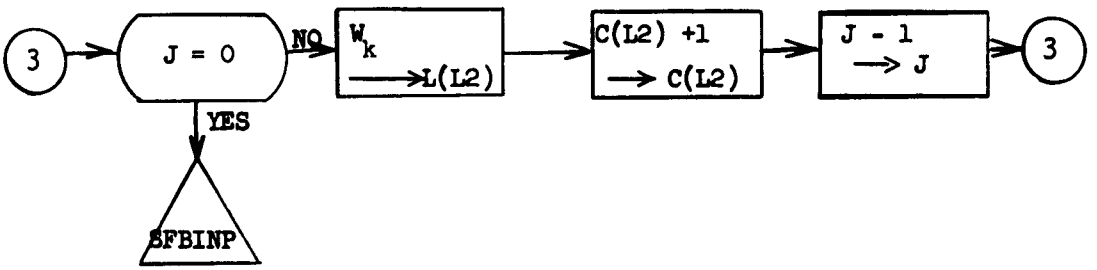

(SINOMT)
SINNMT
BEGIN
SELECT BINARY
(WAP) WEC = 0
NO
END = 7777
YES
END = 7700
SET CELLS 0, 1
INITIALIZE ERROR COUNT
TAPE READY
NO
YES
BACKSPACE TAPE
(READ)WRITE 0 - END
OK
NO
4TH TRY
YES
SFERRO
YES
INCREASE RECORD COUNT BY 1
EXIT

