

~~CONFIDENTIAL~~

OSAP-A LISTING



CONTROL DATA CORPORATION

0000	0000	CON	0		
0000	7101	START	JFI	1	
0001	0100				BEGIN
0002	0000	PARAM			I/O CONFIG SET BY COMPILER
0003	0000	ENDFLG			7777 END PSUEDO-OP
0004	0000	LORC			CONTAINS LC OR CC
0005	0000	LC			CURRENT PRG OR ORG LINE VALUE
0006	0000	CC			CURRENT CON LINE VALUE
0007	0000	FLEXUL			0 = LOWER CASE
0010	0000	FI			1ST WORD OF FLAGS
0011	0000	FJ			2ND WORD OF FLAGS
0012	0000	FE			CONTENTS OF ASSEMBLED LOCATION
0013	0000	STL			SYMBOL TABLE LOCATION
0014	0000	OPC1			1ST PAIR OF OP-CODE CHARS
0015	0000	OPC2			2ND PAIR OF OP-CODE CHARS
0016	0000	ADDR			ADDRESS FIELD (BIN. OR STL)
0017	0000	ADDI			ADDITIVE FIELD (BIN. OR STL)
0020	0000	DELTA			ASSEMBLED LINE COUNT INCREMENT
0021	0000	L1			SYMBOLIC CONTENTS
0022	0000	L2			OF LOC., ADDR.,
0023	0000	L3			OR ADDI. FIELDS
0024	0000	L4			VALUE OF SYMBOL
0025	0000	L5			2ND PASS COMMENTS FLAG
0026	0000	SUPP			SUPPRESSION CODE
0027	0000	PSUEDO			PSUEDO-OP INDICATOR
0030	0000	LADDR			LOC. OF ADDR IN STORAGE AREA
0031	0000	LFI			LOC. OF FI IN STORAGE AREA
0032	0000	LFE			LOC. OF FE IN STORAGE AREA
0033	0000	TCON			LOC. OF S.V. OF NEXT C.S.
0034	0000	TVAR			LOC. OF 1ST CHAR. OF NEXT V.S.
0035	0000	SRD1			OUTPUT-TYPE SELECTOR
0036	0000	SRD2			OUTPUT FIELD SELECTOR
0037	0000	SCANEX			SCAN SUBROUTINE EXIT
0040	0000	SIGMA			ADDR + ADDI
0041	0000	TEMWCT			TEMP STORAGE AREA LOC.
0042	0000	FLEX			RETURN JUMP ENTRY
0043	7101		JFI	1	
0044	3264				FLXBCD
0045	0000	BCD			RETURN JUMP ENTRY
0046	7101		JFI	1	
0047	3256				BCDFLX
0050	3364	SCANR			SCAN
0051	0000	CASPAS			LOC. OF SCAN ROUTINE
0052	0000	WDCT			ODD = INTERMEDIATE TAPE
0053	7670	CC10		-71D	CURRENT STORAGE AREA LOC.
0054	7671	CC11		-70D	LOC. OF SYMBOLIC INPUT COL. 10
0055	7672	CC12		-69D	LOC. OF SYMBOLIC INPUT COL. 11
0056	7673	CC13		-68D	LOC. OF SYMBOLIC INPUT COL. 12
0057	0000	INTCON			LOC. OF SYMBOLIC INPUT COL. 13
0060	0000	RELBIT			FLAG FOR INTOUT OR INTIN
0061	0000	CRDCOL			1 = CURR. LINE IS RELOCATABLE
0062	0000	INPUT			INPUT OR OUTPUT COL. LOCATION
0063	0000	INTOUT			SYMBOLIC INPUT SUBR.
0064	0000	INTIN			INTERMED. OUTPUT SUBR.
0065	0000	LSTOUT			INTERMED. INPUT SUBR.
0066	0000	BINOUT			LISTABLE OUTPUT SUBR.
0067	0000	INSTOR			BINARY OUTPUT SUBR.
0070	0000	TEM0			START OF STORAGE AREA
0071	0000	TEM1			TRANSIENT STORAGE
0072	0000	TEM2			

0000	0000	CON	0		
0000	7101	START	JFI	1	
0001	0100				BEGIN
0002	0000	PARAM			I/O CONFIG SET BY COMPILER
0003	0000	ENDFLG			7777 END PSUEDO-OP
0004	0000	LORC			CONTAINS LC OR CC
0005	0000	LC			CURRENT PRG OR ORG LINE VALUE
0006	0000	CC			CURRENT CON LINE VALUE
0007	0000	FLEXUL			0 = LOWER CASE
0010	0000	FI			1ST WORD OF FLAGS
0011	0000	FJ			2ND WORD OF FLAGS
0012	0000	FE			CONTENTS OF ASSEMBLED LOCATION
0013	0000	STL			SYMBOL TABLE LOCATION
0014	0000	OPC1			1ST PAIR OF OP-CODE CHARS
0015	0000	OPC2			2ND PAIR OF OP-CODE CHARS
0016	0000	ADDR			ADDRESS FIELD (BIN. OR STL)
0017	0000	ADDI			ADDITIVE FIELD (BIN. OR STL)
0020	0000	DELTA			ASSEMBLED LINE COUNT INCREMENT
0021	0000	L1			SYMBOLIC CONTENTS
0022	0000	L2			OF LOC., ADDR.,
0023	0000	L3			OR ADDI. FIELDS
0024	0000	L4			VALUE OF SYMBOL
0025	0000	L5			2ND PASS COMMENTS FLAG
0026	0000	SUPP			SUPPRESSION CODE
0027	0000	PSUEDO			PSUEDO-OP INDICATOR
0030	0000	LADDR			LOC. OF ADDR IN STORAGE AREA
0031	0000	LFI			LOC. OF FI IN STORAGE AREA
0032	0000	LFE			LOC. OF FE IN STORAGE AREA
0033	0000	TCON			LOC. OF S.V. OF NEXT C.S.
0034	0000	TVAR			LOC. OF 1ST CHAR. OF NEXT V.S.
0035	0000	SRD1			OUTPUT-TYPE SELECTOR
0036	0000	SRD2			OUTPUT FIELD SELECTOR
0037	0000	SCANEX			SCAN SUBROUTINE EXIT
0040	0000	SIGMA			ADDR + ADDI
0041	0000	TEMWCT			TEMP STORAGE AREA LOC.
0042	0000	FLEX			RETURN JUMP ENTRY
0043	7101		JFI	1	
0044	3264				FLXBCD
0045	0000	BCD			RETURN JUMP ENTRY
0046	7101		JFI	1	
0047	3256				BCDFLX
0050	3364	SCANR			SCAN
0051	0000	CASPAS			LOC. OF SCAN ROUTINE
0052	0000	WDCT			ODD = INTERMEDIATE TAPE
0053	7670	CC10		-71D	CURRENT STORAGE AREA LOC.
0054	7671	CC11		-70D	LOC. OF SYMBOLIC INPUT COL. 10
0055	7672	CC12		-69D	LOC. OF SYMBOLIC INPUT COL. 11
0056	7673	CC13		-68D	LOC. OF SYMBOLIC INPUT COL. 12
0057	0000	INTCON			LOC. OF SYMBOLIC INPUT COL. 13
0060	0000	RELBIT			FLAG FOR INTOUT OR INTIN
0061	0000	CRDCOL			1 = CURR. LINE IS RELOCATABLE
0062	0000	INPUT			INPUT OR OUTPUT COL. LOCATION
0063	0000	INTOUT			SYMBOLIC INPUT SUBR.
0064	0000	INTIN			INTERMED. OUTPUT SUBR.
0065	0000	LSTOUT			INTERMED. INPUT SUBR.
0066	0000	BINOUT			LISTABLE OUTPUT SUBR.
0067	0000	INSTOR			BINARY OUTPUT SUBR.
0070	0000	TEM0			START OF STORAGE AREA
0071	0000	TEM1			TRANSIENT STORAGE
0072	0000	TEM2			

0073	0000	TEM3			
0074	0000	TEM4			
0075	0000	TEM5			
0076	0000	TEM6			
0077	0000	TEM7			
	0027	ECOUNT	EQU	PSUEDO	NO. OF LINES IN ERROR
	0030	K1	EQU	LADDR	ERROR FLAG COUNT
	0031	K2	EQU	LFI	ERROR FLAG COLUMN
	0032	K3	EQU	LFE	ERROR FLAGS
	0037	FRSTIM	EQU	SCANEX	1ST-WORD INDICATOR
	0042	TEMPA	EQU	FLEX	TEMPORARY STORAGE
	0045	TEMPB	EQU	BCD	TEMPORARY STORAGE
	0100		PRG		
0100	7500	BEGIN	EXF	0	
0101	4102			4102	<i>SELECT READER</i>
0102	7720			7720	SLJ2
0103	0111			READST	JP TO RST ON SW2
0104	0476		LDN	76	
0105	4034		STD	TVAR	
0106	0501		LCN	1	
0107	4033		STD	TCON	
0110	6110		NZF	INIT	
0111	7100	READST	JFI	0	
0112	3676			RST	READ SYMBOL TABLE
0113	2002		LDD	PARAM	
0114	0110			110	LS3
0115	0207		LPN	7	
0116	6102		NZF	2	
0117	7700		HLT		STOP TO RELOAD PAPER TAPE
0120	0405	INIT	LDN	LC	
0121	4004		STD	LORC	
0122	0400		LDN	0	
0123	4003		STD	ENDFLG	
0124	4006		STD	CC	
0125	4051		STD	CASPAS	
0126	4026		STD	SUPP	
0127	0501		LCN	1	
0130	4057		STD	INTCON	
0131	3223		ADF	SIMEND +3	
0132	4005		STD	LC	
0133	2067		LDD	INSTOR	
0134	4052		STD	WDCT	
0135	0140			140	SET BUFFER BANK TO ZERO
0136	0060			60	SET DIRECT AND INDIRECT TO ZERO
0137	0407	READ	LDN	FLEXUL	
0140	4077		STD	TEM7	
0141	0400		LDN	0	ZERO
0142	4177		STI	TEM7	BLOCK
0143	5477		AOD	TEM7	OF
0144	0725		SBN	L5	LOW
0145	6504		NZB	4	CORE
0146	0101			101	PTA XFER P TO A
0147	7062		JPI	INPUT	READ A LINE
0150	5011		RAD	FJ	
0151	2200	SIMEND	LDF	0	
0152	7660			-79D	
0153	4061		STD	CRDCOL	
0154	0101			101	PTA
0155	7050		JPI	SCANR	
0156	4070		STD	TEM0	

0157	0714		SBN	14	
0160	6303		NJF	3	
0161	0440		LDN	40	
0162	5010		RAD	FI	
0163	2070		LDD	TEMO	
0164	0203		LPN	3	
0165	6035		ZJF	SCNOP	
0166	7100		JFI	0	
0167	3620			SEARCH	SEARCH ENTIRE SYMBOL TABLE
0170	6021		ZJF	SSYM	
0171	4013		STD	STL	
0172	2104		LDI	LORC	
0173	0021			21	
0174	4134		STI	TVAR	
0175	2513		LCI	STL	
0176	6106		NZF	6	
0177	2134		LDI	TVAR	
0200	4113		STI	STL	
0201	0020			20	
0202	6015		ZJF	SSYM	+6
0203	6114		NZF	SSYM	+6
0204	0020			20	
0205	0410		LDN	10	
0206	0111			111	LS6
0207	5010		RAD	FI	SET DUPLICATE LOC. FLAG
0210	6107		NZF	SSYM	+6
0211	2104	SSYM	LDI	LORC	
0212	7100		JFI	0	
0213	3652			STSY	STORE SYMBOL IN VST
0214	2034		LDD	TVAR	
0215	0701		SBN	1	
0216	4013		STD	STL	
0217	0440		LDN	40	
0220	0111			111	LS6
0221	5011		RAD	FJ	SET STL FLAG
0222	0406	SCNOP	LDN	6	
0223	5061		RAD	CRDCOL	ADVANCE CARD COL.
0224	7100		JFI	0	
0225	2126			SOPT	TRANSLATE OP CODE
0226	0410		LDN	FI	
0227	4042		STD	TEMPA	
0230	0416		LDN	ADDR	
0231	4045		STD	TEMPB	
0232	0101	SCNAD		101	PTA
0233	7050		JPI	SCANR	SCAN FIELD
0234	5142		RAI	TEMPA	
0235	0203		LPN	3	
0236	0303		LSN	3	
0237	6112		NZF	STAD	-1
0240	7100		JFI	0	
0241	3620			SEARCH	
0242	6110		NZF	STAD	
0243	0500		LCN	0	
0244	7100		JFI	0	
0245	3652			STSY	
0246	2034		LDD	TVAR	
0247	0701		SBN	1	
0250	6102		NZF	STAD	
0251	2024		LDD	L4	
0252	4145	STAD	STI	TEMPB	

0253	5461		AOD	CRDCOL	
0254	5442		AOD	TEMPA	
0255	5445		AOD	TEMPB	
0256	0720		SBN	DELTA	
0257	6525		NZB	SCNAD	
0260	7100		JFI	0	
0261	2770			ADSUM	COMPUTE ADDR + ADDI
0262	2427		LCD	PSUEDO	
0263	6205		PJF	WICHPS	JP IF PSUEDO-OP
0264	2011	STLQ	LDD	FJ	
0265	6221		PJF	LERAY	JP IF NO STL
0266	0021			21	SET INDIRECT BANK
0267	6341		NJF	LORCQ	
0270	0707	WICHPS	SBN	7	
0271	6016		ZJF	KON	
0272	0701		SBN	1	
0273	6015		ZJF	PROG	
0274	0701		SBN	1	
0275	6016		ZJF	ORIG	
0276	0701		SBN	1	
0277	6513		NZB	STLQ	
0300	2040	QUE	LDD	SIGMA	
0301	4012		STD	FE	
0302	0021			21	
0303	4113		STI	STL	
0304	2060		LDD	RELBIT	
0305	6026		ZJF	KPOA	
0306	6255	LERAY	PJF	RBNKO	CONTINUE
0307	0601	KON	ADN	1	
0310	0605	PROG	ADN	LC	
0311	4004		STD	LORC	
0312	6105		NZF	ORIGA	
0313	0405	ORIG	LDN	LC	
0314	4004		STD	LORC	
0315	0673		ADN	100	-LC
0316	4104		STI	LORC	
0317	2070	ORIGA	LDD	TEMO	
0320	6003		ZJF	KPO	JP IN UNSPECIFIED
0321	2040		LDD	SIGMA	DEFINED OR NOT
0322	4104		STI	LORC	
0323	2104	KPO	LDI	LORC	
0324	4104		STI	LORC	
0325	4012		STD	FE	
0326	0021			21	SET INDIRECT BANK
0327	4113		STI	STL	
0330	2004	LORCQ	LDD	LORC	
0331	0706		SBN	CC	
0332	6131		NZF	RBNKO	JP IF NOT
0333	2013	KPOA	LDD	STL	
0334	6027		ZJF	RBNKO	JP IF NO STL
			REM		MOVE CMN 7/27/61
0335	0704	MVSY	SBN	4	OPEN SUBROUTINE
0336	4077		STD	77	77 HAS LOC IN VAR STORE
0337	2033		LDD	TCON	
0340	3434		SBD	TVAR	
0341	0703		SBN	3	
0342	6102		NZF	2	
0343	0000		ERR		
0344	0504		LCN	4	FULL SYMBOL TABLE
0345	5033		RAD	TCON	

0346	4076		STD	76	76 HAS LOC IN CON STORE
0347	5476	AMVSY	AOD	76	MOVE ONE WORD FROM
0350	5477		AOD	77	
0351	2177		LDI	77	
0352	4176		STI	76	VAR TO CON
0353	0400		LDN	0	
0354	4177		STI	77	ZERO VAR
0355	4603		SRF	MVSWCH	
0356	6607		PJB	AMVSY	
0357	6302		NJF	2	
0360	4210	MVSWCH		4210	
0361	2076		LDD	76	
0362	4177		STI	77	
0363	0020	RBNKO		20	RESET INDIRECT BANK
0364	2052		LDD	WDCT	PRESERVE LOCATIONS
0365	4031		STD	LF1	
0366	4030		STD	LADDR	
0367	0601		ADN	1	
0370	4076		STD	TEM6	
0371	0601		ADN	1	
0372	4032		STD	LFE	
0373	2010		LDD	FI	
0374	0203		LPN	3	
0375	6006		ZJF	RBNK01	
0376	2011		LDD	FJ	
0377	0102			102	
0400	0201		LPN	1	
0401	0605		ADN	5	
0402	5030		RAD	LADDR	
0403	7100	RBNK01	JFI	0	
0404	3117			MOVE	
0405	2052		LDD	WDCT	ROUTINE
0406	4077		STD	TEM7	TO
0407	0701		SBN	1	PACK
0410	4052		STD	WDCT	COMMENTS
0411	0563		LCN	63	CHARACTERS
0412	4061		STD	CRDCOL	INTO
0413	0501	PAKA	LCN	1	STORAGE
0414	4072		STD	TEM2	AREA
0415	0471		LDN	TEM1	
0416	4074	PAKB	STD	TEM4	
0417	5461		AOD	CRDCOL	
0420	6037		ZJF	PAKDUN	JP IF CARD DONE
0421	2161		LDI	CRDCOL	
0422	4174		STI	TEM4	
0423	0720		SBN	20	
0424	6104		NZF	PAKAWY	JP IF CHAR NON-BLANK
0425	5472		AOD	TEM2	
0426	0473		LDN	TEM3	
0427	6511		NZB	PAKB	
0430	0471	PAKAWY	LDN	TEM1	
0431	4075		STD	TEM5	
0432	2072		LDD	TEM2	
0433	6105		NZF	5	
0434	4071		STD	TEM1	
0435	2073		LDD	TEM3	
0436	4072		STD	TEM2	
0437	6102		NZF	2	
0440	5474		AOD	TEM4	
0441	4600		SRF	0	

0442	5252	PAIR		5252	
0443	6311		NJF	PAKD	
0444	5452		AOD	WDCT	
0445	2175		LDI	TEM5	
0446	0111			111	LS6
0447	4152	PAKC	STI	WDCT	
0450	5475		AOD	TEM5	
0451	3474		SBD	TEM4	
0452	6511		NZB	PAIR	-1
0453	6440		ZJB	PAKA	JP TO GET NEXT CHAR
0454	2175	PAKD	LDI	TEM5	
0455	1552		LSI	WDCT	
0456	6507		NZB	PAKC	
0457	4715	PAKDUN	SRB	PAIR	
0460	6601		PJB	1	
0461	5452		AOD	WDCT	
0462	3477		SBD	TEM7	
0463	0111			111	LS6
0464	5176		RAI	TEM6	INSERT CHAR WORD COUNT INTO FJ
0465	2010		LDD	FI	
0466	6303		NJF	TESPSU	JP IF PSUEDO-OP
0467	7101		JFI	1	
0470	0646			NONPS	
0471	2427	TESPSU	LCD	PSUEDO	
0472	3367		ADB	RBNK01	
0473	4201		STF	1	
0474	7100		JFI		PSUEDO-OP FORK
0475	0512			DX	BCD
0476	0512			DX	FLX
0477	0715			MER	TTY
0500	0704			PUS	SUP
0501	0667			KNB	BNK
0502	0715			MER	REM
0503	0715			MER	CON
0504	0715			MER	PRG
0505	0715			MER	ORG
0506	0715			MER	EQU
0507	0661			DNE	END
0510	0655			SSB	BSS
0511	0655			SSB	BLR
					DCB AND XLF
0512	0201	DX	REM	LPN	1
0513	3202		ADF	LDNZER	
0514	4221		STF	CODE	
0515	0400	LDNZER	LDN	0	
0516	4007		STD	FLEXUL	
0517	4152		STI	WDCT	
0520	2030		LDD	LADDR	
0521	3432		SBD	LFE	
0522	6305		NJF	EQUZER	
0523	2130		LDI	LADDR	
0524	6003		ZJF	EQUZER	
0525	2530		LCI	LADDR	
0526	6102		NZF	2	
0527	0501	EQUZER	LCN	1	
0530	4071		STD	TEM1	
0531	0562		LCN	50D	
0532	4070		STD	TEM0	
0533	2052		LDD	WDCT	
0534	4072		STD	TEM2	

STORAGE START ADDRESS.

