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63-3-5

TM-(L)-734/020/00

405788

TECHNICAL MEMORANDUM

(TM Series)

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1604 Simulation Program Descriptions
Milestone 11

Octal Dump for Simulation Augmentation Messages (SOCT)

by

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15 March 1963

Approved

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1.0 SUBROUTINE IDENTIFICATION

1.1 Title

SOCT - Ident: K22, Mod. 01

1.2 Programmed

January 1963, J. D. Solomon, System Development Corporation

1.3 Documented

February 1963, J. D. Solomon, System Development Corporation

2.0 PURPOSE

This routine is used to output messages which have been previously generated and recorded on magnetic tape by the SIPSA* system, or recorded by the SIMSTN* program.

3.0 USAGE

3.1 Calling Sequence

L	RTJ		SOCT
	A		B
L+1	C		D
	ZRØ		
L+2	01	CN	TN
	00	UN	0
L+3	NORMAL RETURN		

*A description of SIPSA and SIMSTN is contained in the reference listed in Section 9.1.

where:

A	= Relative position of the first 160-A word
B	= Start address of data
If C	= 13, the output is on Tape Unit 3 and on the 1612 printer
If C	= 0, the output is on Tape Unit specified in L+2
D	= Data blocklength
CN	= Tape channel number
TN	= Logical tape unit
UN	= 1607 cabinet number

3.2 Tape Assignments

A COPII augmentation master tape is used on logical Tape Unit 1. A blank tape is used on the unit specified in L+2 of the calling sequence.

3.3 Output Data Format

The data format for on-line and off-line output is presented in Appendix B.

4.0 METHOD

SOCT is entered from the control program, DROPSA, and initializations are performed. The data block specified in the calling sequence is extracted, separated into 160-A format (12 bits per word), and stored in an output buffer. The message is then output on-line and/or on tape, and control is returned to DROPSA. (A data flow is presented in Appendix A, and the output format is presented in Appendix B.)

5.0 RESTRICTIONS

5.1 Hardware Requirement

A 1604 computer, two tape units on a 1607 cabinet, and a 1612 printer are required.

5.2 Required Subroutines

The control program, DROPSA, and the subroutines OUTPUT, OUTERR, and OCTBCD are required.

5.3 Index Register Requirements

Index registers 1-6 are used. The contents of index register 6 are not saved.

6.0 TIMING

The time required to dump a 6 word message is 100 m.s.

7.0 STORAGE REQUIREMENTS

Program	153_8 Cells
Temporary and Constants	50_8 Cells
Total	223_8 Cells

8.0 VALIDATION TEST

8.1 Test Inputs

8.1.2 Binary Tape

A binary tape, containing augmentation messages, was generated by the SIPSA System*.

8.1.3 Control Deck

The structure of the card deck used in the test is presented in Appendix C.

8.2 Procedure

- A COPII augmentation master tape was mounted on logical Tape Unit 1.

  The input tape was mounted on logical Tape Unit 2.

The card deck shown in Appendix C was read into the 533 reader and the test was executed.

Data was output on logical Tape Unit 3 and the test was terminated.

8.3 Test Outputs

A partial listing of the output tape is presented in Appendix B.

The data on the input tape and output tape was compared and found to be identical.