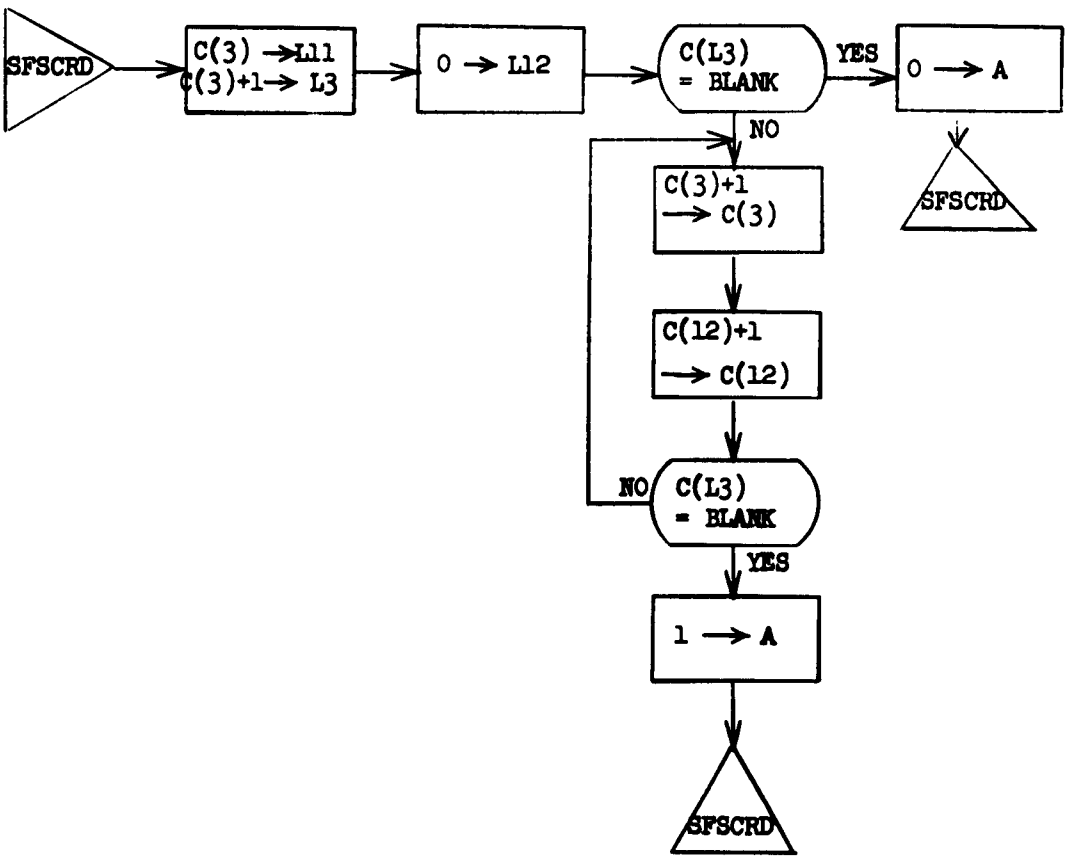

FIN
4 RECORDS ON NMT
YES
OUT
EXISTING TAPE
YES
SINOMT
SINNMT
NO
FLAG SET
YES
NO
WRITE ALL ZEROS IN BANK
SET FLAG

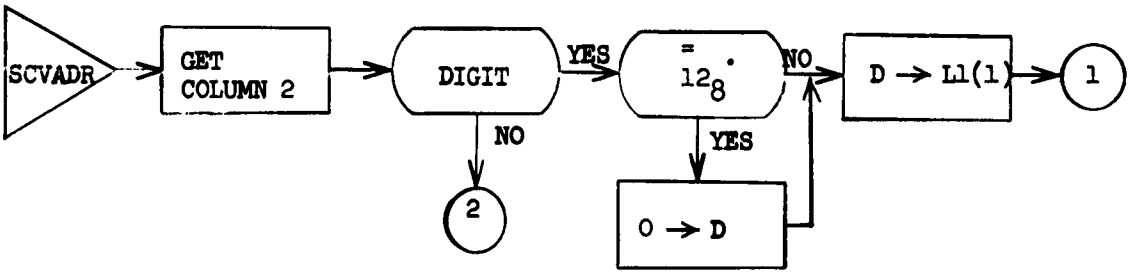

SFBINP
BINARY CARD
YES
LAST CARD
NO
CHECK SUM
NO
2
NO
ERR
YES
1
YES
1 → A
SFBINP

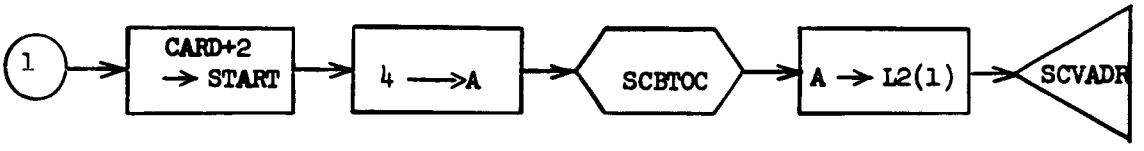

1
0 → A,J
1A
J = 80
NO
A+W(J) → A
J = J+1
YES
A - W3 → A
A = W3 → A
A = 0
NO
ERR
YES
2

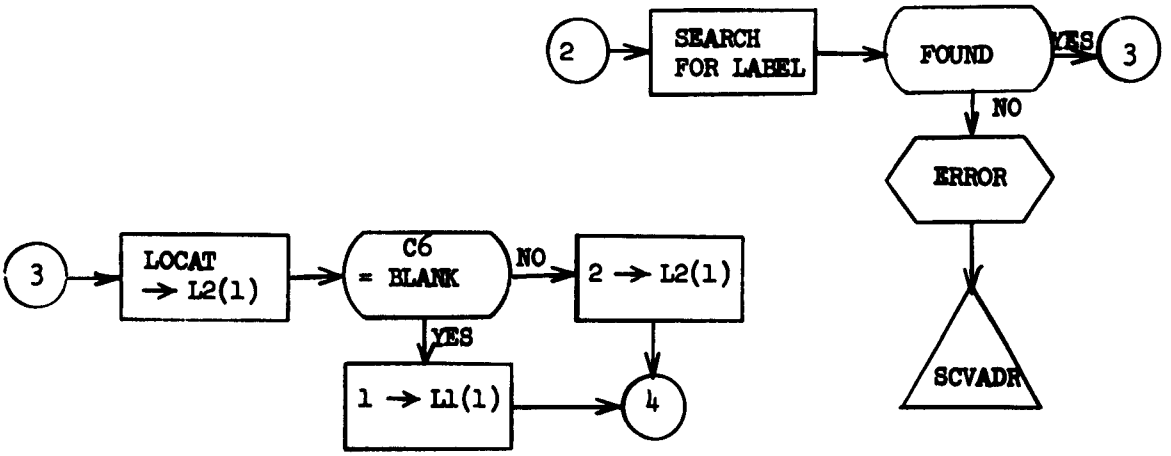

2
W2 → L2(1)
W1 0-6 → J
10 → k
3

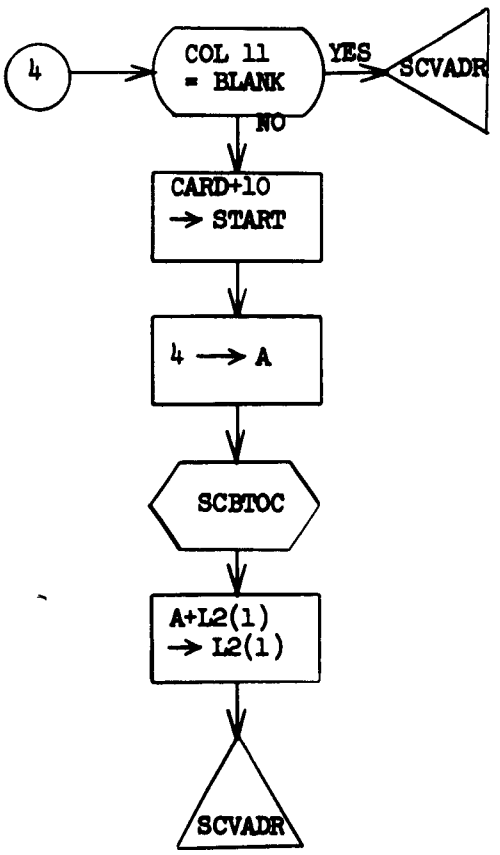

3
J = 0
NO
Wk → L(L2)
C(L2) +1 → C(L2)
J - 1 → J
3
YES
SFBINP

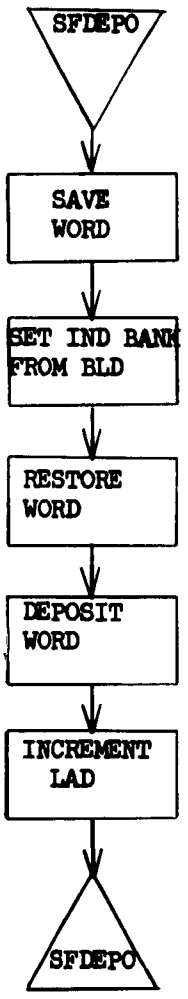

SFSCRD
C(3) → L11
C(3)+1 → L3
0 → L12
C(L3) = BLANK
YES
0 → A
SFSCRD
NO
C(3)+1 → C(3)
C(12)+1 → C(12)
NO
C(L3) = BLANK
YES
1 → A
SFSCRD