Address	Code	Operation	Value	Notes
0535	0000	CODE	0	XLF OR DCB.
0536	6003	ZJF	TOFLEX	
0537	2170	LDI	TEM0	
0540	6122	NZF	CONRET	
0541	2170	TOFLEX LDI	TEM0	
0542	4073	STD	TEM3	
0543	0733	SBN	33	
0544	6066	ZJF	TBORCR	
0545	0737	SBN	37	
0546	6107	NZF	PRECON	
0547	5470	PLZERO AOD	TEM0	UPER CASE CHAR.
0550	2073	LDD	TEM3	
0551	0111		111	LS6
0552	4073	STD	TEM3	
0553	2170	LDI	TEM0	
0554	5073	RAD	TEM3	
0555	2073	PRECON LDD	TEM3	
0556	7100	JFI	0	CONVERSION ROUTINE
0557	0045		BCD	BCD TO FLEX.
0560	6102	NZF	2	
0561	0404	LDN	4	
0562	4073	CONRET STD	TEM3	
0563	2152	DXLOOP LDI	WDCT	
0564	6023	ZJF	FSTCHR	
0565	2073	LDD	TEM3	
0566	0111		111	LS6
0567	0277	LPN	77	
0570	6011	ZJF	ONECHR	
0571	5152	RAI	WDCT	
0572	2073	LDD	TEM3	
0573	0277	LPN	77	
0574	4073	STD	TEM3	
0575	5452	AOD	WDCT	
0576	0400	LDN	0	
0577	4152	STI	WDCT	
0600	6415	ZJB	DXLOOP	
0601	2073	ONECHR LDD	TEM3	
0602	5152	RAI	WDCT	
0603	5452	CLRWDT AOD	WDCT	
0604	0400	LDN	0	
0605	4152	STI	WDCT	
0606	6010	ZJF	TEST	
0607	2073	FSTCHR LDD	TEM3	
0610	0111		111	LS6
0611	0277	LPN	77	
0612	6511	NZB	ONECHR	
0613	2073	LDD	TEM3	
0614	0111		111	LS6
0615	5152	RAI	WDCT	
0616	5470	TEST AOD	TEM0	
0617	6003	ZJF	COLEND	
0620	5471	AOD	TEM1	
0621	6564	NZB	CODE	
0622	2152	COLEND LDI	WDCT	
0623	6002	ZJF	2	
0624	5452	AOD	WDCT	
0625	2052	LDD	WDCT	
0626	3472	SBD	TEM2	
0627	4020	STD	DELTA	
0630	7101	JFI	1	

0631	0664		DNE	+3	
0632	5470	TBORCR	AOD	TEM0	TAB OR CR TEST
0633	2170		LDI	TEM0	
0634	0753		SBN	53	
0635	6007		ZJF	TAB	
0636	0720		SBN	20	
0637	6004		ZJF	CR	
0640	0501		LCN	1	
0641	5070		RAD	TEM0	
0642	6565		NZB	PRECON	
0643	0504	CR	LCN	4	
0644	0651	TAB	ADN	51	
0645	6563		NZB	CONRET	
0646	0111	NONPS		111	LS6
0647	0207		LPN	7	
0650	0704		SBN	4	
0651	6002		ZJF	2	
0652	0501		LCN	1	
0653	0602		ADN	2	
0654	6102		NZF	SSB	+1
0655	2040	SSB	LDD	SIGMA	
0656	4020		STD	DELTA	
0657	6136		NZF	MER	
0660	6035		ZJF	MER	
0661	0500	DNE	LCN	0	
0662	4003		STD	ENDFLG	
0663	2040		LDD	SIGMA	
0664	4132		STI	LFE	
0665	6130		NZF	MER	
0666	6027		ZJF	MER	
0667	2156	KNB	LDI	CC13	GET
0670	0710		SBN	10	BANK
0671	6203		PJF	3	NUMBER
0672	0610		ADN	10	
0673	6607		PJB	DNE	+3
0674	0702		SBN	2	
0675	6411		ZJB	DNE	+3
0676	2600	ILLOP	LCF	0	
0677	2000			2000	ILLEGAL OP FLAG
0700	1131		LPI	LFI	
0701	1702			1702	LSB 02
0702	4131		STI	LFI	
0703	6112		NZF	MER	
0704	2015	PUS	LDD	OPC2	
0705	0203		LPN	3	
0706	6410		ZJB	ILLOP	
0707	0703		SBN	3	
0710	6412		ZJB	ILLOP	
0711	4074		STD	TEM4	
0712	1026		LPD	SUPP	
0713	3474		SBD	TEM4	
0714	4026		STD	SUPP	
0715	7701	MER		7701	SLS 1, SELECTIVE STOP
0716	7100		JFI	0	
0717	2104			TBL	
0720	2020		LDD	DELTA	
0721	5104		RAI	LORC	INCREMENT LOC. COUNTER
0722	2403		LCD	ENDFLG	
0723	6106		NZF	INTQ	
0724	2051		LDD	CASPAS	

0725	6022		ZJF	PASS2		JP IF NO INTERMEDIATE
0726	0101	NOW		101		PTA
0727	0617		ADN	THEN	-NOW	
0730	7063		JPI	INTOUT		
0731	2052	INTQ	LDD	WDCT		
0732	0674		ADN	60D		
0733	6212		PJF	THEN		
0734	3600		SBF	0		
0735	7516			7516		
0736	6307		NJF	THEN		
0737	0401		LDN	1		
0740	4051		STD	CASPAS		
0741	0101			101		
0742	7063		JPI	INTOUT		
0743	2067		LDD	INSTOR		
0744	4052		STD	WDCT		
0745	7101	THEN	JFI	1		
0746	0137			READ		
0747	0400	PASS2	LDN	0		
0750	7710			7710		SLJ1
0751	0753			PASS2	+4	JP ON SW1 TO REW 1
0752	6004		ZJF	4		
0753	7500		EXF	0		
0754	1161			1161		REW 1
0755	7700		HLT			
0756	7730			7730		SLJ3
0757	0761			PUST		JP ON SW3 TO PST
0760	6211		PJF	RST2P	+5	
0761	7100	PUST	JFI	0		
0762	3733			PST		
0763	6006		ZJF	RST2P	+5	
0764	4026	RST2P	STD	SUPP		ENTER HERE WITH SYMBOL TABLE
0765	0401		LDN	1		AND AN INTERMEDIATE TAPE
0766	4051		STD	CASPAS		
0767	7100		JFI	0		
0770	3676			RST		
0771	2002		LDD	PARAM		
0772	0277		LPN	77		
0773	6104		NZF	4		
0774	2200		LDF	0		
0775	5252	OUTCOD		5252		
0776	6102		NZF	2		
0777	0400		LDN	0		
1000	4035		STD	SRD1		
1001	2026		LDD	SUPP		
1002	6014		ZJF	SETT		JP IF NO SUPPRESSIONS
1003	0702		SBN	2		
1004	4300		STB	0		
1005	2310		LDB	OUTCOD		
1006	4035		STD	SRD1		
1007	2300		LDB	0		
1010	6306		NJF	SETT		JP IF BIN SUPPRESS
1011	4435		SRD	SRD1		
1012	2300		LDB	0		
1013	6003		ZJF	SETT		
1014	0500		LCN	0		
1015	4035		STD	SRD1		
1016	0402	SETT	LDN	2		
1017	5051		RAD	CASPAS		
1020	0501	MOROUT	LCN	1		

1021	4057		STD	INTCON	
1022	4003		STD	ENDFLG	
1023	4100		STI	0	SET LINE COUNT
1024	1751			LNS	
1025	2067		LDD	INSTOR	
1026	4052		STD	WDCT	
1027	2263		LDF	EXREG	ZERO
1030	4070		STD	TEM0	BINARY
1031	0400		LDN	0	CARD
1032	4170		STI	TEM0	IMAGE
1033	5470		AOD	TEM0	
1034	6503		NZB	3	
1035	4300		STB	0	SET FIRST TIME PRINT FLAG
1036	4027		STD	ECOUNT	
1037	4006		STD	CC	
1040	0405		LDN	LC	
1041	4004		STD	LORC	
1042	2252		LDF	ENREG -1	
1043	4005		STD	LC	
1044	0501	NOEND	LDN	1	
1045	4037		STD	FRSTIM	SET 1ST TIME INDICATOR
1046	0400		LDN	0	
1047	4041		STD	TEMWCT	
1050	2051		LDD	CASPAS	
1051	0201		LPN	1	
1052	6017		ZJF	ZRO	JP IF NO INTERMEDIATE
1053	2057		LDD	INTCON	
1054	6307		NJF	RINT	
1055	2052		LDD	WDCT	
1056	0674		ADN	60D	
1057	6212		PJF	ZRO	
1060	3600		SBF	0	
1061	7516			7516	
1062	6307		NJF	ZRO	
1063	0101	RINT		101	PTA
1064	7064		JPI	INTIN	
1065	7700		HLT		WAIT TO POSITION INT. TAPE
1066	6403		ZJB	3	
1067	2067		LDD	INSTOR	
1070	4052		STD	WDCT	
1071	0407	ZRO	LDN	FLEXUL	
1072	4077		STD	TEM7	
1073	0400		LDN	0	ZERO
1074	4177		STI	TEM7	BLOCK
1075	5477		AOD	TEM7	OF
1076	0721		SBN	L1	LOW
1077	6504		NZB	4	CORE
1100	7100		JFI	0	
1101	3117			MOVE	
1102	7100		JFI	0	
1103	2770			ADSUM	
1104	5437	REPEAT	AOD	FRSTIM	BLANK LINE IMAGE
1105	2210		LDF	ENREG	
1106	0105			105	ATE
1107	1105			REPEAT +1	
1110	2202		LDF	EXREG	
1111	0106			106	ATX
1112	7657	EXREG		-80D	
1113	0420		LDN	20	
1114	0100			100	BLS

1115	7516	ENREG		-177D	
1116	0421		LDN	L1	BLANK
1117	4030		STD	K1	FLAG
1120	0420		LDN	20	CHARACTERS
1121	4130		STI	K1	
1122	5430		AOD	K1	
1123	0725		SBN	L5	
1124	6504		NZB	4	
1125	2011		LDD	FJ	
1126	0240		LPN	40	
1127	4032		STD	K3	SET ERROR FLAG (X)
1130	2010		LDD	FI	
1131	0111			111	LS6
1132	0230		LPN	30	SET ERROR FLAGS (O AND M)
1133	5032		RAD	K3	
1134	0220		LPN	20	
1135	6164		NZF	STDFE +1	JP IF ILLEGAL OP CODE
1136	2010		LDD	FI	
1137	0111			111	LS6
1140	0247		LPN	47	
1141	0730		SBN	30	
1142	6202		PJF	2	
1143	0630		ADN	30	
1144	3261		ADF	TINUA	
1145	4203		STF	OPFORK	
1146	0400		LDN	0	
1147	4020		STD	DELTA	
1150	7100	OPFORK	JFI		
1151	1210			NDORI	
1152	1172			EFF	
1153	1171			BEE	
1154	1227			ARR	
1155	1250			TWOP	
1156	1221			NOAD	
1157	1217			BLOP	
1160	1210			NUMOP	
1161	1267			BLRSS	
1162	1274			NED	
1163	1300			EQUAL	
1164	1304			ROG	
1165	1304			RPG	
1166	1303			ONC	
1167	1366			REMARK	
1170	1317			BCFLT	
1171	0500	BEE	LCN	0	
1172	4042	EFF	STD	TEMPA	
1173	2010		LDD	FI	
1174	0240		LPN	40	
1175	6113		NZF	NDORI	
1176	0420		LDN	20	
1177	1011		LPD	FJ	
1200	3010		ADD	FI	
1201	0260		LPN	60	
1202	6006		ZJF	NDORI	
1203	2040		LDD	SIGMA	
1204	3504		SBI	LORC	
1205	1442			1400	TEMPA LSD
1206	4040		STD	SIGMA	
1207	6304		NJF	SERR	
1210	0577	NDORI	LCN	77	

1211	1040		LPD	SIGMA	
1212	6004		ZJF	BLOP	-1
1213	0402	SERR	LDN	2	SET ERROR FLAG (E)
1214	5032		RAD	K3	
1215	6104		NZF	STDFE	+1
1216	2012		LDD	FE	
1217	1440	BLOP		1400	SIGMA
1220	4012	STDFE	STD	FE	
1221	0400		LDN	0	
1222	0671		ADN	71	
1223	4036		STD	SRD2	
1224	5420		AOD	DELTA	
1225	7101	TINUA	JFI	1	
1226	1407			SETLIN	CONTINUATION
1227	2010	ARR	LDD	FI	
1230	0240		LPN	40	
1231	6516		NZB	SERR	
1232	2504		LCI	LORC	
1233	5040		RAD	SIGMA	
1234	6624		PJB	NDORI	
1235	2012		LDD	FE	
1236	0111		SHA	11	
1237	0601		ADN	1	
1240	0760		SBN	60	
1241	6302		NJF	2	
1242	0603		ADN	3	
1243	0660		ADN	60	
1244	0111		SHA	11	
1245	4012		STD	FE	
1246	2440		LCD	SIGMA	
1247	6541		NZB	NDORI	-2
1250	2037	TWOP	LDD	FRSTIM	
1251	6107		NZF	TWOP2	
1252	2060		LDD	RELBIT	
1253	4210		STF	BITREL	
1254	0400		LDN	0	
1255	4060		STD	RELBIT	
1256	3224	TWOPA	ADF	FOURTH	
1257	6535		NZB	STDFE	+2
1260	2040	TWOP2	LDD	SIGMA	
1261	4012		STD	FE	
1262	2200		LDF	0	
1263	0000	BITREL			
1264	4060		STD	RELBIT	
1265	0461	TWOP2A	LDN	61	
1266	6543		NZB	STDFE	+3
	1221	NOAD	EQU	STDFE	+1
	1210	NUMOP	EQU	NDORI	
1267	2040	BLRSS	LDD	SIGMA	
1270	4020		STD	DELTA	
1271	0474		LDN	74	
1272	4036		STD	SRD2	
1273	6546		NZB	TINUA	
1274	0500	NED	LCN	0	
1275	4003		STD	ENDFLG	
1276	0436		LDN	36	
1277	6505		NZB	BLRSS	+3
1300	0430	EQUAL	LDN	30	
1301	6110		NZF	RPGA	
1302	4000	FOURTH		4000	

1303	0601	ONC	ADN	1	
1304	0605	ROG	ADN	LC	
	1304	RPG	EQU	ROG	
1305	4004		STD	LORC	
1306	2012		LDD	FE	
1307	4104		STI	LORC	
1310	0434		LDN	34	
1311	4036	RPGA	STD	SRD2	
1312	2412		LCD	FE	
1313	6566		NZB	TINUA	
1314	0404		LDN	4	
1315	5032		RAD	K3	SET ERROR FLAG (L)
1316	6503		NZB	3	
1317	2014	BCFLTT	LDD	OPC1	
1320	3600		SBF	0	
1321	2323			2323	TT
1322	6050		ZJF	REMARK +4	JP IF TTY
1323	2010		LDD	FI	
1324	0203		LPN	3	
1325	6037		ZJF	REMARK -2	
1326	2037		LDD	FRSTIM	
1327	6110		NZF	NOFRST	
1330	2011		LDD	FJ	
1331	0111			111	LS6
1332	0237		LPN	37	
1333	3052		ADD	WDCT	
1334	4041		STD	TEMWCT	STORE START ADDRESS
1335	3012		ADD	FE	
1336	4211		STF	TERMIN	
1337	2015	NOFRST	LDD	OPC2	
1340	0277		LPN	77	
1341	0751		SBN	51	CHECK FOR R
1342	6032		ZJF	CHMODE	JP IF CHARACTER MODE
1343	2141		LDI	TEMWCT	
1344	4012		STD	FE	
1345	5441	UPAD	AOD	TEMWCT	
1346	3600		SBF	0	
1347	0000	TERMIN			TERMINATION ADDRESS
1350	6005		ZJF	LASTWD	JP IF LAST WORD
1351	2037		LDD	FRSTIM	
1352	6474		ZJB	TWOPA	JP IF FIRST WORD
1353	0510		LCN	10	
1354	6576		NZB	TWOPA	
1355	2012	LASTWD	LDD	FE	CHANGE
1356	0277		LPN	77	POSSIBLE
1357	6103		NZF	3	ZERO
1360	0420		LDN	20	TO
1361	5012		RAD	FE	BLANK
1362	2037		LDD	FRSTIM	
1363	6576		NZB	TWOP2A	
1364	0471		LDN	71	ONE AND ONLY ONE
1365	6577		NZB	TWOP2A +1	
1366	2014	REMARK	LDD	OPC1	
1367	3600		SBF	0	
1370	6245			6245	BN
1371	6473		ZJB	NED +2	
1372	0410		LDN	10	
1373	6574		NZB	NED +3	
1374	2141	CHMODE	LDI	TEMWCT	
1375	0111			111	