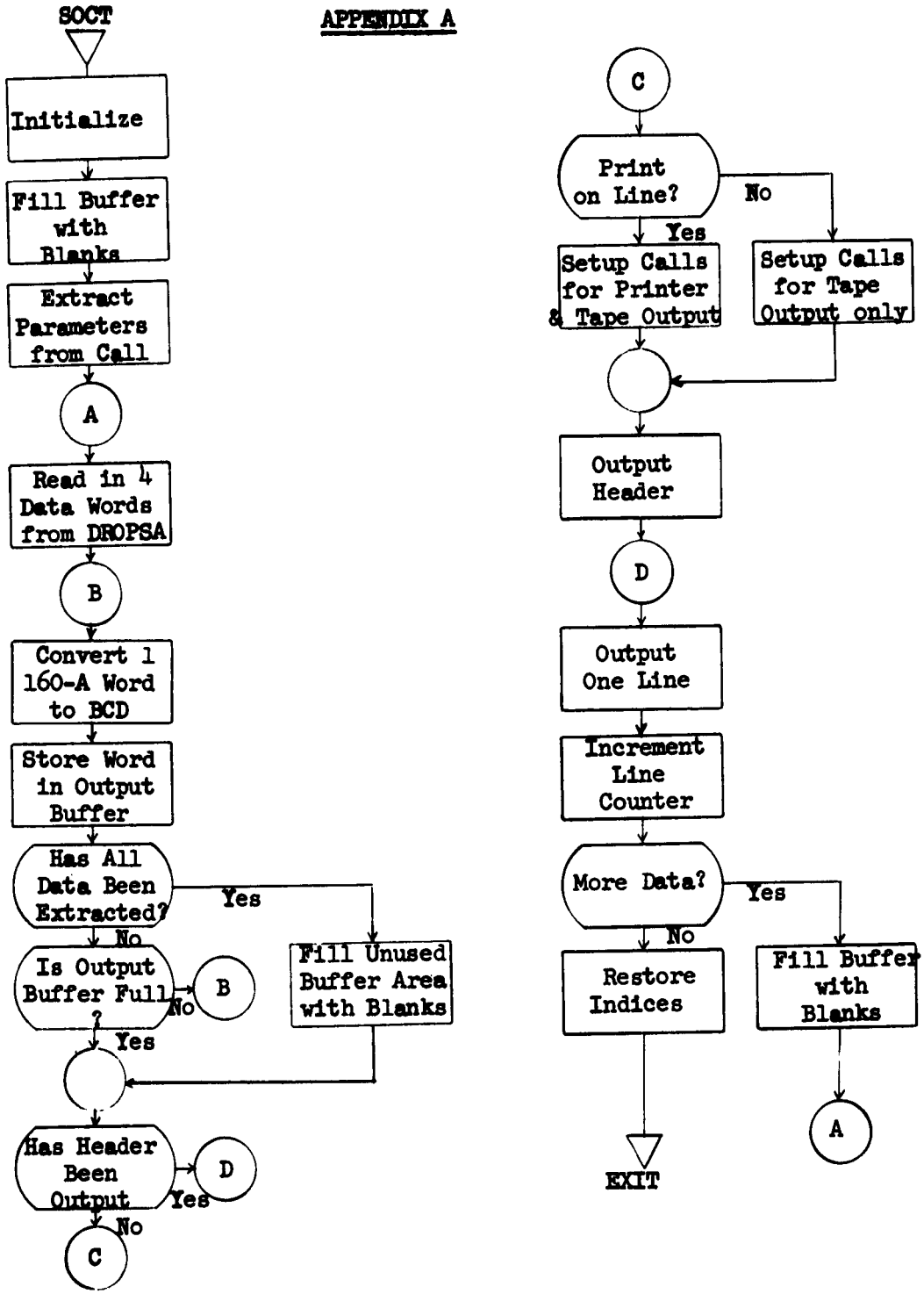
9.0 REFERENCES

9.1 TM-(L)-734/015/00, Computer Program Design Specifications for the Simulation of the Augmented SCF Environment at the STA and CPDC, System Development Corporation, 21 November 1962.

9.2 TM-(L)-734/017/00, Data Reduction and Output Preparation System for Augmentation (DROPSA), System Development Corporation, 15 March 1963.

9.3 CPL Catalogue No. 75922.

APPENDIX A


SOCT
Initialize
Fill Buffer with Blanks
Extract Parameters from Call
A
Read in 4 Data Words from DROPSA
B
Convert 1 160-A Word to BCD
Store Word in Output Buffer
Has All Data Been Extracted?
Yes
No
Fill Unused Buffer Area with Blanks
Is Output Buffer Full?
No
B
Yes
Has Header Been Output
Yes
D
No
C
C
Print on Line?
No
Yes
Setup Calls for Printer & Tape Output
Setup Calls for Tape Output only
Output Header
D
Output One Line
Increment Line Counter
More Data?
Yes
No
Restore Indices
Fill Buffer with Blanks
A
EXIT

APPENDIX B

OCTAL DUMP OF MESSAGE CONTAINING 6 WORDS

1.	2.	3.	4.	5.	6.
7777	0113	0012	4000	0000	3652

OCTAL DUMP OF MESSAGE CONTAINING 4 WORDS

1.	2.	3.	4.
7777	0405	0503	6667

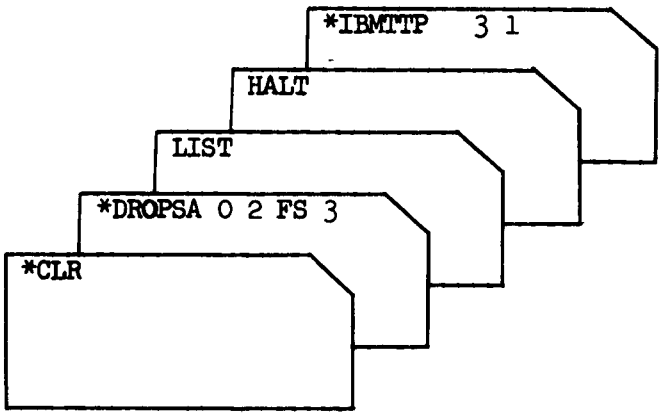
OCTAL DUMP OF MESSAGE CONTAINING 6 WORDS

1.	2.	3.	4.	5.	6.
7777	0113	0012	4000	0001	3651

OCTAL DUMP OF MESSAGE CONTAINING 4 WORDS

1.	2.	3.	4.
7777	0405	0503	6667

APPENDIX C



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System Development Corporation,
Santa Monica, California
1604 SIMULATION PROGRAM DESCRIPTIONS
MILESTONE 11 OCTAL-DUMP FOR SIMULATION
AUGMENTATION MESSAGES (SOCT).
Scientific rept., TM(L)-734/020/00,
by J. D. Solomon. 15 March 1963, 7p.
3 refs.
(Contract AF 19(628)-1648, Space Systems
Division Program, for Space Systems
Division, AFSC)

Unclassified report

DESCRIPTORS: Programming (Computers).
Satellite Networks.

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Reports that SOCT (Octal Dump for
Simulation Augmentation Messages)
is used to output messages which
have been previously generated and
recorded on magnetic tape by the
SIPSA (Simulated Input Preparation
System for Augmentation) system, or
recorded by SIMSTN (Augmented Tracking
Station Simulation Program).

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