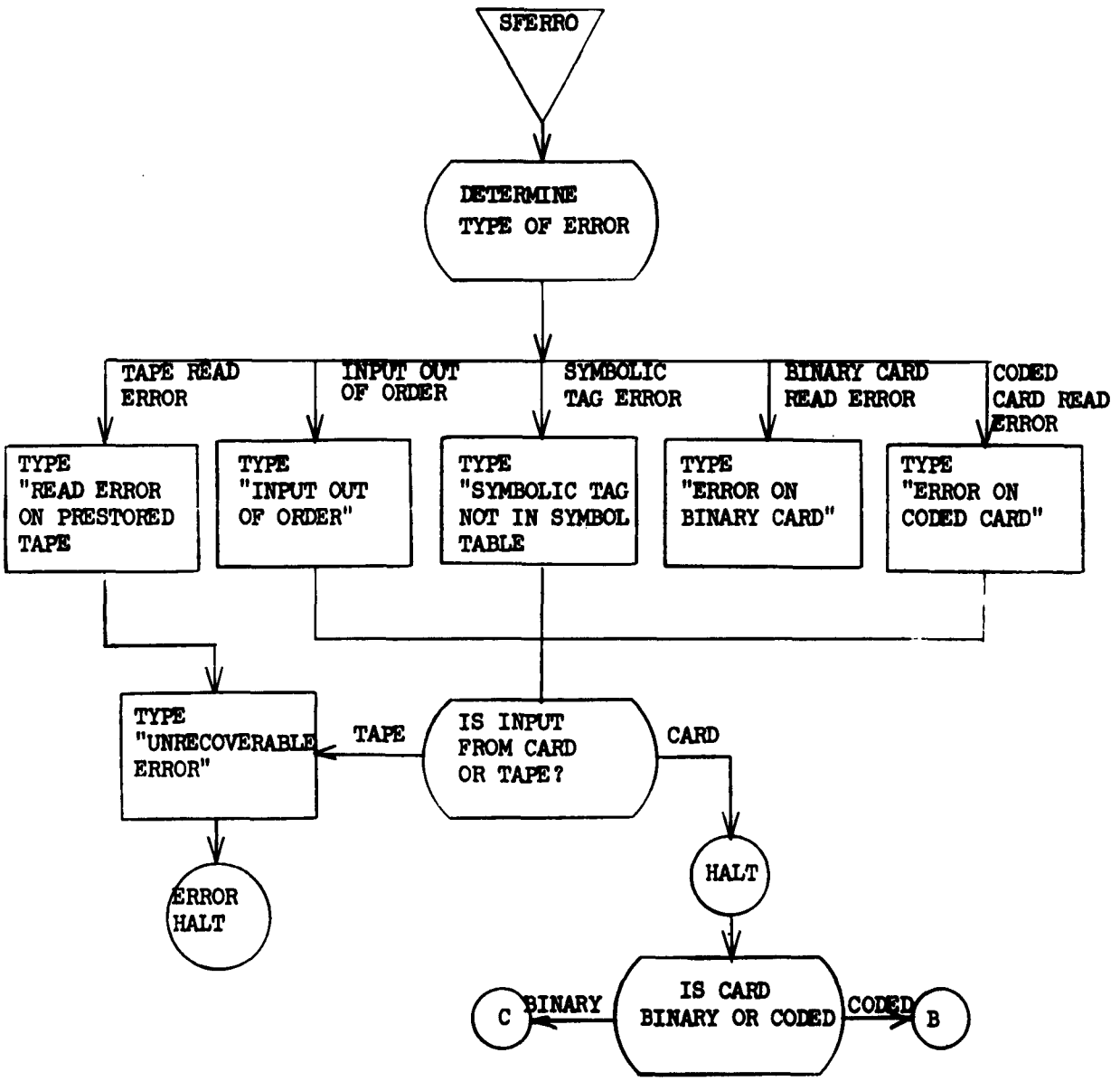

SCVADR
GET COLUMN 2
DIGIT
YES
NO
= 12_8.
NO
YES
D → L1(1)
1
2
0 → D

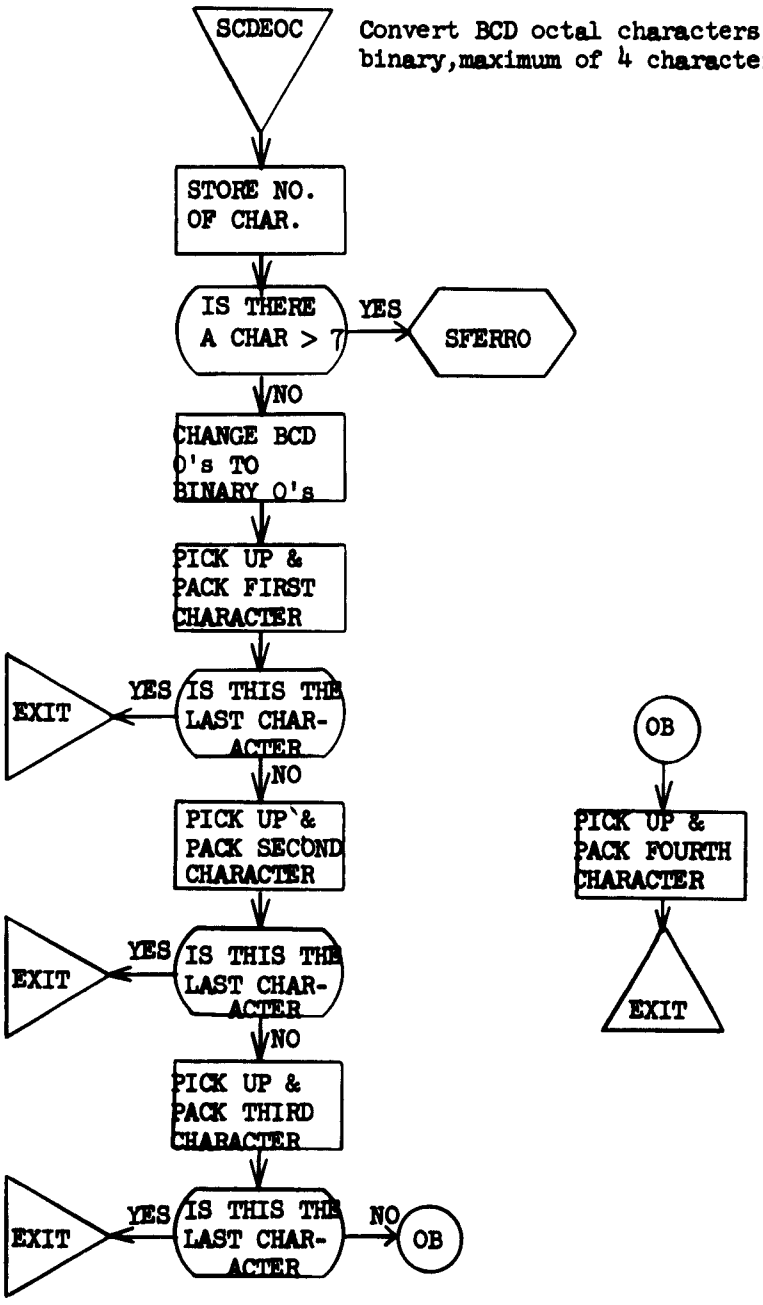

1
CARD+2 → START
4 → A
SCBTOC
A → L2(1)
SCVADR

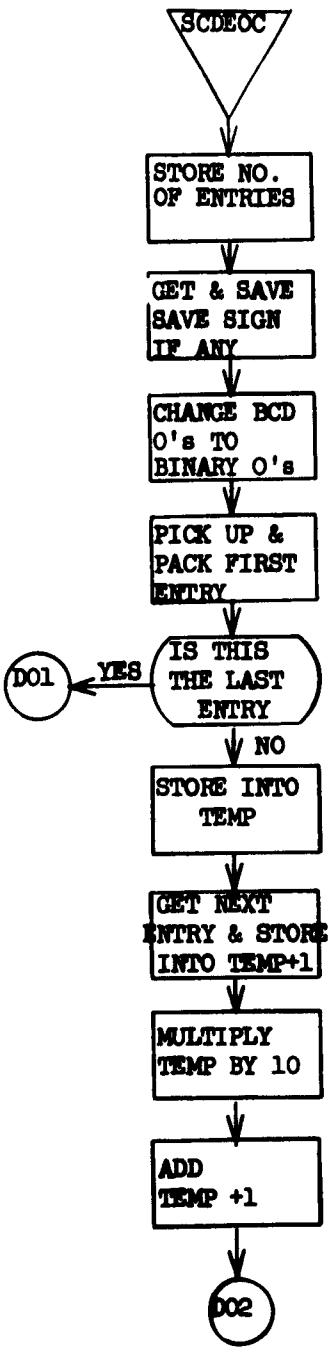

2
SEARCH FOR LABEL
FOUND
YES
3
NO
ERROR
SCVADR
3
LOCAT → L2(1)
C6 = BLANK
NO
2 → L2(1)
YES
1 → L1(1)
4


4
COL 11
= BLANK
YES
SCVADR
NO
CARD+10
→ START
4 → A
SCBTOC
A+L2(1)
→ L2(1)
SCVADR

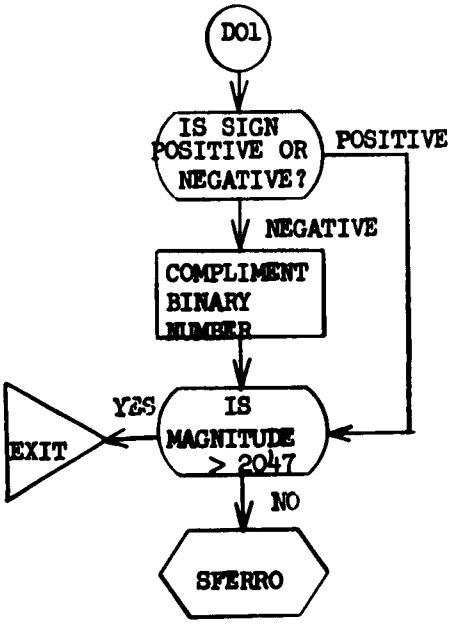

SFDEPO
SAVE WORD
SET IND BANK FROM BLD
RESTORE WORD
DEPOSIT WORD
INCREMENT LAD
SFDEPO

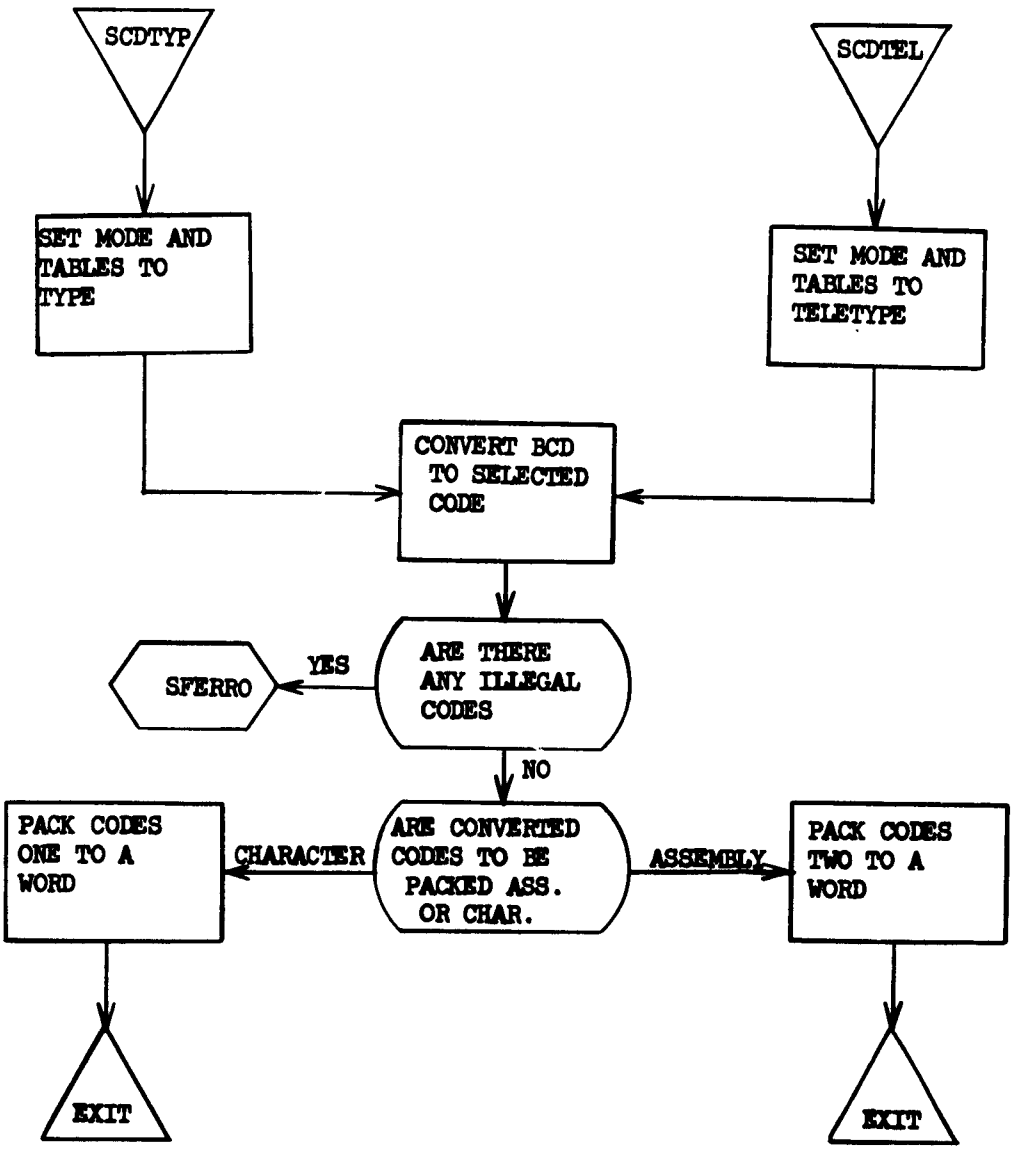

SFERRO
DETERMINE TYPE OF ERROR