1376	4141		STI	TEMWCT		
1377	0277		LPN	77		
1400	4012		STD	FE		
1401	3541		SBI	TEMWCT		
1402	6435		ZJB	UPAD		
1403	4600		SRF	0		
1404	5252			5252		
1405	6740		NJB	UPAD		
1406	6635		PJB	TERMIN	+2	
1407	2036	SETLIN	LDD	SRD2		
1410	0103			103		LS2
1411	0110			110		LS3
1412	4036		STD	SRD2		
1413	7100		JFI	0		
1414	2104			TBL		
1415	6026		ZJF	ERFL		
1416	2010		LDD	FI		CHECK RELBIT
1417	0111			111		
1420	0247		LPN	47		
1421	0706		SBN	6		
1422	6013		ZJF	LODZ	2	JP IF BLANK OP
1423	0602		ADN	2		
1424	6011		ZJF	LODZ	2	JP IF TWO-WORD OP
1425	0731		SBN	31		
1426	6015		ZJF	ERFL		
1427	0701		SBN	1		
1430	6013		ZJF	ERFL		
1431	0704		SBN	4		
1432	6011		ZJF	ERFL		
1433	0400	LODZ	LDN	0		
1434	4060		STD	RELBIT		
1435	0577		LCN	77		CHECK CON VALUE
1436	1104		LPI	LORC		
1437	6004		ZJF	4		
1440	2004		LDD	LORC		
1441	0705		SBN	LC		
1442	5032		RAD	K3		SET ERROR FLAG (C)
1443	0421	ERFL	LDN	L1		
1444	4031		STD	K2		
1445	0505		LCN	5		
1446	4030		STD	K1		
1447	2037		LDD	FRSTIM		
1450	6171		NZF	SARDI		
1451	2200		LDF	0		
1452	2205	-	LDF	ERRTAB	-GETERR	INITIALIZE TABLE LOOK-UP
1453	4212		STF	GETERR		
1454	4432		SRD	K3		
1455	2032	GETER	LDD	K3		
1456	0114			114		RS1
1457	4032		STD	K3		
1460	6020		ZJF	UVFLG		
1461	0201		LPN	1		
1462	6006		ZJF	GETERR	+3	
1463	5430		AOD	K1		
1464	6214		PJF	UVFLG		
1465	2205	GETERR	LDF	ERRTAB		
1466	4131		STI	K2		
1467	5431		AOD	K2		
1470	5703		AOB	GETERR		
1471	6514		NZB	GETER		

1472	0063	ERRTAB	63	C
1473	0065		65	E
1474	0043		43	L
1475	0044		44	M
1476	0046		46	O
1477	0027		27	X
1500	0410	UVFLG	LDN	FI
1501	4074		STD	TEM4
1502	0416		LDN	ADDR
1503	4075		STD	TEM5
1504	2174	UVFLGA	LDI	TEM4
1505	0203		LPN	3
1506	0703		SBN	3
1507	6116		NZF	RSTOR
1510	2175		LDI	TEM5
1511	7100		JFI	0
1512	3104			LOOKUP
1513	0201		LPN	1
1514	6011		ZJF	RSTOR
1515	2577		LCI	TEM7
1516	6107		NZF	RSTOR
1517	5430		AOD	K1
1520	6205		PJF	RSTOR
1521	0424	UORV	LDN	24
1522	0020			20
1523	4131		STI	K2
1524	5431		AOD	K2
1525	0020	RSTOR		20
1526	5705		AOB	UORV
1527	5474		AOD	TEM4
1530	5475		AOD	TEM5
1531	0720		SBN	DELTA
1532	6526		NZB	UVFLGA
1533	0502		LCN	2
1534	5313		RAB	UORV
1535	2030		LDD	K1
1536	0604		ADN	4
1537	6302		NJF	2
1540	5427		AOD	ECOUNT
1541	4435	SARDI	SRD	SRD1
1542	6214		PJF	PRNT
1543	2036		LDD	SRD2
1544	0110			110
1545	4036		STD	SRD2
1546	2037		LDD	FRSTIM
1547	6105		NZF	SKIPPR
1550	2011		LDD	FJ
1551	0111			111
1552	0237		LPN	37
1553	5052		RAD	WDCT
1554	7101	SKIPPR	JFI	1
1555	1770			TESRD1
1556	2200	PRNT	LDF	0
1557	7524			-171D
1560	4061		STD	CRDCOL
1561	4436		SRD	SRD2
1562	6204		PJF	PRNTA
1563	2104		LDI	LORC
1564	7100		JFI	0
1565	4162			OWZ

THIS SUBROUTINE CHANGES
INDIRECT BANK TO 1

JP IF CST

U OR V
RESTORE INDIRECT BANK

RESTORE INDIRECT BANK

RESTORE UORV TO U

INCREMENT ERROR LINE COUNT

LS3

LS6

MOVE PAST COMMENTS WORDS
JUMP TO SEE IF THERE WILL BE
ANY BINARY OUTPUT

OUTPUT OCTAL LOC.

1566	0406	PRNTA	LDN	6		
1567	5061		RAD	CRDCOL		
1570	4436		SRD	SRD2		
1571	6204		PJF	PRNTB		
1572	2012		LDD	FE		
1573	7100		JFI	0		
1574	4162			OWZ		OUTPUT OCTAL CONTENTS
1575	4436	PRNTB	SRD	SRD2		
1576	6303		NJF	PRNTC		
1577	7101		JFI	1		
1600	1743			PRLINE		
1601	0406	PRNTC	LDN	6		
1602	5061		RAD	CRDCOL		
1603	2010		LDD	FI		-SIGN IN LOC FIELD
1604	0240		LPN	40		
1605	6002		ZJF	2		
1606	4161		STI	CRDCOL		
1607	5461		AOD	CRDCOL		
1610	2013		LDD	STL		
1611	6003		ZJF	3		
1612	7100		JFI	0		
1613	3774			ENTSYM		ENTER LOC. SYMBOL
1614	0407		LDN	7		
1615	5061		RAD	CRDCOL		
1616	0414		LDN	OPC1		
1617	4070		STD	TEM0		
1620	2170	STOROP	LDI	TEM0		STORE OP CODE
1621	0111			111		LS6
1622	7661			7600	CRDCOL	HWI
1623	5461		AOD	CRDCOL		
1624	2170		LDI	TEM0		
1625	7661			7600	CRDCOL	HWI
1626	5461		AOD	CRDCOL		
1627	5470		AOD	TEM0		
1630	0716		SBN	OPC2	+1	
1631	6511		NZB	STOROP		
1632	5461		AOD	CRDCOL		
1633	0410		LDN	FI		
1634	4074		STD	TEM4		
1635	0416		LDN	ADDR		
1636	4075		STD	TEM5		
1637	2174	LOOPAD	LDI	TEM4		
1640	0103			103		LS2
1641	0260		LPN	60		
1642	0370			370		LSN 70
1643	0630		ADN	30		
1644	7661			7600	CRDCOL	HWI, SET SIGN COLUMN
1645	5461		AOD	CRDCOL		
1646	2174		LDI	TEM4		
1647	0203		LPN	3		
1650	6011		ZJF	CONVER	+1	JP IF NO FIELD
1651	3200		ADF	0		
1652	2213	-	LDF	CONTAB	-ADRIF	
1653	4201		STF	1		
1654	2200	ADRIF	LDF	0		
1655	4203		STF	CONVER		
1656	2175		LDI	TEM5		
1657	7100		JFI	0		
1660	0000	CONVER	.			
1661	0407		LDN	7		

1662	5061		RAD	CRDCOL	
1663	5474		AOD	TEM4	
1664	5475		AOD	TEM5	
1665	0720		SBN	DELTA	
1666	6527		NZB	LOOPAD	
1667	6004	CONTAB	ZJF	COMENT	
1670	4171			ONZ	
1671	4205			DEC	
1672	3774			ENTSYM	
1673	2200	COMENT	LDF	0	
1674	7575			-130D	
1675	4061		STD	CRDCOL	
1676	2411		LCD	FJ	
1677	0111			111	LS6
1700	0237		LPN	37	
1701	0737		SBN	37	
1702	6041		ZJF	PRLINE	
1703	4076		STD	TEM6	SET COUNT
1704	4077		STD	TEM7	SET SWITCH
1705	0471	ENTREM	LDN	TEM1	
1706	4070		STD	TEM0	
1707	2152		LDI	WDCT	
1710	0111			111	LS6
1711	0277		LPN	77	
1712	4071		STD	TEM1	
1713	2152		LDI	WDCT	
1714	0277		LPN	77	
1715	4072		STD	TEM2	
1716	2077	SWITT	LDD	TEM7	TEST SWITCH
1717	6020		ZJF	SPASES	
1720	2170		LDI	TEM0	
1721	6006		ZJF	RENT	
1722	0720		SBN	20	
1723	4077		STD	TEM7	
1724	6004		ZJF	RENT	+1
1725	0620		ADN	20	
1726	4161		STI	CRDCOL	STORE CHARACTER
1727	5461	RENT	AOD	CRDCOL	
1730	5470		AOD	TEM0	
1731	0773		SBN	TEM3	
1732	6514		NZB	SWITT	
1733	5452		AOD	WDCT	
1734	5476		AOD	TEM6	
1735	6530		NZB	ENTREM	
1736	6005		ZJF	PRLINE	
1737	2170	SPASES	LDI	TEM0	
1740	5061		RAD	CRDCOL	
1741	4077		STD	TEM7	
1742	6513		NZB	RENT	
1743	2200	PRLINE	LDF	0	
1744	7516			-177D	
1745	4031		STD	K2	
1746	0421		LDN	L1	
1747	4070		STD	TEM0	
1750	5600		AOF	0	
1751	0000	LNS			PRINT LINE COUNTER
1752	6105		NZF	LNSA	
1753	0574		LCN	74	
1754	4303		STB	LNS	
1755	0401		LDN	1	SET PAGE EJECT

1756	4131		STI	K2	
1757	5431	LNSA	AOD	K2	
1760	2170		LDI	TEM0	
1761	4131		STI	K2	
1762	5470		AOD	TEM0	
1763	0725		SBN	L5	
1764	6505		NZB	LNSA	
1765	7701			7701	SELECTIVE STOP
1766	0101			101	PTA
1767	7065		JPI	LSTOUT	
1770	4435	TESRD1	SRD	SRD1	
1771	6205		PJF	IFBIN	
1772	2036		LDD	SRD2	
1773	0110			110	LS3
1774	4036		STD	SRD2	
1775	6124		NZF	ADVLC	
1776	4436	IFBIN	SRD	SRD2	
1777	6203		PJF	3	
2000	7100		JFI	0	
2001	4110			DUMPBW	DUMP BINARY IMAGE
2002	4436		SRD	SRD2	
2003	6211		PJF	QEBW	
2004	2403		LCD	ENDFLG	
2005	6003		ZJF	3	
2006	2600		LCF	0	
2007	2000			2000	
2010	3200		ADF	0	
2011	4005	BIFLAG		4005	
2012	7100		JFI	0	
2013	4137			BORE	
2014	4436	QEBW	SRD	SRD2	
2015	6204		PJF	ADVLC	
2016	2305		LDB	BIFLAG	
2017	7100		JFI	0	
2020	4026			EBW	ENTER WORD INTO BIN IMAGE
2021	2020	ADVLC	LDD	DELTA	ADVANCE LINE COUNTER
2022	5104		RAI	LORC	
2023	7701			7701	SELECTIVE STOP
2024	4436		SRD	SRD2	TEST FOR REPEAT
2025	6203		PJF	3	JP IF NO REPEAT
2026	7101		JFI	1	
2027	1104			REPEAT	
2030	2041		LDD	TEMWCT	SET C(WDCT) = C(TEMWCT)
2031	6002		ZJF	2	IF BCD OR FLX PSUEDO-OP
2032	4052		STD	WDCT	IS ENCOUNTERED
2033	2403		LCD	ENDFLG	
2034	6003		ZJF	3	JP IF END
2035	7101		JFI	1	RETURN IF NO END
2036	1044			NOEND	
2037	2002		LDD	PARAM	
2040	0277		LPN	77	
2041	6110		NZF	DONE	
2042	2026		LDD	SUPP	
2043	0203		LPN	3	
2044	6105		NZF	DONE	
2045	4435		SRD	SRD1	
2046	6303		NJF	DONE	
2047	7101		JFI	1	
2050	1020			MOROUT	
2051	2027	DONE	LDD	ECOUNT	

2052	6002	ZJF	2		
2053	0000	ERR		ERROR STOP	
2054	7700	HLT		FINAL STOP	
2055	2002	LDD	PARAM		
2056	0207	LPN	7		
2057	0701	SBN	1		
2060	6103	NZF	3		
2061	7500	EXF	0		
2062	1154		1154		
2063	2002	LDD	PARAM		
2064	0270	LPN	70		
2065	0710	SBN	10		
2066	6103	NZF	3		
2067	7500	EXF	0		
2070	1153		1153	REW3	
2071	2002	LDD	PARAM		
2072	0110		110		
2073	0207	LPN	7		
2074	0701	SBN	1		
2075	6105	NZF	PFSTOP		
2076	7710		7710	SLJ1	
2077	2102		PFSTOP		
2100	7500	EXF	0		
2101	1151		1151		
2102	7700	PFSTOP	HLT	POST FINAL STOP	
2103	7101		JFI	1	
2104	0000	TBL			
2105	2010	LDD	FI		
2106	0111		111	LS6	
2107	0706	SBN	6	ROUTINE	
2110	6505	NZB	TBL	-1	TO
2111	2011	LDD	FJ		TJST
2112	6707	NJB	TBL	-1	FOR
2113	0237	LPN	37		BLANK
2114	6511	NZB	TBL	-1	LINE
2115	4020	STD	DELTA		
2116	2202	LDF	LDZERO		
2117	4036	STD	SRD2		
2120	0400	LDZERO	LDN	0	
2121	6416	ZJB	TBL	-1	
2122	2072	OPEX	LDD	TEM2	
2123	0111		111	LS6	
2124	5010	RAD	FI		
2125	7101	JFI	1		
2126	0000	SOPT		RETURN ADDRESS	
2127	2153	LDI	CC10		
2130	0111		111	LS6	
2131	1554		1500	CC11	LSI
2132	4014	STD	OPC1		
2133	2155	LDI	CC12		
2134	0111		111	LS6	
2135	1556		1500	CC13	LSI
2136	4015	STD	OPC2		
2137	3414	SBD	OPC1		
2140	6107	NZF	SOPTA		
2141	4027	STD	PSUEDO		
2142	2153	LDI	CC10		
2143	0720	SBN	20		
2144	6103	NZF	SOPTA		
2145	0406	LDN	6		

2146	6523		NZB	OPEX	1		JP WHEN OP IS BLANK
2147	2200	SOPTA	LDF	0			
2150	2522			PSUOT			
2151	4070		STD	TEM0			
2152	0517		LCN	17			
2153	4027		STD	PSUEDO			
2154	0400		LDN	0			
2155	4072		STD	TEM2			
2156	5427	SOPTB	AOD	PSUEDO			
2157	2014		LDD	OPC1			
2160	1570			1500	TEM0	LSI	
2161	6134		NZF	SOPA			JP IF NO MATCH
2162	5470		AOD	TEM0			
2163	2170		LDI	TEM0			
2164	1555			1500	CC12	LSI	
2165	0277		LPN	77			
2166	6130		NZF	SOPA	1		JP IF NO MATCH
2167	0577		LCN	77			
2170	1170		LPI	TEM0			
2171	6203		PJF	3			
2172	4012		STD	FE			
2173	6551		NZB	OPEX			FOUND NORM OP
2174	3200		ADF	0			
2175	2000			2000			
2176	6752		NJB	OPEX	2		FOUND PSUEDO-OP
2177	3702		SBB	2			
2200	6506		NZB	6			
2201	7700		HLT				WAIT
2202	6011		ZJF	RESWAI			
2203	0465		LDN	65			
2204	4153		STI	CC10			
2205	0445		LDN	45			
2206	4154		STI	CC11			
2207	0464		LDN	64			
2210	4155		STI	CC12			
2211	7101		JFI	1			
2212	0151			SIMEND			
2213	7101	RESWAI	JFI	1			
2214	0137			READ			RESUME AFTER WAIT
2215	5470	SOPA	AOD	TEM0			
2216	5470		AOD	TEM0			
2217	3600		SBF	0			
2220	2572			FORWOP			
2221	6743		NJB	SOPTB			
2222	6102		NZF	2			
2223	5472		AOD	TEM2			
2224	0706		SBN	6			
2225	6547		NZB	SOPTB			
2226	0501		LCN	1			
2227	4073		STD	TEM3			
2230	0504		LCN	4			
2231	4074		STD	TEM4			
2232	0510		LCN	10			
2233	4075		STD	TEM5			
2234	2155		LDI	CC12			
2235	0722		SBN	22			
2236	6044		ZJF	3RDS			JP IF S
2237	0722		SBN	22			
2240	6047		ZJF	3RDM			JP IF M
2241	0701		SBN	1			

