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DECUS NO.	8-338
TITLE	BIN AND CBL LOADER
AUTHOR	Brian E. Wood
COMPANY	Weston High School Weston, Massachusetts
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BIN AND CBL LOADER

DECUS Program Library Write-up

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ABSTRACT

The combination BIN and CBL loader is used to load paper tapes in either BIN or CBL format. The program features automatic selection of the format in use so no switch register setting is needed. The program currently operates with the PR-8 high speed paper tape reader but it can be modified to use the ASR-33 reader.

OPERATING PROCEDURE

The BIN and CBL loader is operated as follows. With the loader in core a binary tape is placed in the reader. Be sure that the leader-trailer (code 200) is placed over the sensors. The switch register is then set to 7777 and Load Address is depressed. Note that the loader does not process memory fields, so the proper instruction and data fields must be set before Load Address is depressed. The Start key is depressed after the load address key. The tape will start through the reader. If correct reading has occurred the loader will halt at the end of the tape with a zero accumulator. If a checksum error is detected on a CBL tape, the loader will halt at the end of the block in question with a non-zero accumulator. The error may be ignored by pressing Continue, or the block can be reread by backing up the tape to the beginning of the block and depressing Continue. On BIN tapes a checksum error will be indicated by a non-zero accumulator when the loader halts at the end of the tape. The entire tape must be reread to correct the error. Note that if a tape is in two or more sections the second section may be loaded by pressing Continue only if the second section is in the same format as the first half. Otherwise the loader must be restarted at 7777.

LOADING PROCEDURE

The CBL and BIN loader is furnished on paper tape in RIM format. Therefore, it must be loaded into memory with a RIM loader. As the BIN and CBL loader occupies virtually all of the last page of whatever memory field it is in, the RIM loader must not be on the same page and field as the BIN and CBL loader is being placed as certain complications would arise if this were attempted.

REFERENCES

Compressed Binary Loader
Binary Loader

DECUS No. 8-26a
DEC-08-LBAA-D

/COMBINATION BIN AND CBL LOADER
/CBL SECTION
/

*7600

7600	0000	CKSM,0
7601	0000	READ,0/READ SUBROUTINE
7602	6014	RFC
7603	6011	RSF
7604	5203	JMP .-1
7605	6012	RRB
7606	3357	DCA CHAR
7607	1357	TAD CHAR
7610	5601	JMP I READ
7611	0000	HELP,0
7612	1623	TAD I PAIR
7613	3623	DCA I PAIR
7614	1623	TAD I PAIR
7615	1200	TAD CKSM
7616	7430	SZL
7617	7101	CLL IAC/END AROUND CARRY OF CHECKSUM
7620	3200	DCA CKSM
7621	2223	ISZ PAIR
7622	5611	JMP I HELP
7623	0000	PAIR,0
7624	4201	JMS READ
7625	7106	CLL RTL
7626	7006	RTL
7627	3623	DCA I PAIR
7630	4201	JMS READ
7631	0246	AND LMASK
7632	4211	JMS HELP
7633	6012	RRB
7634	7106	CLL RTL
7635	7006	RTL
7636	0303	AND HMASK
7637	3623	DCA I PAIR
7640	4201	JMS READ
7641	4211	JMS HELP
7642	5623	JMP I PAIR
7643	0000	STOR,0
7644	3672	DCA I ADR
7645	2272	ISZ ADR
7646	0017	LMASK,0017/ALSO ACTS AS NOP
7647	2273	ISZ CNT
7650	5643	JMP I STOR/NOT END OF BLOCK
7651	5271	JMP BLCK/END OF BLOCK
7652	4223	MAIN, JMS PAIR
7653	0000	WORD1,0
7654	0000	WORD2,0
7655	1253	TAD WORD1

7656	4243	JMS STOR
7657	1254	TAD WORD2
7660	4243	JMS STOR
7661	5274	JMP MORE
7662	4201	START, JMS READ
7663	7650	SNA CLA/WAIT FOR START OF LEADER-TRAILER
7664	5262	JMP .-2
7665	4201	JMS READ
7666	7640	SZA CLA/WAIT FOR BLANK LINE
7667	4201	CBL, JMS READ/ENTRY POINT FOR CBL SECTION
7670	3200	DCA CKSM
7671	4223	BLCK, JMS PAIR
7672	0000	ADR, 0
7673	0000	CNT, 0
7674	1273	MORE, TAD CNT
7675	7640	SZA CLA/CHECK FOR END OF BLOCK
7676	5252	JMP MAIN/NOT END OF BLOCK, GO BACK
7677	1200	TAD CKSM/END OF BLOCK, GET CKSM FOR ACCUMULATOR DISPLAY/
7700	2200	ISZ CKSM
7701	7402	HLT/AC=0 MEANS END OF TAPE, AC NOT 0 MEANS CHECKSUM ERROR
7702	5262	JMP START
7703	7400	HMASK, 7400
		/BIN LOADER AND INITIALIZATION SECTION
7704	0000	BEGG, 0
7705	4201	JMS READ
7706	0356	AND MASK
7707	1360	TAD M200
7710	7650	SNA CLA/CHECK FOR LEADER TRAILER
7711	5704	JMP I BEGG
7712	2304	ISZ BEGG
7713	5704	JMP I BEGG
7714	4347	BEND, JMS ASSEMB
7715	7041	CIA
7716	1200	TAD CKSM
7717	7402	HLT/AC=0 MEANS END OF TAPE, AC NOT 0 = CHECKSUM ERROR
7720	4304	BEGIN, JMS BEGG/ENTRY POINT FOR PROGRAM
7721	5320	JMP .-1
7722	1357	TAD CHAR
7723	7650	SNA CLA/BIN OR CBL FORMAT
7724	5267	JMP CBL/CBL FORMAT
7725	3200	GO, DCA CKSM/BIN FORMAT
7726	1357	TAD CHAR
7727	3253	DCA WORD1
7730	4201	JMS READ
7731	3254	DCA WORD2
7732	4304	JMS BEGG
7733	5314	JMP BEND
7734	4347	JMS ASSEMB
7735	7420	SNL
7736	5344	JMP MEMFLD
7737	3272	DCA ADR

7740	1253	CHEX, TAD WORD1
7741	1254	TAD WORD2
7742	1200	TAD CKSM
7743	5325	JMP GO
7744	3672	MEMFLD, DCA I ADR
7745	2272	ISZ ADR
7746	5340	JMP CHEX
7747	0000	ASSEMB, 0
7750	1253	TAD WORD1
7751	7106	CLL RTL
7752	7006	RTL
7753	7006	RTL
7754	1254	TAD WORD2
7755	5747	JMP I ASSEMB
7756	0300	MASK, 300
7757	0000	CHAR, 0
7760	7600	M200, -200
		*7777
7777	5320	JMP BEGIN

ADR	7672
ASSEMB	7747
BEGG	7704
BEGIN	7720
BEND	7714
BLCK	7671
CBL	7667
CHAR	7757
CHEX	7740
CKSM	7600
CNT	7673
GO	7725
HELP	7611
HMASK	7703
LMASK	7646
MAIN	7652
MASK	7756
MEMFLD	7744
MORE	7674
M200	7760
PAIR	7623
READ	7601
START	7662
STOR	7643
WORD1	7653
WORD2	7654