TAPE READ ERROR
INPUT OUT OF ORDER
SYMBOLIC TAG ERROR
BINARY CARD READ ERROR
CODED CARD READ ERROR
TYPE "READ ERROR ON PRESTORED TAPE
TYPE "INPUT OUT OF ORDER"
TYPE "SYMBOLIC TAG NOT IN SYMBOL TABLE
TYPE "ERROR ON BINARY CARD"
TYPE "ERROR ON CODED CARD"
TYPE "UNRECOVERABLE ERROR"
TAPE
IS INPUT FROM CARD OR TAPE?
CARD
ERROR HALT
HALT
C
BINARY
IS CARD BINARY OR CODED
CODED
B


SCDEOC
Convert BCD octal characters to binary,maximum of 4 characters
STORE NO. OF CHAR.
IS THERE A CHAR > 7
YES
SFERRO
NO
CHANGE BCD 0's TO BINARY 0's
PICK UP & PACK FIRST CHARACTER
EXIT
YES
IS THIS THE LAST CHAR-ACTER
NO
PICK UP & PACK SECOND CHARACTER
EXIT
YES
IS THIS THE LAST CHAR-ACTER
NO
PICK UP & PACK THIRD CHARACTER
EXIT
YES
IS THIS THE LAST CHAR-ACTER
NO
OB
OB
PICK UP & PACK FOURTH CHARACTER
EXIT



Convert BCD Decimal to 12 bit binary. Signed or unsigned integers ≤ 2047


DO1
IS SIGN POSITIVE OR NEGATIVE?
POSITIVE
NEGATIVE
COMPLIMENT BINARY NUMBER
YES
IS MAGNITUDE > 2047
EXIT
NO
SFERRO


SCDTYP
SCDTEL
SET MODE AND TABLES TO TYPE
SET MODE AND TABLES TO TELETYPE
CONVERT BCD TO SELECTED CODE
ARE THERE ANY ILLEGAL CODES
YES
SFERRO
NO
ARE CONVERTED CODES TO BE PACKED ASS. OR CHAR.
CHARACTER
ASSEMBLY
PACK CODES ONE TO A WORD
PACK CODES TWO TO A WORD
EXIT
EXIT