2242	6047		ZJF	3RDN		JP IF N
2243	0704		SBN	4		
2244	6040		ZJF	3RDR		JP IF R
2245	0711		SBN	11		
2246	6026		ZJF	3RDB		JP IF B
2247	0701		SBN	1		
2250	6022		ZJF	3RDC		JP IF C
2251	0701		SBN	1		
2252	6010		ZJF	3RDD		
2253	0702		SBN	2		
2254	6011		ZJF	3RDF		JP IF F
2255	0703		SBN	3		
2256	6141		NZF	3RDON	-1	
2257	4072	3RDI	STD	TEM2		SET FI
2260	0411		LDN	11		
2261	6117		NZF	3RDOP		
2262	4072	3RDD	STD	TEM2		
2263	0410		LDN	10		
2264	6114		NZF	3RDOP		
2265	5473	3RDF	AOD	TEM3		SET GO SWITCH
2266	0401		LDN	1		
2267	4072		STD	TEM2		SET FI
2270	0412		LDN	12		
2271	6107		NZF	3RDOP		
2272	0404	3RDC	LDN	4		
2273	6504		NZB	3RDF	2	
2274	5473	3RDB	AOD	TEM3		SET GO SWITCH
2275	0402		LDN	2		
2276	4072		STD	TEM2		SET FI
2277	0413		LDN	13		
2300	4071	3RDOP	STD	TEM1		SET STARTING OP
2301	6117		NZF	3RDON		
2302	0405	3RDS	LDN	5		
2303	6505		NZB	3RDB	2	
2304	5473	3RDR	AOD	TEM3		SET GO SWITCH
2305	0403		LDN	3		
2306	6517		NZB	3RDF	2	
2307	0404	3RDM	LDN	4		
2310	6531		NZB	3RDI		
2311	4072	3RDN	STD	TEM2		SET FI
2312	0501		LCN	1		
2313	4074		STD	TEM4		SET INCREMENT
2314	0402		LDN	2		
2315	4071		STD	TEM1		SET STARTING OP
2316	6103		NZF	3RDON	1	
2317	6141		NZF	NOTI		
2320	0502	3RDON	LCN	2		
2321	3075		ADD	TEM5		
2322	4075		STD	TEM5		SET TABLE LENGTH
2323	2014	NORMOP	LDD	OPC1		
2324	1570			1500	TEM0	LSI
2325	6036		ZJF	FOWND		
2326	5470		AOD	TEM0		
2327	3600		SBF	0		
2330	2602			OPAIRS	+2	
2331	6406		ZJB	NORMOP		
2332	2474		LCD	TEM4		
2333	5071		RAD	TEM1		
2334	5475		AOD	TEM5		
2335	6512		NZB	NORMOP		

2336	5473	AOD	TEM3		
2337	6016	ZJF	EXOP		JP IF NOT FOUND
2340	2072	LDD	TEM2		CHECK FI
2341	0702	SBN	2		
2342	6002	ZJF	2		
2343	0504	LCN	4		
2344	0664	ADN	64		
2345	4071	STD	TEM1		SET STARTING OP
2346	2014	JMPOP	LDD	OPC1	
2347	1570		1500	TEM0	LSI
2350	6013	ZJF	FOWND		
2351	5470	AOD	TEM0		
2352	5471	AOD	TEM1		
2353	5474	AOD	TEM4		
2354	6506	NZB	JMPOP		
2355	2014	EXOP	LDD	OPC1	
2356	3600	SBF	0		
2357	6527		6527		EX
2360	6110	NOTI	NZF	NOTEX	
2361	0475		LDN	75	
2362	6102		NZF	2	
2363	2071	FOWND	LDD	TEM1	
2364	0111		111		LS6
2365	4012		STD	FE	
2366	7101	OPRET	JFI	1	
2367	2122		OPEX		
2370	2200	NOTEX	LDF	0	
2371	2617		UNIQOT		
2372	4070		STD	TEM0	
2373	0405		LDN	5	
2374	4072	UNIQ	STD	TEM2	SET FI
2375	2014		LDD	OPC1	
2376	1570		1500	TEM0	LSI
2377	6051	ZJF	JSOP	+2	
2400	0403		LDN	3	
2401	5070		RAD	TEM0	
2402	3600		SBF	0	
2403	2743		UNQDOT		
2404	6707	NJB	UNIQ	+1	
2405	0725	SBN	25		
2406	6003	ZJF	3		JP IF OP TABLE HAS RUN OUT
2407	0404		LDN	4	
2410	6514		NZB	UNIQ	
2411	2014		LDD	OPC1	
2412	3600		SBF	0	
2413	2243		2243		
2414	6017	ZJF	BADOP	+2	JP IF SL
2415	3600	SBF	0		
2416	1657		4122	-2243	
2417	6027	ZJF	JSOP		JP IF JS
2420	2014	LDD	OPC1		CHECK FOR NUMERIC OP
2421	7100	JFI	0		
2422	2475		OCTDIG		
2423	6306	NJF	BADOP		
2424	0111		111		LS6
2425	4012		STD	FE	
2426	0407		LDN	7	
2427	7101		JFI	1	
2430	2123		OPEX	+1	
2431	0420	BADOP	LDN	20	FLAG ILLEGAL OP

2432	6503		NZB	3		
2433	2155		LDI	CC12		
2434	0741		SBN	41		
2435	6504		NZB	BADOP	JP	IF NOT SLJ
2436	2156		LDI	CC13		
2437	0111			111	LS6	
2440	7100	SEEF	JFI	0		
2441	2475			OCTDIG		
2442	6711		NJB	BADOP		
2443	1600			1600	LSF	00
2444	7700			7700		
2445	6560		NZB	OPRET	-1	
2446	2015	JSOP	LDD	OPC2		
2447	6507		NZB	SEEF		
2450	5470		AOD	TEM0		
2451	2155		LDI	CC12		
2452	1570			1500	TEM0	LSI
2453	6003		ZJF	3		
2454	0402		LDN	2		
2455	6554		NZB	UNIQ	+5	CONTINUE SEARCH
2456	5470		AOD	TEM0		
2457	3600		SBF	0		
2460	2663			UNQSOT		
2461	6303		NJF	3		
2462	0400		LDN	0		
2463	6005		ZJF	5		
2464	2156		LDI	CC13		
2465	7100		JFI	0		
2466	2475			OCTDIG		
2467	6736		NJB	BADOP		
2470	1570			1500	TEM0	LSI
2471	7101		JFI	1		
2472	2365			OPRET	-1	
2473	0500	ARRRGH	LCN	0		
2474	7101		JFI	1		
2475	0000	OCTDIG				
2476	4077		STD	TEM7		
2477	0277		LPN	77		
2500	4076		STD	TEM6		
2501	0712		SBN	12		
2502	6402		ZJB	2		
2503	0602		ADN	2		
2504	6611		PJB	ARRRGH		
2505	2077		LDD	TEM7		
2506	0111			111	LS6	
2507	0277		LPN	77		
2510	0110			110	LS3	
2511	4077		STD	TEM7		
2512	3600		SBF	0		
2513	0120			120		
2514	6403		ZJB	3		
2515	0620		ADN	20		
2516	6623		PJB	ARRRGH		
2517	2076		LDD	TEM6		
2520	1477			1400	TEM7	LSD
2521	6625		PJB	OCTDIG	-1	
2522	2661	PSUOT		2661		WA, FIRST PSUEDO-OP
2523	0071			71		I
2524	6243			6243		BL
2525	2051			2051		R

2526	6222		6222	BS
2527	2022		2022	S
2530	6545		6545	EN
2531	2164		2164	D
2532	6550		6550	EQ
2533	2224		2224	U
2534	4651		4651	OR
2535	2367		2367	G
2536	4751		4751	PR
2537	2467		2467	G
2540	6346		6346	CO
2541	2545		2545	N
2542	5165		5165	RE
2543	2644		2644	M
2544	6245		6245	BN
2545	2642		2642	K
2546	2224		2224	SU
2547	2647		2647	P
2550	2323		2323	TT
2551	2730		2730	Y
2552	6643		6643	FL
2553	2727		2727	X
2554	6263		6263	BC, LAST PSUEDO-OP
2555	2764		2764	D
2556	2270	NDIOP	2270	SH
2557	0161		161	A
2560	4147		4147	JP
2561	7071		7071	I
2562	2241		2241	SJ
2563	7722		7722	S
2564	4623		4623	OT
2565	7445		7445	N
2566	7026		7026	HW
2567	7671		7671	I
2570	7043		7043	HL
2571	7723		7723	T
2572	4166	FORWOP	4166	JF
2573	7171		7171	I
2574	7145		7145	IN
2575	7247		7247	P
2576	4624		4624	OU
2577	7323		7323	T
2600	4347	OPAIRS	4347	LP
2601	2263		2263	SC
2602	4322		4322	LS
2603	4364		4364	LD
2604	4363		4363	LC
2605	6164		6164	AD
2606	2262		2262	SB
2607	2223		2223	ST
2610	2251		2251	SR
2611	5161		5161	RA
2612	6146		6146	AO
2613	3141	JUMPOP	3141	ZJ
2614	4531		4531	NZ
2615	4741		4741	PJ
2616	4541		4541	NJ
2617	2251	UNIQOT	2251	SR, FIRST UNIQUE OP (X)
2620	0041		41	J
2621	0010		10	

2622	2271		2271	SI
2623	0063		63	C
2624	0020		20	
2625	7151		7151	IR
2626	0041		41	J
2627	0030		30	
2630	2264		2264	SD
2631	0063		63	C
2632	0040		40	
2633	6451		6451	DR
2634	0041		41	J
2635	0050		50	
2636	2271		2271	SI
2637	0064		64	D
2640	0060		60	
2641	6163		6163	AC
2642	0041		41	J
2643	0070		70	
2644	4546		4546	NO
2645	0047		47	P
2646	0000		0	
2647	2262		2262	SB
2650	0024		24	U
2651	0140		140	
2652	2223		2223	ST
2653	0047		47	P
2654	0150		150	
2655	2223		2223	ST
2656	0065		65	E
2657	0160		160	
2660	2243		2243	SL, LAST UNIQUE OP(X)
2661	0022		22	S
2662	7700		7700	
2663	4723	UNQSOT	4723	PT
2664	0061		61	A
2665	0101		101	
2666	4322		4322	LS
2667	0001		1	1
2670	0102		102	
2671	4322		4322	LS
2672	0002		2	2
2673	0103		103	
2674	6362		6362	CB
2675	0063		63	C
2676	0104		104	
2677	6523		6523	ET
2700	0061		61	A
2701	0107		107	
2702	4322		4322	LS
2703	0003		3	3
2704	0110		110	
2705	4322		4322	LS
2706	0006		6	6
2707	0111		111	
2710	4424		4424	MU
2711	0023		23	T
2712	0112		112	
2713	4424		4424	MU
2714	0070		70	H
2715	0113		113	

2716	5122		5122	RS
2717	0001		1	1
2720	0114		114	
2721	5122		5122	RS
2722	0002		2	2
2723	0115		115	
2724	6371		6371	CI
2725	0043		43	L
2726	0120		120	
2727	6323		6323	CT
2730	0061		61	A
2731	0130		130	
2732	7145		7145	IN
2733	0061		61	A
2734	7600		7600	
2735	4623		4623	OT
2736	0061		61	A
2737	7677		7677	
2740	6551		6551	ER, LAST UNIQUE SINGLE
2741	0051		51	R
2742	0000		0	
2743	6243	UNQDOT	6243	BL, FIRST UNIQUE DOUBLE
2744	0022		22	S
2745	0100		100	
2746	6123		6123	AT
2747	0065		65	E
2750	0105		105	
2751	6123		6123	AT
2752	0027		27	X
2753	0106		106	
2754	4147		4147	JP
2755	0051		51	R
2756	7100		7100	
2757	7162		7162	IB
2760	0071		71	I
2761	7200		7200	
2762	7162		7162	IB
2763	0046		46	O
2764	7300		7300	
2765	3074	ADUN	ADD	TEM4
2766	4070		STD	TEM0
2767	7101		JFI	ADSUM
2770	0000	ADSUM		
2771	0500		LCN	0
2772	4070		STD	TEM0
2773	4074		STD	TEM4
2774	4060		STD	RELBIT
2775	0400		LDN	0
2776	4040		STD	SIGMA
2777	0410		LDN	FI
3000	4071		STD	TEM1
3001	0416		LDN	ADDR
3002	4072		STD	TEM2
3003	2010		LDD	FI
3004	0111			111
3005	0247		LPN	47
3006	0704		SBN	4
3007	6006		ZJF	ADSUMA -2
3010	0702		SBN	2
3011	6004		ZJF	ADSUMA -2

RETURN, 0=NONE, -=UND, +=D
ZERO (MINUS)
UNDEFINED INDICATOR
EXISTENCE INDICATOR
RELOCATION BIT

LS6

JP IF TWO-WORD OP

JP IF BLANK OP

3012	0734		SBN	34	
3013	6002		ZJF	ADSUMA -2	JP IF EQU
3014	0501		LCN	1	
3015	0601		ADN	1	
3016	4075		STD	TEM5	SET RELBIT MASK
3017	2171	ADSUMA	LDI	TEM1	
3020	0204		LPN	4	
3021	6002		ZJF	2	
3022	0500		LCN	0	
3023	4073		STD	TEM3	SET SIGN MASK
3024	2171		LDI	TEM1	
3025	0203		LPN	3	
3026	6024		ZJF	ADSUMC	JP IF NO FIELD
3027	0303		LSN	3	
3030	6136		NZF	ADSUMD	JP IF NUMERIC
3031	2172		LDI	TEM2	
3032	7100		JFI	0	
3033	3104			LOOKUP	RETURN FROM LOOKUP WITH
3034	0201		LPN	1	LOC OF SYMB. VAL. IN A-REG
3035	6234		PJF	ADSUMZ	
3036	5460		AOD	RELBIT	
3037	2577		LCI	TEM7	CHECK FOR UNDEFINED
3040	6102		NZF	2	JP IF NOT UNDEF
3041	4070		STD	TEM0	
3042	2177		LDI	TEM7	
3043	0020			20	
3044	1473	ADSUMB	LSD	TEM3	APPLY SIGN
3045	4040		STD	SIGMA	
3046	2200		LDF	0	
3047	5040		RAD	SIGMA	
3050	4303		STB	ADSUMB 1	
3051	5474		AOD	TEM4	
3052	5471	ADSUMC	AOD	TEM1	
3053	5472		AOD	TEM2	
3054	0720		SBN	DELTA	
3055	6536		NZB	ADSUMA	
3056	3060		ADD	RELBIT	
3057	1075		LPD	TEM5	
3060	4060		STD	RELBIT	SET RELBIT
3061	2363		LDB	ADSUM +6	
3062	4315		STB	ADSUMB 1	RESTORE STORE
3063	2470		LCD	TEM0	
3064	6677		PJB	ADUN	
3065	6777		NJB	ADUN +1	
3066	2172	ADSUMD	LDI	TEM2	
3067	6523		NZB	ADSUMB	
3070	6424		ZJB	ADSUMB	
3071	6427	ADSUMZ	ZJB	ADSUMB -2	
3072	2051		LDD	CASPAS	
3073	0702		SBN	2	
3074	6736		NJB	ADSUMB -6	
3075	0420		LDN	20	
3076	0020			20	
3077	5171		RAI	TEM1	
3100	0021			21	
3101	6543		NZB	ADSUMB -6	
			REM		LOOKUP SYMBOL TABLE VALUE
3102	2077		LDD	TEM7	
3103	7101		JFI	LOOKUP	
3104	0000	LOOKUP			RETURN WITH STL IN A-REG

3105	4077		STD	TEM7	
3106	0701		SBN	1	
3107	4076		STD	TEM6	
3110	0021			21	
3111	2176		LDI	TEM6	
3112	6510		NZB	LOOKUP -2	
3113	2177		LDI	TEM7	
3114	4077		STD	TEM7	
3115	6513		NZB	LOOKUP -2	
3116	7101	MOVRET	JFI	1	
3117	0000	MOVE			
3120	0502		LCN	2	RETURN
3121	4077		STD	TEM7	ROUTINE
3122	2051		LDD	CASPAS	TO
3123	0206		LPN	6	MOVE
3124	6007		ZJF	MOVEA	FLAGS
3125	2602		LCF	2	AND
3126	4200		STF	0	ASSOCIATED
3127	7734			FLEXUL -WDCT	WORDS
3130	5210		RAF	MOVEB	TO
3131	2702		LCB	2	STORAGE
3132	5207		RAF	MOVEB 1	AREA
3133	5477	MOVEA	AOD	TEM7	
3134	6417		ZJB	MOVRET -1	
3135	0410		LDN	FI	
3136	4007		STD	FLEXUL	
3137	4045		STD	TEMPB	
3140	2107	MOVEB	LDI	FLEXUL	
3141	4152		STI	WDCT	
3142	5452		AOD	WDCT	
3143	5407	MOVEC	AOD	FLEXUL	
3144	0713		SBN	STL	
3145	6104		NZF	4	
3146	2011		LDD	FJ	
3147	6604		PJB	MOVEC	
3150	6710		NJB	MOVEB	
3151	0703		SBN	3	
3152	6712		NJB	MOVEB	
3153	0701		SBN	1	
3154	6303		NJF	3	
3155	6533		NZB	MOVE 3	
3156	5445		AOD	TEMPB	
3157	2145		LDI	TEMPB	
3160	0203		LPN	3	
3161	6521		NZB	MOVEB	
3162	6417		ZJB	MOVEC	
3163	7101		JFI	1	
3164	0000	LEADER			
3165	7500		EXF	0	PUNCH
3166	4104			4104	PAPER
3167	2202		LDF	2	TAPE
3170	4045		STD	TEMPB	LEADER
3171	7400		OTN	0	
3172	5445		AOD	TEMPB	
3173	6502		NZB	2	
3174	6411		ZJB	LEADER -1	
			REM		
			REM		FLEX BCD CONVERTER
					BLO 8/15/61
3175	4660	PLUS		4660	
3176	4213	EQUALS		4213	

3177	5434	LPAREN	5434
3200	5053	DOLCOL	5053
3201	4454	APOAST	4454
3202	5612	X0	5612
3203	7401	X1	7401
3204	7002	X2	7002
3205	6403	X3	6403
3206	6204	X4	6204
3207	6605	X5	6605
3210	7206	X6	7206
3211	6007	X7	6007
3212	3310	X8	3310
3213	3711	X9	3711
3214	3061	A	3061
3215	2362	B	2362
3216	1663	C	1663
3217	2264	D	2264
3220	2065	E	2065
3221	2666	F	2666
3222	1367	G	1367
3223	0570	H	570
3224	1471	I	1471
3225	3241	J	3241
3226	3642	K	3642
3227	1143	L	1143
3230	0744	M	744
3231	0645	N	645
3232	0346	O	346
3233	1547	P	1547
3234	3550	Q	3550
3235	1251	R	1251
3236	2422	S	2422
3237	0123	T	123
3240	3424	U	3424
3241	1725	V	1725
3242	3126	W	3126
3243	2727	X	2727
3244	2530	Y	2530
3245	2131	Z	2131
3246	0420	BLANK	420
3247	5240	MINUS	5240
3250	4421	SLASH	4421
3251	4273	PERIOD	4273
3252	4633	COMMA	4633
3253	5474	RPAREN	5474
3254	0272	CS+0	272
3255	0000	ENDTAB	0
3256	4207	BCDFLX	STF CHARAC
3257	0401		LDN 1
3260	4232		STF SWITCH
3261	2272		LDF SHIFTA
3262	4237		STF SHIFT
3263	6121		NZF ADDADD -1
3264	4200	FLXBCD	STF 0
3265	0000	CHARAC	
3266	0757		SBN 57
3267	6004		ZJF STOFFA
3270	0610		ADN 10
3271	6105		NZF SETSWC
3272	0401		LDN 1

COLOR SHIFT = PLUS ZERO

SET SWITCH TO NOP

SET SHIFT TO LS6

TEST LOWER CASE CODE

TEST UPER CASE CODE

3273	4007	STOFLA	STD	FLEXUL	SET FLAG
3274	0501		LCN	1	
3275	7042		JPI	FLEX	RETURN
3276	2255	SETSWC	LDF	SHIFTA	SET SWITCH TO LS6
3277	4213		STF	SWITCH	
3300	0401		LDN	1	
3301	4220		STF	SHIFT	SET SHIFT TO NOP
3302	2007		LDD	FLEXUL	
3303	6002		ZJF	ADDADD	TEST LOWER CASE
3304	0505		LCN	5	SET ADDRESS TO UPPER CASE
3305	3200	ADDADD	ADF	0	SET ADDRESS
3306	3202			X0	
3307	4076		STD	TEM6	
3310	2176	BFSTNK	LDI	TEM6	
3311	6046		ZJF	TSTSWC	ERROR
3312	0000	SWITCH			LEFT SHIFT 6 OR NOP
3313	1726			1726	SCB CHARAC
3314	0277		LPN	77	
3315	6003		ZJF	FOUND	EQUALITY
3316	5476		AOD	TEM6	ADD TO TABLE ADDRESS
3317	6507		NZB	BFSTNK	
3320	2176	FOUND	LDI	TEM6	LOAD TABLE ITEM
3321	0000	SHIFT			SHIFT 6 OR NOP
3322	0277		LPN	77	MASK
3323	4077		STD	TEM7	
3324	2303		LDB	SHIFT	
3325	0701		SBN	1	
3326	6103		NZF	TSTADD	TEST BCD OR FLEX
3327	2077		LDD	TEM7	
3330	7042		JPI	FLEX	RETURN FLEX
3331	2076	TSTADD	LDD	TEM6	
3332	3724		SBB	ADDADD +1	TEST IF ONE OF U.C. ENTRIES
3333	6311		NJF	UPFLAG	
3334	2007		LDD	FLEXUL	TEST FLAG
3335	6012		ZJF	CHALOW	
3336	2351		LDB	CHARAC	TEST IF SPECIAL U.C.
3337	6316		NJF	ENDER	
3340	0400		LDN	0	
3341	4007		STD	FLEXUL	
3342	0457		LDN	57	EMIT LOWER CASE
3343	6110		NZF	SHIFTA	
3344	2007	UPFLAG	LDD	FLEXUL	TEST FLAG
3345	6110		NZF	ENDER	
3346	6003		ZJF	CHALOW +2	
3347	2362	CHALOW	LDB	CHARAC	TEST IF SPECIAL U.C.
3350	6205		PJF	ENDER	
3351	0447		LDN	47	EMIT UPPER CASE
3352	4007		STD	FLEXUL	
3353	0111	SHIFTA		LS6	
3354	5077		RAD	TEM7	
3355	2077	ENDER	LDD	TEM7	
3356	7045		JPI	BCD	RETURN BCD
3357	2336	TSTSWC	LDB	SHIFT	
3360	3705		SBB	SHIFTA	
3361	6403		ZJB	ENDER +1	
3362	0400		LDN	0	
3363	7042		JPI	FLEX	
	0111	LS6	EQU	111	
			REM		
	3364		PRG		

3364	0602	SCAN	ADN	2	
3365	4037		STD	SCANEX	
3366	0506		LCN	6	
3367	4076		STD	KSCAN	
3370	0507		LCN	7	
3371	4040		STD	ISCAN	
3372	0421		LDN	L1	
3373	4041		STD	JSCAN	
3374	0470		LDN	70	
3375	4077		STD	NUSCAN	
3376	0400		LDN	0	
3377	4024		STD	L4	
3400	4274		STF	FLGSCN	
3401	0501		LCN	1	
3402	4240		STF	DSWSCN	
3403	4270		STF	CNTSCN	
3404	2161	BSCAN	LDI	CRDCOL	SUPPRESS LEADING BLANKS
3405	0720		SBN	20	
3406	6106		NZF	CSCAN	
3407	5461		AOD	CRDCOL	
3410	5440		AOD	ISCAN	
3411	6505		NZB	BSCAN	
3412	2262	BSCAN1	LDF	FLGSCN	
3413	7037		JPI	SCANEX	
3414	0720	CSCAN	SBN	20	- SIGN
3415	6104		NZF	4	
3416	0414		LDN	14	
3417	5255		RAF	FLGSCN	
3420	6105		NZF	CSCAN1	
3421	0720		SBN	20	+ SIGN
3422	6106		NZF	CSCAEN	
3423	0410		LDN	10	
3424	5250		RAF	FLGSCN	
3425	5461	CSCAN1	AOD	CRDCOL	SUPPRESS BLANKS AFTER 1ST SIGN CHARACTER
3426	5440		AOD	ISCAN	
3427	6415		ZJB	BSCAN1	
3430	2161	CSCAEN	LDI	CRDCOL	
3431	0720		SBN	20	
3432	6405		ZJB	CSCAN1	
3433	0606	DSCAN	ADN	6	
3434	6003		ZJF	3	NUMERIC = 0
3435	6207		PJF	ESCAN	SYMBOLIC
3436	0612		ADN	12	NUMERIC NOT = 0
3437	4177		STI	NUSCAN	
3440	5477		AOD	NUSCAN	
3441	6105		NZF	ESCAN1	
3442	0000	DSWSCN			
3443	2525	SWTSCN		2525	
3444	0752	ESCAN	SBN	52	
3445	6003		ZJF	GSCAN	
3446	2304	ESCAN1	LDB	DSWSCN	
3447	6302		NJF	HSCAN	
3450	5706	GSCAN	AOB	DSWSCN	SET D SWITCH
3451	4706	HSCAN	SRB	SWTSCN	
3452	6205		PJF	EVNSCN	
3453	2161		LDI	CRDCOL	PACK 1ST 6 BITS
3454	0111		SHA	11	
3455	4141		STI	JSCAN	
3456	6104		NZF	KSCNY1	
3457	2161	EVNSCN	LDI	CRDCOL	PACK 2ND 6 BITS

3460	5141		RAI	JSCAN
3461	5441		AOD	JSCAN
3462	5476	KSCNY1	AOD	KSCAN
3463	6021		ZJF	SCNFLG
3464	5461	EYSCAN	AOD	CRDCOL
3465	5440		AOD	ISCAN
3466	6007		ZJF	PCKSCN
3467	2161		LDI	CRDCOL
3470	0720		SBN	20
3471	6405		ZJB	EYSCAN
3472	6537		NZB	DSCAN
3473	0000	CNTSCN		
3474	0000	FLGSCN		
3475	5702	PCKSCN	AOB	CNTSCN
3476	0501		LCN	1
3477	4040		STD	ISCAN
3500	5061		RAD	CRDCOL
3501	0420		LDN	20
3502	4161		STI	CRDCOL
3503	6532		NZB	HSCAN
3504	5461	SCNFLG	AOD	CRDCOL
3505	5440		AOD	ISCAN
3506	6002		ZJF	2
3507	5461		AOD	CRDCOL
3510	0470		LDN	70
3511	3477		SBD	NUSCAN
3512	6037		ZJF	SYMSCN
3513	0604		ADN	4
3514	6335		NJF	SYMSCN
3515	3722		SBB	CNTSCN
3516	6317		NJF	OCTSCN
3517	6132		NZF	SYMSCN
3520	2356		LDB	DSWSCN
3521	6130		NZF	SYMSCN
3522	2272		LDF	DSHFT
3523	4245		STF	SFTSCN
3524	0574		LCN	74
3525	3077		ADD	NUSCAN
3526	6104		NZF	4
3527	2470		LCD	70
3530	0604		ADN	4
3531	6320		NJF	SYMSCN
3532	0402		LDN	2
3533	5337		RAB	FLGSCN
3534	6123		NZF	NUMERC
3535	2260	OCTSCN	LDF	OSHFT
3536	4232		STF	SFTSCN
3537	0470		LDN	70
3540	4040		STD	ISCAN
3541	0407	OASCAN	LDN	7
3542	3540		SBI	ISCAN
3543	6306		NJF	SYMSCN
3544	5440		AOD	ISCAN
3545	3477		SBD	NUSCAN
3546	6505		NZB	OASCAN
3547	5753		AOB	FLGSCN
3550	6107		NZF	NUMERC
3551	2355	SYMSCN	LDB	FLGSCN
3552	0274		LPN	74
3553	0603		ADN	3

SUPPRESS IMBEDDED BLANKS

DECIMAL

OCTAL

SYMBOLIC

3554	7037		JPI	SCANEX	
3555	2361	OTNUMR	LDB	FLGSCN	
3556	7037		JPI	SCANEX	
3557	0467	NUMERC	LDN	67	
3560	4040		STD	ISCAN	
3561	0501		LCN	1	
3562	5077		RAD	NUSCAN	
3563	5440	NASCAN	AOD	ISCAN	ISCAN STARTS AT 70
3564	3477		SBD	NUSCAN	
3565	4041		STD	JSCAN	JSCAN = NO SHIFTS
3566	6006	NBSCAN	ZJF	ADDSCN	
3567	2140	NBSCN1	LDI	ISCAN	
3570	0110	SFTSCN	SHA	10	
3571	4140		STI	ISCAN	
3572	5441		AOD	JSCAN	
3573	6504		NZB	NBSCN1	SHIFT FINISHED
3574	2140	ADDSCN	LDI	ISCAN	
3575	5024		RAD	L4	
3576	6311		NJF	SGNBOX	CHECK SIGN
3577	6003		ZJF	MINZER	
3600	2076		LDD	KSCAN	
3601	6530		NZB	SYMSCN	HAS SIGN CHANGED
3602	2076	MINZER	LDD	KSCAN	
3603	6005		ZJF	SGNBOX	DO WE HAVE 7777
3604	0500		LCN	0	
3605	4024		STD	L4	
3606	6531		NZB	OTNUMR	
3607	5476	SGNBOX	AOD	KSCAN	
3610	2040		LDD	ISCAN	
3611	3477		SBD	NUSCAN	
3612	6527		NZB	NASCAN	
3613	6436		ZJB	OTNUMR	
3614	0112	DSHFT	SHA	12	
3615	0110	OSHFT	SHA	10	
	0040	ISCAN	EQU	SIGMA	
	0076	KSCAN	EQU	TEM6	
	0041	JSCAN	EQU	TEMWCT	
	0077	NUSCAN	EQU	TEM7	
			REM		OSAP-A SEARCH CMN 7/31/61
	3616		PRG		
3616	2070	LDSRCH	LDD	CTSRCH	
3617	7101	OTSRCH	JFI	1	
3620	0000	SEARCH			RETURN JUMP SUBROUTINE
3621	0475		LDN	75	
3622	4070		STD	CTSRCH	
3623	0420	ASRCH	LDN	20	L1 = 21
3624	4071		STD	CLSRCH	
3625	5470	BSRCH	AOD	CTSRCH	
3626	5471		AOD	CLSRCH	
3627	0724		SBN	24	L4 = 24
3630	6412		ZJB	LDSRCH	SYMBOL FOUND
3631	2070		LDD	CTSRCH	
3632	6413		ZJB	OTSRCH	SYMBOL NOT IN TABLE
3633	3434		SBD	TVAR	
3634	6104		NZF	CSRCH	
3635	2033		LDD	TCON	
3636	4070		STD	CTSRCH	
3637	6514		NZB	ASRCH	
3640	2171	CSRCH	LDI	CLSRCH	
3641	0021			21	SET INDIRECT BANK

3642	3570		SBI	CTSRCH	
3643	0020			20	RESTORE INDIRECT BANK
3644	6417		ZJB	BSRCH	
3645	0424		LDN	24	
3646	3471		SBD	CLSRCH	
3647	5070		RAD	CTSRCH	
3650	6525		NZB	ASRCH	
	0070		CTSRCH	EQU	70
	0071		CLSRCH	EQU	71
			REM		STORE CMN 7/27/61
	3651		PRG		
3651	7101		OTSTSY	JFI	1
3652	0000		STSY		JUMP RETURN
3653	4024		STD	L4	
3654	2034		LDD	TVAR	
3655	3433		SBD	TCON	
3656	0603		ADN	3	
3657	6102		NZF	2	
3660	0000		ERR		FULL SYMBOL TABLE
3661	0421		LDN	L1	
3662	4077		STD	77	
3663	2177		ASTSY	LDI	77 HAS LOC WORD TO BE STORED
3664	0021			21	
3665	4134		STI	TVAR	
3666	0020			20	
3667	5434		AOD	TVAR	
3670	5477		AOD	77	
3671	0725		SBN	25	
3672	6507		NZB	ASTSY	
3673	6422		ZJB	OTSTSY	
			REM		SYMBOL TABLE BIOCTAL LOAD
			REM		CMN 8/8/61
	3674		PRG		
3674	0020		OTSYLD	20	RESTORE INDIRECT BANK
3675	7101		JFI	1	
3676	0000		RST		RETURN JUMP
3677	0021			21	SET INDIRECT BANK =1
3700	0476		LDN	76	
3701	4070		STD	70	70 CONTAINS 2ND CORE LOC
3702	7500		EXF	0	
3703	4102			4102	SELECT 240 ^{PT} READER
3704	7600		INA		
3705	6401		ZJB	1	
3706	7600		SYMRED	INA	1ST 6 BITS TO
3707	0111		SHA	11	SECOND CORE ^{LS6}
3710	4170		STI	70	(i)76
3711	0201		LPN	1	
3712	4071		STD	71	
3713	7600		INA		
3714	7670			7670	HWI IN 70
3715	2071		LDD	71	
3716	6104		NZF	TCONRD	
3717	5470		REDADD	AOD	70
3720	6424		ZJB	OTSYLD	
3721	6513		NZB	SYMRED	
3722	2070		TCONRD	LDD	70
3723	4034		STD	TVAR	
3724	2170		LDI	70	
3725	4070		STD	70	
3726	4033		STD	TCON	

3727	6510		NZB	REDADD	
			REM		SYMBOL TABLE BIOCTAL DUMP
			REM		CMN 8/8/61
	3730		PRG		
3730	7100	OTSYDP	JFI	0	
3731	3164			LEADER	PUNCH TRAILER
3732	7101		JFI	1	
3733	0000	PST			RETURN JUMP
3734	0475		LDN	75	
3735	4070		STD	70	70 CONTAINS 2ND CORE LOC
3736	7100		JFI	0	
3737	3164			LEADER	PUNCH TRAILER
3740	0477		LDN	77	
3741	4075		STD	75	75 INDIRECT WRITE
3742	4076		STD	76	76-77 OUTPUT BLOCK
3743	4077		STD	77	
3744	7477		OTN	77	
3745	6112		NZF	SYMCHK	
3746	0021	SYMLOP		21	SET INDIRECT BANK
3747	2170		LDI	70	
3750	0020			20	RESTORE INDIRECT BANK
3751	7675			7675	HWI IN 77
3752	0111		SHA	11	
3753	0277		LPN	77	
3754	4076	SYMRET	STD	76	1ST 6 BITS IN 76
3755	7315		OUT	SYMADD	
3756	0100			100	
3757	5470	SYMCHK	AOD	70	
3760	6430		ZJB	OTSYDP	END OF TABLE
3761	1434		LSD	TVAR	
3762	6514		NZB	SYMLOP	END OF VARIABLE TABLE
3763	2033		LDD	TCON	
3764	4070		STD	70	INITIALIZE FOR CON TABLE
3765	7675			7675	HWI IN 77
3766	0111		SHA	11	
3767	0277		LPN	77	
3770	3312		ADB	SYMCHK -1	7-LEVEL PUNCH FOR TCON
3771	6515		NZB	SYMRET	
3772	0076	SYMADD		76	
			REM		ENTER SYMBOL
			REM		CMN 8/18/61
	3773		PRG		
3773	7101	OTETSY	JFI	1	
3774	0000	ENTSYM			RETURN JUMP
3775	0703		SBN	3	
3776	4070		STD	70	
3777	2061		LDD	CRDCOL	
4000	4071		STD	71	
4001	0021	ENSMLP		21	SET INDIRECT
4002	2170		LDI	70	
4003	6105		NZF	5	
4004	0403		LDN	3	
4005	5070		RAD	70	
4006	2170		LDI	70	
4007	6512		NZB	ENTSYM 1	
4010	0020			20	RESTORE INDIRECT
4011	4073		STD	73	
4012	0111		SHA	11	
4013	7671			7671	HWI IN CRDCOL
4014	5471		AOD	71	