APPENDIX A - CARD FORMATS

A. BINARY CARD

Columns	Rows	Information
1	7, 9, 12	Binary Card Indicators
1	8	If checksum is to be ignored
1	0 - 6	Word count
2		Starting address
3		Checksum of other 79 columns
4 - 9		Relocatable information (ignored by SSTL and SPST)
10 - 80		Binary information

B. BINARY TRANSFER CARD

Columns	Rows	Information
1	7, 9, 12	Binary Card Indicators
1	0 - 6	Word count = 0

Remainder of card ignored by SSTL and SPST.

C. BANK CARD

BANK in columns 1-4, logical bank selection in column 6. This card must precede binary decks as it indicates the loading bank.

D. CODED CORRECTIONS

1. Octal Card:

Column 1	zero punch
Column 2	Bank selection (0, 1, 2 or 3)
Columns 3 - 6	Octal loading address
Columns 7 - 7C	Octal entires

Up to 16 consecutive words may be on one card. No blank fields will be permitted between any of the entires.

2. Decimal Card:

Column 1	"D" punch
Column 2	Bank selection (0, 1, 2 or 3)
Columns 3 - 6	Octal loading address
Columns 7 - 78	Signed decimal entries
Columns 79 - 80	Blank

Only signed integers, no greater than 2047_{10} in magnitude, can be used.

Entries will be separated by one blank column.
Data will be terminated by two blanks.

3. Symbolic Card:

Column 1	"S" punch
Columns 2 - 7	A five or six character alpha-numeric tag left justified. If absolute addressing is desired, the bank

	selection will be in column 2 with the octal loading address in columns 3 - 6.
Columns 8 - 11	Octal additive left justified (used with symbolic addressing only).
Columns 15 - 17	Type of entry DEC - signed decimal integer OCT - unsigned octal TYP - typewriter characters BCD - BCD characters TEL - teletype characters
Column 18	"R" punch if the TYP, BCD or TEL data is to be packed in character mode.
Columns 20 - 78	DEC - a blank will separate entries. OCT - a blank will separate entries. For TYP, BCD, and TEL. Starting in column 20, the number of words of data characters is followed immediately by the entries. Maximum of 9 words per card.
Columns 79 - 80	Blank

Numeric data will be terminated by two blanks.

E. CODED TRANSFER CARD

Column 1	A twelve and zero punch in column 1.

F. END CARD

Columns 10 - 12	END

Column 20	Bank number
Columns 21 - 29	Starting address

The bank number and starting address are optional.

G. SAMPLE CORRECTORS

```
013467001145671023
```

OCTAL CARD

```
D20013+3 -1096 +400 +0 -768
```

DECIMAL CARD

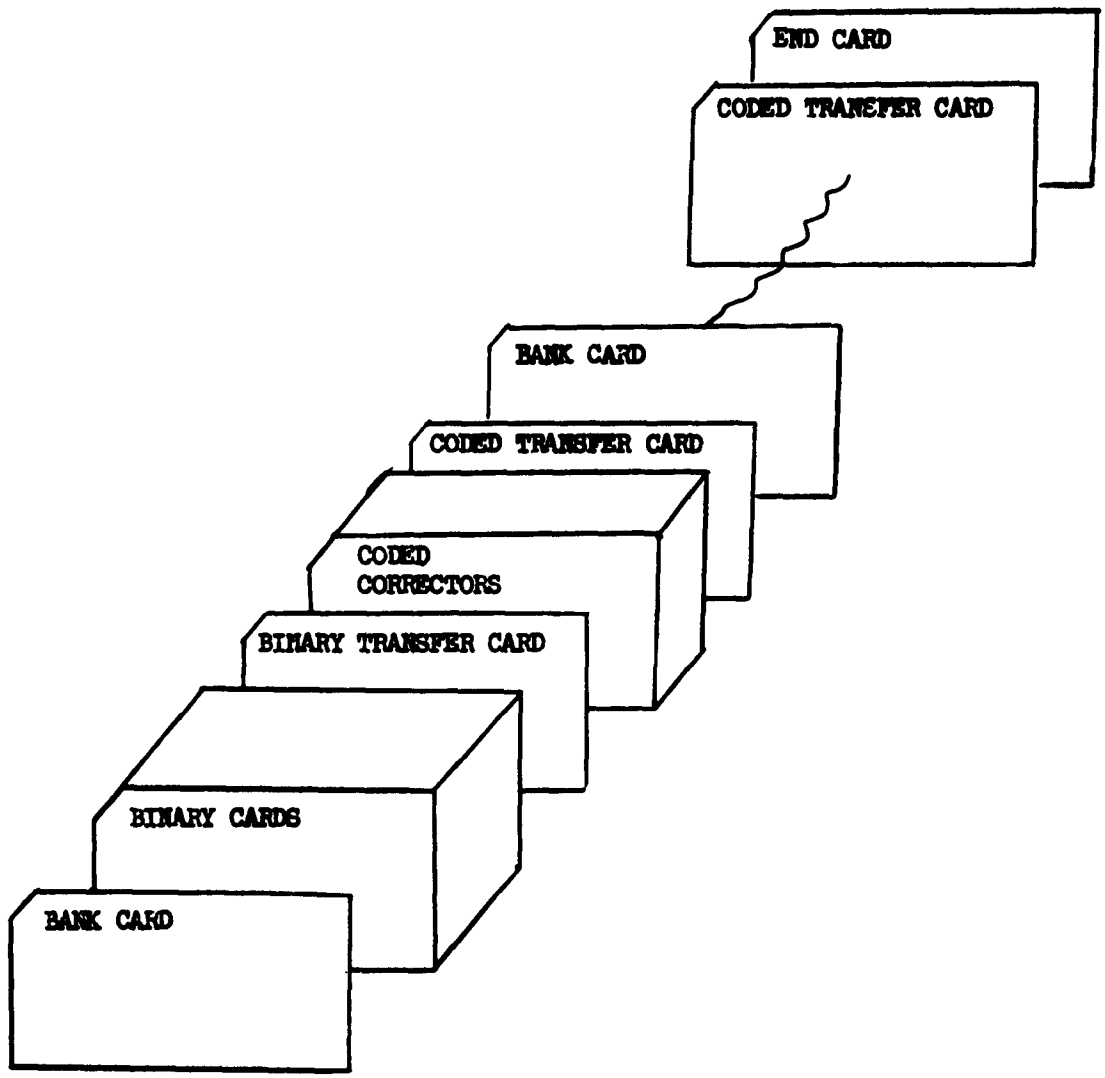
```
SALPHA 70     BCDR 6REJECT
```

```
$01367        DEC  +6 +30 -10 +2047 -78
```