4015	2073		LDD	73	
4016	7671			7671	HWI IN CRDCOL
4017	5470		AOD	70	
4020	5471		AOD	71	
4021	4603		SRF	ENSMSW	
4022	6621		PJB	ENSMLP	
4023	6730		NJB	OTETSY	
4024	4444	ENSMSW		4444	
			REM		ENTER BINARY WORD
			REM		CMN 8/9/61
	4025		PRG		
4025	7101	OUTEBW	JFI	1	
4026	0000	EBW			RETURN JUMP
4027	4256		STF	CELEBW	
4030	2100		LDI	0	
4031	7657			COL1	
4032	6125		NZF	AEBW	
4033	2104	INTEBW	LDI	LORC	FIRST DATA WORD
4034	4100		STI	0	
4035	7660			COL1	1
4036	2247		LDF	CELEBW	FIRST WORD ADDRESS
4037	4100		STI	0	
4040	7657	COLADB		COL1	
4041	2200		LDF	0	
4042	7662			COL1	3
4043	4220		STF	SHCTB1	SET RELOC BITS
4044	4222		STF	SHCTB2	COUNTER
4045	4250		STF	SHCTB3	
4046	2200		LDF	0	
4047	7670			COL1	9D
4050	4226		STF	WRDCTB	SET WORD COUNT
4051	2004		LDD	LORC	
4052	0706		SBN	CC	
4053	6104		NZF	AEBW	
4054	0401		LDN	1	= 1
4055	4100		STI	0	
4056	7667			COL1	8D
4057	0410	AEBW	LDN	10	
4060	5100		RAI	0	
4061	7657			COL1	
4062	4500	RELEBW	SRI	0	
4063	0000	SHCTB1			
4064	1460		LSD	RELBIT	
4065	4100		STI	0	
4066	0000	SHCTB2			
4067	4617		SRF	EBWSWH	
4070	6204		PJF	BEBW	
4071	5706		AOB	SHCTB1	
4072	5704		AOB	SHCTB2	
4073	5622		AOB	SHCTB3	
4074	2012	BEBW	LDD	FE	
4075	4100		STI	0	
4076	0000	WRDCTB			
4077	5701		AOB	WRDCTB	
4100	6553		NZB	OUTEBW	
4101	7100		JFI	0	
4102	4110			DUMPBW	
4103	0401		LDN	1	
4104	6504		NZB	4	
4105	0000	CELEBW			

4106	4000	EBWSWH	4000	
4107	7101	OTDPBW	JFI	1
4110	0000	DUMPBW		
4111	2100		LDI	0
4112	7657			COL1
4113	6404		ZJB	OTDPBW
4114	4500		SRI	0
4115	0000	SHCTB3		
4116	4710		SRB	EBWSWH
4117	6603		PJB	3
4120	2360	CHKSUM	LDB	COLADB
4121	4204		STF	CT1EBW
4122	0400		LDN	0
4123	4306		STB	SHCTB3
4124	2100	LP1EBW	LDI	0
4125	0000	CT1EBW		
4126	5311		RAB	SHCTB3
4127	5702		AOB	CT1EBW
4130	6504		NZB	LP1EBW
4131	2314		LDB	SHCTB3
4132	4100		STI	0
4133	7661			COL1 2
4134	2202		LDF	2
4135	7066		JPI	BINOUT
4136	4105			OTDPBW -2
4137	0000	BORE		
4140	4100		STI	0
4141	7657			COL1
4142	2303		LDB	BORE
4143	4333		STB	DUMPBW
4144	2012		LDD	FE
4145	4100		STI	0
4146	7660			COL1 1
4147	6427		ZJB	CHKSUM
4150	6530		NZB	CHKSUM
	7657	COL1	EQU	7657
			REM	
			REM	
	4151		PRG	
4151	0412	ZXQBL8	LDN	12
4152	4161		STI	CRDCOL
4153	5461		AOD	CRDCOL
4154	4605		SRF	CVTSWC
4155	6604		PJB	ZXQBL8
4156	0504		LCN	4
4157	5061		RAD	CRDCOL
4160	7102		JFI	2
4161	4210	CVTSWC		4210
4162	0000	OWZ		
4163	6412		ZJB	ZXQBL8
4164	4070		STD	70
4165	2303		LDB	OWZ
4166	4217		STF	DEC
4167	0412		LDN	12
4170	6106		NZF	OCTSUP
4171	0000	ONZ		
4172	4070		STD	70
4173	2302		LDB	ONZ
4174	4211		STF	DEC
4175	0400		LDN	0

DUMP BINARY WORD
RETURN JUMP

RESTORE RELOCATION BITS

COMPUTE CHECKSUM

PUNCH CARD

BANK OR END CARD
RETURN JUMP

NUMERIC CONVERSION
CMN 8/15/61

OCTAL WITH LEADING ZEROES

OCTAL WITHOUT LEADING ZEROES

4176	4071	OCTSUP	STD	71	
4177	0420		LDN	20	
4200	4073		STD	73	
4201	2200		LDF	0	
4202	3627	-	SBF	THSOCT	-CVTEST
4203	6112		NZF	CNTNUM	
4204	7101	DECOUT	JFI	1	DECIMAL NUMBER
4205	0000	DEC			RETURN JUMP
4206	4070		STD	70	
4207	0464		LDN	64	
4210	4073		STD	73	
4211	0400		LDN	0	
4212	4071		STD	71	
4213	2200		LDF	0	
4214	3633	-	SBF	THSDEC	-CVTEST
4215	4222	CNTNUM	STF	CVTEST	
4216	2061	CVTNUM	LDD	CRDCOL	
4217	4072		STD	72	72 STORE COUNTER
4220	2070		LDD	70	
4221	6041		ZJF	ZERCVT	
4222	6307		NJF	NEGNUM	
4223	0400		LDN	0	
4224	4172		STI	72	
4225	2200	POSNUM	LDF	0	
4226	6304		NJF	4	
4227	4211		STF	TESTSG	
4230	6106		NZF	CVTLP1	
4231	2200	NEGNUM	LDF	0	
4232	6236	-	PJF	SGNCHG	-TESTSG
4233	4205		STF	TESTSG	
4234	0400	CVTLOP	LDN	0	ZERO CELL
4235	4172		STI	72	
4236	2070	CVTLP1	LDD	70	
4237	3627	CVTEST	SBF	THSOCT	
4240	6304	TESTSG	NJF	SIGNIF	
4241	4070		STD	70	
4242	5572		AOI	72	STEP COUNTER
4243	6505		NZB	CVTLP1	
4244	2172	SIGNIF	LDI	72	
4245	6104		NZF	SIGDIG	SIGNIFICANT DIGIT
4246	2071		LDD	71	
4247	6005		ZJF	CVTSTP	SUPPRESS LEADING ZERO
4250	4172		STI	72	
4251	5472	SIGDIG	AOD	72	
4252	0412		LDN	12	
4253	4071		STD	71	
4254	5715	CVTSTP	AOB	CVTEST	
4255	4774		SRB	CVTSWC	
4256	6622		PJB	CVTLOP	
4257	2073		LDD	73	73 CONTAINS LAST FIGURE
4260	4172	ZERNUM	STI	72	
4261	6555		NZB	DECOUT	
4262	0412	ZERCVT	LDN	12	
4263	4172		STI	72	
4264	5472		AOD	72	
4265	6506		NZB	ZERNUM	-1
4266	1000	THSOCT		1000	
4267	0100			100	
4270	0010			10	
4271	0001			1	

4272	1750	THSDEC		1000D
4273	0144			100D
4274	0012			10D
4275	0001			1D
4276	4070	SGNCHG	STD	70
4277	5572		AOI	72
4300	6553		NZB	POSNUM
	0000		END	

0100	0602	START	ADN	2
0101	4100		STI	0
0102	0230			RETURN
0103	2200		LDF	0
0104	7657	COLADD		COL1
0105	4203		STF	BLANK
0106	0420		LDN	20
0107	4100		STI	0
0110	0000	BLANK		
0111	5701		AOB	BLANK
0112	6504		NZB	COLADD 2
0113	4070		STD	TEM0
0114	2200		LDF	0
0115	0231			TABLE
0116	4211		STF	RESET 1
0117	4257		STF	SWITCH
0120	2003		LDD	3
0121	6105		NZF	RESET
0122	2316		LDB	COLADD
0123	0701		SBN	1
0124	4244		STF	LOADIT 1
0125	4003		STD	3
0126	2100	RESET	LDI	0
0127	0231			TABLE
0130	4074		STD	TEM4
0131	5637	LOOP1	AOF	LOADIT 1
0132	3726		SBB	COLADD
0133	6134		NZF	LOADIT
0134	2200	READ	LDF	0
0135	7536			WORD1 20
0136	4232		STF	LOADIT 1
0137	0601		ADN	1
0140	4220		STF	STORIT
0141	7500		EXF	0
0142	4102			4102
0143	7600	LOOP2	INA	
0144	6107		NZF	SETSW
0145	0511		LCN	11
0146	4072		STD	TEM2
0147	7600	INZERO	INA	
0150	6103		NZF	SETSW
0151	5472		AOD	TEM2
0152	6503		NZB	INZERO
0153	4073	SETSW	STD	TEM3
0154	0777		SBN	77
0155	6412		ZJB	LOOP2
0156	2073		LDD	TEM3
0157	4100		STI	0
0160	0000	STORIT		
0161	5701		AOB	STORIT
0162	3756		SBB	COLADD
0163	6432		ZJB	LOOP1
0164	2073		LDD	TEM3
0165	6406		ZJB	STORIT -1
0166	6523		NZB	LOOP2
0167	2100	LOADIT	LDI	0
0170	7656			COL1 -1
0171	6435		ZJB	READ
0172	4075		STD	TEM5
0173	0745		SBN	45

0174	6025		ZJF	ENDCRD	
0175	2200		LDF	0	
0176	0000	SWITCH			
0177	6446		ZJB	LOOP1	
0200	2075		LDD	TEM5	
0201	0751		SBN	51	
0202	6103		NZF	JUMPUP	
0203	5754		AOB	RESET	1
0204	6556		NZB	RESET	
0205	0651	JUMPUP	ADN	51	
0206	7100		JFI	0	
0207	0042			FLEX	
0210	6757		NJB	LOOP1	
0211	6103		NZF	STORE	
0212	5470		AOD	TEM0	
0213	6102		NZF	STORE	1
0214	4174	STORE	STI	TEM4	
0215	5474		AOD	TEM4	
0216	6565		NZB	LOOP1	
0217	4321		STB	SWITCH	
0220	6467		ZJB	LOOP1	
0221	2074	ENDCRD	LDD	TEM4	
0222	3607		SBF	TABLE	
0223	6472		ZJB	LOOP1	
0224	2070		LDD	TEM0	
0225	6002		ZJF	RETURN	-1
0226	0440		LDN	40	
0227	7101		JFI	1	
0230	0000	RETURN			
0231	7660	TABLE		COL1	1
0232	7670			COL1	11
0233	7675			COL1	16
0234	7705			COL1	26
0235	7715			COL1	36
	0062		CON	62	
0062	0100	INPUT		START	
	7657	COL1	EQU	7657	
	7516	WORD1	EQU	7516	
	0042	FLEX	EQU	42	
	0070	TEM0	EQU	70	
	0071	TEM1	EQU	71	
	0072	TEM2	EQU	72	
	0073	TEM3	EQU	73	
	0074	TEM4	EQU	74	
	0075	TEM5	EQU	75	
	0000		END		

		REM		MAGNETIC TAPE SYMBOLIC INPUT
0100	0602	ENTER	ADN 2	
0101	4070		STD TEM0	RETURN ADDRESS
0102	7500	EVNPAR	EXF 0	
0103	1172		1172	SET TAPES TO EVEN PARITY (BCD)
0104	7500	SELRED	EXF 0	
0105	1131		1131	READ FORWARD TAPE ONE
0106	7220	READ	INP START	
0107	0000	TERM	0	
0110	7500	STREQ	EXF 0	STATUS REQUEST TAPE 1
0111	1141		1141	
0112	7600		INA	
0113	0224		LPN 24	
0114	6013		ZJF RETURN	
0115	0220		LPN 20	
0116	6114		NZF EOFSTP	
0117	4600	PARERR	SRF 0	PARITY ERROR
0120	4444		4444	
0121	6307		NJF ERRHLT	
0122	7500	BACKSP	EXF 0	BACKSPACE RECORD
0123	1121		1121	
0124	7600		INA	
0125	6621		PJB SELRED	
0126	7657	START	7657	
0127	7070	RETURN	JPI TEM0	RETURN TO DRIVER
0130	0440	ERRHLT	LDN 40	
0131	6502		NZB RETURN	
0132	7700	EOFSTP	HLT	EOF DETECTED
0133	2305	BEN	LDB START	
0134	0105		105	ATE
0135	0133		BEN	
0136	0400		LDN 0	
0137	0106		106	ATX
0140	0133		BEN	
0141	0420	SETCOL	LDN 20	GENERATE END CARD
0142	0100		100	BLS
0143	0141		SETCOL	
0144	0465		LDN 65	
0145	4100		STI 0	
0146	7670		COLUMN +11	
0147	0445		LDN 45	
0150	4100		STI 0	
0151	7671		COLUMN +12	
0152	0464		LDN 64	
0153	4100		STI 0	
0154	7672		COLUMN +13	
0155	0400		LDN 0	
0156	7070		JPI TEM0	
	7657	COLUMN	EQU 7657	
	0062		CON 62	
0062	0100	INPUT	ENTER	
	0070	TEM0	EQU 70	
	0071	TEM1	EQU 71	
	0072	TEM2	EQU 72	
	0073	TEM3	EQU 73	
	0074	TEM4	EQU 74	
	0075	TEM5	EQU 75	
	0076	TEM6	EQU 76	
	0077	TEM7	EQU 77	
	0000		END	

0100	0602	PTOENT	ADN	2	
0101	4070		STD	TEM0	TEM0 CONTAINS RETURN ADDRESS
0102	2067		LDD	INSTOR	
0103	4071		STD	TEM1	TEM1 CONTAINS START ADDRESS OF
0104	0501		LCN	1	STORAGE BLOCK
0105	4072		STD	TEM2	
0106	7500		EXF	0	SELECT PUNCH
0107	4104			4104	
0110	2057		LDD	INTCON	
0111	6210		PJF	10	
0112	2202	BLNKTP	LDF	2	
0113	4075		STD	TEM5	
0114	7400		OTN	0	
0115	5475		AOD	TEM5	
0116	6502		NZB	2	
0117	5457		AOD	INTCON	
0120	6145		NZF	PTORET	
0121	0101			101	(PTA) SET RETURN ADDRESS FOR
0122	0612		ADN	12	PARITY
0123	4262		STF	GPRET	
0124	2052		LDD	WDCT	LOAD TERM. ADDRESS
0125	6102		NZF	PTOSB	
0126	2171	PTOLWD	LDI	TEM1	LOAD WORD FROM STORAGE
0127	4077	PTOSB	STD	TEM7	
0130	0111			111	(LS6)
0131	7101	PTOEGP	JFI	1	PARITY GENERATION
0132	0167			GENPAR	
0133	4076		STD	TEM6	
0134	0401		LDN	1	SWITCH TO ALTERNATE 76 AND 77
0135	1702			1702	(LSB 02)
0136	4303		STB	3	
0137	3600		SBF	0	
0140	4076			4076	
0141	6004		ZJF	PTOWRI	PROCEED AFTER ONE WORD UNPACKED
0142	2077		LDD	TEM7	OTHERWISE GO BACK AND REPEAT
0143	6512		NZB	PTOEGP	
0144	6413		ZJB	PTOEGP	
0145	7321	PTOWRI	OUT	PTOBEG	PUNCH OUT TWO FRAMES
0146	0100			100	
0147	5472		AOD	TEM2	FIRST TIME TEST
0150	6104		NZF	PTOFIN	
0151	0555	PTOSCT	LCN	55	
0152	4073		STD	TEM3	TEM3 CONTAINS COUNTER
0153	6525		NZB	PTOLWD	
0154	5471	PTOFIN	AOD	TEM1	COMPARE CURR. ADDR. WITH TERM. ADDR.
0155	3452		SBD	WDCT	
0156	6005		ZJF	PTOTEF	
0157	5473		AOD	TEM3	TEST COUNTER
0160	6532		NZB	PTOLWD	
0161	7455		OTN	55	PUNCH LONGITUDINAL CHECK MARK
0162	6411		ZJB	PTOSCT	
0163	2403	PTOTEF	LCD	ENDFLG	
0164	6452		ZJB	BLNKTP	
0165	7070	PTORET	JPI	TEM0	RETURN TO DRIVER
0166	0076	PTOBEG		76	
0167	0277	GENPAR	LPN	77	GENERATE PARITY BIT
0170	4216		STF	GENPAR +17	
0171	0110			110	LS3
0172	0340			340	LSN 40
0173	1613			1613	LSF 13