SYMBOLIC CARDS

```
$GAMMA        TYP  5HIT START
```

APPENDIX B - INPUT DECK STRUCTURE



APPENDIX C - SYSTEM TAPE FORMAT

The system tape is a binary tape consisting of four records and ended by an end of file mark.

Record 1	loaded into Bank 0 from address 0_8 to 7700_8.
Record 2	loaded into Bank 1 from address 0 to 7777_8; contains the loader and Symbol table.
Record 3	loaded into Bank 2 from address 0 to 7777_8.
Record 4	loaded into Bank 3 from address 0 to 7777_8.

All words which do not contain instructions or data are initialized to all zeros.

APPENDIX D

SAMPLE SPST RUN

The deck shown on the following page was input to SPST and a tape was produced. A listing of the tape is also included in this appendix.

Several items of interest concerning the listings are given below.

1. The tape was tapedumped on the 1604 and, therefore, the format of the dump is the 1604 format.

2. The first record of the dump has each character shifted two positions to the right.

3. The binary deck has an assembly error, which causes location 104_8 to be 7777_8 rather than 5639_{10}.

4. The decimal card has an error which causes cell 20_8 to be set to 0642_8, rather than 0000.

5. Cell 4096 is not changed by SPST; in the listing, it is 0260_8.

6. The symbol SCOMA is equated to 200_8 in the symbol table used for this run.

INPUT DECK

```
BANK 0
BINARY DECK AND TRANSFER CARD
000050000100100100100000110110110000111111101111
SSCOMA 1        OCT  7771
SSCOMA          DEC  -2047
000005000500060765432 1
SSCOMA 20       TEL  2ABCD
SSCOMA 2        TYP  2ABCD
SSCOMA 17       BCDR 4ABCD
D00011+1 2 +3 -1 +9 +99 -17 00
D000220 8 1 7 2 9 1 12 23 34 56 78 89
0
BANK 1
BINARY DECK AND TRANSFER CARD
000000000100021234567 0
SSCOMA 20       TEL  2ABCD
SSCOMA 17       BCDR 4ABCD
SSCOMA 2        TYP  2ABCD
000005000500060765432 1
SSCOMA          DEC  -2047
D000220 8 1 7 2 9 1 12 23 34 56 78 89
SSCOMA 1        OCT  7771
D00011+1 2 +3 -1 +9 +99 -17 00
0
BANK 2
BINARY DECK AND TRANSFER CARD
D000220 8 1 7 2 9 1 12 23 34 56 78 89
000000000100021234567 0
SSCOMA 2        TYP  2ABCD
SSCOMA 17       BCDR 4ABCD
D00011+1 2 +3 -1 +9 +99 -17 00
000050000100100100100000110110110000111111101111
SSCOMA 1        OCT  7771
SSCOMA 20       TEL  2ABCD
SSCOMA          DEC  -2047
000005000500060765432 1
0
BANK 3
BINARY DECK AND TRANSFER CARD
000050000100100100100000110110110000111111101111
SSCOMA 20       TEL  2ABCD
SSCOMA 17       BCDR 4ABCD
SSCOMA 2        TYP  2ABCD
000000000100021234567 0
D00011+1 2 +3 -1 +9 +99 -17 00
D000220 8 1 7 2 9 1 12 23 34 56 78 89
SSCOMA 1        OCT  7771
SSCOMA          DEC  -2047
000005000500060765432 1
0
        END
```

BINARY DECK CONTENTS

		0100	ORG	100	
	0100 0	1111		1111	101
	0101 1	2222		2222	102
	0102 2	3333		3333	103
	0103 3	4455		4455	104
U	0104 4	7777		5639	105
		0111	ORG	111	111
	0111 .1	1010		1010	111
	0112 .2	0101		101	112
	0113 .3	1100		1100	113
	0114 .4	0011		11	114
	0115 .5	1001		1001	115
	0116 .6	0110		110	116
	0117 .7	7070		7070	117
	0120 :0	0770		770	120
	0121 :1	7007		7007	121
	0122 :2	0707		707	122
	0123 :3	7700		7700	123
	0124 :4	0077		77	124
		0000	END		

TAPEDUMP OF SPST TAPE

```
*TAPEDUMP 12 13 1 0 0

     TAPE   12041     PRINT  00001  FILES     PRINT  00000  RECORDS     SKIP  00000  FILES     SKIP  00000  RECORDS

     FILE NO.   00001

     RECORD NO. 00001          01/61(OCTAL) WORDS

00000     61 7 10177    00 0 00000    00 0 00000    05 0 00607    65 4 32100    01 0 00200    03 7 77600    11 0 14377
00004     56 0 64200    00 0 00000    10 0 00100    07 0 00200    11 0 00100    14 0 02700    42 0 07001    16 0 13100
00010     00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00100    10 0 10010    00 0 01101    10 1 10001
00014     11 1 11011    11 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
00020     00 1 11122    22 3 33344    55 7 77700    00 0 00000    00 0 00010    10 0 10111    00 0 01110    01 0 11070
00024     70 0 77070    07 0 70777    00 0 07700    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
               WORDS  00030  THROUGH  00037  CONTAIN   00 0 00000   00 0 00000
00040     00 4 00077    71 3 02316    22 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
00044     61 0 00200    63 0 06400    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
               WORDS  00050  THROUGH  01760  CONTAIN   00 0 00000   00 0 00000

     RECORD NO. 00002          02000(OCTAL) WORDS

00000     00 0 10002    12 3 45670    00 0 00005    00 0 60765    43 2 10001    00 0 20003    77 7 60011    01 4 37756
00004     06 4 20000    00 0 00010    00 0 10007    00 0 20011    00 0 10014    00 2 70042    00 7 00116    01 3 10000
               WORDS  00010  THROUGH  00017  CONTAIN   00 0 00000   00 0 00000
00020     11 1 12222    33 3 34455    77 7 70000    00 0 00000    00 0 01010    01 0 11100    00 1 11001    01 1 07070
00024     07 7 07007    07 0 77700    00 7 70000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
               WORDS  00030  THROUGH  00037  CONTAIN   00 0 00000   00 0 00000
00040     40 0 07771    30 2 31622    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00061
00044     00 6 20063    00 6 40000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
               WORDS  00050  THROUGH  01776  CONTAIN   00 0 00000   00 0 00000
01777     00 0 00000    02.6 00000

     RECORD NO. 00003          02000(OCTAL) WORDS

00000     00 0 10002    12 3 45670    00 0 00005    00 0 60765    43 2 10001    00 0 20003    77 7 60011    01 4 37756
00004     06 4 20000    00 0 00010    00 0 10007    00 0 20011    00 0 10014    00 2 70042    00 7 00116    01 3 10000
00010     00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 10010    01 0 01000    00 1 10110    11 0 00111
00014     11 1 01111    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
00020     11 1 12222    33 3 34455    77 7 70000    00 0 00000    00 0 01010    01 0 11100    00 1 11001    01 1 07070
00024     07 7 07007    07 0 77700    00 7 70000    00 0 00000    00 0 00000    00 0 00000    00 0 00000    00 0 00000
```

```
                WORDS  00030  THROUGH  00037  CONTAIN   00 0 00000   00 0 00000

00040   40 0 07771   30 2 31622   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00061
00044   30 2 31622   00 6 40000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000

                WORDS  00050  THROUGH  01776  CONTAIN   00 0 00000   00 0 00000

01777   00 0 00000   02 6 00000

        RECORD NO. 00004          02000(OCTAL) WORDS

00000   00 0 10002   12 3 45670   00 0 00005   00 0 60765   43 2 10001   00 0 20003   77 7 60011   01 4 37756
00004   06 4 20000   00 0 00010   00 0 10007   00 0 20011   00 0 10014   00 2 70042   00 7 00116   01 3 10000
00010   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 10010   01 0 01000   00 1 10110   11 0 00111
00014   11 1 01111   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000
00020   11 1 12222   33 3 34455   77 7 77000   00 0 00000   00 0 01010   01 0 11100   00 1 11001   01 1 07070
00024   07 7 07007   07 0 77700   00 7 70000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000

                WORDS  00030  THROUGH  00037  CONTAIN   00 0 00000   00 0 00000

00040   40 0 07771   30 2 31622   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00061
00044   00 6 20063   00 6 40000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000   00 0 00000

                WORDS  00050  THROUGH  01776  CONTAIN   00 0 00000   00 0 00000

01777   00 0 00000   02 6 00000

        END OF FILE
```

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UNCLASSIFIED

System Development Corporation,
Santa Monica, California
MILESTONE 11 PREPARE BIRD BUFFER SYSTEM
TAPE (SPST).
Scientific rept., TM-1003/005/00, by
R. C. Wise. 10 March 1963, 35p.
(Contract AF 19(628)-1648, Space Systems
Division Program, for Space Systems Division,
AFSC)

Unclassified report

DESCRIPTORS: Programming (Computers).
Satellite Networks.

States that the Prepare System Tape
program (SPST) will initially generate UNCLASSIFIED

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a Bird Buffer System tape from a UNCLASSIFIED
specially formated input deck,
or subsequently edit any part
of an existing system tape. Reports
that SPST was validated by constructing
operational Bird Buffer System tapes.

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