0174	4213		STF	GENPAR +20	
0175	0102			102	LS1
0176	1611			1611	LSF 11
0177	0102			102	LS1
0200	1607			1607	LSF 07
0201	0240		LPN	40	
0202	0102			102	LS1
0203	1603			1603	LSF 03
0204	7101		JFI	1	
0205	0000	GPRET		0	RETURN ADDRESS
0206	0000			0	CHARACTER STORAGE
0207	0000			0	TRANSIENT STORAGE
0210	0602	PTIENT	ADN	2	SET RETURN ADDRESS TO P+2
0211	4070		STD	TEM0	TEM0 CONTAINS RETURN ADDRESS
0212	5457		AOD	INTCON	
0213	6102		NZF	2	
0214	7070		JPI	TEM0	RETURN TO MAINDRIVER TO
0215	2067		LDD	INSTOR	REPOSITION TAPE
0216	4071		STD	TEM1	
0217	0501		LCN	1	
0220	4072		STD	TEM2	
0221	7500	PTISRDR	EXF	0	SELECT READ
0222	4102			4102	
0223	0101			101	PTA
0224	0612		ADN	12	
0225	4320		STB	GPRET	RETURN ADDRESS FROM PARITY
0226	0400		LDN	0	
0227	4171		STI	TEM1	
0230	7600	PTIRED	INA		READ
0231	6401		ZJB	1	
0232	4074		STD	TEM4	
0233	7101		JFI	1	
0234	0167			GENPAR	
0235	1474			1474	LSD TEM4
0236	6002		ZJF	2	CHECK PARITY
0237	0000		ERR		TO RECOVER, STEP TWO, KEY IN,
0240	2332		LDB	GENPAR +17	AND RUN
0241	1571			1571	LSI TEM1
0242	0111			111	LS6
0243	4171		STI	TEM1	PACK
0244	4600		SRF	0	
0245	5252			5252	
0246	6616		PJB	PTIRED	
0247	2171		LDI	TEM1	
0250	0111			111	LS6
0251	4171		STI	TEM1	
0252	2072		LDD	TEM2	
0253	6211		PJF	PTIFIN	
0254	5472		AOD	TEM2	
0255	2171		LDI	TEM1	
0256	4052		STD	WDCT	STORE TERM ADDRESS
0257	3467		SBD	INSTOR	
0260	6314		NJF	PTIERL	
0261	0555	PTICNT	LCN	55	
0262	4073		STD	TEM3	
0263	6535		NZB	PTIRED -2	
0264	5471	PTIFIN	AOD	TEM1	TEST FOR COMPLETION
0265	3452		SBD	WDCT	
0266	6011		ZJF	PTIRET	
0267	5473		AOD	TEM3	

0270	6542		NZB	PTIRED -2	
0271	7600		INA		
0272	0355			355	LSN 55
0273	6412		ZJB	PTICNT	CHECK CHARACTER
0274	0000	PTIERL	ERR		STOP IMPASSE
0275	6401		ZJB	1	
0276	6502		NZB	2	
0277	5470	PTIRET	AOD	TEM0	RETURN TO MAINDRIVER
0300	7070		JPI	TEM0	
	0063		CON	63	
0063	0100	INTOUT		PTOENT	
0064	0210	INTIN		PTIENT	
	0301		PRG		
	0067	INSTOR	EQU	67	
	0057	INTCON	EQU	57	
	0052	WDCT	EQU	52	
	0070	TEM0	EQU	70	
	0071	TEM1	EQU	71	
	0072	TEM2	EQU	72	
	0073	TEM3	EQU	73	
	0074	TEM4	EQU	74	
	0075	TEM5	EQU	75	
	0076	TEM6	EQU	76	
	0077	TEM7	EQU	77	
	0003	ENDFLG	EQU	3	
	0000		END		

OSAPA CARD INPUT BLO 7/18

0100	0602	START	REM	
0101	4100		ADN	2
0102	0377		STI	0
0103	7500	READ	EXF	0
0104	0340			340
0105	7600		INA	
0106	0201		LPN	1
0107	6005		ZJF	5
0110	5603		AOF	ERR
0111	4202		STF	ERR
0112	6507		NZB	7
0113	0000	ERR	ERR	
0114	7500		EXF	0
0115	0301			301
0116	2246		LDF	WORDLD
0117	0105			ATE
0120	0103			READ
0121	2200		LDF	0
0122	7642			WORD84 +1
0123	0106			ATX
0124	0103			READ
0125	7200			IBI
0126	0103			READ
0127	2235		LDF	WORDLD
0130	4070		STD	WORD
0131	4073		STD	BUFCHK
0132	2200		LDF	0
0133	4171		STI	COLUMN
0134	4217		STF	STORER
0135	0411		LDN	11
0136	4225		STF	CONSNT
0137	0407	SETWRD	LDN	7
0140	5073		RAD	BUFCHK
0141	0107			ETA
0142	3473		SBD	BUFCHK
0143	6702		NJB	SETWRD 2
0144	2200		LDF	0
0145	7657	COLADD		COL1
0146	4071		STD	COLUMN.
0147	2170	LDWORD	LDI	WORD
0150	4215		STF	WORDER
0151	6315	NEG	NJF	BIT
0152	0400		LDN	0
0153	4171	STORER	STI	COLUMN
0154	5471	TSTWRD	AOD	COLUMN
0155	6025		ZJF	ENDROW
0156	4621		SRF	12COUN
0157	6321		NJF	ENDWRD
0160	4605		SRF	WORDER
0161	6510		NZB	NEG
0162	6411		ZJB	NEG
0163	0000	CONSNT		
0164	7516	WORDLD		WORD1
0165	0000	WORDER		
0166	2303	BIT	LDB	CONSNT
0167	6514		NZB	STORER
0170	2171		LDI	COLUMN
0171	6003		ZJF	ZERO
0172	0620		ADN	20

0173	6102		NZF	ZERO	+1
0174	0612	ZERO	ADN	12	
0175	4171		STI	COLUMN	
0176	6522		NZB	TSTWRD	
0177	4000	12COUN		4000	
0200	5470	ENDWRD	AOD	WORD	
0201	6532		NZB	LDWORD	
0202	5470	ENDROW	AOD	WORD	
0203	2254		LDF	LOADEM	6
0204	4305		STB	12COUN	
0205	2322		LDB	CONSNT	
0206	0740		SBN	40	
0207	6216		PJF	SUB20	
0210	2335		LDB	STORER	
0211	1200		LPF	0	
0212	1000	K1000		1000	
0213	6104		NZF	4	
0214	4072		STD	ERROR	
0215	2303		LDB	K1000	
0216	5343		RAB	STORER	
0217	0501		LCN	1	
0220	5335		RAB	CONSNT	
0221	6662		PJB	SETWRD	
0222	0440		LDN	40	
0223	4340		STB	CONSNT	
0224	6565		NZB	SETWRD	
0225	0720	SUB20	SBN	20	
0226	6204		PJF	BLANKS	
0227	0460		LDN	60	
0230	4345		STB	CONSNT	
0231	6572		NZB	SETWRD	
0232	2365	BLANKS	LDB	COLADD	
0233	4071		STD	COLUMN	
0234	2171	COLOAD	LDI	COLUMN	
0235	6103		NZF	ADWORD	
0236	0420		LDN	20	
0237	4171		STI	COLUMN	
0240	5471	ADWORD	AOD	COLUMN	
0241	6505		NZB	COLOAD	
0242	2356		LDB	WORDLD	
0243	4075		STD	75	
0244	2075	RESTOR	LDD	75	
0245	4076		STD	76	
0246	2200		LDF	0	
0247	0263			ROW9	
0250	4077		STD	77	
0251	2176	LOADEM	LDI	76	
0252	4177		STI	77	
0253	0407		LDN	7	
0254	5076		RAD	76	
0255	5477		AOD	77	
0256	4600		SRF	0	
0257	4000			4000	
0260	6607		PJB	LOADEM	
0261	5475		AOD	75	
0262	6116		NZF	CHEKEM	
0263	0000	ROW9			
0264	0000	ROW8			
0265	0000	ROW7			
0266	0000	ROW6			

0267	0000	ROW5		
0270	0000	ROW4		
0271	0000	ROW3		
0272	0000	ROW2		
0273	0000	ROW1		
0274	0000	ROW0		
0275	0000	ROW11		
0276	0000	ROW12		
0277	0000	STORE		
0300	2315	CHEKEM LDB	ROW9	
0301	1314	LPB	ROW7	9 AND 7
0302	6163	NZF	ERROR1	
0303	2320	LDB	ROW9	
0304	1717		1717	
0305	4306	STB	STORE	9 + 7
0306	1320	LPB	ROW6	AND 6
0307	6156	NZF	ERROR1	
0310	2311	LDB	STORE	9 + 7
0311	1723		1723	
0312	4313	STB	STORE	9 + 7 + 6
0313	1324	LPB	ROW5	AND 5
0314	6151	NZF	ERROR1	
0315	2316	LDB	STORE	9 + 7 + 6
0316	1727		1727	
0317	4320	STB	STORE	9 + 7 + 6 + 5
0320	1326	LPB	ROW2	AND 4
0321	6144	NZF	ERROR1	
0322	2323	LDB	STORE	9 + 7 + 6 + 5
0323	1731		1731	
0324	4325	STB	STORE	9 + 7 + 6 + 5 + 2
0325	1332	LPB	ROW1	AND 1
0326	6137	NZF	ERROR1	
0327	2330	LDB	STORE	9 + 7 + 6 + 5 + 2
0330	1735		1735	
0331	4332	STB	STORE	9 + 7 + 6 + 5 + 2 + 1
0332	1346	LPB	ROW8	AND 8
0333	6132	NZF	ERROR1	
0334	2335	LDB	STORE	9 + 7 + 6 + 5 + 2 + 1
0335	1344	LPB	ROW3	AND 3
0336	6127	NZF	ERROR1	
0337	2340	LDB	STORE	9 + 7 + 6 + 5 + 2 + 1
0340	1747		1747	
0341	4342	STB	STORE	9 + 7 + 6 + 5 + 2 + 1 + 3
0342	1352	LPB	ROW4	AND 4
0343	6122	NZF	ERROR1	
0344	2345	LDB	STORE	9 + 7 + 6 + 5 + 2 + 1 + 3
0345	1755		1755	
0346	4347	STB	STORE	9 + 7 + 6 + 5 + 2 + 1 + 3 + 4
0347	2750	LCB	STORE	
0350	1364	LPB	ROW8	
0351	1752		1752	
0352	4353	STB	STORE	9 + 7 + 6 + 5 + 2 + 1 + 3 + 4 + 8
0353	1357	LPB	ROW0	AND 0
0354	1356	LPB	ROW12	AND 12
0355	6110	NZF	ERROR1	
0356	2357	LDB	STORE	9 + 7 + 6 + 5 + 2 + 1 + 3 + 4 + 8
0357	1363	LPB	ROW0	AND 0
0360	1363	LPB	ROW11	AND 11
0361	6104	NZF	ERROR1	
0362	2364	LDB	ROW12	

0363	1366		LPB	ROW11
0364	6002		ZJF	OK
0365	4072	ERROR1	STD	ERROR
0366	4600	OK	SRF	0
0367	4444			4444
0370	6303		NJF	OUT
0371	7101		JFI	1
0372	0244			RESTOR
0373	2072	OUT	LDD	ERROR
0374	6002		ZJF	2
0375	0440		LDN	40
0376	7101		JFI	1
0377	0000	RETURN		
	0105	ATE	EQU	105
	0106	ATX	EQU	106
	7200	IBI	EQU	7200
	0107	ETA	EQU	107
	0102	LS1	EQU	102
	0062		CON	62
0062	0100			START
	0070		CON	70
0070	0000	WORD		
0071	0000	COLUMN		
0072	0000	ERROR		
0073	0000	BUFCHK		
	7516	WORD1	EQU	7516
	7641	WORD84	EQU	7641
	7657	COL1	EQU	7657
	7776	COL80	EQU	7776
	7113		END	7113

0100	0602	OENTER	ADN	2
0101	4070		STD	RETURN
0102	5457		AOD	INTCON
0103	6103		NZF	OSELPR
0104	7562		EXF	REWIND
0105	7564		EXF	WRITE
0106	7564	OSELPR	EXF	PRSEL
0107	2266		LDF	BLOCK1
0110	4071		STD	TEM1
0111	2234		LDF	BLOCK2
0112	4072		STD	TEM2
0113	2171	OMOVE	LDI	TEM1
0114	4172		STI	TEM2
0115	5471		AOD	TEM1
0116	6051		ZJF	OEXIT
0117	5472		AOD	TEM2
0120	6505		NZB	OMOVE
0121	2067		LDD	INSTOR
0122	4076		STD	STORAG
0123	2253	SETBUF	LDF	OBLOCK
0124	4077		STD	BUFFER
0125	2176	UNPACK	LDI	STORAG
0126	0111			111
0127	4177		STI	BUFFER
0130	5477		AOD	BUFFER
0131	2176		LDI	STORAG
0132	4177		STI	BUFFER
0133	5476		AOD	STORAG
0134	6204		PJF	TESTEN
0135	3600		SBF	0
0136	7575			7575
0137	6240		PJF	ENDFIL
0140	5477	TESTEN	AOD	BUFFER
0141	3604		SBF	BLOCK2
0142	6515		NZB	UNPACK
0143	7526		EXF	WRITE
0144	7332		OUT	OBLOCK
0145	7657	BLOCK2		7657
0146	7525		EXF	STATUS
0147	7600		INA	
0150	0204		LPN	4
0151	6426		ZJB	SETBUF
0152	4600		SRF	0
0153	4444			4444
0154	6203		PJF	BACKSP
0155	0000		ERR	
0156	6433		ZJB	SETBUF
0157	7515	BACKSP	EXF	BACK
0160	7600		INA	
0161	7510		EXF	WRITE
0162	7512		EXF	BACK
0163	0560		LCR	48D
0164	5076		RAD	STORAG
0165	6542		NZB	SETBUF
0166	1162	REWIND		1162
0167	7502	OEXIT	EXF	WRITE
0170	7070		JPI	RETURN
0171	1112	WRITE		1112
0172	1171	PRSEL		1171
0173	1142	STATUS		1142

INTERMEDIATE I/O.
 96 CHARACTER RECORDS
 ON MAGNETIC TAPE
 OUTPUT

LS6

0174	1122	BACK		1122	
0175	7537	BLOCK1		7537	
0176	7517	OBLOCK		7517	
0177	2332	ENDFIL	LDB	BLOCK2	
0200	4071		STD	TEM1	
0201	2304		LDB	BLOCK1	
0202	4072		STD	TEM2	
0203	6570		NZB	OMOVE	
	0070	RETURN	EQU	70	
	0071	TEM1	EQU	71	
	0072	TEM2	EQU	72	
	0057	INTCON	EQU	57	
	0067	INSTOR	EQU	67	
	0076	STORAG	EQU	76	
	0077	BUFFER	EQU	77	
0204	0604	IENTER	ADN	4	INPUT
0205	4070		STD	RETURN	
0206	5457		AOD	INTCON	
0207	6103		NZF	ISELPR	
0210	7550		EXF	RWIND	
0211	7550		EXF	READ	
0212	7550	ISELPR	EXF	PARITY	
0213	2067		LDD	INSTOR	
0214	4076		STD	STORAG	
0215	2317	BUFSET	LDB	OBLOCK	
0216	4077		STD	BUFFER	
0217	7542	INPUT	EXF	READ	
0220	7243		INP	BEGIN	
0221	7657	BLKEND		7657	
0222	7542		EXF	REQUES	
0223	7600		INA		
0224	0204		LPN	4	
0225	6123		NZF	ERROR	
0226	2177	PACK	LDI	BUFFER	
0227	0111			111	LS6
0230	4176		STI	STORAG	
0231	5477		AOD	BUFFER	
0232	2177		LDI	BUFFER	
0233	7676			7676	HWI STORAG
0234	5476		AOD	STORAG	
0235	3737		SBB	OBLOCK	
0236	6005		ZJF	FILEND	
0237	5477		AOD	BUFFER	
0240	3717		SBB	BLKEND	
0241	6513		NZB	PACK	
0242	6425		ZJB	BUFSET	
0243	7516	FILEND	EXF	READ	
0244	2403		LCD	3	
0245	6102		NZF	IEXIT	
0246	7512		EXF	RWIND	
0247	7070	IEXIT	JPI	RETURN	
0250	4600	ERROR	SRF	0	
0251	4444			4444	
0252	6203		PJF	BACKUP	
0253	0000		ERR		
0254	6426		ZJB	PACK	
0255	7510	BACKUP	EXF	GOBACK	
0256	7600		INA		
0257	6640		PJB	INPUT	
0260	1162	RWIND		1162	

0261	1132	READ	1132
0262	1171	PARITY	1171
0263	7517	BEGIN	7517
0264	1142	REQUES	1142
0265	1122	GOBACK	1122
	0063	CON	63
0063	0100	INTOUT	OENTER
0064	0204	INTIN	IENTER
	0000	END	

0100	0602	ENTERO	ADN	2	MAGNETIC TAPE INTERMEDIATE
0101	4070		STD	TEMO	ASSEMBLY MODE
0102	5457		AOD	INTCON	OUTPUT
0103	6105		NZF	ODDPAR	
0104	7500		EXF	0	
0105	1162			1162	
0106	7500	WEF	EXF	0	
0107	2112			2112	
0110	7500	ODDPAR	EXF	0	
0111	1171			1171	
0112	2067		LDD	INSTOR	
0113	4232		STF	BGINAD	
0114	7500		EXF	0	
0115	2112			2112	
0116	7327		OUT	BGINAD	
0117	7516			7516	
0120	7500		EXF	0	
0121	1142			1142	
0122	7600		INA		
0123	0204		LPN	4	
0124	6107	NZPAR	NZF	PARITY	
0125	2200		LDF	0	
0126	6107	-	NZF	PARITY -NZPAR	
0127	4303		STB	NZPAR	
0130	7500		EXF	0	
0131	2112			2112	WEF
0132	7070	EXITO	JPI	TEMO	
0133	4600	PARITY	SRF	0	
0134	4444			4444	
0135	6205		PJF	ONCMOR	
0136	0000		ERR		
0137	6103		NZF	ONCMOR	
0140	0401		LDN	1	DISABLE PARITY
0141	4315		STB	NZPAR	
0142	7500	ONCMOR	EXF	0	
0143	1122			1122	
0144	6536		NZB	WEF	
0145	0000	BGINAD			
	0070	TEMO	EQU	70	
	0057	INTCON	EQU	57	
	0067	INSTOR	EQU	67	
0146	0604	ENTERI	ADN	4	INTERMEDIATE INPUT
0147	4070		STD	TEMO	
0150	5457		AOD	INTCON	
0151	6105		NZF	PARODD	
0152	7500		EXF	0	
0153	1162			1162	
0154	7500	REOF	EXF	0	
0155	2132			2132	
0156	7500	PARODD	EXF	0	
0157	1171			1171	
0160	2067		LDD	INSTOR	
0161	4236		STF	START	
0162	7500		EXF	0	
0163	2132			2132	
0164	7233		INP	START	
0165	7516			7516	
0166	7500		EXF	0	
0167	1142			1142	
0170	7600		INA		

0171	0204		LPN	4	
0172	6113	NZRE	NZF	READPR	
0173	2200		LDF	0	
0174	6113	-	NZF	READPR	-NZRE
0175	4303		STB	NZRE	
0176	7500		EXF	0	
0177	2132			2132	
0200	2403		LCD	3	
0201	6103		NZF	EXITI	
0202	7500		EXF	0	
0203	1162			1162	
0204	7070	EXITI	JPI	TEMQ	
0205	4600	READPR	SRF	0	
0206	4444			4444	
0207	6205		PJF	AGAIN	
0210	0000		ERR		
0211	6103		NZF	AGAIN	
0212	0401		LDN	1	DISABLE PARITY
0213	4321		STB	NZRE	
0214	7500	AGAIN	EXF	0	
0215	1122			1122	
0216	6542		NZB	REOF	
0217	0000	START			
	0063		CON	63	
0063	0100	INTOUT		ENTERO	
0064	0146	INTIN		ENTERI	
	0000		END		

0100	0602	START	ADN	2	
0101	4100		STI	0	
0102	0236			RETURN	
0103	7500		EXF	0	
0104	4104			4104	
0105	2100		LDI	0	
0106	7516	FSTCHA		CHAR1	
0107	0701		SBN	1	
0110	6120		NZF	NOTONE	
0111	2300		LDB	0	
0112	6110		NZF	PAGE	
0113	5700		AOB	0	
0114	2202		LDF	SPACER	
0115	4071		STD	TEM1	
0116	7400	SPACER	OTN	0	
0117	5471		AOD	TEM1	
0120	6502		NZB	SPACER	
0121	6006		ZJF	PAGE	+5
0122	7445	PAGE	OTN	45	
0123	7445		OTN	45	
0124	7445		OTN	45	
0125	7445		OTN	45	
0126	7445		OTN	45	
0127	7445		OTN	45	
0130	2200	NOTONE	LDF	0	
0131	0237			TABLE	
0132	4071		STD	TEM1	
0133	2171	TABLOP	LDI	TEM1	
0134	6006		ZJF	TSTLIM	
0135	4072		STD	TEM2	
0136	0400		LDN	0	
0137	4172		STI	TEM2	
0140	5471		AOD	TEM1	
0141	6506		NZB	TABLOP	
0142	2200	TSTLIM	LDF	0	
0143	7656			CHAR1	+140
0144	4074		STD	TEM4	
0145	2174	LOOPER	LDI	TEM4	
0146	6003		ZJF	3	
0147	0720		SBN	20	
0150	6104		NZF	SETCAR	
0151	0501		LCN	1	
0152	5074		RAD	TEM4	
0153	6506		NZB	LOOPER	
0154	5474	SETCAR	AOD	TEM4	
0155	2347		LDB	FSTCHA	
0156	4071		STD	TEM1	
0157	5471	PICKUP	AOD	TEM1	
0160	3474		SBD	TEM4	
0161	6044		ZJF	ENDER	
0162	2171		LDI	TEM1	
0163	6040		ZJF	TABBER	
0164	0720		SBN	20	
0165	6106		NZF	TSTUP	
0166	2071		LDD	TEM1	
0167	3656		SBF	TABLE	+6
0170	6711		NJB	PICKUP	
0171	7404	SPACE	OTN	4	
0172	6613		PJB	PICKUP	
0173	0752	TSTUP	SBN	52	

7523 → TEM1

0174	6111		NZF	OUT	
0175	5471		AOD	TEM1	
0176	3474		SBD	TEM4	
0177	6026		ZJF	ENDER	
0200	2171		LDI	TEM1	
0201	6324		NJF	ENDER	
0202	1600			1600	
0203	7200			7200	
0204	6302		NJF	OUT	+1
0205	2171	OUT	LDI	TEM1	
0206	7100		JFI	0	
0207	0045			BCD	
0210	6102		NZF	POSTST	
0211	0427		LDN	27	
0212	4073	POSTST	STD	TEM3	
0213	6202		PJF	MASKIT	
0214	0111			111	
0215	0277	MASKIT	LPN	77	
0216	7677	OUTPUT		7677	OTA
0217	2073		LDD	TEM3	
0220	6641		PJB	PICKUP	
0221	0277		LPN	77	
0222	6610		PJB	POSTST	
0223	7451	TABBER	OTN	51	
0224	6445		ZJB	PICKUP	
0225	7445	ENDER	OTN	45	
0226	2403		LCD	3	
0227	6106		NZF	RETURN	-1
0230	2202		LDF	TRAIL	
0231	4071		STD	TEM1	
0232	7400	TRAIL	OTN	0	
0233	5471		AOD	TEM1	
0234	6502		NZB	TRAIL	
0235	7101		JFI	1	
0236	0000	RETURN			
0237	7523	TABLE		CHAR1	+5
0240	7530			CHAR1	+12
0241	7536			CHAR1	+20
0242	7547			CHAR1	+31
0243	7554			CHAR1	+36
0244	7564			CHAR1	+46
0245	7574			CHAR1	+56
0246	0000			0	
	0065		CON	65	
0065	0100			START	
	7516	CHAR1	EQU	7516	
	0071	TEM1	EQU	71	
	0072	TEM2	EQU	72	
	0073	TEM3	EQU	73	
	0074	TEM4	EQU	74	
	0045	BCD	EQU	45	
	0000		END		

MAGNETIC TAPE LIST OUTPUT

0100	0602	ENTER	REM	2
0101	4070		ADN	TEM0
0102	7500	EVNPAR	EXF	0
0103	1172			1172
0104	7535	SELWRI	EXF	WRITE
0105	7327	OUTPUT	OUT	START
0106	7657	TERM		7657
0107	7500	STREQ	EXF	0
0110	1143			1143
0111	7600		INA	
0112	0204		LPN	4
0113	6022		ZJF	RETURN
0114	4600		SRF	0
0115	4444			4444
0116	6304		NJF	SR52
0117	7523		EXF	BACKUP
0120	7600		INA	
0121	6615		PJB	SELWRI
0122	4600	SR52	SRF	0
0123	5252			5252
0124	6203		PJF	WEF
0125	0000		ERR	
0126	6007		ZJF	RETURN
0127	7513	WEF	EXF	BACKUP
0130	7600		INA	
0131	7510		EXF	WRITE
0132	7510		EXF	BACKUP
0133	6527		NZB	SELWRI
0134	7516	START		7516
0135	2403	RETURN	LCD	ENDFLG
0136	6102		NZF	EXIT
0137	7502		EXF	WRITE
0140	7070	EXIT	JPI	TEM0
0141	1113	WRITE		1113
0142	1123	BACKUP		1123
	0003	ENDFLG	EQU	3
	0065		CON	65
0065	0100	LSTOUT		ENTER
	0143		PRG	
	0070	TEM0	EQU	70
	0000		END	

BCD

REQUEST STATUS

ZERO A-REG TO CONTINUE
WITH PROGRAM

0100	0602	START	ADN	2	
0101	4220		STF	RETURN	
0102	7500		EXF	0	
0103	0600			600	
0104	7600		INA		
0105	6603		PJB	START	+2
0106	2100		LDI	0	
0107	7516			CHAR1	
0110	0701		SBN	1	
0111	6103		NZF	PRINT	
0112	7500		EXF	0	
0113	0604			604	
0114	7306	PRINT	OUT	BEGIN	
0115	7657			7657	
0116	7500		EXF	0	
0117	0605			605	
0120	7101		JFI	1	
0121	0000	RETURN			
0122	7517	BEGIN		CHAR1	+1
	0065		CON	65	
0065	0100			START	
	7516	CHAR1	EQU	7516	
	7657	COL1	EQU	7657	
	0000		END		

BIN P.T. OUTPUT BLO 7/18/61

0100	0602	START	REM	ADN	2
0101	4100			STI	0
0102	0214				RETURN
0103	7500			EXF	0
0104	4104				4104
0105	2300			LDB	0
0106	6110			NZF	OUT +3
0107	5700			AOB	0
0110	2203			LDF	OUT
0111	4200			STF	0
0112	0000	LEADER			
0113	7400	OUT		OTN	0
0114	5702			AOB	LEADER
0115	6502			NZB	OUT
0116	2200			LDF	0
0117	7657				COL1
0120	4070			STD	COLUMN
0121	2170			LDI	COLUMN
0122	6071			ZJF	RETURN -1
0123	0503			LCN	3
0124	4200			STF	0
0125	0000	WORDCT			
0126	0401			LDN	1
0127	4200			STF	0
0130	0000	SWITCH			
0131	2170			LDI	COLUMN
0132	1200			LPF	0
0133	3770	MASK			3770
0134	4071			STD	71
0135	6017			ZJF	LODCOL
0136	1200			LPF	0
0137	2000				2000
0140	6114			NZF	LODCOL
0141	2170			LDI	COLUMN
0142	6204			PJF	GETCT
0143	0506			LCN	6
0144	5317			RAB	WORDCT
0145	2170			LDI	COLUMN
0146	1313	GETCT		LPB	MASK
0147	0111				LS6
0150	0110				LS3
0151	1600				1600
0152	7777				7777
0153	5326			RAB	WORDCT
0154	2170	LODCOL		LDI	COLUMN
0155	0277			LPN	77
0156	4242			STF	WORDB
0157	2170			LDI	COLUMN
0160	0111				LS6
0161	0277			LPN	77
0162	4235			STF	WORDA
0163	2333			LDB	SWITCH
0164	6006			ZJF	OUTPUT
0165	0400			LDN	0
0166	4336			STB	SWITCH
0167	2200			LDF	0
0170	0100				100
0171	5226			RAF	WORDA
0172	7327	OUTPUT		OUT	ENDER

0173	0221		WORDB	+1	
0174	5747		WORDCT		
0175	6120		NZF	RETURN	+1
0176	2357	BLKSTO	LDB	OUT	4
0177	0105			105	ATE
0200	0176			BLKSTO	
0201	0400		LDN	0	
0202	0106			106	ATX
0203	0176			BLKSTO	
0204	0400		LDN	0	
0205	0100			100	BLS
0206	0176			BLKSTO	
0207	2071		LDD	71	
0210	6103		NZF	RETURN	-1
0211	7101		JFI	1	
0212	0110			START	+10
0213	7101		JFI	1	
0214	0000	RETURN			
0215	5470		AOD	COLUMN	
0216	6542		NZB	LODCOL	
0217	0000	WORDA			
0220	0000	WORDB			
0221	0217	ENDER		WORDA	
	0111	LS6	EQU	111	
	0110	LS3	EQU	110	
	0066		CON	66	
0066	0100			START	
	0070		CON	70	
0070	0000	COLUMN			
	7657	COL1	EQU	7657	
	7776	COL80	EQU	7776	
	7113		END	7113	

		REM	
0100	0602	ENTER, ADN	2
0101	4070	STD	TEM0
0102	2200	LDF	0
0103	7516	WORDAD	7516
0104	4071	STD	TEM1
0105	2200	LDF	0
0106	7657	COLMAD	7657
0107	4072	STD	TEM2
0110	2172	UNPACK LDI	TEM2
0111	0111		111
0112	4171	STI	TEM1
0113	5471	AOD	TEM1
0114	2172	LDI	TEM2
0115	4171	STI	TEM1
0116	5471	AOD	TEM1
0117	5472	AOD	TEM2
0120	6510	NZB	UNPACK
0121	7500	ODDPAR EXF	0
0122	1171		1171
0123	7545	WRISEL EXF	WRITE
0124	7323	OUT	START
0125	7756	TERM	7756
0126	7500	REQSTA EXF	0
0127	1144		1144
0130	7600	INA	
0131	0204	LPN	4
0132	6116	NZF	PARERR
0133	2325	SETBEN LDB	COLMAD
0134	0105		105
0135	0133		SETBEN
0136	0400	SETBEX LDN	0
0137	0106		106
0140	0136		SETBEX
0141	0100	COLZER	100
0142	0141		COLZER
0143	2403	LCD	ENDFLG
	0003	ENDFLG EQU	3
0144	6102	NZF	EXIT
0145	7523	EXF	WRITE
0146	7070	EXIT JPI	TEM0
0147	7516	START	7516
0150	4600	PARERR SRF	0
0151	4444		4444
0152	6304	NJF	EOFTST
0153	7516	BCKSPA EXF	BACKUP
0154	7600	INA	
0155	6632	PJB	WRISEL
0156	4600	EOFTST SRF	0
0157	5252		5252
0160	6203	PJF	WEF
0161	0000	ERR	
0162	6427	ZJB	SETBEN
0163	7506	WEF EXF	BACKUP
0164	7600	INA	
0165	7503	EXF	WRITE
0166	7503	EXF	BACKUP
0167	6544	NZB	WRISEL
0170	1114	WRITE	1114
0171	1124	BACKUP	1124

MAGNETIC TAPE BINARY OUTPUT

RETURN ADDRESS

UNPACK 80 COLUMNS
LS6

OUTPUT

STATUS REQUEST

ATE

ATX

BLS

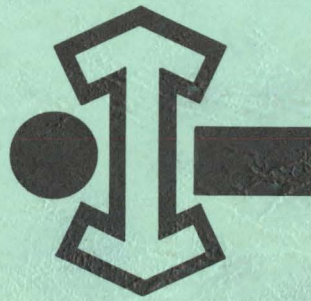
ZERO A-REG TO CONTINUE
WITH PROGRAM

0066	0066	CON	66
0066	0100	BINOUT	ENTER
	0172	PRG	
	0070	TEM0	EQU 70
	0071	TEM1	EQU 71
	0072	TEM2	EQU 72
	0000	END	

0100	0602	ENTER	ADN	2	
0101	4070		STD	TEM0	
0102	2200	WBEN	LDF	0	
0103	7516			WORD1	
0104	0105			ATE	
0105	0102			WBEN	
	0105	ATE	EQU	105	
0106	3200	WBEX	ADF	0	
0107	0124			124	
0110	0106			ATX	
0111	0102			WBEN	
	0106	ATX	EQU	106	
0112	0400	ZERWRD	LDN	0	
0113	0100			BLS	
0114	0112			ZERWRD	
	0100	BLS	EQU	100	
0115	2200		LDF	0	
0116	7515			WORD1	-1
0117	4071		STD	TEM1	
0120	3200		ADF	0	
0121	0124			124	
0122	4072		STD	TEM2	
0123	2072	COMPAR	LDD	TEM2	
0124	3471		SBD	TEM1	
0125	6031		ZJF	CBEN	
0126	0410		LDN	10	
0127	4076		STD	TEM6	
0130	0501		LCN	1	
0131	4074		STD	TEM4	
0132	0507		LCN	7	
0133	4075		STD	TEM5	
0134	4476	SRADBT	SRD	TEM6	← 8 6 -
0135	2174		LDI	TEM4	
0136	6206		PJF	NOBIT	
0137	2076		LDD	TEM6	
0140	5172		RAI	TEM2	
0141	6103		NZF	NOBIT	
0142	0500		LCN	0	
0143	4172		STI	TEM2	
0144	4574	NOBIT	SRI	TEM4	
0145	0501		LCN	1	
0146	5074		RAD	TEM4	
0147	2076		LDD	TEM6	
0150	6614		PJB	SRADBT	
0151	0501		LCN	1	
0152	5072		RAD	TEM2	
0153	5475		AOD	TEM5	
0154	6520		NZB	SRADBT	
0155	6432		ZJB	COMPAR	
0156	2200	CBEN	LDF	0	
0157	7657			COLUMN	
0160	0105			ATE	
0161	0156			CBEN	
0162	0400	CBEX	LDN	0	
0163	0106			ATX	
0164	0162			CBEX	
0165	0100	ZERCOL	BLS		
0166	0000				
0167	0162			CBEX	
0170	2200	OBEN	LDF	0	

0171	7516			WORD1
0172	0105			ATE
0173	0170			OBEN
0174	3200	OBEX	ADF	0
0175	0124			124
0176	0106			ATX
0177	0170			OBEN
0200	7500	CHECK	EXF	0
0201	3040			3040
0202	7600		INA	
0203	0102			102
0204	6211		PJF	OK
0205	4600		SRF	0
0206	5252			5252
0207	6707		NJB	CHECK
0210	5603		AOF	ERROR
0211	4202		STF	ERROR
0212	6512		NZB	CHECK
0213	0000	ERROR	ERR	
0214	6414		ZJB	CHECK
0215	4302	OK	STB	ERROR
0216	7500		EXF	0
0217	3002			3002
0220	7300	OUTPUT		IBO
0221	0220			OUTPUT
	7300	IBO	EQU	7300
0222	7070		JPI	TEM0
	7516	WORD1	EQU	7516
	7657	COLUMN	EQU	7657
	0066		CON	66
0066	0100	BINOUT		ENTER
	0223		PRG	
	0070	TEM0	EQU	70
	0071	TEM1	EQU	71
	0072	TEM2	EQU	72
	0073	TEM3	EQU	73
	0074	TEM4	EQU	74
	0075	TEM5	EQU	75
	0076	TEM6	EQU	76
	0077	TEM7	EQU	77
	0000		END	

NOT READY



CONTROL DATA CORPORATION

501 Park Avenue, Minneapolis 15, Minnesota